

Trends in Low Fertility and Policy Responses in Taiwan

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1. Introduction

Half a century ago, population explosion was once a major demographic problem threatening the future of humanity. Entering the 21st century, depopulation emerges as a global trend in most advanced societies, with below replacement fertility grabbing the most public attention in East Asia. Marriage behavior and family life are changing within Taiwanese society. Trends such as late marriage, lower marital fertility and greater participation of married women in the labor force are similar to changes that took place in the industrialized societies. Yet other aspects of family life in Taiwan are still quite different from the way family institutions have developed in the West. The proportion of extramarital births is extremely rare. While cohabitation has been accepted among young people, marriage is generally viewed as a permanent arrangement, particularly in relation to childbearing and childrearing.

Taiwan completed the demographic transition during the twentieth century and experienced total fertility rates lower than the replacement level since 1984. Taiwan's TFR decreased further from 1.80 to 0.89 between 1990 and 2010. Carl Haub, the senior demographer of Population Reference Bureau, said that Taiwan has the world's lowest fertility rate.¹ The least babies in the island's history were born in past year, prompting President Ma Ying-Jeou to call for national-security level counter-measures to address the matter. This paper will describe current trends in marriage and fertility and explore the institutional context of low fertility in Taiwan. Since values of having children serve as the fundamental ground for understanding fertility behavior, a brief examination on the inter-generational differences toward value of children is presented by using data from one 3-generation sample of grandmothers, their adult daughters, and daughter's adolescent children. Then, an overview of population policy will be provided, with the focus on newly announced pro-natal policy measures.

2. Declining Fertility, Delaying Marriage and Cross-Border Marriage

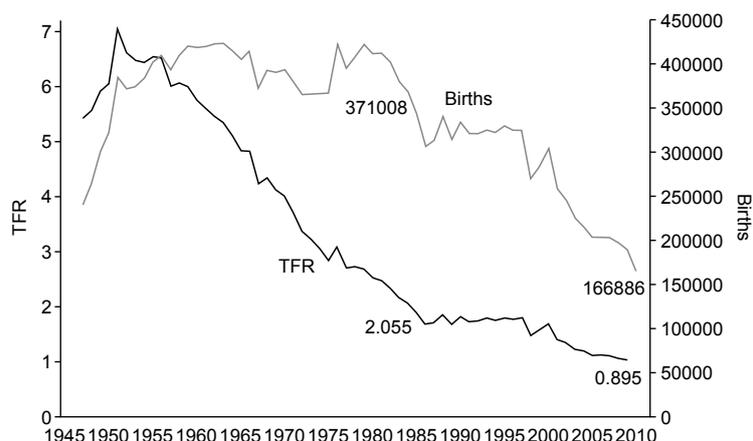
2-1. Trends in Fertility at Post-War Era

Since the late 1950s a significant fertility decline occurred in Taiwan, but this demographic trend actually accelerated after the introduction of the family planning program initiated in 1965. With an intension to control population growth for boosting economic development, the TFR declined effectively from 7.05 to 2.76 between 1951 and 1975 as shown in Figure 1. While in 1976, year of the dragon, the rate rebounded to 3.08 and recorded the second highest number of births (423,356), next to the top one of 423,469 births in 1962. The TFR has been lower than the replacement level in 1984 and stagnated around 1.75 until the East Asian financial crisis of 1997-1998. Despite fluctuations in TFR in the late 1990s, the graph in 2000 again echoed the fact that Taiwanese couples decided to give births most often in the Year of the Dragon. Entering the 21st Century, the fertility rate touched an even lower level of 1.23 in 2003. Ever since then, Taiwan becomes a member of lowest-low fertility countries (Kohler et al., 2002) and has not seen any change in declining fertility trend.

2-2. Delay in Childbearing

In Taiwan, like other East Asian countries, the delay in childbearing is significant among younger cohorts. As shown in Table 1, in 2010 the average age of mothers at first childbirth has increased by 6.1 years since 1980 when it was 23.5 years. Regardless of birth order, the mean age of mothers at childbearing was 30.6 years in the past year, 5.2 years older than in 1980. Although the average age of all mothers at childbirth is increasing, the data show that a narrowing gap between mean ages of first birth and all births through the fertility transition happened in Taiwan.

Figure 1. Trends in Total Fertility Rates and Births in Taiwan, 1947-2010



Sources: Table 7. General Fertility, Age-specific Fertility and Total Fertility Rates Per Thousand Childbearing Age Women, Department of Household Registration, Ministry of the Interior, ROC. (http://www.ris.gov.tw/web_eng/eng_sta_hs.html)

Table 1. Mean Age of Mother at Childbearing: 1980~2010

| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
|-------------|------|------|------|------|------|------|------|
| First birth | 23.5 | 24.5 | 25.4 | 26.1 | 26.7 | 27.7 | 29.6 |
| All births | 24.5 | 26.0 | 27.0 | 27.7 | 28.2 | 28.8 | 30.6 |

Source: Yap, 2008, Table 8.3, Singapore Population Census 2010

2-2. Postponement of Marriage and Singlehood

The economic and social transformation has led to late marriage which has been evidenced as one direct factor affecting the transition to below replacement fertility in Taiwanese society (Lee, 2009; Luoh, 2007). Both men and women are marrying later than they did in the past. The mean age of first marriage reached 29.2 years for women and 31.8 years for men in 2010. The longer schooling and faster economic growth tend to delay marriage for both men and women. Education and employment tend to expand women’s horizons and provide them with previously unavailable opportunities and lifestyles that compete with marriage.

How has nuptiality changed after a period of rapid economic development? The answer is highly associated with the increase in education among younger Taiwanese. In a newly finished research paper, I and my colleague analyzed the trends in timing of entry into first marriage across birth cohorts. We pooled the data of Taiwan Social Change Survey collected in different years and applied event history method for modeling the age pattern of first marriage. The empirical results demonstrate the variations in mean age at first marriage are associated with educational attainment.

As shown in Table 2, the comparison between birth cohorts shows that early and universal marriage has shifted toward late and less marriage, a trend being particularly salient among younger Taiwanese. More importantly, the trends in delaying marriage of higher educated women and lowest educated men actually reflect an unchanged preference for potential partners in Taiwan’s marriage market (Chen and Chen, forthcoming).

The official statistics also present a growing number of men and women who are never married (see Table 3). A closer scrutiny from the demographic data shows the proportion of women in their early 30s who had never married increased from 7.7% in 1980 to 37.2% in 2010. There was a more significant increase in the proportion of single men of 30-34 years of age from 13.5% to 54.1% during the same period. Last year, for Taiwanese in their late twenties, only 30% of women and 15% of men were married. While this may be a continuation of the shift to late marriage, it may also indicate an emerging trend toward life-long singleness. Being unconventional choice, the singlehood has caught the public’s attention and become headline news in recent years.

Table 2. Mean Age at First Marriage by Sex, Birth Cohort and Education

| | All | Elementary | Junior H. | Senior H. | College | University+ |
|-----------|-------|------------|-----------|-----------|---------|-------------|
| Cohort | Men | | | | | |
| 1908-1940 | 26.9 | 26.0 | 26.9 | 27.6 | 29.4 | 31.7 |
| 1941-1945 | 27.0 | 25.9 | 27.3 | 28.2 | 28.9 | 29.4 |
| 1946-1950 | 27.1 | 26.7 | 25.3 | 27.1 | 28.6 | 30.5 |
| 1951-1955 | 28.1 | 26.2 | 27.4 | 28.4 | 30.4 | 31.2 |
| 1956-1960 | 27.9 | 26.7 | 26.5 | 28.0 | 29.0 | 30.9 |
| 1961-1965 | 29.6 | 28.3 | 28.2 | 28.8 | 31.2 | 33.2 |
| 1966-1970 | 30.9 | 37.4 | 30.0 | 29.6 | 31.6 | 33.5 |
| Cohort | Women | | | | | |
| 1908-1940 | 22.0 | 21.8 | 22.1 | 24.3 | 22.9 | 26.3 |
| 1941-1945 | 22.6 | 22.1 | 22.8 | 24.6 | 26.2 | 25.6 |
| 1946-1950 | 23.2 | 22.0 | 22.9 | 25.0 | 25.8 | 27.6 |
| 1951-1955 | 24.0 | 22.0 | 23.2 | 25.6 | 27.3 | 27.6 |
| 1956-1960 | 24.5 | 21.8 | 23.6 | 25.0 | 27.3 | 28.7 |
| 1961-1965 | 25.5 | 22.2 | 23.7 | 25.9 | 28.1 | 27.7 |
| 1966-1970 | 26.5 | 21.3 | 22.6 | 25.9 | 28.8 | 29.9 |

Source: Chen and Chen. (forthcoming). "Changes in Entry into First Marriage among Taiwanese: Differences by Cohort, Education, and Ethnicity."

Table 3. Trends in Proportion Single by Sex and Age Groups, 1980-2010

| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
|-------|-------|------|------|------|------|------|------|
| Age | Men | | | | | | |
| 25-29 | 40.3 | 47.3 | 56.3 | 63.6 | 69.2 | 76.8 | 85.1 |
| 30-34 | 13.5 | 16.2 | 22.6 | 30.8 | 35.4 | 41.2 | 54.1 |
| 35-39 | 7.1 | 7.9 | 10.6 | 15.1 | 18.3 | 21.0 | 29.0 |
| 40-44 | 5.7 | 5.7 | 6.8 | 8.5 | 10.8 | 12.7 | 17.8 |
| Age | Women | | | | | | |
| 25-29 | 19.6 | 23.5 | 31.9 | 39.8 | 47.5 | 59.1 | 70.1 |
| 30-34 | 7.7 | 9.4 | 12.3 | 16.0 | 20.8 | 26.9 | 37.2 |
| 35-39 | 3.9 | 5.7 | 7.5 | 9.0 | 11.3 | 14.8 | 20.9 |
| 40-44 | 2.9 | 3.2 | 5.5 | 6.7 | 7.4 | 9.5 | 14.4 |

Source: 1980-2010 Taiwan-Fuchien Demographic Fact Book, Republic of China.

2-3. Cross-Border Marriage

The number of foreign nationals in Taiwan has been rather small due to the unique political environment and border control. Since the 1990s, however, the number of immigrants surged rapidly with the influx of spouses from China and Southeast Asia. While the enhancement in women's status and roles is viewed as an accomplishment of Taiwan's socioeconomic transformation, it has also been argued to have a direct effect on women's postponing marriage. Adding an unchanging norm of marriage gradient, women who have attained higher education are less likely to marry men with lower human capital. Consequently, cross-border marriage emerges as an acceptable option among less advantaged men and becomes more visible in

non-metropolitan areas.

As shown in the left panel of Table 4, the number and share of cross-border marriages have increased significantly from the late 1990s. Marriage statistics for 1998 show that 14.1% of registered marriages involved non-Taiwanese wives, but this figure unexpectedly soared to 28.4% in 2003. To decelerate the growth of cross-border marriages and to inhibit the possibility of marriage fraud (i.e. trafficking in women), a variety of legal restrictions and penalties began to be implemented in 2004.² There is no guarantee of legal status for marriage migrants until couples can pass a face-to-face interview held either at the checkpoints of major airports or in foreign spouses' home countries. The share of female marriage migrants were

observed from 21.4% in 2004 to 11.8% in 2008. The proportion ever rebounded slightly in 2009, a year after global economic crisis. However, a significant decrease in number of wives from Southeast Asian countries was never recovered

since 2005. In contrast, following the peaceful development of the cross-Straits relationship, the annual number of registered marriages involved wives from Mainland China is relatively stable.

Table 4. Registered Number of Marriages and Births by Bride's/Mother's Origins: 1998-2010

| Cohort | No. of Marriages | Distribution of Bride's Origins (%) | | | | No. of Births | Distribution of Mother's Origins (%) | | | |
|--------|------------------|-------------------------------------|-------|---------|-------|---------------|--------------------------------------|-------|---------|-------|
| | | Taiwan | China | SE Asia | Other | | Taiwan | China | SE Asia | Other |
| 1998 | 145976 | 85.9 | 8.2 | 5.9 | | 271450 | 94.9 | 5.1 | | |
| 1999 | 173209 | 83.0 | 9.7 | 7.3 | | 283661 | 93.9 | 6.1 | | |
| 2000 | 181642 | 77.0 | 12.5 | 10.5 | | 305312 | 92.4 | 7.6 | | |
| 2001 | 170515 | 74.9 | 15.1 | 9.8 | 0.2 | 260354 | 89.3 | 10.7 | | |
| 2002 | 172655 | 74.1 | 15.8 | 9.8 | 0.2 | 247530 | 87.5 | 12.5 | | |
| 2003 | 171483 | 71.6 | 18.5 | 9.5 | 0.3 | 227070 | 86.3 | 13.4 | | |
| 2004 | 131453 | 78.6 | 8.0 | 13.1 | 0.3 | 216419 | 86.7 | 5.2 | 8.0 | 0.1 |
| 2005 | 141140 | 82.1 | 10.0 | 7.6 | 0.3 | 205854 | 87.1 | 4.9 | 7.9 | 0.1 |
| 2006 | 142669 | 85.5 | 9.7 | 4.5 | 0.3 | 204459 | 88.3 | 5.1 | 6.5 | 0.1 |
| 2007 | 135041 | 84.0 | 10.8 | 4.8 | 0.3 | 204414 | 89.8 | 5.0 | 5.2 | 0.1 |
| 2008 | 154866 | 88.2 | 7.8 | 3.6 | 0.3 | 198733 | 90.4 | 5.0 | 4.5 | 0.1 |
| 2009 | 117099 | 84.4 | 10.8 | 4.4 | 0.4 | 191310 | 91.3 | 4.6 | 4.0 | 0.1 |
| 2010 | 138819 | 87.2 | 9.0 | 3.4 | 0.4 | 166886 | 91.3 | 4.9 | 3.7 | 0.1 |

Source: Annual Population Statistics. Department of Household Registration Affairs, MOI, Executive Yuan.

Available online: Marriage Registration: http://www.ris.gov.tw/version96/population_01_C_05.html

Birth Registration: http://www.ris.gov.tw/version96/population_01_C_03.html

By the end of 2011, there were 459,390 marriage migrants, 67% from Mainland China, Hong Kong and Macao, and others mainly from Southeast Asia including Vietnam, Indonesia, Thailand and the Philippines. More than 90% of them were female, while Japanese were the number one choice in marriages involving foreign grooms (Ministry of the Interior, 2012). In terms of the residential distribution, a majority of marriages between Chinese wives and Taiwanese husbands were more prevalent in cities and adjacent areas. On the contrary, foreign spouses from Southeast Asia were more likely to concentrate in rural and remote areas dominated by agricultural activities. In southern Taiwan and outlying small islands, where fishing is the major means of livelihood, most foreign wives originated in Vietnam and the Philippines (Ministry of the Interior, 2004).

The decrease in the number of cross-border marriages could be considered as correlated fluctuations of fertility. Therefore, the share of births born to non-Taiwanese mothers has been declined in recent years (see the right panel in Table 4). In addition, the lower total fertility rates have been observed in major cities and counties since 1990. There were only two exceptions, Kinmen

and Lienchiang, counties of Fujian Province in southeast China. As shown in Table 5, following a rapid increase of marriage immigrants between 1990 and 2000, the fertility did not show a significant change in most non-metropolitan areas. Few counties, like Yunlin, Chiayi and Penghu, have seen a slightly rebounded TFR. The pace of fertility decline appeared to be slowing in Taipei City unexpectedly. Yet the implementation of new migration policy and regulations since 2004 has resulted in a downward trend in this marriage pattern. A substantial decline in the number of marriage immigrants from Vietnam has also been recorded during this period. In most agricultural counties, an even lower fertility rate may be associated with fewer cross-border marriages between 2000 and 2010.

The substantial number of babies born to immigrant mothers has made an important contribution to total fertility rates. Despite an increasing anxiety concerning the quantity of newborns from foreign and Mainland Chinese mothers, the research shows that the average number of children born to a marriage migrant is still lower than the replacement level. By examining the sex ratios of recent newborns from cross-border marriages, it is

evident that some couples may have a strong preference for a son (Chen, 2008). In response to the declining birth rate in recent years, some counties and cities began to offer monetary incentives for encouraging newborns. Hsinchu City, the base for

high technology industry in Taiwan, has offered additional benefits for the second and third child. Given its young population and a more generous pro-natal policy, there is no doubt that the highest TFR is observed in Hsinchu City in recent years.

Table 5. Changes in Total Fertility Rate by Cities/Counties in 1990, 2000 and 2010

| County/City | 1990 | 2000 | 2010 | Period Change | |
|-------------------|-------|-------|-------|---------------|-----------|
| | | | | 1990-2000 | 2000-2010 |
| Taipei County | 1.800 | 1.480 | .815 | -17.78 | -44.93 |
| Yilan County | 1.885 | 1.725 | .990 | -8.49 | -42.61 |
| Taoyuan County | 1.930 | 1.835 | .950 | -4.92 | -48.23 |
| Hsinchu County | 2.230 | 2.205 | 1.180 | -1.12 | -46.49 |
| Miaoli County | 2.095 | 1.915 | .990 | -8.59 | -48.30 |
| Taichung County | 1.950 | 1.735 | .905 | -11.03 | -47.84 |
| Changhua County | 2.020 | 1.860 | 1.000 | -7.92 | -46.24 |
| Nantou County | 1.930 | 1.810 | .870 | -6.22 | -51.93 |
| Yunlin County | 1.960 | 1.990 | .950 | 1.53 | -52.26 |
| Chiayi County | 1.995 | 2.090 | .875 | 4.76 | -58.13 |
| Tainan County | 1.830 | 1.705 | .760 | -6.83 | -55.43 |
| Kaohsiung County | 1.795 | 1.695 | .770 | -5.57 | -54.57 |
| Pingtung County | 1.795 | 1.725 | .795 | -3.90 | -53.91 |
| Penghu County | 1.670 | 1.850 | .860 | 10.78 | -53.51 |
| Hualien County | 1.815 | 1.710 | .945 | -5.79 | -44.74 |
| Taitung County | 1.825 | 1.855 | 1.040 | 1.64 | -43.94 |
| Taipei City | 1.475 | 1.510 | .895 | 2.37 | -40.73 |
| Keelung City | 1.720 | 1.565 | .735 | -9.01 | -53.04 |
| Hsinchu City | 1.870 | 1.775 | 1.300 | -5.08 | -26.76 |
| Taichung City | 1.770 | 1.555 | .835 | -12.15 | -46.30 |
| Chiayi City | 1.600 | 1.505 | .825 | -5.94 | -45.18 |
| Tainan City | 1.610 | 1.405 | .790 | -12.73 | -43.77 |
| Kaohsiung City | 1.585 | 1.420 | .840 | -10.41 | -40.85 |
| Kinmen County | 2.570 | 2.210 | 1.350 | -14.01 | -38.91 |
| Lienchiang County | 2.165 | 2.225 | 1.420 | 2.77 | -36.18 |
| Overall TFR | 1.810 | 1.680 | .895 | -7.18 | -46.73 |

Source: Annual Data on Fertility Rates of Childbearing Age Women by Location, Department of Household Registration, Ministry of the Interior, ROC. (<http://sowf.moi.gov.tw/stat/year/list.htm>)

3. Intergenerational Transmission of Value of Children

In an age of individualism, more young Taiwanese have delayed their marriages and child-bearing for pursuing the quality of their life. Some of them even choose to be single and childless. Those typical Chinese norms such as “producing a male heir to continue the family line,” “suppressing oneself for the sake of the family,” or “raising children as insurance for old age” no longer strongly appeal to younger generations. Although numerous efforts have been allocated to increase the birth rate among young married couples, relatively less attention is laid upon the attitudes or values held of having children.

In the 1970s, scholars have argued that an

important reason of wanting to or not to bear children may result from the changing concept of having children (Arnold et al., 1975; Hoffman and Hoffman, 1973). While the traditional norm for the utility of children is largely restricted to the physical or economic provision, modern concept appears to emphasize the emotional gratification of raising children. In addition, social recognition of being parents still remains strong in East Asia and marital fertility not only constitutes almost all infant numbers, it is probably the only accepted fertility pattern by social norm in this region. Hence, it is important to study values behind the fertility behavior in order to achieve better prediction of the future demographic trends. In this light, family is presumed to be the major locus of

value transmission including the value of children (VOC). To explore possible value transmissions of VOC among different generations will allow us to ascertain the construction of VOC at home as well as to delineate significant factors occurred in the process which may account for values endorsed.

To investigate the change and continuity of the value of children among Taiwanese and to examine how these values and reproduction behaviors being transmitted intergenerationally, Dr. Chin-Chun Yi and her colleagues have completed a nation-wide three-generation survey (Chen and Yi, 2009). In this survey design, the concept of value of children is distinguished by the advantages or benefits for having or wanting children. A five-point Likert scale is used, with 1 being the lowest score “not important at all” and 5 being the highest score “very important”. Three factors including emotional, physical-economic and social-relational reasons were generated through the factor analysis (see Table 6), with three items excluded from the analysis because of low internal consistency.

The emotional factor includes 5 items such as “Making family more important”, “Increasing sense of responsibility”, “It’s fun to have young children around the house”, “It’s a joy to have a small baby at home”, “It’s a pleasure to watch your children grow” and “Having children helps you grow”. The physical-economic factor comprises 4 items concerning economic support and old-age care. The social and relational factor reflects the dominant value of continuing the family name as well as improving one’s social standing as a

parent. For teenagers, the result of factor analysis shows the structure of VOC is slightly different from their mothers and grandmothers. Taiwanese adolescents perceive that having child can help them to learn about life and themselves. These results are identical with most other VOC findings in recent years (Nauck, 2007).

Table 6 presents the mean scores of all 13 VOC items as well as 3 factors. The result shows that emotional benefits of having children were the most reported reason over three generations, particularly being valued by mothers of teenagers (mean factor score=4.09). While grandmothers were more likely to emphasize the importance of physical/economical and social/relational reasons for having children, both teenagers and their mothers have devalued significantly these two VOC factors.

We also examine the correlation coefficients of VOC factors of three generations in explaining possible transmission effects (see Table 7). With regard to emotional factor, one significant and positive relation is only found between grandmothers and their daughters ($r = .16$). In addition, the result points the negative relation between grandmother’s emotional concern and mother’s physical concern. The most consistent findings are related to physical/economical and social/relational factors across generations. It is clear that physical/economical value is transmitted from grandmothers to mothers and from mothers to their adolescent children orderly. However, we do not find significant transmission effect in social/relational dimension over generations in Taiwan’s study.

Table 6. Means and Standard Deviations of Positive VOC Items and Factors

| Item | Grandmother | Mother | Teenager |
|---|-------------|-------------|--------------|
| Emotional reason | 3.76 (0.82) | 4.09 (0.54) | 3.70(0.84) |
| Make family more important | 3.83 (0.93) | 4.15 (0.66) | 3.64 (0.99) |
| Increase sense of responsibility | 3.17 (1.16) | 3.87 (0.84) | 3.60 (0.97) |
| Joy to have a small baby | 3.93 (0.86) | 4.13 (0.67) | 3.80 (1.04) |
| Fun to have young children around | 3.96 (0.88) | 4.09 (0.68) | 3.71 (1.04) |
| Pleasure watching children grow | 3.92 (0.99) | 4.23 (0.71) | 3.80 (1.07) |
| Physical/Economical reason | 3.79 (0.90) | 3.04 (0.95) | 3.03 (0.93) |
| Less likely to be lonely in old age | 4.00 (1.01) | 3.36 (1.12) | 3.35 (1.14) |
| To help your family economically | 3.51 (1.21) | 2.71 (1.15) | 2.68 (1.08) |
| Children take care of you when you're old | 4.00 (0.97) | 3.29 (1.13) | 3.20 (1.10) |
| Children support economically when you're old | 3.65 (1.15) | 2.80 (1.12) | 2.88 (1.10) |
| Social/Relational reason | 3.49 (0.74) | 3.18 (0.81) | 2.32 (0.85) |
| Standing/reputation among your kin | 2.94 (1.25) | 2.60 (1.13) | 2.10 (0.93) |
| Childrearing helps learn about life/self | 3.23 (1.07) | 3.71 (0.85) | 3.62 (0.99)* |
| Life will be continued through children | 3.80 (0.84) | 3.37 (1.05) | 2.57 (1.17) |
| To carry on the family name | 3.98 (0.88) | 3.04 (1.17) | 2.28 (1.11) |

Note: * For teenagers, this item is allocated into emotional reason.

Table 7. Correlation Coefficients of Positive VOC Factors of Three Generations

| | E_g1 | P_g1 | S_g1 | E_g2 | P_g2 | S_g2 | E_g3 | P_g3 | S_g3 |
|------|--------|--------|------|------|--------|------|--------|--------|------|
| E_g1 | 1 | | | | | | | | |
| P_g1 | .09 | 1 | | | | | | | |
| S_g1 | .56*** | .39*** | 1 | | | | | | |
| E_g2 | .16** | -.11 | .09 | 1 | | | | | |
| P_g2 | -.14* | .23*** | -.03 | .01 | 1 | | | | |
| S_g2 | -.09 | .22*** | -.01 | .09 | .64*** | 1 | | | |
| E_g3 | .01 | .03 | -.05 | .11 | .08 | .04 | 1 | | |
| P_g3 | -.08 | .15** | -.01 | .02 | .12* | .04 | .36*** | 1 | |
| S_g3 | -.05 | .14* | .03 | -.07 | .10 | .10 | .27*** | .54*** | 1 |

Note: *** p<.001; ** p<.01; * p<.05

4. The Evolution of Population Policies in Taiwan

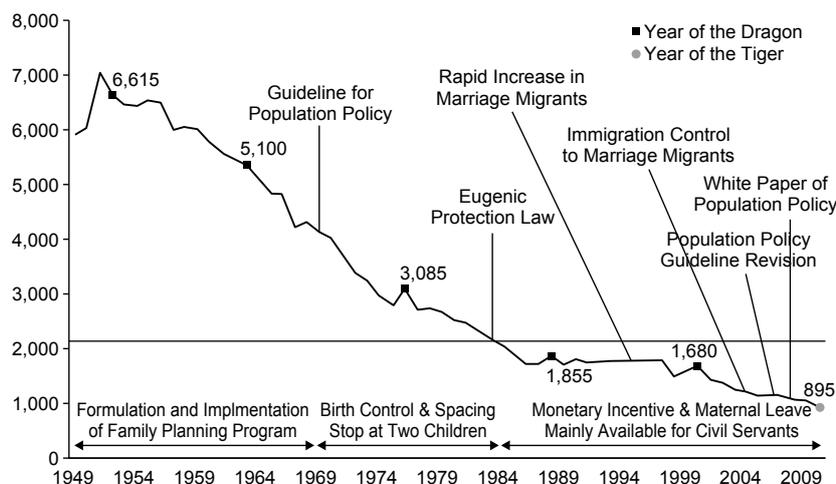
As other developing countries, Taiwan confronted the problem of excess population after World War II. Although Taiwan stabilized its economy and resumed its normal course of development with the aid from the United States, a sustained rate of increase in agricultural production sufficient to support its growing population was hardly achieved at that time. The fundamental solution lay in reducing fertility and promoting industrialization. Therefore, in the late 1950s and early 1960s, positive views toward larger populations began to give way to concern about the adverse consequences of rapid population growth. In 1959, Dr. Chiang Molin, chairman of the Joint Commission on Rural Construction, made an emotional appeal in support of the family planning program, urging the government not to intervene in his efforts to promote it. Later, in September 1961 the Taiwan Population Studies Center, with technical and financial support from the University of Michigan and the Population Council, was established within the Provincial Health Department. A carefully designed action and research program was launched. The integration of population and development strategies had driven a dramatic demographic transformation.

In reality, the government action accelerated population change and economic development in Taiwan (Liu, 2001). In 1969, after the announcement of guidelines for population policy, the family planning program received its legitimacy status and financial assistance from the Government. In addition to promoting a reasonable rate of population growth through voluntary family planning program, the guidelines also included measures to improve the quality of the population through better education, nutrition, and eugenic protection and

to promote a rational distribution of the population. A remarkable shift in public opinion in favor of birth control became evident. Beginning in the late 1970s, a sharp decline in fertility rate was associated with the prevalence of induced abortion at private clinics, while the Eugenic Protection Law, which legalized abortion for medical reason only, had not been approval until 1985. Figure 2 shows that the total fertility rate had below the replacement level of 2.1 children per woman by 1984, and it has remained below that level except the Year of the Dragon.

While the family planning program was appraised as a success because it considered the accessibility for married women as well as the importance of diffusion of new ideas within society, both officials and scholars are evaluating its long-lasting impact on adults' reproductive attitudes and practices which may be attributed to Taiwan's low fertility rates (Tsai, 2007). 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. Nevertheless, new policy initiative announced at this time was not accepted by the general public. More higher-educated Taiwanese preferred to remain single or to have fewer or no children became a trend that continues today. The introduction of cross-border marriage ever retained fertility rates for years, but the pro-natal population policy revised recently has not been as successful in reversing fertility declines. Furthermore, both feminists and environmentalists have expressed their concern over fertility lifting, which was actually interrupted government's plan for raising fertility to a certain extent (Lee, 2009).

Figure 2. Population Policies, Marriage and Fertility Trends



Even though, in accordance with the spirit of revised Guidelines for Population Policy and in response to rapid aging and labor shortage, the research of White Paper for Population Policy was delineated into three parts, including pro-natal, aging, and migration policies. As a result, the White Paper for Population Policy was announced by the Minister of the Interior in 2008. Regarding the pro-natal policy, seven measures that have been set for lifting fertility rate are as follows:

1. Building up comprehensive childcare institution
2. Financial assistance for families with dependent children
3. Creation of family-friendly workplace
4. Revision of maternity protection*
5. Improvement of reproductive health care system
6. Creating child safe environments
7. Expanding opportunities to meet marriageable partners and promoting public goods value of children

Women groups have claimed that working women in Taiwan should be protected. In 2002, Gender Equality of Employment Law was passed by the Legislative Yuan in Taiwan. In the law, discrimination toward married or pregnant female workers is strictly forbidden. Employers should provide enough maternity and parental leaves for mothers and female workers who are mothers of children younger than 3 years old could adjust their working hours according to their own needs. The law was supposed to improve the motivation of working women to have children; however, almost 10 years after the law was passed, the fertility rate is still declining. Thus, questions are raised regarding the effectiveness of these policies

and regulations. Because of financial difficulties and the lack of organizational and institutional consistency, a variety of policies and measures are implementing at national level and/or local level. There is no doubt that declining fertility and marriage are hardly changed in Taiwanese society.

In 2010, to encourage more babies, the Ministry of the Interior initiated a US\$35,000 cash prize for a slogan. Based on a month of online voting, Internet users have chosen “Children are our most precious treasures (孩子~是我們最好的傳家寶)” as the winning slogan. The government has been offering various incentives in an unsuccessful bid to boost birth rates, amid growing concerns that a severe manpower shortage will trigger serious social and economic problems. Taipei City, where birth rates dived to an all-time low last year with fewer than 20,000 babies being born, will start paying couples NT\$20,000 for every newborn beginning from January 1, 2011. The mayor, Lung-Bin Hau, announced in his inaugural address last year, said “The falling birthrates have made a significant impact on our already graying population over the recent years. This phenomenon will indeed cripple our city’s development. So, the city government will unveil a series of generous incentive programs to encourage marriages, stimulate childbirths and provide more job opportunities for our young people. This is one of the most important policies I will execute in the next four years.”³

As shown in Table 10, in addition to a NT\$20,000 payment given to any family that has a baby, the other monthly subsidies will be available for eligible parents with a child 5 years old or under. Perhaps with the growing awareness that monetary incentives alone could not persuaded individuals to change their fertility behavior, the

Taipei City Government has emphasizes free education for 5-year-old students enrolled in public pre-schools. Also, the family-friendly Enterprise Award is initiated to promote the long-term goal of enhancing the working environment. In response to expensive cost of living and housing in Taipei City Mayor Hau went to Singapore for learning its housing policy and has proposed to construct affordable rental housing for young couples.

The progression in Taipei's pro-natal policy measures as well as declining fertility rate nationally have pushed President Ma Ying-Jeou to

announce new policy measures for encouraging childbirths. The income tax rebate is the most important change in newly proposed policy. Parents who were taxed below 20% and have a child 2 to 5 years of age could enjoy a special tax rebate of NT\$25,000 per child beginning next year. To become a population policy, it should pass the voting process in the Legislative Yuan by the end of this year. Additionally, paid parental leave and housing subsidies are both proposed within the whole policy.

Table 10. Comparison between Taipei City's and Whole Taiwan's Existing and Proposed Pro-natal Policies

| Policy Measures | Taipei City (01/01/2011) | Taiwan (undecided) |
|--------------------------|--|---|
| Cash benefits | One-time payment of NT\$20,000 given to family with a newborn* | |
| Childcare subsidies | Parents taxed below 20% who have a child 5 years of age or under can receive a monthly subsidy of NT\$2,500** | Parents of child 0 to 2 years of age can receive: 1) A monthly subsidy ranging from NT\$3,000 to NT\$5,000 for babysitting 2) An extra subsidy ranging from NT\$2,500 to NT\$5,000, if child is cared by parents themselves |
| Income tax rebates | | Special tax rebate of NT\$25,000 per child for parents taxed below 20% who have a child 2 to 5 years of age |
| Pre-school education | Free education for 5-year-old students enrolled in public pre-schools; a subsidy of NT\$12,543 given to students in private ones | Extended compulsory education: Free education for all 5-year-old pre-school students (August 2011) |
| Delivery subsidy | 2-month salary for civil servants; 1-month salary for working mothers | |
| Parental leave & payment | 1) Maximum 2 years of no pay parental leave for a family with child below 3 years old 2) Maximum 1 year of paid parental leave. Either father or mother is eligible to take up to 6 months paid leave at 60% of income. | |
| Housing subsidy | Subsidized loan and rental assistance for young couples in hope that they will not postpone marriage or delay having children | |

Notes: 1US Dollar \cong 29 NT Dollar

Qualification for application in Taipei: *Either father or mother of newborn (born on or after 01/01/2011) who has been resided in Taipei at least 1 year. **Both parents and child should be residents in Taipei at least 1 year, and the family does not receive any other social welfare subsidies.

5. Conclusion and Discussions

Because of extra-low fertility happened in 2010, many predictions and guesses have been made and caught the public attention. The effect of the Tiger and Dragon years on fertility behavior in Taiwan and other Chinese societies in Southeast Asia is not just media hype but a very important issue. In the national vital statistics, the fertility rate drops during the Tiger years and significantly rises in the Dragon ones. The expert on demography, Dr. Wen-Shan Yang,⁴ nonetheless cautions that the Taiwanese could well be disappointed with the baby yield of the next Year of the Dragon. In

recent years, while fertility dropped as usual during the tiger years, it failed to fully recover in the subsequent Year of the Dragon, unlike in the past.

In May, Taiwan was ranked the 6th in IMD World Competitiveness Yearbook 2011.⁵ While the IMD continues to rank Taiwan as the top 5 most competitive economic entities in the Asia Pacific region and the 1st position in the GDP per capita less than US\$20,000 category, the good ranking is due to impressive achievements in productivity and efficiency of the private sector but not government efficiency. In reality, Taiwan's real wage growth has been stagnant in the last few

years as wealth inequality has been rising in the metropolitan areas. The Yearbook said the island country faces some challenges in 2011. Most important one is that Taiwan Government should work to ensure comfortable living standards and maintain a suitable environment. And, it had better continue to implement financial and fiscal reforms for social needs.

Also, in mid July, the labor groups had called for a 31.2 percent increase from to NT\$17,780 to NT\$23,459 per month, while business groups said the increase would raise their costs. The minister of Council of Labor Affairs called for a gradual incremental increase in the minimum wage to avoid adversely affecting businesses, particularly small and medium-sized enterprises. Later, the council announced that the minimum wage would be raised by 5.03 percent, to NT\$18,780 per month or NT\$103 per hour, pending approval by the Executive Yuan. An estimated 1.7 million local workers and 190,000 immigrant workers will see their monthly pay increase as a result of the adjustment.⁶

An empirical result shows that human capital expenditures per child are substantially higher where fertility is lower. This suggests that, during the demographic transition, a portion of the first demographic dividend is invested in human capital, reinforcing the economic benefits of fertility decline. It also suggests that the very low fertility is associated with an increased human capital

investment per child that might reduce or at least postpone the support problems brought on by population aging. In other words, human capital investment is a potentially important mechanism by which a second demographic dividend can be generated (Lee and Mason, 2010). In Taiwan, we do observe a rapid increase in educational attainment of young population. This trend is even more evident among female, however, the lack of concurrent in women's working and family lives can perhaps explain why Taiwan is experiencing a dramatic increase in the number of women who delay marriage and childbearing. Unlike their older female counterparts who were more likely to combine work and family together within the informal sector, higher-educated younger Taiwanese women are forced to choose their either career or family in the formal labor market (Yu, 2009).

All these news and research indicate a similar trend—it is not easy for young population to survive and to maintain a comfortable lifestyle in Taiwan's metropolitan areas. How can central and local government work with infrastructure and policies to support this society? And what incentives could the government provide for marriage formation and childbearing? There is no simple answer for these questions. In particular, the pronatal population policy is beginning to start in this year. It should be a good chance to evaluate the effectiveness of those policy measures in Taiwan's social context.

¹ Carl Haub, "Taiwan's Birth Rate Lowest Recorded in History." Population Reference Bureau. (<http://prbblog.org/index.php/2011/01/13/taiwans-birth-rate-lowest-in-history/>)

² The Act Governing Relations between Peoples of the Taiwan Area and the Mainland Area has been revised to include harsher punishments for trafficking in immigrants. The Immigration Office of National Police Agency has also strengthened on-line and post-entry interviews of Mainland Chinese spouses and other applicants for visit, stay and residence in Taiwan area. According to the 2005 annual report, the Office has interviewed 85,726 Mainlanders, with nearly one-third of interviewees being deported back to the Mainland. For foreign spouses, particularly from Southeastern Asian countries, the conventional group interview has been replaced by one-to-one interviews as of June 2005.

³ Mayor Hau's Inaugural Speech. <http://www.taipei.gov.tw/ct.asp?xItem=41082&CtNode=5292&mp=100001>

⁴ Tiger Throttling Taiwan's Birth Rate. *Asia Times*, 01/12/2011. (<http://atimes.com/atimes/China/MA12Ad01.html>)

⁵ 2011 Ranking in the region of East Asia: Hong Kong (1), Singapore (3), South Korea (23), Japan (27).

The Yearbook was released by the Switzerland-based Institute for Management Development in May. (<http://www.imd.org/research/publications/wcy/index.cfm>)

⁶ Labor Minister Defends Wage Hike Proposal, *Taipei Times*, 07/23/2011. (<http://www.taipeitimes.com/News/taiwan/archives/2011/07/23/2003508943>)

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