Low Fertility in Korea : Analysis on Socio-Economic Factors

Korea Institute for Health and Social Affairs
Korean Women's Development Institute
Korea Labor Institute

PREFACE

Korea is currently facing a serious and steady declining of fertility rate (TFR= 1.16 in 2004). In order to draw a relevant and effective policy measures for supporting couples to give birth to babies, and overcoming low fertility rate, we conducted an international cooperative research: OECD, Sweden, France, Japan, and South Korea have participated in this research.

This report is a part of the research project. The report is drawn up by Eunyoung Choi, Se-Kyeong Park, Sam-Sik Lee, Nam-Hoon Cho, Byeong-Ho Tchoe(Korea Institute for Health and Social Affairs), Soomi Park(Korean Women's Development Institute), and Jiyeon Chang(Korea Labour Institute). Chaptering is as follows;

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Abstract

This study attempts to explore socio-economic reasons of low fertility in Korea and to develop relevant policies to overcome low fertility. Korea is currently facing a serious and steady declining of fertility rate(TFR=1.16 in 2004). To draw a proper policy implications for korea where the lowest fertility problem has officially started to be tackled by the government, an international cooperative research project has been performed by This is a part of the research project.

Recent studies with regard to the following items are reviewed and new data is also analyzed;

- population dynamics: fertility, mortality, nuptiality, divorce, and migration
- population size and structure: level and speed of population ageing
- values and attitudes on marriage and fertility, and other socio-economic factors related to population changes such as employment (security), economic growth, nexus on work and family
- gender equity issues both in the family and employment, child-care and parental leave policies, tax support for child-rearing and education cost, role of social insurance (eg, pension credit) and social allowance

This study provides valuable information on the background of recent policy developments in Korea in response to low fertility. Research findings were presented and discussed in the international conference which was held in December at Seoul.

Ⅰ. Summary and Main Issues

1. Fertility in Korea

According to the recent population estimate of the government based on low fertility rate (NSO, 2005), the population of Korea will reach the zenith, 49.9 million, in 2020, from 48.3 million as of 2005. Then, the population will continue dropping so that it will be 42.3 Million in 2050. Meanwhile, it takes 18 years until the ratio of aged population over 65 years old increases from 7% (aging society) to 14% (aged society) and just 8 years until it increases from 14% to 20% (super-aged society). This is far more speedy than other advanced countries.

The Korean government initiated a strong family planning program in the early 1960s when Korea's economic development began to step up. Until then, baby boom-fueled explosive population growth had been eating into the poor basis of economic growth, working as a major cause of the vicious cycle of poverty. As the family planning program began reaping its benefits and society changed including the increase in the standard of living in the wake of rapid economic growth and better and wider education, the traditional value on having many children began to wane. As a result, the fertility rate dropped sharply. The fertility rate (hereinafter referring to as the TFR, total fertility rate, as the leading indicator unless otherwise noted), already equal to the population replacement level in 1983, continued to decrease and then maintained 1.6~1.7 levels from the mid-1980s to the mid-1990s. Meanwhile, supported by better nutrition and

improved health care systems, the average lifespan was on a steady rise. Korea, accordingly, made a demographic transition from the pre-equilibrium stage of high fertility and high mortality into the post-equilibrium stage of low fertility and low mortality in less than half a century.

Korea's demographic aging, however, remains at a much lower level than most OECD countries. In other words, Korea still has a young population, but the lowest fertility rate at the same time. Moreover, Korea's TFR diminished below 1.5 as the country struggled through the financial crisis in 1997 and further below 1.2 in the 2000, one of the lowest in the world. The continuance of the lowest low fertility rate has twofold implications. From a demographic perspective, Korea's population aging remains relatively low, but will speed up in the future. From an economic point of view, Korea will face a sharp drop in fertility rates before it becomes an advanced-developed country, requiring a doubled effort to deal with this issue. Continued low fertility rate will give Korea a great burden of socio-economic costs, including a shortage and aging of its labor force, increase in social security expenditures such as the national pension and public health insurance, and finally, diminished consumption and investment.

The low fertility rate and population aging have a causal relationship. Another cause of population aging is the decline of mortality rates. The endeavor to prolong human life reflects most people's wishes, and national and social efforts have continued, and will continue, in that direction. Therefore, the only way to abate and slow down population aging is to raise fertility rates. Then, how high can low fertility rates be raised? The question that should be asked first may be how low will fertility rates drop? To answer these questions, it is important to assess how favorable a social atmosphere we can create regarding marriage, childbirths, and

child-rearing, including institutional improvements and build-up of necessary infrastructure. However, these efforts may not be met with automatic achievements in increasing fertility rates. This is in part because current generations have very different values of marriage, of children, and of family than their predecessors.

A long continuation of a low fertility rate will promote population aging. Population aging, here, has a three-fold meaning: The ratio of elderly people (people aged 65 or older) to the total population, aging of the working-age population, and aging of the elderly population.

After all, future policy efforts should be made in two directions at the same time. First, despite uncertainties involving the outcome, efforts to recover fertility rates should continue. Second, as experiences of some advanced countries suggest that fertility rates may recover a bit but with certain limitation, diverse actions for preparing for an aged society should also be taken.

Korea's fertility transition since 1960 can be divided into three stages by time periods. The first stage (1960-1983) can be defined as the period in which the increased fertility rate based on the baby boom was sharply dragged down by the strong anti-natal policy. The TFR in 1960 when the government chose the anti-natal population policy was 6.0 but it plunged during the next two decades, to 2.1 by 1983. In other words, the number of newborn infants that a woman gives birth to during her fertile period went down from an average of six to two. In the second stage (1984-1997), the fertility rates remained relatively stable. Although the TFR dropped below the population replacement level after 1983, it was maintained between 1.5~1.8 until 1997. The second stage can be regarded as a period when the low fertility syndrome was fixed. In the last, third stage, fertility rates decreased again and continued in the lowest low

fertility. The fertility transition in Korea shows that its birthrates have been decreasing to lower levels over a shorter period than in OECD countries, such as France, Italy, and Sweden.

Similar to TFR, the number of children born has decreased continuously since 1960 from 1.04 million to 0.5 million in 2003, which is less than half compared to that of 40 years ago.

2. Analysis on Socio-economic Factors

The second demographic transition theory may well apply to Korea. Demographers and the government never expected that Korea's TFR, after reaching the population replacement level in 1983, would fall further and stay there for a long time. In fact, even after the mid-1980s when the TFR was sustained at 1.7, the government still enhanced its anti-natal policy based on fear that the birthrates might start to rise again.

Low fertility rate is caused by multiple and interrelated factors, any attempt to make a proper diagnosis of the situation need a systematic approach.

First, we need to consider the pre-marital period which demands both a diagnosis and solution on the low marriage rate. Given the social norm of Korean society which accepts childbirth only within marriage, a low marriage rate or an increase of marriage age directly effects low fertility. On the one hand, a low marriage rate is grounded by the change in people's lifestyle followed by the spread of 'individual values'. As a gap between gender equity orientation in individuals and traditional family norms has widened, young generations, especially young women, no longer consider a family through marriage as a required or preferred choice. On

the other hand, a low marriage rate is directly related to a prolonged economic recession, especially with a high unemployment rate of young people which seems to delay marriage. Taking into a consideration that 'dual-earner couples' is widely accepted among young people and the changes in gender role between couples, the low prospect of employment has also influenced women's decision to delay marriage. As traditional gender role changes, the meaning of 'work' for women(career job) has become almost equal to that of men.

Second, a precise diagnosis and a solution for married couples having children below the replacement fertility rate are needed. Korean society's high educational anticipation is easily associated with the high cost of child-rearing. The insufficient social support for individuals pursuing both work and family puts the burden of child rearing to individual families, especially to women's shoulder who bear the most of care work. Among the developed countries, the fertility rate is relatively high in the countries where a social system to reduce the burden of child-bearing and child-rearing is well established whereas it is relatively low in the countries lacking such a system. Thus, a social system for child-care which makes balancing work and family must be continuously promoted and supported. If the overloaded burden of existing family life is alleviated by the social system, the risks of women's career interruption becomes smaller, and gender equity takes root, then the marriage would be considered as an attractive life stage for young generations as well as for those who are already married.

It is worth remembering what Folbre(1997) once diagnosed "current low fertility phenomena are caused by the failure in socializing reproductive labor." A direct result from this unequal sharing of the responsibility of care-taking is the tendency to seek a reduction of the burden which can

lead current low fertility (Lee, Jai Gyeong et als., 2005).

In other words, the low fertility rate is caused by the increase of the single population and reduction of fertility rate among married couples. These changes include the increasing preference to not marry early, changes in values on marriage, reduction in the value of having children, excessive burden of raising children(education costs), economic depression, employment instability, increasing preference on smaller families, increasing labor market participation of women in society and yet continuing difficulty in balancing work and family, and increasing number of divorce cases etc.

As shown in the second population transition in Europe in the 1960s, women in Korea have had a stronger desire for self-realization, which has rapidly increased delay of marriage and childbearing.

As in case of men, the average marriage age has risen from 26.8 in 1975 to 30.6 in 2004. For women, marriage also is delayed from age of 22.8 in 1975 to 27.5 in 2004. Delaying the time of marriage means childbirth is also postponed. In other words, as the number of women who are able to have children within marriage decreased, fertility got lower in Korean society. As women participating in economic activity prior to marriage recognized that work and child-rearing would not easily be compatible, they decided not to have children. In addition, the increase in economic burden for child-rearing made women to hesitate or decide not to have many children, thus resulting in low fertility. The financial crisis in 1997 had enormous effects in lowering fertility, which continued from the late 1990s. After the financial crisis, increase in unemployment of young people, and growing uncertainty of future have strongly affected people's decision to delay marriage or not get married altogether.

The unemployment rate increased to 3.4% in 2003, which is a 0.3%

increase compared to 2002. Compared by age groups, the unemployment rate of middle and old-age over 30s remained the same at 2%, whereas the unemployment rate of people in 20s reached 7.4%, which is the highest record since 2000. This high rise of unemployment rate became one of the important factors delaying marriage decision.

The average age of first delivery of married women also rose from 24.2 in 1981 to 28.9 in 2004. Divorces numbered 12,000 in 1970, 50,000 in 1992, and over 100,000 in 1998. They shot up to 167,000 in 2003, pushing the crude divorce rate to 3.5%. When only women of 15-34 years of age, major childbearing ages, are considered, the number of divorces was below 10,000 in 1970 but it soared up to 68,000 in 2003.

One aspect that distinguishes Korea from Western countries such as France and Sweden is that premarital childbirth is strongly suppressed both socially and individually. The socio-bio gap between the age at marriage and sexual activities has increased the number of premarital pregnancies. In Korea, however, where ceremonial marriage is established as a strong social norm and extramarital childbearing is not socially accepted, most such pregnancies end up being artificially aborted. According to a 2005 survey, 42% of 350,000 artificial abortions that took place annually are carried out by unmarried pregnant women. This shows that Korea's fertility rates are more directly affected by nuptiality; an increase of age at marriage leads to a decrease in fertility rates. It is a major cause of Korea's fertility rates having fallen to one of the lowest in the world.

Let's look at changes in values regarding marriage. In a 1998 survey by the National Statistical Office, the ratio of unmarried women answered "women should get married"accounted for a very low 20.3%. A 2005 survey by Korea Institute for Health and Social Affairs showed that unmarried women's views on marriage turned more negative: only 12.8%

of the respondents said women definitely get married.

Married women's views on children have also changed considerably. The ratio of those answered "women should have children"was an almost absolute 93.7% back in 1997. The ratio decreased to near 50% range in 2000 and further fell as low as 23.4% in 2005. People's expectation of their children's utility in the past was mostly a means of securing the family labor force, a source of economic security in retirement, and a succession of the family lineage. As social security has developed and consciousness on blood relationships has weakened, more emphasis has been placed on children as being of emotional dependence and support. The changes in the values on the qualitative utility of children have affected the decision on number of children, and have established people's views favoring a small number of children in Korea.

Many and complex factors affect values and patterns of childbearing. Many studies cite economic, educational, socio-cultural, and individual factors, and it would be safe to say that these factors are closely intertwined.

Demographic factors for the postponement of the tempo (the time of giving birth) and the decreased quantum (the change in quantity) of married women only help to understand the components of low fertility phenomenon, not a deep structure. It is thus necessary to have additional explanations on why the values changed, what relations the values and the objective social/economical changes have, and within those relations which contextual factors led to the low fertility phenomenon.

Recently, financial reasons are counted as the most important cause of low fertility rates. Most women seek full-time jobs and promotions at workplace, take care of housework and childrearing at the same time. Generally, however, at least in the past, working women quit jobs when

they got married and became pregnant or started raising children. Once they quit their jobs, they hardly had a job of the same level when they tried to re-enter the labor market. This means a decrease in the household income, and often leads to avoidance of marriage and childbearing because it means "opportunity cost". The higher educational background women have, and the higher job position they have, such as administration, management, and professional work, the less the wage difference they have relative to men all pointing to much higher opportunity costs incurred from childbearing and child-rearing.

Another reason on the financial side is that women have increasingly participated in economic activities, while men's roles in housework remains more or less the same. As balancing housework and economic activities emerges as a greater challenge to women, they tend to have children as late and fewer as possible and some even do not want any at all. The financial reasons of low fertility rates, after all, have to do with gender inequality in housekeeping and child-rearing. It is generally agreed that a continued gender inequality will exacerbate decreasing of fertility rates.

The cause of the difficulty of women who work and bring up children at the same time can be discussed in two aspects: first, the level of socialization of child-rearing is low in Korea and women are more responsible for raising children in the family because of the unshared responsibilities between husband; and second, women postpone pregnancy and giving birth since they have lesser chances in having a stable job.

It is a harsh reality that women's role of childbirth (reproduction) is a huge disadvantage in economic activities in Korea. The labor market participation rate of women in Korea belongs to the lowest group among the OECD countries.

By maintaining that child-care matters is a private matter and

neglecting them as duties of family member means that all child-care responsibilities will be mostly charged to women. Also, it means that any woman who pursues an economic activity cannot enter the labor market with a fair chance for competition. Individualizing child-care responsibilities in the labor market involves gender discrimination, which causes both low fertility and low economic participation among women.

What choice do married women workers who have kids make for work and child rearing? To answer this question, let's take a look at the resources for the year 2003 that 'Korean Women link' investigated. This research interviewed married men and women who both work and raise their children under 12 years old. (Jang Ji Yeon, Bu Ga Cheong 2003). The two questions in the survey were asked "if they have considered discontinuing work due to pregnancy or childbirth" and "if they have practiced birth-control for doing a better job at the workplace". The results are categorized into four types as seen in Table 1-1.

Chart of the women respondents is presented in Table 1-2. First of all, women who have considered discontinuing work and practiced birth control can be considered as those who had strong conflict between work and child rearing. This case accounted for 30% of the entire respondents. Those who did not consider discontinuing work but practiced birth control accounted for 17.8%. Only 1/4 of the entire married women workers live reconcilable lives, without experiencing both discontinuing work and birth control.

Table 1-1. Hidden Choice of Women who Work and Raise their Children: Division by Ideal Types

		Considered Quitting Work	
Controlling the Number of Children		YES	NO
	YES	**Conflict**	**Career-oriented**
	NO	**Children-oriented**	**Stable**

According to OECD comparative study(Chang, 2005), the higher the gender equality in employment, the higher the birthrate. The significant meaning of this analysis is as follows: for child-rearing, unburden the family by improving child care service, instead of the government paying direct compensation for recognizing this value. It seems that the policy paradigm that pursues the unburdening of families from child care work and equality of gender in employment go together, with emphasis on women's right to work as a more superior policy paradigm that recognizes child care, the parents' right and freedom from commercialization. It is obvious that such a policy paradigm will be highly effective in encouraging women's participation in economic activities too.

The discussion about the relationship between the level of gender equality in the labor market and birthrate is still an assumption and not enough study has been done to prove their causal relationship in Korea. However, there seems to be a definite relationship between these two variable.

Table 1-2. Hidden Choice of Women Workers who Work and Raise their Children

(Unit : person, %)

		Considered Quitting Work		
Controlling the Number of Children and Time		YES	NO	*TOTAL*
	YES	29.5	17.8	47.3
	NO	27.6	25.1	52.7
	TOTAL	57.1	42.9	100.0

Only 26% of the entire women respondents used their maternity leave without worrying at the time of childbirth, whereas 76% were worried about several issues. Among these women, many were uncertain if they could return to their previous work after the maternity leave and worried about possible disadvantages in promotion and placement. This result shows that, in reality, maternity leave became a hindrance to the career development of women workers, although maternity leave is surely guaranteed by law.

One could assume that the unfairness of the labor market could have a negative effect on birthrate and an important mechanism in postponing childbirth, especially for women professionals or managers with high educational attainment. Women workers who are professionals or hold managerial positions tend to postpone pregnancy and giving birth until they reach a more established position. Women who work in manual/office job generally postpone childbirth due to more practical problems such as the difficulty to continue working after giving birth. Therefore, the most common life plans of these women would be: to postpone giving birth while working; to quit work when they get pregnant; to spend time in raising their children; and finally, to return to a low-waged, manual work. One could draw a hypothesis that any nation with a high level of gender

equality can have a high birthrate by understanding the life plans mentioned above.

Changes in values, of course, can remarkably reduce the ideal or wanted number of children compared to what it was in the past and the theory indeed explains the phenomenon of big decline of number of children compared to former times. It, however, does not offer a full explanation of why people often fail to have their expected number of children. In a search for possible answers to this question in relation with working, we need to reviews child-care policies supportive to child-rearing. The direct and indirect costs show a strong negative correlation with the number of children and are influenced by household income. In general, a high cost can lead to an involuntary scale down in the number of children or a delay or even a complete give-up of childbirths. Even at the same utility, parents may choose to reduce the number of children and increase the quality of child care for a smaller number of children.

In this respect, child care can be a representative policy for supporting parents in having their expected (or ideal) number of children by reducing indirect costs involving childbearing and child-rearing(Choi, 2005). Affordable, good quality child-care reduces indirect (opportunity) costs incurred by child-rearing through preventing career interruptions and exits from the labor market. In other words, they help balancing work and family.

The adverse effects that occur when a career interruption takes place owing to insufficient support of the balancing of work and family have been confirmed in the real world.

A career interruption for the reason of child-rearing adversely affects women's lifetime wage bringing about men-women wage gaps: male workers involved in unbroken economic activity have the better wage. In contrast, married women who experience a career interruption have the

lower wage curve. At the point of their re-entry into the labor market, women have large income gap compared with their male counterparts. As such, the existence of children works as a stumbling block to economic activities without the intervention of the state or society at large. And the effects are inflicted mostly on women workers.

Putting the studies on effects of child-care together, research has found that child-care policies, including those of child-care centers, costs, and those responsible for child-care, had statistically meaningful effects on fertility rates. The availability of public child-care centers was especially meaningful. A simple increase in the number of public child-care centers, however, will not enhance fertility rates. Rather, many other factors, such as the quality of public child care and diverse, flexible programs to satisfy different child-care needs, should also be provided.

The 2005 National Survey of Marriages and Fertility also shows that Women who experienced career interruptions were 60.6% in surveyed households with less than the average income and 40.3% in those with above-average incomes. More than 50% had career interruptions for involuntary reasons.

In the 2004 National Survey of the Use of and Demand for Child-care Services, 15.2% of the married women in 2,904 households nationwide responded that they controlled childbirths after marriage because it was hard for them to balance work and family. Out of the 1,723 married workingwomen, 30.7% cited overly heavy child-rearing and housework burdens, with 23.1% pointing out that there was no one to turn to for child-care and 8% responding that there were insufficient support systems in emergencies as obstacles of child-care. Demand for part-time and nighttime child-care services are very high at 63.4% and 41.3% respectively, and demand for 24-hour care and holiday child-care services are over 20% each.

Among the low fertility countries, the postponement of childbirth appears due to a general social institution too. In the case of Southern Europe such as Italy or Spain, adequate provisions for supporting child care are scarce. Formal employment is relatively inflexible in part-time work demand or returning to work after maternity leave. In Italy and Spain governmental provisions supporting the family, such as tax allowance or direct supports are the lowest compared to other Western Europe. Scarce governmental supports are partly replaced by strong familial ties, for example, grandparents provide the economic support or help in child-rearing. However, the family substituting public provisions is insufficient in modern industrialized countries and rather it will act as a limitation. Without ameliorating this situation, it will not be possible to increase women's economic participation and fertility to the level of Western society.

In a broader view, unstable employment and slow business, too, have been known to be the causes of low fertility rates. As an example, the United Kingdom saw a decrease in fertility rates due to wobbling job security since the early 1970s. In Sweden, an increase in the social security expenditure helped raise childbirths during the 1980s. A recession in the 1990s, however, curtailed its social welfare budgets and helped bring down birthrates(Hoem and Hoem, 1996). Some attribute the reason of East Germany's fertility rates falling from 1.6 before the unification (1990) to 0.7 after the unification (1993) to East Germans' efforts to cope with socio-economic changes following the unification, including high unemployment rates and depreciated labor prices (Witt and Wagner, 1995). As another notable example, age at marriage sharply rose and birthrates dived in Korea after it was hit hard by the financial crisis in 1997, an indication that a sluggish economy and increased unemployment and job

insecurity are contributing factors to lowered fertility rates.

Economic depression could cause the postponement of marriages and childbirths; it also temporarily lowered the total fertility rate. In Korea, the situation is much similar. Choi (2003) wrote that the cause of the reduction of birth rate and the continuity of low fertility in Korean society is the worsening of employment condition among young people after the financial crisis in the late 1990s. Decrease in income, dim prospect of having a career, and increase in the uncertainty of future will affect fertility negatively (Sleebos, 2003). This is in line with the observations in Northern Europe and the Anglo-American region with high employment of young people with high fertility and in Southern Europe with low employment of young people accompanied with low fertility. The increases in young people's unemployment and instability of job market have delayed marriage or childbirth among young people resulting negative effects on fertility.

However, there is no direct relevance in the long-term decline of birthrate for most nations. In reality, the financial crisis brought about a sweeping economic crisis. Changes in the market in the process of overcoming the crisis brought with it the tendency among people to avoid marriage and childbirth. The correlation between childbirth and changes in the market in the process of overcoming the financial crisis is as follows. As the labor market became flexible, irregular and atypical work expanded and the employment of young people who were at marriageable ages became unstable. The sense of uncertainty about the future increased, more many single people postpone marriage, and married people avoid childbirth. Moreover, following the restructuring of aged workers, their offspring could no longer rely on their parents for their marriage expenses or education expenses. Economic uncertainty thus increased, resulting in the

avoidance of marriage. Also, as economic difficulties and uncertainty about the future increased, lifestyles were changed, young men look for employed women to marry.. As women's desire for work increased, they invest more in education, thereby causing their postponement of marriage and childbirth. Since the financial crisis, it has been observed that as women's education level escalates, they tend to put more value on building up their career than on childbirth or child rearing.

Decrease in birthrate is a natural phenomenon that appears in the economic development process, as can be seen from the experiences of advanced countries. Korea has also been showing a gradual decrease in birthrate with its development, but its birthrate dropped drastically after its financial crisis. There is skepticism, however, surrounding the idea that birthrate will increase if the economy enters the boom stage, because the tendency of people to avoid marriage and childbirth is not easily reversible, and non-economic factors also heavily affect birthrate. Therefore, it is not relevant to put blame on the economic depression for the low fertility in Korea.

The economic burden of raising and educating children is widely cited as a major reason why Korean families are increasingly delaying or foregoing childbirth. Especially, an increase in educational expenses also helps lower fertility rates. Because of the exorbitant costs of education from preschool to college, parents often put priority on quality rather than quantity and prefer fewer children or no children at all. This is partly because children are no longer taken as an investment for their parents' retired years, and raising them is now regarded as an opportunity cost for the time and income of the couples, especially for the women.

Among the preceding studies on child-rearing costs and household income, Huh Kyung-ok (1997) analyzed data from the 1995 Korea

Household Panel Study and reported that households with one child spent 37% of their income on their children, and households with two children spent 46% on their children. According to Huh, total expenditures per family on children from birth through high school graduation were 123 million won for one-child families, 181 million won for two-child families, and 216 million won for three-child families. Kim Seung-gwon's study (2003) on the condition of child-rearing and financial burdens found that the share of child-rearing costs out of the total household expenditures was 42.2% for one-child families, 60.7% for two-child families, and 69.7% for three-child families.

According to Park Se-Kyeong (2005)'s estimation,[1] using the 2003 Household Survey, the child-rearing costs are as follows; the average monthly child-rearing costs of two-child ranged from 363,053 won to ranged from 363,053 won for low-income households(23.1% ~ 33.7% of household income), and ranged from 585,050 won to 1,348,458 won for high-income households(15.6%~20.0% of household income). While developed countries in the west employ universal child or family allowance systems to share the responsibility for child-rearing and to alleviate the burden on individual families with children, Korea does not have such a system in place. Although Korea provides some form of partial tax relief, this assistance exists only as personal exemptions and educational expenditures, and the rate of income replacement through tax assistance is very low.

Now we move onto the issue of gender equity in family. According to Park Soomi(2005)'s analysis using "1999 Life Time Survey" conducted by

1) This study included nuclear families with children and one or both parents in the analysis and excluded extended families in order to obtain correct estimates of child-rearing costs. In addition, the ages of the heads of households and spouses were limited to 20 to 49 years in order to cover only households with children aged under 18 years.

the Korea National Statistical Office[2] and the "2005 National Survey on Marriage and Fertility Trend" by Korea Institute for Health and Social Affairs, gender equity matters in Korea too.

On condition of same wage labor hours between couples, the result of these couples use of non-wage labor hours shows dramatic changes. As expected in group of which the activity related with family have maximized, non-wage labor hours of both men and women are little longer. However, the hours of increment are extremely different by genders. In case of having no children or having children already grown up, men's participating time in housework is average of 23.2~23.4 minutes per day. Men's housework time increases very little in case of having preschool children but even that case, longer for only 17 minutes. However, on women's side, when having preschool children, women's housework hours increase to over 124 minutes.

We could understand the result of unequal time distribution between couples. For men who participate in non-wage labor in reality are only 1,517 persons, not more than 41.3% of the entire men. It has proven that other 58.7% of men are not doing the housework at all. Participation rate of men's activity increases just little only in group of which having preschool children. There are almost no changes in men's participation of housework following life cycle and thus, we can conclude that gender equity in family have not yet realized in Korea.

She also examined married women with one child who plan to progress to second birth and the causes influencing that plan. When divided into two groups by women's participating in economic activity,

2) She limited samples to 'age groups from 20s to 40s' and 'groups of women working more than 35 hours per week'. the total number of samples is 3,668 households of working couples living together.

each group showed distinctive factors affecting the second birth decision.

First of all, in the case of working women, socio-economic characteristics have influenced the decision to have second birth. In the case of second birth, women with more household members which might be expected to reduce women's dual burden between work and child caring showed positive effects whereas high income showed negative effects. And with increase in husband's housework hours, women's intention to have second child also increased.

Gender equity within the family is expected to affects the decision to have second birth among the working women group, at least. That is to say, married working women's excessive dual-burden have forced women to choose either 'continuances of economic activity', or 'have children'. And factors more effective in mediating between these two are rather 'gender equity between couples within family', such as husband's housework hours than 'available resources', such as household income or women's income.

Table 1-3. Logit Analysis for Second Birth Plan

	Working Woman		
	Coefficient		Standard Error
Intercept	-1.666		1.214
Birth Cohort			
20～24	-0.201		0.851
25～29	0.860	#	0.455
30～34	(reference set)		
Educational Attainment			
middle school & under	-14.495		597.0
high school	(reference set)		
junior college	-0.253		0.479
college & over	-0.387		0.440
Area			
urban	0.154		0.492
rural	(reference set)		
Average Labour Hour of Woman	0.005		0.013
Average Monthly Wage of Woman	-0.002	*	0.001
Child 0～2 Age			
haven't	(reference set)		
have	0.038		0.553
Child 2～7 Age			
haven't	(reference set)		
have	-0.530		0.546
Number of Household Members	0.429	#	0.226
Number of Sons	-0.293		0.351
Household Labor Time of Husband	0.001	#	0.000
Equity of Gender	0.092		0.390
Ideal Number of Children			
two children	0.230		0.392
etc.	(reference set)		
Gender Division of Children			
no	(reference set)		
yes	0.656		0.432
-2 Log L	197.398*		
d.f.	16		

Korean society has been indifferent to care-taking work which is indispensable for the healthy reproduction of a society as a whole. Park's study shows that the realization of gender equity in care-taking is a fundamental solution in overcoming low fertility phenomena in Korean society.

McDonald (2000) once put forth a series of propositions elaborating the role of gender equity in the decline of the fertility rate. He proposed that very low fertility in countries with high economic growth is associated with tension or incongruity between high gender equity in individual-oriented institutions and low gender equity in the family and family-oriented institutions. Equal opportunity and institutional equality in the public sphere led to women equally engaging in the labor market and a rise of women's consciousness. Accordingly, if women were still left to bear the primary responsibility of housework and child-rearing within the family then, there is higher possibility that women would choose to live an alternative life than to live an unequal life. Gender inequity in the family circumscribes the partnership between women and men, thus gender equity is not a cause of family decline, but a prerequisite for the stabilization of family (Kunzler, 2002).

Family sociologists like Hochschild (1989) called this a 'stalled revolution' based on the analyses of dual-earner couples in the United States. In other words, a remarkable change was taking place in the labor market as more women were employed but a much less dramatic change was occurring on the home and family. This resulted in an extra burden to women.

For the compatibility of work and family, the realization of gender equity within the family is equally important and fundamental solution that confronts the problem of low fertility in Korean society as the expansion of social child-care system. In this sense, the crisis of low fertility in Korean society can provide a great opportunity for Korean society to reinstate the well deserved importance of care-taking work.

The unbalanced composition of population in terms of generations, which accompanies the process of population-reduction such as an aging society, could cause a big problem to society. The low fertility phenomenon, which means less replacement to the existing population (total birthrate/total fertility of 2.1 persons) creates an inverted triangle population pyramid is expected that a more serious instability would show in the population pyramid of Korea because its fertility rate has dropped to a critically low level from a high birthrate in a very short period of time. An imbalanced population- composition in terms of generations increases the obligation of the generation which provides labor and makes it harder to redistribute the income among generations. In such cases, the quality of the people's life and social welfare could be damaged for any generation, whether it be an old or a young generation. Therefore, it raises the necessity for the government to intervene into the problem of low fertility as a social phenomenon through proper policy measure.

3. Policy Development and Challenges

The first population policy in Korea, implemented by the government in 1961 when the first economic development plan came out, can be seen as an anti-natal policy emphasizing family planning that was selected under the judgment that the economic development policy could not be successful without the accompanying policy to control the high population growth.

In the 1960s, the vicious cycle of rapid population growth and socioeconomic stagnation continued plaguing the country. In the socioeconomic aspect, our country was poor in natural resources and over 70% of the population made their living by farming, and the economic growth rate was structurally being encroached by the high population

growth rate along with high unemployment rate and low per capita income that amounted to only US 80 dollars.

The population policy in Korea that had been promoted since 1962 is largely divided into three phases of the population growth control policy with emphasis on the national family planning programmes(1962~1996), population quality and welfare improvement policy (1996~2004), and finally, fertility encouragement policy (2004~). Under the influence of earlier strong anti-natal actions of the government, the total fertility rate goal of the population replacement level was reached in 1984, 4 years earlier than the planned year of 1988. With this radically reduced fertility rate in the 1980s, the government established a goal for population plan during the establishment process of the sixth 5-year economic development plan (1987～1991) in March of 1986 that it would reduce the total fertility rate from 2.05 in 1984 to 1.75 until 1995 and then maintain the same level from then on, but this goal for total fertility rate was realized much earlier in 1985 (Cho Nam-Hoon, et al., 1989).

In the 1990s, there was a fierce debate on the question of maintenance or abolition of the anti-natal policy in Korea between two professional groups. That is, one group argued that the anti-natal policy should be immediately abolished because it adversely affected socioeconomic development such as long-term decrease of working population and rapid increase in the elderly population if the fertility rate continuously decreased, and even after such a policy was abolished, the fertility rate would not increase because of childbirth-related actions. The other group warned that the anti-natal policy should be continued in Korea, a country of limited land and natural resources, and if the anti-natal policy is stopped, the contraceptive practice rate would be reduced and the fertility rate would increase at the same time to make all the results of the previous policy nothing.

Under these circumstances, the government (Ministry of Health and Welfare) decided to organize the Population Policy Deliberation Commission from professionals in various circles in 1995 to comprehensively analyze and evaluate the results of the existing anti-natal policy and the socioeconomic influences by future population size and structure changes, and the promotional direction of the population policy. The result of one-year of investigation by this commission strongly suggested that the anti-natal policy should be immediately abolished and the government should shift to the population quality and welfare improvement policy by considering general conditions in case when the low fertility rate at that time (1.75) continued, not only including expected reduction of labor force, increased demand for welfare services due to the rapid increase of the elderly population and the reduction of labor productivity, and aggravation of social insurance finance due to changes in the population's structure. Other problems include the worsening sex ratio imbalance, adolescent sexual problems, and high induced abortion rate. The government abolished the conventional anti-natal policy and changed to population quality and welfare improvement policy in June 1996 according to the suggestions of this commission.

As the population policy changed, various regulations and incentive systems for the two-children model that were introduced in the era of anti-natal policy were abolished in1997, and the efforts at the level of the government has been continued to get rid of the traditional bias toward having male children and to improve the social position of women. For example, the government had managed the special committee on women's affairs under the President in 1998 and expanded it to the Ministry of Gender Equality in 2000 and then to the Ministry of Gender Equality and Family in 2004 with the addition of the child-care program, to realize the promotion of national competitiveness and the equal society between both

genders by guaranteeing respect of women's rights.

In case of Japan, the reduced total fertility rate of 1.57 in 1989 was reported in the press and greatly stood out as a serious social problem, and thus the Japanese government immediately and actively confronted the low fertility problem at the pan-government level. For Korea, this policy change did not occur until 2002. Total fertility rate in Korea was reduced to 1.17 in 2002, the lowest in the world, and became the major policy project with the launching of the new government, and thus overall measures have begun to be established in close cooperation with related administrations.

In conclusion, the population quality and welfare improvement policy introduced in 1996 was evaluated as the period where the government merely just watched as fertility rates annually decreased and did not introduce countermeasures for "the maintenance of optimal fertility rate for sustainable socio-economic development," which was one of the basic goals of the new population policy.

Korea has completed the transition from high to low fertility rates. Nevertheless, an anti-natal way of thinking and behaviors, a relic of the bygone high fertility rate era, persists in many parts of the society. Although more or less overdue, it is the reason why a policy shift in our society is required to wisely and effectively cope with the problems of low fertility rates and an aged society.

As Korean government recognized the severity of the issue of having a low birth rate, the Aging and Future Society Committee, the advisory organization for the President, has dealt with the businesses including long-term and mid-term policies and implementation strategies related to low fertility rate and an aging society since 2004. Currently Fertility Policy Research Team (formerly, Korea Center for Population Studies) at the Korea Institute for Health and Social Affairs has been examining and

finalizing the policy tools for overcoming low fertility rate on the basis of the analysis on the "2005 National Survey on Marriage and Fertility".

The most important policy agenda for us to take, personally thinking, is working out balancing work and family that can help make women's employment and fertility rates positively correlated. This is also the lesson that we learn from OECD countries through their experience of recovering fertility rates by creating family- and women-friendly employment and service infra-structure.

The more society stresses the traditional functions of the family, adheres to the gender division of labor of the past, and unilaterally sticks to policy paradigms for economic growth and labor productivity, the more women and parents experience gaps between working in the labor market and child-rearing in their daily lives. In the broader picture, desirable policy frame is to design the structure of the role sharing between the market, the family, and the state, and between women and men.

In this regard, we are called for to ponder the type of welfare regime we should pursue. For example, the Nordic model, led by Sweden, has the major policy goal of full employment, women's participation in the labor market, and gender equality. France has a century long history of encouraging childbirths and supporting the family. On the other hand, Germany still adheres to the traditional role of mothers and minimal intervention by the state. The Anglo-American model dictates non-intervention, or limited intervention only for low-income families. While building a consensus on the welfare regime that we should take, we still have huge task to develop comprehensive and yet focused policy paradigm through reviewing and coordinating existing institutions and policies as well as changing our old way of doing paid work and unpaid work in family and workplace. These are the challenges placed ahead of us.

Ⅱ. Demographic Changes and Paradigm Shift

1. Introduction

The Korean government initiated a strong family planning program in the early 1960s when Korea's economic development began to step up. Until then, baby boom-fueled explosive population growth had been eating into the poor basis of economic growth, working as a major cause of the vicious cycle of poverty. As the family planning program began reaping its benefits and socio-economic changes came into being, including the increase in the standard of living in the wake of rapid economic growth and better and wider education, the traditional value on having many children began to wane. As a result, the fertility rate dropped sharply. The fertility rate (hereinafter referring to as the TFR, total fertility rate, as the leading indicator unless otherwise noted), already equal to the population replacement level in 1983, continued to decrease and then maintained 1.6-1.7 levels from the mid-1980s to the mid-1990s. Meanwhile, supported by better nutrition and improved health care systems, the average lifespan was on a steady rise. As such, Korea made a demographic transition from the pre-equilibrium stage of high fertility and high mortality to the post-equilibrium stage of low fertility and low mortality in less than half a century.

Korea's birthrates of 1.6-1.7 represent the average fertility rates in the OECD where population aging is already well-advanced. Korea's population aging, however, remains at a much lower level than most OECD countries. In other words, Korea still has a young population, but a low fertility rate. Moreover, Korea's TFR diminished1.5 as the country struggled through the

financial in 1997 and further below 1.2 in the 2000s, one of the lowest in the world. The continuance of the lowest low fertility rate has twofold implications. From a demographic perspective, Korea's population aging remains relatively low, but will speed up in the future. From an economic point of view, Korea will face a sharp drop in fertility rates before it becomes an advanced country, requiring a redoubled effort to achieve the goal. It is because a continued low fertility rate will leave Korea with a combination of socio-economic costs, including a shortage and aging of its labor force, increase in social security expenditures such as the national pension and public health insurance, and diminished consumption and investment.

The low fertility rate and population aging have a causal relationship. Another cause of population aging is the decline of mortality rates. The endeavor to prolong human life reflects most people's wishes, and national and social efforts have continued, and will continue, in that direction. Therefore, the only way to abate and slow down population aging is to raise fertility rates. Then, how high can low fertility rates be raised? The question that should be asked first may be how low will fertility rates drop? To answer these questions, it is important to assess how favorable a social atmosphere we can create to marriages and childbirths, including institutional improvements and necessary infrastructure building. However, these efforts may not be met with corresponding achievements in increasing birthrates. This is in part because current generations have very different values of marriage, children, and family than their predecessors. In short, while social conditions are important to changes in future fertility rates, the effects of values will be equally significant.

After all, future policy efforts should be made in two directions at the same time. For one thing, despite uncertainties involving the outcome, efforts to recover birthrates should continue. For another, as experiences of

some advanced countries suggest that fertility rates may recover but not without limits if they do at all, preparations for an aged society should also be made. In the early balance of high fertility and high mortality in the past, strong social concerns were required to stop the quantitative expansion of population. Facing low fertility and low mortality rates and even the lowest low fertility rates today, we are called to make two-pronged efforts to raise birthrates again and prepare for an aged society. Anti-natal and pro-natal policies may look similar in the measures and methods they use, but their concepts and purposes are completely different. Pro-natal policies in the low fertility and low mortality situation cost more, because they take responses to an aged society into account, but their effects are dubious. Ryder (1997) reckons that, whether privately or publicly, supporting the elderly costs more than supporting children by a ratio of 5:3 (per capita). Besides, the declining ratio of the working-age population (who should take care of the old), to the elderly population suggests that the working-age population will face an increasing financial burden in the future due to the continued low fertility.

Korea has long completed the transition from high to low fertility rates. Nevertheless, an anti-natal way of thinking and behaviors, a relic of the bygone high fertility rate era, persists in many parts of its economy and society. Although more or less overdue, it is the reason why a paradigm shift in our society is required to wisely cope with the problems of low fertility rates and an aged society.

This study discusses the necessity of a paradigm shift to meet the demographic changes and its future direction. To this end, it examines changes in factors of demographic transition which lead to changes in the overall social structure and the resulting changes in the demographic structure. Before doing this, as a theoretical background, the study reviews

theories on how long low birthrates would continue as an important factor of demographic changes and if it could recover. It then surveys the effects of demographic changes on the future economy and society as a consequence of a continued low fertility rate. The study finally discusses a paradigm shift to respond to these effects.

2. Responses to Fertility Change: Practice and Theory

The population policy to encourage childbirths as a way to change the size and structure of a nation's population in a desired direction dates back to ancient civilizations. To rulers of ancient kingdoms, "greater numbers tended to connote greater wealth and power."[3] For example, ancient Babylonia, Greece, and Rome enacted laws for promoting marriages and upholding the family in an effort to increase fertility.

In modern times, a paradigm shift geared to encourage childbirths began in France, which, in 1830, was the first European country to experience decreased fertility. With a simultaneous decrease in both fertility and mortality rates from the mid-18th century, France did not go through the demographic transition where the population drastically rises due to high fertility and low mortality rates. In the 19th century, however, the population in France increased by a mere 30-40 million, falling behind the average population growth in the rest of Europe. In the early 20th century, France's TFR decreased to 2.0, raising what was known as "fear of population decline"as an important social issue. Experiencing the first fertility transition at the end of the 1800s, France shifted its policy at the end of the 19th century toward encouraging childbirths. In 1900, it

3) Demney and McNicoll, 2003.

introduced a family allowance to pay for families with more than a certain number of children.

Many European countries made the policy paradigm shift toward encouraging childbirths after World War I. This was because the war and outbreaks of epidemics soon after the war took many lives, in addition to the plummeting birth rates during the war. The natural increase rate was slightly positive, but it was due to age distribution. In fact, the birthrates were so low that a negative growth was expected in the long term. The Great Depression in 1920 sped up the diminishment of population growth rates. In response, European countries introduced population policies to promote childbirths. As major policy measures, they banned contraception and imposed penalties on induced abortions.

These policy instruments, however, turned out to be almost ineffective. Governments then appealed to people to have more children. Western countries attempted income redistribution using tax revenues to compensate for socially desirable demographic behaviors and to suppress undesirable ones. Such policies to encourage childbirths were accepted by many countries in the 1930s. Sweden and France provided financial rewards and in-kind services to families with children (especially large families) for the first time. Autocratic Italy and Germany also introduced policies with enthusiasm. Although it caused higher birthrates than expected in a particular year, the policy to stimulate childbirth rates failed to contribute to long-term fertility increases. Many people simply advanced or delayed the time of childbirths to that particular year; the policy failed to affect the ultimate number of children couples wanted to have. It was translated that the population policy had little effect when a country had generally low fertility.

The low-fertility rate syndrome that occurred in European countries in the 1920s and 1930s lost its meaning with the baby boom immediately

after the end of World War II. The baby boom increased population in many countries including those in Europe in the mid-20th century. The war, however, was merely a temporary intervening factor. The birthrates continued to diminish in Europe. The rapid technological advancement in controlling childbirths after the 2nd World War also made a significant contribution to the declining fertility rates.

The responses of countries, however, were not clear-cut. Directly after World War Ⅱ, many Western European countries adopted the French approach. After the immediate postwar days, however, both the governments and the general public in many low-fertility rate countries have almost kept silence about the situation. Unlike during the inter-war years of low fertility rates, countries have been coolly watching the low fertility rate that has stood below the population replacement level. The manifest population growth policies prevailing in the 1930s were more conspicuous because they did not exist before. Many reasons explain the indifference.

First, population is expected to continue to sharply increase in developing countries in the early 21st century, and international aid to suppress population growth have remained in place. Second, the age structure affected by the baby boom has given birth to many infants. As a result, the natural increase of population (births minus deaths) remains static. Third, increasing attention has been paid to improving the quality of the natural environment, and the problem of low fertility is deemed to be solvable by encouraging immigration. Fourth, there is a vague expectation that a decline of the absolute number of population will activate the corrective homeostatic mechanism to automatically raise the birthrates. Though there may not be such phenomena as the baby boom, the population would reach or at least draw near the population replacement level. This view often lends itself to the justification of the laissez-faire

policy on birthrates that governments adopt when they do not possess the capabilities to determine an appropriate level of childbirths, population growth rates, and population size for a particular year or period.

Finally, even when governments are determined to encourage childbearing, they often lack effective policy measures. Simple encouragement is not reliable in its effectiveness and is unlikely to take effect, especially in democratic countries. Restricting access to contraceptive methods will not be acceptable. Instead, governments consider social policy when distributing material incentives to encourage couples to have children or disincentives for them not to have children. In fact, incentives were instituted in the inter-war period, but only with limited effectiveness. They were also offered after World War Ⅱ, but are no longer considered as part of the policy to encourage childbirths as having been absorbed into family welfare or other ordinary welfare schemes. Disincentives have become unacceptable these days.

Some criticize these laissez-faire attitudes. Low fertility rates are caused not by financial reasons but by socio-cultural reasons, including the young generation's deferment of marriage and childbearing, decisions made on individualistic bases. Nonetheless, Western countries hope to change low fertility trends in relation to supporting the elderly and bearing medical protection expenses that ensue with an increase of old people and a decrease of the labor force and younger age groups.[4] The trend is also visible in some countries in Eastern and Southeastern Asia (Freedman, 1995).

Since the 1960s, fertility rates in most European countries dwindled below 2.0 and even close to 1.0 in some countries, including Italy.

4) In a survey conducted by the UN on the low fertility rates and slowdown of the population growth rates in 1989, many advanced countries, including France, Luxemburg, Greece, Switzerland, Austria, Belgium, and Germany, expressed concern about low fertility rates. However, English-speaking countries, Nordic countries, and the Netherlands did not.

Europeans describe the fertility transition that proceeded from the 1960s as the "second demographic transition" (Eun Ki-Soo, 2005). Demographers of the times expected that the fertility rates may continue to decline but will become stable when the TFR reaches 2.0, the population replacement level. However, this expectation was dashed mainly by changes in values. Van de Kaa and Ron Resthaeghe explain that, against the backdrop of the changes of the time emphasizing individuals' autonomy and self-realization and the shift from material to non-material values, such phenomena as deferment or abandonment of marriage, cohabitation, divorce, and out-of-wedlock childbearing tend to increase when they cannot achieve self-realization in a differed value system (Eun Ki-Soo, 2005). The change in the value system was facilitated as contraception became commonplace since the 1960s, resulting in a continual decrease of birthrates.

As birthrates are in decline in the long run, many scholars have taken enormous interest in how low they can go. Theories on a fertility transition can be divided into three types: Pessimistic ones that they can be as low as zero; optimistic ones that they will start to rise again to revert to past levels and those holding that predicting a change in birthrates is itself impossible.

The most representative pessimist theory is probably the Becker model of fertility, also known as the New Home Economics model of fertility. In this model, Becker maintains that the satisfaction pursued by having children should be viewed as a function of the overall quality of the children rather than their number. The basic product that the family produces is the quality of children. The model presupposes that individuals' time value increases as an important consequence of improved quality of humans. If children are regarded as time-intensive products, or the increase in human capital does not increase the marginal production of time

required to raise children, then people prefer products that are less time consuming than raising children in order to improve the time value per person. The income effect will be induced by putting emphasis on the quality of children rather than their number. Following Becker, the possibility cannot be ruled out that all humans avoid childbearing (Namboodiri and Luying, 1997).

Another pessimistic proposition is the theory of Demographic Change and Response (Davis, 1963). It supposes that as the average life increases, people start to readjust their lives. In other words, as they have longer lives, people tend to design their lives with their retirement years in mind. And as a way of readjusting their life plan, they work harder or lighten their burden by downsizing their family size or delaying marriage. As a result, the fertility rate can theoretically reach as low as zero. Cardwell's wealth-flows theory of fertility also proposes that the likelihood of the fertility rate declining to zero cannot be entirely ruled out (Cardwell, 1976). The fertility decline, he explains, has to do with the economic structure within the family. Having children is advantageous economically in some societies due to the movement of wealth between generations, while it is not in others. In the later societies, Cardwell says, the fertility rate can continue to dwindle until it reaches zero.

According to the relative income hypothesis, couples can have as many children as they want when they have sufficient resources, but they may be reluctant to have children when they do not (Easterlin, 1978). As birthrates decline in correspondence with expected relative income and resources, they may well reach zero. The socio-economic theory of fertility assumes that birthrates are determined by the supply and demand of children (Easterlin, 1983). Demand is affected by time and income. If education, urbanization, new products, and new technology give more benefits than children in

terms of income and time, they have negative effects on demand of children. In this case, birthrates can reduce to naught.

The ideational theories of fertility change also argue that fertility can go down to zero owing to individualism and other factors (Preston, 1987). The demographic transition theory suggests that mortality may decline but, reaching a certain positive point, will hardly go below that point. However, unlike mortality, fertility is not necessarily naturally decided but can be adjusted by voluntary decisions; it thus can reach zero (Namboodiri and Luying, 1997). Adopting Malthus' thesis, Lee's hypothesis of homeostasis presupposes the population growth rates rise in good times and drop in bad times (Lee, 1994). When the rates decrease, many resisting factors work together to bring the rates back to the ultimate equilibrium; and technological advancement as a resisting factor has limitations.

In contrast, Blake estimates that, because every society has minimum norms on the family size which seldom go below these norms, there is no chance that fertility will reach zero (Blake, 1968). Easterlin says that, given the cycle of fertility in the past it was forecast that another baby boom would occur in the 1990s, but this did not happen (Easterlin, 1980). In fact, it is easy to explain what caused a fertility decline, but it is not easy to predict how much fertility will change.

As birthrates continue to decrease and worries on a fertility transition mount theoretically, countries have shown increasingly keen interest in population policy. If the current birthrates are maintained in Europe, the population is expected to diminish by a tenth within a 30-year intergenerational interval, aggravating the population aging. Birthrates in Southern, Middle and Eastern Europe have been unprecedentedly low.

In modern times, governmental response to low fertility rates began when the French Parliament expressed interest in demographic trends in

1983. Western countries hope to change the low fertility trend in relation to supporting the elderly and bearing medical protection expenses that ensue with an increase of old people and a decrease in the labor force and in the younger age group. In a survey conducted by the UN on low fertility rates and the slowdown of the population growth rates in 1989, many advanced countries, including France, Luxemburg, Greece, Switzerland, Austria, Belgium, and Germany, expressed concern on low fertility. However, English-speaking countries, Nordic countries, and the Netherlands did not (R. Palomba, A. Menniti & M. G. Caruso, 1997) The trend is also visible in some countries in Eastern and Southeastern Asia (Freedman, 1995).

The most important and basic element of demographic change, childbearing, however, is a very private affair for each couple. With varying degrees, every society grants its people with means of self-sovereignty. Individuals have rights on the direction of their lives. Individuals, however, are always under restrictions socially as well as biologically. Rights and obligations are formed by voluntary social interactions in a self-organizing process before being legislated. Limits on freedom take the form of social expectation and pressures, which can be ignored only at a level where individuals have to pay considerable prices. Typical social expectation and pressures dictate every individual to get married and have children. Childbearing and child-rearing are understood by all adults to be the duty of parents and unofficially enforced by the community. On the other hand, it is also argued that, strictly conforming to Adam Smith's invisible hand, it is necessary for the market to take care of the problems of working women (mothers) and continuously low fertility rates to help raise birthrates. However, in reality, governments have limitations in legislating and enforcing individuals' rights and obligations on

marriage and childbearing, and with dubious effects. During the times when autocratic countries were in place, Germany, Italy, and the Soviet Union once employed policies to promote childbearing for reasons of decreased military resources following lowered fertility rates. The countries recommended and rewarded large families and strictly controlled family planning and artificial abortions. Romania restricted artificial abortion in 1966 and saw the birthrates double the next year. Italy introduced an institution to impose taxes on celibacy in 1926. After all, governments are advised to put more importance to policy to, directly and indirectly, induce marriages and childbearing. Furthermore, the entire society should be out to attempt at a paradigm shift to tide over the low fertility.

As of 1999, two thirds of the world's countries adopted policies to change the birthrate levels. They have introduced many policy measures, 13% of them to increase the birthrates, 9% to sustain them, and 45% to bring them down. Some low-fertility rate countries have had some temporary effects by employing direct and indirect policy instruments to push up birthrates. In Sweden, the fertility rate has recovered to past levels thanks to government policies favorable to child-rearing after the births of first babies (R. Palomba, A. Menniti & M. G. Caruso, 1997). Some others have reinforced policy measures to make it easier to adapt to changes in environment following low fertility rates. Recently, some countries have taken diverse and comprehensive steps to hike up birthrates, measures which are mostly characterized by high costs.

Many low-fertility rate countries have made many efforts to deal with population aging, shortage of the labor force, and uncertainties of the national economy, problems arising from sustained low fertility rates. In order to prevent an increase or a steady decline of fertility rates, governments have attempted to achieve the goal of the population policies

less by taking direct policy measures and more by linking them with objectives of other social and economic policies. They have focused on accomplishing the goal of population policy by integrating, and maintaining balance with, other policies, including those on women, children, and the family. That is part of the reason why modern population policy is not clearly discernable with policies on children, women, and the family.

In modern times, women's increasing participation in employment has had considerable effects on patterns of marriage and childbearing. In this respect, for population policy, low-fertility rate countries have placed emphasis on enhancing the possibility for women to both raise their children and work, and the equity of the obligations and functions of men and women in housework and child rearing. To this end, they have stressed the duties of the state and society for child-care and introduced policies that emphasize family-friendly employment and gender equality in society at large. Such policies include paid child-care leave, maternity leave, family allowances, child allowances, increasing the number of child-care facilities and improving their services, extending child-care hours, expanding child-care after school, subsidies for education and housing, tax breaks, shortening or increasing flexibility of the parents' working hours, and increasing the number of part-time jobs. Some countries have introduced government-financed education, housing subsidies, and tax breaks for families and working mothers. In Eastern European countries which have turned toward the market economy, birthrates have plummeted since 1990 as real income dwindled, government grants for children were reduced, child-care services became privatized and more costly, and unemployment rose. In response, the governments took many policies to encourage women harmonizing both childbearing and work.

3. Demographic Transition in Korea

Korea's fertility transition since 1960 can be divided into three stages by time periods. The first stage (1960-1983) can be defined as the period in which the increased fertility rate based on the baby boom was sharply dragged down by the strong anti-natal policy. The TFR in 1960 when the government chose the anti-natal population policy was 6.0 but it plunged during the two decades, to 2.1 by 1983.

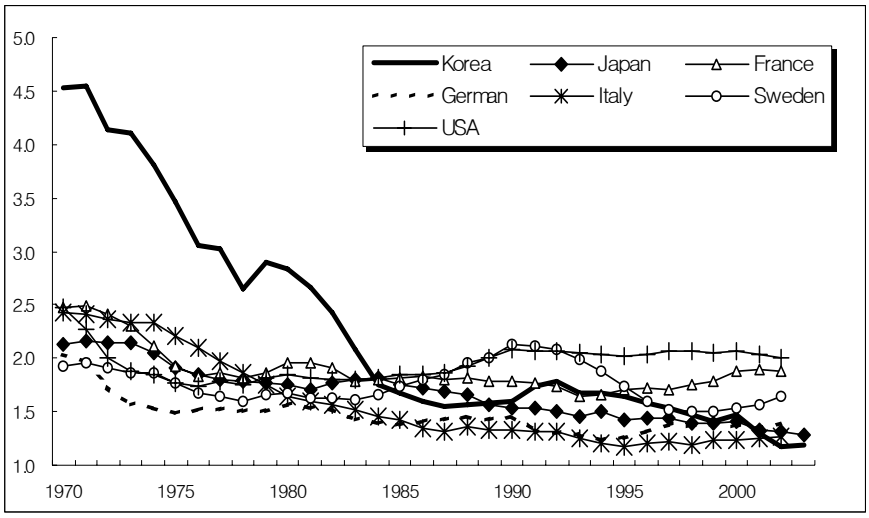
Table 2-1. TFR Changes in Korea

(Unit: Number of live births per woman during her childbearing period)

Year	TFR	Year	TFR	Year	TFR
1925-30	6.44	1976	3.05	1991	1.74
1930-35	6.13	1977	3.02	1992	1.78
1935-40	6.22	1978	2.65	1993	1.67
1940-45	6.08	1979	2.90	1994	1.67
1945-50	5.96	1980	2.83	1995	1.65
1950-55	5.60	1981	2.66	1996	1.58
1955-60	6.30	1982	2.42	1997	1.54
1960	5.99	1983	2.08	1998	1.47
1965	5.00	1984	1.76	1999	1.42
1970	4.53	1985	1.67	2000	1.47
1971	4.54	1986	1.60	2001	1.30
1972	4.14	1987	1.55	2002	1.17
1973	4.10	1988	1.56	2003	1.19
1974	3.81	1989	1.58	2004	1.16
1975	3.47	1990	1.59		

In other words, the number of newborn infants that a woman gives birth to during her childbearing period went down from an average of six to two. In the second stage (1984-1997), the birthrates remained relatively stable.

Figure 2-1. TFR Changes in OECD Countries (1970-2004)



Source: Population Perspectives, 2004, UN Annual Report on Vital Statistics on Population, 2005, National Statistical Office, Korea.

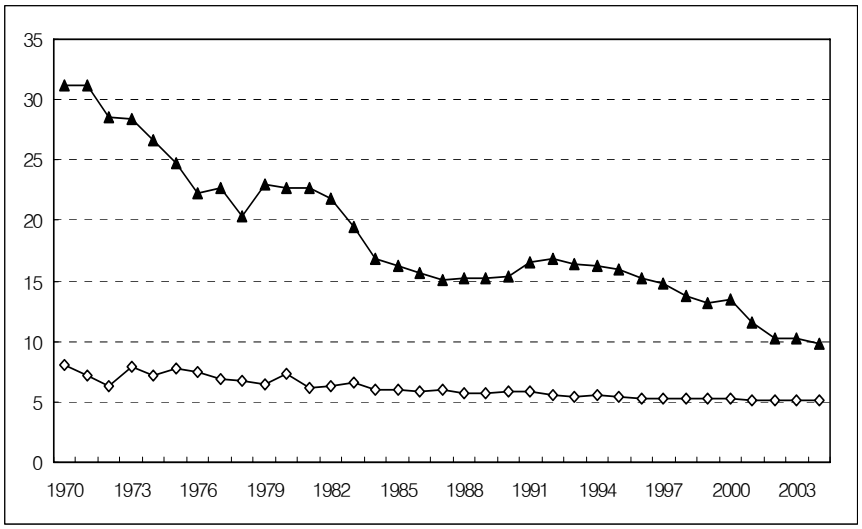
Although the TFR dropped below the population replacement level after 1983, it was maintained between 1.5-1.8 until 1997. Some irregularities are due mainly to the changes in the age structure of women in their childbearing period. The second stage can be regarded as a period when the low fertility syndrome was fixed. In the last, third stage, birthrates decreased again and continued in the lowest low fertility syndrome. The fertility transition in Korea shows that its birthrates have been decreasing to lower levels over a shorter period than in OECD countries, such as Japan, Italy, Germany, Sweden, France, and US.

The number of newborn infants drastically dropped from 1.02 million in 1971 to less than a half million (476,000) in 2004. The crude birth rate

(number of newborn infants per 1,000 people) dropped from 31.0 in 1970 to as low as 9.8 in 2004. The death rates had already been at low levels as a result of advanced healthcare technologies and medicines which were introduced into Korea, and active hygiene programs immediately after Korea's liberation from Japanese colonial rule in 1945. With the reduction of the death rates, the overall average lifespan rose from 62.3 (59.0 for men and 66.1 for women) in 1971 to 77.5 (73.9 for men and 80.8 for women) in 2003. The crude death rate (number of deaths per 1,000 people) fell from 8.0 in 1970 to 5.1 in 2004.

The baby boom kept the birthrates (crude birth rates) high until the 1970s (See Figure 2-2). In contrast, the introduction of healthcare technologies and enhanced hygiene maintained the death rates (crude death rates) at low levels. The result is the high fertility and low mortality in the demographic transition. Granted, the population growth was still high at over 2% during this period. As the fertility rate sharply dwindled, the difference between the crude birth and death rates was also rapidly narrowed. A typical low fertility and low mortality form, this means that Korea was entering the post equilibrium stage in the demographic transition theory. If the low fertility rate persists, a population inversion will take place where deaths exceed births, making the absolute size of population decrease.

Figure 2-2. Changes in Crude Birth and Death Rates in Korea



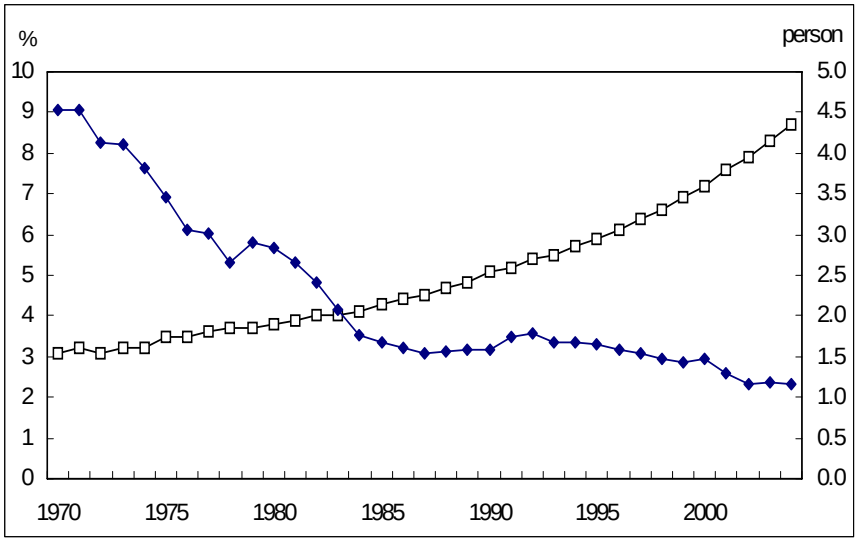
Note : ▲ Crude Birth Rate ◇ Crude Death Rate
Source : Vital Statistics, National Statistical Office, Korea.

4. Impacts of Low Fertility Rate

A long continuation of a low fertility rate necessarily promotes population aging. Here, population aging has a three-fold meaning: The ratio of elderly people (people aged 65 or older) to the total population, aging of the working-age population, and aging of the elderly population. In the traditional sense, population aging refers to the ratio of senior citizens relative to the total population. In effect, population aging is determined by three forces: fertility, mortality, and the existing demographic structure (structural factor). In the event that the TFR sustains at the 1.2 level through 2025, it is estimated that the contributions to the population aging of the existing demographic structure would be a

predominant 67.4%, of fertility 18.9%, and of mortality 17.0% (the remaining 3.2% occurring from the interactions of these factors). If the low fertility rate at the TFR of 1.2 level continues even further through 2050, it is reckoned that the contribution of a lowered fertility rate would increase to 43.1%, with the demographic structure contributing 41.6% and mortality contributing 22.1% (Lee Sam-Sik et al., 2005).

Figure 2-3. The Relationship between the TFR and Population Aging



Note : □ Ratio of Elderly People, ◆ TFR

The proportion of elderly people in Korea is estimated to grow from 7% in 2000 to 14% in 2018 and again to 20% in 2026. It is expected to take 18 years for Korea to advance from an aging society (with elderly people, those aged 65 or above, making up 7% of the population) to an aged society (with the ratio reaching 14%).It is forecast that it will take only eight years to proceed from an aged society to a super-aged society

(20%). The speed is faster than any other country in the world. For instance, the transition from an aged to super-aged society is predicted to take 40 years for France, 20 years for Italy, and 16 years for the United States, a slower process than in Korea.

Korea's rapidly aging population is projected to catapult its aging population to the 20% level by 2025, surpassing that of the United States, the United Kingdom, and Australia, and to the 24% level by 2030, exceeding that of France and Norway. By 2050, the ratio is expected to reach 38%, the highest among all OECD countries.

Table 2-2. Changes in the TFR and the Ratio of Elderly People

(Unit: Number of live births per woman during her childbearing period)

	Korea	Japan	France	Germany	UK	Italy	Spain	Sweden	Norway	US	Australia
TRR (person)											
1970	4.53	2.13	2.47	2.03	2.43	2.42	2.90	1.92	2.50	2.48	2.86
1980	2.83	1.75	1.95	1.56	1.90	1.64	2.20	1.68	1.72	1.84	1.90
1990	1.59	1.54	1.78	1.45	1.83	1.33	1.36	2.13	1.93	2.08	1.91
2000	1.47	1.41	1.88	1.36	1.64	1.24	1.23	1.54	1.85	2.06	1.75
2002	1.17	1.32	1.88	1.40	1.65	1.26	1.25	1.65	1.75	2.01	1.75
2003	1.19	1.29	1.89	1.34	1.73	1.29	-	-	-	2.04	-
2004	1.16	1.29	-	-	1.79	-	-	-	-	-	-
Ratio of People Aged 65 or Above (%)											
2005	9.1	19.7	16.3	18.6	15.9	19.6	17.2	17.7	15.1	12.3	12.8
2020	15.7	28.1	20.3	22.1	18.6	23.7	20.5	22.7	19.7	15.9	17.3
2030	24.4	30.4	23.6	26.4	21.1	28.2	25.4	25.2	23.3	19.2	20.7
2040	32.6	34.4	25.9	28.7	23.0	33.7	31.5	27.2	26.2	19.8	22.9
2050	38.4	36.5	26.4	27.9	23.3	34.4	35.0	27.1	26.1	20.0	23.9

Source: Population Perspectives, 2004, UN

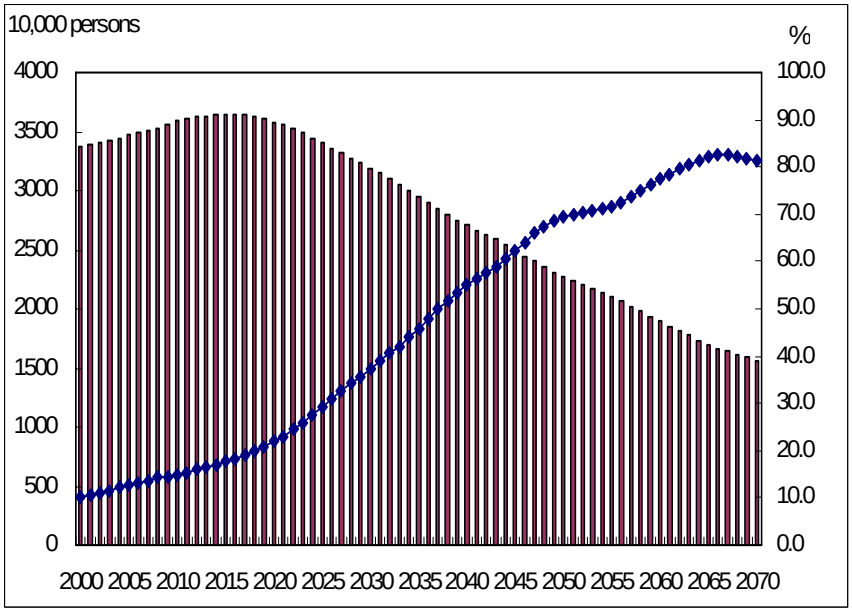
All in all, the working-age population as supporters of elderly people, who increase both absolutely and relatively, will rapidly dwindle owing to a reduction in the number of newborn infants. The decrease in the working-age population and the increase in the elderly population will work together to boost the aged dependency ratio. Standing at a still moderate 12.7 in 2005, the ratio is expected to quickly rise to correspond with the youth dependency ratio at 18.2 in 2018. Afterwards, the elderly population (those aged 65 or above) will surpass the young population (those aged 0-14). If the recent low fertility phenomenon lasts for a long time, the aged dependency ratio will approach 70 by 2050.

In fact, a reduction in the working-age population following the low fertility trend does not necessarily affect the labor force directly. The major reasons are that some of the economically inactive population, including the elderly, enter the labor force to partly offset the workforce shortage, and that the industrial structure changes, including an increase of less labor-intensive industries due to technological progress. If most available adult men and women are put in paid employment in the long haul, however, changes in the working-age population have direct effects on the quantity and quality of the labor force, labor productivity, and labor separation. The longer birthrates remain at low levels, the more people get out of the labor force than those newly entering it, resulting in growing aging and a shortfall of the workforce.

Some demographers assert that aging of the labor force following a low fertility period drags down productivity. The decrease in the recently-educated younger labor force outweighs the advantages of the seasoned aged labor force, which itself loses skills, innovation, and creativity over time. Even though advancement of technological innovation may reduce the required labor force, it does have limitations because an

aging workforce knocks off productivity and creativity. In addition, an aging workforce decreases labor transfer, making it highly likely to cause an imbalance in the supply and demand of the labor force among different jobs, industries, and regions.

Figure 2-4. Projected Changes in the Working-age Population and Aged Dependency Ratio in Korea



Note: ━ Working-age Population ◆ Aged Dependency Ratio

The effects of the reduced working-age population stemming from decreased newborn infants are not limited to the labor force. A rapid increase in the aged population will cost higher social security expenditures, while the shrunken pool of working-age population who should bear the costs will pose a major challenge to a sustainable social development and realization of welfare. The costs used to support the

elderly tend to be higher than those for supporting children, privately or publicly (Ryder, 1997). An aging population increases the number of pensioners, whereas the reduced working-age population will bring down the relative increase rate of pension subscribers who pay for the pension. Pensioners, numbering 1,815,000 (beneficiaries of the old age pension being 1,424,000 people) in 2005, will continue to increase until 2050 (old age pensioners to be 10,268,000 people, and the number will be 13,393,000 people when disability and survivors pensioners are added). By contrast, pension subscribers will rise from 16,946,000 people in 2005 to 17,893,000 in 2014 before sharply dropping to 8,634,000 by 2070. In conclusion, it is estimated that if the current national pension plan is maintained as it is now, the total pension payments will exceed the total pension income beginning in 2036, and even the reserves will be depleted by 2047 (National Pension Development Committee, 2003).

While low fertility rates and population aging have been quickly raising financial burdens for social security, including medical protection and pensions, economic growth has not been able to keep pace with it. As a result, the social security finance is doomed to get worse. It will inevitably add to the financial burden of the work force. An excessive financial burden on work force can be eased by extending retirement ages and/or cutting down on social security benefits, but it has only limited effects. In the end, frustrations will erupt between generations about the benefits and the excessive burdens.

If lowering fertility rates leads to a labor force shortage, more people, especially women, from the working-age population would enter labor force, ultimately increasing personal income which, in turn, can promote individuals' consumption and investment. Low fertility rates and population aging will also change the pattern of consumer spending. As different age

groups buy different goods and services, less spending will be made on baby carriages, toys, foods and clothes for children, and sports facilities while more spending will be made on small houses, expensive durable consumer goods, recreation, entertainment, adult education and other services for adults. In other words, the consumption pattern will shift from short-lived to long-lived products, from less to more expensive goods, from necessary to luxury goods, and from traditional to novelty products. However, while costs of supporting a young population help build human capital in the form of, say, educational expenses, and create future income and productivity, costs of supporting an elderly population characteristically are mostly spent as maintenance expenses and stop short of contributing to production.

Thomas J. Espenshade (1978)states that low fertility rates bring about a decrease in the number of children to support, and an increase in women's participation in economic activities, thereby raising savings. However, some say that household savings depend more on per capita income than on the number of children. Spending on children is often a substitution of spending on other things rather than replacement of savings, and children, rather, contribute to the income of the family or motivate parents to work harder and longer and contribute to the accumulation of real estate. That is, household savings are understood as a function of average ages rather than the number of children. In 1958, Coale and Hoover supposed that a drop in population growth rates accelerates the increase of capital through increased savings. Recent research, however, suggest that a decrease in population growth rates is negatively correlated with personal income. The higher the population growth rate, the more personal income as human capital is incorporated into the total capital (Mason and Miler, 1998). Coale and Hoover's hypothesis was empirically verified by many studies

(Colli, 1991; Kang, 1994; Kelley and Schmith, 1996). As an example, in East Asian countries, past demographic transitions have been an important factor in the recent high savings rates and foreign capital flow; and this phenomenon is also expected to appear in third world countries in the future (Mason and Miler, 1998). This is because declined fertility rates alleviate the financial burden of supporting young people and thus helps increase savings rates, contributing to the growth of per capita capital. Demographic transition, therefore, affects economic development through changes in economic dependency ratios.

A steady state analysis(Lee, Mason & Miller, 1997)[5] suggests that before a demographic transition, or in a state of high fertility and high mortality, the ratio of the youth population is high, but the ratio of the people who would survive after the retirement age is very small. It makes a small demand for wealth to accumulate during one's working-age period in preparation for retirement and a dominant demand for wealth to support younger generations. By contrast, in a period of low fertility and low mortality, an increase in the average life span leads to an increase in the after-retirement period. The situation makes it highly necessary to accumulate wealth during one's working-age period in preparation for retirement years, whereas the low fertility rate renders it less required to amass wealth for the support of youths. In short, after a demographic transition, there is higher demand for the accumulation of wealth throughout life.

A lower fertility rate also takes effect on another front: It reduces the population to be educated and, as a result, makes it possible to provide better education to a smaller pool of students. A comparative study on the enrolment at elementary and secondary schools in the United States during

5) The demand for wealth (L) by age (x) is defined as capital (K; physical wealth) plus transfer wealth (T), or L(x)=K(x)+T(x).

1970 to 2000 indicates that the quality of education as denominated in the educational expenses per student was rising (Thomas J. Espenshade, 1978). In case of a further lower population growth rate, the quality of education should improve more even when a smaller portion of GNP is allocated to education. Education above secondary education will much depend on changes in economic conditions and prospective income. It also will be affected by students' investment plans for the future. Technology advances will require students to learn new skills in addition to improving whatever skills they may have, or require more labor separation. The result will be an increase in the number of older and part-time students.

Low childbirth rates and population aging bring changes to the composition of the poor population. An aging population is very likely to remain in the low-income brackets because of their poorer financial resources. Population aging will leave a rapidly growing poor population of 65 years or older. In the meantime, the population who should take care of them will continue to diminish, making the problems of poverty and welfare more serious. It will set in motion more government programs to deal with poverty and promote welfare of the elderly. An increase in the aged population that requires high medical expenditures will increase the number of governmental healthcare programs. On the other hand, a decrease in the younger population will lead to a reduced expenditure on educational programs.

Population aging also will abate the movement of population (as a result of a decrease in the factors that promote population movement, such as education, jobs, and marriage), slowing down population growth rates in urban areas. It will curtail investment in new services or induce higher-quality service for the same investment. Reduced population, however, will end up causing financial troubles, including decreased tax revenues.

5. Causes of Low Fertility Rates

The second demographic transition theory may well apply to Korea. Demographers and the government never expected that Korea's TFR, after reaching the population replacement level in 1983, would fall further and stay there for a long time. In fact, even after the mid-1980s when the TFR was sustained at 1.7, the government still enhanced its anti-natal policy for fear that the birthrates might start to rise again. The most important reason behind such an unexpected dramatic decline of fertility rates was changes in values. As shown in the second population transition in Europe in the 1960s, women in Korea have had a stronger desire for self-realization, which has rapidly increased deferments of marriage and childbearing, raised divorces, and recently increased cohabitations.

Table 2-3. Changes in the Ages of First Marriages of Koreans

(Unit: years old)

Year	Female	Male	Year	Female	Male	Year	Female	Male
1972	22.6	26.7	1991	24.9	28.0	1998	26.1	28.9
1975	22.8	26.8	1992	25.0	28.1	1999	26.3	29.1
1981	23.2	26.4	1993	25.1	28.1	2000	26.5	29.3
1985	24.1	27.0	1994	25.2	28.3	2001	26.8	29.6
1988	24.7	27.6	1995	25.4	28.4	2002	27.0	29.8
1989	24.8	27.8	1996	25.5	28.4	2003	27.3	30.1
1990	24.8	27.8	1997	25.7	28.6	2004	27.5	30.6

Source: Annual Report on Vital Statistics on Population, National Statistical Office, Korea.

Singulate mean age at marriage (SMAM) for females was merely 22.6 in 1972 and it continued to rise to 25.0in 1992 and 27.5 in 2004. SMAM for males also rose from 26.7 in 1972 to 30.6 in 2004 (See Table 3). The

average age of first delivery of married women also rose from 24.2 in 1981 to 28.9 in 2004. Divorces numbered 12,000 in 1970, 50,000 in 1992, and over 100,000 in 1998. They shot up to 167,000 in 2003, pushing the crude divorce rate to 3.5% (See Table in the Appendix). When only women of 15-34 years of age, major childbearing ages, are considered, the number of divorces was below 10,000 in 1970 but it soared to 68,000 in 2003.

One thing that distinguishes Korea from such Western countries as France and Sweden is that in Korea premarital childbirth is strongly suppressed both socially and individually. The socio-bio gap between the age at marriage and sexual activities has increased the number of premarital pregnancies. However, in Korea where ceremonial marriage is established as a strong social norm and extramarital childbearing is not socially accepted, most such pregnancies end up being artificially aborted for reasons of society's cold treatment and criticism. According to a 2005 survey, 42% of some 350,000 artificial abortions that take place annually are carried out on unmarried pregnant women. This shows that Korea's fertility rates are more directly affected by nuptiality; an increase of age at marriage leads to a decrease in fertility rates. It is a major cause of Korea's fertility rates having fallen to one of the lowest in the world.

The rise of age at marriage is attributable to changes in values. In a 1998 survey by the National Statistical Office, Korea, the ratio of unmarried women polled on the value that people should get married accounted for a very low 20.3% with total affirmative responses to marriage, including those who said it is better to get married, being 63.3%. A 2005 survey by the Korea Institute for Health and Social Affairs showed that unmarried women's views on marriage turned more negative: 12.8% of the respondents said people should get married and 36.3% said it is better to get married.

Table 2-4. Unmarried Women's Views on Marriage

(Unit : %)

Year	Should get married	Better to get married	Doesn't matter	Better not to get married	Don't know	Total
1998	20.3	43.0	32.2	1.3	3.2	100.0
2005	12.8	36.3	44.9	3.7	2.2	100.0

Source: 2005 National Survey on Marriage and Fertility Dynamics, 2005, Korea Institute for Health and Social Affairs; Korea's Social Indices, 1999, National Statistical Office.

Married women's views on children have also changed considerably. The ratio of those respondents who answered that people should have children was an almost absolute 93.7% back in 1997. The ratio decreased to the 50% range in 2000 and further fell as low as 23.4% in 2005. People's expectation of their children's utility in the past was mostly a means of securing the family labor force, a source of security in retirement, and a succession of the family line. As social security has developed and consciousness on blood relationships has weakened, more emphasis has been placed on children's values as agents of emotional dependence and support. The changes in the values on the qualitative utility of children have affected the quantitative value of their numbers, helping to firmly establish people's views favoring a small number of children in Korea.

Table 2-5. Changes of Married Women's Attitudes Toward the Necessity of Children

(Unit: %)

Year	Should have	Better to have	Doesn't matter	Don't know	Total
1997	93.7	16.6	9.4	0.3	100.0
2000	58.1	31.5	10.0	0.5	100.0
2003	54.5	32.3	12.6	0.6	100.0
2005	23.4	41.8	34.9	-	100.0

Note: The response in the 2005 survey of "[Children are] absolutely necessary" was classified as "Should have" and "generally favorable (to have children)" as "Better to have."

Source: For 1997-2003, National Survey of Fertility and Family Health, each corresponding year, Korea Institute for Health and Social Affairs for 2005,an analysis of the National Survey of Marriage and Fertility Dynamics by the Korea Institute for Health and Social Affairs.

Many different and complex factors affect values and patterns of childbearing. As such factors, many studies cite economic, educational, socio-cultural, and individual factors. These factors, however, should not work individually but interact among themselves to influence fertility.

Roussel divides the factors affecting childbearing into three categories (Roussel, 1994). As economic effects, childbearing is regarded as incurring indirect costs, including depriving mothers of an opportunity for income-earning activities, as well as direct costs, such as housing, food, and education. As a result, they have a grave effect on parents' decision-making on childbearing. As cultural effects, the difference in norms among different social strata acts on birthrates. For example, the second decrease of fertility rates which occurred in Germany is interpreted as a result of changes of values and increased movement of students and

women affecting not only marriages but also divorces and childbearing rates. Lastly, historical dynamics and lifestyle factors indicate that fertility behavior is affected by a biographical model experienced by the family and relatives.

Recently, financial reasons are counted as the most important cause of low fertility rates. Most women seek full-time jobs and promotions at work and take care of housework and childrearing at the same time. Generally, however, at least in the past, working women quit jobs when they got married and became pregnant or started raising children. Once they quit their jobs, they could hardly have a job of the same level as their previous job when they seek reemployment after their children are grown. This means a decrease in the household income, and often leads to avoidance of marriage and childbearing as recognized as opportunity cost. The higher educational background women have, the higher echelon of a job they have, such as administration, management, and professional work, and the less the wage difference they have relative to men all pointing to more opportunity costs incurred from childbearing and child-rearing.

Another reason on the financial side is that women have increasingly participated in economic activities, while men's roles in housework remains more or less the same. As balancing housework and economic activities emerges as a greater challenge to women, they tend to have children as late, and fewer, as possible and some even do not want any at all. The financial reasons of low fertility rates, after all, have to do with gender equality in housekeeping and child-care. It is generally agreed that a continued gender inequality will help decrease fertility rates. Some scholars, however, propose that, on the contrary, gender equality may lead to decreased fertility rates. For example, Palomba and his colleagues suggest that gender equality can work both ways on fertility rates. An emphasis on

men's obligations to housework will make it easier for women to balance child-rearing and work, positively working on having children. On the other hand, enhanced gender equality will help more women to take part in economic activities and have fewer children than in the past.[6] Besides these factors, the pervasive materialism and individualism contribute to a growing tendency of women to have fewer children or no children at all (Palomba et al., 1997).

In a broader view, unstable employment and slow business, too, have been known to be the causes of low fertility rates. As an example, the United Kingdom saw a decrease in fertility rates due to wobbling job security since the early 1970s. In Sweden, an increase in the social security expenditure helped raise childbirths during the 1980s. A recession in the 1990s, however, curtailed its social welfare budgets and helped bring down birthrates (Hoem and Hoem, 1996). Some attribute the reason of East Germany's fertility rates falling from 1.6 before the unification (1990) to 0.7 after the unification (1993) to East Germans' efforts to cope with socio-economic changes following the unification, including high unemployment rates and depreciated labor prices (Witt and Wagner, 1995). As another notable example, age at marriage sharply rose and birthrates dived in Korea after it was hit hard by the financial crisis in 1997, an indication that a sluggish economy and increased unemployment and job insecurity are contributing factors to lowered fertility rates.

Yet another cause of low fertility rates is education. The relationship between women's educational levels and fertility rates varies depending on

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6) For example, Northern European countries where a high level of gender equality is maintained have higher TFRs than those in Southern European countries (including Italy and Spain) with strong patriarchal traditions. Ethnically, too, Anglo-Saxon and Nordic countries where gender equality is realized in housework, employment and overall society have higher birthrates than in other countries.

regions, stages of economic development, cultural conditions, and periods (UN, 1995). Most studies, however, prove that women of higher education have lower fertility rates than women of lower education. Participation in education, in itself, raises age at marriage and puts off the time of giving birth to a first child, ultimately reducing the total number of children. Education also indirectly affects childbearing by exerting influence on other areas. For example, education enhances accessibility to knowledge, information, and new thoughts. It helps expand women's capabilities and opportunities and effects their attitude and behaviors. According to the UN report, education also raises the ratio of participation in economic activities and lessens preference to marriage, ultimately affecting the number of children. The diminished fertility rates in many European countries are ascribed to the rise of mothers' age of giving birth to their first children and the proportion of mothers without any children as they have more education. Improvement of educational levels, in particular, has been regarded as a motto of Germany's second demographic transition (Beets, 1997).[7] As women get better education, their children's mortality rates are reduced, which consequently makes them want fewer children.

On a somewhat different plane, education acts on fertility rates through its interaction with age at marriage. In a modern society where increasing numbers of women have had better education and the age gap between husband and wife has narrowed, older women with better education find it increasingly hard to find as pouse in the marriage market. It makes an increasing number of them give up on marriage involuntarily. In Korea where universal marriage is a social norm, highly educated unmarried women are

7) The diminished fertility rates in many European countries are ascribed to the rise of mothers' age of giving birth to their first children and the proportion of mothers without any children as they have more education. Improvement of educational levels, in particular, has been regarded as a motto of Germany's second demographic transition (Beets, 1997).

deferring the age at marriage in order to garner the advantages of celibacy, but it is estimated that they are increasingly forced to give up on marriage as they cannot find eligible spouses late in life (Kim and Li, 1997).

An increase in educational expenses also helps lower fertility rates. Because of the exorbitant costs of education from preschool to college, parents often put priority on quality rather than quantity and prefer fewer children or no children at all. This is partly because children are no longer taken as an investment for their parents' retired years, and raising them is now regarded as an opportunity cost for the time and income of the couples, especially for the women.

Low fertility rates take place not only for financial reasons but also for socio-cultural reasons, such as deferred marriage and childbearing, of younger generations from individualistic motives (Freedman, 1995). As economic development makes people better off, stabilizationism and individualism dominate their values and young unmarried people rush to consume, deferring marriage and childbearing which lead to low fertility rates (Lesthage et al., 1988). Younger generations tend to go to work stably from their parents' home, depend on their mothers in their daily lives, and enjoy consumption. This trend increases some kind of aristocratic or parasite singles who do not assume the responsibility to support the family, resulting in lower fertility rates (Atoh, 1998).

6. Paradigm Shift

The paradigm of a high fertility age may be said to be capitalism and materialism. In respect to population, focus has been placed on such issues as sluggish economic growth, a worsening environment, food crisis, and

poverty that accompany a population explosion. In an attempt to solve these problems, many countries have exerted many policy efforts and, internationally, family planning designed to suppress child bearing has been highlighted as a common agenda. Advanced countries have actively supported technology and capital to stop exponential population growth in underdeveloped countries. In fact, international efforts to suppress childbearing are still active. Recently, a new idea of replacement migration was proposed as a measure for low fertility countries in which labor force transfer is encouraged from high fertility to low fertility countries.

Because of low fertility rates and population aging, countries will face more difficult challenges than in a high fertility era. Many European countries have aided underdeveloped countries to help suppress childbirths and, at the same time, made painstaking and incessant policy efforts to maintain their population size and demographic structure stably at an appropriate level. Granted, immigration has long been introduced as a measure, but they have made stronger efforts to bring their fertility rates back. These efforts were made not only in European countries but also in some Asian countries, including Japan, toward the end of the 20th century. The contradictory behaviors of these countries may reflect the fact that low fertility rates and population aging have so much impact on their overall economy and society.

Just as the high fertility rates began as national problems and grow to become international issues, so must low fertility rates and population aging proceed fast from individual countries' problems to global ones. Today, the problems of high and low fertility rates are mixed together on the international scene, limiting problems of low fertility rates to national boundaries. In the near future, however, they will start erupt as international problems.

Belonging to a different order from problems occurring in an era of high fertility, the era of low fertility also produces many problems. Excessive efforts to prevent high fertility rates may cause the problem of low fertility rates, while, with less reality, overly stretched efforts to prevent low fertility rates may promote high fertility rates. After all, it is most desirable to handle fertility rates at an appropriate level, nationally and internationally. That is in part why discussions have long continued on a utopian, appropriate size of population which is only possible mathematically.

In order to reach an appropriate population size and structure, high and low fertility rates should converge to, and long be maintained at, the appropriate level. The convergence can be achieved not naturally but by continued social and policy efforts. Reducing the number of too many children is beneficial in helping decrease individuals' sacrifice and providing more opportunities in other areas of life. Therefore, reduction in fertility rates is more easily achieved when stronger social security is provided and more benefits are offered to individuals' efforts to suppress the number of childbirths.

Unlike the era of high fertility when materialistic aspects were emphasized, the low fertility syndrome can start to be addressed when people's values are changed toward the post-materialistic. Reversing values is very difficult. However, in order to turn around the trend of deferring marriage, forsaking marriage, having smaller numbers of children, increasing divorces, and increasing premarital childbirths, popular values should first be changed. It will be a truly challenging task and take a long time. Changes in values are closely intertwined with overall socio-economic phenomena surrounding individuals. To put it differently, in order to induce changes in values, efforts should first be made to bring about changes in the overall aspects of economy and society. That is why

the state should step forward to improve social institutions and provide support to drive changes in values toward post-materialism that are involved in marriage and childbirths during the era of low fertility.

In some parts of the globe there still remains the problem of high fertility as a national agenda that is directly linked with the nation's survival. The international community's worries that a continued population growth might surpass the earth's capacity and wreak havoc cannot simply be ignored. On the other hand, people should be awakened to a sense of crisis that a continued low fertility rate (especially the lowest low fertility rate in Korea) can weaken the future national economy and even, as some Western politicians and scholars have suggested, lead to the collapse of a civilization. The recent lowest low fertility syndrome should not be taken as a transient social phenomenon. Although Korea's lowest low fertility syndrome is said to have taken place in the 2000s, the low fertility phenomenon has already progressed for nearly a quarter of a century. Taking Europe as an example, it should be noted that low fertility rates have long persisted in spite of governments' unbroken interest and policy efforts.

Low fertility and population aging should be taken as an inescapable social phenomenon. When they are accepted as a social phenomenon, then efforts will finally be initiated to minimize their adverse effects. The efforts can take the form of social movements, education, and public relations to draw changes in values. They also can be made in the form of institutional improvements and diverse support programs to help create an economic and social environment favorable to marriage and childbirths. Nothing is more important, however, than recognizing that the current low fertility is not a transitory phenomenon and building a popular consensus that public interest and active responses are required to cure the symptoms, leading it to converge into an appropriate level.

Ⅲ. Changes in Developments of Population Policy

1. Evolution of population policy

In general, population policy can be summarized as the action plan of a country or a public organization that actively controls three factors of the population process, such as birth, death, and migration, which can affect the quantity and quality of the population. Such a policy is also designed to ideally show the socioeconomic function of a country, and to establish comfortable environments for people. From this point of view, the first population policy in Korea, implemented by the government in 1961 when the first economic development plan came out, can be seen as an anti-natalist policy emphasizing family planning that was selected under the judgement that the economic development policy could not be successful without the accompanying policy to control the high population growth.

In the 1960s, the vicious cycle of rapid population growth and socioeconomic stagnation continued plaguing the country. At first, the population radically increased because of the repatriation of Koreans that had been living overseas and the influx of North Korean refugees from 1945 with the Liberation to the end of the Korean War in 1953. According to the result of the population census, the population increased from 15.9 million to 22.0 million during the period of 1944~1949 with a high annual increase rate of 4.7%, which was caused by the returning Koreans who had been living overseas after the Liberation in 1945. However, the population increase rate during the period of 1949~1955

showed a low annual increase rate of about 1%, which was caused by a high mortality rate and a low birth rate as a result of the Korean War (1950~1953) and the avoidance of pregnancy and childbirth because of the war. But the fertility rate greatly increased as an after-effect of the baby boom that began in 1953 when the Armistice Agreement was concluded, while the mortality rate radically decreased due to the development of advanced medical technology and the improvement of public health services. In addition, about 3 million refugees came to the south during the Korean War, contributing to the high annual population growth rate of 3% in 1960. Had such population growth rate continued, the population in our country would have doubled every 23 years and would have become one of the major hindrances to socioeconomic development (Kim Taek Ilm, 1969).

In the socioeconomic aspect, our country was poor in natural resources and over 70% of the population made their living by farming, and the economic growth rate was structurally being encroached by the high population growth rate along with high unemployment rate and low per capita income that amounted to only US 80 dollars. In particular, a great number of industrial facilities, houses, and public facilities were destroyed during the Korean War and thus the promotion of an overall economic development plan that encompasses food production, housing, education, health care, welfare, and employment was inevitable.

To meet the demands of these conditions, the Maternal and Child Health Committee, a subcommittee of the Technical Advisory Committee, Ministry of Health and Social Affairs (now MOHW) proposed to adopt the family planning program as a government policy in 1959, but it was not realized under the Rhee Government. It was adopted as a national policy in 1961 when the Military Government concluded that an anti-natalist policy had to accompany the implementation of the economic development

plan after thoroughly examining the influence of the population increase on economic and social developments during the process of the first 5-year economic development plan in the country. That is, the first population policy in Korea was the family planning project that was promoted through the public health service network in the country along with the economic development plan in 1962 according to the decision of the 69th Standing Committee of the National Rebuilding Supreme Association on Nov. 13, 1961, as a result of which the domestic production and foreign imports of contraceptives were permitted.

Population policy is generally divided into "population control policy" and "population influencing policy," and these two policies should always be promoted on the ground of an organic relationship. The former consisted of fertility control policy, population quality improvement policy, and population redistribution policy. On the other hand, population influencing policy is a social, economic, educational, and cultural countermeasure due to population changes, and it includes housing, food, education, employment, health, welfare, and social security aspects. Thus, public policy linked to the welfare problems of the country is almost always related to population problems.

Because birth control policy is not only a policy measure for the suppression of population growth through fertility reduction, but it can also contribute to the maintenance of optimal birth rate and as a measure for solving the population decrease through fertility increase, the contents of the population policy vary depending on social, economic, and demographical factors of a country. Just as in the 1960s, most developing countries concentrated on anti-natalist measures coupled with family planning to confront their excessive population growth. Recently, however, about 60 countries including Korea have been greatly devoted to a fertility

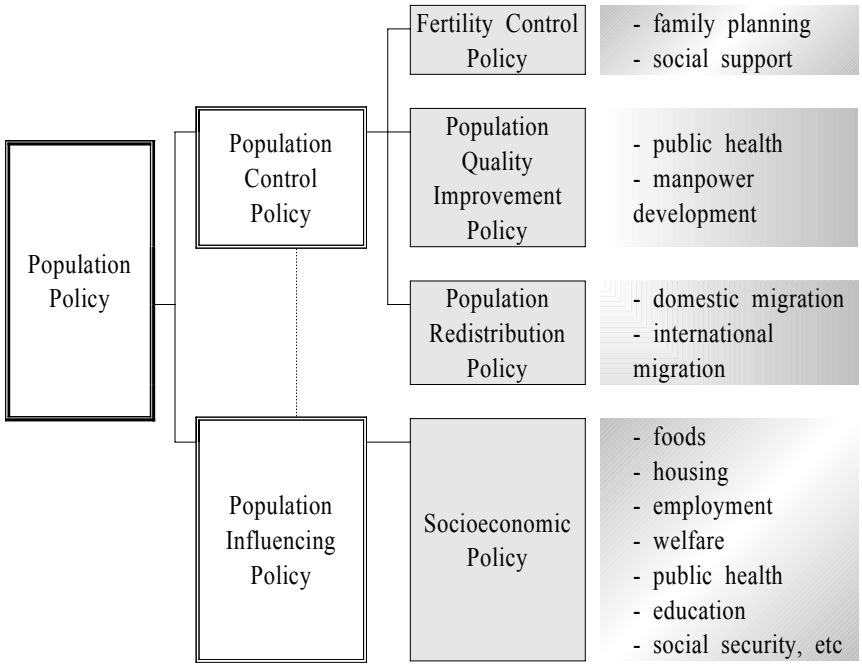
recovery policy to minimize social, economic, and demographic problems due to low fertility. Birth control policy is basically promoted through the propagation of contraception and public education, but it is limited by changes in one's values and fertility behaviors, and thus various social and legal supports, regulations, and incentive systems should be introduced. For example, several social system supporting policies were enforced such as restriction of income tax exemption benefit to the third child (1974), priority to purchase a public house for sterilized couples after having two children (1978), the establishment of the Mother and Child Health Act that clearly describes the government's support for contraceptive service and the limitation of legal permission for artificial abortion (1973), and the revision of the Medical Service Act that prohibits the sexual identification of a fetus and prescribes criminal punishments (1987).

Population quality improvement policy is mainly accomplished through the improvements in public health and education level but this can indirectly affect the quantitative control of the population. In Korea, the mortality rate, including infant death, has radically decreased due to the expanded medical care through public and private medical services that have been put in place since the early 1960s. In particular, infant mortality rate decreased from 55.6 per 1000 births in 1960 to 6.6 in 1998, which was evaluated as the birth of additional children was suppressed by family planning.

Population redistribution policy can be summarized as a domestic population redistribution policy that has been promoted since 1964 for the purpose of suppressing population concentration in metropolitan areas, including the national capital region, and planning the balanced development among regions and the international population migration such as emigration. As clearly described in the preface of the Emigration Act established in 1962, it has been promoted as a part of an anti-natalist

policy to ensure the optimization of population size and the stabilization of the national economy by encouraging emigration.

Figure 3-1. Basic structure of population policy in Korea



It was suggested by numerous population experts that the anti-natalist policy was no longer helpful in the long-term socioeconomic development as the total fertility rate per woman was reduced from 6.0 in 1960 to 1.6 in 1988 due to the effects of highly advanced economic development and anti-natalist policy by the 5-year economic development plan since 1962. Therefore, the government organized the 「Population Policy Deliberation Commission」 in 1994 with the Korea Institute for Health and Social Affairs as the secretariat and abrogated the anti-natalist policy in 1996

according to the results of over a year of investigation and inquiry, and changed the direction of its population policy into the population quality and welfare policy

Despite this change in the population policy by the government, the total fertility rate of our country continuously reduced to 1.17 in 2002, which was the lowest in the world, and decreased fertility in a short period of time and the rapid increase in the number of the elderly population due to changes in the population structure are expected to seriously affect the country's socioeconomic development in the future. Thus, the government has introduced measures opposite to the previous anti-natalist policy by emphasizing not only the development of fertility recovery measures for dealing with low fertility since the late 2004 but also on the government's support to free delivery, incentives to encourage births, and tax favors for nursing and education expenses as parts of the birth encouragement policy. In addition, the government enacted the 「Basic Act for Low Fertility and Aging Society」 in 2005 to establish the systematic foundation for low fertility. The government is also planning to establish the general measures for low fertility during the period of 2006~2010 at the level of the general administration.

Therefore, in this chapter, the population policy in Korea that had been promoted since 1962 is largely divided into three phases of the population growth control policy with emphasis on the national family planning programmes(1962~1996), population quality and welfare improvement policy (1996~2004), and fertility encouragement policy (2004~) to briefly describe major phases and developmental processes of the population policy.

2. Population Growth Control policy(1962～1996)

The family planning program during the first 5-year economic development plan (1962~1966) emphasized on the establishment of program foundation through the public health center network in the country, and contraception methods that were promoted during the early stage of the project were conventional methods such as intra uterine device (IUD), vasectomy, spermicide, and condom. The emphases of the early family planning project were public information instruction education for people in the leadership class including the heads of townships (*eup* and *myeon*) and the training for family planning workers (about 1,500) stationed at the township health sub-centers in 1964.

The population goal of the 10-year family planning program prepared through several conferences between the Ministry of Health and Social Affairs and the Economic Planning Board in 1963 was to slow down the population growth rate from 2.9% in 1960 to 2.0% in 1971 when the second economic development plan ended. The contents of the 10-year family planning program was to increase the contraceptive practice rate of married women aged 20～44, which was almost zero in 1960, to 45% until 1971, among which 31.5% was supported by the government project and the remaining 13.5% was by their own expense. To accomplish such contraceptive practice rate with the government's support, there were 1 million cases of IUD insertions, 150,000 cases of sterilizations (vasectomy), and 150,000 monthly users of condoms were distributed during the period of 1962~1971. The establishment of this national family planning program goal became the basis of annual budgets.

The family planning program was managed by the Ministry of Health and Social Affairs as the authorities in charge, but the government

considered this as a nationwide program and promulgated the instruction note no. 18 of the head of the cabinet on Sept. 10, 1963 to make all ministries and offices support the family planning program. In this manner, the family planning program in Korea had relied on the instruction note of the head of the cabinet without legal support. The Maternal and Child Health Act, presented by considering opinions from all social circles that suggested to establish a legal background for family planning and the maternal and child health project including free distribution of various contraceptive methods and the limitations of legal permission for induced abortion, was deliberated and passed in the extraordinary state council, which carried out legislation duties as proxy, and was announced as Act No. 2514 on Feb. 8, 1973. With the announcement of this Act, the legal background for the family planning program was prepared and induced abortions were allowed within 28 weeks from the date of conception in the following cases: (a) possibility of fetal impairment(eugenic grounds), (b) infectious diseases of the parent, (c) rape or incest, and (d) impairment of the mother's physical and mental health. In spite of the legal constraints of the induced abortion, 48.4 percent of married women who experienced induced abortion replied that they had to resort to abortion because they do not want children, and 13.1percent said they had the abortion for birth-spacing(Cho Nam-Hoon, 2002)

The government established the goal during the establishment of the fifth 5-year economic development plan that it would reduce the total fertility rate to the population replacement level of 2.1 until the target year of 1988, but the total fertility rate in 1980 was 2.8 and was maintained at that level. In the face of this, President Chun ordered the Cabinet to establish and operate stronger population measures. Thus, the new population growth control policy measures announced in December of 1981

consisted of 49 measures as described, and its major contents were: (1) improvements of the family planning management system such as the increase of contraception operation cost (2) measures for the propagation of contraception such as strengthening the project through the Saemaul (new community) Movement (3) regulations and incentive systems for the promotion of contraceptive practice and value system for a few children (4) promotion of contraceptive practice at one's own expense (5) social system improvement for correcting gender discrimination and (6) strengthening of public information and education (Appendix 1).

Under the influence of these strong anti-natalist actions of the government, the total fertility rate goal of the population replacement level was reached in 1984, 4 years earlier than the planned 1988 schedule. With this radically reduced fertility rate in the 1980s, the government established a goal for population plan during the establishment process of the sixth 5-year economic development plan (1987～1991) in March of 1986 that it would reduce the total fertility rate from 2.05 in 1984 to 1.75 until 1995 and then maintain the same level from then on, but this goal for total fertility rate was realized much earlier in 1985 (Cho Nam-Hoon, et al., 1989)

Table 3-1. Changes in the Total Fertility Rate and Total Number of Birth

Year	1960	1970	1980	1983	1990	2000	2001	2002	2003
Total fertility rate (No. of people)	6.00	4.53	2.83	2.08	1.59	1.47	1.30	1.17	1.19
No. of birth (10,000 births)	104.1	100.7	86.5	77.8	65.6	63.7	55.7	49.5	49.4

Source: National Statistical Office, Special Estimate Result on Future Population(press release), 2005.

The number of applicants for overseas emigration reached to about 779,000 during the period of 1962～2003 according to the Emigration Act established in 1962, but it was significantly decreased since the 1988 Olympics due to socioeconomic and political developments in the country while the number of reverse immigrants tended to increase. For instance, the number of emigrants was 37,000 in 1986 and the number of reverse immigrants was only 2,584 (7% of emigrants). However, the number of emigrants decreased to 14,477 in 1994 and the number of reverse immigrants was 8,781 (60.6% of emigrants) (National Statistics Office, 2004). The purposes of emigration were in the order of employment, invitation by relatives, business, and international marriage. According to the recent government statistics, about 10,000 problem children are reported each year, among which about 40percent is adopted to local and overseas families and the remaining 60percent are admitted in orphanages nationwide, and a systematic social support and measures for these parents and children should be improved in the future considering the fact that parents of these children are mostly unmarried mothers aged about 20 years or young divorced women.

In the 1980s when the fertility rate began to decrease radically in relation to population quality problems, a new population problem of sex ratio imbalance at birth appeared due to the combination of several factors such as the traditional favoritism toward the male gender, the development of medical technology for sex identification of a fetus, and the generalization of induced abortion. The government revised the Medical Service Act in 1987 to recover the sex ratio imbalance at birth and prescribed that the license of any medical professional who provides the service for sex identification of a fetus can be revoked the Act was revised again in 1994 to greatly reinforce its punishment provision so that any medical professional who provides such medical services would be

sentenced to less than 3 years imprisonment or a substantial fine of not more than 10 million won(US$10,000) Because of such strong restriction and public information and promotional activities by the government, the sex ratio at birth in Korea was 107 (number of male infants per 100 female infants) in 1981 and peaked at 117 in 1990 and then has been continuously decreased to 109 as of 2003.

In the 1990s, there was a fierce debate on the question of maintenance or abolition of the anti-natalist policy in Korea between two professional groups. That is, one group argued that the anti-natalist policy should be immediately abolished because it adversely affected socioeconomic development such as long-term decrease of working population and rapid increase in the elderly population if the fertility rate continuously decreased, and even after such a policy was abolished, the fertility rate would not increase because of childbirth-related actions. The other group warned that the anti-natalist policy should be continued in Korea, a country of limited land and natural resources, and if the anti-natalist policy is stopped, the contraceptive practice rate would be reduced and the fertility rate would increase at the same time to make all the results of the policy to nothing.

Under these circumstances, the government (Ministry of Health and Welfare) decided to organize the Population Policy Deliberation Commission from professionals in various circles in 1995 to comprehensively analyze and evaluate the results of the existing anti-natalist policy and the socioeconomic influences by future population size and structure changes, and the promotional direction of the population policy. The result of one-year of investigation by this commission strongly suggested that the anti-natalist policy should be immediately abolished and the government should shift to the population quality and welfare improvement policy by considering general conditions in case when the

low fertility rate at that time (1.75) continued, not only including expected reduction of labor force, increased demand for welfare services due to the rapid increase of the elderly population and the reduction of labor productivity, and aggravation of social insurance finance due to changes in the population's structure. Other problems include the worsening sex ratio imbalance, adolescent sexual problems, and high induced abortion rate. The government abolished the conventional anti-natalist policy and changed to population quality and welfare improvement policy in June 1996 according to the suggestions of this commission.

3. Population Quality and Welfare Improvement Policy(1996～2004)

The suggestions of the above Population Policy Deliberation Commission showed that further decrease in the fertility would not be desirable because the population in Korea would reach 50.6 million in 2021 and then decrease to significantly influence the socioeconomic aspects such as public health and welfare due to decreased labor force and rapid increase of the aging population, according to the estimated population on the assumption of total fertility rate of 1.7 at that time. Therefore, the basic goals of the new population policy adopted in 1996 emphasized the improvement of population quality and provision of welfare services such as those for the elderly, and its details were as follows: (1) to maintain the current replacement level of fertility and to improve morbidity and mortality levels as part of the process of achieving sustainable socio-economic development, (2) to enhance family health and welfare,' (3)

to prevent the imbalance of sex ratios at births and to reduce induced abortions, (4) to empower women by expanding employment opportunities and welfare services for them, (5) to improve work opportunities and provide adequate health care and welfare services for the elderly, (6) to achieve a balanced spatial distribution of the population, (7) to set-up infrastructure for implementing regional population plans and collecting statistical data, and (8) to strengthen institutional capacities and capabilities at various levels in accordance with the reformation of program management, including organizational and functional restructuring for the successful implementation of the new population policy (Cho Nam-Hoon, 1996).

As the population policy changed, various regulations and incentive systems for the two-children model that were introduced in the era of anti-natalist policy were abolished in1997, and the efforts at the level of the government has been continued to get rid of the traditional bias toward having male children and to improve the social position of women. For example, the government had managed the special committee on women's affairs subject to the President in 1998 and expanded it to the Ministry of Gender Equality in 2000 and then to the Ministry of Gender Equality and Family in 2004 with the addition of the child-care business, to realize the promotion of national competitiveness and the gender-equal society by guaranteeing respect of women's rights.

Also, during the promotional period of the new population policy that began in1997, the budget for social welfare increased from 4300 billion won in 1997 to 13900 billion won in 2005, which exceeded the rate of increase of government budgets during the same period and represented the government's determination to substantially improve social welfare. One concrete example is that the government introduced the basic livelihood security system in October 2000 according to the so-called concept of

productive welfare for inducing the escape from poverty through self-support, to deal with the absolute poverty problem and mass unemployment caused by the economic crisis in late 1997, and the number of basic livelihood security recipients increased from 370,000 in 1977 to 1.42 million in 2004. The number of health insurance days for all members of the population was also expanded from 270 days in 1997 to 365 days in 2000. Also, the government established the 「National Health Promotion Act」 in 1995 to reduce the prevalence of chronic diseases due to rapid increase in the elderly population and to stabilize the health insurance finance through the reduction of medical fees for the elderly, and has been greatly tried to promote the health improvement projects through the public health center network nationwide with the active participation of private organizations since 1998.

Despite the government's measure to abolish the anti-natalist policy and to shift focus to the population quality and welfare improvement policy, the total fertility rate in Korea continued to decrease from 1.7 in 1996 to 1.30 in 2001, and thus many scientists including those from the Korea Institute for Health and Social Affairs emphasized the necessity to implement fertility promotion measures, but the government carried out nothing substantial about it (Cho Nam-Hoon, 2001). In case of Japan, the reduced total fertility rate of 1.57 in 1989 was reported in the press and greatly stood out as a serious social problem, and thus the Japanese government immediately and actively confronted the low fertility problem at the pan-government level. However, the total fertility rate in Korea was reduced to 1.17 in 2002, the lowest in the world, and became the major policy project with the launching of the new government, and thus overall measures have been established in close cooperation with related administrations.

As shown in Table 3-2, the total fertility rate in Japan was 1.41 in 2000, which was lower than Korea's 1.47, but the situation was recently reversed. The fundamental cause for this result was that Japan has continuously promoted the fertility encouragement policy since 1989 while Korea lacked the systematic measures for the maintenance of an optimal fertility level. In particular, the anti-natalist policy of the past 30 years still exerted a strong influence on the lives of people, coupled with a fertility rate that was decreasing faster than that observed in other advanced countries including Japan, because young people aged 25～34, the optimal ages for marriage and childbirth, are the generation that have grown through the period of antinatalism. These phenomena have been observed in Singapore and Taiwan where antinatalist policy similar to ours were conducted, and these countries are now developing and introducing measures for encouraging fertility.

Table 3-2. Total fertility rate in major OECD countries

	East Asia		Western Europe			Southern Europe		Northern Europe		Eastern Europe		N. America/ Oceania	
	Korea	Japan	France	Germany	UK	Italy	Spain	Sweden	Norway	Czech	Poland	USA	Australia
1970	4.53	2.13	2.47	2.03	2.43	2.42	2.90	1.92	2.50	1.91	2.20	2.48	2.86
1980	2.83	1.75	1.95	1.56	1.90	1.64	2.20	1.68	1.72	2.10	2.28	1.84	1.90
1990	1.59	1.54	1.78	1.45	1.83	1.33	1.36	2.13	1.93	1.89	2.04	2.08	1.91
2000	1.47	1.41	1.88	1.36	1.64	1.24	1.23	1.54	1.85	1.14	1.34	2.06	1.75
2002	1.17	1.32	1.88	1.40	1.65	1.26	1.25	1.65	1.75	1.17	1.24	2.01	1.75
2003	1.19	1.29	–	–	1.73	–	–	–	–	–	–	–	–

Source : UN, Population Data Sheet, 2004.

In conclusion, the population quality and welfare improvement policy introduced in 1996 was evaluated as having greatly contributed not only to the expansion of public health and welfare service for vulnerable classes

including the elderly but also to the systematic improvement for the promotion of the entry of women in social affairs. However, it was also the period where the government merely watched as fertility rates annually decreased and did not introduce countermeasures for "the maintenance of optimal fertility rate for sustainable socioeconomic development," which was one of the basic goals of the new population policy. In retrospect, if the anti-natalist policy was abolished in 1990 when the total fertility rate in Korea was maintained at 1.6, the very low fertility rate at the present time could have been avoided. However, the decision of the government to finally abolish the anti-natalist policy in 1996 despite the opposition of many professionals was highly evaluated.

4. Fertility Encouragement Policy(2004~present)

The population policy to cope with low fertility rate shall concentrate on improving the systems to minimize the social, economic, and cultural problems according to the change of population structure such as rapid increase of the aged and fertility promotion policy to recover the low fertility rate. Thus, the fertility promotion policy does not aim to increase the size of the population but to delay the time for population reduction due to the sharp drop of fertility rate to the maximum extent and maintain the population structure that can contribute to sustainable social and economic development.

According to the recent population estimate of the government based on low fertility rate (NSO, 2005), the population of Korea will reach the zenith, 49.9 million, in 2020, from 48.3 million as of 2005. Then, the population will continue dropping so that it will be 42.3 Million in 2050. Meanwhile, it takes 18 years until the ratio of aged population over 65

years old increases from 7% (aging society) to 14% (aged society) and just 8 years until it increases from 14% to 20% (super-aged society). Then, it is estimated that Korea will enter the phase as an aging society far more quickly than other advanced countries. As explained above, the negative effects of the aging of population due to low birth rate on the macro-economy induce the reduction of economically active population, labor input and saving ratio and weaken the capital and total factor productivity. In particular, Korea urgently requires counteractions and their implementation because of the unprecedented low fertility rate and aging progress in the initial stage expanding the social network.

According to the recent survey, the low fertility rate is caused by the increase of the single population and reduction of birth rate among married couples. These changes include the increasing preference to not marry early, changes in values surrounding marriage, reduction in the effective value of children, excessive burden of raising children including education costs, economic depression, employment instability, increasing preference or number of nuclear families, accelerated participation of women in society, and increasing number of divorce cases. However, the causes of low fertility rate are similar to the causes frequently observed in a number of low fertility rate countries, but one of the causes of why Korea's birth rate has dropped more significantly than those of other low birth rate countries including Japan would be the deep-rooted customs related to the anti-natalist policy that had been implemented for a long time and those customs, combined with the trend in low fertility rate, have been recently expanding throughout the world.

As the Korean government recognized the severity of the issue of having a low birth rate, the Aging and Future Society Committee, the advisory organization for the President, has dealt with the businesses

including long-term and mid-term policies and implementation strategies related to low fertility rate and an aging society since 2004. The causes of low fertility rate in Korea include: (1) change of values on families, marriage, and children (2) increasing preference to marry late and delaying having children due to the economic depression (3) excessive burden of birth and child rearing expenses; and (4) difficulty in child rearing and while working at the same time. In consideration of those causes, 12 ministries, including the Ministry of Health and Welfare have been recently establishing the detailed plans for implementation in five fields: (1) enhancement of social investment for cultivating future generation (2) implementation of infrastructure for rearing up children (3) settlement of a working environment that enables the coexistence of family and workplace (4) reinforcement of social responsibility on pregnancy and birth and (5) creation of birth- and family-friendly social culture.

The major thrusts of the counteractions to overcome the low fertility rate that the 12 ministries above have been examining are mostly related to carefully planned policies to increase the birth rate of married women; 10 policies related to the support for child rearing and education 4 policies to support families with more children 9 policies to support the creation of an environment conducive to birth and rearing children and 3 policies for public promotion and education and school education. The local-level discussions on the general counteractions to overcome the problem of having a low fertility rate were held in 16 provinces in Korea from July 18 to 21, 2005. The discussions confirmed the active participation of communities and the high understanding of the general public on the importance of coming up with solutions for the low birth rate. At present, the New Population Policy Development Center at the Korea Institute for Health and Social Affairs has been examining the tools for the

counteractions by cause of low fertility rate on the basis of the analysis on the "2005 National Survey on Marriage and Fertility Behavior " and recommendations from the findings of local-level discussions. What to be supplemented in the future is summarized in the following section.

4-1. Establishment of reasonable fertility goals

The general plan to overcome the low fertility rate promoted by the Korean government refers to the extensive population policy for recovering the fertility rate to the proper level and improving the social and economic systems according to the change of low fertility rate and population structure. Thus, what to be firstly considered is to set feasible long-term and mid-term goals to achieve total fertility rate and suggest the implementation strategies and policies to achieve those goals. The Korean government announced that the basic goal of the general plan to overcome the low fertility rate problem would be the increase of total fertility rate to 1.6, the average level of OECD member countries, by 2010. As the basis for that goal, the Korean government suggested the case of France that increased the total fertility rate from 1.65 in 1993 to 1.9 in 2001 through the birth encouragement policy. However, for over 40 years, France has invested a substantial budget for a variety of policies that encourages the increase of birth rates, including providing children's allowance. However, even Japan, considered as a great economic power, is actually avoiding making such a financial investment for birth encouragement policies. Moreover, we need to consider that the marriage and birth climate of France are much different from those in Korea. In other words, every year, 42% of newborn babies are from unmarried

mothers and 80% of couples start from cohabitation that lasts for about 3 years. Accordingly, 50% of the first child is born from unmarried couples and society accepts such a trend. As there is no difference between married or unmarried couples in the institutional aspects and those couples are legally equal, marriage and birth in France are substantially different from those in Korea (Population Affairs Institute, Bulletin No. 2, 2005).

In particular, since the birth rate of Korea has continued dropping, it will be impossible to create the circumstances to change the low fertility rate and restore the total fertility rate from 1.19 in 2003 to 1.6 person in 2010. It is estimated that the drop in the fertility rate of Korea has been caused by the reduction in the fertility rate of married couples from 1959 to 1989, and the preference to marry late and the increasing number of singles since 1990. Thus, it is required to set the total fertility rate depending on the intensity of policies to increase the marriage rate and fertility rate of married women in the future.

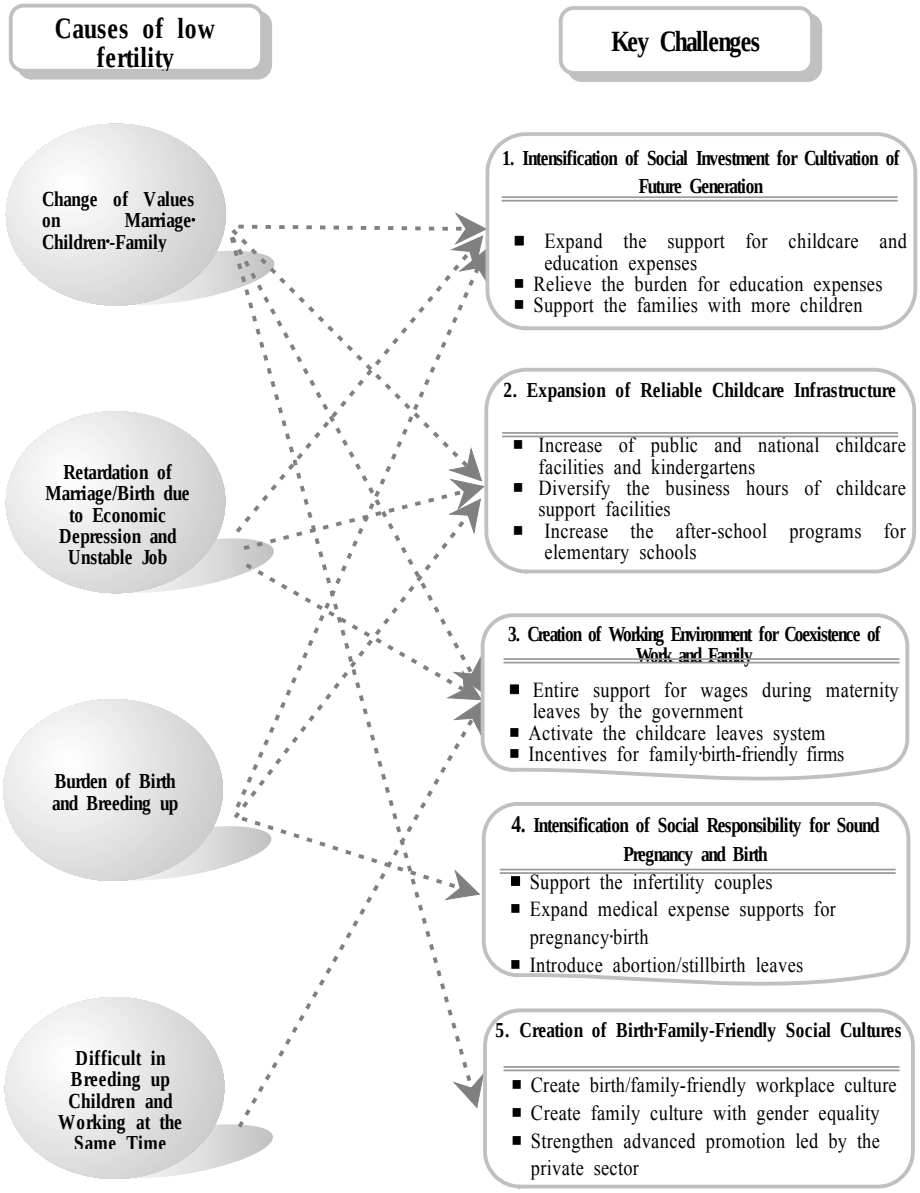
According to a recent survey, the causes of the decreasing fertility rate in Korea include the increasing number of singles, the general preference to delay getting married, and the dropping fertility rate of married couples. While the dropping fertility rate of married couples had a substantial impact on the decrease of total fertility rate from 1959 to 1989, the increasing rate of singles and delaying marriage have substantially influenced the decrease of the total fertility rate since 1990 (See Table 3-3). Thus, it is necessary to intensify the policies to increase the fertility rate of married couples, promote marriage, and encourage people to marry at an earlier age to increase or restore the total fertility rate.

Table 3-3. Analysis of Factors for Total Fertility Rate Reduction during

Year	Ratio Contributed to the Total Fertility Rate Reduction		
	marriage age increase	marital fertility reduction	total
1959～1969	10	90	100
1970～1979	15	85	100
1980～1989	39	61	100
1990～1999	195	-95	100

Several assumptions below were considered to set the total fertility rate goal: (1) The marriage rate and fertility rate of current married women related to the change in marrying age, the most critical factor influencing the fertility rate, shall be increased to improve the total fertility rate. (2) While the changes in marriage rate and fertility rate among married couples may vary on the strength of policies implemented to overcome the low fertility rate, this paper assumed the progressive increase by 1% every year according to the fertility rate recovery policy of the government. (3) The target population is women from 20 to 34 years old, the age group that most marriages and births are made. (4) The total fertility rate is calculated from the fertility rate by age (from 20 to 34 years old) in accordance with the changes in marriage rates and fertility rates among married couples. The age groups, except the age group from 20 to 34, were assumed to be the same in terms of marriage rate and fertility rate of married couples. The formula for the total fertility rate goal is described below.

Figure 3-2. Core Promotional Projects by Causes of Low Fertility



Source: Ministry of Health and Welfare·Korea Institute for Health and Social Affairs, Study to Develop Population Policy against Low Fertility and Extensive Promotion System by the Government, 2003

Table 3-4. Basic Marriage Rate and Fertility Rate of Current Married Women

Age	2002 Marital Fertility Rate	2002 Age Specific Fertility Rate(ASFR)	2002 Estimated Current Married Women Rate
20～24	313	24	7.7
25～29	250	110	44
30～34	106	83	78.3

Note: * Estimated Current Married Women Rate = ASFR / Marital Fertility Rate by Age
Source: Korea Institute for Health and Social Affairs, 2003 National fertility and family health survey, 2004.

□ Fertility Rate Goal Formula

○ Total Fertility Rate = [∑ (i Fertility Rate of Current Married Women × Current Married Women Rate of i Age Group)] × 5 / 1,000 = (∑ Fertility Rate of i Age Group)×5 / 1,000

- Fertility Rate of i Age Group in the Year t+1= (Fertility Rate of Current Married Women of i Age Group in the Year t× 1.01) × (Current Married Women Rate in the Year t + 0.01)
- Fertility Rate of i Age Group in the Year t+j = [(Fertility Rate of Current Married Women of i Age Group in the Year t× (1.01)j] × [(Current Married Women Rate in the Year t +(0.01×j)j]

As a result of using the formula and assumptions to set the total fertility rate goal above, the total fertility rate reached 1.16 in 2004, 1.44 in 2010, 1.64 person in 2014, and 1.97 in 2020 with a peak level (see Table 3-5). Table 3-6 illustrates the current married women rate goal and fertility rate goal of current married women to achieve the total fertility rate. Meanwhile, for effective management of such demographic goals, the information and evaluation systems should be established for the use of the local authority.

Table 3-5. Changes in the TFR in Case when Current Married Women Rate and Marital Fertility Rates are Increased by 1% point Every Year

Year	2004	2005	2006	2007	2008
TFR	1.16	1.20	1.25	1.30	1.34
TFR increase from the previous year		0.04	0.05	0.05	0.04
Increase by marital fertility rate		0.01	0.01	0.01	0.01
Increase by marriage rate		0.03	0.04	0.04	0.03
Year	2009	2010	2011	2012	2013
TFR	1.39	1.44	1.49	1.54	1.59
TFR increase from the previous year	0.05	0.05	0.05	0.05	0.05
Increase by marital fertility rate	0.01	0.01	0.01	0.01	0.01
Increase by marriage rate	0.04	0.04	0.04	0.04	0.04
Year	2014	2015	2016	2017	2018
TFR	1.64	1.69	1.75	1.80	1.86
TFR increase from the previous year	0.05	0.05	0.06	0.05	0.06
Increase by marital fertility rate	0.01	0.01	0.01	0.01	0.01
Increase by marriage rate	0.04	0.04	0.05	0.04	0.05
Year	2019	2020			
TFR	1.91	1.97			
TFR increase from the previous year	0.05	0.06			
Increase by marital fertility rate	0.01	0.01			
Increase by marriage rate	0.04	0.05			

Table 3-6. Marital Fertility Rate and Current Married Women Rate Goal, 2005～2050

	Marital Fertility Rate	Current Married Women rate	Marital Fertility Rate	Current Married Women rate	Marital Fertility Rate	Current Married Women rate	Marital Fertility Rate	Current Married Women rate
Age \ Year	2005		2006		2007		2008	
20～24	315	8.7	318	9.7	321	10.7	325	11.7
25～29	251	45.0	254	46.0	257	47.0	259	48.0
30～34	107	78.9	108	80.0	109	80.9	110	81.9
Age \ Year	2009		2010		2011		2012	
20～24	328	12.7	331	13.7	335	14.7	338	15.7
25～29	262	49.0	264	50.0	267	51.0	270	52.0
30～34	111	82.9	113	83.9	114	84.9	115	85.9
Age \ Year	2013		2014		2015		2016	
20～24	341	16.7	345	17.7	348	18.7	352	19.7
25～29	272	53.0	275	54.0	278	55.0	281	56.0
30～34	116	86.9	117	87.9	118	88.9	119	89.9
Age \ Year	2017		2018		2019		2020	
20～24	355	20.7	359	21.7	362	22.7	366	23.7
25～29	283	57.0	286	58.0	289	59.0	292	60.0
30～34	121	90.9	122	91.9	123	92.9	124	93.9

Reference Table 3-1. Changes in the marital fertility rate by age of 20～34

Age	1960	1970	1980	1990	1993	1996	1999	2002
20～24	447	450	458	306	320	377	386	313
25～29	351	356	292	234	237	264	224	250
30～34	298	223	103	53	65	88	86	106

Data: 2003 National fertility and family health survey

Reference Table 3-2. Changes in current married women rates

Age	1970	1980	1985	1990	1995	2000
20～24	43	34	28	20	17	11
25～29	90	86	81	77	70	60
30～34	99	97	93	92	91	89

Data: 2003 National fertility and family health survey

4-2. Intensification for Achieving Fertility Policies Goal

As mentioned above, while the fertility rate was reduced mainly due to the reduction in the fertility rate of married women until the 1980s, it dropped because people would choose not to marry early and because of the rapid increase in the number of singles in their 20s during the late 1990s. Thus, it may be seriously difficult to restore the birth rate without implementing measures to increase the marriage rate. However, while there are no policies to encourage marriage in Korea up to now, we can observe the frequent marriage with foreign brides in farming villages and this recent trend is mainly led by local authorities. Accordingly, to actively cope with the low birth rate problem caused by the increasing number of singles in their 20s and the increasing preference not to marry early, marriage shall not be ignored as a personal or family problem any more. Marriage is emerging as a political challenge that the government has to actively intervene and the families and communities have to jointly solve.

Furthermore, it is required to create a social environment that unmarried mothers in their early teens and twenties due to the development of a sex-oriented culture are legally protected for their homes and socially accepted until they complete education and get jobs through a

more progressive intervention of the government. For increasing the total fertility rate from 1.16 persons in 2004 to 1.6 persons in 2014, the marriage rate and birth rate of married couples in the age group of 20 to 34, the main subject of marriage and birth, shall be increased and at the same time, a marriage-conducive environment shall be created to encourage couples to marry as early as possible. Thus, for the achievement of total fertility rate goal, the following policies need to be taken.

First, the policies to reduce the rate of singles, the cause of low birth rate, shall be strengthened to recover the fertility rate. To this end, the 「Family Formation Support Project」 shall be pursued as one of the key policy businesses in each city, province, and community. This project has to be carried out in cooperation with marriage information agencies in each community, health centers and private organizations related to health. The firms with more than 100 employees in each community set and implement the plans to increase the marriage and birth rate of their employees. The expenses that the firms spend for their employees related to the low birth rate need to be deducted and plans should be laid down to reward those firms that makes substantial achievements in such a regard. The central government and local authorities shall allocate the budget to encourage marriage in each fiscal year and to promote the marriage encouragement businesses as the business of the highest priority among the various measures to overcome the country's low fertility rate. Japan established the Next Generation Act in 2003 and firms with more than 300 employees have set plans to improve their employees' birth rate and have submitted the plans to the government(Ministry of Labor) by April 2005. Most firms offer a matchmaking service for their employees. Meanwhile, Singapore strengthens its policies to increase marriage rate such as the housing and support loans corresponding to about USD 24,000

for those who will marry.

Second, the effective actions against the low fertility rate need to be developed for the maximum effects with limited resources. The government has been examining about 37 kinds of solutions to increase the birth rate, but those actions include almost no family support policies such as provision of allowances for children, babies, birth, and child-care that advanced countries including France and Japan have been providing. Most detailed challenges in child-care services include total population for a short period, but we need to strengthen the actions to encourage families to bear more than two children by intensifying different compensation schemes depending on the number of children, and by progressively expanding the actions in consideration of the financial status of the government and specific impacts of each measure. For example, as the birth rate of married couples will be partially increased by increasing the marriage rate, and as most couples have one baby, a variety of support policies including the provision of allowance for babies shall improve the efficiency of projects to concentrate on encouraging such families to have a second and third child. In particular, if the marriage age becomes higher and early retirement due to economic depression and restructuring is not improved, it will be very difficult to recover the fertility rate. Thus, the contents of diverse policies have to be supplemented for more benefits to the families with more children including the provision of allowances for children. To this end, the government shall be determined to have the responsibility in rearing and educating children, taking this financial burden from the parents.

Third, the fertility decline among younger women in their 20s is related with the rising age at first marriage, which is closely associated with the rapid growth of educational levels and the compulsory military

conscription of males. when we consider the research results suggesting that the increase of fertility age has reduced the total fertility rate by 30～40% since 2000 (Jeon Gwang-Hui, 2005), we need to determine specific solutions to encourage couples to marry early and so to increase their chances of having children. The delay of first marriage or fertility is generally caused by the changes in general social and cultural systems and customs such as education, military service, and marriage.

However, this paper recommends the introduction of social and institutional support plans such as special benefits for married students including scholarship and employment and intensification of promotional education on the necessity and merits of marriage and first fertility of women in their mid-20s. As the number of unmarried mothers and fathers in their teens and twenties has been recently increasing and will further increase in the future, we need to devise plans to support them to complete their educational degrees and help them get jobs to support their living together, rather than imposing on them a negative view just because they are unmarried mothers or fathers. In particular, in a reality where values on family and marriage have been rapidly changing, the relevant systems shall be improved by creating an atmosphere in which society approves unmarried couples to cohabit or have kids.

Fourth, new values on marriage and children shall be established on a preferential basis. Increasing the number of singles and reducing the birth rate of married women are basically caused by the changing values on family, marriage, and children. Thus, we need to prioritize the establishment of new values to make people understand the importance of giving birth to children and the necessity of family and marriage in a rapidly changing society. Based on such new values, public education has to be conducted and the education for students including revamping the

curriculum shall be simultaneously strengthened. In particular, the promotional education to implant the new values into the young generation in their 20s who grew up during the height of antinatalism will determine the success or failure in restoring the birth rate in the future. A variety of support policies will not have substantial fruits without new values.

5. Conclusion and Summary

The second population change characterized by low fertility rate and the aging of the population in Western societies may be caused by improvements in education, increasing participation of women in economic activities, increase in the number of singles and people who marry late, general delays in giving birth to children, increase in the number of families without children, expanding sexual relationships before marriage, increasing number of cohabitation and divorce and weakened relationships between marriage and birth. Such phenomena are observed in some Asian countries including Korea and Japan. The same policies against the low birth rate demonstrate the substantial difference between Western societies and Asian societies because of the different values on social and cultural traditions, marriage, and child rearing.

Korea, Singapore, and Taiwan, extremely low birth rate countries (TFR<1.5 person) in Asia, have been implementing certain measures to increase their birth rates so that it is not the proper time to evaluate their actions now. However, while Japan has made every endeavor to improve its own system and has carried out actions to increase its birth rate since 1989, the birth rate is still dropping. If Japan had introduced the support policies as well as established and carried out public education on the new

values on children, family and marriage conforming with the environment of the times, that country's methods to increase its birth rate might have been more effective. As most countries in Asia have no sufficient experience or knowledge related to measures to increase the birth rate, four countries need to carry out the following tasks: (1) link and clarify the goals, objectives, tools and detailed implementation plans of long-term and mid-term plan, the solution to increase the birth rate; (2) establish feasible goals (3) develop plans and policies to encourage the population to get married, encourage young couples to marry and have children earlier, and increase the birth rate of married women (4) establish new values on family, marriage, and children and strengthen the promotional education for the public and education for students (5) implement the manpower and organizational system that will carry out and implement the measures to increase the birth rate; (6) induce the private sector to participate in the projects and support them and (7) implement project management systems including project planning and evaluation.

In particular, to increase the marriage rate of the population, a variety of project activities shall be strongly carried out, such as the implementation of matchmaking programs in cooperation with local authorities, private groups and firms and provision of financial support (especially farming villages and poor and needy people's districts), housing and marriage loans with low interest for new couples, legal and institutional renovation for the improvement of social recognition on cohabitation and unmarried mothers, and the establishment and implementation of annual marriage and fertility plans by the firms with more than 100 employees and provincial and local authorities.

Korea successfully induced the strong political support and interests from the government related to the implemented actions to solve the issue of

the country's low fertility rate that remains unique in the Asian region.

If we establish the fertility rate goals among the general plans against the low fertility rate that are prepared by 12 ministries and supplement the policies to increase the marriage population rate, we can definitely and successfully realize the policies to overcome our problem with low fertility rate, which have not been successful even in advanced countries, like the success of family planning project even under a very poor environment in 1960s. However, the low birth rate will continue for a long time in spite of the strong fertility recovery policies because the fertility rate is at the bottom. Thus, social, economic, and cultural systems need to be improved in a timely manner. The various population problems that burden Korea since 1962 have not been completely cleared. Only the contents and features of those problems have changed according to the social, economic and demographic changes. Since the effects of population policies can be observed after a long time over 30 years, the research and development experts in the population field shall be continuously cultivated.

Appendix 1. Contents of Innovative Population Control Policy Measures with Emphasis on Social on Social Support Policies and FP Program Management in 1981

Major Actions	Relevant Ministries	Implementation
Improvement of Project Management System		
1) Increase of governmental support for contraception operation expenses	Ministry of Health & Social Affairs	'82. 7
2) Diversification of contraceptive drugs and devices	Ministry of Health & Social Affairs	'83. 7
3) Expansion of hospitals designated to offer contraception operations	Ministry of Health & Social Affairs	'82. 1
4) Issuance of contraception operation certificates	Ministry of Health & Social Affairs	'82. 5
5) Utilization of public health (visiting operation teams)	Ministry of Health & Social Affairs	'82. 6
6) Installation and operation of family health teams in municipal and provincial authorities and health centers	Ministry of Health & Social Affairs	'82. 12
7) Strengthening operation of the population policy committee	Economic Planning Board	'82. 12
8) Cultivation of health staffs and training for integrated operation	Ministry of Health & Social Affairs	'82. 1
Expansion of Contraception		
9) Intensification of project through new community campaign	Ministry of Home Affairs	'83. 1
10) Cultivation of family planning model village(227 villages)	Ministry of Home Affairs	'83. 1
11) Strengthening of the project through new community campaign in plants	Ministry of Trade and Industry	'82. 1
12) Strengthening of the project with the help of farming leaders	Ministry of Agriculture & Fisheries	'82. 1
Promotion of Self-Contraception		
13) Reduced tariffs on contraception drugs/tools/materials	Ministry of Finance	'82. 7
14) Including contraception operation into medical insurance targets	Ministry of Health & Social Affairs	'82. 6

Appendix 1. Continued

Major Actions	Relevant Ministries	Implementation
Intensification of Regulations and Compensation Systems		
15) Limit of medical insurance payment for childbirth to the 2nd child	Ministry of Health & Social Affairs	'83. 1
16) Limit of education allowance for the public officers' children to two children	Ministry of Government Administration	'83. 1
17) Limit of public officers' family allowance to 2 children	Ministry of Government Administration	'82. 1
18) Limit of non-tax education support to two children	Ministry of Finance	'82. 1
19) Prior loan for rehabilitation fund to those who take contraceptive measures after having two children	Ministry of Finance	'82. 1
20) Long-term and mid-term welfare and housing loan priority to families that take contraceptive measures after having two children	Ministry of Finance	'82. 1
21) Priority in purchasing public houses give to families that take the contraceptive measures after having two children	Ministry of Construction	'82. 1
22) Priority of farming and fishing fund give to families that take contraception measures after having two children	Ministry of Agriculture & Fisheries	'82. 3
23) Subsidy provided to those who take contraceptive measures after having two children (model projects)	Ministry of Health & Social Affairs	'82. 7
24) Special living subsidies given to poor families that take contraceptive measures. (with less than 2 children: 100,000 KRW, more than 3 children: 30,000 KRW)	Ministry of Health & Social Affairs	'82. 5
25) First free medical examination for children aged from 0 to 5 provided to families that take contraceptive operations after having two children	Ministry of Health & Social Affairs	'82. 5
26) Inhabitant's tax differentiated by the number of children	Ministry of Home Affairs	Not Taken
27) Individual share of medical insurances differentiated by the number of children	Ministry of Health & Social Affairs	Not Taken
28) Paid leaves given to those who take contraceptive measures	Ministry of Labor	Not Taken

Major Actions	Relevant Ministries	Implementation
Project System Improvement and Correction of Gender Discrimination		
29) Family allowance provided to married female public officers(in case of actual family support)	Ministry of Government Administration	'83. 1
30) Decrease of job restrictions regarding the employment of women(from 30 to 6 kinds)	Ministry of Labor	'82. 7
31) Correction of discrimination in simplified family rite standards	Ministry of Health & Social Affairs	'83. 3
32) Revision of provision banning the employment of female sailors	Maritime and Port Administration	'84. 8
33) Increase in the number of new community kindergartens(401)	Ministry of Home Affairs	'82. 1
34) Inclusion of married women in the linear relatives into the dependents of medical insurance	Ministry of Health & Social Affairs	'84.12
35) Installation of a special organization for women's affairs (Women's Development Center)	Ministry of Health & Social Affairs	'83. 4
36) Revision of differentiation provisions in the Family Act	Ministry of Justice	Not Taken
37) Increase of the marital age on in the Family Act	Ministry of Justice	Not Taken
38) Implementation of that National Welfare Pension Policy	Ministry of Health & Social Affairs	'83. 1
39) Institutionalization of childcare leaves	Ministry of Labor	'83. 1
Intensification of Promotion Activities		
40) Promotion and enlightenment through monthly community meetings	Ministry of Home Affairs	'82. 1
41) Population and family planning education for soldiers	Ministry of National Defense	'82. 1
42) Population and family planning education for the reserved army	Ministry of National Defense	'82. 1
43) Promotion to islanders by the support from the promotion ship of the Navy	Ministry of National Defense	'82. 1
44) Strengthening education for students	Ministry of Education	'82. 1
45) Supplementation of population education contents during curriculum and education revamping	Ministry of Education	'82. 1
46) Population education to teachers	Ministry of Education	'82. 1
47) Strengthening promotion using various mass communications means	Ministry of Culture and Information	'81.12
48) Inclusion of promotion staffs in the National Enlightenment Broadcasting Committee	Ministry of Culture and Information	'81.12
49) Population and family planning education to public officers	Ministry of Government Administration	'81.10

Ⅳ. Child-care and Parental Leave as Countermeasures Against Low Fertility Rates

Korea recorded the lowest fertility rate of 1.16 in 2004 and has been working on building up policy measures to cope with this situation. Some scholars find the cause of low fertility rates in the value changes. In fact, many theories and discussions support this view: For example, one theory explains that as the post-industrial society sets in, where social solidarity is weakening, individuals' independence and responsibility are much emphasized, and economic and social security lessens, people increasingly tend to have fewer children (McDonald, 2005). Another interpretation suggests that in a consumer-oriented society, childbearing and consumption are often thought as a trade off (Longman, 2004).

Changes in values, of course, can remarkably reduce the ideal or wonted number of children compared to what it was in the past and the theory indeed explains the phenomenon of the big decline of number of children compared to 60-70's. It, however, does not fully explain why people often fail to have their expected number of children. In a search for possible answers to this question, this chapter reviews childcare and parental leave as policies supportive to child rearing.

1. The Economic Mechanism of Childbearing

Becker and Lancaster's household production model suggests that households engage in a variety of household production that includes food

preparation, child-rearing, health-maintaining activities, consumption, and cultural activities (Cho, 2003). If the household production activities of children are included in the discussion, a mechanism working at determining the expected number of children can be identified. Households seek utility in the household production of children and in other products as well. The household utility function is limited by income size and the price of the household production of children includes direct costs, such as child-rearing costs for food, clothing, shelter, and educational expenditure, and parents' opportunity costs which is indirect costs.

According to Longman's (2004) study, for example, the direct costs of raising a child in a middle class American family is estimated to be over $10,000 each year, with $11,196 in the first year to $12,574 at the age of 17, for a combined total of $211,371 over 18 years. On the other hand, suppose a parent who makes $45,000 annually quit working in order to raise a child, the opportunity cost measured by the forgone wages is estimated at $823,736 for the 18 years (See Table 4-1). The indirect cost is four times larger than the direct cost.

Table 4-1. Cost of Child-rearing in Middle Class Families

(Unit: USD)

Age of Child	Total by Age	Shelter	Food	Transpor-tation	Clothing	Medical	Childcare/ Education	Others	Lost Wages
0	56,197	4,191	1,352	1,438	533	756	1,711	1,215	45,000
1	57,997	4,191	1,352	1,438	533	756	1,711	1,215	46,800
2	59,869	4,191	1,352	1,438	533	756	1,711	1,215	48,672
3	62,101	4,154	1,562	1,401	521	719	1,897	1,228	50,619
4	64,126	4,154	1,562	1,401	521	719	1,897	1,228	52,644
5	43,732	4,154	1,562	1,401	521	719	1,897	1,228	32,249
6	45,472	4,042	1,984	1,562	583	818	1,215	1,277	33,989
7	47,290	4,042	1,984	1,562	583	818	1,215	1,277	35,808
8	49,191	4,042	1,984	1,562	583	818	1,215	1,277	37,708
9	51,090	3,757	2,344	1,649	645	893	794	1,314	39,694
10	53,165	3,757	2,344	1,649	645	893	794	1,314	41,769
11	55,332	3,757	2,344	1,649	645	893	794	1,314	43,937
12	58,527	4,067	2,356	1,798	1,079	893	583	1,550	46,201
13	60,892	4,067	2,356	1,798	1,079	893	583	1,550	48,566
14	63,361	4,067	2,356	1,798	1,079	893	583	1,550	51,036
15	66,189	3,497	2,616	2,282	967	955	1,004	1,252	53,615
16	68,882	3,497	2,616	2,282	967	955	1,004	1,252	56,308
17	71,694	3,497	2,616	2,282	967	955	1,004	1,252	59,120
Total	1,035,107	71,126	36,642	30,392	12,983	15,103	21,613	23,510	823,736

Note: As for the family in the table above, it was supposed that a parent quits a job that earned $45,000 a year and stays home to raise a child from age 0 to 4. It was also supposed that when the child turns five years old, the parent returns to the labor market on a part-time basis, earning the same hourly wage as before (annual average wage increase rate assumed at 2%).

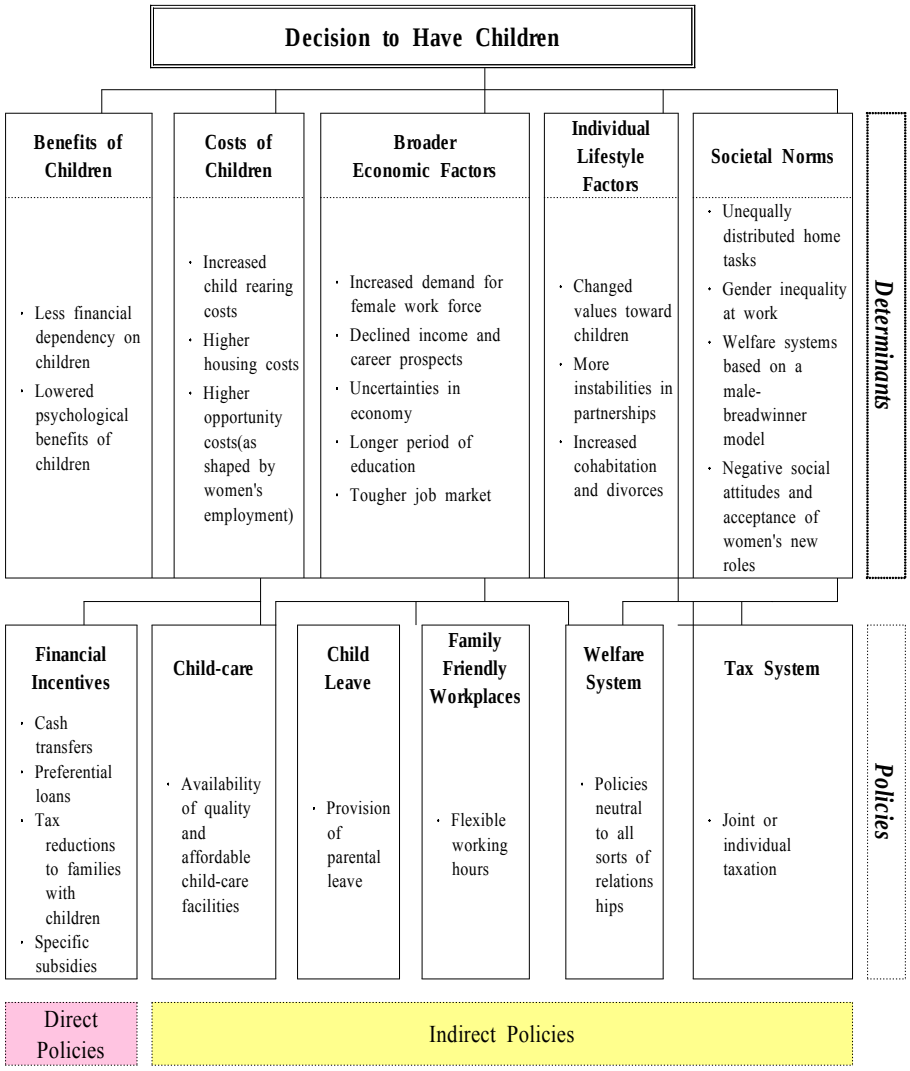
Source: Phillip Longman (2004), p.7

The direct and indirect costs show a strong negative correlation with the number of children and are influenced by household income. In general, a high cost can lead to an involuntary scale down in the number of children or a delayed birth or even a complete stop of childbirths. Even at the same utility, parents may choose to reduce the number of children and increase the quality of child-care for a smaller number of children.

In this respect, this chapter discusses child-care and parental leave as typical policies for supporting parents in having their expected (or ideal) number of children by reducing indirect costs involving childbearing and

child-rearing. Tax and cash transfers, polices that bring down direct costs, are discussed in chapter 5. Sleebos (2003) proposed the causes of low fertility rates and policy responses in a causal model as illustrated below (See Figure 4-1). Child-care facilities and parental leave are classified as policy measures to reduce indirect costs.

Figure 4-1. Determinants of Fertility and Policy Measures



Source: Sleebos, Joelle E., Low Fertility Rate in OECD Countries: Facts and Policy Responses, OECD, 2003, p.34.

The fact that child-care and parental leave reduce indirect (opportunity) costs incurred by child-rearing suggests that they help prevent career

interruptions and exits from the labor market for parents. In other words, they help balance work and family. Granted, ideally, the reconciliation of work and family should also involve changes in corporate practices and employment patterns and a diversity of family-friendly fringe benefits, but this is beyond the scope of this study. Below, this study examines the relationship between having children and participating in economic activities and, negative effects of children on career. It then explores the current situation of child-care and parental leave services in Korea as support measures of childbearing.

1-1. Children's Effects on Women's Participation in Economic Activities

In labor economic theories, marriage and childbearing are evaluated as having produced a major shift in the supply of the female labor force. They largely have twofold effects on labor supply decisions and wages (excluding the effect on labor hours). The principle, when applied to female workers with young children, who are required to do more activities at home due to their children, allows an indifference curve with a steep slope, making it difficult for the market labor time to replace the non-market time. If a variety of services can help women with children to work, the use of out-of-home services for child-rearing can be generalized, rendering an indifference curve with a little bit flat slope which means labor market participation is preferred. As caring and rearing of children, especially young ones, are time-intensive labors that require a large investment of time, input of market time would be decreased without social support.

When choosing how much time to allocate between market labor and non-market activities (notably housework and child-rearing), workers compare the reservation wage with the market wage. In supplying labor to

the market, when the reserved wage (minimum, subjective wage that a worker wants to have) is less than the market wage, participation in the labor market is easily chosen otherwise, the reasonable choice is not to participate in economic activities. Put differently, participation in the labor force is negatively correlated with the value of non-market time. In this case, the availability of affordable, close and high-quality child-care facilities affects the size of the marginal reservation wage, and works as an important factor in determining whether to participate in economic activities (Cho Woo-Hyun, 2003).

Another factor that affects the value of non-market time is total income in addition to earned income. Generally, income from other family members, especially a spouse, and income support and child care-related cash transfer or benefits from the government all make influences. Increased income can work in the direction of decreasing the supply of market time (indicating income effect) or increasing it (indicating a substitution effect). This part has closely to do with next chapter.

After all, married couple's participation in economic activities depends on whether the reserved wage is higher or lower than the wage provided at the market. Interestingly, in this regard, are the research results that demonstrate while the labor supply of married men is mainly a function of wage and unearned income, the labor supply of married women is heavily influenced by the number of children and the children's ages (Mincer, 1962; Gronau, 1977; Becker, 1981; Blau et al., 1998). That is, the time and cost required to raise children have tremendous impact on the labor supply of married women. It then can be inferred that in addition to financial support, the supply of child care facilities with high accessibility is closely tied to married women's labor supply decisions.

1-2. Children's Effect on Women Workers' Wages

Supposing that a married woman participates in the labor market let's now look into whether children have additional adverse effects. Table 6-2 shows the effects of the existence and number of children of women workers relative to their male counterparts. It is clearly indicated that the more children a woman has, the less her participation in the labor market and the fewer hours she works. In contrast, men's participation and working hours were not affected at all. Rather, they rose slightly. The disadvantage for women is also visible in hourly wages. Female workers with several children receive remarkably reduced hourly wages. The pattern, however, does not occur with men. A multiple regression analysis with the same data showed that the number of children did not affect male workers at all, but it caused a 6% decrease in hourly wages per child to female workers (Jacobsen, 2002).

Table 4-2. Labor Market-related Statistics by Workers' Sex and Number of Children

(Unit: %, week, $)

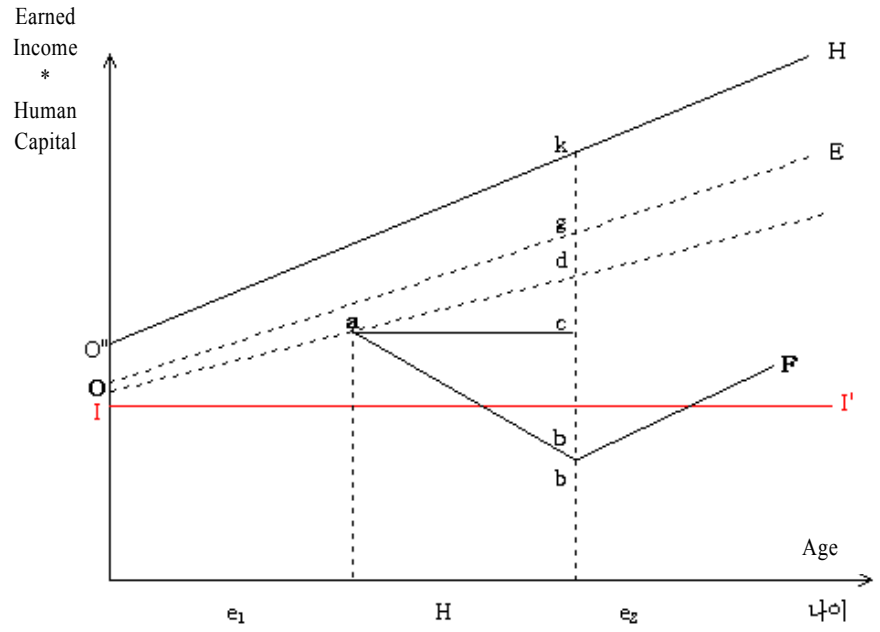
Classification	Female			Male		
	Labor market participation	Workweek	Hourly wage	Labor market participation	Workweek	Hourly wage
Total	77	38	11.53	92	44	15.38
No children	81	40	12.02	89	44	14.42
1 child	79	38	11.54	94	45	16.48
2 children	74	36	10.99	96	45	16.83
3 children	66	34	9.62	95	45	16.73
4 children or more	55	33	7.92	92	46	14.42

Note: Hours and hourly wages were computed only with values which were not zero.
Source: U.S. Department of Commerce, Bureau of the Census, 1999: Quoted and excerpted from Jacobsen, 2002, p.138

The adverse effects that occur after a career interruption owing to

insufficient support for balancing work and family are also confirmed in the following figure.

Figure 4-2. Impact of a Career Interruption on Lifetime Wage of Workers



Source: Mincer and Polachek, Family Investments in Human Capital: Earnings of Women, 1974: Quoted from Lee Jung-Woo, 2005.

The figure shows how a career interruption due to child-rearing adversely affects women's lifetime wage thereby bringing about man-woman wage gaps and what happens as a result. Male workers involved in continuous economic activity have the wage curve of O"kH. In contrast, married women who experience a career interruption have the wage curve of OabF. At the point of their re-entry into the labor market (e2), women have an income gap as large as kb compared with their male

counterparts. The kb comprises components such as the gap of human capital, the difference of corporate investments, disadvantages from losing continuous tenure, and the depreciation of human capital. As such, the existence of children works as a stumbling block to economic activities without policy interventions of the state or social supports. And the effects are inflicted mostly on women workers.

2. Childcare and Childrearing Support Policies and Fertility

Although many studies have so far researched the effects of the policies on the family, children, and population, they have produced more or less varying results, making it difficult to make generalizations. Child-care policies especially have less comparability of data and many elements that are difficult to quantify. Generally, the number of child-care facilities, costs of child-care support, use rates, and ratios of meeting demands are used as major indicators. As for parental leave, the period, flexibility of use, and income substitution rates are representative indicators. As different nations have different cultural backgrounds that defy precise measurement, it also is impossible to identify all elements of influence through uniform statistical techniques. In spite of this fact, the effects of these two institutions on childbirth rates can be inferred from the overlapping and similar areas of the results of the existing research.

2-1. Effects on Enhancing Fertility Rates: Results from Comparative Studies of OECD Countries

Table 4-3 below classifies major fertility policies by their orientation,

and catalogues their effects on childbirth rates as verified by individual countries (Lee Jae-Kyung et al., 2005; Sleebos, 2003). Among the many policies, this study will focus on its subject and deal with the effects of child-care and child-rearing support policies on fertility rates. Existing research has found considerably contradictory results on the effects. Much of the research explored the influence of such elements as the costs of raising children and the availability of child-care facilities on fertility rates.

Table 4-3. The Effects of Policies in response to Low Fertility Rates by Policy Regime

Policy Regime	Preferred Intervention	Policies		Orientation or Model on Gender Equality & Family
Dismantling gender division of labor	Ecological services (childcare facilities)	Family allowance	++	Gender equality policy toward double-earner families Supporting balancing work and the family
		Maternity leave	++	
		Parental leave	+	
		Public childcare facilities (<3)	-	
		Public childcare facilities (3-6)	+	
		Tax cuts	-	
Transforming gender division of labor	Financial reward (allowance)	Family allowance	++	Family-friendly, pronatalist policy Supporting households of male breadwinners-female homemakers as well as double-income families
		Maternity leave	+	
		Parental leave	++	
		Public childcare facilities (<3)	-	
		Public childcare facilities (3-6)	+	
		Tax cuts	-	
Gender neutral	Nothing in particular	Family allowance	-	Restricting policy intervention For family policy, traditional family type supported.
		Maternity leave	-	
		Parental leave	-	
		Tax cuts	+	
Maintaining traditional gender division of labor	Nothing in particular	Family allowance	-	Strong traditional gender division of labor with insufficient family support policies Emphasizing women's roles as mothers and making it hard for women to balance work-the family
		Maternity leave	+	
		Parental leave	+	
		Public childcare facilities (<3)	-	
		Public childcare facilities (3-6)	++	
		Tax relief	-	

Gauthier (2001: Quoted from Sleebos, 2003) presented a compilation of previous research on the impact of social policies of OECD countries on fertility rates (See Table 6-4). Different countries had different effects from their social policies on fertility rates, which is ascribed to different

socio-economic foundations as well as uncontrollable factors, such as the differences of the policies and varying values on childbirths. With the uncontrollable factors in comparing countries in mind, Gauthier summarized the results of previous research on the relationship between social policies of many countries and fertility rates as follows:

In an overall examination of all countries collectively, the existence or lack of provision of a public childcare system had a meaningful impact on fertility rates. Those countries with public childcare systems had higher fertility rates than those without. This result, however, was not consistently visible in the analysis of individual countries. The existence of a childcare system did not have a meaningful impact on fertility rates in Germany. In contrast, it wielded a positive influence on birthrates in Italy. Norway and Sweden had positive, but small effects of childcare facilities on birthrates.

Regarding the US for which more information was available, there were some studies that more closely examined the relationship between the two. Analyzing the relationship between the costs of childrearing, including childcare expenses, and fertility rates, Blau and Robins (1989) found that high costs of childrearing reduced birthrates of full-time housewives but not those of working women. This has to do with the availability of support of childrearing costs. Blau and Robins (1989) said that financial support for childrearing costs was effective in enhancing fertility rates.

On the contrary, Mason and Kuhlthau (1992) observed that financial support of childrearing costs do indeed promote women's participation in economic activities but do little to encourage childbearing. Working women do not want childbearing that causes reduced income due to spending on childcare (Mason and Kuhlthau, 1992). They emphasized that for women of the middle class and above to participate in economic activities, an appropriate childcare system should be in place.

In their analysis of the effects of the accessibility of American double-income couples to the three types of childcare (babysitters, childcare provided by relatives, and public childcare centers) on fertility rates, Lehrer and Kawasaki (1985) found that double-income couples with relatives to take care of their children had high birthrates. However, they also found that, in comparison with the availability of baby-sitters, higher accessibility to public daycare centers did not necessarily translate into high fertility rates.

Table 4-4. Childcare and Childrearing Support Policies and Their Effects on Fertility Rates

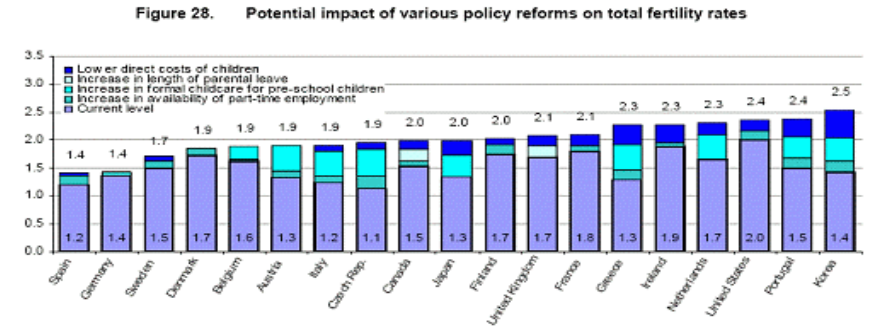
Country	Researcher	Policies	Effects on Fertility Rates
Overall	Castle (2002)	Public childcare system Government's support to childcare Parental leave In-kind family support benefits Flexi-time system	Very meaningful effects of public childcare system Weak influence of flexi-time system Little effects of other policies
Germany	Hank and Kreyenfeld (2001)	Whether or not there is a public childcare system Possible childcare through social support network	Not meaningful
Italy	Del Boca (2002)	Public childcare system Opportunity for part-time work	Positive
Norway	Kravdal (1996)	Childcare facilities	Weak but positive
Sweden	Walker (1995)	Parental benefit Public childcare facilities Children allowance	Weak but positive
US	Blau and Robins (1980)	Childcare facilities and cost	Positive for childcare facilities, but expensive childcare cost offsetting the effects
	Lehrer and Kawasaki (1985)	Whether or not there is a protector of children	Existence of a relative to take care of children increasing fertility rates
	Mason and Kuhlthau (1992)	Supplying childcare facilities and supporting childcare expenses	Only 10% of respondents saying difficult access to childcare facilities had adverse effects on childbirths

Source: Gauthier A.H. "The Impact of Public Policies on Families and Fertility Behavior," Sleebos, Joelle E., Low Fertility Rates in OECD Countries: Facts and Policy Responses, 2003.

Putting the studies on childcare together, research has found that childcare policies, regarding provision of childcare centers, and support for costs, had statistically significant effects on fertility rates. The availability of public childcare centers was especially meaningful. However, a simple increase in the number of public childcare centers will not enhance fertility rates. Rather, many other factors, such as the quality of public daycare and diverse programs to satisfy different childcare needs, turned out to be important.

In a new comprehensive study in 2005, the OECD estimated how high fertility rates could rise in countries when they improve their policies to the level of those of well-developed OECD countries (1st to 3rd ranks) in the four areas such as direct financial support, parental leave, childcare, and flexible work arrangements. It was analyzed and presented that Korea, whose TFR (total fertility rate) stands at 1.4 by UN calculation, could raise the rate as high as 2.5 if it exerts effort in three out of four of those areas, excluding parental leave (See Figure 6-3). Looking more closely at the results by each policy, it was analyzed that the expected rise of 1.1 persons is a combination of direct financial support at 47%, expanded childcare at 38%, and flexible work arrangements (increased part-time employment) at 15%.

Figure 4-3. Potential Impact of Various Policy Reforms on Total Fertility Rates



Notes. Countries are ranked in increasing order of the total fertility rates that could be achieved as a result of four sets of policies: *i)* a reduction in the direct costs of children (measured as the difference between the equivalised disposable income of a two-earner couple without children and that of a two-earner couple with 2 children, where the principal earner earns 67% of the earnings of an APW, and the spouse 33%.); *ii)* an increase in the availability of part-time employment to the level achieved in the three OECD countries where it is highest (Japan, the Netherlands and the United Kingdom); *iii)* an increase in the availability of formal childcare (the share of children below 3 years of age attending formal childcare) to the levels of the three countries where it is highest (Denmark, Sweden and the United States); and *iv)* an increase in the length of leave (both maternity and parental) to the levels of the four countries where it is highest (Germany, France, Spain and Finland). The simulations allow for the possibility of substitution between longer parental leave and greater childcare availability. The combined effect of these policies, e.g. in the case of Japan, is an increase of the total fertility rate from a level of 1.3 in 1999 to around 2.0.

However, if the two goals of increased employment and fertility rates are to be achieved, it was evaluated that parental leave was not the right direction to take. This may be because the leave can work negatively to the careers of working mothers. In addition, the usefulness of parental leave itself is limited because, if the income replacement rate is not 100% (the rate tends to decrease as the period of leave is extended), there will be some workers reluctant to use it because of reduced income.

As for Korea, the estimated effect of increased part-time employment was expected very small considering the country has a relatively low part-time employment rate compared toother OECD countries. Taking into account the results of extensive research, there is no simple correlation between part-time work and the childbirth rate, rather there is mediation

by conditions of the labor market and characteristics of overall social services (Ariza et al., 2003; Del Boca et al., 2004). It can then be evaluated that the OECD provided a careful interpretation considering the negative aspects of part-time work.

Concerning childcare policies, childcare centers, not only for children aged 3-6 but also for children under age 3, were especially emphasized. Keeping in mind that career interruptions mostly take place to mothers with younger children, this emphasis is quite understandable. At the same time, it was reported that in-kind childcare benefits do a better job than cash allowance. The experience of Norway, which started from 1998 to pay home care allowances to families with children under age 2, tells a story. Since the introduction of the cash policy in Norway, married women's participation in the labor market dropped by 7~8% in the short term and the decrease rate is expected to be as large as 16% in the long run (Kornstad and Thoresen, 2002).

4-2. Simultaneous Pursuit for Increased Employment and Fertility

If it is the case, in order to pursue both employment and childbearing and not just childbearing only, it is concluded that more efforts should be made to expand childcare services rather than providing for parental leave. In fact, much research that has been conducted on the relationship between children and women's economic activities in OECD countries pose several questions. Table 4-5 examines the quality of childcare policies in terms of availability and affordability and compares them based on three regimes of welfare state. It is found that having children had a very different negative impact between countries with weak social supports and those with strong supports. In all English-speaking countries, the presence of children is an

obstacle to mothers' employment, and Norwegian women are in more disadvantages to getting a job due to a lack of comprehensive childcare services than women in other Nordic countries.

The results of these empirical studies clearly illustrate the negative impact of the presence and number of children on employment and the positive effects of childcare and childrearing support policies on eliminating this negative impact. The causal relationship more or less runs along the lines of the theory that market participation increases when the reservation wage is lowered and that market labor increases when time-intensive childcare is socially concerned and appropriately supported. In order to help increase married women's participation in the labor market, Korea needs to make a concerted effort to bring down the reservation wage by providing public childcare and support for childcare expenses as well as making the lesser used maternity and parental leaves more substantial and effective.

Table 4-5. Relationship between the Social Provision of ECEC (Early Childhood Education and Care) and Maternal Employment(H: High, I: Intermediate, L: Low)

	Social distribution of ECEC (Availability in supply/costs)		Penalty to maternal employment due to children*	
	Aged 0-2	Aged 3-5	Reduction in maternal employment (Children aged 0-2)	Reduction in maternal employment (Children aged 3-5)
Socialist democratic countries				
Denmark	H/H	H/H	0%	0%
Finland	I/H	I/H	0%	0%
Norway	I/H	I/H	-29%	-27%
Sweden	H/H	H/H	0%	0%
Conservative countries				
Belgium	I/H	H/H	0%	0%
France	I/H	H/H	0%	0%
Germany	L/L	I/I	-25%	-117%
Italy	L/L	H/H	n.a.	n.a.
Luxemburg	L/L	H/H	0%	0%
Netherlands	L/L	H/H	-25%	-21%
Liberalist countries				
Australia	L/L	I/I	-35%	-15%
Canada	L/L	I/I	-15%	-10%
UK	L/L	I/I	-45%	-31%
US	L/L	I/I	-22%	-15%

Note: * The expected decrease of percentage points (penalty) in employment was calculated in consideration of many elements, such as marital status, number of children, age and educational background of mothers, and household income, of married women with young children.

Source: Gornick and Meyers, 2003.

3. Korea's Environment for Childbearing: Women's Employment and Childcare/Leave Systems

3-1. Korea's Status from a Comparative Perspective using Macro Indicators

Interpreting Figures 4-4 through 4-9 all together, Korea's characteristics can be summarized as follows:

- ◉ Korea is classified as having both a low fertility rate and a low women's employment rate.
- ◉ Korea is classified as having both a low enrollment rate of childcare facility for children under the age of 3 and a low rate of mothers' employment.
- ◉ Korea's childcare facility rate for children under the age of 3 is less than 10%, a much lower than the average use of 23% of 23 OECD countries.
- ◉ Korea's employment rates pattern for women by age have stayed in the M-curve and have not been able to change into a plateau-curve.
- ◉ Korea has very short maternity and parental leave periods by OECD standards. Its income replacement rate is also far lower than the OECD average of 40%.

Figure 4-4. Total Fertility Rates and Employment Rates for Women

Figure 4-5. Proportion of Children Under the Age of 3 Using Childcare Facilities and Labor Participation Rates

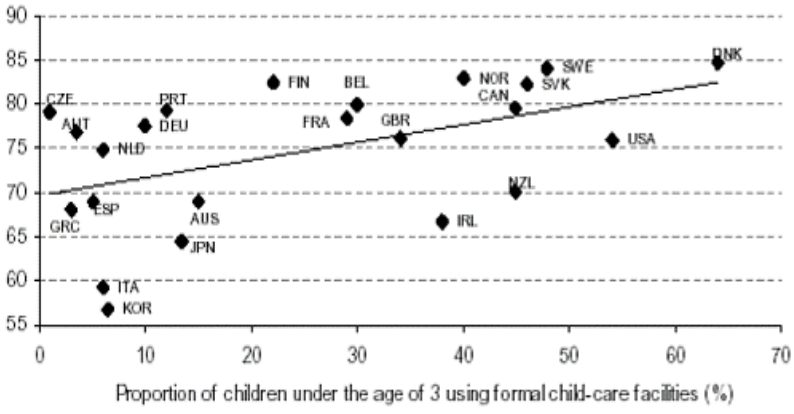
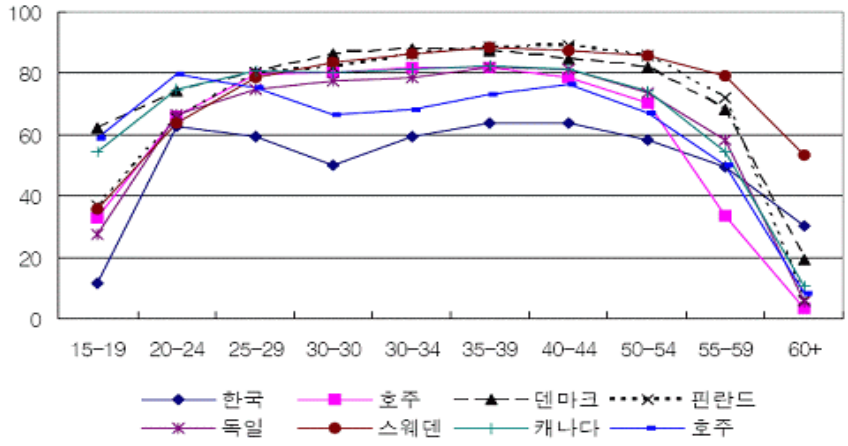


Figure 4-6. Women's Employment Rate by Age (%)



자료 : ILO(2003), 『노동통계연감』, 『한국여성통계』

Source: ILO, 2003; Yearbook of Labor Statistics Women's Statistics in Korea

Figure 4-7. Young Children below 3 Using Formal Child-care Arrangements

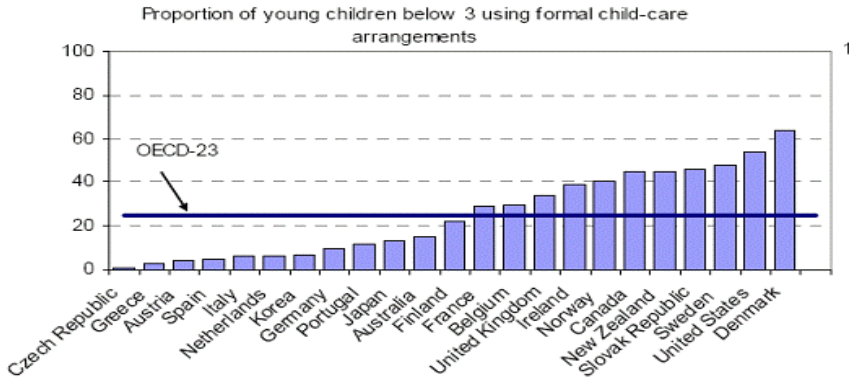


Figure 4-8. Parental Leave Provisions in Selected OECD Countries(2002)

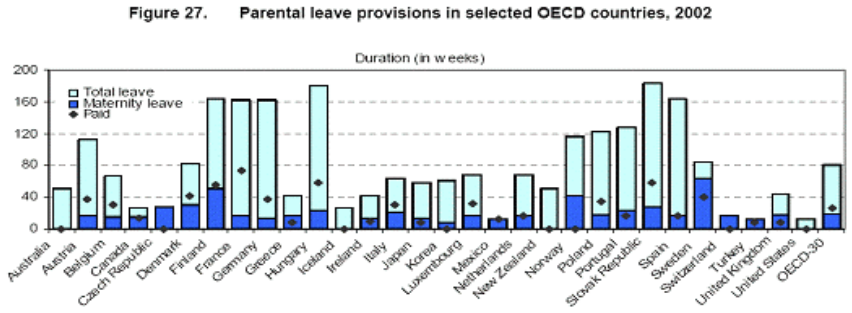
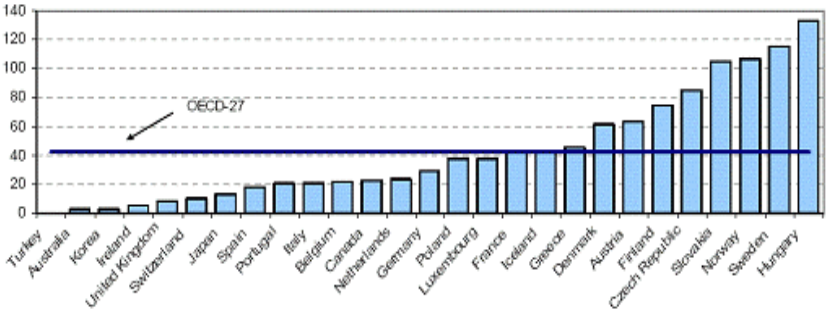


Figure 4-9. Income Replacement Ratios of Parental Leave in OECD Countries



In the case of maternity and parental leaves, not only are leave periods and income replacement rates taken into question, but use and take-up rates are taken into question as well. As of 2002, fewer than 10% of women workers in all occupations (except office workers) took maternity leave, and the ratio was smaller in workplaces with fewer than 1,000 employees. The take-up rates of parental leave benefits were even smaller (Chang Ji-Yeon et al. 2004).

According to employment insurance statistics, the proportion of parental leave benefits taken compared to the take-up rate of maternity leave benefits was 21%. Most users of parental leave are women, with men accounting for a meager 1.52%, or 104 out of 6,816 people (See Table 6-6). Table 4-7 shows use of maternity and parental leaves by public officials. The proportion of parental leave to maternity leave is slightly above 20%, the level not very different from the figure for civilian workers.

Table 4-6. Use of Maternity and Parental Leaves

(Unit: Person; KRW million)

Classification	2002		2003	
	Number of Beneficiaries	Total amount of Benefits paid	Number of Beneficiaries	Total Amount of Benefits Paid
Maternity leave	22,711	22,601	32,133	33,522
Parental leave	3,763	3,087	6,816	10,576
Male	78	54	104	133
Female	3,685	3,033	6,712	10,443

Source: Yearly Statistics of Employment Insurance, Work Information Center, Human Resources Development Service of Korea, 2003.

Table 4-7. Use of Parental Leave by Public Officials

(Unit: Person; KRW million)

Classification	2002			2003		
	Total	Male	Female	Total	Male	Female
Maternity leave	7,831	-	-	9,904	-	-
No. of people entitled to parental leave (those with children under the age of 3)	56,329	38,610	17,719	52,327	37,044	15,277
Parental leave	1,854	110	1,742	2,009	139	1,820
Less than 6 months	270	26	244	435	15	370
6 month or over	1,584	84	1,498	1,574	124	1,450

Source: Statistical Yearbook, Ministry of Government Administration and Home Affairs, 2002, 2003.

Table 4-8. Estimated Mid-term Additional Demand for Early Child Care

(Unit: %)

Classification	Early Child Care				Early Child Education			
	Use rate (A)	Additional wished use rate (B)	Demand rate (C=A+B)	Fill-up rate (A/Cx100)	Use rate (D)	Additional wished use rate (E)	Demand rate (F=D+E)	Fill-up rate (D/Ex100)
Infant								
Aged 0	2.3	7.8	10.1	29.8				
Aged 1	12.4	13.0	25.4	48.8				
Aged 2	28.5	29.3	57.7	49.4				
Subtotal	15.1	(17.3)	32.4	46.6				
Young Child								
Aged 3	45.7	19.1	64.8	70.5	13.5	23.2	36.7	36.8
Aged 4	42.9	5.8	48.7	88.1	25.7	29.3	55.0	46.7
Aged 5	28.9	0.6	29.5	98.0	50.1	10.5	60.6	82.7
Subtotal	38.5	(6.6)	45.1	85.4	31.1	18.9	50.0	62.2
Total	28.5	(10.9)	39.4	72.3	31.1	18.9	50.0	62.2

Note: The population used in the table is the one for Special Population Prospects of 2004, National Statistical Office, 2005.

Source: National Survey of Childcare Use and Demand, 2004.

Table 4-9. Use of Childcare Support Facilities

(Unit: Person: %)

Classification	Number of Population '04	Childcare Facilities (June 2004)	Kindergarten (April 2004)	Subtotal	Mothers' Employment Rate (2004)
Aged 0	481,264	15,567(3.2)	-	15,567(3.2)	20.2
Aged 1	480,140	64,219(13.3)	-	64,219(13.3)	24.5
Aged 2	514,835	159,443(31.0)	-	159,443(31.0)	35.9
Subtotal (Aged 0-2)	1,476,239	239,229(16.2)	-	239,229(16.2)	26.8
Aged 3	595,786	225,229(40.4)	76,829(12.9)	302,058(53.3)	43.4
Aged 4	614,730	214,110(34.8)	168,613(27.4)	382,723(62.1)	40.1
Aged 5	621,373	182,562(29.3)	296,271(47.7)	478,833(77.0)	44.9
Subtotal (Aged 3-5)	1,831,889	621,901(34.0)	541,713(29.6)	1,163,614(63.6)	42.6
Aged 6	638,889				44.8
Aged 7	668,287	Using classrooms at elementary schools after school: 7%			51.2
Aged 8	688,387	Using private institutes, including private academy: 71.6%			47.1
Subtotal (Aged 6-8)	1,995,563				47.6

Source: Special Population Prospects, National Statistical Office, 2005; Kindergarten Statistics, Ministry of Education and Human Resources Development, June 2004; Childcare Statistics, Ministry of Gender Equality, June 2004.

It was surveyed that the fill-up rates for childcare were 46.6% for infants and 85.4% for young children, with 72.3% overall (See Table 4-8). The fill-up rate for infants of under the age of 1 is the lowest. The estimated mid-term additional demands based on the respondents who said they would send their babies to childcare centers within a year are tallied at 250,000 infants and 150,000 young children. Particular attention needs to be paid to the great difference between the use rate of childcare support facilities and mothers' employment rates by age of children. Mothers with young children have markedly low employment rates.

4-2. Microanalysis

An analysis of the data from the 2004 Survey of Use and Demand for Early Child Care and Education, and the 2005 National Survey of Marriages and Fertility Behavior confirms the aggregate-level observations above. Let us first look at working mothers, by earned income brackets and numbers of children, who have experienced career interruptions.

Table 4-10. Experience of Career Interruptions by Number of Children

(Unit: %, person)

Classification	Below average monthly income (2,850,000 won)		Above average monthly income (2,850,000 won)	
	First child	Second & above	First child	Second & above
Did you experience a career interruption?				
Yes	60.6	28.3	40.3	11.7
Reason?				
To personally take care of a child	46.7	12.7	42.4	38.9
Had no one to take care of a child	20.3	44.6	21.7	22.7
Burden of childcare expenses	4.9	3.7	1.2	-
Fired, disadvantageous treatment in personnel management, & signs of unfavorable responses from colleagues at work	5.2	3.1	3.9	6.8
Health problems/postpartum care	12.4	16.6	15.1	15.7
Burden of balancing work and housework	10.5	19.2	15.7	16.0
Total	100.0 (321)	100.0 (66)	100.0 (228)	100.0 (31)

Source: 2005 National Survey of Marriages and Childbirths

Women who experienced career interruptions were 60.6% in surveyed households with less than the average income and 40.3% in those with above-average incomes. More than 50% had career interruptions for involuntary reasons.

In the 2004 National Survey of Use and Demand for Childcare Services, 15.2% of the married women out of 2,904 households nationwide responded that they withheld childbirths after marriage because it was hard for them to balance work and family. Out of the 1,723 married working women, 30.7% cited overly heavy childrearing and housework burdens, with 23.1% pointing out that there was no one to turn to for childrearing and 8% responding that there were insufficient support systems in emergencies. Table 6-11 indicates that demand for part-time and night-time childcare services are very high at 63.4% and 41.3% respectively, and demand for 24-hour care and holiday childcare services are over 20% each.

Table 4-11. Needs for Childcare Services in Short-supply

(Unit: %, Person)

Classification	"Necessary"					"Not Necessary"	Total
	Anytime	1-2 times a Week	1-2 times a Month	1-2 times a Year	Subtotal		
Part-time Childcare	17.8	27.8	15.6	2.3	63.4	36.6	100.0 (2,963)
Night-time Childcare	11.5	13.0	13.6	3.1	41.3	58.7	100.0 (2,962)
24-hour Childcare	3.6	2.4	7.1	7.5	20.6	79.4	100.0 (2,962)
Holiday Childcare	2.9	3.8	11.1	6.9	24.7	75.3	100.0 (2,962)

Source: 2004 National Survey of the Use of and Demand for Childcare Services

In a question about the ideal types for balancing work and family (See Table 6-12), the largest proportion of respondents, regardless of the respondents' marital status and gender, answered that rearing two children and working part-time is the most desirable situation. The ratio was by far the highest in the married women's group, and slightly higher with respondents with less educational achievement (except men).

In comparison to married women, unmarried women and men strongly preferred having two children and working full-time. This can be reaffirmed from the results of Table 6-13 showing that, in order to meet the preferred needs of currently unmarried people when they marry and have children in the future, policy support is required to help them balance childrearing and market labor more vigorously.

Table 4-12. Preferences on Balancing Work and Family by Marital Status, Sex, and Education Level

(Unit: Person, %)

Classification	Unmarried				Married (Female)	
	Male		Female			
	High school graduate and below	College graduate and above	High school graduate and below	College graduate and above	High school graduate and below	College graduate and above
Total	650(44.3)	816(55.7)	361(30.0)	844(70.0)	2,419(63.6)	1,381(36.3)
No child + Full-time work	2.5%	3.3%	2.8%	3.1%	1.8%	2.4%
No child + Part-time work	0.5	0.6	0.3	0.4	0.7	0.2
No child + Not working	0.6	0.2	0.0	0.1	0.1	0.2
1 child + Full-time work	9.5	10.9	9.2	14.2	4.8	7.8
1 child + Part-time work	10.2	10.3	11.7	11.1	9.2	11.3
1 child + Not working	2.6	1.1	3.1	0.8	1.0	0.7
2 children + Full-time work	18.3	23.3	18.9	22.2	11.1	11.4
2 children + Part-time work	36.3	36.4	38.4	37.8	55.8	51.9
2 children + Not working	19.5	13.8	15.6	10.3	15.5	14.1

Source: 2005 National Survey of Marriages and Fertility Behavior

Dual-income families, in which both husband and wife work in the

labor market, showed lower realizations of the ideal number of children. Married working women with higher earned incomes had lower realization rates. This can be interpreted as being due to higher opportunity costs for childbearing. The earned incomes of married women had very meaningful differences.

All in all, married women preferred the supply of high-quality childcare facilities, support of childcare expenses, and flexi-time systems. Interestingly, this coincides with policies recommended by an OECD report of 2005. Items most commonly sought after by all respondents included support of pregnancy and childbirth costs, maternity and parental leaves, and child allowance. The dual-income and non-dual-income households showed no great differences in policy demands, but dual-income families had a higher demand for the support of after-school program. Married women with lower earned income demanded more financial supports, including childcare expenses, payment for childrearing, and tuition for families with multiple children. Women with higher incomes had greater demand for leaves, flexi-time systems, and childcare facilities.

Table 4-13. Realization of the Ideal Number of Children, Policy Demands, and Child Planning of Dual-income Couples by Women's Earned Income Brackets

(Unit: Person, %)

Classification	Income Type		Earned Income Bracket by Married Women		
	Non-dual-income Households	Dual-income Households	No Income	Below Average	Above Average
Total	2,201 (57.9)	1,601 (42.1)	293 (16.2)	865 (47.7)	655 (36.1)
1) How is the ideal number of children realized?*					
Above	10.8%	10.2%	13.7%	11.9%	7.3%
Equal	42.1	39.6	40.6	45.1	39.1
Below	47.1	50.2	45.7	43.0	53.6
2) Demand for Childbearing Support Policies					
Support of pregnancy and childbearing costs	7.4%	6.2%	5.4%	7.2%	6.5%
Support of treatment of infertile couples	5.7	5.1	3.4	4.8	4.1
Support of health of fetuses and pregnant women	1.2	1.5	1.4	0.9	0.6
Leave for working women before/after childbirth & parenting	7.0	7.7	5.4	9.5	10.2
Family leave for children	3.2	3.1	3.1	4.5	3.5
Patemity leave for childrening	1.0	0.9	1.0	0.3	1.4
Flexi-time systems for working mothers	10.8	10.9	9.2	9.5	13.8
Flexi-time systems for working fathers	0.2	0.6	0.3	0.2	0.6
Increase in high-quality childcare & childrening support facilities	18.8	18.6	18.4	14.2	23.9
Support of childcare expenses for infants & young children	13.3	13.7	14.6	13.3	9.4
Preferential sales of housing for families with multiple children	3.9	2.6	1.0	4.8	3.5
Resolution of employment discrimination against women	2.1	1.9	0.7	2.7	2.0
Granting parenting payment	7.5	7.6	9.2	6.4	7.1
Lower health insurance premiums	2.0	2.4	4.1	2.3	1.5
Lower pension insurance premiums	1.0	0.7	1.0	1.6	0.6
Tax reductions for child-related expenditures	2.5	2.2	3.1	2.4	2.0
Support of after-school education	4.5	6.1	7.1	5.7	4.3
Employment support to unemployed heads of houseolds of families with multiple children	1.9	1.7	2.0	2.3	1.2
Support of tuition for families with multiple children	5.3	6.1	8.2	6.9	2.9
Other	0.7	0.4	1.4	0.5	0.9
3) Plan for an additional child					
Yea	16.0%	18.6%	8.8%	11.1%	24.9%
No	80.0	76.6	88.5	85.4	70.6
Not decided yet	4.0	4.7	2.7	3.4	4.5

Note: When the ideal number of children subtracted from the actual number of children born equals zero, this was termed "Equal," if the result is negative, "Above," and positive, "Below."

Source: 2005 National Survey of Marriages and Fertility Behavior

Table 4-14. Employment Status, Ideal Number of Children, and Childbirth Plans of Married Women

(Unit: Person, %)

Classification	Employed			Unemployed (& Seeking a job)			Unemployed (& Not seeking a job)		
	No child	1 child	2 or more children	No child	1 child	2 or more children	No child	1 child	2 or more children
Overall	148 (8.2)	346 (19.1)	1,319 (72.8)	22 (9.9)	49 (22.1)	151 (68.0)	104 (5.9)	397 (22.5)	1,260 (71.6)
Ideal Number of children	1.95	2.12	2.36	2.05	2.11	2.43	2.06	2.15	2.39
-Plan for an additional child?									
Yes	79.6%	34.9%	3.2%	89.5%	37.2%	5.1%	88.3%	45.7%	4.2%
No	10.2	56.9	94.9	10.5	58.1	92.8	7.4	45.2	91.9
Not decided yet	10.2	8.2	2.0	0.0	4.7	2.2	4.3	9.1	3.8

Source: 2005 National Survey of Marriages and Fertility Behavior

In classifying the number of children born by the status of married women's economic activities, the ratio of those who have two or more children is 72.8% of employed women, 71.6% of those unemployed and not seeking a job, and 68% of those unemployed and seeking a job. The lowest proportion for job seekers can be interpreted representing an indirect effect of financial instability.

A comparison of the ideal number of children by respondents shows that employed women without any children have the lowest ideal number of children at 1.95. This tendency is also confirmed in plans for an additional child: The proportion of women with plans for an additional child is lowest in the employed group. Particularly notable is the result that the ratio of the employed or job-seeking women who currently have no child and still have no plans to have one is over 10%. This implies that in the present labor market situation where balancing work and family

is a daunting challenge, many women choose (continued) employment rather than childbirths.

Preferences on childbirth support policies by income bracket were also surveyed (See Tables 4-15 and 4-16). Among the several supportive measures, childcare services were in the highest demand. The policy measure favored most, regardless of different income brackets, was the increase in the high-quality childcare facilities.

Table 4-15. Preferences on Childbearing Support Policies by Income Brackets and Number of Children Aged 0 to 2*

(Unit: %, Person)

Classification	Overall		Below Average Income†		Above Average Income†	
	1 child	2 or more children	1 child	2 or more children	1 child	2 or more children
Support of pregnancy and childbearing costs	8.8	6.3	10.3	6.3	6.5	3.7
Increase in high-quality childcare & childrearing support facilities	23.2	23.2	19.5	17.5	30.0	33.3
Support of childcare expenses for infants & young children	21.0	16.8	23.7	19.0	16.0	11.1
Granting parenting payment	7.4	4.2	8.5	4.8	6.1	3.7
Tax reduction on child-related expenditures	1.5	3.2	1.3	4.8	1.9	-
Support of after-school education	3.2	2.1	4.3	3.2	1.5	-
Support of tuition for families with multiple children	2.8	2.1	3.4	3.2	1.5	-
Total	100.0 (714)	100.0 (95)	100.0 (447)	100.0 (63)	100.0 (263)	100.0 (27)

Note: † By the standard of the nationwide average monthly income of 2,851,727 won per household in the 2nd quarter of 2005 (National Statistical Office, 2005).

Table 4-16. Preferences on Childbearing Support Policies by Income Brackets and Number of Children Aged 3 to Preschool

(Unit: %, Person)

Classification	Overall		Below Average Income		Above Average Income	
	1 child	2 or more children	1 child	2 or more children	1 child	2 or more children
Support of pregnancy and childbearing costs	6.2	5.5	7.0	6.5	4.6	2.9
Increase in high-quality child-care & childrearing support facilities	21.5	21.1	17.7	21.5	27.8	20.6
Support of childcare expenses for infants & young children	17.9	27.3	20.9	29.0	13.3	20.6
Granting parenting payment	8.6	11.7	8.8	9.7	8.0	14.7
Tax reduction on child-related expenditures	2.3	1.6	2.3	-	2.2	5.9
Support of after-school education	5.2	3.1	5.4	3.2	4.6	2.9
Support of tuition for families with multiple children	5.4	3.1	6.9	4.3	3.1	-
Total	100.0 (885)	100.0 (128)	100.0 (554)	100.0 (93)	100.0 (324)	100.0 (34)

Note: See the above note for preferences and average incomes.
Source: 2005 National Survey of Marriages and Fertility Behavior.

4. Policy Agenda for Childcare and Leave Systems for Better Conditions for Childrearing

The most important way to have a positive correlation on childbirth rates is to shape childcare and leave policies in such a way as to help women's employment. This is also the lesson that we can learn from OECD countries through their experience of recovering fertility rates by creating family- and women-friendly employment and service environments. More specifically, such policy efforts as the following are in order:

- o Enhance accessibility to childcare facilities
- o Meet consumers' demands by having flexible operation and diverse programs
- o Enhance the quality of services at childcare facilities
- o Make flexible use of maternity and parental leaves in both time and duration
- o Increase the income replacement rate during parental leave periods
- o Separate allocations of parental leave to fathers and mothers

The more society stresses the traditional functions of the family, adheres to the traditional gender division of labor and unilaterally sticks to policy paradigms for economic growth and labor productivity, the more women and parents experience gaps between working in the labor market and childrearing in their daily lives. Pro-natalist policies should be directed to narrow the gaps. In the broader picture, policies should be effectively designed for changing current structure of the responsibility between the market, the family, and the state, and between women and men, a structure that Korean society has long been kept.

In this regard, we are called for to ponder the type of welfare regime we should pursue. For example, the Nordic model, led by Sweden, has as the major policy goal of full employment, women's participation in the labor market, and gender equality. France has a century of long history of encouraging childbirths and supporting the family. On the other hand, Germany still adheres to the traditional role of mothers and minimal intervention of the family by the state. The Anglo-American model dictates non-intervention, or limited intervention for low-income families only. Even when a consensus can be built on the welfare regime that we should take, we still have the comprehensive and challenging task of shaping an effective and integrated policy paradigm through reviewing and coordinating with other institutions and policies.

Ⅴ. Child Support and Low Fertility

1. Introduction

The issue of low birthrates has macro- and micro- ramifications and also impinges on external conditions as well as personal circumstances. There is no single or simple explanation for the falling birthrates (McDonald, Weston et al., 2004). Nevertheless, one could hardly overemphasize the need to identify the causes of low fertility and devise effective ways to address the problem, especially at a time when there is so much discussion on how to counter the negative implications of low fertility and on investing strategically for the future.

In South Korea, the fertility rate already fell below the replacement rate of 2.08 in 1983 and stood at only 1.16 in 2004, one of the lowest birthrates in the entire OECD countries (The National Statistical Office, 2005). Theoretical and empirical studies show that the decline in fertility rate is due to socio-economic, institutional, and structural factors that have in turn led to changes in the value placed on children and family, an increase in the population of single women as a percentage of the population, and an increase in age at first marriage and childbirth. Moreover the economic burden of raising and educating children is widely cited as a major reason why Korean families are increasingly delaying or foregoing childbirth.

In traditional society, children had great economic value as they were an essential source of family labor force. The rapid transition to industrial

society greatly reduced or even eliminated the economic value of children: children have increasingly become a liability (Kohler et. al., 2001, de Vaus, 2004). In contemporary Korean society, parents feel that the psychological, emotional, and time burdens as well as the direct, and indirect costs of children far outweigh the anticipated economic benefits of raising children. They therefore delay or refuse to have children, resulting in the current low fertility rate.

As the capitalist market system grows stronger and expanded, parents have more options with regard to the raising of children. In addition, the level of competition is deeping in the labor market, making parents feel that they must invest more heavily in their children if their children are to be successful. The emphasizing standard of living stemming from rapid economic growth has given rise to a new emphasis on the quality of child raising for the modern world rather than the number(quantity) of children. Also this has naturally pushed up the costs of children, including educational costs. Thus, children have become heavy financial burdens on households (Huh Kyung-ok, 1997; Lee Gi-young et al., 1995; Kim Seung-gwon et al., 2003), and more and more families are giving up on having additional children (Lee Sam-sik et al., 2005).

Among the preceding studies on child-rearing costs and household income, Huh(1997) analyzed data from the 1995 Korea Household Panel Study and reported that households with one child spent 37% of their income for the costs of child, and households with two children spent 46% of their income on their children. According to Huh, total expenditures per family on children from birth through high school graduation were 123 million won per month for one-child families, 181 million won per month for two-child families, and 216 million won per month for three-child families. Kim's study (2003) on the actual condition

of child-rearing and financial burdens found that the share of child-rearing costs out of the total household expenditures was 42.2% for one-child families, 60.7% for two-child families, and 69.7% for three-child families. In addition, a significant difference in child-rearing expenditures was found between one-child families with no plans to have a second child and those families with plans to have a second child. Those with no plans to have a second child spent approximately 26% of their total expenditures on child-rearing, whereas those families with plans to have a second child spent 24% (Cha, 2005).

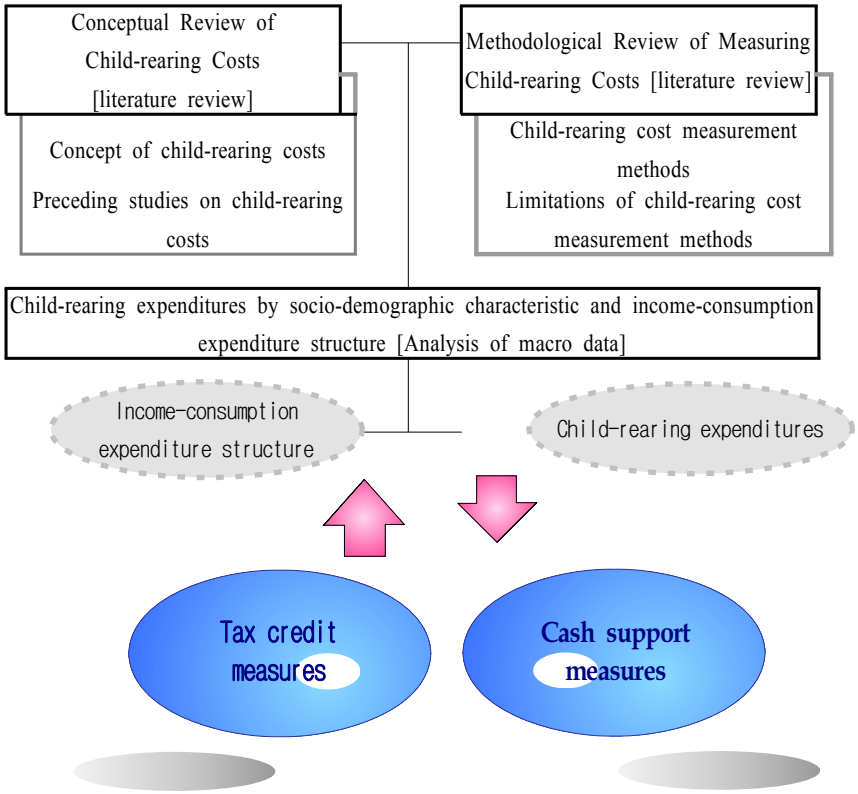
From the perspective of individual families, explicit estimates of child-rearing expenses are clearly essential for decision-making regarding childbirth and child-rearing as well as household financial management that takes the family development cycle into consideration. Those estimates also provide basic data and information for policy-makers to formulate and implement social policy implementation including public assistance and to determine the scope of beneficiaries and the level of support (Olfa & El Lagha, 2004). Therefore, studies on estimates of child-rearing expenditures enable individual families to decide on how many children to have in consideration of their income and take an economic approach to family life. These studies also provide a factual basis for the need for social investment in human capital development (Magrabi et. al., 1991), because the number of children in a family directly and indirectly affects not only the household economy including the total amount of the family expenditures, the type of family consumption expenditures, and the income allocation structure; but also overall family life with regard to such matters as the women's decision to work and the allocation of time by family member of various activities.

In Korea, however, there has been relatively rare study on predicting

the fertility behavior of families, desirable population policy alternatives based on measurements of direct child-rearing costs, and the types of child-rearing consumption expenditures. A few studies, however, have been conducted recently on household education expenditures including private education, citing these as one of the major reasons for the sharp decline in fertility.

As the Australian demographer Peter McDonald (1998) pointed out, the "uncertainties" as to the true financial burden of children and groundless fears and anxieties about having children may serve to reduce fertility even further by negatively impacting the personal decision on how many children to have, although no information is available as to the exact cost of child-rearing. This study aims to determine the cost of children to enable individual families to make informed decisions on how many children to have, ultimately to help raise and/or stabilize the fertility rate back to a reasonable level. It also intends to discuss the issues of public support for the costs of child-rearing such as cash allowance and tax credits. Figure 5-1 briefly illustrates the major contents and research methods of this study.

Figure 5-1. Major Contents of Study and Methodologies



1-1. Major Contents of this Study

As stated above, the importance of accurately estimating child-rearing costs is emphasized to meet personal and social interest in child-rearing expenditures and to promote understanding of low fertility due to the heavy financial burden of child-rearing. Not much research has yet been actively conducted in this area. No studies have been done on the relationship

between child-rearing costs and low fertility, except for some recent studies that estimate the amount of private education expenditures in the overheated private education market. The major contents of this study may be summarized as follows:

First, after briefly examining the concepts and methodologies used to define and measure child-rearing costs, this study went on to emphasize the importance of accumulating empirical data and provides background to the discussion on policy based on scientific analysis. Second, this study examined the incomes and consumption expenditures by socio-demographic characteristic, using data from the National Household Survey to evaluate the cost of raising children relative to total household income. Lastly, this study aimed to draw policy implications on addressing child-rearing costs from the experience of major OECD countries to maintain the fertility rate at an adequate level. Many policy tools are used to affect a family's decision to have and raise children. Among them, child tax credits, cash assistance, childcare services, as well as maternity and childcare leave are commonly used in major OECD countries to alleviate the financial burdens of child-rearing (OECD, 2005). This chapter mainly considered the child tax credits and allowance policies in major OECD countries.

1-2. Methods

A conceptual consideration and measurement methods of child-rearing costs were discussed with a focus on preceding studies. Then, the data from the 2003 National Household Survey published by the National Statistical Office (NSO) was reanalyzed in order to determine child-rearing costs and the income-consumption structure by socio-demographic characteristic. Lastly, current policies on ways to offset the burden of

child-rearing costs in Korea and overseas were contemplated through literature review, and the possible direction of future policy on fertility was explored.

2. Concept and Child-Rearing Cost Measurement Methods

2-1. Concept of Child-Rearing Costs

The costs of children are broadly divided into direct and indirect costs. Direct costs of children include food, clothing, child care, education, housing, and medical costs incurred to the parents in raising their children from birth; indirect costs of children include non-material costs such as parents' time spent with children, psychological costs, or physical work associated with child-rearing, and lost market earnings and opportunity costs of child rearing instead of working (d'Addio & d'Ecole, 2005). In Kim's study, child-rearing costs are defined as purely economic costs necessary to protect and educate children as a fundamental parental obligation or as invisible costs entailing the meaning of providing protection and financial support (Kim et al., 2003).

In developing and implementing public policy, besides economic discussion, only the direct costs of children associated with having and raising children are dealt with because of the methodological limitations in calculating the costs and the vagueness of the concept of indirect child-rearing costs. Even then, however, separating the costs directly related to children from total family costs is no easy task.

Although the costs of children are generally measured as the aggregate of expenditures on children, the difficulty lies in selecting expenditures for

child-rearing because it is not simple to separate the discrete costs of children from those shared by the whole family members or indivisible items such as housing, furniture, or cars. In addition, the costs of children vary depending on the family size, types, and socio-demographic characteristics, as determined by the parent's income and values, the number and age of children in the family, and the expected standards of child-rearing costs in the socio-cultural context.

2-2. Measuring Methods of Child-Rearing Costs

There are essentially three ways in which the direct costs of children have been estimated: the opinion survey approach, budget approach, and expenditure survey approach (McDonald, 1990). By the opinion survey approach, the researcher simply asks a representative sample of families how much it costs to keep their children. By the budget approach, the researcher specifies a standard 'basket' of goods and services that a child of a given age would need. Lastly, the expenditure survey approach attempts to obtain estimates of the total costs of children by using data from surveys on the amount of expenditures per household such as the household consumption survey. The data so obtained would then be analyzed according to the itemized method and equivalence scale (Huh, 1997).

A. Itemized Method of Estimating Child-Rearing Costs

The itemized method estimates the expenditures on children by identifying items associated with children and then adding them together. To recapitulate, it computes educational expenses by adding children's tuition fees and costs of textbooks and school supplies, and estimates the costs of furniture, culture and recreation, and food for the child, and then determines

the total child-rearing costs by adding them all together. It also uses an average cost approach. Therefore, when the number of children increases, the total amount of child-rearing costs would be determined by multiplying the per capita child-rearing costs by the number of children, whereas per capita child-rearing costs are estimated by dividing the total amount by the number of children in the household. This method is widely used because of its simplicity, but it has a number of shortcomings as follows:

First, it does not properly reflect diverse family characteristics such as family composition, type, or standard of living, because it estimates the amount of expenditures based on standard households. Second, the concept of average or per capita child-rearing costs does not take into account variations depending on the order of birth of the child. Third, this method does not address expenditure items shared among all family members. Because of these limitations, the itemized method is likely to underestimate the total child-rearing costs.

To compensate for such limitations, child-rearing costs may be estimated by combining clearly child-specific expenditure items and not clearly child-specific expenditure items. In the case of not-clearly child-specific items, a child's share of expenses for the shared items is estimated by allocating such expenses in equal proportions among household members and adding them together. Although this method is meaningful in that shared expenditures are included, unlike the above-mentioned methods which take into account only children-specific expenditures, it still cannot provide reliable estimates of expenses on children.

B. Equivalence Scale

In contrast to the method described above, equivalence scales are used

to estimate the children's share of expenditures shared by the family. This method takes into account not only the children's share out of expenditures shared by the family but also economies of scale of more children. Equivalence scales reflect the household living standards according to family size, age of the head of household, and family type. Espenshade (1984) used the Engel estimator to estimate the child-rearing costs of individual families on the basis of the concept of the share of income allocated to food consumption.

Espenshade (1984) developed estimates of child-rearing costs of families among different sizes using the assumption of the Engel estimator that if two families spend an equal percentage of their total household income on food, those families are equally well off. He regarded the additional income needed to restore the family's pre-child standard of living as the child-rearing costs. In this case, the family's standard of living is determined by the proportion of the family's food expenditures out of the total consumption expenditures. For example, if two families spend the same percentage of their total income on food, then those families are assumed to have the same standard of living.

In addition, this method assumes that child-rearing costs may vary depending on the order of birth and age of the child. It also takes into account the differences in family types or sizes. Thus, this method is more realistic than the itemized method. This method also assumes that the family's material and economic living standards may change as the child grows up. When this method is used, it was actually found to overestimate the child-rearing costs (Douthitt & Huh, 1994).

This study measured child-rearing costs and the percentage of expenditures on children out of the total household income on the assumption that if two families spend the same percentage of their total

income on food, then those families have the same standard of living, as in the equivalence scales.

3. Estimating Child-Rearing Costs

3-1. Collection of Data

The data for this study was obtained from the 2003 Household Survey. The 2003 survey covered households nationwide, whereas previous surveys covered only urban households. Data on their income and expenditures were collected using the account books recorded by each household. Since farming and fishing households, one-person households, foreigner households, and households whose income and expenditures were difficult to calculate were excluded from the survey, the data analysis may indicate slightly higher than actual levels of income and expenditures of households nationwide.

In the survey, the total household income included all income during the survey period such as earned income and other income, and balances carried over from prior months; the total household expenditures included all expenditures such as the expenditures and cash balances at the end of the month. The detailed survey items are shown in Table 5-1 and Table 5-2.

Table 5-1. Items Concerning Income in the Household Survey

Description	Contents
GROSS INCOME	
Income	Ordinary income, irregular income
· Ordinary income	
① Earned income	- Householder's income, spouse's income, other members' income1)
② Business & side business income	- Householder's business income, spouse's business income, other members' business income
③ Income from other sources	- Income from property, interest income, dividend income, real estate rental income, transfer income, public pension, income from social security, private income transfer
· Irregular Income	- Receipts for congratulations & condolences, retirement and pension allowances
· Decrease in assets	- Savings withdrawals, insurance payments, money from credit unions, proceeds from marketable securities, proceeds from real estate
· Increase in liabilities	- Borrowing on real estate, other borrowing, other increases in debt, balances carried over from prior months

Table 5-2. Items Concerning Expenditures in Household Survey

Description	Contents
TOTAL EXPENDITURE	
Household Expenditure	Consumption expenditures, non-consumption expenditures
· Consumption Expenditures	
① Food & beverages	- Grains & cereals, meats & poultry, dairy products, fish & shellfish, vegetables, seaweed, fruits, seasonings, breads & snacks, dining out (including school meals), baby foods, etc.
② Housing	- House maintenance, maintenance charge for apartments, etc.
③ Utility charges	- Water charges, electricity, heat & fuel, city gas, heating expenses for apartments, etc.
④ Furniture & utensils	- Furniture, household appliances, kitchen utensils, domestic utensils, non-durable goods, bedding & cloths, etc.
⑤ Clothing & footwear	- Clothing, footwear, clothing & footwear services, etc.
⑥ Medical care	- Medical appliances, eyeglasses, fees for medical consultation, etc.
⑦ Education, culture & recreation	- Education (tuition fees, teaching materials, supplementary education), stationery, culture & recreation, books & printed materials, culture & recreation instruments, culture & recreational services, etc.
⑧ Transportation & communication	- Transportation services, personal transportation, fuel, car insurance payments, etc.
⑨ Other consumption expenditures	- Tobacco, personal care, personal care services, personal effects, miscellaneous, contributions for congratulations & condolences, non-life insurance payments, etc.
· Non-consumption expenditures	- Direct taxes, public pension, social insurances, remittances and subsidies to other households, expenditures for asset increases, etc.
Other Expenditures	
· Increases in assets	- Savings, whole life insurance payments, purchases of marketable securities, purchases of real estate, etc.
· Decrease in liabilities	- Mortgage repayments, repayments of borrowings, payments on monthly installment and credit purchases, etc.

A. Subjects for Analysis

This study included only nuclear families with children and excluded extended families in order to obtain correct estimates of child-rearing costs. In addition, the ages of the heads of households and spouses were limited to 20 to 49 years in order to cover only households with children aged under 18 years. Since the types of household expenditures vary depending on the families' income levels, namely, standards of living, their expenditures on children may differ accordingly. Taking this into account, this study originally intended to break down the sample households into five income ranges by classifying them by income quintile, standards of living, age combination of children and number of children, in order to measure the cost burdens of raising children of households. In this case, however, the number of study subjects in each group would be too small. Therefore, this study classified the subjects into families with above-average income and families with below-average income based on the average monthly household income of the sample households. In this study, there were 26,366 households, and their average monthly income was 3,073,029.5 won. Households with monthly income less than 3,073,029.5 won were classified as low-income households, and those households with monthly income of 3,073,029.5 won or more were classified as high-income households.[8)]

B. General Characteristics of Sample Households

The sample households were classified into high-income and

8) The 2003 average monthly income of working households nationwide was 2,940,000 won, slightly lower than the average monthly household income in this study. The reason for this seems to be that this study limited the scope of its subjects to households with heads aged 20 to 49 years.

low-income households and further classified into dual-income and single-income households. Table 5-3 shows the general characteristics of the sample households classified as above. Among the high-income households, the average monthly total receipts[9] of dual-income households were 9,492,163 won, and their average gross income[10] was 4,844,626 won. While the average ordinary income and irregular income of dual-income households was 4,651,470 won (96.01% of the average total income) and 387,729 won (3.99% of the average total income) respectively, single-income households had slightly lower income-expenditure structures. However, high-income single-income households, whose average gross income were 9,460,220won and average total income was 4,496,106 won, did not show a statistically significant difference compared to high-income/dual-income households.

With regard to the income-expenditure structures of low-income households, dual-income households had average monthly gross income of 4,551,966 won and average monthly total income of 2,264,005 won, whereas single-income households had average monthly gross income of 4,545,415 won and average monthly total income of 1,955,889 won. As a consequence, no significant difference was found in receipts and income depending on the number of employed members in the household. For this reason, analysis was conducted on high-income and low-income households after classifying sample households by income level without further classifying them into dual-income and single-income households.

As enumerated above, for the analysis in this study, the sample

9) Gross incomes are all receipts for the survey period including income, other receipts from reductions in assets and increases in liabilities, and balances carried over from prior months.

10) Total income includes ordinary income and irregular income.

households were limited to nuclear households with heads and spouses aged between 20 and 49 years. Among the sample households, the total number of high-income households was 10,333, and 47.6% of the high-income households were dual-income households. The total number of low-income households was 16,033, and 43.2% of them were dual-income households. The average age of household heads was 39.3 years for high-income, dual-income households, 39.6 years for high-income, single-income households, 39.1 years for low-income, dual-income households, and 38.6 years for low-income, single-income households. No significant difference in the average age was found among the four groups.

As for the education level of household heads, 51.8% of the heads of high-income households had at least two-year college degrees, whereas only 30.4% of the heads of low-income, dual-income households had such educational qualifications. This finding is further evidence of a positive relationship between educational level and income. As in the characteristics of household heads, the spouses of the heads of high-income, dual-income households had the highest educational level with 41.0% having more than two-year college degrees and 4.1% having at least four-year college degrees.

Table 5-3. Characteristics of High-Income and Low-Income Households

(Unit: %, years)

	High-income households		Low-income households	
	Dual-income	Single-income	Dual-income	Single-income
Characteristics of household head				
Gender (male/female)**	99.3/0.7	98.8/1.2	97.2/2.8	95.7/4.3
Mean age	39.3	39.6	39.1	38.6
Educational attainment***				
Less than a high school diploma	36.7	33.9	67.8	56.6
Two-year or junior college degrees	51.8	50.8	30.4	40.2
Four-year college and university degrees or beyond	11.5	15.3	1.8	3.2
Characteristics of spouse				
Mean age	36.4	36.8	35.8	34.0
Educational attainment***				
Less than a high school diploma	54.9	56.4	78.0	68.6
Two-year or junior college degrees	41.0	40.7	21.0	30.4
Four-year college and university degrees or beyond	4.1	2.8	1.0	0.9
House ownership***				
Owns home	68.5	74.2	49.0	50.0
Doesn't own home	31.5	25.8	51.0	50.0
Mean no. of household members**	3.64	3.84	3.58	3.61
Number of children***				
0	21.2	14.1	21.2	21.3
1	19.9	22.3	19.8	27.3
2	52.1	53.3	51.7	45.2
3 or more	6.8	10.3	7.2	6.2
Average monthly gross income	9,492,163	9,460,220	4,551,966	4,545,418
Average monthly income	4,844,626	4,496,106	2,264,044	1,955,889
Average monthly expenditure	9,492,163	9,460,220	4,551,966	4,545,418
Households analyzed (total)	4,924 households	5,409 households	4,837 households	11,196 households

Note: * p<.05, ** p<.01, *** p<.001, *** p<.001 statistically significant only in high-income households.

Source: Reanalyzed raw data from the 2003 Household Survey (National Statistics Office, 2003)

In terms of house ownership, high-income, dual-income households showed the highest rate of ownership at 68.5%, whereas 50.0% of low-income, single-income households owned their own homes. The average number of members in a household was the highest in high-income, single-income households with 3.84 members; it was lowest among low-income, dual-income households with 3.58 members. High-income, single-income households showed the lowest childless rate of 14.1%, and 53.3% of them had two children, the highest rate in the category. In comparison, 45.2% of low-income, single-income households had two children. A higher percentage of high-income households had three children than lower-income households. This finding indirectly corroborates the fact that fertility varies with income level (See Table 5-3).

3-2. Household Consumption Expenditures and Child-Rearing Expenditures

A. Type of Household Consumption Expenditures

Before looking into the household expenditures on children, the average household expenditures by consumption item are shown below so that the expenditures of households can be fully understood (See Table 5-4). Food accounted for the highest percentage of household expenditures in the high-income bracket at 19.67%, which amounted to 7.71% of total expenditures. These households spent 14.08% of their total income on food.[11] Food was also the highest expenditure item among low-income households. It is particularly noteworthy that the share of expenditures on food relative to total income in the low-income bracket was 22.69% for

11) In high-income, single-income households, expenditures on food were 7.78% relative to total expenditures (19.28% of household expenditures), and 15.26% relative to total income.

dual-income households and 34.33% for single-income households, far higher than that of high-income households. Therefore, their standards of living could be inferred according to Engel's theorem.

Table 5-4. Monthly Household Consumption Expenditures by Income Bracket

(Unit: Won, %)

High-income bracket	Dual-income households			Single-income households		
	Average amount	Average ratio relative to total income	Average ratio relative to total expenditures	Average amount	Average ratio relative to total income	Average ratio relative to total expenditures
TOTAL EXPENDITURE	9,492,163			9,460,220		
Household expenditures	3,229,408	66.66	36.55	3,333,869	76.90	37.83
- Consumption expenditures	2,633,083	54.35	30.17	2,706,627	62.87	30.98
Food & beverages	635,139	14.08	7.71	642,911	15.26	7.78
Housing	80,407	1.77	0.91	84,761	2.00	0.91
Utility charges	93,763	2.10	1.16	103,506	2.48	1.28
Furniture & utensils	146,627	3.12	1.57	111,110	2.62	1.25
Clothing & footwear	180,079	2.81	2.06	174,206	4.05	2.02
Medical care	110,217	2.36	1.20	138,389	3.22	1.57
Education[1)]	448,854	9.64	5.11	461,081	10.59	5.19
Culture & recreation	138,002	2.90	1.50	171,559	3.93	1.86
Transportation & communication	464,233	10.05	5.05	449,298	10.16	4.77
- Non-consumption expenditures	598,880	12.13	6.41	6,292,220	14.08	6.87
Income	4,844,626		55.84	4,496,106		52.65
Ordinary income	4,651,470	96.01	54.13	4,185,337	93.09	49.72
Irregular income	387,729	3.99	3.43	556,431	6.91	5.24
Households for analysis (total)	4,929 households			5,409 households		

Table 5-4. Continued

(Unit: Won, %)

Low-income bracket	Dual-income households			Single-income households		
	Average amount	Average ratio relative to total income	Average ratio relative to total expenditures	Average amount	Average ratio relative to total income	Average ratio relative to total expenditures
TOTAL EXPENDITURE	4,551,966			4,545,418		
Household expenditures	1,897,463	89.07	45.10	1,857,064	134.99(-)	46.08
- Consumption expenditures	1,678,451	79.42	40.31	1,629,618	121.72(-)	41.04
Food & beverages	476,698	22.69	12.02	445,963	34.33	11.93
Housing	81,657	4.14	2.17	74,746	5.11	2.07
Utility charges	85,119	4.13	2.20	85,475	6.95	2.38
Furniture & utensils	70,211	3.26	1.57	68,171	4.88	1.64
Clothing & footwear	99,517	4.62	2.37	99,925	6.89	2.41
Medical care	66,389	1.44	1.54	91,780	6.57	2.26
Education1)	275,654	12.76	6.42	25,121	20.16	5.91
Culture & recreation	68,635	3.27	1.52	81,388	6.32	1.83
Transportation & communication	312,570	14.53	7.16	280,989	20.89	6.92
- Non-consumption expenditures	223,781	9.86	4.89	234,915	13.71	5.21
Income	2,264,004		55.81	1,955,889		49.88
Ordinary income	2,220,241	97.30	54.74	1,893,430	96.80	48.20
Irregular income	110,539	2.70	2.70	146,197	3.20	3.90
Households for analysis (total)	5,168 households			5,283 households		

Note: In these tables, the education, culture & recreation expenditures are divided into education expenditures and culture & recreation expenditures.

Source: Reanalyzed raw data from the 2003 Household Survey (National Statistical Office).

B. Measurement of Child-Rearing Costs

This study used the equivalence scale developed by Espenshade (1984) to measure child-rearing costs. Espenshade (1984) defined child-rearing costs as the additional cost incurred by one couple with a child to maintain the same standard of living as a childless couple. The equivalence scale gauges the standard of living using Engel's estimator, which assumes that the food expenditure share is an accurate indicator of the economic standard of living of a household. The share of food expenditures out of the total expenditures was, therefore, measured in the high-income and low-income households in order to measure child-rearing costs. Then the findings were broken down into five groups: food expenditure share of less than 5%, at least 5% and less than 10%, at least 10% and less than 15%, at least 15% and less than 20%, and at least 20%. The average monthly total expenditures and food expenditures of a childless household consisting of only a husband and wife are shown in Table 5-5. It may be assumed that the lower the share of food expenditures out of total expenditures of a household, the higher its standard of living. Conversely, it may be assumed that the household's total expenditures are high. Among childless, high-income households, households whose food expenditure shares are less than 5% had average total monthly expenditures of 3,118,778 won, as compared to 1,260,228 won for childless, low-income households whose food expenditure shares are at least 20% (See Table 5-5).

Table 5-5. Average Monthly Total Expenditures of One-Child Households According to Standard of Living by Income Bracket

(Unit: Won, %)

Income level	Food expenditure share of total expenditures	Childless households	One-child households				
			Infants (aged 0-2)	Preschoolers (aged 3-5)	Primary school students (aged 6-11)	Middle & high school students (aged 12-17)	Average
High-income households	Less than 5%	3,118,778 (282)	3,380,247 (53)	3,877,271 (47)	4,100,935 (50)	4,600,899 (89)	3,989,838 (239)
	5.00-9.99%	2,754,451 (544)	2,964,921 (107)	3,090,392 (174)	3,645,161 (94)	3,972,607 (225)	3,418,270 (600)
	10.00-14.99%	2,686,953 (87)	2,856,478 (147)	2,888,366 (55)	3,342,742 (68)	3,433,440 (62)	3,130,257 (332)
	15.00-19.99%	2,546,693 (68)	-	-	-	3,208,743 (12)	3,208,743 (12)
	At least 20.00%	2,391,620 (22)	-	-	-	-	-
Low-income households	Less than 5%	2,583,326 (174)	2,801,666 (26)	3,033,899 (30)	3,252,527 (15)	3,770,540 (14)	3,214,658 (85)
	5.00-9.99%	1,685,646 (779)	1,876,199 (207)	2,079,476 (252)	2,050,298 (35)	2,129,168 (98)	2,033,785 (592)
	10.00-14.99%	1,563,804 (602)	1,711,510 (130)	1,888,917 (197)	1,855,355 (57)	2,003,432 (127)	1,864,804 (511)
	15.00-19.99%	1,356,359 (245)	1,474,600 (30)	1,727,688 (75)	1,603,542 (35)	1,848,210 (45)	1,663,510 (185)
	At least 20.00%	1,260,228 (171)	1,344,163 (31)	1,578,985 (66)	1,497,922 (13)	1,708,055 (43)	1,532,281 (153)

Note: The figures in the parentheses indicate the numbers of households analyzed.
Source: Reanalyzed raw data from the 2003 Household Survey (National Statistical Office, 2003)

Table 5-6 displays the findings for child-rearing costs according to the standards of living of households, using the average total expenditures of childless households as a benchmark on the basis of the share of food expenditures out of total expenditures. Specifically, children in one-child households in each income bracket were classified as infants/toddlers (aged 0～2), preschoolers (aged 3～5), primary school students (aged 6～11), and

middle and high-school students (aged 12～17), and the difference between the total expenditures of childless households and one-child households in each age group was calculated.

It was found that the average monthly child-rearing costs of an infant/toddler in high-income households ranged between a minimum of 169,525 won (when the food expenditure share of total expenditures is at least 10% and less than 15%) and a maximum of 261,469 won (when the food expenditure share of total expenditures is less than 5%), as compared to 83,935 won in low-income households with food expenditure shares of at least 20% of total expenditures. These low-income households are seen to have the lowest standards of living.

Naturally, child-rearing costs increase as children grow up. The rate of increase in child-rearing costs was markedly higher in high-income households than in low-income households. Average monthly child-rearing costs per infant/toddler were 758,493 won (12.1% relative to income, 19.6% relative to household expenditures) in high-income households with food expenditure shares of less than 5%, as compared to 118,757 won (9.6% relative to income, 20.2% relative to household expenditures) in low-income households with food expenditure shares of at least 20%. Average monthly child-rearing costs per primary school student and per middle and high-school student were 982,157 won and 1,482,111 won respectively in the high-income households with food expenditure shares of less than 5%, as compared to 669,201 won and 1,187,214 won in low-income households with the same food expenditure shares as the high-income households.

Table 5-6. Average Monthly Child-Rearing Costs of One-Child Households by Income Bracket and Percentage Share of Household Expenditures

(Unit: Won, %)

Income level	Food expenditure share of total expenditures	One-child households								Average cost of one child aged 0~18	
		Infants/Toddlers (aged 0~2)		Preschoolers (aged 3~5)		Primary school students (aged 6~11)		Middle & high school students (aged 12~17)			
		Child-rearing costs	Percentage of expen-ditures	Child-rearing costs	Percentage of expen--ditures	Child-rearing costs	Percentage of expen-ditures	Child-rearing costs	Percentage of expen-ditures	Average Child-rearing costs	Percentage of expen-ditures
High-income households	Less than 5%	261,469	7.7	758,493	19.6	982,157	24.0	1,482,111	32.2	871,060	21.8
	5.00-9.99%	210,470	7.1	335,941	10.9	890,710	24.4	1,218,156	30.7	663,819	19.4
	10.00-14.99%	169,525	5.9	201,413	7.0	655,789	19.6	746,487	21.7	443,304	14.2
	15.00-19.99%	-	-	-	-	-	-	662,050	20.6	662,050	20.6
	At least 20.00%	-	-	-	-	-	-	-	-	-	-
Low-income households	Less than 5%	218,340	7.8	450,573	14.9	669,201	20.6	1,187,214	31.5	631,332	19.6
	5.00-9.99%	190,553	10.2	393,830	18.9	364,652	17.8	443,522	20.8	348,139	17.1
	10.00-14.99%	147,706	8.6	325,113	17.2	291,551	15.4	439,628	21.9	301,000	16.1
	15.00-19.99%	118,241	8.2	371,329	21.5	247,183	15.4	491,851	26.6	307,151	18.5
	At least 20.00%	83,935	6.2	118,757	20.2	237,694	15.9	247,827	26.2	272,053	17.8

Note: Groups of households for analysis with fewer than five households are not included in this table.

Source: Reanalyzed raw data from the 2003 Household Survey (National Statistical Office).

The fact that there is not much difference in the ratio of child-rearing costs relative to total expenditures between high-income households and low-income households despite such great difference in income indicates that high-income households spend considerably on children of middle and high-school age. This indicates that as the number of children decreases, parents pay more attention to the quality of child-rearing. This is also indirectly indicative of parents'

distrust of the public school system as well as the excessive expansion of the private education market. he fact that spending on children varies directly with the economic standards of living of households seems to reflect the polarization between social classes in child-rearing.

Table 5-7. Percentage of Child-Rearing Expenditures out of Total Income of One-Child Households According to Standard of Living by Income Bracket

(Unit: Won, %)

Income level	Food expenditure share of total expenditures (living standards)	One-Child Households								Average cost of one child aged 0-18	
		Infants (aged 0-2)		Preschoolers (aged 3-5)		Primary school students(aged6-11)		Middle & high school students(aged 12-17)			
		Child-rearing costs	Percentage of income	Child-rearing costs	Percentage of income	Child-rearing costs	Percentage of income	Child-rearing costs	Percentage of income	Average Child-rearing costs	Percentage of income
High-income households	Less than 5%	261,469	5.3 (4,939,136)	758,493	12.1 (6,285,775)	982,157	15.7 (6,248,999)	1,482,111	23.4 (6,337,170)	871,060	15.2 (5,732,564)
	5.00-9.99%	210,470	5.3 (4,006,490)	335,941	7.5 (4,521,132)	890,710	16.3 (5,457,835)	1,218,156	24.2 (5,029,286)	663,819	14.6 (4,541,595)
	10.00-14.99%	169,525	3.9 (4,313,658)	201,413	5.3 (3,801,775)	655,789	16.1 (4,064,625)	746,487	18.7 (3,992,158)	443,304	11.1 (3,978,412)
	15.00-19.99%	-	-	-	-	-	-	662,050	17.3 (3,820,125)	662,050	13.5 (4,893,775)
	At least 20.00%	-	-	-	-	-	-	-	-	-	-
Low-income households	Less than 5%	218,340	9.8 (2,232,941)	450,573	20.8 (2,168,639)	669,201	29.1 (2,302,326)	1,187,214	45.3 (2,623,133)	631,332	28.8 (2,193,362)
	5.00-9.99%	190,553	9.0 (2,125,548)	393,830	17.3 (2,271,835)	364,652	15.6 (2,332,368)	443,522	19.1 (2,325,701)	348,139	16.0 (2,178,604)
	10.00-14.99%	147,706	7.8 (1,946,170)	325,113	16.2 (2,001,566)	291,551	14.0 (2,088,922)	439,628	19.4 (2,264,144)	301,000	15.0 (2,003,511)
	15.00-19.99%	118,241	7.7 (1,528,279)	371,329	19.6 (1,893,389)	247,183	10.4 (2,367,591)	491,851	28.7 (1,713,551)	307,151	17.3 (1,775,811)
	At least 20.00%	83,935	6.8 (1,238,868)	118,757	9.6 (1,233,587)	237,694	16.1 (1,479,615)	247,827	17.7 (1,400,644)	272,053	20.7 (1,314,433)

Note: 1) Figures in the parentheses represent average monthly income of households analyzed.; 2) Groups of households for analysis with fewer than five households are not included in this table.

Source: Reanalyzed raw data from the 2003 Household Survey (National Statistical Office).

Figure 5-2. Differences in Child-Rearing Costs of High-Income Households by Child Age and According to Living Standards

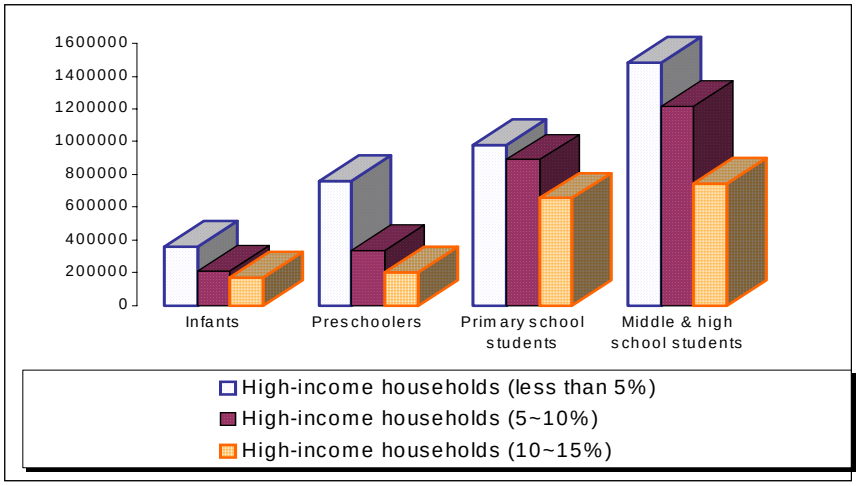
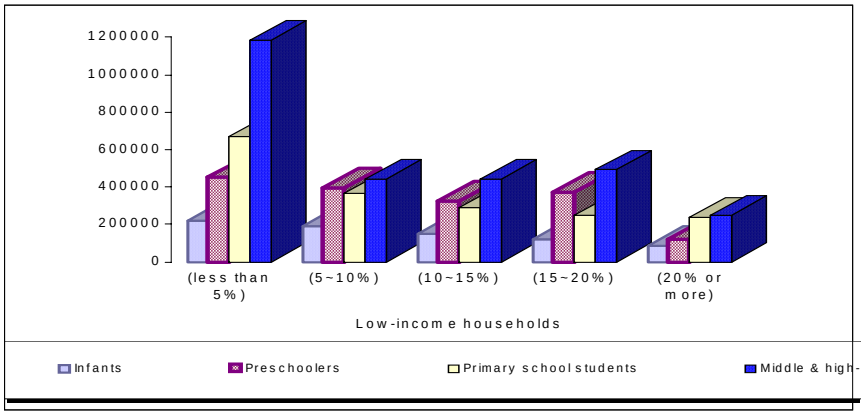


Figure 5-3. Differences in Child-Rearing Costs of Low-Income Households by Child Age and According To Living 1Standards



Lastly, the child-rearing costs according to the number of children were examined. As shown in Table 5-8 and Table 5-9, the average monthly child-rearing costs of two-child, low-income households ranged from 363,053 won (23.1% of income, 22.4% of household expenditures) to 783,900 won (33.7% of income, 23.3% of household expenditures) according to living standards, whereas those of two-child, high-income households ranged from 585,050 won (15.6% of income, 24.5% of household expenditures) to 1,348,458 won (20.0% of income, 30.2% of household expenditures) according to living standards. Three-child households benefited from economies of scale even though they spent up to 1,874,683 won (27.1% of income, 37.5% of household expenditures) on their children per month.

Table 5-8. Average Monthly Total Expenditures of Households by the Number of Children and by Income Bracket

(Unit: Won, %)

Income level	Food expenditure share of total expenditures	Childless households	One-child households	Two-child households	Three-child households
High-Income Households	Less than 5%	3,118,778 (282)	3,989,838 (239)	4,467,236 (601)	4,993,461 (290)
	5.00～9.99%	2,754,451 (544)	3,418,270 (600)	3,825,204 (2,391)	4,003,605 (95)
	10.00～14.99%	2,686,953 (87)	3,130,257 (332)	3,281,129 (774)	3,323,929 (12)
	15.00～19.99%	2,546,693 (68)	3,208,743 (12)	3,439,704 (77)	3,427,222 (3)
	At least 20.00%	2,391,620 (22)	-	2,976,670 (16)	-
Low-Income Households	Less than 5%	2,583,326 (174)	3,214,658 (85)	3,367,226 (218)	-
	5.00～9.99%	1,685,646 (779)	2,033,785 (592)	2,156,027 (1,693)	2,391,074 (165)
	10.00～14.99%	1,563,804 (602)	1,864,804 (511)	2,032,810 (1,781)	2,186,079 (175)
	15.00～19.99%	1,356,359 (245)	1,663,510 (185)	1,794,072 (760)	1,922,116 (100)
	At least 20.00%	1,260,228 (171)	1,532,281 (153)	1,623,281 (478)	1,694,908 (67)

Source: Reanalyzed raw data from the 2003 Household Survey (National Statistical Office)

Table 5-9. Average Monthly Child-Rearing Expenditures by Number of Children and According to Living Standards by Income Bracket and Percentages out of Total Income and Household Expenditures

(Unit: Won, %)

Income-level	Food expenditure share of total expenditures	One-child households			Two-child households			Three-child households		
		Child-rearing costs	Percentage of expenditures	Percent-age of income	Child-rearing costs	Percentage of expenditures	Percent-age of income	Child-rearing costs	Percentage of expenditures	Percent-age of income
High-income households	Less than 5%	871,060	21.8	15.2	1,348,458	30.2	20.0 (6,733,361)	1,874,683	37.5	27.1 (6,918,518)
	5.00～9.99%	663,819	19.4	14.6	1,070,753	28.0	23.3 (4,589,853)	1,249,154	31.2	24.5 (5,103,432)
	10.00～14.99%	443,304	14.2	11.1	594,176	18.1	15.1 (3,943,322)	636,976	19.2	15.3 (4,170,241)
	15.00～19.99%	662,050	20.6	13.5	893,011	26.0	22.6 (3,956,587)	880,529	25.7	25.1 (3,515,266)
	At least 20.00%	-	-	-	585,050	24.5	15.6 (3,735,760)	-	-	-
Low-income households	Less than 5%	631,332	19.6	28.8	783,900	23.3	33.7 (2,323,834)	-	-	-
	5.00～9.99%	348,139	17.1	16.0	470,381	21.8	20.0 (2,352,026)	705,428	29.5	25.4 (2,782,242)
	10.00～14.99%	301,000	16.1	15.0	469,006	23.1	21.5 (2,177,203)	622,275	28.5	28.7 (2,167,364)
	15.00～19.99%	307,151	18.5	17.3	437,713	24.4	23.4 (1,869,417)	565,757	29.4	27.2 (2,077,852)
	At least 20.00%	272,053	17.8	20.7	363,053	22.4	23.1 (1,572,765)	434,680	25.7	25.6 (1,698,958)

Source: Reanalyzed raw data from the 2003 Household Survey (National Statistical Office).

4. Public Support for Child-Rearing Costs

The government has at its disposal a range of tools to maintain the fertility rate at an adequate level. The most representative ones include financial assistance programs, which can directly influence decision-making concerning family size, and legislative initiatives, which can influence the public's awareness and values with regard to marriage and childbirth. In addition, the government may also consider indirect measures such as promoting equal opportunity in the labor market, social mobility, and gender equality.

However, the prevailing opinion is that the process through which the government intervenes in individual families' decision-making to maintain or boost the national fertility rate is a very complex and delicate issue: many look askance on government policy on personal affairs such as childbirth and child-rearing. Furthermore, no one single policy tool can be expected to influence the fertility rate. Even one well-devised policy cannot effectively impact a family's plan to have and raise children. If the discussion on the effectiveness of existing policies on low fertility is any indication, the government needs to take a comprehensive approach to the removal of obstacles to having and raising children, while ensuring each individual's right of personal choice as to whether one will have and raise a child. In other words, policy tools for influencing fertility should address every aspect of the issue and respect individual families' choices.

Although the issue of how many and when to have children is far and away one of the most important decisions to a family, the root of empirical studies on the influence of policies on the decisions made about the number of children can be found in Becker (1960) and Leibenstein's

(1957) economic model (d'Addio & d'Ecole, 2005, loc. cit.). From the viewpoint of the economic model, the number of children varies depending on child-rearing costs at a given income level and personal preference. In other words, it is assumed that the substitution effect and the income effect are the major determinants of the number of children from the parents' perspective. In general, when the substitution effect is greater than the income effect, parents focus more on the quality of children than on their number. From this point of view, family size and child-rearing costs are negatively correlated. It logically follows that tax or cash assistance for child-rearing may have positive influence on the child-bearing plans and family size of individual families by reducing child-rearing costs and taking advantage of the income effect (d'Addio & d'Ecole, 2005).

However, policies that alleviate some of the financial burdens of child-rearing vary widely depending on the circumstances or personal preferences of individual families, because, for example, cash assistance has more influence on non-working women as compared to professional women, whereas stable long-term child-care leave has a more significant influence on employed women than on non-employed ones (Gauthier & Hatzius, 1997, Hakim, 2003). As pointed out in some previous Korean studies, there is insufficient data to empirically prove the correlation between child-rearing costs and the fertility rate. However, it is assumed that a negative correlation exists between these two variables in the discussion over demographic changes in most countries.

Prospective and current parents will choose to limit the number of children they intend to have if they think that the child-rearing costs are more than they can afford (Ringen, 1998). The most common policy tools in the OECD for alleviation of the financial burdens of child-rearing are tax and cash assistance (d'Addio & d'Ecole, 2005).

Traditionally, the state and society have provided financial support to families with children to keep them from falling below the poverty line and to help promote the all-around development of children in their home environment. Since tax and cash assistance policy directly influences the amounts of expenditures on children of individual families and indirectly influences their decisions to have children, these policies have become common, though there are some differences in the details among countries. In the Mediterranean countries, where female participation in economic activities is low and childbearing usually takes place within the universal institution of marriage, tax and cash assistance is more common than in other countries. By contrast, in Nordic countries, where female employment is high and births to cohabiting couples are common, these policies are used as a means to help individuals become economically self-reliant.

A. Cash Assistance

Although most OECD countries provide family or child allowances to alleviate the financial burdens of child-rearing, the scope of beneficiaries and level of assistance vary greatly. The benefits may be provided universally or to targeted groups based on meas-tests.

In recent years, some OECD countries have implemented new packages of cash assistance measures so that individual families may consider childbearing and child-rearing in a more positive light. For example, the French government has since 2004 paid 800 EU in lump sums to women who have given birth, and Italy has since 2004 paid 1,000 EU in lump sums to women who have given birth to second babies. In Germany, the government has strived to create a new culture in which child-rearing is the shared responsibility of the whole society. In 2004, the German government raised the social security burden on childless families, so that

the society shares the responsibility of raising children as a whole.

Since these financial supports are inadequate to alleviate the financial burdens of child-rearing in any significant way, they have been the subject of heated controversy. It should be duly noted in any discussion of cash assistance that any one-time cash grant that is small relative to overall child-rearing costs cannot be expected to have a direct impact on the fertility rate

B. Tax Assistance

Generally, tax assistance policies can be used for not only vertical redistribution of wealth between high-income and low-income households but also horizontal redistribution of wealth among households, eliminating income inequality due to differences in family type, size and the number of children in the household. As a consequence, individual families may decide on whether to work or not or how many children they will have. For example, if a government's policy is applied differently to married couples and cohabiting couples, the discriminatory distinction based on family type may lead to a decline in fertility.

The tax system can be used to economically support households with children by means of tax credits. To wit, financial support for the costs associated with childbearing and child-rearing is provided based on horizontal income redistribution from childless families to families with children depending on the number of children. Even in those countries that impose income taxes according to the principle of separate taxation for spouses, the government may realize an effect similar to that of joint taxation of extended families by allowing a special deduction for families with children or many children. Besides, as most social security programs are implemented on an individual account basis, virtually mixed forms of

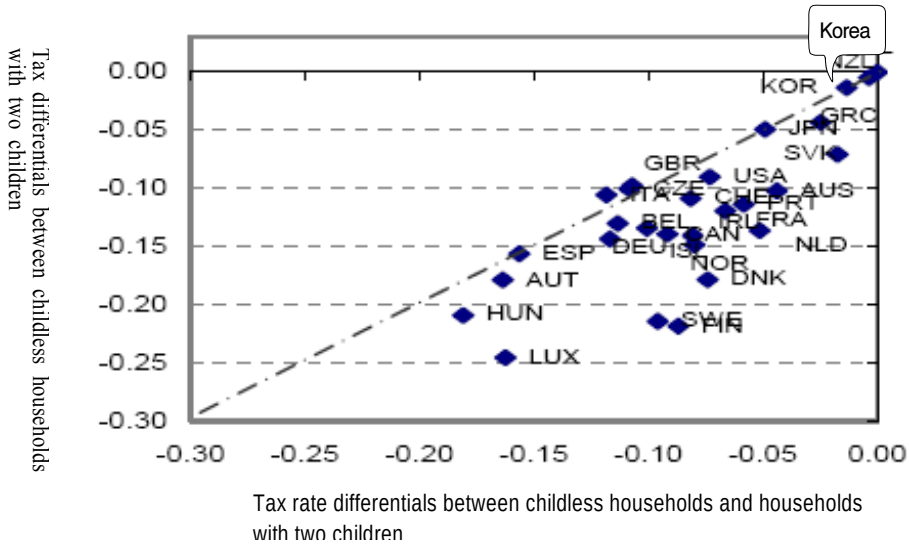
tax systems that effectively entail both separate taxation and individual taxation are implemented in all OECD countries.

The OECD report compared the effects of tax assistance by income level and cash assistance on dual-income households with children, childless dual-income households, and single persons. The results are shown in Figure 5-4 and Figure 5. In general, the current tax rates were found to be lower for households with children than for childless households, and these tax benefits were higher as the number of children in the household increases. Above all, tax rates by household type varied widely from country to country. When the income level is 100% of the average production wage (APW), tax benefits for two-child households were found to be the highest in Hungary, Luxemburg, Spain, and Italy with tax rate differentials of at least 15%. On the other hand, tax rate differentials based on household type were insignificant in Greece, Japan, New Zealand, and Korea. Nordic countries and the US, where fertility rates are at adequate levels, were in the middle level among the OECD countries in terms of horizontal income redistribution by household type through the tax systems.

In most OECD countries, married couples with children were found to receive higher tax benefits as compared with single persons. Especially in Denmark, Finland, and Sweden, the tax rate differentials between married households and unmarried households were the highest, when the income level is 100% of the average production wage (APW). Those countries also apply lower tax rates and provide a considerable level of tax credits to married households with children. However, if the income level of a household is high, the household receives less tax credits even though it has children. For example, when the income level is 100% of the average production wage (APW), the income tax rates of two-parent

households with children and one-parent households with children were found to be 25% and 15% lower respectively relative to that of childless households. However, when the income level is 200% of the average production wage (APW), they received tax benefits of only 15% and 10% respectively compared with childless households.

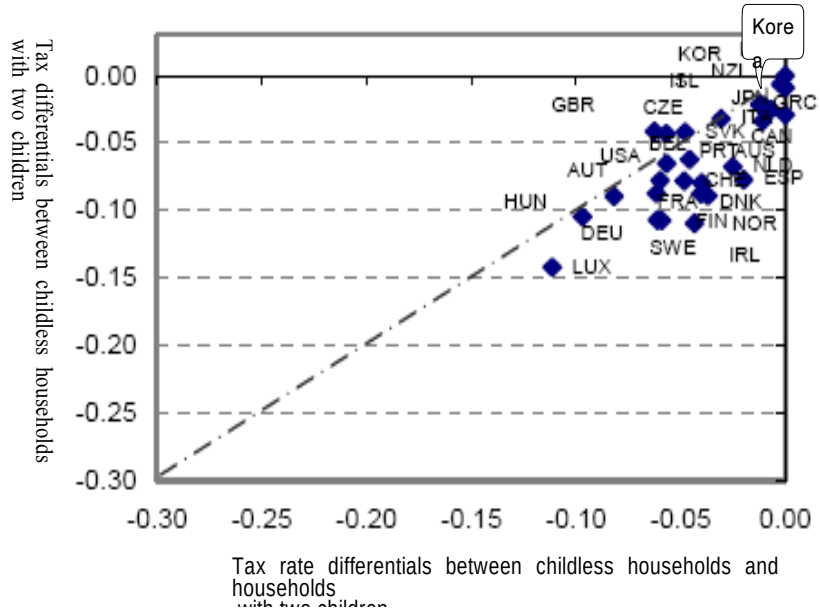
Figure 5-4. Tax benefits for Married Households with Children with Income Level at 100% of Average Production Wage (APW)



Note: The concept of the average tax rate engenders income taxes and the social security burden. Cash assistance was measured based on the amount provided to households with two children aged 4 to 6. The left Y-axis of the graph indicates the tax rate differentials between childless households and households with two children. Therefore, it can be considered that the higher a country's value is, the friendlier the tax system is to households with children. The X-axis of the graph indicates tax rate differentials between childless, single households, and single households with two children (This note also applies to Figure 5).

Source: Tax and Benefit models database, OECD (2004), d'Addio & d'Ecole, 2005, loc. Cit.)

Figure 5-5. Tax Benefits for Married Households with Children with Income Level at 200% of Wages of Average Production Worker (APW)



Source: Tax and Benefit models database, OECD (2004), d'Addio & d'Ecole, 2005, loc. Cit.).

5. Conclusion and Policy Implications

Unlike other OECD countries, Korea's low fertility is more problematic because the falling fertility rate and increased longevity are both serving to age the population at a rate higher than the country is prepared to handle. Low-fertility began to occur in most of the low-fertility countries in the west when economic growth had reached a sufficient level and they were

able to respond flexibly to the demographic changes. In Korea, however, demographic change is happening at an unexpectedly rapid pace, and the country is not socially prepared for low fertility and population aging.

While developed countries in the west employ universal child or family allowance systems to share the social responsibility for child-rearing and to alleviate the burden on individual families with children, Korea does not have such a system in place. Although Korea provides some form of partial tax relief, this assistance exists only as personal exemptions and educational expenditures, and the rate of income replacement through tax assistance is very low. To make matters worse, as polarization in living standards spreads to child-rearing, the disparity between the rich and poor grows wider.

Against such a backdrop, the government should introduce an effective cash assistance system for households that are delaying or avoiding childbearing due to the financial burden of it. The government should also implement policies that ensure all children equal opportunity for development regardless of their parents' socio-economic status. In addition, the government and society should take more responsibility for devising realistic support packages, taking into account the direct costs of children as well as the indirect costs such as the opportunity costs. At a time when female participation in social and economic activities is steadily increasing, women are able to increase their potential market income through self-development and the accumulation of career skills and experience by delaying childbearing. For this reason, the government should simultaneously proceed with various plans to alleviate the financial burdens of households associated with child-rearing. Such plans should address not only compensation for the direct costs of child-rearing but also improvement of the legal and institutional environment to help offset the

indirect costs of having children.

As a small but nevertheless important aspect, we should recognize the psychological benefits and achievements of child-rearing that are not readily quantifiable in monetary terms and go on to build a national consensus on accommodating these immaterial benefits on the part of individuals. It is the recognition of the immanent value of child-rearing that may form the basis for the state and society to share the financial burdens of child-rearing and for ensuring every individual's right to choice on childbearing.

Ⅵ. Low Fertility and Role of Social Insurance

1. Social Insurance as Counteraction against Low Fertility Rate

1-1. Logic behind Social Insurance Support for Parenting and Childcare

The logical basis for social insurance, among various policies, as a counteraction against birth-related costs is explained below.

First, making women qualified for the national pension and health insurance even during their maternity and childcare leaves is a clear acknowledgment of the social values of childbirth and childcare. These 'social values' pertain not only to the 'agreement between generations' that the future generation will support the present aged generation,'which is the basis for the public pension system, but also to the need to maintain or expand the size of Korea's labor force to continuously fuel its growth. These social values make it reasonable for society to cover the costs of childbirth/care.

For example, 'pension credit' allows pension subscription for women and exempts them from paying insurance premiums during their childcare leaves. Health insurance and long-term care insurance keep mothers and their babies healthy during the childcare period.

Second, since working women could not continue working during their childbirth and childcare periods, they lose income because they are actually unemployed and yet their qualification for unemployment benefits is

restricted. Thus, it makes sense that they be given employment insurance similar to those of the unemployed during their childbirth and childcare periods. Moreover, employment insurance should maintain and improve their productivity during childbirth/care through programs for job security and competency development. This assertion supports equal gender rights in terms of compensation, promotion, and employment stability despite women's childbirth/care.[12)]

Third, social insurance systems may be relatively effective in improving fertility rate because they prevent social disadvantages to women of childbirth and childcare by compensating them for economic losses during these periods, in the same way that political tools generally make up for the political disadvantages they suffer during these periods.[13)] If these systems are institutionalized, therefore, their subscribers will be aware of their rights or could expect to be compensated for their losses from childbirth and childcare. Thus, these systems will promote childbirth. In this respect, support by social insurance systems for childbirth and childcare will be more effective in improving fertility rate than support from government funds. Since the social insurance approach grants general benefits, however, it incurs more costs than the intensive approach for the target class using the government's budget. Thus, it is necessary to compare the costs and effects of the social insurance approach and the tax approach.

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12) According to Mincer and Polach(1974), two third of women who had the wage gap form male workers in the US had such disadvantages because their careers were interrupted by the childcare. Beblo and Wolf(2002) reported that the value depreciation of human capital due to the career interruption reached up to 33% per year in Germany.

13) Because of this, it is frequently called "Credit" system.

2. Foreign Cases

2-1. Childcare Pension Credit[14)]

A. Switzerland

Here, the income from subscription to childcare pension credit (a kind of additional point) is three times as much as the minimum pension in the national pension system. If a person works during the relevant period, his/her income during this period is added to his/her earned income. The maximum length of time during which the benefits shall be received is 16 years.

B. Sweden

A subject can select a favorable scheme among three schemes: a) the income in the year before a child is born, which is subject to the pension system b) 75% of the average income of all insurance subscribers 65 years old and below, which is subject to the pension system or c) the same amount as the base amount. The length of time during which these benefits shall be received is 4 years.

C. Germany

The income from subscription corresponding to the average income of all subscribers is applied. Moreover, if a person has part-time work during his/her childcare leave, his/her income from such work, up to the maximum income limit (about 180% of the average income), can be added to his/her earned income. The length of time during which these benefits shall be received is 3 years.

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14) Reference : Kim Su-wan (2004).

D. Austria

Insurance payment is cut during maternity leaves and childcare leaves, since mothers receive a maternity allowance (for up to 4 years per child) during these periods.

E. Italy

During a childcare leave for children8 years old or younger, insurance payment is cut for 10 months.

F. Luxembourg

The maternity allowance corresponding to 100% of the availer's previous income for up to 16 weeks is included in her income in the wage calculation. The childcare period that is accepted as the insurance subscription period is 24 months for one child and 48 months for two children.

G. Spain

The childcare leave is for 3 years. For the first year, the average income for the previous 6 months is accepted as the total amount of benefits.

H. Switzerland

For children 16 years old and younger, the national supplement, which is three times as much as the minimum pension, is accepted and is thus included in the wage calculation.

I. Other Credit Systems with Social Values

Credits for childcare or family support are considered social compensation for women's unpaid labor, in the same way that the military service and unemployment periods are included in the pension subscription period to grant compensation for service to a country and for weaknesses

in the social structure beyond individual shortcomings that have given rise to unemployment, respectively. The credits are applied to the periods without income due to disease, disability, or education, in most cases (Kim Su-Wan, 2004).

Table 6-1. Causes of Pension Credit Recognition in Foreign Countries

Country	Unemployment	Childcare	Parents Support	Disease/ Disability	Education
Australia	×	×	×	×	×
Austria	○	○	○	○	Recognized for survivor's annuity
Belgium	○	○	×	○	×
Canada	×	○	○	○	×
Switzerland	○	○	○	○	×
Denmark	○	○	?	○	○
Finland	○	○	○	○	Recognized from 2005
France	○	○	×	○	×
Germany	○	○	○	○	○
Italy	○	○	?	○	×
Luxembourg	○	○	○	○	○
Netherlands	○	○	○	○	○
Spain	○	○	×	○	×
Norway	○	○	○	○	×
Sweden	○	○	×	○	○
UK	○	○	○	○	×
US	×	×	×	×	×

Note: Requoted from Kim Su-Wan(2004)
Source : OECD, 2003. 11(ELSAC Conference Data)

2-2. Comparison of Maternity Leave and Childcare Support

Leaves before and after childbirth and childcare and systems that

compensate for income loss during these periods are executed in most advanced countries in the Western world. Income support during maternity leaves is mostly provided by health insurance systems, and during childcare leaves, by taxes, in accordance with the family policy (family allowance) of a government. The details of these systems are summarized in Table 6-2. Table 6-3 describes childbirth benefits in detail. These systems were devised to interconnect maternity leaves and childcare leaves with income support during these leaves, but the length of these leaves or the corresponding income support levels vary from country to country.

Since this paper focuses on income support from the social insurance system, it will concentrate on allowances before and after childbirth. Scandinavian countries generally provide long-term maternity leaves of about one year. Sweden allows childcare leaves for children with diseases until they turn 12 years old, as well as childbirth leaves through parental insurance. The UK and Italy allow relatively long maternity leaves of about 6 months and 5 months, respectively. Other countries allow maternity leaves of 3 to 4 months (14 to 18 weeks). While most countries allow maternity leaves, some countries are gradually allowing paternity leaves. Most countries compensate for 100% of the income or wage lost during childcare or childbirth leaves, up to a pre-determined limit. The income standard is the net income or basic salary in a number of countries.

Table 6-2. Comparison of Maternity Leaves and Childcare Support Systems

Country	Maternity Leaves (Weeks)	Childcare Leaves(Months)	Childcare Benefits(Euro/Month)	Children's Allowance(Euro/Month)
Germany	6+8	36	307(For 2-year benefits), 460(For 1-year benefit)	154
Belgium	7+8	3 (6 months extended for part-time workers)	536.65	68
Denmark	4+24 (additional 2 weeks for fathers)	10 weeks (additional 2 weeks for fathers)	Benefits system linked to income: Up to 395 per week(up to 1,580 per month)	131(0~2 years old) 119(3~7 years old) 94(8~18 years old)
France	6+10(additional 3 days for fathers)	36	No benefits for the first child	151 until a child becomes 3 years old, benefits through income check since then
UK	18~40	13 weeks	None	100
Ireland	4+4 (up to 14)	14 weeks	None	44
Italy	8+12	10 months(if a father uses 3 months, one month is extended)	30% of final income	Benefits linked to income level
Netherlands	4~6+10~12(up to 16 weeks)	13 weeks (applicable by hour)	None	53(0~5 years old) 64(6~11 years old) 76(12~17 years old)
Norway	12+39~49(additional 4 weeks for fathers)	42~52 weeks(additional 4 weeks for fathers)	80% of final income when 52 weeks are selected, 100% for other cases	103
Australia	8+8	24	436 for 30 months(6 months are extended when a father takes leaves)	105(0~9 years old) 124(10~18 years old)
Portugal	16	6	None	Benefits linked to income level
Finland	17.5(additional 1 week for fathers)	6months(additional 2 weeks for fathers	60%~70% of final income	90
Sweden	12(additional 2 weeks for fathers)	18(additional 2 weeks for fathers)	80% of prior income for 390 days and fixed amount(6.3EU/day) since then	99
Spain	16	36	None	24

Note: Requoted from Jang Ji-Yeon et al. (2004)

Source: MISSOC, Soziale Sicherheit in den Mitgliedstaaten der EU and im Europaisschen Wirtschaftsraum, Jan. 2001.

Moreover, some countries differentiate the amount of compensation for income according to the length of the leave or the individual's income level. When each social insurance system has an independent fund, the health insurance fund is applied. When all social insurance systems are managed by one fund, the social insurance fund is applied. A separate fund is managed for maternity leaves in many cases, though. In Sweden, employers or the self-employed separately raise the fund with an insurance premium of 2.2%, and employees and the government have no burdens. In other countries, the government covers a substantial part of this fund. In the UK, for instance, the government supplies 92% of legal maternity wages. The Austrian government also covers 70%. In Denmark, employers pay the amount of the maternity wage for the first two weeks and the local government covers the remaining amount.

The intervention of the government on wages during maternity leaves is relatively low in most Asian countries. Japan, however, provides wages during maternity leaves that are similar to those in advanced European countries. It supports 60% of the basic salary during three-month maternity leaves and childcare leaves from its health insurance fund. Nevertheless, such benefits are given only to employed women. Singapore allows 12-week leaves and 100% compensation for wages, but does not raise the fund using the social insurance approach. The benefits for 8 weeks are covered by the employer and for 4 weeks, by the government. The government has intensified its role, however, by covering the total benefits for 12 weeks from the third child in a family. Hong Kong allows 10-week leaves and grants 80% compensation for wages, but only employers are responsible for these benefits.

Table 6-3. Maternity Benefits and Parental Benefits of Health Insurance Policies

Country	Maternity Leaves	Qualification	Income	Fund
Germany	6 weeks each before and after childbirth	Female health insurance subscribers	100% of net income(up to 13 Euro/day. The excess is covered by an employer)	Partial support from the government
France	6 weeks before childbirth and 10 weeks after childbirth (8 + 18 weeks for the third child, 12+22 weeks for the twin. Additional 3 days for fathers)	10-month subscription + work for 200 hours for 3 months before pregnancy	100% of net income(up to 64.92 Euro/day)	Health insurance
Austria	8 weeks each before and after childbirth	Employed (separate policy for public sector and self-employed)	100% of wage	70% by the government + health insurance
Belgium	Max. 7 weeks before childbirth and min. 8 weeks before childbirth	Subscription for 6 months before childbirth	82% of basic salary for first 30 days, 75% of basic salary for 15 weeks since then(up to 101.21 Euro/day)	0.15% by an employer
UK	①maternity allowance: 26 weeks (from the 15th weeks before childbirth) ②statutory maternity pay: 26 weeks(from the 15th weeks before childbirth) ③statutory paternity pay: 1～2 weeks(selected by an employer) * ① or ② is selected.	Employees and self-employed ①Work for 26 weeks in 66 weeks before childbirth(min. 30 pound per week for 13 weeks) ② Employed by the same employer for 26 weeks(min. 77 pound per week) ③ Same as above (* ① or ② is selected)	① Basically 100 pound per week; for income less than 100 pound per week, 90% of average income. ②90% of average income for first 6 weeks; 100 pound per week for 20 weeks; for income less than 100 pound per week, 90% of average income ③ 100 pound per week: for income less than 100 pound per week, 90% of average income	92% for ②and ③ by the government(* 100% for small firms) + general social insurance
Ireland	18 weeks including min. 4 weeks before childbirth(up to 10 weeks)	Insurance payment for 39 weeks in total 12 months before maternity leaves(including 14 weeks before childbirth) * For the female self-employed, insurance payment for 52 weeks	70% of wage for working women * min. 151.6 Euro/week * max. 232.4 Euro/week	General social insurance

Table 6-3. Continued

Country	Maternity Leaves	Qualification	Income	Fund
Denmark	4 weeks before childbirth and 14 weeks after childbirth(2-week paid leaves for fathers), Parents share or extend maternity leaves within 52 weeks after 14-week maternity leaves, only before a child becomes 9 years old.	Work for 74 hours for 8 weeks before childbirth	3,203 Krone/week	To be covered by an employer for first 2 weeks and by a local government since then
Norway	42 weeks (100% of income) or 52 weeks(80% of income); min. 3 weeks before childbirth and min. 6 weeks after childbirth (* 4 weeks shall be used by a fathr. 'Father Quota')	Work for 6 months or self-employed for 10 months (one of parents meet the qualification)	100% of income depending on the length of leaves (65% for the self-employed) or 80%	General social insurance
Finland	105 days (from 50~30 days before childbirth); Parents allowance for 158 days since then to one of parents(additional 60 days for multiple births, additional 60~90 days for taking care of babies with diseases)	Residents	70% for those whose annual income is 26,720 Euro or less. Additional 40% of daily salary for those whose annual income is 26,721～41,110 Euro. Additional 25% of daily salary for those whose annual income exceeds 41,110 Euro (* min. 10 Euro/day)	Health insurance + tax
Sweden (parental insurance)	①parents' cash benefit for childbirth: 390 days + additional 90 days (*480 days for both parents until a child becomes 8 years old) ②pregnancy cash benefit: 50 days (60~11 days before childbirth) ③temporary parents' cash benefit: 60 days when a child below 12 years old or parent is sick *additional 60 days for children with diseases(not applied to parents with	Residents	① 80% of income loss for 390 days(min. 180 Krone /day, max. 646 Krone/day); 60 Krone/day for additional 90 days ②80% of income loss(min. 180 Krone/day) ③80% of income	No burden by employees. 2.2% by employers and self-employed for parents' cash benefits. (No governmental burden)

	diseases) *additional 10 days for fathers		loss(max. 294,700 Krone/year) * Tax imposed to parents' benefits	
Spain	16 weeks(parents share the weeks or hours)	Employees, insurance payment for 180 days for 5 years before childbirth	60% of benefit base	General social insurance
Italy	2 months(or 1 month) before childbirth and 3 months(or 4 months) after childbirth. Parental leave: 6 months before a child becomes 3 years old(* 3 months before a child becomes one year old); additional 6 months before a child becomes 8 years old	Employees, contract workers, self-employed	80% of salary for the employed 80% of income for the self-employed Parental leave: 30% of income (*if the income for additional 6 months is less than 2.5 times as much as the minimum pension, 30% of income)	Self-employed and contract workers share the burdens. Total amount for a specific worker is covered by the government
Portugal	120 days (including 90 days after childbirth) parental leave 15 days grandparental leave 30 days	Employees, self-employed. Insurance payment for 6 months	100% of average income(for 6 months before childbirth) (*Min.: 50% of minimum wage for the relevant job)	General social insurance
Netherlands	16 weeks each before and after childbirth(4~6 weeks before + 10~12 after childbirth)	Employees and unemployed	100% of income (max. 167.7 Euro/day)	General health insurance
Japan	42 days before childbirth + 56 days after childbirth	Employees	60% of basic salary	Health insurance

Note: The currency is based on 1 USD, 0.8 Euro for Europe, 0.56 Pound for UK, 7.31 Krone for Sweden, 6 Krone for Denmark.

Source: Social Security Administration and International Social Security Association, Social Security Programs Throughout the World: Europe, 2004

2-3. Parental Insurance of Sweden

Sweden is the only country where parental insurance from a separate fund compensates for income lost during childbirth and childcare leaves. The parental insurance is applied not only to the employed but to all residents, as the general insurance policy. Funds for parental insurance are raised from the insurance premium, which is true social insurance without government intervention. What is peculiar with this is that only employers pay the insurance and not the employed. The self-employed cover the total amount by themselves. Such parental insurance provides three kinds of benefits.

The first type of benefit is the parents' cash benefit for childbirth. Mothers initially have 390-day leaves, during which they suffer 80% income loss. Their minimum cash benefit is 180 Krone (about 24,000 KRW) per day, and their maximum cash benefit is 646 Krone (about 88,000 KRW) per day. They have an additional 90-day leave, during which they receive 60 Krone (about 8,000 KRW) per day. Mothers and fathers can share the aforementioned parental benefits within 480 days until their child turns 8 years old.

The second type of benefit is the pregnancy cash benefit. Mothers are entitled to a 50-day leave after pregnancy between 60 days and 11 days before their due date of childbirth. They suffer 80% income loss during this period, for which their minimum cash benefit is 180 Krone (about 24,000 KRW) per day.

The third type of benefit is the temporary parents' cash benefit. If a child or a parent is affected with a disease before the child turns 12, the parents are entitled to a 60-day parental leave. The parents suffer 80% income loss during this period, and receive the maximum benefit of

294,700 Krone (about 40 million KRW) per year. If a child is affected with a disease, mothers are entitled to an additional 60-day leave and fathers, to a 10-day leave. Taxes are seldom imposed on parental benefits

2-4. Social Insurance Policy of Germany for Work and Family Co-existence.[15)]

A. Maternity Leaves and Allowances

The Maternity Protection Act (Multterschutzgesetz) of Germany concerns the wages of all women who work in German territory. A separate act is applied, however, to public officers. The incomes of women in the farming industry or who have their own businesses are secured only up to sickness benefits for natural subscribers or voluntary subscribers of public health insurance, though. For housewives who subscribe to public health insurance as spouses of subscribers, only a maternity allowance, a fixed amount that is paid only once, is provided.

Maternity leaves may be taken for a period of 6 weeks and 8 weeks before and after childbirth, respectively. Maternity allowances are paid during legal maternity leaves before and after childbirth, replacing wages. Maternity allowances are paid from the disease fund for women who have subscribed to public health insurance. The maximum amount is 13 Euro/day, in proportion to the beneficiary's previous wage level (more accurately, her average wage for the previous three months). Employers cover the difference from wages. For women who receive unemployment benefits or aid or vocational training allowances, public health insurance pays the corresponding amount as maternity allowance.

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15) The contents of this section are partial summary of 『Tendency of Co-existence System between Work and Family in Advanced Countries and Political Challenges』 (Jang Ji-Yeon, Yi Jeong-Wu, Choi Eun-Yeong and Kim Ji-Gyeong, 2004. Korea Labor Institute).

B. Childcare Leave System and Allowances

The childcare leave system allows childcare leaves for certain periods and simultaneously secures income during these periods to help parents concentrate on protecting and caring for their children since childbirth. Korea's Maternity Leave Policy of 1979 allows maternity leaves until a baby turns six months old. Its Federal Childcare Allowance Act of 1986 specifies that childcare is the joint responsibility of parents and allows 12 months for childcare leaves and allowances. Through gradual improvements, childcare leaves were extended to three years and the allowance period was extended to two years since 1992.

The aforementioned policy was revised in 2001. Childcare allowances are now paid on the basis of the application of parents: the first application, for the period from childbirth to when a baby turns one year old, and the second application, for the period until a baby turns two years old. The beneficiaries can select favorable periods and allowances for themselves from two kinds of allowances: an allowance of 307 EURO per month for 2 years as the 'standard wage,' and an allowance of 460 EURO per month for one year as the 'integrated wage.'The childcare allowance fund is supported by the federal government or state governments depending on the application of the Federal Childcare Allowance Act or the State Childcare Allowance Act.

The term 'childcare leave' has been changed to 'parental leave.' Childcare leaves are flexibly administered by providing a variety of options, as described below:

a) Parents divide between them or jointly use childcare leaves until their baby turns three years old;

b) They reserve a part of their childcare leave (up to 12 months) with the

consent of their employers and use such part after their baby turns 8 years old; and

c) They work during their childcare leave, in which case their maximum working hours are extended from 19 hours per week to 30 hours per week, in accordance with the revision of the Act in 2001.

In 2001, about 95% of employed parents applied for childcare leaves for their children who were one year old or younger, and 97.5% of them were women.

C. Exemption from Health Insurance and Long-term Care Insurance during Childcare Leaves

Those who have worked as natural subscribers can keep their qualification during legal childcare leaves without paying insurance. Those who have worked as voluntary subscribers have to pay the insurance even during their childcare leaves. In the latter case, however, the insurance shall be at the minimum level specified in the Articles of Incorporation of each health insurance association. Those who are insured as dependents can keep their qualification during childcare leaves.

D. Employment Insurance during Childcare Leaves

Employment insurance is naturally applied during legal childcare leaves from Jan. 1, 2003, during which periods parents are exempted from insurance payment. A variety of employment-related information or services or vocational training opportunities are given during legal childcare leaves, depending on the employment insurance application. The employment insurance benefits are basically given only to those who are insured for 12 months in the past two years. Those who are insured for 12 months in the past six years combined with three years of legal childcare leaves are

considered qualified for employment insurance benefits, in accordance with revisions of the relevant acts.

E. Recognition of Pension Subscription during Childcare Leaves

Pension subscription during childcare leaves was recognized along with pension reform for the first time in 1992. Pension subscription for one year was allowed for children born before 1991, and three years for children born after 1991. Income from pension subscription is 100% based on the average income of all the subscribers every year, and the total expenses to compensate for pension subscription are appropriated from the general finances of a country. If a beneficiary subscribes to a pension scheme through his/her income-earning activities during the childcare period, however, the actual income from the annuity subscription is determined by adding 100% of the average income of all the subscribers, the income from the pension subscription, and the earned income. In this case, the regulation that the income from pension subscription, as added above, shall not exceed twice the average income, the maximum income specified by the law (revised in 1998), is applied. Pension subscription during childcare leaves is basically for those who are actually responsible for childcare. Parents also can divide between them or jointly use the childcare leaves.

Income from pension subscription during childcare leaves can be also increased. If an individual subscribes to the national pension scheme and works until his/her child turns 10 years old, his/her income from pension subscription is increased (revised in 2001). Such income, however, added to the additional points, shall not exceed the average income of all the subscribers. These benefits are applied to those who have subscribed to the pension scheme for at least 25 years.

3. Causes of Low fertility rate and Social Insurance Policy

3-1. Causes of Low Fertility Rate

The incidence of childbirth may be determined by related expenses and benefits. Many people avoid childbirth if they feel that the related expenses are more than the benefits. In this case, the society moves to ward slow fertility. Here, not only economic factors but also social and psychological factors affect the level of related expenses and benefits. A recent cause of low fertility rate is people's postponement of marriage due as well to their perceived higher level of related expenses compared to the benefits. Therefore, to raise fertility rate, expenses for marriage and childbirth should be reduced and the benefits should be increased.

The sudden decrease in Korea's fertility rate seems to have been caused by its late-1997 foreign exchange crisis. Together with this, a progressive party took power in 1998, and a citizens' group participated more actively in political decision-making. With these developments, gender equality sentiments spread rapidly among women, extending women's rights.

First of all, the foreign exchange crisis brought about a sweeping economic crisis. Changes in the market in the process of overcoming the crisis brought with it the tendency among people to avoid marriage and childbirth. The correlation between childbirth and changes in the market in the process of overcoming the economic crisis is as follows. As the labor market became flexible, irregular work expanded and the employment of young people who were at marriageable ages became unstable. The sense of uncertainty about the future increased, driving single people to postpone marriage and married people to avoid childbirth. Moreover, following the restructuring of aged workers, their offspring could no longer rely on their parents for their marriage expenses or education expenses. Economic

uncertainty thus increased, resulting in the avoidance of marriage.

Also, as economic difficulties and uncertainty about the future increased, lifestyles were changed, and young people had to work to prepare for their future or to educate their children. This resulted in men looking for employed women to marry, women postponing marriage to find jobs, and women avoiding childbirth to keep on working for a living. As women's desire for work increased, their desire for better jobs led them to invest more in education, causing their postponement of marriage and childbirth. Since the economic crisis, it has been observed that as women's education level escalates, they tend to put more value on building up their career than on childbirth or childchild rearing.

Decrease in fertility rate is a natural phenomenon that appears in the economic development process, as can be seen from the experiences of advanced countries. Korea has also been showing a gradual decrease in fertility rate with its development, but its fertility rate dropped drastically after its economic crisis. There is skepticism, however, surrounding the idea that fertility rate will increase if the economy enters the boom stage, because the tendency of people to avoid marriage and childbirth is not easily reversible, and non-economic factors also heavily affect fertility rate besides economic factors. Only with such premises as stabilized employment and predictability as well as a booming economy will the tendency towards marriage and childbirth emerge

3-2. Social Insurance Countermeasures to Low Fertility

Since there are many causes of low fertility, political countermeasures for each cause should be varied and integrated. To be discussed here are such causes and countermeasures to them, which are limited as political

measures that can cope with the issue through the social insurance system.

Reducing the economic losses or expenses related to marriage, pregnancy, childbirth, child rearing and child upbringing will be tantamount to the political measures for raising fertility rate. Families used to shoulder these expenses, but companies gradually went through a process of being burdened with these expenses, and recently, circumstances have turned towards government intervention. In cases when the government intervenes, economic resources for adopting measures to increase fertility rate can be raised through government taxation or the social insurance system. Sharing of taxation resources by the central and regional governments will be discussed in this section. In the social insurance system, such circumstances may be coped with through partial revision of the existing social insurance system and through a separate social insurance (the so-called parental insurance), similar to that of Sweden. After all, the decision will be made after determining which political measure is most effective in terms of efficiency and equilibrium in expense sharing.

Measures that are able to deal with issues concerning Korea's current social insurance system are as follows, according to the causes of low fertility. The first measure is the securing of women against economic losses from childbirth. Health insurance can be applied for expenses on tests before/after childbirth and during childbirth, hospitalization, and artificial insemination for promoting childbirth. Support can be as follows: by exempting the beneficiary from the social insurance bill (i.e., by giving her credit), which will guarantee her health and that of her child as she maintains her health insurance qualification during childbirth leaves; by maintaining her qualification for pension or securing her right to receive pension and by maintaining her qualification for employment insurance.

The second measure is the securing of women against economic losses

from child rearing after childbirth. By exempting women from paying social insurance premiums (i.e., by giving them credit) during the period of their temporary retirement for child rearing, they can be protected from social risks. Moreover, giving them financial aid will compensate for their financial loss during their child-rearing period and for their education/training expenses to maintain their productivity during such period.

The third measure is social insurance for expenses for using pre-school child rearing facilities, particularly for very young children who need to be taken care of until their mothers come home from work. Most countries support baby sitting or day care services as a form of social aid from their government's budget, and these tend to support women workers receiving incomes under a certain level. For extraordinary national support to raise fertility rate, however, a plan to offer financial services to all women by raising funds through social insurance has to be investigated. Fundraising using the social insurance method is some what in effective in terms of redistribution compared to taxation, but it can still be examined at the level of women's social right to rear children based on social solidarity.

The fourth measure is social insurance for part of childrearing expenses for school-age children. Most advanced countries give aid in the form of child allowance. Denmark, Austria, and the Netherlands give children an allowance until they are 17-18 years old. If all school-age children will be given an allowance, fundraising through the social insurance method can be examined instead of raising funds from taxation. Expenses for bringing up children until they become independent may affect decision-making for childbirth. Society must assume part of the responsibility for child rearing rather than putting all childrearing expenses under the family's responsibility. Socialization of childrearing expenses is necessary if the related social expenses are less than the social benefits. Plans to socialize

childrearing expense are in the form of social aid through taxation and social insurance through the contribution of social insurance bills. Social aid through taxation is often preferred, but active research may be needed to convert it to social aid through social insurance.

The fifth measure is examining countermeasures in the social insurance system to women's postponement of marriage and childbirth with the increase in the number of workers with irregular jobs as the labor market becomes flexible, employment becomes unstable, and the future becomes more and more unpredictable. Since there are many forms of irregular jobs, applying social insurance to them or not can be varied. Irregular workers are hired because of their low cost. Employers may prefer to hire workers who do not qualify for social insurance due to the expenses in the social insurance bill for irregular work. Therefore, a plan may be adopted that exempts employers from or reduces their insurance burden as they hire irregular workers, or a plan may be considered that prevents firing of irregular workers in advance by obligating social insurance application to irregular work. This is meant to promote even partial stability in life by getting rid of discrimination for irregular work in the social insurance system, so that workers with irregular work can cope with social risks as well as regular workers can.

Sixth, with the early retirement of aged workers, their offspring who are at marriageable ages tend to postpone marriage until they are economically independent. Therefore, a plan is needed whereby social insurance supports aged workers for not retiring and keeps them working. Delaying the withdrawal of aged workers from the labor market and letting them keep on working will stabilize society, especially young people's lives. Educational training in employment insurance should be made so substantial that aged workers can keep themselves productive and working.

Table 6-4. Causes of Low Fertility and Possible Counteractive Social Insurance Measures

Cause of Low Childbirth	Social insurance Countermeasures	Expected Effects
Economic loss from childbirth	· Exemption from the social insurance bill during maternity leave · Provision of substitute wages during maternity leave · Application of health insurance on expenses related to childbirth · Application of health insurance on expenses for artificial fertilization	· Social protection such as pension, health, and unemployment insurance during maternity leave · Reduced childbirth expense
Economic loss from child rearing	· Exemption from the social insurance bill during temporary retirement for childrearing · Provision of substitute wages during temporary retirement for children	· social protection during rearing period · reduced rearing expenses · maintaining competitive power during rearing period
Rearing expenses (before entering school)	· support expenses for using rearing facilities · support expenses for rearing after school	· induces women to employment continuously and maintains competitive power
Upbringing expenses (after entering school)	· support expenses for upbringing children (* upbringing expenses covers wide, such as educational expenses and living expenses etc.)	· raises fertility rate by reducing expenses for upbringing children
Postponement by increased irregular work(unstable employment)	· extended obligation in applying social insurance on irregular work · exemption or reduction of social insurance bill as employer hires irregular worker	· raises stability in life through social protection to irregular work → induces to marriage and childbirth
Instability of offsprings in the marriageable age due to early retirement of aged workers	· maintain income through the connection between contract for many years after retirement system, wage peak system, partial pension system and unemployment wage · enhance re-employment and educational training business in employment insurance system · support expenses for 'temporary retirement for education'	· raises stability in family through prolonging actual retirement time for aged workers

Educational training should be designed as an investment in human resources before their productivity drops. Temporary retirement for education for aged workers similar to the child rearing leave system should be adopted, as should a method of raising funds from employment insurance to cover expenses for temporary retirement for education. To postpone the retirement of aged workers, a method may be adopted that employs 'contracts many years after retirement' and 'wage peak' systems, and aged workers may be given partial official pensions to complement their reduced wages. Before they reach the age when they could receive an official pension, however, giving them partial support from employment insurance funds in the form of unemployment allowance may be considered.

4. Alternative Political Plan: Improving the Existing Social Insurance System

4-1. Employment Insurance

A. Leave Allowance before/after Childbirth

Clause 72 of the Labor Standard Act requires employers to grant their pregnant female employees (regardless of the type of their labor contract) maternity leaves of more than 45 days after childbirth and 90 days before childbirth. For the 90-day leave before/after childbirth, the total amount of wages for the first 60 days should be paid[16], and the employment

16) In Labor Standard Act, usual wage includes basic wages that are set to be paid for the certain working hours regularly and equally and fixed wages that are set to be paid during wage estimation period.

insurance pays the amount for the remaining30 days. The maximum payment is 1,350,000 won a month. The condition for receiving a leave allowance is to take a leave of more than 180 days before/after childbirth.

Most advanced countries offer allowances in the form of' maternity cash benefits' from health insurance. In Korea, however, employment insurance compensates for women's lost income from childbirth/child rearing partly in the form of a cash-type compensation wage. Health insurance in Korea is extremely limited in terms of paying cash[17], and the financial situation of the insurance has been unstable all the time so that employment insurance, that has maintained the black, had to burden the allowance

Because only one-third of the amount needed to pay female employees substitute wages during/before/after a maternity leave is shouldered by employment insurance funds, companies avoid hiring women. This is an obstruction to gender equality in employment and has a negative impact on raising the fertility rate. Many people are coming to agree that society has to shoulder the burden of expenses before/after childbirth leaves. Through conferences of the party last April 21st, 2005, a yearly social burden plan was made.

The first step in the plan stipulates that society should shoulder the full amount for 90 days for small- and medium-sized enterprises (who receive preferential support under the Employment Insurance Law) from 2006, so that small- and medium-sized enterprises with low enforcement rates of before/after childbirth leave scan share the actual benefit. The second step is to socialize the full amount before/after a childbirth leave, including for

17) Current cash allowances in health insurance are 'the upper limit of the person' system that is to compensate exceeded amount when the expenses burden to the person excesses certain upper limit in the law and compensation for funeral.

large enterprises, after 2008. In line with this, revision of related laws has been ongoing since end-April 2005. The Environment and Labor Assembly of the National Assembly has already passed the laws.

Under the government's plan, however, non-working women, to whom employment insurance does not apply, still have to shoulder the full expenses of childbirth/rearing. This can bring about disequilibrium in that male workers in single-income families end up partially shouldering the childbirth expenses of female workers in dual-income families. Giving the same childbirth compensation to housewives in single-income families is not fair either, since in dual-income families, the wife and the husband share the burden of paying for employment insurance bills.

In developing a compensation system for expenses to induce women in single-income families to give birth, the disequilibrium issue may need to be examined in terms of the financial burden and social value of childbirth. Financial resources needed to grant general maternity leave allowances to both working and non-working women may have to be assigned equally among employment insurance, health insurance, and the national treasury. Since most advanced countries offer maternity leave allowances through health insurance, Korea could consider a similar method, but the financial resources can be raised from employment insurance funds.

B. Allowance for Temporary Retirement for Child Rearing

Allowance for temporary retirement for child rearing is meant to allow sufficient nurture of infants under one year old by enforcing a child rearing leave of more than 30 days, during which time the parent shall be entitled to a wage of 400,000 won a month until his/her baby turns one year old. Such allowance supports clause 9 of the Equality of the Sexes

Law. It gives an allowance for temporary retirement for child rearing encouragement of 200,000 won a month to employers who hire women more than 30 days continuously after the end of their child rearing leave. It also grants an additional 100,000-150,000 won to employers who hire workers to replace those on temporary retirement for child rearing for more than 60 days and to rehire women who have temporarily retired for child rearing for more than 90 days continuously, for cases when employers do not fire the workers three months before hiring replacement workers and six months after hiring them.[18] Such amount is equal to 100,000 won for large enterprises and 150,000 won for small- and medium-sized enterprises, which are the preferred support targets. The only condition for receiving an allowance for temporary retirement for child rearing is to take a leave of more than 180 days.

The number of temporary retirement leaves for child rearing, compared to the number of before/after childbirth leaves, is on an increasing trend, up by 16.8% in 2002, 21.2% in 2003, and 24.1% in 2004. The ratio of temporary retirement leaves for child rearing to before/after childbirth leaves is expected to increase as the burden of employment insurance funds grows. Incidentally, 400,000 won a month may not be very attractive for husbands and wives who must work together for a living, but very attractive for working women with low incomes. For relatively well-off families, the leave duration would be a greater incentive than the amount of the allowance. Therefore, adjusting both the leave duration and the allowance amount offers more incentives for temporary retirement for

18) The temporary retirement for rearing system prepared a legal basis by the 「Equality of the sexes law」 in 1987, and expanded the target to men for the temporary retirement for rearing in the law revision in 1995. Also, since running the paid system for temporary retirement for rearing from 2001, allowance has been continuously on increase as 200,000 won at the beginning, 300,000 won in 2003, and 400,000 won in 2004.

child rearing for working women, and may even stimulate childbirth.

In Korea, the duration of temporary retirement for child rearing is until the baby turns one year old. This is shorter than in Germany, France and Spain, which allow temporary retirement for child rearing until the baby turns three years old, but longer than in Great Britain (13 weeks), Ireland (14 weeks), Denmark (10 weeks), and the Netherlands (13 weeks). The reason why some countries have short periods of temporary retirement for child rearing may be their development of good facilities for rearing infants. In Korea, there are few places where children can be left, and their conditions vary in accordance with the living conditions of nearby families, so that limiting the period to one year for all may pose a problem. It may be desirable to allow parents to decide on the period of their temporary retirement for child rearing up to the age when their child enters school, and to lengthen the period if child rearing facilities are lacking. A plan can especially be considered to lengthen the period of temporary retirement for child rearing without wages, because there is a class that responds more sensitively to the duration of the leave than to the amount of the leave allowance.

The allowance for temporary retirement for child rearing is fixed at 400,000 won a month. This amount may have to be converted into wages using the regular ratio. In advanced countries, the converted income using this regular ratio is greater than the fixed amount. Giving the general fixed amount to employment insurance subscribers is effective in terms of redistribution, but lacks consistency between systems compared to giving wages for before/after childbirth leaves in proportion to the general wage level. In other words, in compensating for child rearing expenses during the period before/after childbirth and child rearing, paying a fixed amount is appropriate if the principle is to give approximately the same amount for

any child. On the other hand, if the principle is to maintain the living conditions before childbirth, giving a fixed amount in proportion to income will be more appropriate. Giving an allowance for temporary retirement for child rearing may also cause disequilibrium between single-income families and dual-income families in that workers in single-income families will end up cross-aiding women in dual-income families. Therefore, in raising compensation for child rearing expenses in the social insurance approach, a method must be considered that supports non-working women.

It will also be desirable to run programs for maintaining part-time work or productivity during temporary retirement for child rearing. Part-time work should be made possible during temporary retirement because career capacity can drop during this period and women can fall behind amidst rapid technological changes. Moreover, adding up the part-time wages and the temporary retirement allowance may help fully meet the expenses for child rearing. Educational training programs have to be especially supported to maintain and improve female workers' productivity during childbirth/rearing leaves.

C. Employment Insurance Credit during Childbirth and Temporary Retirement for Child Rearing

In Korea, one should work more than 180 days in a place of business that is insured with employment insurance 18 months before one loses one's job to be eligible to receive unemployment wages. Similarly, to receive wages during before/after childbirth leaves, one must have more than 180 days of being insured with employment insurance before the end of the leave. This means that the period of a pre/post-childbirth leave is included in the qualification for receiving a leave allowance. The period of a pre/post-childbirth leave, however, will not be included in the

qualification to receive unemployment wages, so that a plan should be promoted whereby the period shall be accepted as credit.

A scheme may be considered whereby employers pay wages for two-thirds of the period of a pre/post-childbirth leave and employment insurance supports the remaining one-third, so that women can maintain their eligibility for employment insurance as they pay for employment insurance in proportion to the paid wage during their leave. Otherwise, they may be exempted from paying insurance bills during their leave period.

Financial resources from employment insurance funds or the national treasury may be considered, but not from national taxes, because only a limited number of female workers will benefit. Of course, there will still be an imbalance of benefits among workers who are entitled to employment insurance when such funds compensate for childbirth/rearing expenses. If the social value of childbirth and women's work surpasses the equilibrium issue, supporting such compensation with taxation may be appropriate. Giving credit for the period of temporary retirement for child rearing may cause even more serious disequilibrium, since there are fewer female workers who will benefit in comparison to maternity leaves. Nevertheless, if greater social value is given to childbirth, credit by taxation could be supported. Social disequilibrium will only be solved, however, if the benefits of temporary retirement for child rearing are extended to many female workers, and if a regular compensation is given to non-working women for child rearing.

4-2. Pension Insurance: 'Pension Credit for the Child Rearing Period'

Allowing credit for the child rearing period will be a core task in

pension insurance. The revision of the National Pension Law for childbirth credit has been raised to the National Assembly. Such proposed revision stipulates that credit be allowed for 12 months when a woman gives birth to her second child, and 18 months for her third or later children. The proposed allowance level is 100% of the average income of insured women. One of the parents can have an 'additional insured period' for childbirth. This reflects the intent to offer the benefit to all parents, whether working or not. The required financial resources can be borne partially or in full by the country through its national pension funds. A method that supports wages when pension is received is selected as a credit-supporting methodology.[19)]

In the long term, credit for the child rearing period for official pension subscribers should take the following direction.

First, the target for allowing credit for the child rearing period should not only be women who are responsible for child rearing, but also men. It should also be applied to people who subscribed to pension insurance for special jobs as well as to those who subscribed to the national pension. A more conservative method is to allow credit for those who are the targets of pension participation in the law, for pension subscribers who do not pay insurance bills, for the social distribution of childbirth value, and for pension subscribers who pay insurance bills. Thus, the blind spots in pension participation must be removed and people's right to receive them in the future must be promoted.

Second, the standard for allowing pension credit for income should be

19) For reference, the required finance estimated by the Research Institute of National Pension is 15 hundred billion won in the year 2005 and 28 hundred billion won in the year 2070, and expenditure occurs after the year 2030. On the other side, if credit is supported by insurance bill, the required finance is estimated 330 billion won in 2005, 380 billion won in 2020, 436 billion won in 2050, and 450 billion won in 2070.

the average income of all the subscribers, to promote neutrality in pension finance. Following this concept, there will be more incentives for subscribers with incomes below the average income level. In reality, benefits for temporary retirement for child rearing will be given to women with relatively high income. This is why the credit from the average income standard is appropriate. More than anything, however, the income-allowing standard should be established in consideration of the value of credit and its inducive effect on childbirth. The annual insurance bill from an average-income standard (1,500,000 won a month in 2005) is 135,000 won a month, and 1,620,000 won for 12 months. The monthly amount (e.g., 50,000 won/month) must be fixed if it is too much, or else the amount of the maternity leave allowance and the allowance for temporary retirement for child rearing must be considered as the standard of allowing income.

Third, the period for allowing credit should be connected to the period of childbirth and temporary retirement for child rearing. Therefore, the allowed period may have to be decided upon in accordance with the period of temporary retirement for child rearing. As of today, the issue is whether or not the maximum period will be 12 months and whether or not credit should be allowed for the first child. There may be a need to consider allowing credit for the first child, as people tend to postpone childbirth even when they are already married. Giving credit for the third or later children may be considered positively if a relatively long-term retirement period for child rearing without wages is allowed. The credit system will grant benefits for a long time and may relatively not be misused much.

Fourth, there are two methods of raising the needed financial resources. One is through the national treasury, with respect to the insurance bill

share that corresponds to the standard for allowing income. The other is to exempt the beneficiary from paying insurance bills during the credit period and to support her pension wage expenses corresponding to the credit when people receive pension from the national treasury. For the former method, the national treasury funds are applied from the time the system is enforced, and in the future, the pension wage expenses corresponding to the credit should be raised from the insurance bill by the future generation. In the latter method, the national treasury funds are not applied in the beginning, but future additional pension wage expenses will be supported by the national treasury. As a general rule, the former is more appropriate. It must be considered, however, that the government bears the amount in excess if the amount of the additional pension expenses exceeds the amount of the government's insurance support in the future because of the credit in the former case.

4-3. Health Insurance

The government may pursue or consider pursuing the following policies from now on to raise Korea's fertility rate.

A. Extended Insurance Allowance for Sterility

Currently, sterility diagnosis tests and ovulation induction drugs are paid for by insurance allowance, but medical treatments (test-tube babies, artificial fertilization) are not. From 2006, health insurance shoulders 50% of medical treatment expenses (3,000,000 won on the average) two times per person for husbands and wives who do not have a child until a year after their marriage. Women should be under the age of 44, however, diagnosed as fertile, and have incomes 60% below those of average

city-workers. The national treasury supports the financial resources. These may be very limited, however, in terms of encouraging child fertility rate increase.

B. Vaccination for Infants

Currently, vaccination is offered partly free in Korea through public health centers. People prefer general doctors' clinics, however. Aside from basic vaccinations, optional vaccinations are also given. These impose economic burdens. Thus, health insurance should be applied (free of charge) to basic vaccinations even when they are availed of in private medical institutions, and financial resources for such should come from the national treasury. The cost of optional vaccinations may then be shouldered by individuals.

C. Expansion of Health Insurance Allowance related to Pregnancy and Childbirth

In 2004, health insurance allowances in Korea were expanded relatively significantly as follows: for spermatic/oviduct restoration operations (July 2004), for major tests (for child deformations and German measles) before childbirth (December 2004), for the full cost of individuals' natural childbirth (January 2005), and for the full cost of the treatment of premature and congenitally abnormal babies (January 2005). No allowance was extended for vasectomy and oviduct intermission surgeries, however (December 2004). Health insurance allowance must be further expanded, however, to cover the cost of major tests before childbirth, such asamniotic fluid tests, NSTs (health checksof unborn babies), glucosuria for pregnancy tests, and villosity membrane tests. Moreover, the time in which to apply for insurance allowance for supersonic wave tests before childbirth

has to be moved forward (e.g., to 2006).

D. Reduction of Individuals' Burden for Medical Treatment for Children

A plan to exempt legal individual shares of medical expenses for hospitality for children under six years old has been proposed. Moreover, a plan to reduce the individual share amount for children under 18 years old to the same amount for 65-year-old people is under examination.

E. Health Insurance Credit

Unlike with the national pension and employment insurance, one can maintain one's eligibility for health insurance during the temporary retirement period for child rearing, at the end of which the insurance bill should be paid. Paying the health insurance bill from the standard income before the temporary retirement, regardless of whether or not the beneficiary was receiving a wage during his/her temporary retirement for child rearing, represents an economic burden to the person who has temporarily retired to rear his/her child. Therefore, s/he should be exempted from paying the health insurance bill during this period and it should instead be treated as a credit to be paid for by the national treasury or health insurance funds. Otherwise, a method may be considered whereby one pays insurance bills from the standard allowance for temporary retirement for child rearing (400,000 won currently), which is given as an insurance benefit.

Another problem is that the more members a family has, the greater is the amount of the insurance bill that should be paid, in cases of current regionally participating families with incomes of below 5,000,000 won. This poses disadvantages to families with many children. Therefore, the health insurance bill levy system for families with many children should be reformed

so as not to burden these families with additional health insurance bills.

Incidentally, there is skepticism as to how effective partial relief from health insurance payments will be in encouraging childbirth. A positive effect is expected when medical expenses related to childbirth and child rearing become almost free of charge, by charging such expenses to insurance allowance. There is a controversy, however, as to whether or not such expenses should be compensated for first over protection from other serious illnesses. Moreover, the effectiveness of such benefit on raising the childfertility rate should be examined.

5. Adoption of a New Social Insurance System (Tentative Name: Childbirth/Child Rearing Insurance) to Raise the Fertility Rate

Various plans to encourage childbirth in the existing social insurance system have previously been suggested and examined in this paper. This section will examine methods of coping with the new era of low fertility rates through a new social insurance system, tentatively called 'childbirth/rearing insurance,' by unifying several childbirth encouragement methods.

5-1. Examination of the Appropriateness of Social Insurance to the Low Fertility Phenomenon

Childbirth itself should be considered a blessing rather than a social risk. Judgment on this would be made, however, based on whether expenses related to childbirth are viewed as social risks or not.

The four major risks under the existing social insurance system are

aging, disease, industrial disaster, and unemployment. Among these, industrial disaster is a risk in itself and causes expenses, so society must cope with it. Unemployment and aging are not risks in themselves, but become so because of the discontinuance and loss of income. These also require public countermeasures.

A risk, to be considered a social risk, must be difficult for an individual to block. Childbirth tends to be decided very much by individuals, however, and should thus be critically considered a social risk. On the other hand, from the point of view that marriage and childbirth happen by pressure of social habits, it is not proper to consider expenses for childbirth as an outcome of one's will. From this viewpoint, expenses for childbirth may be considered social expenses and may be approached as a target for social insurance. Therefore, there is a limitation in making a clear decision as to whether or not expenses related to childbirth can be considered social risks.

5-2. Various Aspects of Childbirth and the Possibility of the Socialization of Insurance

From the economic point of view, people usually avoid childbirth if occasional expenses such as direct and indirect expenses for child rearing exceed the expected benefits. To reduce individual child rearing expenses, the possibility of using the social insurance system as a means to cope with this issue in advance should be considered.

First, compensating for child rearing expenses through the social insurance system will heighten expectations of reduced child rearing expenses because such compensation will be seen as a right, and will ultimately affect decision-making for childbirth. From this viewpoint, such a

benefit takes on the character of a 'child rearing insurance,' of which the limit and period in which child rearing expenses will be compensated for will be an issue.

Second, since women suffer economic losses during their child rearing period, or in other words, loss of income, reduced competitive power, and disadvantages in employment, they tend to avoid childbirth. Due to this, a type of social insurance that maintains income (wages), compensates for economic loss by improving career capacity, and supports educational training for sustained career competitiveness carries the character of 'women's insurance.'

Third, if a woman gives birth to a child in a state in which she and her spouse lack responsibility as parents, such shortsighted attitude causes obstacles to healthy development and child rearing. A type of social insurance that would protect children from social dangers that are obstacles to their growing up as healthy members of society may carry the character of 'parents' insurance' or 'child insurance.'

On the other hand, childbirth/rearing insurance can be compared with long-term convalescence insurance for aged people, which is the fifth type of social insurance. Recently, Germany (1995) and Japan (2000) adopted the long-term convalescence insurance system as a means of protecting old people who suffer from functional abnormalities in their everyday lives. Korea is also politically preparing to adopt the long-term convalescence insurance system (otherwise known as the 'nursing security system') in July 2008. Such move has been criticized, however, such that it is critical to know which of the two forms of insurance is appropriate, because long-term convalescence is a social risk and can be a target of social insurance, and should thus be approached as a form of social insurance rather than as welfare for old people or the disabled. Nevertheless,

practical and political logic may have a more significant effect than theoretical logic in adopting the system as a form of social insurance. Therefore, two methods may be examined: one, a method of coping with the system from each of the four existing social insurance systems, and the other, a method of integrating the system as a special childbirth/rearing insurance.

5-3. Mechanism of the Childbirth/Child rearing Insurance

The mechanism behind the childbirth/rearing insurance is based on the following logic. Benefits from the same insurance go to families with more childbirths. If financial resources are increased in proportion to income, low-income families will benefit more from the 'redistribution effect.' Moreover, since women who do not pay for insurance have no benefit during childbirth, this system is expected to promote childbirth as it induces women to marry and bear children. Here, women who cannot have children are unfairly burdened, but they would benefit more than they would be burdened if they receive a pension and a long-term recuperation allowance in their old age. Of course, both women who cannot have children and who choose not to have children will contribute to the financial resources needed for such benefit in case taxation would be made to compensate for child rearing and upbringing expenses.

On the other hand, the redistribution effect of the abovementioned benefit may be weakened if the fertility rate increases as income rises. Unlike other social insurance systems, however, the political effect (i.e., child fertility rate increase) can be presented as evidence, as financial expenses increases in the childbirth/rearing insurance. This is a possible insurance for 'good risks.'

5-4. Ideas for the Childbirth/Rearing Insurance System

The range of allowances for the same insurance, including political measures in the social insurance system that correspond to the existing low fertility rate, includes: a reserve allowance (supporting living expenses in preparing for childbirth), a substitute wage allowance during temporary retirement for child rearing, an allowance during the period of child rearing, support for child rearing expenses (i.e., use of child rearing facilities), support for child rearing expenses after school, support for credit expenses to maintain eligibility for social insurance, and other government measures to address low fertility. These allowance may include cash allowances (direct compensation to the subjected person), allowances in kind (payment for the use of child rearing facilities), vouchers (payment for the use of facilities chosen by the participant), and so on. Various combinations are possible according to the kind of allowance.

The target recipients are all women who have given birth. This insurance may be initially applied to working women and the target expanded as the circumstances are rife, step by step. At this point, the required financial resources should be flexibly taken care of by the targets for application, to resolve the equilibrium issue. If possible, approaches should be adopted that are based on gender equality, so that men could also benefit.

A plan to set a regular ratio of wages to financial resources may be considered, and the health insurance levy system may be utilized for employees with no wages.[20] For managers, it would be more efficient to

20) If insurance imposes 1% of wage(05.% by each labor and capital), the estimated amount is 28 hundred billion won from companies in the year 2005, 1 thousand billion won from region, and the sum total is 38 hundred billion won. If national treaty appropriates the support by 1/4(12 hundred billion won), the sum total becomes 5 hundred billion won.

utilize existing public social insurance corporations and government organizations, rather than to create a separate organization. It is more desirable for childbirth/rearing insurance to take on a limited financial role in managing financial resources, and for insurance allowance to support childbirth and child rearing, rather than to have a separate management organization.

Among the advantages of adopting childbirth/rearing insurance are the profit to be gained from forming coherent policies through dispersed programs in each department and system, and the ease of visibly promoting the policy for raising the fertility rate. Raising finances from insurance, not from taxation, will help promote social solidarity in raising the fertility rate. Especially, various support measures, including compensation for child rearing expenses, differently support each income class. Childbirth/rearing insurance may face many obstacles in terms of selecting targets in current circumstances in which grasping income levels is difficult. From this viewpoint, social insurance will be advantageous as it is a general allowance method. Moreover, adopting the social insurance system will be more effective in inducing investments in child rearing facilities than would the taxation method.

Childbirth/rearing insurance has disadvantages and obstacles as well as advantages, though. A new social insurance system will bring about a sense of resistance as it imposes a burden on people. Moreover, it is inferior to taxation in terms of equilibrium in the share of financial resources and allowances. A new insurance bill may not be undesirable, however, since the insurance bill levy system in the social insurance system is still unstable. Therefore, a complementary device for the unfairness of the insurance bill burden and benefits must be developed, and it must be approached step by step from practically all possible

administrative angles. The viability of imposing a childbirth/rearing insurance tax must also be studied as a complementary fund-raising plan to make up for the blind spots in the existing health insurance bill levy method.

Ⅶ. Gender Equity within Family and Low Fertility

1. Introduction

1-1. Current Situation of Korea

Korean society rapidly became an aging society and is expected to reach aged society in 2018. Given the fact that Korea has already reached an aging society in 2000, it implies that only eighteen years is needed for Korea to move from an aging society to an aged society.[21] The rapid increase of elderly population is not only due to the rise of the average life-expectancy rate but also due to demographic changes caused by low fertility. It is no exaggeration to say that Korea is experiencing a hard time finding countermeasure to mitigate low fertility. In spite of continuous countermeasures put forth to uplift the fertility rate, the escape from being a nation with the lowest fertility rate (1.2 births per woman) since 2000 seems not so easy.

Since such a low fertility rate is caused by multiple and interrelated factors, any attempt to make a diagnosis of the situation properly needs a systematic approach. Here, I will only discuss a point that in order to mitigate the low fertility rate.

First, we need to consider the pre-marital period which demands both a diagnosis and solution on the low marriage rate. Given the social norm of Korean society which accepts childbirth only within marriage, a low

21) An aging society is said to be a society where more than 7% of the total population is elderly people whereas an aged society has more than 14%.

marriage rate or an increase of marriage age directly effects low fertility. On the one hand, a low marriage rate is grounded by the change in people's lifestyle followed by the spread of 'individual values'. As a gap between gender equity thinking and established family norms has widened, young generations, especially young women, no longer consider a family through marriage as a required or preferred choice. On the other hand, a low marriage rate is directly related to a prolonged economic recession, especially with a high unemployment rate of young people which seems to delay marriage. Taking into a consideration that 'dual-earner couples' is a widely accepted marriage relationship among young people and the changes in gender role expectation of couples, the low prospect of employment has also influenced women's decision to delay marriage. As a result of the changes in spouses' role expectation, of gender equity thinking, and in lifestyle which is also called the second demographic transition, the meaning of 'work' for women now became almost equal to that of men.

Second, a precise diagnosis and a solution for married couples having children below the replacement fertility rate are needed. Korean society's high educational anticipation is easily associated with the high cost of child-rearing and the desire for ever-higher family income. The inadequate social support for individuals pursuing both work and family increases the burden of child rearing to individual families, especially to women who bear the most of care-taking work. Among the developed countries, the fertility rate is relatively high in the countries where a social system to reduce the burden of child-bearing and child-rearing is well established whereas it is relatively low in the countries lacking such a system. Thus, a social system for child-care which makes pursuing work and family at the same time compatible must be continuously promoted and supported. If and only if the overloaded burden of existing family life is alleviated by

the social support, the risks of women's career disruption fade away, and gender equity takes root, then the marriage would be considered as an attractive life cycle for young generations as well as for those who are already married.

As low fertility is viewed as one of the social crises, this paper starts from Folbre (1997)'s diagnosis that "present day low fertility phenomena are caused by the failure in socializing reproductive labor." Currently, the opportunity cost of reproductive labor or care-taking must be bore by the primary actor making her to be much more disadvantaged in a competitive society. Men, people who are not parents, employers, and the state have wanted women, parents, employees, and individuals to pay the opportunity cost of care-taking. A direct result from this unequal sharing of the responsibility of care-taking is the tendency to seek a reduction of the burden and the objects of care-taking, that is low fertility phenomena (Lee, et als., 2005).

To resolve the work-family conflict, this paper reiterates gender equity within the family role division as well as the social support, among other things. Care-taking of new generation must be recognized as a work that a society and individuals perform together, as well as men and women, namely fathers and mothers together. Accordingly, this paper focuses on the unequal role division in family relationship as one of the frameworks explaining the extreme low fertility phenomena in Korean society. In doing so, the paper seeks to diagnose the level of gender equity in the house work division among dual-earner couples. Such findings are expected to illuminate what Korean society consider the ideal family, marriage, and work to be and the gap between ideals and the reality.

2. Research Question and Method

2-1. Research Question

This study is composed of two parts. I will first examine gender equity of married couples in the Korean family system. Specifically, this paper focuses on the daily time use of couples found in the "1999 Time Use Survey" conducted by the Korea National Statistical Office. Second, I will observe the relationship between childbirth planning and gender equity of married couples. In other words, I will examine the factors affecting the women's intention to have children in Korea. For this, I have analyzed the "2005 National Survey on Marriage and Fertility Trend" of the Korea Institute for Health and Social Affairs and the "2003 National Family Survey" of Korea Women's Development Institute as a secondary source. The detail explanations are as follows.

First, to explore gender equity of married couples, I will examine the daily time use of dual-earner couples. 'Work', 'family', and 'leisure' are three main temporal categories that make up people's ordinary daily life. These three categories interfere with each other and change through out life cycles. Thus, focusing on dual-earner couples as the unit of analysis, this paper examines how daily time use changes as individuals go through family cycles. Through the processes of match making, marriage, making a family, and extending or reproducing a family by child bearing and rearing, couples' daily lives are defined not only by their interpersonal relations but also social relations. By looking microscopically into men and women's daily lives this paper seeks to investigate the relationship between couples' daily lives and the macro-social phenomena like low fertility.

Second, I will explore the relationship between gender equity and

childbirth planning from an experiential perspective. If it is found that there is no evidence that gender equity affects childbirth planning, I will then examine the factors influencing the childbirth planning in Korea. To do so, I will analyze the data inquiring into women's intention of having addition children after having one. Such an analysis is expected to identify the main causes and the main actor group responsible for extreme low fertility.

Before moving on to the results of these two inquiries, I will critically review the previous research works related to the two topics. A brief description of the current situation of low fertility in Korea will follow as a research background.

2-2. Method

I have followed the literature review methodology to propose the research hypothesis while utilizing secondary documents to describe the current situation of Korea's low fertility phenomena. In measuring gender equity within the family, the data from the "1999 Time Use Survey" of the Korea National Statistical Office was analysed. Specifically, average 'waged labor hours', 'non-waged labor', 'leisure time', and 'total labor time' of dual-earner couples according to family cycles were compared.

For a factor analysis on the intention of having additional children for women with one child, I have used the data from the "2005 National Survey on Marriage and Fertility Trend" of the Korea Institute for Health and Social Affairs. For the analysis I used the logit analysis method putting 'plan to have additional children' as a dependent variable along with independent variables already used in previous researches. Also, the "2003 National Family Survey" conducted by Korea Women's Development

Institute was used to verify the results of the analysis.

3. Literature Review

3-1. Gender Equity and Fertility

According to a UN report, the number of developed countries at or below the replacement fertility level has rapidly risen from five to 63 in 2000 (United Nations 2003). Many scholars have focused on the role of gender equity in the family to explain low fertility.

McDonald (2000) put forth a series of propositions elaborating the role of gender equity in the decline of the fertility rate. He proposed that very low fertility in countries with high economic growth is associated with tension or incongruity between high gender equity in individual-oriented institutions and low gender equity in the family and family-oriented institutions. Equal opportunity and institutional equality in the public sphere led to women equally engaging in the labor market and a rise of women's consciousness. Accordingly, if women were still left to bear the primary responsibility of housework and chile-rearing with in th family then, there is a high possibility that women would choose to live an alternative life than to live an unequal life. Gender inequity in the family circumscribes the partnership between women and men, thus gender equity is not a cause of family decline, but a prerequisite for the stabilization of family (Künzler, 2002).

In other words, according to McDonald (2000), a difference in gender equity levels implies a difference between individual-oriented institutions and family-oriented institutions. Individual-oriented institutions are economic participation, wage, and sex ratio in higher education, etc. while

family-oriented institutions include things like gender role division in the household. This means that countries with a middle gender equity level would have equity in individual-oriented institutions but inequity in family-oriented institutions. However, countries with a high gender equity level would have high equity levels in the both institutions and countries with a low level of gender equity would record low equity levels in the both institutions. He further points out that the countries with the lowest fertility rate are those with middle gender equity levels.

Family sociologists like Hochschild (1989) called this a 'stalled revolution' based on the analyses of dual-earner couples in the United States. In other words, a remarkable change was taking place in the labor market as more women were employed but a much less dramatic change was occurring on the home front. This resulted in an extra burden to women. This analysis is similar with McDonald's framework on combination of high gender equity in individual institutions and low gender equity in family institutions. Both representations conjure up a similar image: 'overburdened' women.

Rindfuss, Brewster & Kavee (1996) stated that more the conflict in the compatibility between work and motherhood, more the expectation on fertility drops low. By using cross-national analyses, many other analyses (Brewster & Rindfuss, 2000; Morgan, 2003; Lehrer & Nerlove, 1986) as well, have also emphasized the importance of societal supports outside the household. Societal supports are as follows: maternity policies, government subsidies, flexibility in work schedules, and availability of daycare. The analyses showed that these societal supports outside the household affect fertility by enhancing th level of compatibility between work and child-rearing for women. Therefore, in the words of Folbre (1997) "our reproductive problem is not low fertility, but inadequate levels of paternal

and social commitment to the next generation."

Chesnais (1996) argued that although decreased gender equity is associated with higher fertility in developing countries, increased gender equity is generally associated with higher fertility in the advanced countries. Chesnais called this the feminist paradox. A society's gender equity not only implies gender relationships but also indicates equal opportunities as well as roles, norms, and values between women and men and the extent to which how gender does not influences one's life. According to Chesnais, countries with high and low gender equity show higher fertility whereas middle gender equity shows low fertility showing a U-shaped relationship between gender equity and fertility.

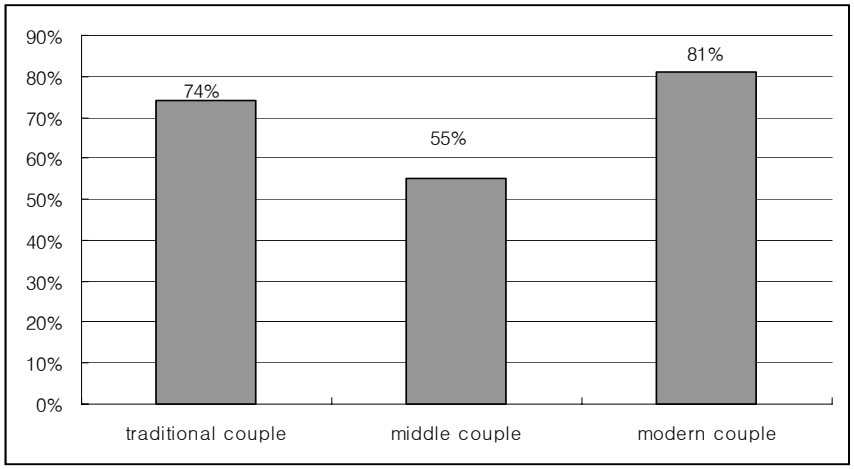
Linking Chesnais (1996)'s analysis with the relevance between second child fertility and gender equity at home in the US Torr & Short (2004) demonstrated that couples are more likely to have second child when the level of housework share is high and also at the level of traditional gender division where wives do most of the housework than when the level of housework share is in the middle. Thus the relationship between gender equity at home and fertility is U-shaped (See Figure 7-1).[22] The details of Torr & Short (2004)'s study is as follows. They examined the effect of housework share by working couples with a child in the US on their decision to have a second child. This study was first conducted in 1987-1988 and again five years later in 1992-1994, thus, enabling the researchers to count the number of households with second children. Accordingly, Torr & Short categorized modern couple, middle couple, and traditional couple among the working couples by wive's share of

22) This corresponds to McDonald (2000)'s study comparing the institutional gender equity level with fertility. The failure of institutional-oriented gender equity to raise the level of family-oriented gender equity effects women's choice on childbearing and child-rearing negatively.

housework. As a result, the modern couple had the highest rate of second birth (81%).

In Künzler (2002)'s study, the most important factor related to fertility is housework division between women and men. In other words, countries with high levels of housework share and child-rearing showed high fertility.

Figure 7-1. Working Couples' Housework Share and Second Child Fertility



Source: Torr & Short, 2004 (recited from Lee, Jai-gyeong, 2005)

3-2. Women's Labor Market Participation and Fertility

Over the past forty years, women's labor market participation increased in Western developed countries. According to the data from the OECD and the BLS (US Bureau of Labor Statistics), women's labor market participation rose more than 20% in the United States, Sweden, and the

United Kingdom between 1960 and 2000 (Engelhardt, Kogel and Prskawetz 2003; Brewster and Rindfuss 2000; Perry-Jenkins, Repetti, and Crouter 2000; Klerman and Leibowitz 1999). Increases of more than 10% were observed in France, Germany, and Italy during the same period (Engelhardt, Kogel and Prskawetz 2003; BLS 2003). In the United States over two-thirds of mothers with children under age two were in the formal labor sector in the late 1990s. Considering the fact that it was 37% in 1975, the dramatic increase of labor market participation for married women with kids is self-evident (Klerman and Leibowitz 1999).

Demographers presumed that women with fewer children are more likely to participated in the labor market in developed countries like the US. Thus, they concluded that women's employment reduced fertility in the long term (Angrist and Evans 1998; Cramer 1980). However, various case studies revealed that there is no clear relationship between fertility and mother's employment or even had positive effects sometimes (Lloyd 1991; Mason and Palan 1981). Accordingly, there is a need for a broader assessment of patterns of women's time usage in order to understand what determines fertility in countries outside the West (DeGraff and Anker 1999; Donahoe 1999; Lloyd 1991; Van Esterik and Greiner 1981).

Low fertility is related to women's labor participation and the increase of women's employment is related to women's low fertility. Nevertheless, the causal sequence between these two variables are yet to be specified. This means that women's employment and fertility are not in a fixed relationship. The same variables might produce different results in broader social and cultural contexts. Such a hypothesis is supported by the cross-national comparative studies like that of McDonald and Chesnais which showed the fertility rate varied according to how gender equity was

achieved in different sectors of society. Let us now examine the relationship between women's economic participation and fertility in detail.

A general supposition on women's economic participation and fertility is that an increase in women's employment leads to an decrease in fertility. Such a supposition is premised on a presupposition that an increase in women's economic participation raises the ages for marriage and childbirth and the opportunity cost of child-rearing, thus decreases fertility.

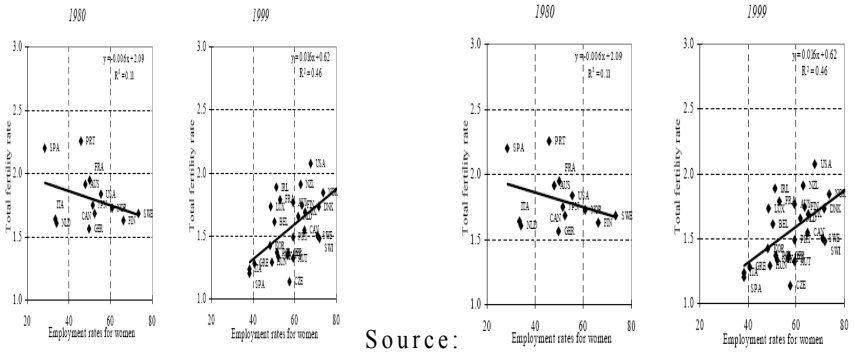
However, these suppositions cannot not fully explained social fertility changes in different historical periods. The effects of women's economic participation on fertility change are not homogeneous nor have alway causal relations. It is true that an increase in women's economic participation effects fertility while childbirth activities such as technology of controlling childbirth effects women's economic participation. However, the forms and directions of state policies or the social and cultural conditions which they influence would not be the same. The directions and levels of the variation would be different in times and in countries (Lee, 2005).

In the case of Korea, the total fertility rate decreased from 6.0 persons in 1960 (Ministry of Economic Planning, Bureau of Research and Statistics, 1977) to 1.17 persons in 2003 while women's economic participation increased from 26.8% in 1960 to 48.9% in 2003 showing a consistency with above suppositions. However, in other countries, the fertility rate is increasing or stabilizing as women's employment increases.

Looking at the relationship between women's employment and the total fertility rate among the OECD countries (Figure 7-2), we can see that women's low economic participation led to low fertility in 1980 but

women's high employment rate led to high fertility in 1999. In 1999, the relationship between women's employment and fertility showed high relevancy of R^2=0.46.

Figure 7-2. Fertility and Women's Employment Rates Among the OECD Countries.



Source: Sleebos (2003: 20)

From this we can conclude that at the starting point of the increase in women's economic participation the fertility rate decreases. However, when women's economic participation continues to increase and increases to a more stable condition, the fertility rate stabilizes or maintains the level of social expectation. In addition, women's economic participation is not the only factor effecting fertility but various environmental factors like the enhancement of women's social status, family change, and degree of state policy supporting child-rearing all influences fertility.

If so, what are the reasons for low fertility worldwide? At the social and cultural backgrounds in the postponement of childbirth there are various but similar structures according to each country.

The common cause of childbirth postponement among the low fertility countries is high economic uncertainty emerging in the early developing period. This uncertainty is one of the important factors delaying long-term decisions such as childbirth. It induces people to invest in other forms of human capital, for example, education. In the case of Southern Europe, the countries are in middle upper levels in income and are experiencing steady growth and low inflation. At the same time, these countries have high unemployment rates of young people who experience difficulty in entering the labor market. Compared to Northern Europe, young women have far higher unemployment rate than men in these countries. Chronic increases in young people's unemployment have hindered young people from entering the labor market and made higher education more attractive. The uncertainty comes from the high unemployment rates of young people and unstable employment conditions. Accordingly, lengthening the educational period would be an inevitable choice for young people in these countries seeking opportunities for stable and good jobs. Rational decision making at an individual level to avoid uncertainty met with childbirth postponement resulting in low fertility in the state at a macro level.

In Korea, the situation is much similar. Choi Gyeong-su (2003) wrote that the cause of the reduction of birth rate and the continuity of low fertility in Korean society is the worsening of employment condition among young people after the economic crisis in the late 1990s. Decrease in income, dim prospect of having a career, and increase in the uncertainty of future will affect fertility negatively (Sleebos, 2003). This is in line with the observations in Northern Europe and the Anglo-American region with high employment of young people with high fertility and in Southern Europe with low employment of young people accompanied with low fertility. The increases in young people's unemployment and instability of

job market have delayed marriage or childbirth among young people resulting negative effects on fertility.

Among the low fertility countries, the postponement of childbirth appears due to a common social environment or institution. In the case of Southern Europe such as Italy or Spain, adequate provisions for supporting child care are scarce. Formal employment are relatively inflexible in part-time work demand or returning to work after maternity leave. In Italy and Spain governmental provisions supporting the family, such as tax allowance or direct supports are the lowest compared to other Western Europe. Scarce governmental supports are partly replaced by strong familial ties, for example, grandparents provide the economic support or help in child-rearing. However, the family substituting public provisions is insufficient in modern industrialized countries and rather it will act as a limitation.

In Italy and Spain, women are more lagging behind in adjusting to new roles in the family. In these countries, the gender equity level in housework sharing is very low. These cases coincide with McDonald observation on gender equity. As mentioned above, McDonald observed that the lowest fertility rate is a result of a combination of high gender equity in individual-oriented institutions (such as employment) and low gender equity in family-oriented institutions.

In sum, women's economic participation alone is not enough in measuring the fertility rate of a society. As it is revealed, women's economic participation and fertility are higher in most developed countries than in Korea. This explains that women in developed countries no longer need to choose between economic activity and fertility, however women in Korea are still forced to choose between these two. Without ameliorating this situation, it will not be possible to increase women's economic participation and fertility to the level of Western society.

4. Low Fertility in Korea

Since the 1960s the fertility rate in Korea has decreased. Combined results from the government led family planning project from 1962, increase in the level of women's education and economic activity, and changes in one's values have decreased TFR (total fertility rate)[23] from 6.0 births per woman in the 1960s to 4.53 in the 1970s and 2.08 persons population replacement level in 1983. Such a trend of decrease continued until the late 1990s and reaching 1.47 births per woman in 1998 and 1.19 in 2003(See Table 7-1 and Figure 7-3).

Table 7-1. TFR and Numbers of Children Born, 1970~2003

(Unit: number of persons, thousand)

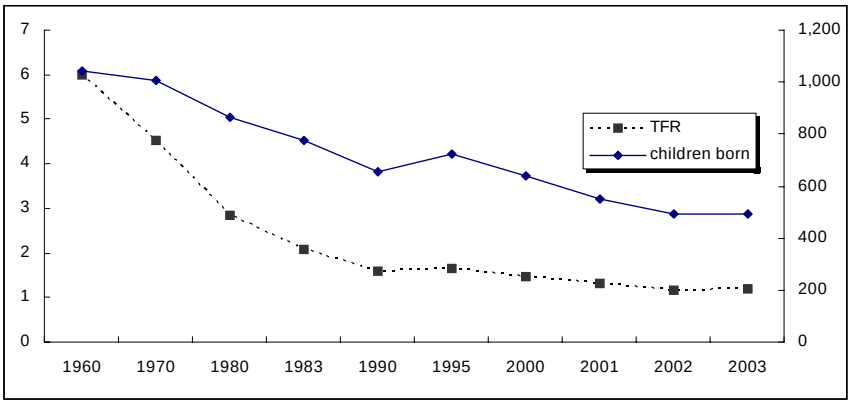
Year	1960	1970	1980	1983	1990	1995	2000	2001	2002	2003
TFR	6.00	4.53	2.83	2.08	1.59	1.65	1.47	1.30	1.17	1.19
Number of Children born	1,041	1,007	865	778	656	721	637	551	495	494

Source: 1) 1960 data are from Gong Seh-gwon et al, (1992: 203)
2) Korea National Statistical Office, "Annual Report on Dynamic Statistics on Population"

23) An average childbirth rate of women having children in child-bearing age (age 15～49).

Figure 7-3. TFR and Numbers of Children Born, 1970~2003

(Unit: number of persons, thousand)



Source : 1) 1960 data are from Gong Seh-gwon et al, (1992: 203)

Similar to TFR, the number of children born has decreased continuously since 1960 from 1.04 million to 0.5 million in 2003, which is less than half. Recent TFR of 1.2 births per woman in Korea marks the lowest fertility rate in the world and even the lowest among the OECD countries which have relatively lower fertility. In other words, presently Korea is posited as the lowest-low-fertility country(See Table 7-2).

Table 7-2. Birth Rate Trend of OECD Countries

(unit: average numbers of children women give birth)

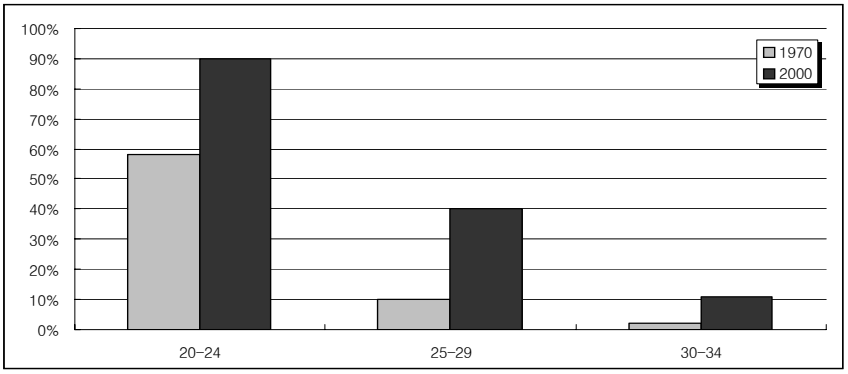
	1990	1998	2000	2001	2002	2003
Japan	1.54	1.34('99)	1.36	1.33	1.32	1.29
Germany	1.45	1.34	1.34	1.35	1.40	-
Sweden	2.13	1.51	1.54	1.57	1.65	-
France	1.78	1.75	1.89	1.89	1.88	-
Spain	1.36	1.15	1.22	1.24	1.25	-
Italy	-	-		1.25	1.26	-
United Kingdom	-	-	1.64	1.65	1.73	-
USA	-	-		2.03	2.01	-
Australia	-	-		1.73	1.75	-
Korea	1.59	1.47	1.47	1.30	1.17	1.19

Source: NCHS, 'National Vital Statistics Reports', Vol.52., Eurostat 'First results of the demographic data collection for 2002(2001) in Europe' series FM1 no. 31 'Birth statistics', 3301.0 2002 Births'

In Korea, childbirth is considered as an institution such as marriage and must be engaged only after marriage, thus, effects not only fertility but also the composition, continuity, and change of the family. From this point of view, childbirth must be considered in relation to marriage, making a family, one's values on family institution, and influences of social and economic changes, etc. As shown in Figure 7-4, rise of women's educational level, economic activity, and aspiration for self-fulfillment have delayed or withdrew marriage as a life choice, resulting to the sharp rise of unmarried women population aged between 20-24 slightly over 50% in 1970 toward almost 90% in 2000.

Figure 7-4. Population Rate of Single Women by Age

(unit: %)



Source : Korea National Statistical Office, "Annual Report on Dynamic Statistics on Population"

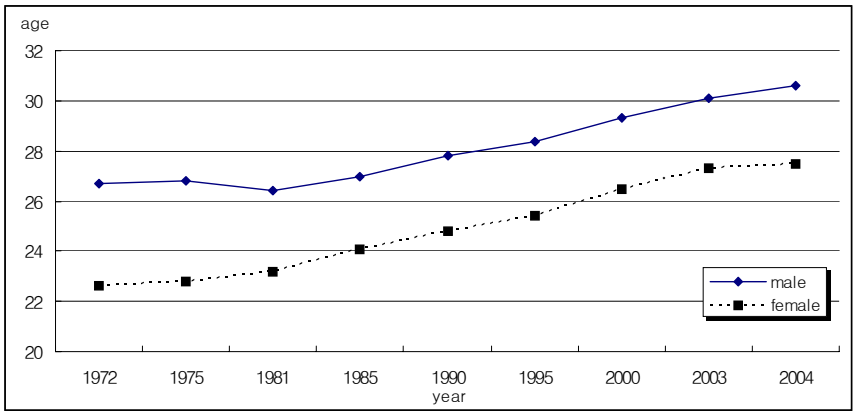
Table 7-3. Average Age of Marriage by Year

(Unit: age)

	1972	1975	1981	1985	1990	1995	2000	2003	2004
Male	26.7	26.8	26.4	27.0	27.8	28.4	29.3	30.1	30.6
Fmale	22.6	22.8	23.2	24.1	24.8	25.4	26.5	27.3	27.5

Source : Korea National Statistical Office, 2005, "Trends of Major Characteristics of Marriage and Divorce after 1970"

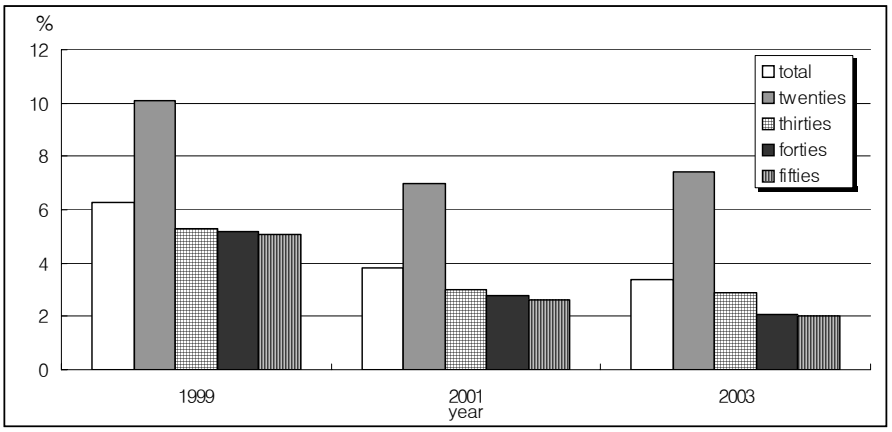
Figure 7-5. Average Age of Marriage by Year



Source: Korea National Statistical Office, 2005, "Trends of Major Characteristics of Marriage and Divorce after 1970"

As in case of men, the average marriage age has risen from 26.8 in 1975 to 30.1 in 2003. For women, marriage also is delayed from age of 22.8 in 1975 to 27.3 in 2003 (Table 7-3, Figure 7-5). Delaying the time of marriage means childbirth are also postponed. In other words, as the number of women who are able to have children within marriage status decreased, fertility got lower. As women participating in economic activity prior to marriage recognized that work and child-rearing would not be compatible, they decided not to think about childbirth. In addition, the increase in economic burden for child-rearing made women to hesitate or decide not to have many children, thus resulting in low fertility. The financial economic crisis in 1997 had enormous effects in lowering fertility, which continued from the late 1990s. After the economic crisis, increase in unemployment of young people, weakness of economic infrastructure, and growing uncertainty of future have strongly affected people's decision to delay marriage or not get married altogether.

Figure 7-6. Unemployment Rate Among Young People



Source: Korea National Statistical Office, 2003, "Annual Report on Economically Active Population" pp.147～152.

As presented in Figure 7-6, the unemployment rate increased to 3.4% in 2003, which is a 0.3% increment compared to 2002. Compared this with age differences, the unemployment rate of middle and old-age over 30s remained the same at 2%, whereas the unemployment rate of people in 30s reached 7.4%, which is the highest record since 2000. This high rise of unemployment rate became one of important factors delaying marriage decision.

In addition, steep rise of divorce cases have also affected in lowering fertility (Table 7-4, Figure 7-7). The number of divorce was 12,000 in 1970 and 24,000 in 1980 and have sharply increased to nearly 167,000 cases in 2003.

Table 7-4. Divorce Rate by Year

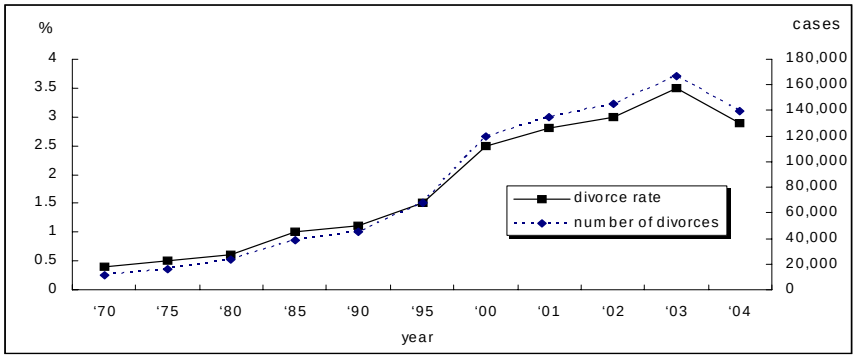
(unit: %, cases)

Year	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004
Rate	0.4	0.5	0.6	1.0	1.1	1.5	2.5	2.8	3.0	3.5	2.9
Number of Cases	11,615	16,453	23,662	38,838	45,694	68,279	119,982	135,014	145,324	167,096	139,365

Source: Korea National Statistical Office, 2005, 'Change of Major Characteristics of Marriage & Divorce Since 1970'.

Figure 7-7. Number and Rate of Divorce by Year

(unit: cases)



Source: Korea National Statistical Office, 2005, 'Change of Major Characteristics of Marriage & Divorce Since 1970'.

Then, what is the number of marriage in Korea? Table 7-7 and Figure 7-8, Figure 7-9 reveal the trends of women's marriage by age and changing numbers of children born by mother's age. As we can surmise from the above trend of increase in unmarried rates, the number of couples getting married in Korea is decreasing in absolute scale. Especially, as the number of women in 20s getting married dropped significantly the marriage age got higher while the unmarried period got elongated. Nevertheless, the question whether this marriage postponement

would only lead to increase in marriage age or shortening of the period of family formation through marriage in life cycle process still remain.

Decrease in the number of marriage would lead to increase in marriage age, and increase in marriage age will change the distribution of numbers of children born by mother's age by increasing the age of women having first birth. In 1999, women's ages that had the highest number of children born were from 25 to 27, but in 2003, this age group have change to from 30 to 34. In a state when women's pregnancy period are limited, increase in age of mother of first child would directly lead to low fertility. Especially in Korea where childbirth are only accepted within the marriage system, decrease in marriage cases and increase in age of first childbirth would directly lead to low fertility in society as a whole.

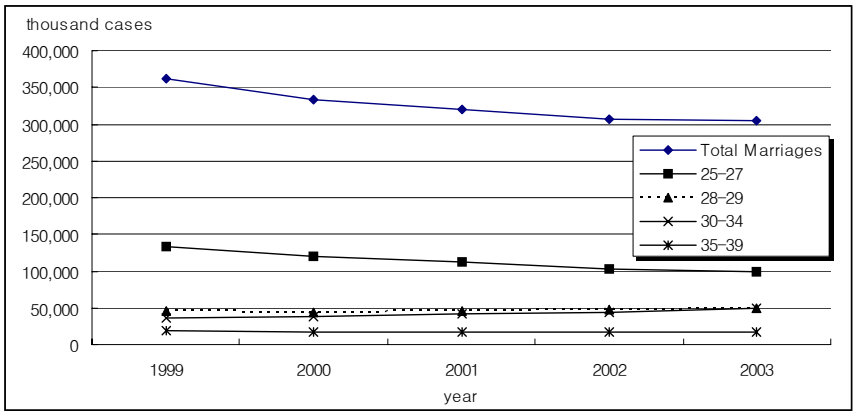
Table 7-5. Number of Marriage by Women's Marriages Age and Number of Childbirth by Mother's Age

(Unit: Thousand Persons, Thousand Cases)

		1999	2000	2001	2002	2003
Total Marriages		362,673	334,030	320,063	306,573	304,932
age	25-27	133,127	120,847	112,456	103,661	99,362
	28-29	44,902	44,040	45,673	47,688	49,131
	30-34	36,928	38,294	41,655	44,525	48,702
	35-39	18,206	16,924	17,687	17,110	17,902
Total Births		616,322	636,780	557,228	494,625	493,471
age	25-27	190,137	179,204	144,777	114,307	106,146
	28-29	141,285	149,909	129,371	112,865	113,786
	30-34	156,751	183,930	174,718	170,489	180,190
	35-39	33,556	37,203	35,683	34,265	36,036

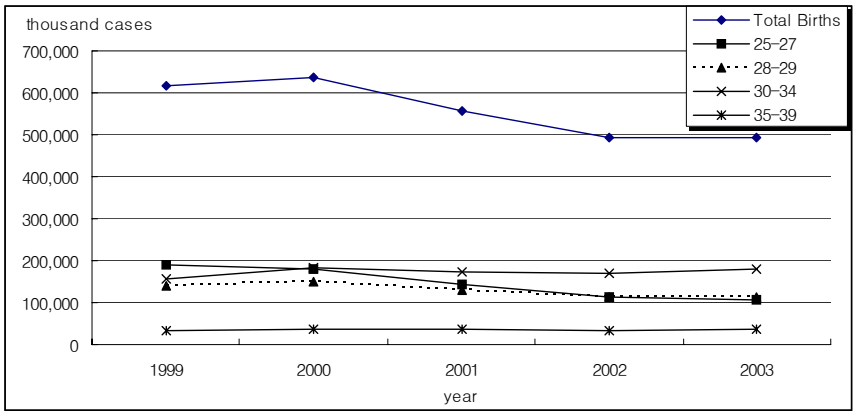
Source: Korea National Statistical Office, 2004, 8., 'Statistics of Births & Deaths in 2003'(Press Releases)

Figure 7-8. Number of Marriage by Women's Age



Source: Korea National Statistical Office, 2004, 8. 'Statistics of Births & Deaths in 2003

Figure 7-9. Number of Childbirths by Age of Mother



Source: Korea National Statistical Office, 2004, 8. 'Statistics of Births & Deaths in 2003'(Press Releases)

One of the important problems resulting from low fertility is the rapid change toward aging society and decline of social maintenance population, in other words, increase of social burden. As provisions of health and

medical service increased and standard of living enhanced, the speed of fertility decline became much faster than the speed of the fertility recovery resulting in continuous decrease of the natural growth rate population which is the result of the number of the deceased subtracted from the number of babies born in Korea. Therefore, by maintaining TFR of 2.1 birth per woman below population replacement level, Korea's future total population would be viewed as reaching fixed point of zero soon and aftermath fall rapidly. Most of all, with rapid prolongation of average life expectancy, low fertility will lead to problems of aging population. Meanwhile, as population of age between 15-64 (within age able to produce) supposedly fell down rapidly, the burden for caring elderly population is prospected to be weighted more.

5. Gender Structure of the Korean Family

5-1. Characteristics of the Sample

To examine gender equity among couples within the family, this research selected only working couple families in the 1999 life cycle survey samples. Also to specify the comparison of time distribution between non-wage labor and wage labor among couples, I have limited samples to 'age groups from 20s to 40s' and 'groups of women working more than 35 hours per week‘. the total number of samples is 3,668 households of working couples living together.

Considering women's employment status, the biggest group is wage workers with 51.7% (1,898 persons) followed by non-wage working people with 26.6% (1,014 persons). And the rest are self employed

(17.8%, 653 persons) and employer (2.8%, 103 persons). Examining women's working hours per week through employment status, we can recognize that these women in the sample are working immensely long hours. The longest working hour group is the employer group, which works 69 hours per week followed by the self employed group who works 65 hours per week, non-wage working group working 61 hours per week, and wage worker group working 53.5 per week.[24)]

Table 7-6. Employment Status of Female on Research Sample

(Unit: Number of Persons, %)

Employment Status	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Paid employees	1898	51.74	1898	51.74
Employer	103	2.81	2001	54.55
Self-employed	653	17.80	2654	72.36
Unpaid family workers	1014	27.64	3668	100.00

Table 7-7. Average of Women's Working Hours Per Week by Employment Status on Research Sample

(Unit: number of persons, times)

Employment Status	Frequency	Average	Standard Deviation	Minimum	Maximum
Paid employees	1898	53.6	12.7	35.0	119.0
Employer	103	68.2	17.9	35.0	119.0
Self-employed	653	65.2	17.8	35.0	119.0
Unpaid family workers	1014	61.3	17.4	35.0	119.0

24) Life cycle research data are a kind of self recorded daily chronicles, which records one's time usage activity of two days per 10 minutes. Thus, there might be a possibility of over-interpretation of non-wage labors' waged labor hours, as self employed, non-wage worker, and employers' work place and home are indistinguishable.

To examine gender equity among couples by following the life cycle, I have sorted the samples into three groups considering 'family size' and 'family cycle'. The first group is a household without children. In order to differentiate between the cases of with no children and the cases of not living together with grown up children, I have limited the groups to age of 30s which include only families yet to have children. Couples in the 20s and 30s are included in this group and 206 households (6.06% of whole) fall under this group. The second group is families with children in preschool age. Mainly couples in the 30s are included in this group and 897 households (26.38%) fall under this group. The third group is families with children in school age. This group is composed of 2,297 households (67.56%) and couples in the 40s. The characteristic of each groups are as follows.

Table 7-8. Group Distribution by Family Cycle

(Unit: Family, %)

Family Cycle	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
without children	206	6.06	206	6.06
with children of preschool age	897	26.38	1103	32.44
with children of school age	2297	67.56	3400	100.00

As we can see from Table 7-9, the age compositions of each group are followed by the trend of life cycle. In the group one without children, 70% of women are in the 20s and in the group two with children in preschool age, 70% of women in the 30s. And in the group three with children in school age, women in the 30s are 43.8% while women in the 40s are 46.1%.

Table 7-9. Age Distribution of Female by Family Cycle

(Unit: number of persons, %)

Age	20～29	30～39	40～49
without children	143	63	0
	69.42	30.58	0.00
with children of preschool age	207	631	59
	23.08	70.35	6.58
with children of school age	23	879	1395
	1.00	38.27	60.73
total	373	1605	1690
	10.17	43.76	46.07

As shown in Figure 7-10, women's education distribution follows the same track as age composition. In the group one, 51.9% of women are high school graduates similar to that of women with college degree (43.7%). In comparison with this, 60.7% of women are high school graduates and 25.9% of women are with college degree in the group two. Among the women in the group three, the majority is middle school graduates with 52.2% from the total followed by high school graduates (39.3%) and then college degree (7.6%).

Figure 7-10. Educational Attainment of Female by Family Cycle

(Unit: number of persons)

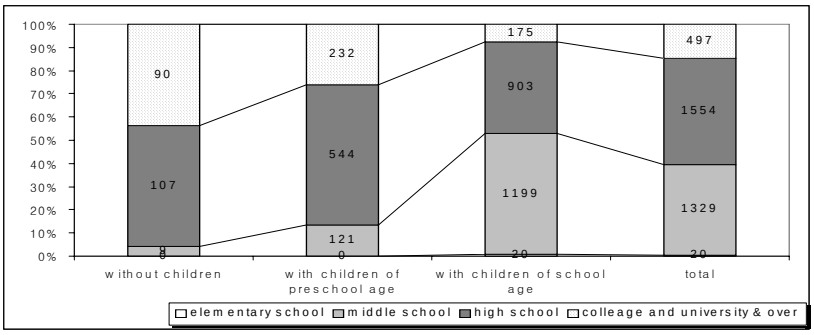
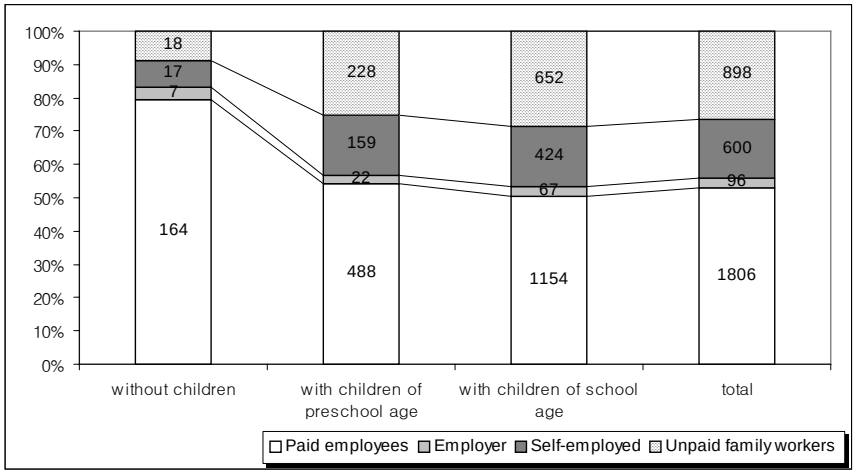


Figure 7-11. Employment Status of Female by Family Cycle

(Unit: number of persons, %)



As we can see from Figure 7-11, women's employment status differentiated by life cycles in three groups have following similar tracks of age distribution and education distribution. As a whole, the major employment status of each group is wage labor. But the distribution have changed according to life cycle. As wage labors in group one hold 79.6%, this ratio have decreased to 54.4% in group two and rather the ratio of self employed and non-wage labor have increased. In group three, the ratio of self employed and non-wage labor are a little bit high than in group two. Through the whole life cycle, the ratio of women working as an employer are very low.

5-2. Gender equity: Focusing on Time Allocation Data

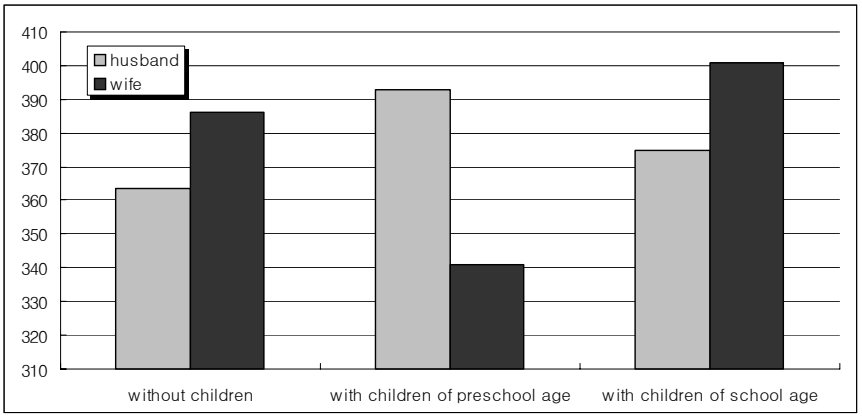
Examining the result of time distribution of wage labor, non-wage labor, and leisure time between couples, gender equity among Korean families grade almost none.

A. Wage Labor

Considering married women working more than 35 hours a week as a base, women's wage labor hours are bit longer than men's by a narrow margin. Average wage labor hours of men sample analyzed are 376.3 minutes per day and women 387.3 minutes per day. Examine this through family life cycle, women's wage labor hours in group one hold 22.8 minutes longer than men, and in group three 26 minutes longer. Only in the group two, which have to maximize women's time strain because of taking care of children in preschool age, women's wage labor hours are shorter than men by 51.8 minutes. This results coincides with the neoclassical economic rational choice theory, which have argued that women to shorten wage labor time and lengthen housework and men to lengthen wage labor time to increase family income would be the rational choice for the family with children in extension period.

Figure 7-12. Average Wage Labor Hours of Couples per Day

(Unit: Minute)



B. Non-wage Labor

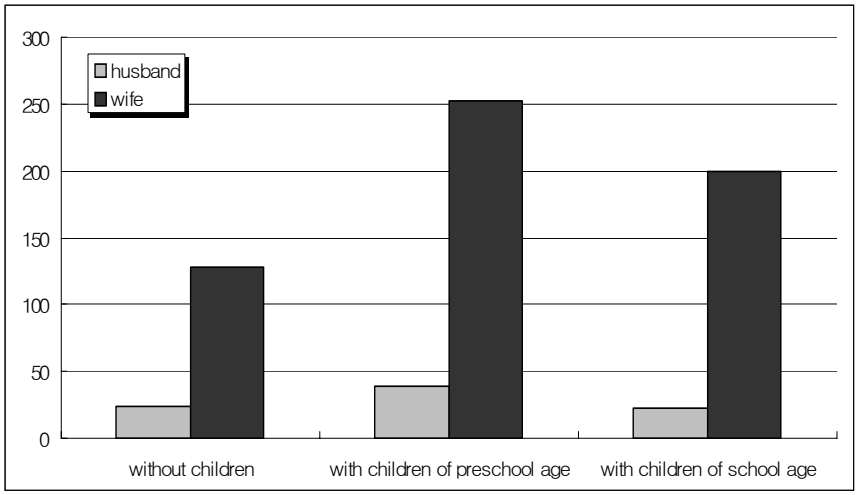
As examined above and on condition of same wage labor hours between couples, the result of these couples use of non-wage labor hours shows dramatic changes. As expected in group two of which the activity related with family have maximized, non-wage labor hours of both men and women are little longer than other two groups. However, the hours of increment are extremely different by genders. In case of having no children or having children already grown up, men's participating time in housework are average of 23.2-23.4 minutes per day. Men's housework time increases very little in case of having preschool children but even that case, lengthen for only 17 minutes. However, on women's side, when having preschool children, women's housework hours increase to over 124 minutes.

Above mentioned non-wage labor working hours are the average of the samples thus, by examining the ratio of real actors we could understand the result of unequal time distribution between genders. For men who participate in non-wage labor in reality are only 1,517 persons, not more than 41.3% of whole. It has proven that other 58.7% of men are not doing the housework at all. Participation rate of men's activity increases just little only in group two of which having preschool children.

There are almost no changes in men's participation of housework following life cycle and thus, we can conclude that gender equity in family have not yet realized in Korea.

Figure 7-13. Average Non-wage Labor Hours of Couples per Day

(Unit: Minute)



Followings are the changes of participation rate of non-wage labor hours between couples by family cycle in detail. Considering men's participation of housework, most changes are about 20 minutes of increase on 'family taking care labor' in the group two. From this, we can conclude that having children in preschool age, women's 'family taking care labor' hours increased very high and as the children grow up, women's hours in participating 'housework' relatively increase.

Table 7-10. Average Non-wage Labor Hours of Couples (Detailed Items, per day)

(Unit: Minute)

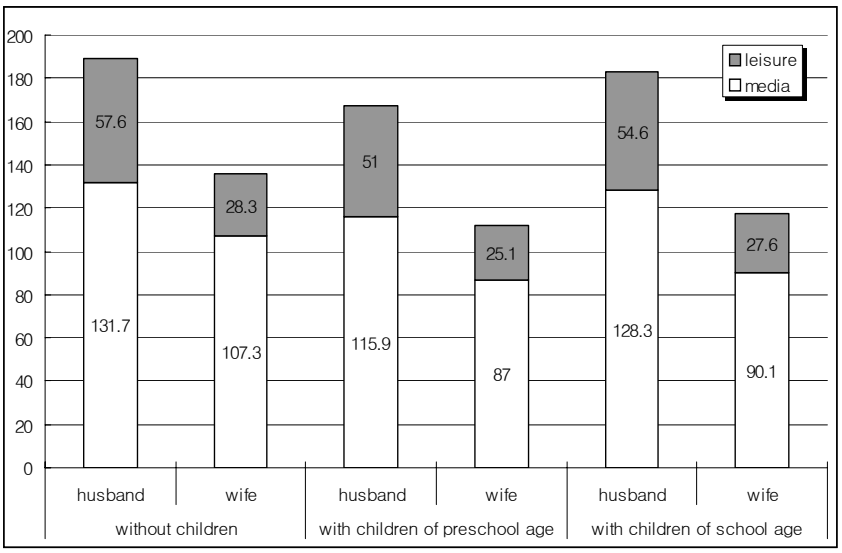
Family Cycle	Variable		Number of Cases	Mean	Standard Deviation	Minimum	Maximum
Without Children	Husband	homework	206	13.6	31.8	0	250.0
		shopping	206	6.8	22.9	0	170.0
		care	206	3.0	16.6	0	180.0
	Wife	homework	206	105.2	79.8	0	430.0
		shopping	206	11.7	24.3	0	160.0
		care	206	11.0	40.2	0	440.0
With Children of Preschool Age	Husband	homework	897	11.2	35.2	0	640.0
		shopping	897	4.4	20.9	0	280.0
		care	897	23.5	51.3	0	490.0
	Wife	homework	897	152.3	96.5	0	720.0
		shopping	897	11.7	21.6	0	190.0
		care	897	88.6	77.9	0	720.0
With Children of School Age	Husband	homework	2,297	14.1	38.2	0	510.0
		shopping	2,297	5.8	26.0	0	470.0
		care	2,297	3.3	20.2	0	540.0
	Wife	homework	2,297	168.5	97.8	0	710.0
		shopping	2,297	11.4	22.6	0	230.0
		care	2,297	19.2	34.4	0	400.0

C. Leisure Time

If we examine the usage of mass media and leisure time among free time, men's leisure time is longer than women's time. Leisure time between men and women have not changed, thus only a small change between genders by family cycle was made.

Figure 7-14. Average Free Time of Couples per Day

(Unit: Minute)



D. Total Labor Hours

In every family cycle of couples, women's total labor hours aggregating wage labor time and non-wage labor time are far higher. In the families with no children, women worked 127 minutes more than men, in the families with preschool children, women worked 161 minutes more than men, and in the group having grown-up children, women worked 202 minutes more than men. In the age group of young 20s and even in the family having less housework due to children having grown-up, equal housework division was not yet realized between couples.

Table 7-11. Average Total Labor Hours of Couples (per day)

(Unit: Minute)

Family Cycle	Variable	Number of Cases	Mean	Standard Deviation	Minimum	Maximum
Without Children	husband	206	388.7	252.8	0	890.0
	wife	206	516.2	177.3	70	950.0
With Children of Preschool Age	husband	897	432.8	243.1	0	1040.0
	wife	897	594.1	166.4	0	1070.0
With Children of School Age	husband	2297	398.6	249.7	0	1020.0
	wife	2297	600.8	164.9	0	1080.0

Greenstein (1995) have analyzed 'gender equity ideology' as one of the factors influencing housework division between husband and wife. He have divided individual ideology by 'traditional type' and 'equal type', divided the sample couples into four pairs and examined housework share in each type. As a result, husband having or not having gender equity ideology was the main cause of making housework equally shared between couples. That is to say, the key problem in equal sharing of housework between couples was husband's attitudes thus, men's awareness on equal housework was the main thrust to uplift gender equity in the family. Specifically, considering the fact that there is not much difference of housework hours between husband of full time housewives and husband of working wives in Korea, we can assume Korean society is rather far distanced from realizing equal share of housework between couples.

As examined above, if compatibility between women's work and family life is not supported by the society and not being supported by husband who should be partners of housework and child care, the possibility of women to choose the most defensive form of action, that is birth strike, would increase. Thus, single young women are considering the family as a process gaining after sacrifice of career discontinuation and recognize it as a place one has to accept so many struggles resulting from real marriage

life which are far from fulfilling gender equity. As a result analysis of Torr & Short (2004) and Künzler (2002), which have addressed that the society with high gender equity or with fair division of housework between husband and wives reveals continuance of stable fertility level, above unequal structure within family life is one of main cause explaining lowest low fertility phenomena in Korea.

6. Gender Equity and Fertility

6-1. Characteristics of Sample

Now based on the experimental researches of other countries, I will examine the relationship between gender equity within the family and second birth in Korea. It is said that fertility in Korea marks the lowest in the international level, however for married couples, it is rather usual to have first birth, therefore to explain low fertility phenomena, it is necessary to analyze the period of women progressing to the second birth. Specifically, considering that the pivotal changing point of lowest-low-fertility in Korean society is the point of sharp fall from TFR=2 to nearly TFR=1, it is imperative to seize the cause affecting the second birth.

Therefore, I have examined married women with one child who plan to progress to second birth and the causes affecting that plan. I have sampled 516 persons who are planning to have second birth in age from twenty to thirty four, out of 867 married women with one child. Social demographic characteristic of the samples are as in Table 7-12.

From the age distribution, 57.8% (298 persons) out of whole women fall into age group between thirty to thirty four. Almost half of the sample are

high school graduates and 30% are with college degree. 84% of the samples are urban dwellers and women participating economic activity at present are 184 persons (35.7%). Among these 53% have houses of their one own or their family owned, 61.6% are families with children under age two, and 26.2% are families with children under age three. Among the first child, 53.7% are boy. And 69.8% (360 persons) who are having one child at this moment, have said ideal number of children are two.

Table 7-12. Characteristic of Women with Only One Child

	Frequency	%		Frequency	%
Birth Cohort					
20～24	33	6.40	25～29	185	35.85
30～34	298	57.75			
Educational Attainment					
middle school & under	9	1.74	junior college	122	23.64
high school	228	44.19	college & over	157	30.43
Area					
urban	435	84.30	rural	55	10.66
Occupation of Wife					
no occupation	332	64.34	sales & service workers	44	8.53
managerial workers	68	13.18	agri., forestry workers	1	0.19
clerical & related workers	51	9.88	produc. worker, laborers	20	3.88
Occupation of husband					
no occupation	34	6.59	sales & service workers	104	20.16
managerial workers	148	28.68	agri., forestry workers	3	0.58
clerical & related workers	106	20.54	produc. worker, laborers	121	23.45
Employment Status of Wife					
self-employed, employer	14	2.71	temporary/daily employees	49	9.50
unpaid family workers	18	3.49	economically non-active	332	64.34
regular employees	103	19.96			
Employment Status of Husband					
self-employed, employer	107	20.74	temporary/daily employees	47	9.11
unpaid family workers	2	0.39	economically non-active	34	6.59
regular employees	326	63.18			

Table 7-12. Continued

	Frequency	%		Frequency	%
Home Ownership					
houseless	241	46.71	one's own house	275	53.29
Average Monthly Gross Income of Household					
Under 1760 thousand won	140	27.13	2,930～4,390	117	22.67
1,760～2,340	121	23.45	4,400 thousand won & over	73	14.15
2,350～2,920	65	12.60			
Employed and Unemployed					
unemployed	332	64.34	employed	184	35.66
Sex of 1st Child					
son	277	53.68	daughter	239	46.32
Year of first marriage					
2000-2004	336	65.12	1990-1994	18	3.49
1995-1999	161	31.20	1985-1989	1	0.19
Fairness of the Division of Household Labor					
strongly agree	37	7.44	disagree	184	37.02
agree	185	37.22	strongly disagree	91	18.31
Division of Household Affairs					
only wife	124	25.83	fairly shared	117	24.38
mostly wife	237	49.38	mostly husband	2	0.42
Division of Child Care					
only wife	62	13.54	mostly husband	2	0.44
mostly wife	221	48.25	only husband	1	0.22
fairly shared	172	37.55			
Child 0-2 Age					
haven't	198	38.37	have	318	61.63
Child 2-7 Age					
haven't	381	73.84	have	135	26.16
Ideal Number of Children					
two children	360	69.77	etc.	156	30.23

6-2. Analysis Result on Planning to Second Birth

This is the result of a logit analysis which asked women of age group from 20 to 34 with one child at present moment whether she is planning to have second birth and to identify the factors that influence their decision. The result is as shown in Table 7-13. Among 516 samples, women planning to have second birth are 54.7%, and others have answered that they have no intention to have second birth.

As a result, main causes affecting second birth decision seemed to be family planning on family cycle, such as controlling age gaps between first and second child, composing children genders as they wish etc. Women with children age under two were more prone to progress to second birth than women with children age over two. That is, women with children age under two seems to control age gaps between first and second child and shortening child rearing period by advancing second birth.

In 90% significant level, the more total numbers of the family there are the more women are prone to have second birth. As shown in the result, we can conclude that family members seem recognized as important supporters of family caring labour specially when maximized due to additional birth.

And in 90% of significant level, there are more negative effect when first children are boy than girl. From this, although faintly, we can observe male preference among young couples age under 34. About two third of samples have claimed that ideal number of children as two, and on this condition, women who have wanted two children considering their sexes were more prone to have second birth. Therefore it seems that most of women with first girl child and who have said that ideal number of children as two are planning to have second birth.

The result showed that women's socio-economic characteristics are not of significance in second birth decision. Regardless of women's educational level, family income level, women's occupational status or place of living, women who planned to have second birth are influenced by sex and age of their first child, family cycle presented from mother's age, and ideal composition of children. As confirmed in the analysis, it showed that having household member over age 65, husband's occupation and form of employment, and wife's occupation did not matter in the decision to have second birth.

Specifically, the gender equity variable within the family which this chapter focuses also seems not to be significant in women's or couples' plan to have second birth. Gender equity within the family is measured by two variables; one is 'husband's housework hours (general housework labor + family caring labor)' and another is 'subjective evaluation on equal sharing of housework within family'. As a result, there was no change in women's decision to have second birth regardless of the husband's housework labor hours and of how equal women perceived housework sharing was.

Table 7-13. Logit Analysis for Second Birth Plan -Total-

	Total	
	Coefficient	Standard Error
Intercept	-1.628	0.659
Birth Cohort		
20～24	0.498	0.445
25～29	0.520 *	0.223
30～34	(reference set)	
Educational Attainment		
middle school & under	-0.943	0.897
high school	(reference set)	
junior college	-0.000	0.249
college & over	-0.102	0.252
Area		
urban	-0.184	0.269
rural	(reference set)	
Employment Status of Wife		
self-employed, employer	0.563	0.608
unpaid family workers	0.372	0.532
regular employees	(reference set)	
temporary/daily employees	-0.112	0.369
Average Monthly Gross Income of Household		
1,760 thousand won	(reference set)	
1,760～2,340	0.191	0.278
2,350～2,920	0.231	0.334
2,930～4,390	0.970	0.290
4,400 thousand won & over	0.086	0.354
Child 0-2 Age		
haven't	(reference set)	
have	0.739 *	0.301
Child 2-7 Age		
haven't	(reference set)	
have	0.044	0.313
Number of Household Members	0.263 #	0.140
Number of Sons	-0.312 #	0.187
Household Labor Time of Husband	8.73E-6	0.000
Equity of Gender	0.112	0.210
Ideal Number of Children		
two children	0.344	0.212
etc.	(reference set)	
Gender Division of Children		
no	(reference set)	
yes	0.595 **	0.229
-2 Log L	631.015***	d.f 21

Note: # p<0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

If this is so, would women's economic activity influence the decision have second child? Through comparing group averages, there was not much significant difference in second birth decision between the working women group and the housewives group. 55.2% of the working women and 54.5% of full time housewives women planned to have second birth and group averages have shown no difference in 99% significant level.

However, when divided into two groups by women's participating in economic activity, each group showed distinctive factors affecting the second birth decision.

First of all, the logit analysis on working women's plan to have second birth is shown in Table 7-14. From the result, similar to the trend of the entire sample, working women from age 24 to 29 are more prone to have second birth than women younger than age 24 or over age 29.

Aside from the whole sample, in the case of working women, socio-economic characteristics have influenced the decision to have second birth. In the case of second birth, women with more household members which might be expected to reduce women's dual burden between work and child caring showed positive effects whereas high income showed negative effects. And with increase in husband's housework hours, women's intention to have second child also increased.

In the case of working women deciding to have second birth, considerations such as, sex of first child or age gaps between first and second child had no significant influence. And there was no evidence proving women's average working hours affected progressing to second birth.

From these analyses, we can conclude that in the case of married working women, factors deciding whether or not to continue her work is average income. Two strategies of these women to choose when to avoid career discontinuation by second birth are as follows: 1) to give up having

second child, and 2) to draw a plan to reduce the burdens of child caring and housework. As two thirds of the sample indicated that the ideal number of children are two, I have labeled the first strategy as 'birth strike'. For the second strategy, women are seeking helper to take care the family and increase of housework share by the husband, however small it might be.

In general, we would have expected that increase of women's income would have positive influence in the decision to have second birth, because high income would make available none-wage labor market resources. However, it seems that additional child birth are negatively recognized in women's high income economic activity.

As shown in previous Western analyses, gender equity within the family effects the decision to have second birth among the working women group, at least. That is to say, married working women's excessive dual-burden have forced women to choose one between 'continuance of economic activity', or 'have children'. And factors more effective in mediating between these two are rather 'gender equity between couples within family', such as husband's housework hours than 'available resources', such as household income or women's income.

Table 7-14. Logit Analysis for Second Birth Plan-Married Working Woman-

	Working Woman	
	Coefficient	**Standard Error**
Intercept	-1.666	1.214
Birth Cohort		
20～24	-0.201	0.851
25～29	0.860 #	0.455
30～34	(reference set)	
Educational Attainment		
middle school & under	-14.495	597.0
high school	(reference set)	
junior college	-0.253	0.479
college & over	-0.387	0.440
Area		
urban	0.154	0.492
rural	(reference set)	
Average Labour Hour of Woman	0.005	0.013
Average Monthly Wage of Woman	-0.002 *	0.001
Child 0-2 Age		
haven't	(reference set)	
have	0.038	0.553
Child 2-7 Age		
haven't	(reference set)	
have	-0.530	0.546
Number of Household Members	0.429 #	0.226
Number of Sons	-0.293	0.351
Household Labor Time of Husband	0.001 #	0.000
Equity of Gender	0.092	0.390
Ideal Number of Children		
two children	0.230	0.392
etc.	(reference set)	
Gender Division of Children		
no	(reference set)	
yes	0.656	0.432
-2 Log L	197.398*	
d.f.	16	

Note: # p<0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

Table 7-15 is the result of logit analysis of full time housewives when planning to have second child. From the result, this group of full time housewives have shown almost homogeneous characteristic. For these women, most considerable factors when deciding to have second birth are two; whether she has a child under age two, or whether she already had her child sex as wanted. Therefore, this group of women are tended to plan their second birth within family planning life cycle, thus converging their child caring period.

Table 7-15. Logit Analysis for Second Birth Plan -Housewife-

	Housewife	
	Coefficient	Standard Error
Intercept	-1.224	0.850
Birth Cohort		
20～24	0.418	0.541
25～29	0.287	0.284
30～34	(reference set)	
Educational Attainment		
middle school & under	0.216	1.141
high school	(reference set)	
junior college	0.123	0.308
college & over	0.359	0.335
Area		
urban	-0.180	0.352
rural	(reference set)	
Average Monthly Gross Income of Household		
-1760 thousand won	(reference set)	
1760-2340	0.224	0.321
2350-2920	0.326	0.407
2930-4390	0.390	0.384
4400 thousand won & over	-0.366	0.551
Child 0-2 Age		
haven't	(reference set)	
have	1.183 **	0.396
Child 2-7 Age		
haven't	(reference set)	
have	0.353	0.421
Number of Household Members	0.035	0.198
Number of Sons	-0.380	0.242
Household Labor Time of Husband	-0.000	0.000
Equity of Gender	0.123	0.274
Ideal Number of Children		
two children	0.404	0.278
etc.	(reference set)	
Gender Division of Children		
no	(reference set)	
yes	0.477 #	0.290
-2 Log L	386.694*	d.f. 18

Note: # p<0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

As mentioned above, the 'gender equity between couples' factor in the decision to have second birth is of significant only with married working women group. In the case of married working women, the more husband share the housework, the more women are prone to have second birth. However, in the case of full time housewives, the gender equity level, such as husband's housework share are not of significant factor in the decision to have second birth.

While examining the characteristic of women who already had second birth (this data were included in "2005 National Survey on the trend of marriage and divorce"), it has proven that women who have worked between first birth and second birth were only 9.5%. Given the facts that 'gender equity between couples' have not influenced the decision to have second birth and 90.5% of women who already experienced second birth were in state of unemployment, it can be said that gender division in family is still an influential "social norm" in Korea. In the process of getting married and having children in a society where the majority of people consider two children as an ideal numbers of children, women plans to have and raise children through career discontinuity and returning to work after finishing with the child care. Other women who had not accepted this norm of gender division or career discontinuity, response with marriage postponement or give up marriage. Accordingly, the major group causing lowest low fertility phenomena in Korea are single women who hesitate to proceed into marriage relationship and the fertility level within the family is rather stable with norms of gender division. However, if strict norms of gender division are banning single women to choose 'marriage' as alternative life procedure, then it would lead to an increase of single groups in this society and would function as the most important factor in continuing fertility phenomena. Moreover, given the fact

confirmed in the case of married working women that the level of gender equity have affects the decision to have second birth, realizing gender equity within the family would mitigate low fertility phenomena not only from single women but also from married women.

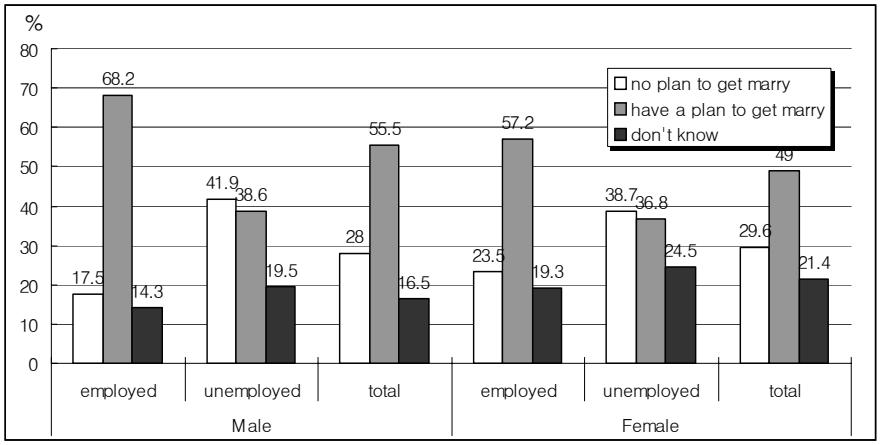
This can be confirmed from the result of the '2003 National Family Survey'. In the survey, among 1,387 singles (714 men, 673 women), only 52.3% have answered 'yes' to the questions asking whether they have any plan to get marry in near future (Jang et al, 2003). Given that 55.5% of the single men and 49% of the single women have said yes, we can conclude that 50% of the singles group have no plan or are uncertain about getting married. The singles group as a whole clearly shows tendencies to delay their marriage or avoid the question altogether as the marriage rate decreases and the age of marriage increases. Moreover, it is noteworthy to pay attention to sex difference in the singles group. More single women had negative or passive attitude toward marriage.

Figure 7-15 shows the people who have planned to get marry by sex and employment. In the case of men, there has been numerous observations that they consider employment as the prerequisite to marriage (Eun, 1995). Recently, such a norm is also widely accepted by single women. In the case of men, 17.5% of the employed and 41.9% of the unemployed said they have no plan whereas 23.5% of the employed women and 38.7% of the unemployed women said the same. In other words, almost half of the unemployed men had no plan to get marry indicating that economical situations like employment effects the decision to get marry and form a family. Interestingly, among the unemployed single women 38.7% had no plan to get marry. Unlike the argument that due to the increase of women's economic participation single women with a high degree of economic independence have delayed getting married or

have no plan at all, the unemployed women have a higher percentage of having no plan to get marry indicating that employment is no longer a choice but a matter of course and they prefer to choice employment over marriage. Furthermore, as 23.5% of the employed women said they have no plan to get marry we can assume that women delay or avoid getting married which is expected to bring interruption in women's career.

The attitudes of women and men towards marriage planning is shown to be consistent in the responses on whether they have a plan to get marry or not. Table 7-5 shows that among the reasons for single women to not plan to get marry "I don't think I must get marry (31%)" got the highest percentage followed by "I am more devoted to my work." In other words, the existing models of marriage, family, and couple are no longer attractive to the singles today. Not only that, the fact that women devote themselves to work more to build up their career and delay or avoid marriage because there is a belief that marriage equals interruption of career is reconfirmed. Similarly, single men as another victims of the gender role norms picked "Lack of economic conditions for marriage (41%), and "To devote more to my work (18.5%) as their reasons for not planning to get marry.

Figure 7-15. Marriage Plan according to Sex and Employment



Source: Korean Ministry of Gender Equality and Family, 2003, 'National Family Survey & Korean Family Report'.

Table 7-16. Reasons for Single with No Plan to Get Marry

(Unit: Number of Persons(%))

	don't think must get married	not to be restricted from his/her mate	more devoted to my work	responsibility and duty owing to marriage	marriage institution is disadvantage to woman	Lack of economic conditions for marriage	don't look for a ideal mate	still young	no reply
Sex									
Male	34 (17.0)	9 (4.5)	37 (18.5)	11 (5.5)	1 (0.5)	82 (41.0)	18 (9.0)	7 (0.5)	1 (0.5)
Female	63 (31.7)	16 (8.0)	56 (28.1)	5 (2.5)	7 (3.5)	38 (19.1)	11 (5.5)	2 (1.0)	1 (0.5)
Age									
10's	9 (27.3)	3 (9.1)	9 (27.3)	1 (3.0)	0 (0.0)	9 (27.3)	2 (6.1)	0 (0.0)	0 (0.0)
20's	64 (31.7)	15 (4.9)	76 (24.6)	10 (3.2)	7 (2.3)	102 (33.0)	25 (8.1)	8 (8.1)	1 (0.3)
30's	15 (36.6)	3 (7.3)	7 (17.1)	3 (7.3)	1 (2.4)	9 (22.2)	2 (4.9)	0 (0.0)	1 (2.4)
40's	6 (66.7)	1 (11.1)	1 (11.1)	1 (11.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
50's	1 (25.0)	2 (50.0)	0 (0.0)	1 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
60's & over	2 (66.7)	1 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Employment Status									
Employed	55 (33.1)	11 (6.6)	38 (22.9)	10 (6.0)	3 (1.8)	42 (25.3)	3 (1.8)	2 (1.2)	2 (1.2)
Unemployed	42 (18.0)	14 (6.0)	55 (23.6)	6 (2.6)	5 (2.1)	78 (33.5)	26 (11.2)	7 (3.0)	0 (0.0)
Total	97 (24.3)	25 (66.3)	93 (23.3)	16 (4.0)	8 (2.0)	120 (30.1)	29 (7.3)	9 (2.3)	2 (0.5)

Source: Korean Ministry of Gender Equality and Family, 2003, 'National Family Survey & Korean Family Report'.

As shown above, today's patriarchal family system that drives women to chose between work and family and men to solely bear the role of household bread-earner is contributing to a phenomenon where individuals consider marriage and family as one of many alternative stages in their life process. Considering the fact that Korean society is very strict on recognizing childbirth only within marriage young people's tendency to delay or avoid marriage can only lead to extreme low fertility.

7. Conclusion

It seems the acceptance of low fertility is a worldwide trend. A child is considered a cost and at the same time "a precious being which cannot be valued." Such a dualistic attitude is one of the factors used to explain today's low fertility phenomena. The reason whey the issue of low fertility in Korean society becomes a problem is that the causes of low fertility is very complex. Among many possible causes, this study focused on the one as a history of the whole society being indifferent to care-taking work which is indispensible for the healthy reproduction of a society as a whole. The total responsibility to carry out the cycle of caretaking work where people give birth to children and raise children so the children grow up to reproduce and takes care of the elderly generation is burdened to individual families and then women within the family. But the fact that market labor is considered to be superior economically and normatively has driven women into a deep dilemma. There is a big gap between the ideal image of family as a family with two kids and the family strategy taken in reality.

From such a perspective, this study attempted to show that the realization of gender equity in care-taking is a fundamental solution in overcoming low fertility phenomena in Korean society. The experience of the West who had to deal with the crisis of low fertility before us shows us that when the level of gender equity of society as a whole does not match the level of gender equity in the family there is a drastic decrease of the fertility rate through the society. Such an experience is not an exception to Korean society.

Behind the increase of singles who are the primary group responsible

for extreme low fertility in Korean society and the age of marriage there exist the negative effects of patriarchal family which forces women to accept interruption of career. No woman will easily decide to get marry when she knows it is the women who are completely responsible for housework and care-taking work after marriage while emphases on individual citizenship and labor rights are expanding. The housework sharing among Korean couples according to life cycle examined through the data from daily time use survey showed a structure of extreme inequality. Unless such patriarchal family life is not changed the trend of young women who are more concerned with building up their career delaying or avoiding marriage will continue to accelerate.

Moreover, the result of this study confirmed that working married women also consider gender equity within the family as an important factor in deciding to have children. Women's labor power is increasingly sited as an alternative to overcoming the expected labor shortage from the continuation of low fertility, however, unless the patriarchal gender work division is eliminated a vicious cycle of extreme low fertility continuing to exist which will further the need for women's labor. For the compatibility of work and family, the realization of gender equity within the family is equally important and fundamental solution that confronts the problem of low fertility in Korean society as the expansion of social childcare system. In this sense, the crisis of low fertility in Korean society can provide a great opportunity for Korean society to reinstate the long deserved importance of care-taking work.

Ⅷ. Equality of Employment and Low Fertility

1. Introduction

1-1. Is Low Fertility a "Problem"?

Some argue that it is a problem to view low fertility as a "problem." The basis for such argument is that childbirth must be an individual's choice and must be respected as a right of self-determination; it is not something that a government may interfere into to promote more or less childbirth. A government's political interference is necessary when a group of individuals could have a negative effect in the entire nation or society. However, the methods of interference must not invade into an individual's right for self-determination. Nevertheless, the methods should change the environment for decision-making or provide more options to choose from so that it will result into an individual making a free decision. Such concerns relate to the infringement of an individual's decision-making right that must be due to the past experience on fertility policies (birth-control policy), which had infringed on the right of women for self-determination in their sexual life.

Could low fertility be considered as a negative effect to society resulting from an aggregated individual group action? It cannot be considered as a social problem for the breakdown of family values or the weakening of national power due to the reduction of the population. The breakdown of "family values" could mean different things to each individual and family. Moreover, it cannot be considered as a negative

effect or cause to the entire society, but to many families it must still be within the bounds of an individual's right to self-determination. In addition, the reduction of population itself is not the matter that causes fear. National power does not come from the size of the population. And the saying that "national power," within the definition of competitions and expansionism, can not have more importance than the quality of people's life.

The unbalanced composition of population in terms of generations, which accompanies the process of population-reduction such as an aging society, could, however, cause a big problem to society. The low fertility phenomenon, which means less replacement to the existing population (total birthrate/total fertility of 2.1 persons) creates an inverted triangle population pyramid. It is expected that a more serious instability would show in the population pyramid of Korea because its birthrate has dropped to a critically low level from a high birthrate in a very short period of time. An imbalanced population-composition in terms of generations increases the burden of the generation which provides labor and makes it harder to redistribute the income among generations. In such cases, the quality of the people's life and social welfare could be damaged for any generation, whether it be an old or a young generation. Therefore, it raises the necessity for the government to interfere into the problem of low fertility as a social phenomenon through proper political measures.

1-2. Viewpoints on the Low Fertility Phenomenon

In order to draw proper policy measures to resolve the low fertility problem, the causes must be precisely identified and one must adopt a

new viewpoint so as not to go around the same results that were previously analyzed.

It is a well-known fact that Welfare State Theory, which studies what kind of social welfare structure one society has and how it affects the people's life, has gained another upgraded level of explanation through new gender aspects which reflect on the female experience and the meaning of 'child care' by breaking away from using males as standardized laborers and explaining the effects from a male-centered study. Low fertility is a difficult problem which cannot be considered out of the welfare structure or roles of 'child care'; therefore, its significance will clearly be shown from the gender perspectives. This report will try to view low fertility problems, understand the phenomenon, analyze its causes and derive proper policy measures to resolve it.

1-3. Research Questions

No one can object to the reason of women for avoiding childbirth due to the difficult environment in carrying out an economic activity and raising children simultaneously. The cause of the difficulty of women who work and bring up children at the same time could be discussed in two aspects: first, the level of socialization of child care is low and women are more responsible for raising children in the family because of the unshared responsibilities among family members, even between couples; and second, women postpone childbirth since they have lesser chances in having a stable job. This research will focus on the second aspect which has not yet been discussed with interest by previous studies.

First, Clause 2 will look into the causes of low fertility and review the political paradigm from a gender perspective and will derive an assumption

on the relevance between gender equality in employment and fertility. Clause 3 will prove the relevance between gender equality in employment and fertility through the materials, which is arranged according to the order of the time-series data of the OECD Countries' total fertility rate and labor market indexes. Clause 4 will show the practical problems by proposing our experiential findings on the experiences in birth-control of Korean women who work and raise their children at the same time. Clause 5 will conclude the whole content of our research and will derive proper policy measures.

2. Causes of Low Fertility from a Gender Perspectives

2-1. Mechanism of Low Fertility Phenomenon Settlement.

The decline in the level of Total Fertility Rate in Korea 1.17 (2003) ~ 1.19 (2004) clearly means fewer women are giving birth today than before. By closely observing the facts, it is composed of two matters which were already concluded: first, the change in the time of giving birth (tempo); and second, the change in quantity (quantum). Compared to the past generations, the age of marriage and the first childbirth is very high for today's women and this is the primary factor for the lower fertility level. (Gi-Soo Eun, 2005) An important primary factor is the postponement of marriage and the birth of the first child, although the number of children itself of the married women decreased as well. The postponement of the first childbirth can only cause a decrease in the total number of children in a lifetime.

In this writer's opinion, the primary factors for the postponement of the

tempo (the time of giving birth) and the decreased quantum (the change in quantity) of married women only help to understand the matters which were already concluded by deconstructing the low fertility phenomenon. However, it cannot be considered itself as the 'cause' for low fertility. The cause for low fertility will be taken up in the process of reviewing the reasons for postponing marriage and childbirth and the reasons of married women for having fewer children. The change of the values on marriage and the values on children do not provide enough explanation. It is not enough although it could be true that the values did change in their preference to have fewer children. It is necessary to have additional explanations on why the values changed, what relations the values and the objective social/economical changes form, and within those relations what led to the low fertility phenomenon.

2-2. Discussion on the Causes for Low Fertility

Gi-Soo Eun (2005) has discussed two main causes for low fertility: one is the change in economic situations; and second, the change and detachment of consciousness. First of all, he mentioned that the economic reality, such as the increased financial burden in raising children, the lack of stability in the workplace, and the difficulty of arranging housing ownership, led to the postponement of marriage and giving birth. For the evidence of his explanation, he pointed out that, at the end of 1997, the total fertility rate in Korea dropped to its lowest level. Incidentally, it was also the period when Korea had a currency crisis, which was followed by an economic depression. It is an undeniable reality that men are asked to be responsible for the role of family provider; yet it is harder for them to maintain the ability to satisfy this role.

Economic depression could be the primary factor that caused the postponement of marriages and childbirths; it also temporarily lowered the total fertility rate. In the opinion of this writer, however, there is no direct relevance in the long-term decline of birthrate for most nations: from a higher level than the replacement rate to a lower level than the replacement rate. Therefore, it is not relevant to pin the blame on the economic depression for the low fertility in Korea. Furthermore, confusion might arise in providing solutions to the problem.

Gi-Soo Eun (2005) has pointed out that the second cause for low fertility is the serious of reality from the remaining consciousness on strong family values and gender discrimination against women is the primary factor why women avoid marriage and giving birth. Many researchers have pointed out that any country with a low birthrate has strong familism, for example, Southern European countries, including Italy, and countries like the Republic of Korea. (Gi-Soo Eun 2005; McDonald 2005).

Table 8-1. Total Fertility Rate (2003)

GROUP 1	GROUP2
· Nordic	· Southern Europe
· Western Europe (French-Dutch speaking)	· Western Europe (German-speaking)
· English-speaking	· East Asia

GROUP 1	TFR	GROUP 2	TFR
United States(2002)	2.01	Portugal	1.44
Iceland	1.99	Switzerland	1.41
Ireland	1.98	Malta	1.41
New Zealand	1.96	Austria	1.39
France	1.89	Germany	1.34
Norway	1.80	Spain	1.29
Denmark	1,76	Italy	1.29
Finland	1.76	Japan	1.29
Australia	1.75	Greece	1.27
Netherlands	1.75	Singapore	1.26
Sweden	1.71	Republic of Korea	1.19
United Kingdom	1.71	Hong Kong SAR	0.94
Luxembourg	1.63		
Belgium	1.61		
Canada(2002)	1.50		

Note : Referred to McDonal(2005).

Furthermore, these figures suggest that there are clear, existing difference in the opinion between males and females in terms of their consciousness on gender equality or the value of family(Tae-Hun Kim 2005; Jae-Gyung Lee 2005).

The responsibility in women's private dominion has not changed much despite the

fact that dual-earner households have increased and it is impossible for men to solely carry out the role of breadwinner. "Vacancy of Care" occurs because men want to avoid the stigma of being child caregivers. Systematic Equality that offers equal opportunity in the public dominion does not apply to private dominion and the division of labor by gender in the private dominion has been accepted naturally and sensibly. As a result, women's double obligation and the 'delayed evolution' of men have made women to take alternative solutions such as marriage avoidance or postponement of pregnancy or giving birth(Jae-Gyung Lee 2005).

The most important implications that I choose from the existing arguments mentioned above for the cause of low fertility are: the clear distinction of the pace by which men and women understand or become aware of gender equality. Furthermore, it is unavoidable for women to decide to be solely responsible for both childbirth and 'child care', since social systems or policies cannot catch up with the rapid changes in women's consciousness.

In the past, when 'child care' was allowed ideologically and the family value is commonly accepted, it was not easy for women to refuse the responsibility of giving birth and caring for many children. However, after the active participation of women in economic activities, women realized that they are living in a world where one's labor is generally exchanged for money. Therefore, paid labor and unpaid child care-giving are distinctly in contrast.

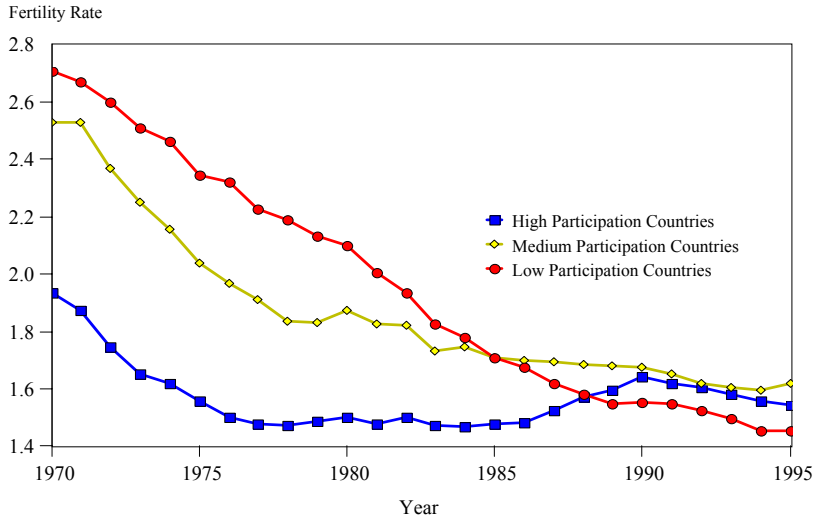
We commonly hear that one of the most important causes for the fertility is the women's participation in economic activities. Economists explain that women must choose between paid labor and childbirth and childcare within time and budget constraints. This hypothesis has been supported by studies using individual level data(Becker 1965; Schultz

1974). It is appropriate when the total fertility rate changes from the level of 5~6 to the level of 2~3 to support the argument which suggests women's participation in economic activities. However, it may not reasonable for the reality that occurs afterwards. According to recent statistics, countries with relatively low economic participation, such as Korea, Spain, Italy, and Japan, have low birthrate. [25)]

On the other hand, countries like the Nordic countries and the United States maintain a high birthrate as well as high level of women's labor force participation rate. In other words, women's labor force participation and the birthrate are in reciprocal replacement-relations for some countries. These two variables, however, are not in replacement-relations for other countries. In a society where a woman must choose between 'the work' or 'the children,' one cannot expect to have both a high birthrate and a high female labor force participation rate.

25) Chesnais(1996) has pointed out that any developing country with a low level of gender equality has a high birthrate. However, well-developed countries with high level of gender equality have high birthrate. He refers to this as "feminist paradox". (2005. Lee Jae Gyeong)

Figure 8-1. Women's Economic Participation and Fertility Rate

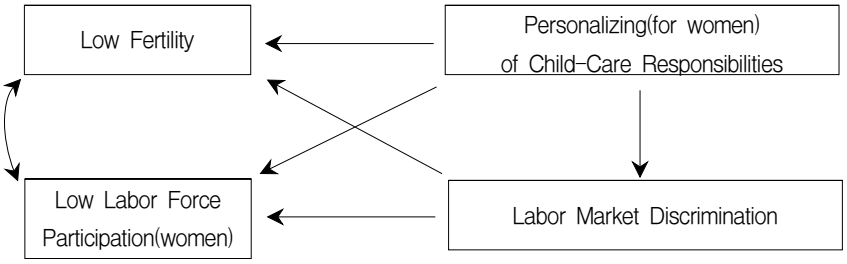


The participation of women in economic activities and the fertility rate in most of the advanced countries are both higher than our country, Korea. It can be said that while the advanced countries put effort in making economic activities and childbirth not just options for their female citizens, most Korean women suffer from dealing with a painful choice: 'work or children.' In reality, most women face every moment the choice between 'being a faithful mother to their children' and 'being a responsible career woman' despite the fact that women's labor force participation is not a matter of option anymore for most members of the social stratification.

Still, we have not improve of the social structure which forces women to choose between work and children even though the low economic participation rate of women could be an obstacle to economic growth. Furthermore, the rapid aging process caused by low fertility threatens the stable reproduction of the society.

By the way, it is a reality that women's role of childbirth (reproduction) is a disadvantage in the labor market in Korea. The labor force participation rate of women in Korea belongs to the lowest group among the OECD countries. Korean women rank high in non standard positions, rank low among professionals and managers and there is a wide gap in the average wages of women and men. The women's child-care responsibility, which put women in-charge unilaterally, is the core of the problems causing such realities. The separate gender roles are deeply ingrained in families and the society in general to preserve a patriarchism, which means it represents the inferiority of women through interventions of persons in major positions, such as the exclusion of women, severe experiences and others, for women in the labor market and all economic fields of achievement. By maintaining that child-care matters are private matters and neglecting them as duties of every family member means that all child-care responsibilities will be completely charged to women. Also, it means that any woman who pursues an economic activity cannot enter the labor market with a fair chance for competition. Personalizing child-care responsibilities involves gender discrimination in the labor market, which causes both low fertility and low labor force participation among women.

Figure 8-2. The Relationship of Major Variables, Explaining Low Fertility and the Low Economic Participation Rate



One could assume that the unfairness of the labor market could have a negative effect on birthrate and an important mechanism in postponing childbirth, both for women professionals or managers with high educational attainment and for women who work in other areas, such as sales person, manual worker, etc. Although they may have different reasons.

Women workers who are professionals or hold managerial positions tend to postpone pregnancy and giving birth until they reach a more established position. Women who work in low positions generally postpone childbirth due to more practical problems such as the difficulty to continue working after giving birth. Therefore, the most common life plans of these women would be: to postpone giving birth while working; retire from work when they get pregnant; spend time in raising their children; and finally, return to a low-waged, job again. One could draw a hypothesis that any nation with a high level of gender equality can have a high birthrate by understanding the life plans mentioned above.

3. International Comparison of Relevance of Birthrate and the Opportunity Structure in the Labor Market

3-1. Framework for Analysis on the Fertility Policy Paradigm.

Any birth-related policy of a country does not exist as an independent 'fertility policy (or population policy)'. It is integral to other social policies, such as the family policy, the labor market policy, child-welfare policy and others. Therefore, to understand the fertility policy paradigm, one must widely understand the variety of social policies in the country. In this report, the characteristics of the fertility policy paradigm will be found in the relevance of the family policy and the labor market policy. An ideologically tangible framework, which could be applied to each international case, will be suggested with additional check-list of existing independent fertility/population policy.

This writer suggests a table as a framework for analysis, as shown below, which seeks to analyze the variables of welfare policy or a welfare state by referring to two female experiences: as a child-caregiver and as a worker(Jiyeun Chang 2004). This framework for analysis implies the simultaneous examination of paid labors and unpaid child-care work and suggests the examination of a dimension of civil rights as a right to access and freedom. In other words, active rights and passive rights.

Table 8-2. Analysis Frame for Fixations of View on Gender

		Dimension of Rights	
		Active Rights	Passive Rights
Types of Labor	Paid Labor	Labor Right	Free from Commercialization
	(Unpaid) Care Work	Parental Right	Free from Patriarchy

The right of access is a general idea to represent an active rights for paid-labor or unpaid child-care work. The right to paid labor is referred to as 'labor right,' while the right for unpaid child-care work is referred to as 'parental right.' The passive right is a dimension that represents the right to work unforcibly for either paid labor or unpaid child-care. Paid-labor, that is a degree of being free from the power of the market, is generally known as 'freedom from commercialization,' while unpaid child-care work, that is a degree of being free from the power of the patriarchal system, could be termed as 'freedom from patriarchy.

A nation can take three possible policy measures when the low fertility phenomenon occurs due to the low evaluation of the value of child care. One way is by trying to restore the traditional patriarchal value; however, nobody would believe that this method would work. The method that advanced countries have adopted is one of the following or a combination of two. The first method is supporting parental rights to directly nurture their children as parents. In other words, the government pays an active compensation for child care. The general idea of providing a childcare allowance or wage for the full-time housewives is an example of such compensation. It means it can be possible for women to become independent from their husbands through the method of evaluating the

significance of unpaid labors which are still charged on women. However, in reality, the amount of the compensation paid by the government is insignificant; therefore, the chances of securing a woman's independence by relying on such allowance is quite slim. The second method is taking away child-care work from the family, and then commercializing child care or providing it as a public-service. The advanced countries have different degrees in executing related policies derived from the methods mentioned above; however, some have criticized that such policies have contributed in representing women as low-waged laborers.[26)]

Here are examples of some typical cases: Sweden is a country which exerts policy efforts in giving equal emphasis on labor rights and 'freedom from patriarchy' or parental rights with 'freedom from commercialization.' However, in a close analysis of the policy's emphasis, one could judge that the policy defines women as workers, and yet, the policy tries harder to work on the methods that provide child-care work as a public service.

For France, it seems hard to see which right is more emphasized for women, whether it is the labor right or the parental right, though it clearly states and emphasizes the right of choice and tries to pursue childcare as a 'freedom from patriarchy' with economic compensation. Germany could be considered given that it has a policy which gives more emphasis on parental rights than women's labor right or pursuing child-care work to become 'free from patriarchy.' However, it is a country which pays

26) To discuss such pattern with the words from Fraser's Replaceable Gender Order (Fraser 2000), paying compensation for child care to support the parents' direct nurturing of their children can be considered as a Caregiver Parity Model. In comparison, a method which tries to pursue 'freedom from patriarchy' and tries women to become paid workers could be considered as a Universal Breadwinner Model. However, Fraser has suggested the Universal Caregiver Model which pursues for a lifestyle of sharing child care and paid labor by both men and women.

significant amount of compensation (as compared to others) for nurturing and family values still prevail. One of the differences in the population policy of France and Germany is that France clearly states a childbirth-promoting policy, while Germany does not clearly apply the childbirth-promoting policy to avoid international responsibility from World War II.

The United States emphasizes women's right to work but does not intervene on child care. Therefore, child care does not become a public service but free from family as it goes into the market. However, this kind of method has a certain limitation on easing the women's responsibility for child care. The policy paradigm of these nations can be captured at least in part by variables such as the indexes of women workers in the labor force and expenses weighted on family policy. We will be able to estimate the effect of the gender-equality policy to the labor market, the level of direct compensation for child care from the government, and the level of child care work that is free for the family through child rearing service on the women's choice on childbirth.

3-2. Data and definition of variables

This study makes use of data with country as a unit because it aims to analyze how the social condition and systemic differences affect the level of women's participation in economic activities. All data for the analysis came from the following four resources.

First of all, "Comparative Welfare States Data Set (CWS)"is a reconstructed data from the resources of OECD and ILO by Evelyne Huber, Charles Ragin, John D. Steohens with the support of Northwestern University and North Carolina University. This data set gives plenty of

information about financial expenses per social category and offers supplementary indexes related to labor market and population. It has plenty of information for a 35-year period, from 1960 to 1994, on 19 nations. Second, the data "1980-1998"20 years of Social Expenditure (SOCX)" from OECD offers resources in 13 sections of social policies, which include public social expenses and essential and private expenses of 25 nations from 1980 to 1998. For analysis, I used the resources of 19 nations from 1980 to 1994 in family service, active labor market policy, and unemployment related.

Third, "Comparative Family Benefits Database, Version 2 (CFBD)" is a recomposition of the resources of the OECD and individual nations by Professor Gauthier in Calgary University, Canada. It includes cash allowance, including family allowance, tax exemption by the number of children, and variables of population and economy of 22 OECD nations from 1970 to 2000. Lastly, the "World Development Indicator (WDI)"by the World Bank has renewed the data every year from 1960 until now. It gives information about the society, the economy, finance, resources, and environment of about 200 nations but centered on 28 main nations. I used major economic indexes of 18 nations from 1980 to 1994 for the analysis.

Table 8-3. Definition of Variables

	Name of Variables	Definition & Functions	Source	Source
UNIT	Country	Name of country, 19 OECD countries		
TIME	Year	Year, 1980-1994 15 years		
Dep. Var	Birthrate	Total Fertility Rate		
Employment Equality Variables	Rate of Female in Labor Market	Rate of women among employees(%), (Women employee/Entire employee)×100	CWS	OECD, Labor Force Statistics
	Female's Wage Rate	Rate of women's wage by hour in manufacturing industry in comparison to men's: (Women's wage/Men's wage)X100	CFBD	ILO
	Rate of Part-Time Female Employment	Rate of part-time job among women workers		
Family Policy	Family Allowance	The remainder of maternity leave allowance among family related allowances, mostly children allowance takes large proportion; Rate in the total GDP(%)	SOCX	
	Expenditure of Childcare Service	Expenses for public Childcare services; Rate in the total GDP(%)	SOCX	
	Maternity leave	Period that puts before and after childbirth leaves and parental leave together.(unit: week)	CFBD	
Economic Environment (Control Variable)	Unemployment Rate	Unemployment Rate (%)	CWS	OECD, Labor Force Statistics
	Active Labor Market Policy	Expenses for active labor market policy; Rate in the total GDP(%)	SOCX	
	Proportion of Service Industry	Employees Engaged in Service industry out of total Employment	WDI	
	GDP	Real GDP per capita(US$), 1985 basis	CWS	OECD

Note : Writer's Invention in Italic

Sources : CFBD: Gauthier, A.H. (2003), Comparative Family Benefits Database, Version 2 (University of Calgary), CWS: Comparative Welfare States Data Set 1960-1994, Assembled by Everlyne Huber, Charles Ragin, and John D. Stephens (1997), ILO: Year book of Labour Statistics (Various years), OECD: Labour Force Statistics, Tax/Benefit position of Production Workers, UNESCO: On-line statistics: www.uis.unesco.org/en/stats/stats0.htm, USCB: United States Census Bureau. International Database, On-line: www.census.gov/ipc/www, SOCX: OECD Social Expenditure Database 1980-1998, WDI: World Bank

3-3. The Relationship between Gender-equality in Employment and Birthrate: Descriptive Analysis

From 1994, the best five nations with high birthrate are New Zealand, the United States, Sweden, Norway, and Australia, followed by Denmark and Finland. Nations with high birthrate are mainly Nordic and English-speaking nations of the New Continents, those that intend to be social-democratic welfare state. On the other hand, the five nations with the lowest birthrate turned out to be Italy, Germany, Switzerland, Japan, and Austria.

It is this study's hypothesis that the level of a nation's birthrate and the level of the gender equality in the labor market have a positive correlation. The child rearing support policy is an important factor that affects women's economic activities and birthrate as the gender equality of in the labor market. <Table 8-4> and <Table 8-5> suggest the national rankings on child rearing support policy and labor market indexes that are expected to have a strong relationship with birthrate. Colored nations are the five highest and five lowest nations in the birthrate table. From these tables, we can briefly take a look at the level of child rearing support policy and the gender equality in the labor market in the nations with high or low birthrate.

Nations with high rate of expenses on child care service in the total GDP also turned out to have high birthrate. The top four nations with high expenses on child rearing service are Denmark, Sweden, Finland, and Norway, and these nations also belong to the Top seven nations with a high birthrate. Contrary to the general perception, as seen from the rate in comparison to GDP, the expenses of the United States, Australia, and New Zealand rank in the middle, while the expenses of Italy, Japan, and

Austria those with low birthrate were the lowest. Germany is an exception, as it spends much on child care serve but could not raise its birthrate. Except for Germany, it seems obvious that the expenses on child care service have a certain correlation to birthrate.

With the exception of the United States, the rate of family allowance in the total GDP seems to be correlated to birthrate. Among advanced nations, those with small expenses for family allowance have low birthrate. Family allowance (or children allowance) is well known for raising birthrate and solving children's poverty problem. However, the family allowance system is an obstacle for raising the rate of women's participation in economic activities and easing the inequality of the sexes in the labor market. I think that we need to pay more attention to adopting family allowance because promoting childbirth is not included in all the policies.

Unlike the general assumptions, the period of leave for childbirth and child rearing do not show a certain relationship to birthrate. This is because the nations, such as the United States, Australia, and New Zealand, have planned a short leave for childbirth and do not have any system that supports direct child rearing of infants by parents through a leave system. Another explanation for this is that the period of childbirth/child rearing leave itself may not positively affect birthrate. Nations with a longer leave period show disadvantages on women in the opportunity structure in the labor market. This can be interpreted this way: nations with a "women's labor" policy that give a longer leave period and maintain a wide wage gap between the sexes and high part-time work for women in the labor market may not be helpful in raising fertility rate.

The relationship between the gender equality in the labor market and birthrate shows a very coherent result. First, the nations with high birthrate

were the nations with a high rate of women's participation in the labor market. Sweden, Finland, Denmark, the United States, and Norway are the nations with the highest women economic participation rate and they are also included in the top nations with a high birthrate. On the contrary, the five nations at the bottom of the table with low birthrate were ranked outside the Top 10 among 18 nations in terms of 'women's participation' rate in labor market.

The correlation between the wage gap between the sexes and birthrate is clearly shown. Nations with a high fertility rate such as Sweden, Norway, Australia, and the United States show a relatively small wage gap between the sexes whereas nations with low birthrate such as Germany, Austria, Switzerland, and Japan show a bigger wage gap between the sexes. The fact that nations where women are treated fairly and play half the economic role in society have a high birthrate has a very significant meaning to policy making.

The proportion of part-time workers among women did not show a clear relation to birthrate. The fact that women have part-time jobs can be easily understood because a part-time schedule allows them to combine their work and family life. Thus, the rate of part-time work will have positive relationship to birthrate. On the other hand, the fact that women have a higher proportion of part-time jobs can suggest that the women's opportunity structure in the labor market is different from the men's and is unequal. Thus, the rate of women part-time workers will have a relationship with birthrate and wealth. From the result of my observation, I guess these two mechanisms work at the same time. Nations with low birthrate do not show a coherent tendency in terms of the rate of women part-time workers. On the other hand, nations with a high birthrate show both extremes in the rate of women part-time workers. We can understand

that Australia, New Zealand, and Norway support childbirth and child rearing by encouraging women to work part-time. Sweden and the United States are well known for securing the equality of the sexes in the labor market, and I assume that such national policy displays a positive effect on women's economic activities and the birthrate at the same time.

As I try to divide the nations into types, Sweden and Norway have a high rate of financial investment in child care services and showed high gender equality in the labor market. As a result, they have both maintained a high level of birthrate and women's economic participation. The United States should be considered as an exception. It would be logical if it has a low birthrate as it invests a relatively small amount on child care service and other social welfare. However, it has managed to maintain a high birthrate because it has succeeded in the emigration policy and gender equality in the labor market. In the other column, Japan and Italy both have a low level of socialization of child rearing and show a high inequality of the sexes in the labor market. As a result, they have not been able to solve the problem of low fertility rate and women's economic participation. Korea, in fact, is in a worse situation in all aspects than Japan or Italy, but the policy we should take seems to be obvious.

Table 8-4. Level of Child Rearing Support Policy and Inequality in the Labor Market of the Five Nations at the Bottom of Birthrate Ranking.

Ranking	Family allowance	Childcare Svc	Maternity Vacation	Female Rate	Wage Difference	Rate of Part-Time
1	Luxemburg	Denmark	Finland	Sweden	Sweden	Netherlands
2	Netherlands	Sweden	France	Finland	Norway	Switzerland
3	New Zealand	Finland	Germany	Denmark	Australia	U.K.
4	Belgium	Norway	Austria	USA	Denmark	Australia
5	France	Germany	Sweden	Norway	Italy	Norway
6	Australia	Luxemburg	Denmark	Canada	USA	New Zealand
7	Finland	Netherlands	Netherlands	France	France	Japan
8	U.K.	Australia	Belgium	New Zealand	Finland	Belgium
9	Norway	Switzerland	Norway	U.K.	New Zealand	Canada
10	Sweden	Belgium	Japan	Belgium	Netherlands	Germany
11	Switzerland	New Zealand	New Zealand	Austria	Belgium	Denmark
12	Denmark	USA	Australia	Germany	Germany	Luxemburg
13	Germany	France	Italy	Australia	Austria	Austria
14	Canada	U.K.	Canada	Netherlands	U.K.	Sweden
15	Italy	Canada	U.K.	Switzerland	Switzerland	France
16	USA	Italy	Luxemburg	Japan	Luxemburg	Italy
17	Japan	Japan	USA	Italy	Canada	USA
18	Austria	Austria	Switzerland	Luxemburg	Japan	Finland

Table 8-5. Level of Child Rearing Support Policy and Inequality in the Labor Market of the Top 5 Nations in terms of Birthrate

Ranking	Family allowance	Childcare Svc	Maternity Vacation	Female Rate	Wage Difference	Rate of Part-Time
1	Luxemburg	Denmark	Finland	Sweden	Sweden	Netherlands
2	Netherlands	Sweden	France	Finland	Norway	Switzerland
3	New Zealand	Finland	Germany	Denmark	Australia	U.K.
4	Belgium	Norway	Austria	USA	Denmark	Australia
5	France	Germany	Austria	Norway	Italy	Norway
6	Australia	Luxemburg	Denmark	Canada	USA	New Zealand
7	Finland	Netherlands	Netherlands	France	France	Japan
8	U.K.	Australia	Belgium	New Zealand	Finland	Belgium
9	Norway	Switzerland	Norway	U.K.	New Zealand	Canada
10	Sweden	Belgium	Japan	Belgium	Netherlands	Germany
11	Switzerland	New Zealand	New Zealand	Austria	Belgium	Denmark
12	Denmark	USA	Australia	Germany	Germany	Luxemburg
13	Germany	France	Italy	Australia	Austria	Austria
14	Canada	U.K.	Canada	Netherlands	U.K.	Sweden
15	Italy	Canada	U.K.	Switzerland	Switzerland	France
16	USA	Italy	Luxemburg	Japan	Luxemburg	Italy
17	Japan	Japan	USA	Italy	Canada	USA
18	Austria	Austria	Switzerland	Luxemburg	Japan	Finland

The diagram suggested below is a simple graph of the relationship between the variable of the equality of the sexes in the labor market and birthrate, based on pooled resources from 18 OECD nations for a 15-year period. The rate of women's participation in the labor market, the rate of women workers in comparison to men workers, and the rate of women part-time workers seem to be positively and weakly related to birthrate. However, I will analyze its statistical significance and if such relation is still valid when other variables are controlled in the next section.

Figure 8-3. Rate of Women's Participation in the Labor Market and Birthrate

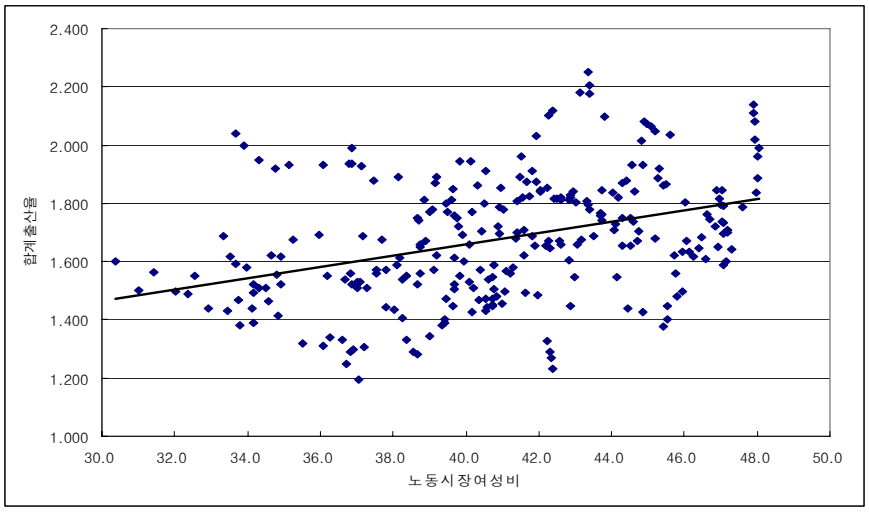


Figure 8-4. Women's Wage in Comparison to Men's and Birthrate

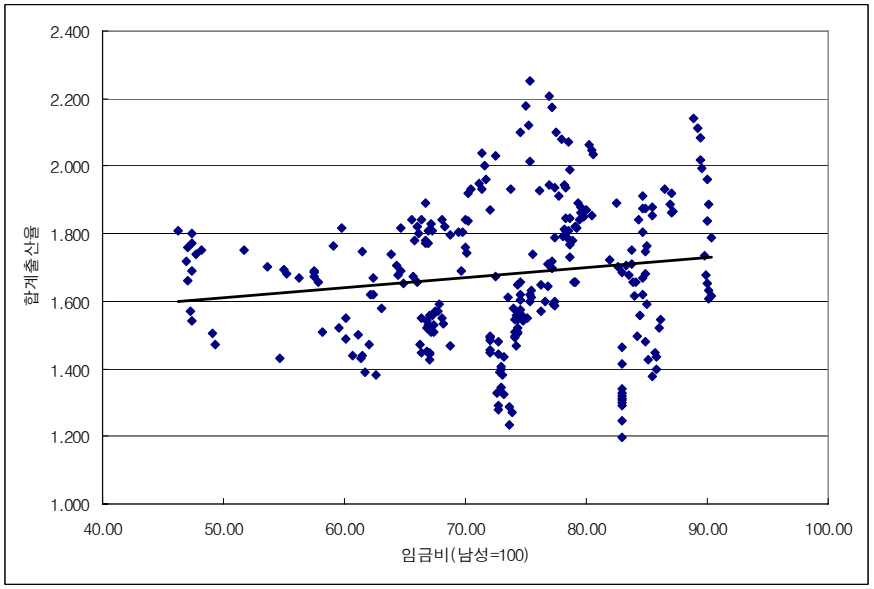
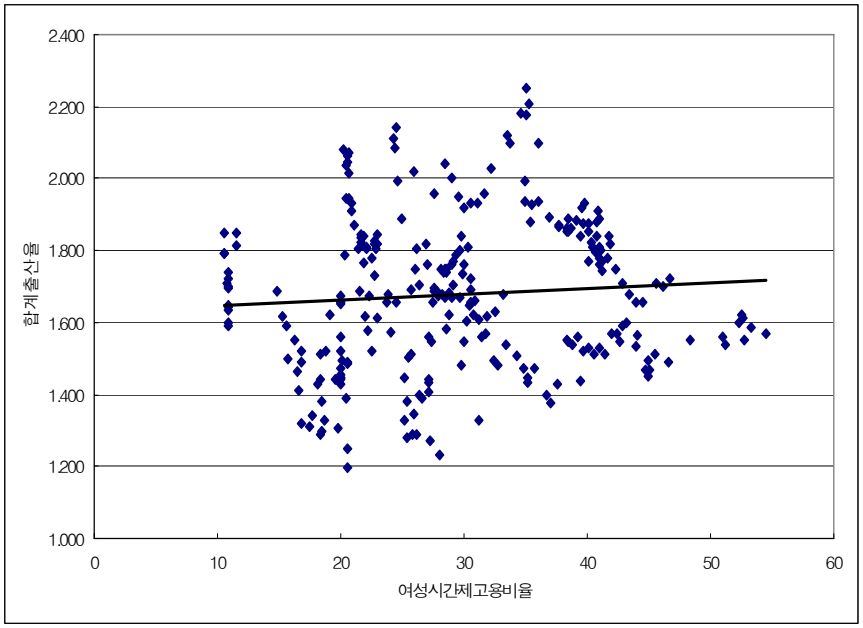


Figure 8-5. Rate of Women's Part-time Employment and Birthrate



3-4. Relationship between the Gender-equality and Fertility Rate

A. Model for Analysis

The basic model for analysis that I try to propose here is as follows:

* *Numerical formula 1: yit = itXit +itZit + it*

yit is a subordinate variable that shows the total birthrate of the nation I in the year t. The explanatory variable can be largely divided into two groups: Xit is a variable of employment equality index that is assumed to affect birthrate, and Zit is a variable of family policy that has been discussed as it affects birthrate. As I mentioned before, the variables we are concerned about are the expenses on childcare service, the total period

for maternity and parental leave, the family allowance, the Female labor force participation rate, the women's wages in comparison to men's and the rate of women part-time workers that are bases for equality in employment. Controlled the rate of unemployment, the rate of employment in the service industry, and the GDP per person in terms of purchasing power. As I mentioned before, the data used here is from 19 nations for a 15-year period. In other words, these were pooled cross-sectional, time-series data from each nation. If I assume the pooled data with Ordinary Least-Square Regression, I would not be able to utilize the information about the differences by nation and by year.

Therefore, in accordance with general the methods for analysis of panel data, two models can be applied: the Fixed Effect Model that presumes that the differences by nation can be explained entirely with the nations' own and fixed character and the Random Effect Model that presumes that the differences by nation are distributed arbitrarily by time.

The weak point of the Fixed Effect Model is that it only utilizes the dispersion through time by each nation, not the information about the differences by nation. The weak point of the Random Effect Model is that the presumed value leans on one side if there is a relationship between the control variable and the error item from the nation's special situation. Therefore, in this study, I used two methods for examination. One is the Breush and Pagan LM to examine the existence of the arbitrary effect of a nation's special situation and the Hausman examination to see if the effect b of a nation's special situation is related to other explanatory variables, or if the assumed values of the fixed effect and arbitrary effect have respective differences as mentioned beforehand.

The result of the Breush and Pagan LM examinations showed that there are arbitrary effects. However, the result of the Hausman examination

showed that the fixed effect by the nation's situation is correlated with other explanatory variables. Therefore, I conclude that the arbitrary model is not desirable. Also, since the time-series data is relatively longer than the cross-sectional data, the time-series data is likely to show an auto-correlation, while the cross-sectional error item can have heteroskedasticity.

Therefore, as an assumption, I used the Generalized Least Square Regression or GLS to consider the dispersion of the error item as more random than the above-examined models in both the cross-sectional and time-series data and analysis. I decided to explain the interpretation of the results of the analysis as the basis for this. In case of the GLS, we may focus on problem solving either for heteroskedasticity as the structure and character of error item or for auto-correlation. Our data do not show a big difference in the number of time-series (number of year) and cross-sectional (number of nation) data so that I examined a model that considers both problems first. That is, I considered that the heteroskedasticity problem exists in the cross-sectional data and auto-correlation or AR (1) exists in the time-series data, then I made the analysis.

B. Results of the Analysis

I used the rate of women's participation in the labor market, women's wages in comparison to men's wages, and the rate of women part-time workers as indexes to measure the position of women in the labor market and the level of equality in employment.

From all models for analysis, the rate of women part-time workers turned out to have a negative effect on birthrate. In other words, the higher the rate of women part-time workers, the lower the birthrate. This

is different from what is generally expected and has an important meaning to policy making. In the majority of the nations, extended part-time employment is considered as one of the most important measures in policy making to support the coexistence of work and family and they expect that it would raise both women's employment and birthrate.

However, if we think about it based on a feminist perspective, this is obviously anticipated. To have a high rate of women part-time worker means that women are considered as different workers from men, and it pulls out women from the labor market without socializing child care and still leaves child care as a woman's responsibility. In such a social environment, women can be undervalued in both their wages and child care work. There fore, avoiding childbirth becomes a rational choice.

The rate of women's wages can be interpreted as having the right relationship to birthrate. That is, the smaller the wage gap between men and women, the higher the birthrate. From an individual perspective, women who earn high wages may avoid pregnancy or childbirth as an economic excuse because childbirth interrupts their career and it involves costly expenses. However, if women are stably incorporated into the labor market, which means childbirth would not entail long-term discontinuance of employment, women may not need to reduce or postpone pregnancy or childbirth. That could be the reason why women from nations that accomplished the equality of sexes in employment and have incorporated women into the labor market can choose to become pregnant and give birth more comfortably. A variable that shows the rate of women in the labor market in terms of quantity did not show a statistical correlation to birthrate. However, if we think collectively, we may consider that the hypothesis that the higher the level of equality in employment, the higher the birthrate, can be supported from these results.

In the other column, the correlation between family policy indexes and birthrate has an important meaning. Expenses on childcare service show the most coherent and positive relationship to TFR(Total Fertility Rate) among child rearing support policies. To counter low birthrate, to promote policies on women's economic participation and children's welfare, it would be worth investing on child care service as a policy that will definitely show a positive effect.

However, contrary to expectations, the rate of family allowance in the total GDP shows a strong negative correlation to birthrate. The fact that family allowance, which can mean compensation for women's child care work affects birthrate negatively has a significance to policy making. Direct compensation for women's child care work negatively affects the expansion of women's employment and does not help in raising the birthrate. Contrary to our expectations, the compensation for child care did not result in raising the birthrate. I think the reason for this is that the compensation from the government is too small, although the advanced countries give a relatively higher amount it still isn't a sufficient compensation. As a result, it is unrealistic to become dependent on child-rearing allowance or housewife wage because the compensation is not attractive enough for women to take this route.

Table 8-6. Results of Time Series Regression Analysis 1

Name of Variable		Random Effects Model	Fixed Effects Model	FGLS Model
Employment Equality Variable				
Rate of Female		.001(.005)	.006(.005)	-.002(.004)
Female's Wage Rate		.006(.003)*	.007(.004)*	.002(.002)
Rate of Part-Time Female Employment		-.023(.003)***	-.030(.004)***	-.005(.002)*
_cons		1.891(.233)***	1.829(.241)***	1.787(.198)***
R-sq	within	0.2361	0.2383	
	between	0.0036	0.0031	
	overall	0.0105	0.0094	
B-P LM test		chis(1)=1157.36***		
Hausman test			chi2(3)=20.51***	
Auto Correlation				.9536
Log likelihood				467.6116
Number of obs			285	
Number of groups			19	

Table 8-7. Result of the Time Series Regression Analysis 2

Name of Variable	Random Effects Model	Fixed Effects Model	FGLS Model
Employment Equality Variable			
Rate of Female	-.003(.005)	.000(.005)	-.000(.004)
Female's Wage Rate	.006(.003)*	.010(.004)*	.002(.002)
Rate of Part-Time Female Employment	-.024(.003)***	-.033(.004)***	-.005(.002)*
Family Policy Variables			
Family Allowance	-.105(.026)***	-.160(.028)***	.007(.014)
Expenditure for Nurturing Service	.244(.065)***	.318(.070)***	.048(.036)
Maternity Vacation	-.000(.000)	-.000(.000)	-.000(.000)
_cons	2.138(.247)***	2.064(.241)***	1.720(.202)***
R-sq within	.3325	.3390	
R-sq between	.0000	.0000	
R-sq overall	.0030	.0024	
B-P LM test	chi2(1)=1060.37***		
Hausman test		chi2(6)=37.69***	
Auto Correlation			.9335
Log likelihood			458.94
Number of obs		285	
Number of groups		19	

Table 8-8. Result of the Time Series Regression Analysis 2

Name of Variable	Random Effects Model	Fixed Effects Model	FGLS Model
Employment Equality Variable			
Rate of Female	.005(.006)	.019(.006)**	.003(.005)
Female's Wage Rate	.006(.003)*	.011(.004)**	.002(.002)
Rate of Part-Time Female Employment	-.023(.003)***	-.034(.004)***	-.004(.002)*
Family Policy Variables			
Family Allowance	-.083(.028)**	-.159(.293)***	.017(.015)
Expenditure for Nurturing Service	.296(.065)***	.421(.072)***	.053(.036)
Maternity Vacation	.001(.000)	.001(.000)	-.000(.000)
Labor Market & Economic Environment			
Unemployment Ratio	-.009(.005)*	-.002(.005)	-.011(.003)***
Active Labor Market Policy	-.088(.024)***	-.101(.023)***	-.017(.016)
Rate of Service Employment	.008(.005)	-.001(.005)	.005(.003)*
GDP per Person	-.177(.065)**	-.177(.066)**	-.130(.048)**
_cons	1.688(.277)***	1.658(.274)***	1.584(.209)***
R-sq within	.3980	.4240	
R-sq between	.0013	.0000	
R-sq overall	.0084	.0031	
B-P LM test	chi2(1)=706.82***		
Hausman test		chi2(10)=54.67***	
Auto Correlation			.9275
Log likelihood			462.1202
Number of obs		285	
Number of groups		19	

4. The Present Situation in Korea: Birth-control Experience of Women Workers

What choice do married female workers with children make for work and child rearing? To answer this question, let's take a look at the research outcome for the year 2003 that 'Korean Women link' investigated. This research investigated married men and women who both work and raise their children under 12 years old. (Chang Jiyeun, Bu Ka Cheong 2003).

The two questions in the survey are if they have considered stop working due to pregnancy or childbirth and if they have practiced birth-control to keep their job. The results are categorized into four types as seen in Table 8-9.

A distribution chart of the women respondents is presented in Table 8-10. First of all, women who have considered discontinuing work and practiced birth control can be considered as those who had strong mental conflict between work and child rearing. This case accounted for 30% of the entire respondents. Those who did not consider discontinuing work but practiced birth control accounted for 17.8%. Only 1/4 of the entire married women workers live stable lives, without experiencing both discontinuing work and birth control.

Table 8-9. Hidden Choice of Women who Work and Raise their Children

		Considered of Discontinuing Work	
		yes	*no*
Controlling Number of Children and Time	*yes*	conflict type	attach importance to career type
	no	attach importance to children type	stable type

Table 8-10. Hidden Choice of Women Workers

(unit, person, %)

		Considered of Discontinuing Work		
		yes	no	Total
Controlling Number of Children and Time	yes	29.5	17.8	47.3
	no	27.6	25.1	52.7
	Total	57.1	42.9	100

Only 26% of the entire women respondents used their maternity leave without worry at the time of childbirth, whereas 76% were worried about several issues. Among these women, many were uncertain if they could return to their previous work after going into a maternity leave and worried about their disadvantages in terms of promotion. This result shows that in reality, maternity leave became a hindrance to the career of women workers, although maternity leave is guaranteed by law.

Table 8-11. Things women worry about when they use maternity leave

(unit; person. %)

	Ranking 1	Ranking 2
Be advised to resign	44(6.5)	8(2.1)
Whether they can continue previous work after using maternity leave	145(21.5)	59(15.4)
Worried about not receiving wages during leave	16(2.4)	20(5.2)
Disadvantage in promotion	119(17.6)	77(20.1)
Worried about working capacity gets worse	175(25.9)	171(44.5)
Not worried about anything	177(26.2)	49(12.8)
Total	676(100)	384(100)

There are many resources that show the kinds of difficulties that women, who are responsible for childbirth and child rearing, have in their workplace, or in other words how difficult it is to work and raise a child at the same time. The difficulties that married women who have children experience at work are measured in 4 point Likert scale. Full agreement and general agreement were put together as seen in Table 8-12. For the proposition that married women who have children have limited opportunity in employment, 82.8% of the women and 75.6% of the men agreed. For the opinion that married women who have children have limited opportunities to study, undergo training and gain education, 68.9% of the women and 63.5% of the men agreed. For the discrimination for disposition, 60.5% of the women and 51.5% of the men agreed. About 50% of the women agreed that there are disadvantages in terms of promotion and direct wage discrimination. Such statistical indexes show why women in Korea have to choose between childbirth and economic activity because of the unequal situation in the labor market.

Table 8-12. Level of Agreement that Married Women Experience about the Inequality in the Labor Market

(unit, person, %)

	Men	Women	Total
Limited opportunity in employment	402(75.6)	666(82.8)	1,068(80.0)
Limited training and educational opportunity	337(63.5)	554(68.9)	891(67.7)
Disposition to where is less prospected	273(51.5)	484(60.5)	757(57.0)
Disadvantage in promotion	225(43.0)	413(52.2)	638(48.6)
Wage discrimination	199(37.6)	361(45.2)	560(42.2)
Total	530(100)	799(100)	1,329(100)

5. Summary and Significance in Policy

Both birthrate and women's labor force participation rate in Korea are low in comparison to advanced countries. This reflects the present social condition, that the circumstances are not good for women to work and raise a child at the same time so that women are forced to choose between work and children. From the findings of this investigation on the present condition, 3/4 of women workers are conflicted if they will consider discontinuing work or control the number of children they will have and the time to have a child.

We should look for the causes for the two sides of this reality. First, the responsibility for child rearing is not shared by the society but placed on individual families, particularly on women. Second, married women with children are notably disadvantaged in the labor market in Korea, and

this matter is already accepted, which forces women to postpone childbirth as they continue their economic activities. Pregnancy and childbirth threaten the career of women workers and the continuance of their employment. Both women and men workers agree that married women with children are disadvantaged in terms of employment, training, disposition, promotion and all kinds of employment opportunities.

Advanced countries that maintain a relatively high rate of childbirth have certain common factors in terms of having a support policy for child rearing and have solved the inequality problem in the labor market. It was verified again that birthrate and the rate of women workers in the labor market have a correlation with wealth. Countries that have a high rate of women workers in the labor market also have a high birthrate. The wage gap between men and women, the most direct index of inequality in the labor market, shows that it has a relationship with birthrate and wealth. Countries that have a small wage gap between men and women tend to have a high birthrate whereas countries that have a bigger wage gap between men and women tend to have a low birthrate.

The number of women part-time workers show a significant relationship with birthrate. Countries that have a high rate of women part-time workers also have a low birthrate. This is a very important policy finding. Having more opportunities for part-time work has been considered as a priority in policy making as it allows women to work and raise their children at the same time. However, having a higher rate of women part-time workers means that women bear the burden of unpaid child rearing. It is also an index that reflects the reality that the labor market and families do not intend to pursue the gender equality. As a result, the policy that gives more weight to part-time work may not succeed in either raising women's employment or encouraging childbirth.

The relationship of birthrate in family policy index has an important meaning. Among child rearing support policies, the expenses for childcare service shows an positive and consistent relationship with birthrate. To counter low birthrate and to promote women's economic activities and children's welfare as a policy, it would be worth it to invest on childcare service for its valuable and positive effect.

However, contrary to expectations, the rate of family allowance in the total GDP shows a strong negative correlation to birthrate. The fact that family allowance, which can mean compensation for women's child care work affects birthrate negatively has a significance to policy making. Direct compensation for women's child care work negatively affects the expansion of women's employment and does not help in raising the birthrate. Contrary to our expectations, the compensation for child care did not result in raising the birthrate. I think the reason for this is that the compensation from the government is too small, although the advanced countries give a relatively higher amount it still isn't a sufficient compensation. As a result, it is unrealistic to become dependent on child-rearing allowance or housewife wage because the compensation is not attractive enough for women to take this route.

In summary, the higher the equality of sexes in employment, the higher the birthrate. The significant meaning from the results of the analysis is as follows: For child care, unburden the family by improving child-rearing service to raise birthrate more effectively, instead of the government paying direct compensation for recognizing this value. It seems that the policy paradigm that pursues the unburdening of families from child care work and equality of the sexes in employment go together, with emphasis on women's right to work as a more superior policy paradigm that recognizes child care, the parents' right and freedom from

commercialization. It is obvious that such a policy paradigm will be highly effective in encouraging women's participation in economic activities.[27)]

The discussion about the relationship between the level of equality of the sexes in the labor market and birthrate is still an assumption and not enough study has been done to prove their causal relationship. However, there seems to be a definite relationship between these two variables, and I conclude that additional researches must be undertaken in this area.

27) Chang, Jiyeun and others (2005)

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