Fertility Decline in South Korea: Forty Years of Policy-Behavior Dialogue

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Korea's demographic transition took place simultaneously with the country's rapid economic growth and social change between 1960 and 2000. During this period the annual GDP per capita grew from $79 (US dollars, current price) in 1960 to $10,841 in 2000. Women's educational level improved greatly, reaching nearly universal senior high school education. Mortality declined rapidly as well. In 1960, one out of 12 newborn babies were dying within a year but in 2000, the rate has decline to one out of 167 newborns (Table 1).

Table 1

The fertility declined rapidly during this time. The decline of fertility from the level of total fertility of 6.0 to replacement level took just over 20 years. After reaching the replacement level fertility in 1983, the fertility level continued to decline without stopping. It reached 1.67 in 1985, 1.59 in 1990, 1.65 in 1995, and 1.47 in 2000. In 2003, fertility level in South Korea was one of the lowest in the world, at 1.19. Thus, the fertility level has been below-replacement level for about two decades and has been at very-low level (total fertility rate below 1.5) for more than five years (Figure 1).

Figure 1

Korean government initiated the ambitious national family planning program in 1962 and have provided strong support since then. This paper examines the interplay among changes in socioeconomic conditions, population policies and programs, and fertility decline during the last four decades in South Korea in an effort to gain better understanding of the likely future of the fertility behavior and their policy implications.

Conditions at the beginning of the family planning programs

Korea had experienced difficult times associated with the Japanese occupation (1910 – 1945), World War II, and Korean War (1950 – 1953). Shortly after these times, although difficult in terms of economic wellbeing and social and political stability, modernization of Korea began to take place. Census data show that the enrollment rate for primary school reached 97% in 1966 and the rate for junior high school reached 95% in the 1980 (KNBS 1988, p. 158)). The improvements in public health system brought rapid reduction in mortality, especially those due to infectious diseases (KNSO, *KOSIS* accessed May 2005). It is likely that during the period of reconstruction in the late 1950s, desire to improve living conditions by limiting family size had developed among some families (Cho, Arnold, and Kwon 1982). Some studies indicate that urban residents were controlling fertility through the use of rhythm methods, spermicides, and induced abortions by late 1950s (Hong 1966).

The beginning of national family planning program

In 1961, the Korean government adopted the National Family Planning program policy as a part of the first Five-Year Economic Development Plan. At the time, Korea was facing rapid population growth with the estimated annual growth rate of 2.9 percent as a result of post-war baby boom. The economic planners regarded the rapid population growth as a serious barrier for economic growth and began programs aimed at slowing population growth. The goal was to reduce the rate of natural growth by one-tenth of one percent each year through 1976 (Cho and Kim 1992; Mun 1991; Moon, Han, and Choi 1973).

In the early 1960s, the average ideal number of children reported by women was four and the total fertility rate was over six children per woman. Thus, the ideal family size was high and, on the average, women were having more children than they considered ideal. The family planning program began with the goal of minimizing unwanted fertility and reducing desired number of children. The initial goal was to reduce the desired number of children to three.

Some characteristics of the Korean family planning programs

During the early years, the family planning program put emphasis on community based rural programs complemented by active information, education, and communication (IEC) programs. The IEC programs promoting small family size and adoption of contraceptive use began in 1962 with the establishment of Planned Parenthood Federation of Korea (PPFK). PPFK worked closely with community organizations with strong support of central and local governments. International organizations provided technical and financial assistance as well (Mun 1991). The slogan of "Have fewer children and achieve prosperity" was well received by the general public during these early years of economic development (Kwon 2001).

Induced abortions were also used widely for fertility control, especially among urban women. In 1971, 38 percent of married women age 35-39 reported ever having had induced abortion nationally, and the proportion was 56% among urban women. Kwon argues that permissive attitude toward induced abortions were formed during the Korean War when many women experienced unwanted pregnancies including those resulting from sexual violence. Kwon also argues that the permissive attitude toward induced abortion continued after the war as the idea of limiting family size became widespread (Kwon 1993).

Period parity progression ratios and the associated total fertility rate

The most commonly used summary measure of fertility is the total fertility rate calculated from age-specific fertility rates. It is a hypothetical average number of children women will have in life if they experience the set of age-specific fertility rates observed in a year. This measure becomes very unrealistic when the timing of childbearing changes. It is lower than completed fertility for any real cohort during the period when the trend toward later childbearing is taking place and is higher than completed fertility for any real cohort during the period when the trend is toward earlier childbearing. In South Korea, age at first marriage increased substantially during the 1960-2000 period as shown in Figure 2.

For men, the singulate mean age at marriage increased from 26.4 in 1960 to 30.0 in 2000 and for women, it increased from 22.6 to 27.1 during the same period.

Figure 2. SMAM

Another possible way to calculate the total fertility rate is based on period parity progression ratios (Luther, Feeney, and Zhang 1990) as

$$p_0 + p_0p_1 + p_0p_1p_2 + \ldots,$$

where p_0 denotes progression of women from their own birth to the birth of their first children and p_i denotes progression from ith to (i+1)th birth. This is a hypothetical number of children women will have if they follow the schedule of parity progressions through their reproductive lives. This measure, based on parity progression, is not affected by the timing of childbearing as much as the age-based total fertility rate. We can compute period parity progression ratios (PPPRs) from census and household surveys in two steps described below.

Step 1: Birth history reconstruction from census data
This method is applicable to censuses and household surveys where individuals in a household can be identified either by the household identification number or be a record (household record) separating households. Enumerated children are first matched to mothers within households, based on answers to questions on age, sex, marital status (for potential mothers), relation to head of household, and (if available) number of children still living or number of children ever born. For example, a son or daughter of the head of the household, if the head is male, is likely to be the child of the spouse of the head. The year of birth of each own child is either given directly in the census or derived from the child's age at the time of the census.

When the information on the own children is attached to the women's record the result is a birth history for the mother that may not be complete. The difference between a woman's number of children ever born (an essential piece of information for application of this method) and the number of own children matched to her equals the number of missing births corresponding to children who are either dead or no longer living in the mother's household at the time of the census or survey. These missing births are imputed into the incomplete birth history using probabilistic procedures developed by Luther (Cho, Retherford, and Choe 1986; Luther and Cho 1988). For any particular woman, the complete reconstructed birth history may not be very accurate. But when the birth histories are aggregated in the process of calculating fertility estimates, individual-level errors tend to cancel out, so that the fertility estimates are quite accurate when derived from large samples—unless, of course, other sources of error (such as age misreporting and undercount) are also present.

Step 2: Computation of period parity progression ratios
From the reconstructed birth histories, we can compute period parity progression ratios (PPPRs) and a TFR calculated from these PPPRs (TFR_{pppr}). A woman's parity is defined

as the number of children that she has ever borne. A parity progression ratio is the proportion of women of specified parity who go on to have at least one more child (i.e., who eventually progress to the next parity).

Each PPPR is calculated by the period life table method from duration-in-parity-specific probabilities of progressing to the next parity for a particular calendar year, where duration is measured in years up to a maximum of ten years, at which point the life table is terminated. It is assumed that the probability of progression after a birth interval of ten years is small enough to be ignored without introducing appreciable error in the estimate of the PPPR. An exception is progression from a woman's own birth to her first parity, in which case the life table is truncated at 35 years, the assumption being that a negligible proportion of first births occur after age 35. We denote the PPPRs as p_0 (from woman's own birth to parity 1), p_1 (parity 1 to parity 2), ..., p_5 (parity 5 to parity 6), and p_6* (parity 6 or higher to the next higher parity).

Feeney's method (Feeney and Yu 1987) is used to chain together the progression ratios p_0, p_1, ..., p_5, and p_6* into a TFR_{pppr}. The version of the formula used in this paper is

$$TFR_{pppr} = p_0 + p_0 p_1 + p_0 p_1 p_2 + p_0 p_1 p_2 p_3 + p_0 p_1 p_2 p_3 p_4 + p_0 p_1 p_2 p_3 p_4 p_5 + p_0 p_1 p_2 p_3 p_4 p_5 p_6^*/(1 - p_6^*) \quad (1)$$

In general, TFR_{pppr} will not have the same value as the conventional TFR (denoted here as TFR_{asfr}, for reasons of clarity), although the two values will usually be fairly close. A property of TFR_{pppr} is that it tends to be less sensitive than TFR_{asfr} to period fluctuations in the timing of marriage and births. Thus the trend in TFR_{pppr} is usually smoother than the trend in TFR_{asfr}.

Comparison of trends of TFR_{asfr} and TFR_{pppr}

Sample census data of 1980, 1990, and 2000 were used to estimate TFR_{pppr} each of the fifteen years preceding the census. For some years, more than one estimate is available. The multiple estimates were very close to each other and we took the average of these estimates. In Figure 3 trends of TFR_{asfr} and TFR_{pppr} for the period 1960-2000 are shown. We observe that, as explained earlier, the TFR_{pppr} is less sensitive to the timing of births than TFR_{asfr}. In Figure 3 we observe that TFR_{pppr} is higher than TFR_{asfr} in the 1980s and 1990s. This observation is consistent with the results of analyses of recent fertility trends. The studies conclude that the very low level of fertility during the last 20 years is mostly due to delay of first marriage and subsequent delay of births (Jun 2004, Choe and Kim 2003).

Figure 3

Policy-behavior dialogue

Trends in PPPRs by parity (Figure 4) provide an easy tool to examine the history of Policy-Behavior Dialogue. The population policies and programs as well as fertility transition in Korea before 2000 can be considered to consist of three phases.

Figure 4

The population policy before 1980 focussed on the reduction of fertility rate to about two children per woman. Intensive IEC programs and provision of family planning services to all women were main features of the programs. Fertility behavior of women responded to these policies and programs, enhanced by advances in contraceptive technology. The second phase can be considered as the period of maturity of population policies and emergence of new challenges. By 1980, the total fertility rate was close to ideal family size, but was substantially higher than the replacement level at about 2.8 children per woman. Most women considered two sons and one daughter as ideal family size. Population policy makers viewed the continuing son preference and its consequences as a new challenge. Other new challenges include high rates of contraceptive discontinuations and failures, and high rates of induced abortion. The 1990s can be viewed as period of below replacement fertility and the period of debates on population polices.

The first two decades of family planning programs (1961-80)

The family planning programs during the first decade were successful in meeting the needs of families that wanted to prevent further childbearing after having achieved the desired family size. But the desired family size did not change much and the fertility was moderately high at the end of the 1960s.

In 1971, Korea Institute for Family Planning was established with the goal of training family planning workers, providing technical support for family planning activities of rural Health Centers, and carrying out evaluation of family planning programs. The need to carry out evaluation of family planning programs led to periodic sample surveys of women of reproductive ages on their socioeconomic backgrounds, knowledge and attitudes on family planning, use of contraceptive methods, and fertility behavior, which continue to this date. These national fertility surveys have identified some potential barriers for further fertility reduction. One of them is the intensity of son preference. According to the 1971 Fertility-Abortion Survey, average ideal number of children among married women of ages 20-44 was 3.7, consisting of 2.2 sons and 1.5 daughters (Moon, Han, and Choi 1983, p. 82). It is notable that the “recommended” ideal family size of three children at the beginning of the national family planning programs allows room for two sons and one daughter.

During the 1970s South Korea experienced rapid economic development, social change, and the population policy and programs continued to be an integral part of the national economic development plans during this period. By the end of the decade the contraceptive prevalence rate reached 66 percent. A number of factors are considered responsible for this increase. One of the notable IEC activities during the 1970s was aimed at eliminating son preference and to promote replacement level fertility. The slogan “Sons or daughters, stop at two and raise them well” was accepted as the key IEC message and was promoted widely through media. Efforts to eliminate gender inequalities in social and economic lives through legislation began to emerge during this time. Special programs for urban poor were initiated including postpartum contraceptive distributions and financial incentives for acceptors of sterilizations. Soon after new

simple methods of female sterilizations were introduced in 1974, contraceptive use rate increased rapidly and female sterilization become the most popular form of contraception (Choe and Park 1989). Population education programs were developed for secondary schools and training sessions of military reserves. Because most of Korean men are obligated to receive periodic training as military reserves, the education program for military reserves is considered to have improved the knowledge and attitudes of men on family planning (Cho and Kim 1992).

Changes in the fertility behavior during this period seemed to have responded to population policies and programs to a large extent. Both ideal family size and total fertility rate declined to just above three children. The rapid economic development and accompanying social changes such as decreases in infant and child mortality, increased educational level of women, rising age at first marriage, labor force participation of women are likely to have resulted in preference toward small family sizes, attitudes towards fertility control, and competence in fertility control behavior, resulting in declining fertility.

During the 1970s, the evidences of son preference remained, and by some measures have intensified (Park 1983; Arnold 1985). For example, in 1974, among currently married, fecund, nonpregnant women with two children, 61% were using contraceptives compared to 21% among those who do not have sons (Arnold, 1985). Reliance on induced abortions continued to be high. At the end of the decade, the total induced abortion rate and the total fertility rate were same at 2.9 (Cho and Kim 1992).

The third decade of family planning program (1981-90)

The 1980s mark two important landmarks in the transition of fertility in South Korea. The first is the achievement of replacement fertility in 1983 (KNSO, *KOSIS* accessed May 2005; Mun 1991). The second is the emergence of a new pattern of fertility behavior: high sex ratio at birth.

At the beginning of the 80s, the total fertility rate was 2.84 and mean ideal number of children was 2.6. The population was growing at the rate of 1.67% a year. Although it looked like fertility was falling, the baby boomers were entering the reproductive ages and there was a potential for population for further population growth in the near future. In this context, the population policies continued to promote small family size by broadening economic incentives for sterilization acceptors with one or two children, and limiting family allowance and other benefits to two children. In 1986, the family planning program began to promote one-child families with the slogan “Even two children for a family is too many for over-crowded Korea.” Given these efforts, it is not surprising that fertility rate continued to decline even after achieving the replacement level. In Figure 4, we can see that the progression to third and fourth birth became very low and the progression to second birth dropped substantially as well.

In the mid-1980s, use of ultrasound for antenatal examinations became widely available. The ultrasound technique can be used to determine the sex of the fetus, and apparently, many women who have strong desire to have a son as well as a strong desire not to have

more than one or two children, began to use it to determine the sex of fetus and sex-selective abortion to give births to sons.

Korea's family system has emphasized the continuation of family line through biological sons. It is still customary for the eldest son to live with his parents after marriage. The eldest son is expected to provide economic and social support for the parents even when the son does not live with his parents (Tsuya and Choe 1991; Rindfuss et al. 2004). Naturally, producing sons has been one of the most important duties for a married woman as a member of (her husband's) family and clan. The importance of having a son is shown in a national survey of women of reproductive ages in 1971. More than half of the respondents considered two sons and one daughter as ideal, followed by three sons and two daughters (Moon, Han and Choi, 1973, p. 85). A survey of Psychological Perspectives of Family Planning in Korea found that 53 percent of women would continue to have children until they produce a son, and 50 percent of women would let their husband bring a son borne by another woman if they cannot bear a son themselves (Chung et al. 1972). The family building behavior of Korean women also reflect strong son preference (Arnold 1985; Choe, Diamond, and Steele 1998; Park 1983; Park and Cho 1995): women who have no sons were much more likely to proceed to have another child than those who have sons. In spite of the efforts to reduce son preference, it remained strong. In 1985, 48% of currently married women age 15-44 reported that it is necessary to have a son in order to have continuing family line and to ensure economic support at old age (Kim, Cho and Pak, 2003).

As discussed earlier, Korean women have been relying on induced abortions heavily to terminate unwanted pregnancies. And the attitudes using induced abortions to terminate unwanted pregnancies have been very tolerant. According to the report of the 1991 National Fertility and Family Health Survey, among ever-married women aged 15 to 49, permissive attitude on the use of induced abortion was nearly universal for terminating pregnancies if mother's health is in danger (93%) or if the pregnancy was the result of sexual violence (98%). A large majority (87%) had permissive attitude of terminating a pregnancy of unmarried mothers. The survey also found that 32% of women approved of terminating a pregnancy if the sex of fetus is not what the parents desired (Kong et al. 1992, p. 194).

These conditions have resulted in high sex ratio at birth in the late-1980s when the techniques of sex determination of fetus became widely available. By 1990, the sex ratio at birth reached 116.5 (Figure 5). The sex ratio at birth was extremely high for 3rd and higher order births and in some provinces (Figure 6).

Figure 5. Trends in sex ratio at birth and total fertility rate

Figure 6. Sex ratio at birth by birth order

Korea's population policies since 1985 have focused on elimination of son preference and sex-selective abortions. First, premarital sex determination and sex selective

abortions were outlawed. Second, efforts to eliminate gender inequality were made stronger (Cho and Kim 1992; Cho 2005).

The fourth decade of family planning program (1991-2000)

In response to high level of sex ratio at birth, the medical law was revised in 1994 to impose higher penalties for medical personnel who provide prenatal sex determination (up to 3 years of imprisonment, up to US %12,500 fine in addition to loss of professional license). It is default to assess the effects of these laws. Figures 5 and 6 shows that sex ratio at birth began to decline to the normal level around 1995, suggesting that the new laws may have had an impact on reducing the sex ratio at birth. At the same time, Figure 6 shows that the progression to first birth began to decline substantially in the mid-1990s, suggesting that some fundamental changes in fertility behavior was taking place. Studies in attitudes toward marriage and family building behavior document that by mid-1990s, the traditional values such as the "oughtness" of marriage, parenthood, and having a son has weakened considerably (Bumpass and Choe 2004; Choe and Kim 2003).

By 1990, the total fertility rate was well below the replacement level, which prompted a debate on the population policies. Those supporting continuation of fertility control argued that the current level of low fertility is mostly due to the strong population control policies and the change of policies would bring the fertility level up resulting in rapid population growth again, slowing down economic growth and affecting heavy burdens on environment and resources. Those supporting the relaxation of fertility control policies argued that the socioeconomic conditions of Korea have changed greatly resulting in changes in attitudes and values toward preference for small size families. They also argued that further decline in fertility would result in rapid population aging and increasing burden of support for the elderly (Cho 2005).

In 1996, the population policy shifted its emphasis from population control to quality and welfare of the population. The major goals of the new population policy included (1) maintaining the fertility at the level of TFR=1.7, (2) preventing imbalance of sex ratio at birth, (3) reducing induced abortion rates, (4) addressing the needs of reproductive health services of the adolescents, (5) empowering women, (6) improving services for the elderly, and (6) improving morbidity and mortality levels. Programs supporting one-child families were eliminated.

Figures 5 shows that fertility continued to decline in the 1990s. Figure 4 shows that the decline of fertility in the 1990s is mostly due to the decline in the first birth rate. According to the period parity progression ratios, more than 20 percent of women were not having any children.

Population Policies since 2000

The total fertility rate (based on age-specific fertility rates) has been below 1.5 since 2000 and is estimated to be 1.19 in 2003. After about five years of very low level of fertility, Korean government adopted a new population policy in 2005 with the goal of formulating comprehensive policies dealing with consequences of low fertility and population aging and increasing the total fertility level to 1.6 by 2010.

Conclusion

Population policies and programs have played significant roles in rapid demographic changes in Korea during the last four decades. Responses to new sets of policies and programs sometimes produced new challenges and the policies and programs have responded to these new challenges.

The current level of fertility is below the ideal number of children reported by women. In order to meet the goal of raising the fertility to near replacement level, it is necessary to understand the causes of sustained very low level of fertility. Experiences in other countries with low fertility suggest that once the fertility declines to very low level, it can rise again when the social environment and policies make work and family life are compatible. Policies and programs for comprehensive, affordable, and acceptable child care provisions, parental leave for working men and women, social support for the elderly, affordable educational expenses, and men's fair share in child care and housework. The analysis of Korean fertility behavior indicates that it is important that policies and programs need to address the problems associated with having the first birth.

References

Arnold, Fred. 1985. "Measuring the effect of sex preference on fertility: The case of Korea," *Demography* 22(2): 280-288.

Bumpass, Larry L. and Minja Kim Choe. 2004. "Attitudes toward Marriage and Family Life." Pp. 19-38 in N. O. Tsuya and L. L. Bumpass (eds.), *Marriage, Work, and Family Life in Comparative Perspective: Japan, South Korea, & the United States.* Honolulu: University of Hawaii Press.

Cho, Lee-Jay, Fred Arnold, and Tai-Hwan Kwon. 1982. *The determinants of fertility in the Republic of Korea.* Washington, D.C.: National Academy Press.

Cho, Lee-Jay, Robert D. Retherford, and Minja Kim Choe. 1986. *The Own-Children Method of Fertility Estimation.* Honolulu: East-West Center.

Cho, Nam-Hoon. 2005. "Challenges of the Population Policy in Korea," paper presented at the Forum on Population and Development in East Asia, Beijing, May 16-17, 2005.

Cho, Nam-Hoon and Hyun-Oak Kim. 1992. *An Overview of National Family Planning Program in Korea: A Summary Explanation.* Seoul: Korea Institute for Health and Social Welfare.

Choe, Minja Kim, I. Diamond, F. A. Steele. 1998. "Son Preference, Family Building Process, and Child Mortality." Pp. 208-22 in United Nations, *Too Young to Die: Genes or Gender?* New Work: United Nations.

Choe, Minja Kim and Seung-Kwon Kim. 2003. "Determinants of Fertility and Policy Implications," pp.147-167 in Kim, Sŭng-Kwŏn et al., *Studies for Development of National Population Policies and Their Implementations in the Low Fertility Situation (in Korean)*. Seoul: Korea Institute for Health and Social Affairs.

Choe, Minja Kim and I. H. Park. 1989. "Patterns and Covariates of Contraceptive Method Choice in Korea." In R. A. Bulatao, J. A. Palmore, and S. E. Ward (eds.), *Choosing A Contraceptive: Method Choice in Asia and the United States*. Boulder: Westview Press.

Chung, Bom Mo, James A. Palmore, Sang Joo Lee, and Sung Jin Lee. 1972. *Psychological Perspectives: Family Planning in Korea.* Seoul: Hollym Corporation.

Feeney, Griffith and Jinayuan Yu. 1987. "Period Parity Progression Measures of Fertility in China," *Population Studies* 41(1): 77-102.

Hong, Sung-Bong. 1966. *Induced Abortion in Seoul, Korea*. Seoul: Dong-A Publishing Co.

Jun, Kwang-Hee. 2004. "Fertility," pp.65-89 in Doo-Sub Kim and Cheong-Seok Kim (eds.) *The Population of Korea*. Daejeon: Korea National Statistical Office.

Kim, Seung-Kwon, Ae-Jŏ Cho, and He-Kyŏng Pak. 2003. "Study on Children's Education: Expenses and Structure, and Policy Implications," pp.292-317 in Kim, Sŭng-Kwŏn et al. *Studies for Development of National Population Policies and Their Implementations in the Low Fertility Situation (in Korean)*. Seoul: Korea Institute for Health and Social Affairs.

Kong, Sae-Kwŏn, Ae-Jŏ Cho, Sŭng-Kwon Kim, and Sŏng-Hi Son. 1992. *Family Formation and Fertility Behavior in Korea (in Korean)*. Seoul: Korea Institute for Health and Social Affairs.

Korea National Bureau of Statistics (KNBS). 1982. 1980 Population and Housing Census of Korea. Seoul: KNBS.

_____. 1987. 1985 Population and Housing Census of Korea. Seoul: KNBS.
_____. 1998. *Social Indicators in Korea.* Seoul: KNBS.
Korea National Statistical Office (KNSO). 1992. *1990 Population and Housing Census of Korea*. Seoul: National Statistical Office.
_____. 1997. *1995 Population and Housing Census of Korea*. Seoul: KNSO.
_____. 2001. *2001 Social Indicators in Korea (in Korean)*. Daejeon: KNSO.
_____. 2002. *2000 Population and Housing Census of Korea*. Daejeon: KNSO.
_____. 2005. *KOSIS* accessed May 2005. http://www.nso.go.kr/newnso/main.html.
Kwon, Tai-Hwan. 1977. *Demography of Korea.* Seoul: Seoul National University Press.
_____. 1993. "Exploring socio-cultural explanations of fertility transition in South Korea," pp. 41-53 in R. Leete and I. Alam (eds.), *The Revolution in Asian Fertility,* Oxford: Clarendon Press.
_____. 2001. "The National Family Planning Program and Fertility Transition in South Korea," pp.39-64 in A. Mason (ed) *Population Policies and Programs in East Asia.* East-West Center Occasional Papers Population and Health Series, No. 123. Honolulu: East-West Center.
Luther, Norman Y. and Lee-Jay Cho. 1988. "Reconstruction of Birth Histories from Census and Household Survey Data," *Population Studies* 42: 451-472.
Luther, Norman Y., Griffith Feeney, and Weimin Zhang. 1990. "One-Child Families or a Baby Boom? Evidence from China's 1987 One-per-Hundred Survey," *Population Studies* 44(2): 341-357.
Moon, Hyun-Sang, Seung-Hyun Han, and Soon Choi. 1973. *Fertility and Family Planning: An Interim Report on 1971 Fertility-Abortion Survey.* Seoul: Korean Institute for Family Planning.
Mun, Hyŏn-Sang (ed). 1991. *Thirty Years of Population Policy (in Korean)*. Seoul: Korea Institute for Health and Social Affairs.
Park, Chai Bin. 1983. "Preference for Sons, Family Size, and Sex Ratio: An Empirical Study in Korea," *Demography* 20(3): 333-352.
Park, Chai Bin and Nam-Hoon Cho. 1995. "Consequences of son preference in a low-fertility society: Imbalance of the sex ratio at birth in Korea," *Population and Development Review* 21(1): 59-84.
Park, Kyong-Ae. 2001. "Examination of data for the estimation of infant mortality level," *Journal of Korean Population Association* 22(2): 97-119.
Rindfuss, Ronald R., Minja Kim Choe, Larry L. Bumpass, and Yong-Chan Byun. 2004. "Intergenerational Relations." Pp. 54-75 in N. O. Tsuya and L. L. Bumpass (eds.), *Marriage, Work, and Family Life in Comparative Perspective: Japan, South Korea, & the United States.* Honolulu: University of Hawaii Press.
Tsuya, Noriko O. and Minja Kim Choe. 1991. *Changes in Intrafamilial Relationships and the Roles of Women in Japan and Korea*. NUPRI Research Paper Series No. 58. Tokyo: Nihon University Population Research Institute.
Tsuya, Noriko O. and Minja Kim Choe. 2004. "Investments in Children's Education, Desired Fertility, and Women's Employment." Pp. 76-94 in Noriko O. Tsuya and Larry L. Bumpass (eds.), *Marriage, Work, and Family Life in Comparative Perspective: Japan, South Korea, & the United States.* Honolulu: University of Hawaii Press.

Table 1. Trends in selected indicators of socioeconomic conditions in South Korea, 1960-2000

Year	GDP per capita (in current US dollars)[a]	Senior high school enrolment ratio for women[b]	Infant mortality rate[c]	Total fertility rate[d]
1960	79	n.a.	82	5.98
1965	n.a.	19.5[#]	52	4.95
1970	249	24.1	49	4.53
1975	592	35.8	36	3.47
1980	1,598	56.2	30	2.83
1985	2,229	75.5	20	1.67
1990	5,886	85.4	13	1.59
1995	10,823	91.3	8	1.65
2000	10,841	95.5	6	1.47
2003	12,646	95.3		1.19

Notes: # for 1966.

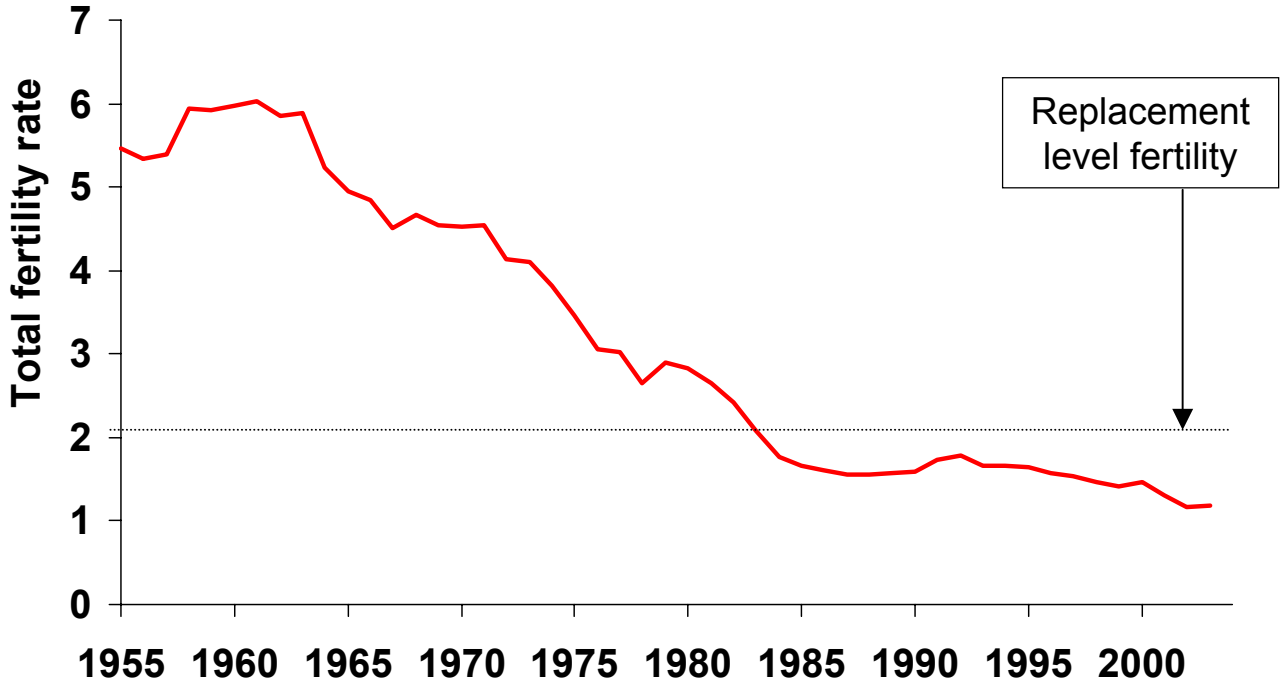
a. Source: Bank of Korea, *Quarterly National Accounts*. Each Year.
b. Source: KNSO, *KOSIS* accessed May 2005
c. Deaths per 1,000 live births. Source: Park 2001.
d. Source: Kwon (1997) for 1960-1970; KNSO, *KOSIS* accessed May 2005 for 1970-2000.

Table 2. Trends in selected demographic indicators in South Korea, 1960-2003

Year	TFR based on ASFR[a]	TFR based on PPPR[b]	Ideal number of children[c]	% using contraceptives, ever married women age 15-49[d]	Total induced abortion rate, ever-married women age 20-44[e]	Sex ratio at birth[f]	% single, women age 20-24[f]
1960	5.98	5.21	6.30		0.7 (61)		50
1965	4.95	5.00	5.99	20 (66)	1.5 (66)		52 (66)
1970	4.53	4.37	4.64	24 (71)	1.8 (71)		57
1975	3.47	3.32	4.01	44.2 (76)	2.7		63
1980	2.83	2.76	2.84	54.5 (79)		105	66
1985	1.67	1.98	2.14	70.4	2.1 (84)	109	72
1990	1.59	1.77	1.60	79.4 (91)	1.9	117	81
1995	1.65	1.80	1.72	77.4 (94)	1.0 (96)	113	83
2000	1.47	1.60	1.51	79.3	0.8 (99)	110	89
2003	1.19					109	

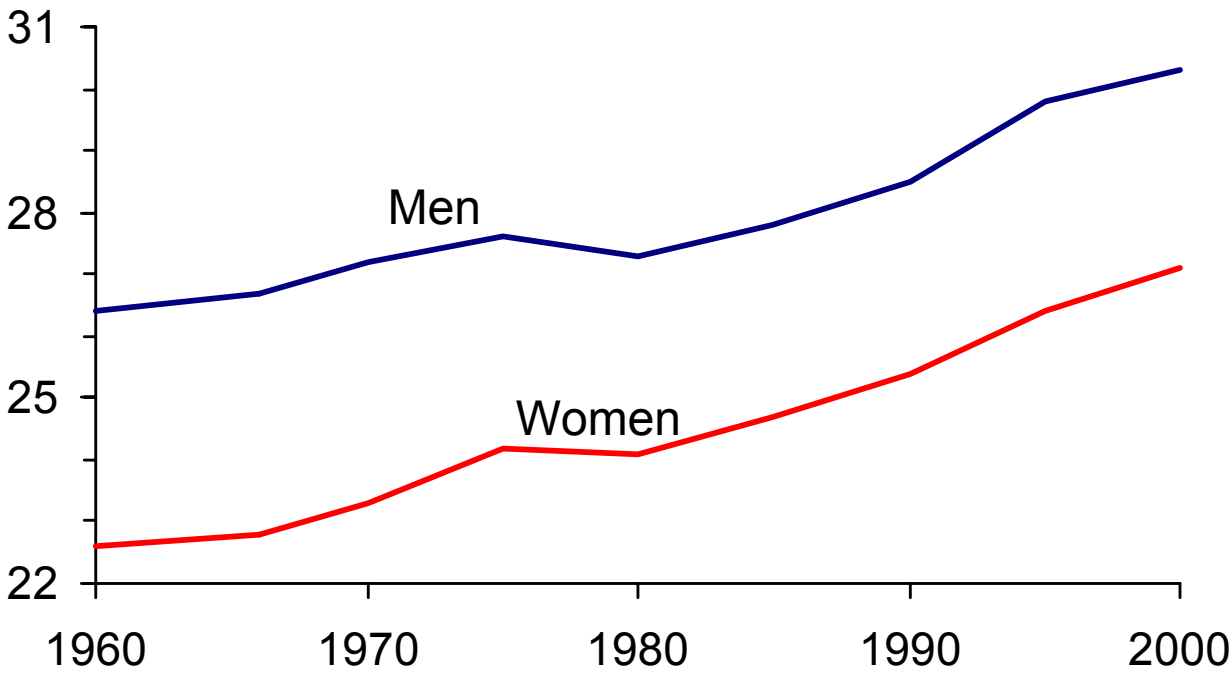
a. Source: Kwon (1997) for 1960-1970; KNSO, *KOSIS* accessed May 2005 for 1970-2000.
b. Source: Estimated from 2% sample data of the censuses, 1970, 1980, 1990, and 2000.
c. Sources: Moon, 1991; Cho 1992; Cho and Lee, 1999; Kwon 2001.
d. Moon, Han, and Cho, p. 102 for 1971 and earlier; Kim et al., p. 142.
e. Moon, Han, and Cho, p. 90 for 1971 and earlier; Kim et al., p. 191.
f. Source: KNSO, *KOSIS* accessed May 2005

Figure 1. Trend in total fertility rate, 1960-2003



Source: Kwon (1997) for 1960-1970; KNSO (2005) for 1970-2000.

Figure 2. Trends in singulate mean age at marriage (SMAM) for men and women, 1960 - 2000



Source: KNSO, various years, *Population and Housing Census of Korea.*

Figure 3. Trend in total fertility rate based on age-specific fertility rates and total fertility rate based on period parity progression ratios

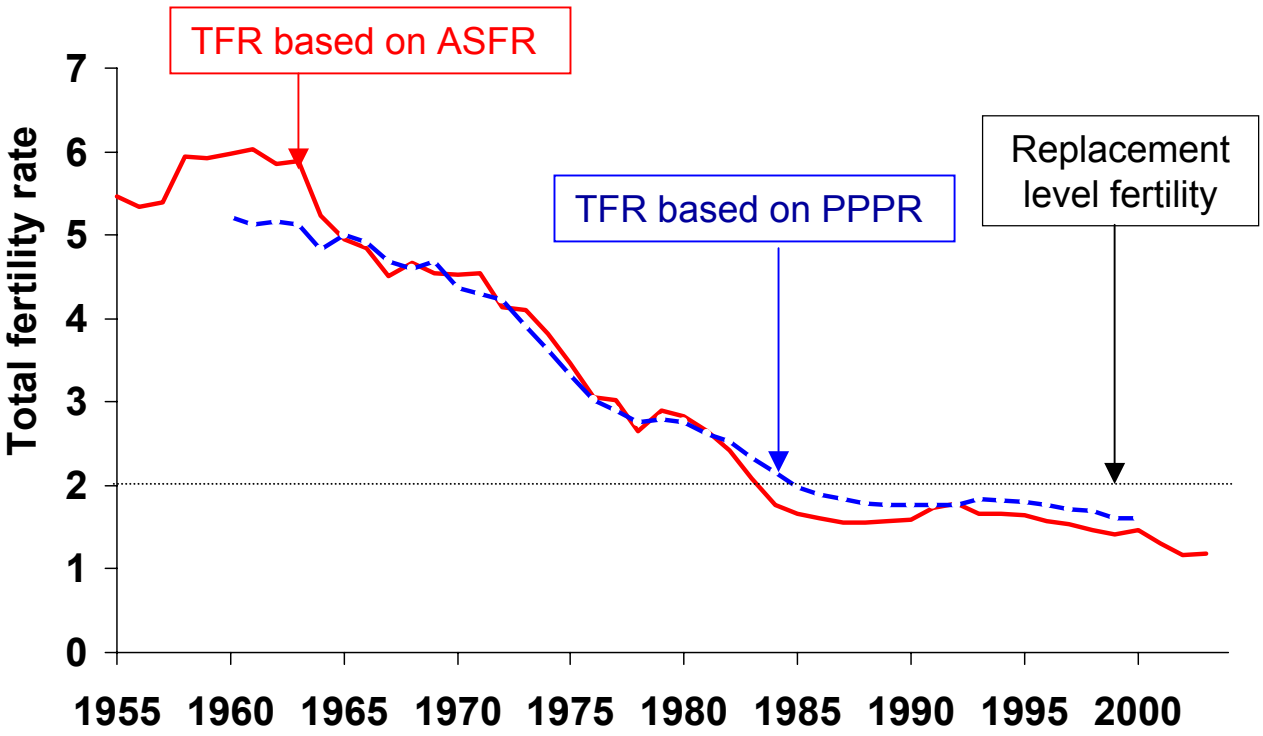


Figure 4. Trends in period parity progression ratios

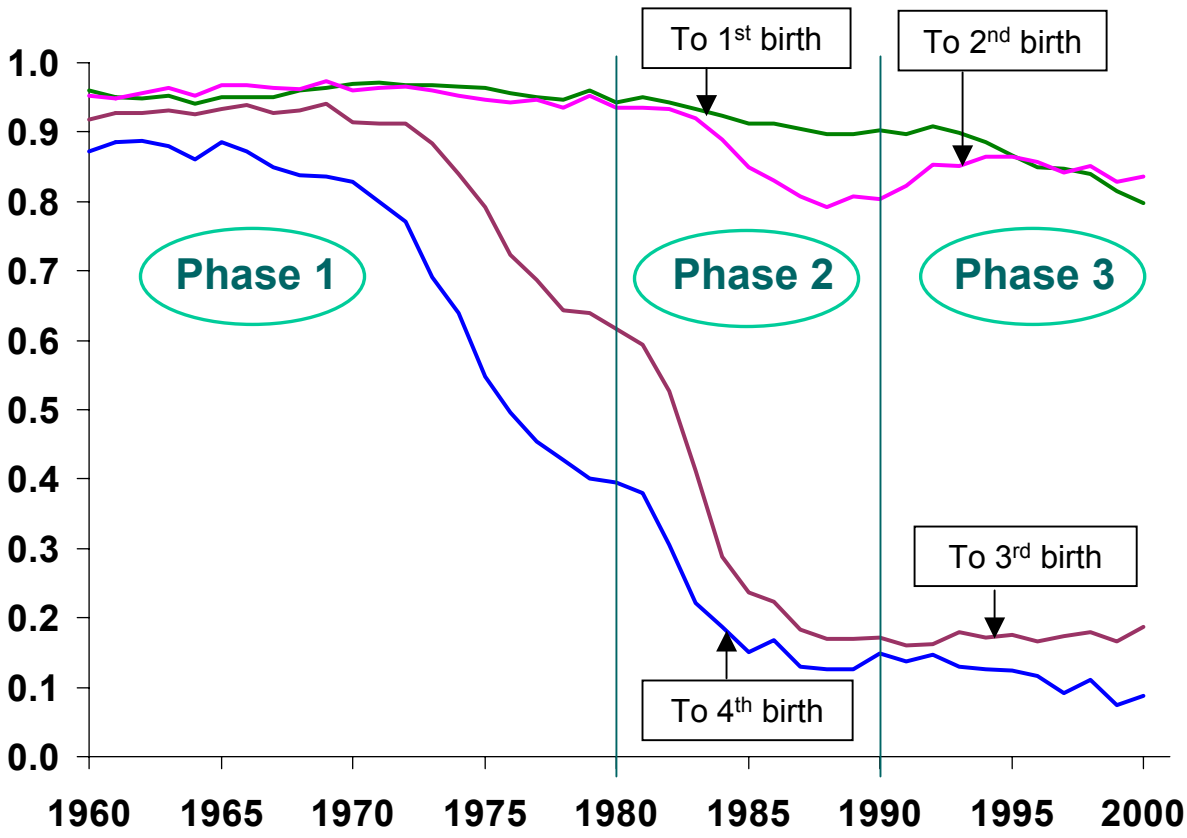
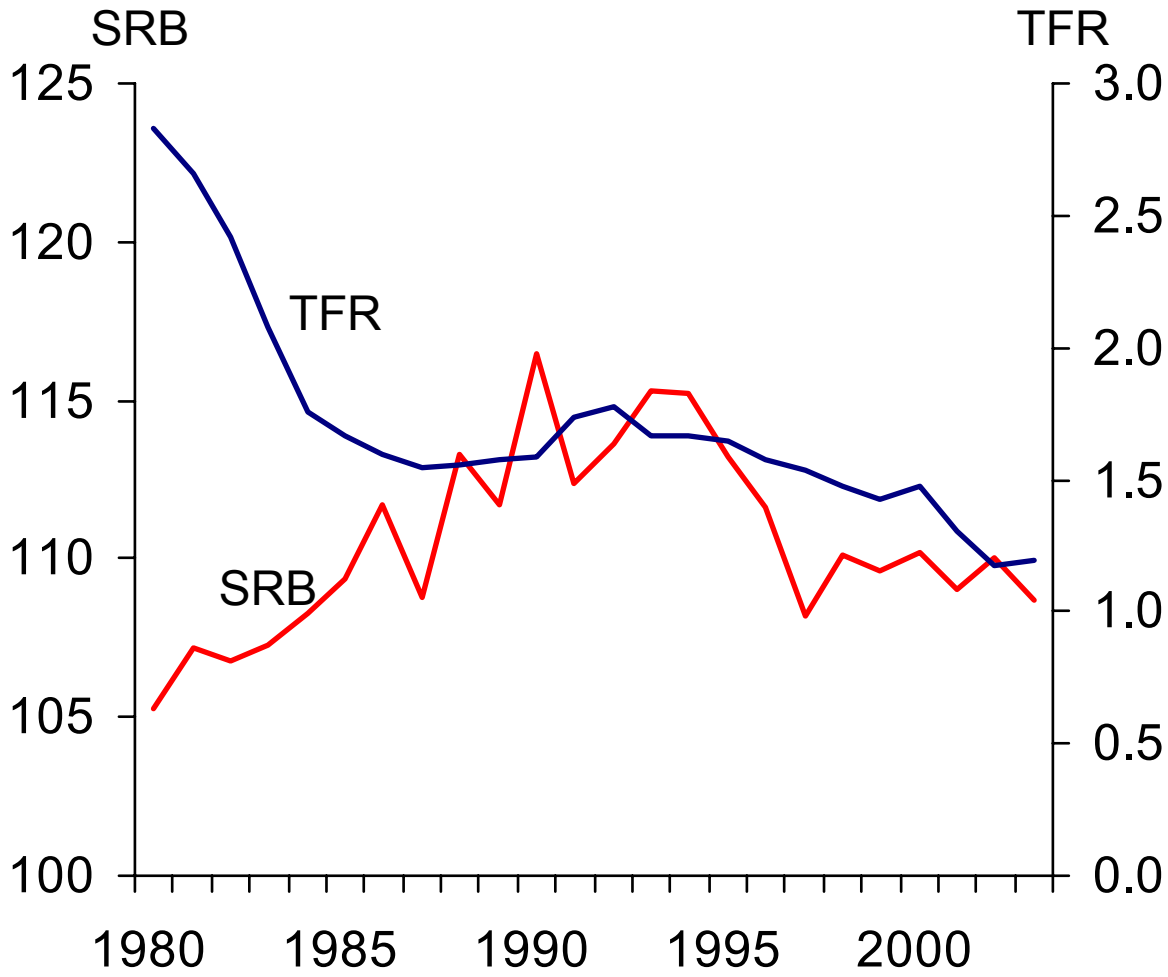
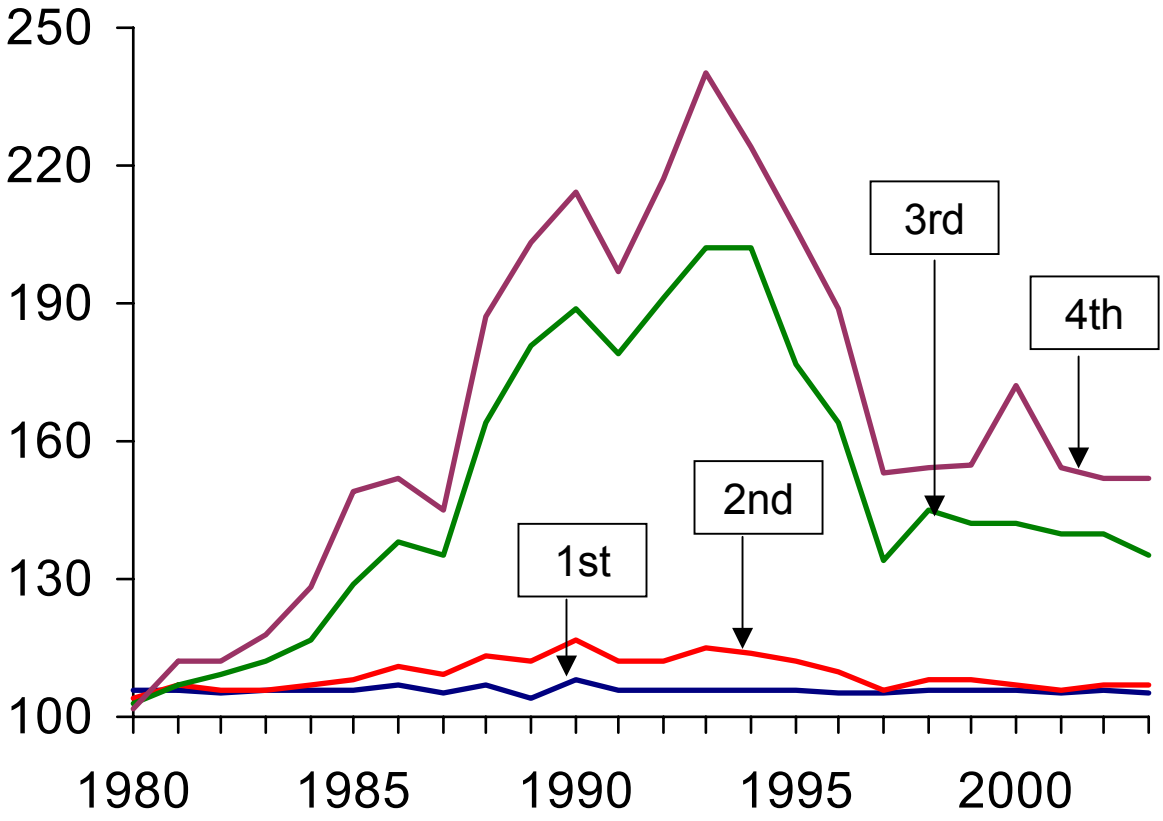


Figure 5. Trends in sex ratio at birth (SRB) and total fertility rate (TFR), South Korea



Source: KNSO, *KOSIS*

Figure 6. Trends in sex ratio at birth by birth order, South Korea 1980 – 2003



Source: KNSO, *KOSIS*