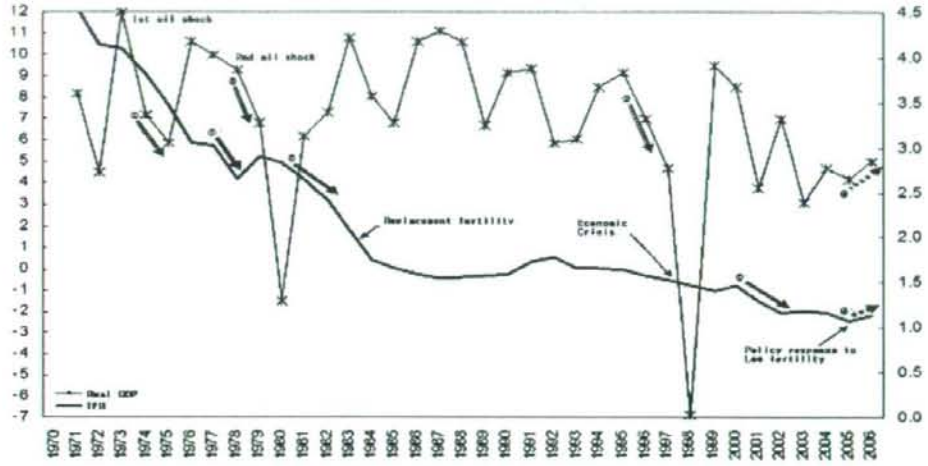
Figure 7. Real GDP Growth Rate and TFR, 1970-2006



C. Effect of policy responses

It is really difficult to measure the effect of policies on fertility change, specifically after short term of their implementation, since many factors including policy have intermingled effect on fertility. Nonetheless, an analysis was done to monitor the operation of various policy measures in Korea. In Table 9, we can see a greater jump of output from policy responses since launching of policy response in 2006.

Table 9. Some outputs of recent policy responses

	2003	2004	2005	2006	2007
rate of children subsidized for childcare and pre-school education	7.5	11.0	21.9	30.5	40.0
attendance rate in after-school education	-	36.3	37.9	41.6	49.8
No. of public and workplace childcare facilities	4,405	6,245	14,459	17,211	17,650
No. of children attending prolonged daycare services	4,405	6,218	14,395	17,138	17,572
Ratio of all-day nursery school to the whole	-	27.3	63.8	73.3	78.5
Ratio of mother benefited from service for maternity protection	-	-	-	99.5	108.3

Source: Korean Government

KIHASA in collaboration with Ministry of Health, Welfare and Family conducted 2006 National Fertility Dynamics Survey in 2007 and 2007 National Fertility Dynamics Survey in 2007, respectively. A logistic model was applied to the result of the 2007 National Fertility Dynamics Survey. As a result, policies that had positive effect, with statistical significance at $p<0.001$, on transference from the 1st birth to 2nd birth appeared to be policy for establishing the health and nutrition system for maternity and children, policy for increasing compatibility between works and home, support policy for costs of child care and pre-school education, in that order. The policies having a positive effect on transference from the 2nd birth to 3rd birth include support for costs of child care and pre-school education, policy for raising compatibility between works and home, policy for establishing the health and nutrition system for maternity and children, in that order .policies that had positive effect, with statistical significance at $p<0.001$, on appeared to be policy for establishing the health and nutrition system for maternity and children, policy for increasing compatibility between works and home, support policy for costs of child care and pre-school education, in that order.

Table 10. Effect of policy responses for 2007: logistic regression

variables		first to second childbirth		second to third childbirth	
		B	Exp(B)	B	Exp(B)
mother's age	20	-0.37	0.69	-0.11	0.89
	30-35	0.61**	1.85	0.12	1.13
mother's education	college or higher	0.22	1.25	-0.14	0.87
household income	80% or lower than average	0.66**	1.94	0.01	1.01
	80~100%	-0.04	0.96	-0.25	0.78
economical activity	high class	-1.26***	0.28	-1.29***	0.28
	low class	-1.65***	0.19	-0.99***	0.37
economical status	paid workers	-0.15	0.86	-0.65***	0.52
Support for childcare & pre-school education		0.66***	1.93	1.23***	3.42
Tax & social insurance relief		0.21	1.24	-0.23	0.79
health & nutrition system for maternity & children		1.16***	3.20	0.40**	1.49
support for infertility		0.77	2.17	1.10	3.01
compatibility bet. works & home		0.68*	1.98	1.19***	3.28
Constant		-0.30	0.74	-0.27	0.76
case(d.f.)		816(13)		916(13)	
-2 LL(X^2)		796(180.4***)		1,084(173.1***)	

Note: * $p<0.05$, ** $0.01<p<0.05$, *** $0.01<p<0.001$

Reference group: mother's age(>35), mother's educational attainment((high school or less), household income(100% or higher than average level), economical activity(unemployed), economical status(unpaid workers)

V. Concluding Remarks

It may be concluded that increase in fertility level in recent years seemed to be attributable to change in demographic factors(mainly increase in number of women in childbearing age and marriages, especially for 25-29 age group), economic recovery, and policy responses, with interactive effect. From such a result, several scenarios or expectations can be made.

Firstly, it can be expected that if some demographic factors favorable to the recent increase in fertility wane, Korean fertility level will decrease again or be stable at the same level in the future.

Secondly, if the economic recovery helped increase marriages and fertility level, the worldwide financial crisis in 2008 may be expected to discourage marriage and childbirth in the future.

Thirdly, the effect of policy responses may be temporary since the policy response coincided with the other factors in favor. However, the effect of policy response may be diminished if the measures cannot overcome their inherited weakness.

It may be worth to put a more emphasis on policy efforts to increase the fertility rate to the sustainable level in the near future, since the demographic structure such as decrease in number of women in childbearing period, economic situation, etc. can be aggravated in the future. Some suggestion for future improvement in policy response to low fertility are as followings;

1) Most of support for daycare, education, healthcare, etc. are too confined to low income class. It needs to expand the programs to all lasses as early as possible.

2) It needs to increase the number of items and benefits, covered by Health Insurance System, since the medical costs for both preventive and curative purposes are too expensive for the families, especially with many children. It also needs to extend the benefits of certain insurance items to the older children such as high school students.

3) It needs to increase benefits of childcare leave to replace wage for the life of family. This will play a very important role in activating childcare leave system to increase compatibility between work and home.

4) Currently, the government's support is to cover a part of cost for daycare and medical care, which is covered by Health Insurance System. And most of the support tends to be confined to the low income class. In Korea, the cost of layette including clothing and food is expensive, from which the family with children suffer. In order to practically attenuate the family's burden for childcare, it needs to introduce the child allowance and education allowance, which covers all children under certain age, regardless of order of birth and without mean tests. Those allowances will help the families to rear their children in a better condition and will thereby help the fertility level to increase. The education allowance needs to be operated until the public education being realized.

4) 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.

5) Although the lowest fertility was greatly attributable to postponement and giving-up of marriage, the policy measures for raising the marriage rate were not included in the First Basic Plan, Currently, some local governments and private organizations devoted themselves to providing unmarried people with information and mediation to increase opportunities for marriage. The postponement and giving-up of marriage has been strongly associated with economic situations and change in values on marriage and childbirth. Therefore, it needs to provide the youth with employment opportunities with stable status as well as to put an emphasis on values in favor of marriage and children from their early ages under school and social education system. In addition, policy measures, rather systematical and effective, for encouraging and facilitating marriages need to be designed to enable the single males and females to marry at the time they desire to.

5) In order to avoid duplicity and maximize effectiveness, all responses need to be designed in an integrated manner which can bring the synergy effects, in making circumstances favorable to child care and increasing the fertility level.

6) It needs to increase investments for the future generations. Currently, Korea Government plans to spend 19 trillion won, which is quite lower than those of OECD countries. Enlightenment and appeal with small investment would have limitations to achieve the reasonable fertility level for the future.

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Transition to Below Replacement Fertility and Policy Response in Taiwan

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Introduction

Taiwan experienced and completed demographic transition during the twentieth century. The mortality started a steady decline trend in 1920s (Barclay 1954, Wang 1986, Chen, 1979). Since then, the population grew rapidly with an accelerated speed without check of fertility decrease. The fertility level approached its peak in 1950s, reaching a TFR of 7 per woman and crude birth rates over 40 per thousand. The government initiated a national family planning program in 1965 with the intension to control the number of births. As a backing force of the family planning movement, the government promulgated in 1969 the first version of the country's Guideline for Population Policy aiming at the goal for birth control.

The crude birth rate declined to about 20 per thousand in early 1980s. However, the population growth rate remained rather high in those years, partly because of the deep-dropped low level of the crude death rate, partly owing to the increase of the number of women in reproductive ages. Allured by the seemingly growing pressure of the population growth, the government decided to reinforce the family planning program and re-announced a stronger policy in 1983 for further reduction of population growth rate, even though the TFR in Taiwan was soon reaching the below-replacement level next year in 1984.

Fertility Transition and Below Replacement Fertility in Taiwan

Change in the period total fertility rate (TFR)

Fertility transition, that is fertility decline from a high level to a low level, usually defined to the replacement level, occurred in Taiwan during the latter half of twentieth

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century. The TFR in Taiwan declined from 7.05 to 4.0 between 1951 and 1970, and continued its decline to 2.8 in 1975. Then TFR resumed its decline from 3.1 in 1976 and reached 2.0 around replacement level in 1984. After 1984, TFR stagnated around 1.75 during the period of 1986 to 1997. After around ten years' stagnation moderately below replacement level, TFR in Taiwan resumed a significant trend of decline and touched an even lower level of 1.23 in 2003. Taiwan was enlisted into the lowest-low fertility (Kohler et al. 2002) countries in the world. TFR showed a further decline in 2004 and 2005, less than 1.2 were observed (Chang 2005). The new record of TFR, 1.1 in 2008, can be counted lower than almost all countries in the world, except two special districts of Hong Kong and Macau of China.

Figure 1 Total Fertility Decline in Taiwan

Age pattern of childbearing

Fertility decline to the replacement occurred at all ages of women of reproductive years in Taiwan. During the process of transition, the decline of age-specific fertility rate (ASFR) among the older age groups contributed much more considerably than the fertility decline in younger age groups. Table 1 shows that the share of fertility for ASFR aged 30 years and above declined from 50 percent to 18 percent between 1950 and 1980. After 1980, further decline of fertility below replacement level shifted its focus towards younger age groups. Such that the share of fertility for ASFR 30 years of

age and above, increased on the contrary, from 24 percent in 1990 to 46 percent in 2007. ASFR for 30-34, 35-39 and 40-44 even increased in recent years. The age shift in their contribution to fertility transition, suggests there is an operational tempo effect on fertility or a 'recuperation" similar to what is happening in most of the West countries (Lestheaghe et al., 2000). Such a phenomenon of aging of fertility already occurred in some Asian countries and it is manifested in increasing average age at childbearing (Atoh et al., 2004).

Table 1 Age-specific and Total Fertility Rates before and after Transition

Ages	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR	30+'s Share in TFR
1950	61	246	297	269	191	112	30	6.03	50
1960	48	253	333	255	169	79	13	5.75	45
1970	40	238	293	147	59	20	3	4.00	29
1980	33	180	200	69	16	4	1	2.52	18
1990	17	100	159	68	15	2	0	1.80	24
2000	14	72	132	90	24	3	0	1.68	35
2005	8	44	79	67	21	3	0	1.11	41
2007	6	37	76	74	24	3	0	1.10	46

Change in nuptiality

The changing fertility patterns have been profoundly affected by the decline in nuptiality during and after the transition period in Taiwan. Marriage pattern before fertility transition was characterized by early and universal marriage in Asian societies including Taiwan (Hajnal, 1965).

Marriage delay occurred before fertility transition and continued into the period of below replacement fertility in Taiwan. The female singulate mean age at marriage before fertility transition was 20-21(1960), it increased from 22.1 to 23.8 between 1970 and 1980, and from 25.8 in 1990 to 28.1 in 2007. In half a century, the female singulate mean age at marriage has postponed for about 6 years.

The proportions currently married at ages 15-19 and 20-24 declined sharply between 1970 and 2007, from 5.8 percent to 0.5 percent and from 43.2 percent to 7.4 percent respectively. At the women's prime ages of reproduction, i.e., 25-29 age group, the proportions currently married decreased from 82.8 percent in 1970 to less than half (49.7 percent) in 2000, and less than one third (31.4 percent) in 2007. For women aged 35-39 and older, the pattern of nuptiality decline was similar, although their effects on fertility decline might not be so tremendous as the prime childbearing ages.

Table 2 Changes in Proportions Women Currently Married in Taiwan

Ages	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1970	5.8	43.2	82.8	93.2	93.8	92.6	88.9
1980	5.0	39.9	78.9	90.0	92.8	92.3	90.1
1990	2.5	25.5	66.9	83.7	86.7	87.4	87.4
2000	1.6	15.1	49.7	73.6	80.1	81.2	80.8
2005	0.7	8.8	35.5	64.4	74.1	76.8	77.3
2007	0.5	7.4	31.4	60.2	71.2	74.6	75.6

Decomposition analysis of fertility decline

Fertility transition in Taiwan was brought about by the decline in marital fertility as well as by the postponement of marriage. After mid-1980s, fertility decline below replacement level seemed to be caused mainly by the postponement of marriage.

Chang (2005) decomposed the decline of crude birth-rate (CBR) indicated that during the fertility transition (1965-80), about two-thirds of CBR decline was the result of decline in marital fertility, and one-third was attributable to the decline in nuptiality. However, by a striking contrast, the decline in nuptiality accounted for almost the decline in CBR during the post-transition years, and the decline in marital fertility accounted for none.

Chen and Yang (2005) explored the effects of nuptiality on total fertility pointed out a new pattern of childbearing and marriage behavior underpinning the below-replacement fertility in Taiwan. Their study indicated that both the nuptiality and

marital fertility components declined as the older ages ceased to produce children. before 1986. Then after 1986, nuptiality and marital fertility components operated in opposite directions. Nuptiality declined significantly due to continued expansion in higher education and labor participation for young women, while the marital fertility was actually increasing. The increase of marital fertility was due to those who chose marry at young ages. The marriages of young women have an intentional purpose of childbearing. Chen and Young (2005) then concluded that childbearing has become a functional cause of marriage. Marriage seems to be initiated by women's already pregnancies or cohabitated couples' intention of childbearing.

Another decomposition analysis conducted by Louh (2007) presented another consistent result. Louh's analysis focused on women's fertility at 20-29 ages. His result, quoted in Table 3, where the term of $\Delta FR_{i,t}$ represents the change in fertility, $\Delta MFR_{i,t}$ represents the change in marital fertility, $\Delta MR_{i,t}$ stands for the change in proportion married, $\Delta MFR_{i,t} \cdot MR_{i,t-1}$ represents the effect of marital fertility on fertility, and $\Delta MR_{i,t} \cdot MFR_{i,t}$ represents the effect of nuptiality on fertility.

In Louh's findings, during 1965-2005, the proportion currently married declined around 9 to 15 percent every 10 years for the 20-24 age group. The proportion currently married decreased by an extent of 12.6 percent and 12.21 percent during 1985-95 and 1995-2005 respectively. The marital fertility for 20-24 ages, on the other hands, decreased first and increased later. The marital fertility declined for 0.335 during 1975-85, however trend was reversed, marital fertility increased for 0.125 during 1985-95 and increased for 0.440 during 1995-2005. For the most recent years (1995-2005) in Louh's analysis, total fertility decline for 0.21, in which contribution from nuptiality decline was minus 0.3027, even greater than fertility decline itself. Therefore if without the compensation of positive 0.0927 from increased marital fertility, the decline of total fertility shall be even greater.

For the 25-29 age groups in Louh's analysis, the decrease in proportion currently married not only continued and also expanded. During 1995-2005, this proportion decreased by 23.07 percent, as a result, there remained only 33.48 percent were currently married in this age group. The influence on fertility from nuptiality decline

kept increasing. Fertility decreased by 0.3450 and nuptiality contributed to the decrease by 0.2573.

Table 3 Decomposition of 20-29 Age-specific Fertility Change in Taiwan

20-24 Ages					
Year	$\Delta FR_{i,t}$	$\Delta MFR_{i,t}$	$\Delta MR_{i,t}$	$\Delta MFR_{i,t} \cdot MR_{i,t-1}$	$\Delta MR_{i,t} \cdot MFR_{i,t}$
1965-1975	-0.3350	0.0150	-0.1528	0.0088	-0.3438
1975-1985	-03250	-0.3350	-0.0943	-0.1444	-0.1806
1985-1995	-0.2150	0.1250	-0.1260	0.0421	-0.2571
1995-2005	-0.2100	0.4400	-0.1221	0.0927	-0.3027
25-29 Ages					
Year	$\Delta FR_{i,t}$	$\Delta MFR_{i,t}$	$\Delta MR_{i,t}$	$\Delta MFR_{i,t} \cdot MR_{i,t-1}$	$\Delta MR_{i,t} \cdot MFR_{i,t}$
1965-1975	-0.5550	-0.5450	-0.0558	-0.4828	-0.0722
1975-1985	-0.2850	-0.2450	-0.0777	-0.2034	-0.0816
1985-1995	-0.0500	0.2150	-0.1674	0.1618	-0.2118
1995-2005	-0.3450	-0.1500	-0.2307	-0.0877	-0.2573

Source: Louh (2007): p.51.

Decomposition analysis is still effective for analyzing TFR changes, because childbearing is mostly constrained in marriage in Taiwan unlike the Western countries where cohabitation and extra marital births have increased considerably since the 1960s. Existing decomposition analysis of fertility decline in Taiwan have reached consistent conclusions that the decline of marital fertility was the major factor for the TFR decline for the period of fertility transition, but postponement of marriage had ever contributed to it's decline to a certain extent. Nuptiality even became the dominant factor for the TFR decline during the period of below replacement fertility. After transition, the change of marital fertility was actually a rather positive component for fertility.

Social and Economic Background of Fertility Decline in Taiwan

Modernization and family planning program

Fertility transition is brought about by the decline of the demand for children in the process of economic and social development in Taiwan since 1950s. At the onset of fertility transition, GDP per capita was 146 US dollars (2001 basis) in 1951. It increased to 3,199 US dollars in 1984, the year when TFR reached the replacement level, and kept increasing to 16,972 US dollars in 2007. Level of industrialization and urbanization increased rapidly. Infant mortality rate declined and life expectancy lengthened. Progress of public education and higher education also benefit women's development. Family planning KAP surveys conducted during 1976 and 1986 with representative of married women of childbearing ages provided the evidences of women's enhancement in education from a marriage cohort perspective. Yang (1996) pointed out, among 1950-54 and 1955-59 women marriage cohorts, the proportion with secondary and higher level of education were less than 10 percent. This proportion increased to 27 percent for 1970-74 marriage cohorts, 72 percent for 1980-84 marriage cohorts, and 84 percent for 1985-86 marriage cohorts.

Demand for children declined along with the social and economic development in Taiwan. Family planning KAP surveys undertaken in series since 1965 indicated the preferred number of children for married women aged 22-39 clearly declined from 4.0 in 1965 to 2.6 in 1985, and further declined to 2.0 in 2002.

During the fertility transition, Taiwan's government intended to influence fertility trends through strong family program launched firstly in 1964. However, total fertility had already started to decline for more than ten years before that year. This fact might cause doubts about the effect of government's intervention on fertility transition. However the strong family program, together with some incentive and disincentive programs, were conducive to lowering contraceptive costs pervasively in society, and accelerating fertility decline directly affecting marital fertility. Contraceptive prevalence progressed fast during the fertility transition. As such, contraceptive use had become universal and almost saturated among women of different educational groups. Chang (1991) concluded the government's intervention indeed changed the conditions of the "supply" of children (Easterlin, 1985) during the fertility transition, through which many unwanted children were prevented (Table 4).

Table 4 Changes in Contraceptive Prevalence and Excess Fertility for Married Women Aged 35-39 in Taiwan: 1965-1986

Education	1965	1970	1980	1986
A. Current Contraceptive Practice Rate (%)				
None	25.0	55.9	80.7	94.6
Primary	40.9	66.8	84.4	93.7
Junior High	64.2	76.1	85.5	98.6
Senior High +	82.9	80.6	91.5	95.0
Total	34.3	62.3	84.1	94.4
B. Excess Fertility (Live Births − Ideal No. of Children)				
None	1.37	1.07	0.66	0.43
Primary	1.17	0.64	0.54	0.53
Junior High	0.91	0.57	0.48	0.31
Senior High. +	0.54	-0.13	0.15	0.16
Total	1.25	0.83	0.52	0.44

Source: Chang (1991) Table 2.

Post-modernity and below replacement fertility

The use of effective contraceptives reached almost saturation level during first fertility transition. Therefore the level of unwanted births became so low that changes in the timing of marriage and childbearing have become the most important factor affecting the trend in the period TFRs after transition.

Western societies, as the forerunner of below replacement fertility , there below replacement has continued already for a quarter of a century since 1970s. Some demographers called such long-lasting fertility decline below the replacement level as "the second demographic transition (SDT)" (van de kaa, 1987 and 1999; Lesthaeghe, 1999). The SDT theory describes a syndrome of substantial changes in marriage and childbearing behaviors such as cohabitation, lone parenthood, childbearing outside marriage and low fertility observed in many European countries since 1960s, and the

parallel retreat from marriage, from traditional norms of sexual restraint in those societies.

In essence the SDT theory proposes that the new transition, i.e. diversity of forms of sexual partnership and relaxation of traditional norms and constraints, is made possible by parallel trends in further economic growth, intellectual emancipation through education and diffusion of ideas, especially reflected in the status of women. Its underlying theory posits an associated nature of post-modernity, which calls for emancipation from traditional deferential modes of behavior once material needs and anxieties are mostly satisfied through the achievement of prosperity, with concomitant freedom for self realization and tolerance of that of others.

Numerous empirical evidences support the new transition theory in Western countries. Populations with a high prevalence divorce also tend to have lower level of marriage, higher prevalence of cohabitation, and of births outside marriage, and abortion ratios. It still remains to see how applicable to the case of below replacement fertility in Taiwan?

Women's status in Taiwan has undergone tremendous changes during fertility transition and reached a new picture after transition. The secondary school ratio have reached almost 100 for boys and girls since 1990s. The tertiary school enrollment ratio also increased for both sexes that gender gap for higher education has shrunk significantly. In 2007, female constituted 61.9 percent of junior college students and 49.1 percent of four-year college students, either exceeding or equal to the shares of male. At the graduate level, female's share in master programs is 40.4 percent, and 27.3 percent share in doctorate programs. Women Labor force participation rate for aged 25-44 reached more than 75 percent during 1990s, exceeding 80 percent since 2002, and reached a new level of 83.4 percent in 2007. The progress of women in higher education and employment imply that college diploma for women became an instrument for furthering their occupational career and raising their wage potential rather than as a good passport for a good marriage.

Higher education for women is clearly connected with the postponement of marriage and in some cases with increasing celibacy rate in Taiwan. The singulate

mean age at marriage in Taiwan increased from 22.1 years to 28.1 years from 1970 to 2007 for women, and from 28.2 years to 33.0 years for men in the same period. It is found that women's increase in singulate age at marriage was 6.0 years, which was greater than men's increase of 4.8 years. Although females still tend to marry at younger age than males, marriage postponement are more immense than males in the past three decades.

Postponement of marriage was conducive to celibacy for males and females. Celibacy rates, proximate by the proportion of never married at ages 40-44, showed there was 5.5 percent of women remained single in 1990, that proportion became double and increased to 11.8 percent in 2007. By the same definition, celibacy rates for men increased from a level of 6.8 percent in 1990 to 15.0 percent in 2007. Marriage pattern in tradition was characterized by early and universal in Taiwan and other Asian societies (Hajnal, 1965). The traditional marriage pattern seems has lost its constraint in post-transitional era.

Table 5 Proportion Remained Single at Ages 35-39 and 40-44 in Taiwan

	Males		Females	
	35-39 Ages	40-44 Ages	35-39 Ages	40-44 Ages
1990	1.06	6.8	7.5	5.5
1995	15.1	8.5	9.0	6.7
2000	18.2	10.8	11.3	7.4
2005	22.2	13.5	15.9	10.2
2007	24.7	15.0	18.1	11.8

Source: Taiwan Demographic Books.

Reasons why more and more women and men don't get married has caused social attention. Survey of Social Development Trends in 2002 investigated this question .in Taiwan. Among those respondents aged 35-44 and still remained singles, the most reason stated "having not met ideal mate", which was in common for single men and women and constituted 44.6 percent in total. The secondary and further reasons

differentiated between men and women. For single men, there was 41.6 percent unmarried due to their unstable economic. For single women, there was 22.1 percent expressed their satisfaction with currently unmarried conditions not willing to get married. Another 12.4 percent of single women expressed their afraid of unhappy marriage.

Table 6 The Main Reasons for Remained Unmarried among 35-44 Ages

Gender	Sample Size	Economic reason	Have not met ideal mate	Satisfied with present condition	Afraid of unhappy marriage	Other reasons
Male	186	38.9	41.6	8.1	2.7	8.6
Female	144	6.2	48.3	22.1	12.4	11.0
Total	330	24.6	44.6	14.2	7.0	9.6

Sources: Survey of Social Development Trends, DGBAS, 2002.

Under the circumstance of marriage postponement and celibacy increase, increase in cohabitation prevalence could be reasonably expected. However there isn't reliable data exploring the current situation and possible growth of cohabitation. Limited information comes from DGBAS (2003), applying Survey of Human Resources in Year 2000, estimated the proportion of married women who were actually cohabitated without marriage registration was 2.7 percent for 20-24 age group, 5.8 percent for 25-29 age group, and 5.6 percent for 30-34 age group. Other information with respective of cohabitation behavior among unmarried, divorced and widowed populations are still in a lack.

Under a strong social pressure against extra-marital births, incidences of extra-marital births are still in very minority. Birth registration shows the share of extra-marital births has increased by only a fraction for the past fifteen years, from 2.21 percent of all births in 1992, to 4.44 percent in 2007. Compared to Western societies where the share of extra-marital births usually count ten times even more of Taiwan (Table 7), the incidences of extra-marital births although has been observed an

increasing trend since 1990s in Taiwan, still in a much lagged situation.

Table 7 Distribution of "No Need to Have Children" in Taiwan

Country	Proportion Cohabitated(%)			Share of Extra-marital Births(%)	
	20-24	25-29	30-34	1990	1994/1998
Canada	46	24	16	23	37
New Zealand	67	30	19	34	41
France	63	33	18	30	40
Netherland	57	33	14	11	21
Sweden	77	43	33	47	55
Taiwan	2.7	5.8	5.6	2.1	3.6

Sources: Taiwan DGBAS, 2003. United Nations (1995,2000)The World's Women Trends and Statistics.

An implication from the scarce of extra-marital births seems that marriage institution still robust in Taiwan. However the divorce rate has been increasing continuously since 1980s. Between 1985 and 2005, the crude divorce rate increased from 1.08 to 2.76 per thousands, and number of divorced cases increased triple times , from about 20 thousands cases to 60 thousands cases a year.

The underlying theory of second demographic transition (SDT) posits an post-modernity interpretation that there is ideational change from materialism to post-materialism or secularization and individualism which brings about changes in reproductive norms and values (Lesthaeghe et al., 1988; Van de Kaa, 1987). Continuity of family lineage has been an emphasized value in Taiwanese family system inherited from Chinese culture. How was the ideational change in this regard during post-transitional period? How many people can disregard this value? Evidences from the Survey of Social Development Trends in 2002 indicated the proportions who think "there is no need to have children" was 3.0 percent for males and 3.4 percent for females in all ages from 20 years through 64 years. While examination for different social backgrounds, females, younger ages, single persons and higher educated tend to rebel from traditional value, and have higher proportion hold ideas of voluntary childlessness. Table 8 shows the survey's results.

Table 8 Distribution of "No Need to Have Children" in Taiwan

	Male		Female	
	Sample size	%	Sample size	%
Age				
20-24	699	6.87	786	7.25
25-29	786	6.23	768	5.34
30-34	818	3.91	820	5.24
35-39	888	2.36	891	4.04
Education				
Elementary	1727	1.85	2484	0.93
Junior High	1238	2.67	1003	1.69
Senor High	2150	2.84	2002	3.80
University	2133	4.55	1834	7.20

Sources: Survey of Social Development Trends, DGBAS, 2002.

Exploring reasons why respondents can through disregard the traditional value of fertility, shown in Table 9, indicates that a majority shun childbearing because of worry about increasing economic burden of raising children. Next to economic reason is the afraid of restriction of freedom due to the rearing and caring activities caused by childbearing. The third main reason also related to childcare, stress the trouble and distress in the work of childcare. Look into the gender and educational differentials, males or lower educational are more likely to concern about economic cost of raising children than females or lower educational. On the other hands, the higher educational concern the restriction of freedom and childcare troublesome work more than lower educational. Females with college education and above are particularly anxious of freedom restriction and childcare trouble.