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特集：韓国・台湾・シンガポール等における少子化と少子化対策に関する比較研究

Why is Fertility in Korea Lower than in Japan?

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Total Fertility Rate (TFR) in the Republic of Korea showed a sudden fall from 1.47 in 2000 to 1.17 in 2002. Although TFR slightly recovered to 1.19 in 2003, it was still lower than Taiwan (1.24) and Japan (1.29) in the same year. This paper investigates why TFR in Korea since 2001 has been lower than in Japan. It is shown that the tempo-adjusted TFR in Korea in 2002 was still higher than in Japan. This means that one reason of lower fertility in Korea is faster delay in childbearing age. More useful insight can be obtained from a decomposition of nuptiality and marital fertility. A comparison between actual and hypothetical TFRs reveals that approximately 60% of the TFR decline between 1999 and 2002 in Korea was caused by nuptiality decline. However, it is shown that the recent Japan-Korea difference is due not to nuptiality but to marital fertility.

According to the 2003 National Fertility and Family Health Survey in Korea, there was an increase in contraception practice since 2000. The ideal number of children did not change in this period. The proportion of high school graduates proceeding to college rose dramatically in the 1990s in Korea while the proportion was stagnated in Japan, suggesting higher cost of childrearing in Korea. The labor participation rate of women in 30s in Korea is lower than in Japan, and the gap has been widening. It is likely that the uncertainty of labor market condition constrained marital fertility in Korea more tightly than in Japan.

The Korean government publicized several pro-natal policies in 2004. However, the prerequisite to the recovery of fertility seems to be an acquirement of Western European cultural pattern of weak family ties, extramarital births, early independence of youths, etc. Since such a cultural change is more difficult to occur in Eastern Asia than in Southern Europe, lowest-low fertility in Asia could be severer and last longer than in Europe.

Ⅰ. Introduction

There was an emergence of "lowest-low fertility" defined as having TFR (Total Fertility Rate) of 1.3 or less in Europe in the 1990s (Kohler et al., 2002). After the turn of century, lowest-low fertility started spreading in Eastern Asia. The TFR in the Republic of Korea (simply "Korea" henceforth) showed a drastic decline from 1.47 in 2000 to 1.30, the lowest-low level, in 2001. Next year, TFR dropped further to 1.17, the world's lowest level only comparable to Ukraine (1.10) and Czech Republic (1.17). While Korean TFR slightly recovered to 1.19 in 2003, Taiwan (1.24) and Japan (1.29) arrived at lowest-low level in this year.

Observing the diffusion of lowest-low fertility in Southern, Central and Eastern Europe, the

former Soviet Union, and Eastern Asia, the phenomenon seems to be a normal response to various socioeconomic changes in the postmaterial era. In this perspective, it is moderately low fertility in Northern and Western Europe and English speaking developed countries that is abnormal and should be explained. Suzuki (2003) emphasized the role of Western European cultural pattern characterized by weak family ties, developed non-familial welfare institutions, and early transition to adulthood. While Western and Northern Europe and English speaking countries could resist to socioeconomic changes deterring fertility, other developed countries could not accept postmodern behaviors such as cohabitation and extramarital births, failed to overcome the conflict between female labor participation and childbearing, and suffered from "postponement syndrome" (Dalla Zuanna, 2000; Livi-Cacci, 2001).

To develop the theory of lowest-low fertility, this paper attempts a detailed comparison between two low-fertility countries in East Asia, Japan and Korea. Efforts will be made to explain the difference in fertility between two countries, as well as to explain recent changes in each country. After considering the effect of tempo distortion, a decomposition of fertility decline to nuptiality and marital fertility will be attempted. Being based on this decomposition, proximate and socioeconomic determinants of fertility decline will be examined.

Ⅱ. Quantum and Tempo

Figure 1. TFR in Japan and Korea

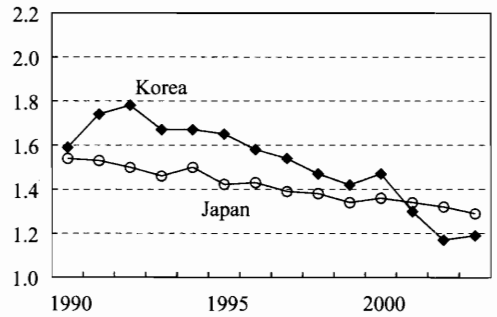


Figure 1 compares TFR in Japan and Korea since 1990. Although TFR in Korea was lower than in Japan between 1984 and 1988, Korea sustained higher fertility throughout the 1990s. After a small millennium baby boom in 2000, TFR in Korea dropped sharply to a much lower level than in Japan.

Bongaarts and Feeney (1998) proposed a measure to remove tempo distortion from TFR. Their ATFR (Adjusted Total Fertility Rate) is a hypothetical TFR that would materialize if there were no delay in childbearing. In the following, $f_i(x)$ is age-specific fertility rate of birth order i, and r_i is annual rate of change in the mean age at childbearing. The overall ATFR is simply the sum of order-specific $ATFR_i$.

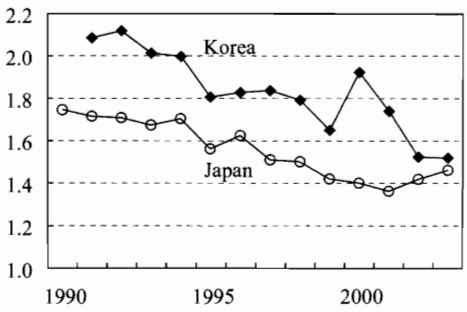
$$TFR_i = \sum_x f_i(x),\ ATFR_i = \frac{TFR_i}{1-r_i}.$$

Although they declared afterward that their ATFR is neither an estimate nor a prediction of cohort fertility (Bongaarts and Feeney, 2000, p. 560), their first illustration was based on the

concept of completed fertility of a birth cohort. Thus, many problems were pointed out when the ATFR is seen to be a measure of cohort fertility (van Imhoff and Keilman, 2000; Kim and Schoen, 2000; Inaba, 2003). However, Kohler and Philipov (2001) proved that an adjustment of TFR can be defined without referring to cohort fertility at all, and Zeng and Land (2001) demonstrated the robustness of the ATFR. As far as it is not misunderstood to be a measure of cohort fertility, the ATFR should be a valid measure of period fertility being removed the effect of delay in childbearing.

As shown in Figure 2, ATFR in Korea is still higher than in Japan. If the delay in childbearing were stopped in 2003, TFR in Korea would rise to 1.52, while that in Japan would recover only to 1.46. Thus, one way to answer why fertility in Korea is lower than in Japan is because the tempo of delay in childbearing is faster than in Japan. However, it is unlikely that the delay actually stops either in Korea or in Japan. The delay in marriage and childbearing is a long term trend lasting more than two decades in both countries (Suzuki, 2003, pp.3-5). Furthermore, this decomposition into tempo distortion and net quantum is not very helpful because most determinants of fertility promote both delay and decline at the same time. More useful insight can be obtained from decomposition into nuptiality and marital fertility.

Figure 2. Adjusted TFR in Japan and Korea



Ⅲ. Nuptiality and Marital Fertility

Extramarital births are very seldom in Japan and such births accounted for only 1.93% of all births in 2003. Although there is no statistics, extramarital births are thought to be very seldom also in Korea (Eun KS, 2003, p.557; Cho BY, et al., p. 31). Thus, we can assume that practically all the births in Japan and Korea are from married couples.

Decompositions into nuptiality and marital fertility used to be conducted on AMFRs (Age-specific Marital Fertility Rates) by the mid 1990s in Japan (Atoh, 1992, p. 51; Kono, 1995, pp.67-71; Tsuya and Mason, 1995, pp.147-148; NIPSSR, 1997, p.10). If $f(x)$ is the ordinary age-specific fertility rate and $\Phi(x)$ is the proportion of currently married women, AMFR is defined as follows;

$$AMFR(x) = \frac{f(x)}{\Phi(x)}.$$

Decomposition analysis using AMFRs is especially dangerous when there is a secular trend of

marriage postponement. Because marital fertility is dependent on marriage duration as well as on age, decomposition using AMFRs is severely squeezed by compositional changes in marriage duration within an age interval. While Japanese demographers have recently recognized this problem (Hirosima 2001; 2003; Kaneko, 2004a; 2004b), Korean demographers still rely on AMFRs (Jun KH, 2002, pp.90-94; Eun KS, 2003, p. 582; Kim SK, 2004, p. 7).

Japanese demographers have been devoting to methodological development on this issue. Hirosima (1999) used the proportion of eventually married women and the complete average number of children among married women to decompose the effect of nuptiality decline and that of marital fertility decline. Kaneko (2004a) shifted age-specific fertility rates $f(x)$ in accordance to the delay in marriage and calculated new AMFRs. Kaneko (2004b) carried out decompositions using logistic regression analysis with parities by age as dependent variables.

While these studies continue relying on age-specific fertility rates, Iwasawa (2002) introduced the eventual average number of children by age at marriage. Assume that there is no divorce or death of spouse by age β, the end of reproduction. Assume also that a woman who married at age a is expected to have $N(a)$ children by age β. If $\rho(a)$ is density function of marriage, EAC (Eventual Average number of Children) among eventually married women is;

$$EAC = \int_0^{\beta} \rho(a)N(a)da.$$

If one applies $\rho(a)$ of different cohorts while keeping $N(a)$ constant, one obtains hypothetical EACs given that marital fertility did not change. CFR (Complete Fertility Rate) is the average number of children of a cohort that finished reproduction and is EAC times the proportion of married women at age β. By comparing a hypothetical EAC times the proportion married with an actual CFR, one can infer the effect of nuptiality decline on CFR.

This method cannot be applied directly to period fertility because $N(a)$ cannot be defined for a hypothetical cohort. Here, a simplification of Iwasawa's method is attempted by assuming that marital fertility is not dependent on age at marriage but solely on marriage duration. The distribution of marriage duration in year t at age x is estimated from female first marriage rate by year and age $\phi(t, x)$.

$$p(t, x, y) = \phi(t-y, x-y).$$

If $m(y)$ is the standard fertility by marriage duration, hypothetical age-specific fertility rate can be estimated as follows;

$$f^*(t, x) = \sum_y p(t, x, y)m(y).$$

Summing up $f^*(t, x)$ gives a hypothetical TFR given that there were no change in marital fertility. By comparing with the actual TFR, the effect of nuptiality decline can be estimated. Age-specific first marriage rates and fertility rates were calculated from vital statistics and current population estimates in Japan and Korea. Figure 3 compares TFMR (Total First Marriage Rate) and Figure 4 compares the MAFM (Mean Age at First Marriage) of women in Japan and Korea. These graphs show that nuptiality in Korea rapidly declined and is approaching to Japan. However, since couples married for ten years still participate in childbearing, nuptiality in past ten years or so matters with fertility of today. Thus, it is safe to say that nuptiality in Korea is still more advantageous for fertility than that in Japan. Then, we can expect that it is not nuptilality but marital fertility that has made fertility in Korea lower than Japan.

Figure 3. Female Total First Marriage Rate

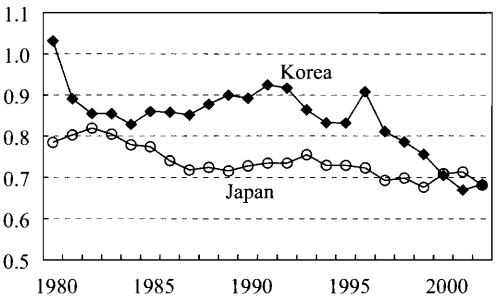
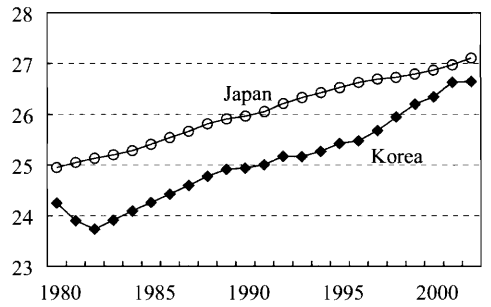
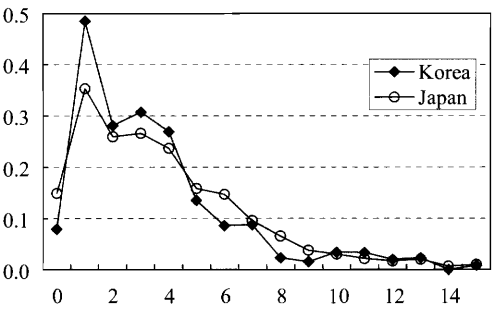


Figure 4. Female Mean Age at First Marriage



To show this quantitatively, hypothetical TFRs were calculated using the method described above. Figure 5 shows the standard marriage duration specific fertility rates that are required in this method. These rates were obtained from national sample surveys in two countries; The Twelfth Japanese National Fertility Survey in 2002 conducted by the National Institute of Population and Social Security Research, and The 2000 National Fertility and Family Health Survey by the Korea Institute for Health and Social Affairs. The fertility in the year of marriage is higher in Japan, suggesting that there are more shotgun marriages than in Korea. Korean couples tend to concentrate childbirth between one and four year after marriage.

Figure 5. Duration-Specific Marital Fertility Rate



Assumptions made to estimate hypothetical TFRs are;.

(1) Marital fertility does not depend on age but solely on marriage duration.

(2) There is no divorce or death during reproductive ages.

(3) There is no delay in marriage registration.

(4) Couples married for more than ten years do not have childbirths.

While the former two assumptions will result in overestimation of fertility rates, the latter two will cause underestimation. If overall estimation errors were relatively stable during the period, we would be able to obtain useful insights from the comparison between the hypothetical and actual TFRs. Figures 6 and 7 give such comparisons in Japan and Korea. Note that the trajectory of hypothetical TFRs indicates a TFR decline given that there was no change in marital fertility, while actual TFRs are the results of both nuptiality and marital fertility declines. Apparently, both factors contributed to the fertility declines in both countries. Thus, an analysis by Kim SK (2004, p. 7) that the TFR decline in Korea between 1990 and 1999 was caused solely by nuptiality decline cannot be supported.

Figure 6. Actual and Hypothetical TFR: Japan

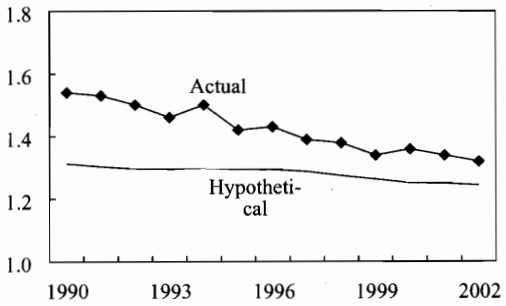


Figure 7. Actual and Hypothetical TFR: Korea

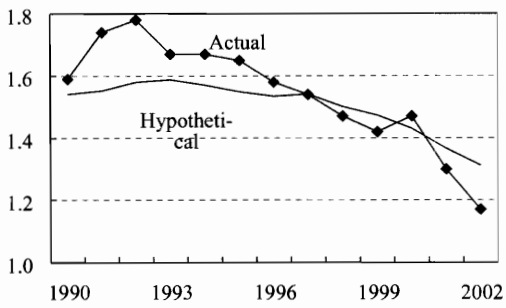


Table 1 shows the rate of TFR decline by three year period. In Japan, the actual TFR declined by 14.3% between 1990 and 2002 (from 1.54 to 1.32). A slightly more than one third (5.2% decline) of this decline can be attributed to nuptiality decline. However, the small change of minus 1.5% in the latest period (from 1.34 in 1999 to 1.32 in 2002) was entirely caused by nuptiality decline. Korea witnessed 26.4% decline of TFR between 1990 and 2002 (from 1.59 to 1.17). About a half of this (14.9%) was due to nuptiality decline. Nuptiality played a major role for the latest period. Approximately six tenth of the change in TFR between 1999 and 2002 (from 1.42 to 1.17) was caused by the nuptiality decline.

Table 1. TFR Decline by Three Year Period (%)

Period	Japan		Korea	
	Actual	Hypothetical	Actual	Hypothetical
1990~1993	-5.2	-1.3	5.0	3.0
1993~1996	-2.1	-0.1	-5.4	-3.4
1996~1999	-6.3	-2.4	-10.1	-4.0
1999~2002	-1.5	-1.6	-17.6	-10.9
1990~2002	-14.3	-5.2	-26.4	-14.9

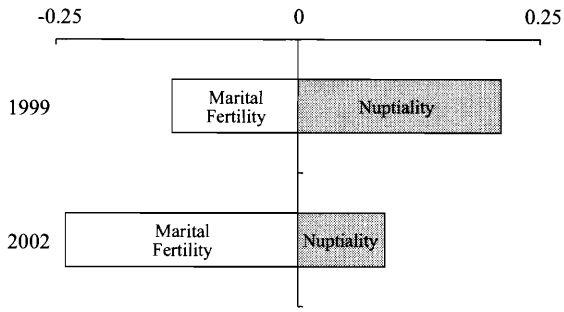
However, nuptiality is less important for the difference between Japan and Korea as expected from Figures 3 and 4. Table 2 shows four sets of hypothetical TFRs in Japan and Korea. While the second and sixth columns are hypothetical TFRs in Figures 6 and 7, TFRs in the third column were

Table 2. Hypothetical TFR Using the Same Marital Fertility

Year	Marital Fertility of Japan			Marital Fertility of Korea		
	Japan	Korea	Difference	Japan	Korea	Difference
1990	1.31	1.54	0.22	1.30	1.54	0.24
1993	1.30	1.57	0.28	1.29	1.59	0.30
1996	1.29	1.54	0.25	1.30	1.53	0.24
1999	1.26	1.48	0.21	1.26	1.47	0.21
2002	1.24	1.33	0.09	1.24	1.31	0.07

obtained from Korean nuptiality and Japanese marital fertility, and those in the fifth column were from Japanese nuptilality and Korean marital fertility. This table is to see how TFRs should have differed if there were no difference in marital fertility between Japan and Korea.

Figure 8. Factors of Japan-Korea Difference in TFR



This hypothetical difference due to nuptiality was 0.21 in 1999. Because the actual difference was 0.08 (1.34 in Japan and 1.42 in Korea), the difference in marital fertility should have caused the TFR difference of 0.08 – 0.21 = –0.13. This means that marital fertility in Korea was already lower than in Japan in 1999 but could not overcome the effect of higher nuptiality in Korea. If we choose Japanese marital fertility as the standard, the hypothetical difference caused by nuptiality was 0.09 in 2002. Because the actual difference was –0.15 (1.32 in Japan and 1.17 in Korea), the effect of marital fertility should have been –0.15 –0.09 = –0.24.

These results are displayed in Figure 8. The structure of higher nuptiality and lower marital fertility for Korea did not change between 1999 and 2002. The upside-down in TFR between two countries was caused by the increase in marital fertility difference as well as by the decrease in nuptiality difference. Although the nuptiality decline played more important role in the TFR change in Korea, the upside-down would not have occurred without the rapid decline in marital fertility in Korea.

IV. Determinants of Marital Fertility

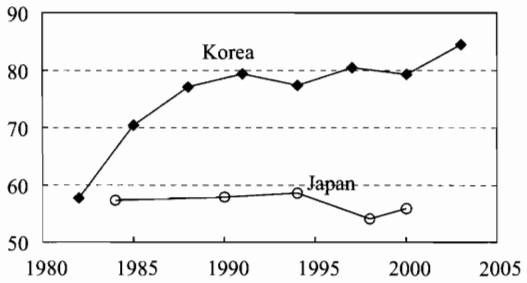
The demographic analysis above shows that the explanation for lower fertility in Korea after 2001 should be explored in marital fertility. Thus, we do not need to consider such hypotheses as "the cost of marriage is higher in Korea", "the marriage market is tighter in Korea", or "cultural values that support marriage are weaker in Korea". We can concentrate on why marital fertility in Korea is lower than Japan.

1. Proximate Determinants

According to Bongaarts (1978), proximate determinants of fertility other than marriage are contraception, induced abortion, lactational infecundability, frequency of intercourse, sterility, and the duration of the fertile period. The data are partially available for those determinants. The 2003 National Fertility and Family Health Survey shows that the proportion of married women using contraceptives rose from 79.3% in 2000 to 84.5% in 2003 (Kim, SK, et al., 2004, p. 217).

As shown in Figure 9, the proportion of Korean wives using contraception rose sharply in the 1980s and has been much higher than in Japan. It seemed that contraceptive prevalence in Korea reached the saturation level and there was little room for further change. Surprisingly, however, there was a further increase between 2000 and 2003. Though this change might have played a major role, other proximate determinants also seem to have contributed to some extent. It is estimated that the number of sterile couples rose from 250 thousands in 1990 to 640 thousands in 2003 (Kim SK, 2004, p. 28; Jun KH, 2005, p. 42). Though its impact is questionable, the national fertility survey shows that the proportion doing breastfeeding increased between 2000 and 2003 (Kim, SK, et al., 2004, p. 300). On the other hand, there was little change in the proportion experienced induced abortions during this period (Kim, SK, et al., 2004, p. 252). There is no data for coital frequency or fertile period.

Figure 9. Proportion Using Contraception (%)

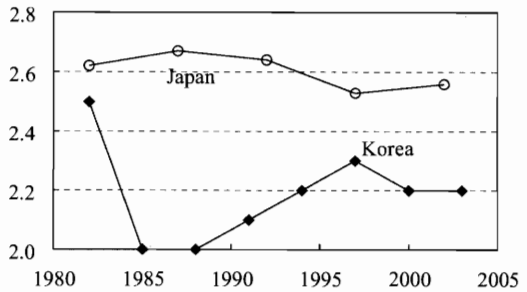


(Source) NIPSSR (2005), Kim SK, et al. (2004b)

2. Demand for Children

To shift from proximate to socioeconomic determinants of marital fertility, we will examine the demand for children first. Figure 10 compares the ideal number of children asked in national fertility surveys in two countries. This measure could be seen as the demand without considering one's income constraint. Although Korean wives consistently wish the smaller number of children than Japanese wives, a part of this difference could be attributed to the questionnaires; Korean wives are asked her individual desire while Japanese wives are asked the consensus of couple[1].

Figure 10. Ideal Number of Children



(Source) NIPSSR (2003), Kim SK, et al.(2004b)

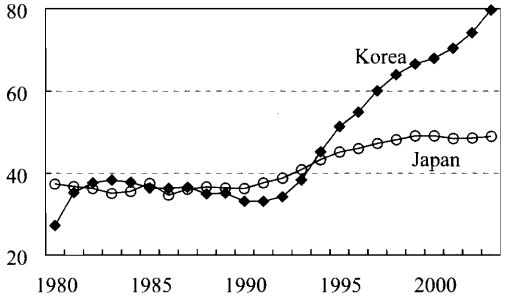
1) The sentences in questionnaires are; "부인께서는 몇 명의 자녀를 두는 것이 가장 적당하다고 생각하십니까?" (Korea), and "あなた方ご夫婦にとって理想的な子どもの数は何人ですか。" (Japan).

The decline in demand for children among Korean wives was very impressive. The ideal number of children dropped from 5.0 in 1960 to 2.0 in 1984 (Jun KH, 2002, p. 105). This drastic change was promoted by the strong governmental campaign of family planning and the demand recovered to some extent after the Korean government retreated from the very powerful anti-natal policy (Yamaji, 2003, p. 65). The Japan-Korea difference in the ideal number of children since 1997 has been small and it is difficult to say whether the difference is real or due to the questionnaires. According to Kim SK, et al. (2004, p. 316) on which Figure 10 based, the ideal number of children among Korean wives did not change between 2000 and 2003. Thus, the cause of recent drastic decline in marital fertility should be explored not in the demand itself but in obstacles to fulfill the demand.

3. Direct Costs of Children

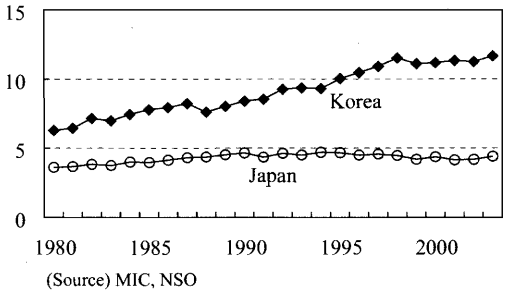
The most important obstacle seems to be the rising costs of children. According to the OECD statistics, Korea's expenditure on educational institutions accounted for 8.2% of GDP in 2001 and was highest among countries for which data were available. The figure for Japan was as low as 4.6% and was 21st among 27 countries. The heavy burden of human investments is strongly felt by Korean women. According to Chang HK (2004, p. 130), the most frequent answers to the causes of fertility decline (multiple choice) were "Educational cost is too high" (51.6%) and "Childrearing costs other than education are too high" (52.8%). In the 2003 national fertility survey, "childcare and (public) educational cost" and "private educational cost" were listed as the most serious difficulties in household expenditure (Kim SK, 2004, p. 16; Kim SK, et al., 2004, p. 159).

Figure 11. College Enrollment Rate (%)



(Source) NIPSSR (2005), NSO

Figure 12. Educational Expenditure in Household Consumption (%)



(Source) MIC, NSO

Figure 11 demonstrates how "educational inflation" in recent Korea has been drastic. It is said that the oversupply of college graduates has narrowed the income difference by education and hindered high school graduates from finding jobs (Lee CY, 2002, p.285). Figure 12 compares educational costs as a percentage of household consumption. The share is higher in Korea already in 1980 and the gap has been widening. Although the growth rate is not as impressive as college enrollment, it is possible that

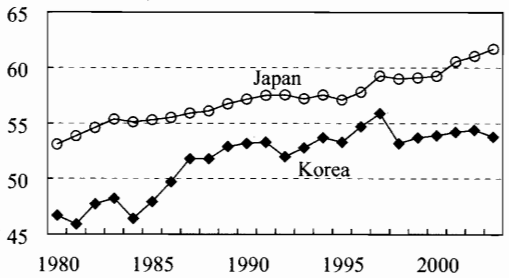
substantively perceived costs rose sharply and contributed to the recent fertility decline.

4. Labor Force Participation of Married Women

According to Becker (1991, pp.350-354), the main cause of family changes since the latter half of 20th century was the rising economic power of women. The expanding occupational opportunity for women increased the time spent on market activities and raised the opportunity cost of children. The declining return from gender-based division of labor reduced the merit of marriage and promoted the rise in divorce rate. These changes resulted in the increase in female-headed households, cohabitations, and extramarital births. Though gender equity had such diverse effects, we will concentrate on the issue of opportunity cost of childbirth, or negative impact of wives' work on marital fertility.

Figure 13 compares the proportion of working women aged 30s. In Korea, many women in this age group retreated from labor market at the economic crisis in 1998. They did not come back even after the recovery of Korean economy and the difference from Japan has been widening. Thus, the female labor force participation does not seem to have contributed to the marital fertility decline in Korea. Though many Korean demographers assert that the labor force participation of women as a major cause of fertility decline (Jun KH, 2002; Kim SK, 2004; Choi KS, 2004; Kim DS, 2005), its impact seems to be not on marital fertility but on nuptiality via declining return of marriage.

Figure 13. Laborforce Perticipation of Women Aged 30-39 (%)



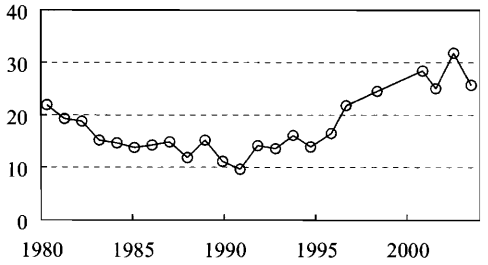
(Source) MIC, NSO

5. Labor Market Condition and Uncertainty

The impact of economic crisis in 1998 on Korean labor market has been supposed to have contributed significantly to the rapid fertility decline. Eun KS (2003) asserted that the reconstruction of labor market after the crisis made it difficult for the youths to find jobs and raised the uncertainty of workers' future lives. This labor market change is thought to have caused the fertility decline mainly through the nuptiality decline. Lee SS et al. (2004, p. 86) also suggested the effect of economic recession and uncertainty toward future on the recent low propensity to marry.

However, such an effect is not necessarily limited to that through marriages. Kim SK (2004) included "economic recession and unstable job status" into the list of socioeconomic factors affecting the fertility decline. Kim DS (2005) included "labor market insecurity" into his list. Both assumed that such a labor market condition can affect not only on nuptiality but also on marital fertility. The latter effect would include the increasing anxiety of couples on their future lives that

Figure 14. "My Life Will Be Worse" (%)



(Source) Cabinet Office

discourages a plan to have a child.

Here, I cannot show an evidence to show that anxiety of Korean couples grew rapidly since 2000 or that uncertainty is greater than in Japan. Figure 14 demonstrates the development of pessimistic attitude in Japan. The expectation for a worsened life increased steadily during the chronic depression in the 1990s. The same and similar opinion surveys by the Cabinet Office showed that the satisfaction for one's life decreased, positive images of Japan such as "peaceful" and "stable" declined, and negative images such as "uncomfortable" and "not vigorous" increased.

Although there is no such time series data for Korea, it is possible that a sudden corruption of economy and drastic labor market reconstruction caused a much severer psychological shock than to Japanese couples. Korean newspapers are continuously reporting about expanding inequality, growing poverty, and worsening labor market. The return of economic crisis and breakdown of North Korea are nightmares that the Japanese people do not have. Furthermore, it seems that Koreans tend to evaluate their own society more negatively than the Japanese. It is said that there is a strong distrust against politicians, business leaders, and upper class in general. Such social problems as giving birth abroad to have foreign nationality, sending children for oversea studies, and enthusiasm for emigration are hardly found in Japan.

V. Pro-natal Policy and Its Effectiveness

Being shocked with the very low TFR of 1.17 in 2002, the Korean government started developing policy interventions to raise fertility. In January, 2004, the Task Force Team of the P resident's House published "The Nation's Strategy to Cope with a Low Fertility and Aging Society". The document covered a wide range of issues including labor market, welfare of the elderly, and pro-natal policy. Governmental actions such as raising salary during maternity leave, supporting employment of substitute workers during parental leave, subsidizing medical treatment of infecundity, and helping domestic work of households with children were recommended to raise fertility. However, the team was skeptical for the effectiveness of child allowance and was negative to its introduction. On the other hand, the government declared a numerical goal that increasing the proportion of national daycare center from 5.3% in 2004 to 10% in 2008 (Seo MH, 2004, p. 8).

In June, 2004, the Ministry of Gender Equity and the Committee on Aging and Future Society announced "The Childcare Support Policies to Foster Future's Manpower and to Expand Women 's Participation in Economic Activities". Such proposals were made as activating maternity leave, sending baby sitters to households with infants, expanding the target of childcare support, running

after school classes in primary schools, and creating specific courses to suppress the rising cost of private educations. Besides policy treatments by the central government, many local governments are already providing monetary supports for sterility treatment, childbirth, and childcare.

There is diversity in attitudes among Korean demographers toward the effectiveness of these pro-natal policies. Kim SK (2004) expressed an optimistic view that an efficient development of governmental policy can raise Korean TFR to 1.6 within a decade. Jun KH (2005) also emphasized the effectiveness of pro-natal policy, referring to experiences of France in the 1950s and of Eastern Germany in the 1970s. On the other hand, Kim DS (2005) presented a pessimistic prediction that pro-natal policy will not work considering rapid population aging and negative attitude toward marriage and childbearing among young Korean women.

Tow kinds of effects of pro-natal policy can be distinguished. A strong and visible effect is that overturns the fertility trend and produces a continuous recovery in fertility. If policy intervention could stop the secular trend of fertility decline for years, it also could be seen strong and visible. A weak and invisible effect is that delays the fertility decline, even though the policy cannot stop or reverse it. Because the latter cannot be verified, people expect strong and visible effects for pro-natal policies.

The Japanese government was shocked with TFR of 1.57 in 1989 and launched pro-natal policies such as introducing parental leave, raising income support during the leave, and expanding child allowance. However, these treatments failed so far to show the strong and visible effect. Considering the sever socioeconomic conditions of Korea making the fertility lower than Japan, much more strong policies are required to materialize the recovery of fertility. Although President Roh Mu-Hyung declared to give the first priority to childcare support policies, it is doubtful that a liberal and market oriented government like Korea can allocate as large budget as European welfare nations on the area of family policy. In addition, recent fertility recovery in Europe seems to be a result of cultural change, rather than that of successful policy intervention.

Table 3 shows TFRs and the proportion of extramarital births in nine European countries where TFR rose between 1995 and 2000. An experienced law here is that the recovery of fertility is always accompanied by the rise in extramarital births. Table 4 decomposes the fertility argumentation into marital and extramarital fertilities. The contribution of marital fertility is larger only in Liechtenstein. In Portugal and Italy, the recovery in fertility and the increase in births out of wedlock were independent each other. In other six countries, the recovery was apparently brought about by extramarital births.

The linkage between marriage and childbearing is very robust in Eastern Asia. In Japan, births out of wedlock accounted for only 1.93% of all births in 2003, showing very little change from 1.24% in 1995. As mentioned above, extramarital births thought to be rare also in Korea. Considering the recent demographic development in Europe, it is very surprising if fertility in Eastern Asia goes up while extramarital births stay at an extremely low level. On the other hand,

Table 3. European Countries where TFR Rose between 1995 and 2000

Country	TFR		Extramarital Birth (%)	
	1995	2000	1995	2000
Liechtenstein	1.20	1.58	10.1	15.7
Portugal	1.41	1.55	18.7	22.2
Italy	1.20	1.24	8.1	9.7
France	1.71	1.88	37.6	42.6
Germany	1.25	1.38	16.1	23.4
Netherlands	1.53	1.72	15.5	24.9
Spain	1.18	1.24	11.1	17.7
Luxembourg	1.69	1.76	13.1	21.9
Bulgaria	1.23	1.30	25.7	38.4

(Source) Council of Europe, Recent Demographic Developments 2003.

Table 4. Contribution to TFR Rise

Country	TFR Rise	by Marital Births	by Extramarital Births
Liechtenstein	0.38	0.25	0.13
Portugal	0.14	0.06	0.08
Italy	0.04	0.02	0.02
France	0.17	0.01	0.16
Germany	0.13	0.01	0.12
Netherlands	0.19	0.00	0.19
Spain	0.06	-0.03	0.09
Luxembourg	0.07	-0.09	0.16
Bulgaria	0.07	-0.11	0.18

(Source) Same as Table 3.

no one will approve a policy to induce births out of wedlock and to increase welfare mothers. This is the field where a government cannot interfere directly.

However, it is possible to remove unnecessary barriers that sustain discrimination against extramarital births. The Korean national assembly approved a civil law reformation act in March, 2005. The shift from household based to individual based registration system is expected to reduce discrimination against children born out of wedlock. This can be a small step toward a recuperation of fertility.

VI. Conclusion

This paper firstly showed that tempo distortion is stronger in Korea and TFR should be higher than Japan if there were no delay in childbearing. Then, a new method was applied to decompose fertility decline into declines in nuptiality and marital fertility. Though nuptiality decline in Korea played a major role in the recent fertility decline, the difference between Japan and Korea was wholly attributed to marital fertility. In addition to contraception, other proximate determinants including infecundity are thought to have contributed to the decline in marital fertility in Korea. As

for socioeconomic determinants, direct costs of children including educational cost and worsened labor market condition seem to be relevant. On the other hand, the ideal number of children in Korea has not changed since 2000. The impact of female labor force participation seems to be on marriage, not on marital fertility.

Lowest-low fertility emerged in the 1990s in Southern Europe, Central and Eastern Europe, and the former Soviet Union countries. After the turn of century, Korea, Japan and Taiwan joined the group. If Italy, Spain and Bulgaria succeed in continuous improvement of fertility and escape from lowest-low fertility, its center may shift from Europe to Eastern Asia. The recovery in Europe seems to be a result of accepting Northern and Western European family patterns that prevented fertility from falling into lowest-low level. Besides cohabitation and extramarital births, early home-leaving and gender equity that lowers the conflict between wives' work and childcare can be pointed out as such family patterns (Suzuki, 2003, pp.12-13). If convergence to Northern and Western European pattern is the prerequisite to escape from lowest-low fertility, such cultural change would be more difficult to take place in Eastern Asia than in Southern and Eastern Europe. Then, fertility in Eastern Asia could fall into lower level and stay longer there than European countries.

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韓国の出生力はなぜ日本より低いか？

鈴木　透

韓国の合計出生率（TFR）は2000年の1.47から2002年には1.17に急落した．2003年には1.19と多少回復したが，依然として台湾（1.24）や日本（1.29）より低い．本稿では，2001年以後の韓国の合計出生率がなぜ日本より低い水準なのかを主たる課題とする．

テンポ調整合計出生率（ATFR）を見ると，2002年に至っても韓国の方が日本より高い水準にある．これは韓国の合計出生率が低い理由のひとつが，日本より速い晩産化速度にあることを意味する．したがってもし晩産化が停止すれば，韓国の合計出生率は日本より高い水準まで回復するだろう．

より有益な洞察は，結婚力と結婚出生力への要因分解から得られる．結婚期間分布を推計し結婚期間別出生率を適用することで，2002年までの仮説的合計出生率を求めた．実際の合計出生率との比較によると，1999年から2002年までの韓国の合計出生率低下（1.42から1.17）のうち約60%は結婚力低下によるものだった．しかし最近の日韓の出生力差は，結婚力ではなく結婚出生力の差が原因であることが明らかになった．仮説的合計出生率によると，日韓の結婚出生力が等しければ，韓国の合計出生率の方が高い状態に止まり，2001年以後の逆転は起こらなかったはずである．

保健社会研究院『2000年全國出産力및家族保健實態調査』結果を見ると，2000年以後避妊実践率の増加が見られた．理想子ども数には，変化は見られなかった．韓国では1990年代に大学進学率が急上昇したのに対し，日本では停滞している．これは，韓国の養育費・教育費が日本より高いことを示唆する．30代女子の労働力率は日本より低く，しかも差異が拡大している．したがって女子労働力の変化が日韓差の要因である可能性は低いが，夫を含む全般的労働市場の変化は日韓差に影響している可能性がある．すなわち両国で労働市場の不確実性が夫婦の出産意欲を減少させたと考えられるが，この効果は経済危機以後の変化が急激だった韓国でより大きかったのかも知れない．

韓国政府は2004年に様々な出生促進策を打ち出した．盧武鉉大統領は出産支援を最優先すると述べたが，自由主義的で市場経済重視の韓国政府がこの分野に莫大な予算を投入できるとは思えない．さらに出生力回復の鍵は，弱い家族紐帯，婚外出生，子どもの早期独立等で特徴づけられる北西ヨーロッパ的文化パターンの受容にあると考えられる．そのような文化的変動は，南欧・東欧等に比べると東北アジアではさらに起きにくく，従ってアジアの極低出生力はヨーロッパよりさらに長期化し，より低い水準まで落ち込む可能性が高い．