

## 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

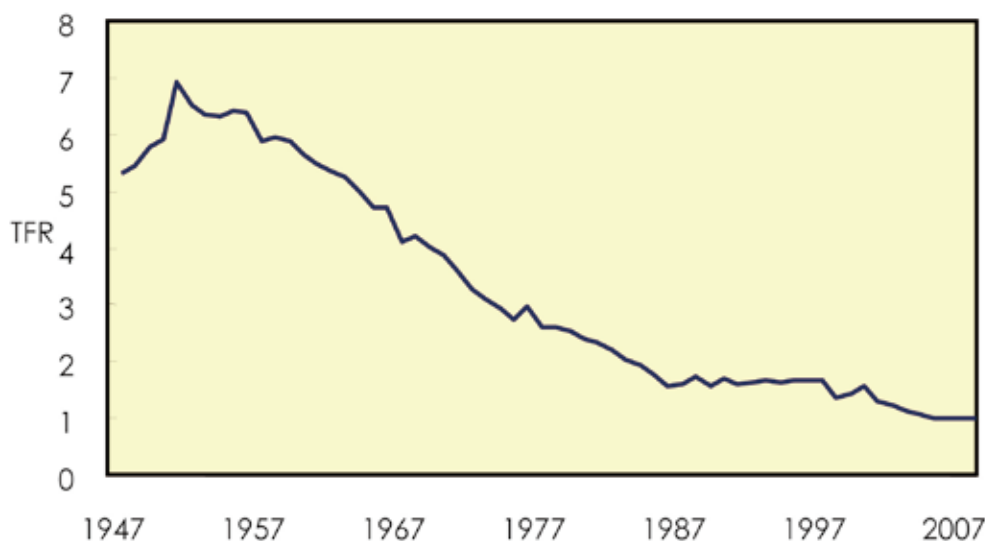
#### *Change in the period total fertility rate (TFR)*

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 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.

#### *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

Figure 1. Trends in Number of Live Births and TFR, 1970-2007



**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+ <sup>s</sup> 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

**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

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 (Lesthaeghe 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).

#### ***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

**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	-0.3250	-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.

older, the pattern of nuptiality decline was similar, although their effects on fertility decline might not be so tremendous as the prime childbearing ages.

#### **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.

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

**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.

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).

#### ***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

**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.

**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.

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.

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.

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.

An implication from the scarce of extra-



**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.

**Table 8 Distribution of “No Need to Have Children” in Taiwan**

	Male		Female	
	Sample size	%	Sample size	%
<u>Age</u>				
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
<u>Education</u>				
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.

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.

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

**Table 9 Distribution of Main Reasons Why A Marriage Does Not Need Children**

Reasons	Freedom	Economic burden	Career	Couple's life	Don't like	Childcare	Other reasons
<u>Male</u>							
College above (n=97)	20.6	37.1	5.2	3.1	7.2	15.5	10.3
Below college (n=126)	13.5	50.0	1.6	2.4	7.9	11.9	15.1
<u>Female</u>							
College above (n=132)	23.5	34.8	3.0	4.5	9.1	18.2	6.8
Below college (n=116)	18.1	45.7	2.6	3.4	6.0	11.2	11.2

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

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.

### ***Gender Equality and Fertility***

Through the process of industrialization and modernization, Taiwanese women have achieved significant progresses for status at least include the following aspects: tremendous increase of female college students, shrink in gender gap among university graduates, more and longer female participation in labor market, increase of female workers in professional or technical jobs with higher income and prestige, shrink in wage differentials by gender, legal protection of gender equality in employment field and family violence events, all the efforts led to the elevation of women's social and economic achievements and status. Women's status measured by indicator of GEM (Gender Empowerment Measure), which was developed by United Nations Development Programme (UNDP), scored 0.707 in 2005, ranked 19th among 94 countries in the world. In the context of Asian societies, Taiwanese women's GEM score ranked only behind Singapore's 0.761 even exceeding Japan's 0.557 and South Korea's 0.510.

The change of women status in Taiwan is similar to those happened in the Western societies in a step advanced. Changes of women's

status in public sphere bring about a decreasing merit of married life with patriarchal inheritance for women, help result in postponement of marriage and childbearing and some of the reluctance result in celibate. The Survey of Social Development Trends (DGBAS, 2002) provided the evidences with respect to single women's reluctance against enter into marriages. In response to the main reasons remained unmarried, females had much higher proportions expressed they were "satisfied with present condition" or "Afraid of unhappy marriage" than male respondents. Table 6 indicates there were 22.1 percent of unmarried women attributed their reason remained single to be "satisfied with present condition" compared to only 8.1 percent of unmarried men held the same reason. There were another 12.4 percent of unmarried women attributed their reason remained single to be "afraid of unhappy marriage" compared to only 2.4 percent of unmarried men had the same thought.

Changes of women's status also increased the difficulties combining work and childcare for married women, might have also led to the lowering of attraction of married life. There is evidence that both extended family type and stem family type coexist with modernization in Taiwan, continuing upholding traditional patrilineal value as well as patrilocal practices. The percentage co-resident of newly-weds with husband's parents was still 67 percent in 1985 just after the transition in Taiwan, though it had declined from 92 percent in 1958 (Freedman et al., 1994; chi, 1992).

As women have become more educated and



engaged in jobs outside of home, the percentage of dual-earner family increased. For married women aged 25-34, working couples have increased from 48.2 percent in 2003 to 52.2 percent in 2006. According to Time-use survey, employed women work 7.9 hours and men work 8.4 hours on average per day. Time-use survey also indicates that men's role has not changed significantly until recently, the average time that men aged 15 years and above spent for family matters was 0.5 hour per day compared to women's 2.4 hours. In addition to the long working hours for the employed, women are still taking charge of most household work spending time about five times to men. Of course, working wives find it difficult to combine work and family duties they are assigned.

As score of Gender Empowerment Measure signified women's power increase in public life, women's conscious raised toward egalitarianism. Educated and professional women would particularly feel frustrated in women's familial role as submission to husbands and the assignment of taking care of husband's parents, also taking charges of household chores and childcare, that all are expected in the traditional family system. Such disparities between women's social and familial roles led to the lowering of attraction of married life, particularly for those independently capable women living in urban areas and having jobs of higher prestige.

Nuptiality behavior can become a dominant factor affecting the below-replacement and ultra-low fertility, owes to the condition that extra-marital fertility is rare. Unlike their counterparts in the West, educated and working women in Taiwan stay single longer but scarcely dare to cohabit and have extra-marital births. Suzuki (2005) also pointed out the deficient contribution from extra-marital births in Japan and Korea in comparison to some Western countries ever experienced fertility resurgence during 1995-2000. Atoh et al. (2004) explained the common low incidences of cohabitation and extra-marital births in Japan, Korea, Taiwan and Singapore is due to the remaining of patriarchal family system and the cultural heritage of Confucianism which inhibit fertility performance of unmarried women. Cohabitation is, on principle, based on free decisions by equal partners. Although women's emancipation progressed in these countries, still hasn't yet brought about power of free decision on having a child or not than men at societal level or even in a cohabiting union.

## **Social Responses to Below Replacement Fertility**

### ***Anxiety of Demographers about Ageing Effects***

During the mid-years of 1980s, population ageing grasped new attention of demographers in Taiwan (Tu & Chen 1989, Chen 1997). In particular, the drop of net reproduction rate that fell below replacement level in 1984 revealed the alerting sign of it. After many efforts, demographers finally influenced the concerns of population policy from aiming at birth control to the attention on population ageing. The relationship between low birth rates and ageing of population was emphasized and their consequences and mechanism were illustrated (Tu & Chen 1989, Tu, Chen & Chen 1992). A research on re-assessing the population goals was launched out by the government in 1988 (Chang 2005), which resulted in a paradigm shift in addressing population problems. In 1992, the Guideline for Population Policy was thus revised. The previous goal for reducing population growth was then modified into that for maintaining a reasonable growth of population.

The 1992 revision of population policy guideline represented the effect of demographer's effort in the 1980s, however, did not account a drastic change to become a pro-natal policy. The general public has been used to the idea that limitation of births is good for family as well as important for the nation's development. Evidences associate successful planned family program and achievement in economic development for country seemed to well support the ever prevalent ideology of birth control. It seems the government as well as the society, were not yet prepared for a drastic change in policies from anti-natal nature to a pro-natal one. Even then, both demographers and policy makers did not fully realize the substantial changes in the nature of people's fertility behavior.

Accompanied with the 1992 revision of the Policy Guideline, strategies proposed to maintain a reasonable level of population growth mainly focused on increasing marriage rates. Based on demographic analyses displaying significant effects of postponement of marriage on fertility decrease, educational strategy was emphasized to promote marriages at appropriately young ages. Meanwhile, total fertility rate then still remained around 1.8 to 2.0 per woman, though below replacement, but not far from the replacement level of 2.1. Policy makers were convinced that encouragement of marriage could bring more young people into sexual unions, hence brought in more births as its consequence. Higher marriage rate, in accordance with the prevalent marital fertility rate, would together bring about an effect that

shall compensate the gap of fertility level below replacement.

The population policy revision in 1992, with its mild strategies, only existed in analytically wishful thoughts. In order to realize goal of maintaining "reasonable population growth", further concrete measures, including financial plans or budget resources, were lack or ever being put forward to implement. Meanwhile, fertility kept on declining in the subsequent years toward the end of 1990s. Issues of population ageing and its social and economic consequences succeeded the central stage of policy considerations.

Issues related to population ageing gradually gained the attention by government as well as media and the public since mid-1990s. The potential burden of an over-aged population and its implications for universal pension plan became comprehensible to the legislators and government officers of various ministries. That knowledge eventually leads to the legislation of pension insurance in 2008. However, the anxiety of demographers calling for pro-natal policies didn't receive equal recognition, unlike closely linked problem of ageing. When it comes to the proposition of a direct policy which encourage births explicitly in order to lift fertility level, social attitude diversified, government's stance became cautious and undecided.

### ***Concerns from Feminists and Environmentalists***

Taiwan is characterized a country with high population density, needless to mention the large increase of population during fertility transition, the public has been always thinking there is problem of overpopulation on the island. Environmental exploits also caused popular attention in the process of economic development particularly the effects resulted from rapid industrialization. These life experiences led people persistently think overpopulation is always a social problem in this country. Besides the historical impression people has hold, the structural force of population momentum still bring in natural increase each year even after fertility declined below replacement. Under such circumstances, it has been not easy to achieve a consensus to lift fertility in Taiwan.

As a sharp contrast in terms of political environments, the launching of the family planning program in the 1960s was rather straight-forward and determined, while the contemporaneous reversal of birth control faces through different climate. The authoritarian climate in 1960s and 1970s provided the government at any convenience to implement national policies. The lift of Martial Law in 1987 brought about a series of

democratization process in Taiwan. In the present time, public issue takes long period for negotiation among stakeholders and communication to formulate a new policy. In the late 1990s, as the calling for modification of the Guideline for Population Policy increased, government confronted oppositions from feminists and environmentalists. Both groups jointly expressed serious concerns and disputes.

The oppositional rationales, ever exerted influences through international fronts (Mitchell 2000, Martin & Mitchell 2000), contain three major arguments. Firstly, make assertion that there is no such a social problem as population ageing. Labor force productivity can be promoted through technological innovations, and the elderly productivity can be continued and preserved through later retirement policy in the future. Both of these two factors were pointed out to have usually been underestimated. Secondly, low fertility should be taken as a rare opportunity for doing compensation for environmental destruction in the past economic development as well as a relief for existing over-dense population. Policy intended to raise fertility is seen as a foe would further worsen Taiwan's already exploited natural environment. Environmentalist argument even ever won strong support from the top leader of science, the renown former President of the Academia Sinica in Taiwan. This viewpoint certainly affects many people taking a reluctance opposing pro-fertility population policy.

Thirdly, the discourses phrased by some active feminist scholars forcefully dispute pro-natal policy as a sort of discrimination against women. Pro-natal policy represent an sort of instrumentalization of women's body, taking women's body as an instrument to fulfill nation's target goal. Also, it deprives women's autonomy and subjectivity, represents an objectification of women. The same logic applied to family planning movement, which also represent a humiliation towards women in collective. Population policy with any quantitative goal for fertility or with a targeted number of births, A quantitative goal of fertility implies certain amount of childbearing tasks that women are required to fulfill. No matter what birth control or birth promotion, share the problem of employing women's reproductive function to accomplish a national goal under male's dominance. In such cases, women's will is neglected.

Environmentalists take low fertility and population reduction as good signs to ease the burden on natural resources due to over population as well as over consumption. They were concerned that once pro-natal policies were adopted, another

wave of population increase would interrupt the chance of recovery to the balance of population and ecological system. During the late years in 1990s, these loud voices doubt fertility lifting, from the feminist groups and environmentalist groups and their coalition, interrupted government's plan for raising fertility to a certain extent.

### **Population Policy Development After Below Replacement Fertility**

Since 1997 the already below replacement but stagnant total fertility rate resume its decline. Turning into the new century, TFR reached new lower levels. . It was down to 1.40 in 2001, 1.34 in 2002, 1.23 in 2003, 1.18 in 2004, 1.12 in 2005. The decreasing trend showed no signs of standing needless to say recovery. Eventually aroused actions of the government Ministry of Interior resumed population policy planning, aiming at formulation of new population policy from every perspective to mobilize resources for tackle of new problems (Hsieh 2004). In pursuit of public consensus, different forces were included, which involve feminist groups as well as demographers.

In response to the feminists' concerns, a leading group, i.e., Foundation for Women Right Promotion and Development, supported by Executive Yuan, played an active role (FWRPD 2000, 2003, 2004, 2005). In 2005, FWRPD set up a platform for communication with various women's groups. The platform reached a common stance stressed that population policy should not repeat its wrong emphasis on fertility goals and quantity, over stating productivity and economic growth. In order to pursuit good quality of life, population policy should not lack of gender perspective and ignore the needs of women. The platform organized by FWRPD proposed an ideal version for the guideline of population policy, which stresses the value of co-existence of all creatures, socially and naturally. Reflections in that version endorsed by women's group, emphasized the priority of building up a national childcare system in order to relieve women's family burden and benefit women for labor force participation. Their stance was clear in terms of opposing setting any fertility goals, against direct measures that subsidize women's childbearing behavior.

### **The 2006 Population Policy Guideline Revision**

As a consequence of endeavors since 2004, a new revision of the national Guideline for Population Policy, intended to overshadow the 1992 revision, was accomplished in June 2006. This revision incorporated much ideas pursued by feminist group and environmentalist group. Compared to

the previous of 1992, the 2006 version forgive most of the population growth ideas; put more emphases on population quality through improvement of educational system, and stress balanced development between urban and rural areas, with a careful watch on ecological equilibrium. With respect to the family and reproduction, the 2006 Guideline stressed the implementation of population and health education which emphasize the respect for life. In terms of promotion for sound family functions, the Guideline stressed the needs to change social conditions in favor of assistance to parents for bearing and caring children and providing vigilant protection for children's rights.

### **The 2008 Population Policy Proposal**

In order to formulate concrete measures to ameliorate emergent population problems, Ministry of the Interior (MOI) initiated a major project since July 2006, to accomplish the White Paper on Population Policy, mainly dealt with three major challenges in Taiwan. Three major problems to be tackled include: firstly, measures affecting fertility to ease population ageing and prevent depopulation in the future.; secondly, measures to meet the needs and improvement of life quality for further tremendously increase of the elderly; thirdly, measures to manage the continuous increase of various international immigrants, to meet plural goals of guarding human rights, social welfare and nation's security. This project tried to be inclusive of different social sectors and various interest groups, to be effective in consequences, to be able to coordinate dissonant stances, and to achieve the largest consensus among public, in a hope for future plausible implementation. The White Paper of Population Policy was announced by Ministry of Interior in May, 2008.

The White Paper of Population Policy is basically in accordance with the spirit of 2006 Population Policy Guideline, representing policy's continuity and consistency. In regard with low fertility and potential depopulation issue, policy research concluded a proposal of seven major measures. Methodology of policy research for proposal consisted of a through evaluative references of advanced countries' experiences (McIntosh 1981, Walker 1994, Chamie 1994, McNicoll 2001, Sleetbos 2003, Va de Kaa 2004, D'addio & D'ercole 2005, Li 2005, McDonald 2006), besides the demographic and social analysis for Taiwan. In summary, the aim for fertility recovery, although not mention a specific fertility level, is proposed through the carry out of following measures.

### ***Building up comprehensive public childcare system***

The first measure proposal is to build up a comprehensive childcare system. Specific aim of childcare policy is to reduce the burden of childcare for parents therefore increase the compatibility of family and work for employed women. Current childcare practice in Taiwan is characterized as highly relying on family and market provision, but deficient in socialized care (Fong 1997, Wu 2006). Childcare burden is high or childcare cost is expensive for most of family with young children. On the other hands, married women's participation rate is comparatively lower than other industrialized countries (Daly 2000, Hsu 2005). Proposal calls for establishment of public childcare system that government should provide sufficient, affordable, and quality assured childcare services for parents. Measures should emphasize on an enhancement of community nanny supportive system. An ideal model of community nanny supportive system consists of management, training, licensing, registration, supervision of nannies as well as making matches for family in need of childcare. Community nanny supportive system should be operated by non-profit organizations, with some public subsidy, working at community level. Inspired by women's group, the National Bureau of Children's Welfare already started some pilot projects since 2001, with subsequent extension to 40 supportive systems spreading over 23 counties until 2005. Recent statistic showed that there are 7,582 nannies registered in community supportive system, among a total of 40,553 licensed nannies in the whole country. The care capacity of community nanny supportive system is proposed to be greatly enhanced and assisted with public resources in order to benefit more family.

### ***Improvement of unequal maternal leave and unrealistic parental leave policy***

The second measure proposal is to improve the maternal leave and parental leave policies. These measures aim at reducing the cost immediately following childbearing for parents. In respect of maternal leave, current regulation was found benefit is insufficient in general, and unequal among different occupational categories. The proposal maternal leave benefit should be raised to a universal standard of three months' salary and must be stipulated in employment insurance term. As for parental leave, since 2002 Equal Employment Act has been promulgated in Taiwan, the Act has stipulated eligibility of two years' parental leave at maximum. However, only few workers applied for parental leave. Major applicants have been women

of government employees. Positions in public sector have more warrant for woman employees' return after leave. Women worked in private sector have less supportive environment. Employers' attitude is not favorable since they have to undertake cost of leave-mothers' discontinuity at jobs. On the other hands, It is found a common reason that working women rarely apply for parental leaves is due to income interruption during leave would affect family economic condition. Interruption of mother's income may result in financial problems for two-earner's family. This effect can not be easily ignored when family sense their living cost is about to increase after childbirth.

This proposal advised a benefit of six months' salary at maximum should be entitled to parental-leave workers provided from employment insurance. A relief of financial burden for would be expected to some degree, extent the financial burden caused by the income interruption due to parental leave on one hand, and also be expected to avoid the increase of employer's direct cost on the other hand. According to Equal Employment Act which stipulates a right of parental leave of two years, its feasibility seems not matured yet, awaits further assessment.

### ***Provision of financial support with dependent children***

The third measure proposal is to provide financial support for family with dependent children. Examination of public and private sharing of expenditure for children's rearing and education, it was found that government in Taiwan played a less sufficient role when compared to Japan. (Cheng 2007, Cheng & Hurng 2005) Take the situation in 2002, Taiwan's government shared only about 24% of the total childrearing cost for the families having one preschool-aged child, and for families with two children of ages between 13 and 15, government shared 35%. While In Japan, government shared 52% of the total childrearing cost for families having children aged below 18. The financial burden of raising children for family is relatively higher in Taiwan than in Japan. Therefore a moderate amount of children's allowance for family with small dependent children under six years old is proposed.

Besides child allowance, proposal also made for income tax reduction for dependent children under age 18. . The proposal also calls for an equivalent deduction for each dependent child aged below 18 to the same amount as of the elderly. In addition, measures include the income deduction for childcare payment.

In order to share the housing cost for family

with more children, proposal also made to provide interest subsidy for housing loan to family with three or more children.

***Construct friendly occupational environment for childbearing workers***

The fourth measure proposal is to construct friendly occupational environment for childbearing working parents. During 1990s, The Worksite Childcare Project caught the attention of the National Council of Labor Affairs during 1990s, several projects were initiated to encourage enterprises to set up facilities or develop cost subsidy for employee's needs of childcare. An original idea of worksite childcare project intended to prevent women from drop out labor force participation. The 2002 Equal Employment Act even stipulates employer's responsibility in provision of adequate childcare services for employees. However, such Act only regulates those big enterprises with 250 or more employees, leave small enterprises unregulated. As a consequence, most employees did not benefit because small enterprises are majority in Taiwan's industries. In total, only around 40 to 80 enterprises received grants for childcare facilities between 2004 and 2006. However, the proportion of childcare by worksite services is still insignificant when compared to purchase childcare services from market. The beneficiaries are mostly the employees in public enterprises.

In the construct of friendly work environment for childbearing parents, It is argued that local government should take more responsibilities, especially in the joint effort and coordination among various local agencies such as labor affair, social and educational administrations. Innovative and flexible are important principles for constructing friendly occupational environment.

***Further improve the reproductive health care system***

The fifth measure proposal is to further improve the reproductive health care system. Through years of successful implementation of family planning program, the consequences include the improvement of reproductive health delivery services in public health and medical system, besides the effective birth control in Taiwan. For achieving the new goal of raising fertility, existing health apparatus has been ready for providing knowledge and services for safe and healthy pregnant and maternal deliveries. An ideological alteration is in need for the health or medical professionals from birth control to pro-natal. In the reproductive health sphere, problems of high prevalence of induced abortion and sex selection of fetus still

await solutions. Health education particularly for the teen-agers, and more tolerable social attitudes towards premarital childbirths are reminded.

***Enhance children's right and improve child protection system***

The sixth measure proposal is to enhance children's right and improve child protection system in Taiwan. Child protection movement started to gain social notice since late 1980s. In 1990s, this movement achieved important progress in term of legislative revision of Children's Act in 1993, Prohibition and Prevention Act of Child-and-Teen's Sexual Transaction passed in 1995, and Bureau of Child Welfare was instituted in 1999. However, child abuse and low fertility problems ranked among Taiwan's top ten social welfare issues in 2005 (Yu 2005). Child abuse remained salient and childbirth kept falling, this parallel development signified a dangerous condition for the survival of children. Both are telling a decreasing value of children and ignorance of children's right in contemporary society. A precondition for the raise of fertility is recognized that values of children need to be enhanced and their rights need to be guarded.

***Improve marriage opportunity and children's value as public goods***

The final measure proposal is to improve opportunity of marriage at societal level, and to enhance children's value as public goods. Marriage rates have been decreasing that lessen the proportion of married in population. Taiwan shares the similar cultural norms with other Asian countries that praise the virtue of reproduction within marriage (Sun & Lee 2006). Nuptiality decline has exerted important influence on below fertility. Therefore marriage rate has to be raised that one can expect an increase of fertility.

There are factors working at different levels which caused low marriage rate. High education and employment competition prolong marriage timing generally for males and females. The obligation of military services among high educated males also contributed to late marriage particularly for males. At the individual level, lacking motivation of marriage is a syndrome in postmodern era (Van de Kaa 2002, Bernhardt 2004), particularly prevalent among female population. More and more women gain independent economic status but many of them resent the traditional family system and the patriarchal dominance in family (Bahr 1982). On the other hand, Cohabitation behavior probably increased but did not contribute child-births.

Measures proposed to improve opportunity of marriage through relax the tight institutional restraints which force young men and women dare only think about getting marriage at very late ages. Reflection upon high educational institutions and compulsory military services, suggests their constraints on marriage should be considered to be waived. Possible measures that may have effects on increasing the compatibility between marriage and higher education and compulsory military services is suggested, include provision of family housing for married graduate students, substitute social services in stead of military services for married men with children. Such measures are expected to reduce the holding-up effect of university education and the subsequent military service and further career development on marriage and potentially oppressed fertility in society.

Gender equality in marital relation and housework division is seen important to the reviving of motivation for marriage. However men's progress in sharing housework has always been reluctant. Related measures are proposed through obligatory education, both male and female students will be exposed to family life education which stress values and the practices of liberal, equal and cooperative gender relationships in family.

By and large, the proposal stresses the importance of enhance the social attitude in recognition of children as public goods of society, not just private goods of family. More public support for family with children needs to be realized. It is proposed that public transportations, public educational facilities, and public recreational services should grant free services for whole family's activities which have two or more children together with.

### Conclusion

Instead of manifesting any successful stories concerning the effective policy measures that can be applied to raise up the fertility level in Taiwan, the historical developmental process of population policy in respect of fertility change is reviewed in this paper.

The emergence of lowest-low fertility in Taiwan in 1990s, in a society with robust marriage and family system, signify that traditional gender division of labor in family and in society, is no longer workable in new era and is harmful to reproduction. In pre-industrial period, decision of marriage and childbearing was in patriarchal family's hands, now-a-days women gained the decision-making power. In many situations, women have become, in the family, the major partner with reproductive capability in pregnancy and delivery. Although

gender equity is still an issue, women's status may still below men's in general, a resistance right or not-to-conform power exercised by women, could result in great effect.

The experience of Western and Northern European countries and English-speaking countries have successfully avoided lowest-low fertility shed some light on pro-natal policies for Taiwan. Gender equity is a non avoidable direction to pursue. However, gender equity need to be realized within family. Compatibility between work and the family is not pertaining to the need of women only. As gender equity improves, men will suffer the conflict between work and family further, or may intensified discordance in marital relationship.

The value of children needs to be respected from a public and societal stance, not just from private family or parental perspectives. Public support for family with children is itself worthy, no matter how much effect or none on fertility increase.

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