

Chapter 4 The Fertility Evolution and Policy in Taiwan

Like many other developing countries, Taiwan also faced the problem of excess population after World War II. About 1.3 million migrants from mainland China crowded into a war-torn, small island with a pre-existing population of 6 million around 1950. In 1950 the average area of cultivated land per farm had been reduced to 1.4 hectares. Till the end of 20th century, Taiwan not only made remarkable economic progress, but also completed its demographic modernization. Promoting a reasonable rate of population growth through voluntary family planning programs, incentives, and disincentives was one element of the government's guidelines for fertility policy. 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.

In this chapter, we will describe the transition of fertility policy, the role of the Taiwan government in influencing and regulating childbearing, and assess the demographic impacts of population and development programs in the postwar period.

4.1 Demographic and Social Trends in Taiwan

Data from the continuous population register and from censuses dating back to 1960 provide reasonably good information about the growth rate of Taiwan's population. Table 4-1 summarizes population growth patterns in Taiwan from 1960 to 2007. Since 1960, population of Taiwan has grown from a little over ten million to almost twenty three million (end of 2007). As in many other countries, Taiwan's growth stems largely from natural increase.

Taiwan completed the fertility component of the demographic transition in the

27 years between 1956 and 1983. The net reproduction rate (NRR) decreased from 2.784% in 1960 to 1.715% in 1971, 1.177% in 1980 and it fell below replacement level after 1983; it was only 0.517% in 2007, although it is considered as ideal to keep NRR equal to 1. As we can see from Table 4-1, a continuous decline in birth rates began in the 1960s up to the first half of the 1970s, until crude birth rate rose to 25.9% in 1976, because of the Dragon year effect, which is regarded as an auspicious period for births. After that, birth rates resumed the declining trend and reached a moderate level of 15.5% around 1995 and further declined to 8.92% in 2007.

Table 4-1: Vital Population Statistics in Taiwan

Unit: ‰

| Year | Crude birth rate | Crude death rate | Total fertility rate | Net reproduction rate | Fertility rate by age | | | | | | |
|------|------------------|------------------|----------------------|-----------------------|-----------------------|-------|-------|-------|-------|-------|-------|
| | | | | | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| 1960 | 39.60 | 7.00 | 5750 | 2.5478 | 48 | 253 | 333 | 255 | 169 | 79 | 13 |
| 1966 | 32.40 | 5.50 | 4815 | 2.1975 | 40 | 274 | 326 | 188 | 91 | 38 | 6 |
| 1971 | 25.60 | 4.80 | 3705 | 1.7154 | 36 | 224 | 277 | 134 | 51 | 16 | 3 |
| 1976 | 25.90 | 4.70 | 3085 | 1.4394 | 38 | 213 | 241 | 88 | 28 | 8 | 1 |
| 1980 | 23.38 | 4.76 | 2515 | 1.1777 | 33 | 180 | 200 | 69 | 16 | 4 | 1 |
| 1985 | 18.04 | 4.81 | 1880 | 0.883 | 19 | 129 | 158 | 56 | 12 | 2 | 0 |
| 1990 | 16.55 | 5.21 | 1810 | 0.835 | 17 | 100 | 159 | 69 | 15 | 2 | 0 |
| 1995 | 15.50 | 5.60 | 1775 | 0.837 | 17 | 91 | 148 | 82 | 20 | 2 | 0 |
| 2000 | 13.76 | 5.68 | 1680 | 0.789 | 14 | 72 | 133 | 90 | 24 | 3 | 0 |
| 2007 | 8.92 | 6.16 | 1100 | 0.517 | 6 | 37 | 76 | 74 | 24 | 3 | 0 |

Source: Department of Household Registration Affairs, Ministry of the Interior, <http://www.ris.gov.tw/>.

During 1960 to 2007, fertility of women aged 15-19 has decreased from 48 to 6 per thousand. For women aged 20-24, it decreased from 253 to 37 per thousand. For the peak age group 25-29, fertility decreased from 333 to 76 per thousand. For the older groups, fertility dropped sharply from 255 to 74 per thousand for women aged 30-34, and from 169 to 24 per thousand for women aged 35-39. By 1985, fertility of

women aged 45-49 had fallen to zero and for women aged 40-44, it was only 3. The result of concentration of births at younger ages will have profound effects on the family cycle, on the role of women in the family, and the labor force.

Total fertility rate of child-bearing-age women is falling. Taiwan's total number of children born per woman (number of children born by a woman in her lifetime) has dropped from 5.75 persons in 1960 to 3.71 persons in 1971, to 2.52 persons in 1980, 1.81 persons in 1990, to 1.68 persons in 2000 and to 1.1 persons in 2007 (Table 4-1). Between 1960 and 1983, the total fertility rate for Taiwan fell by 55 percent. After 1983, the TFR decreased to below replacement level. The crude birth rate fell by much less (36 percent) than the TFR (55 percent) between 1965 and 1983 because of an increase in the proportion of the population consisting of women in the prime childbearing years. In 1976, 24 percent of the population consisted of women 15-49 years of age and that proportion had risen to 28 by 2007 (Table 4-2).

Table 4-2: Change of Age Structure in Taiwan

Unit: %

| Year | Women of age 15-49 | Age 0-14 | Age 15-64 | Age 65 and above | $\frac{0-14}{15-64}$ | $\frac{65+}{15-64}$ | Dependency ratio |
|------|--------------------|----------|-----------|------------------|----------------------|---------------------|------------------|
| 1961 | -- | 45.8 | 51.7 | 2.5 | 88.8 | 4.8 | 93.6 |
| 1966 | -- | 44.0 | 53.3 | 2.7 | 82.4 | 5.1 | 87.5 |
| 1971 | -- | 38.7 | 58.3 | 3.0 | 66.5 | 5.2 | 71.7 |
| 1976 | 24 | 34.7 | 61.7 | 3.6 | 56.3 | 5.9 | 62.2 |
| 1980 | 25 | 32.1 | 63.6 | 4.3 | 50.5 | 6.7 | 57.2 |
| 1985 | 26 | 29.6 | 65.3 | 5.1 | 45.3 | 7.7 | 53.0 |
| 1990 | 27 | 27.1 | 66.7 | 6.2 | 40.6 | 9.3 | 49.9 |
| 1995 | 28 | 23.8 | 68.6 | 7.6 | 34.6 | 11.1 | 45.7 |
| 2000 | 29 | 21.1 | 70.3 | 8.6 | 30.0 | 12.3 | 42.3 |
| 2007 | 28 | 17.6 | 72.2 | 10.2 | 24.3 | 14.1 | 38.4 |

Source: Department of Household Registration Affairs, Ministry of the Interior, <http://www.ris.gov.tw/>.

In the years between 1985 and 2007, small upward shifts in the age distribution of women had begun to contribute slightly to the birth rate decline. As we can see from Table 4-2, in 1961-2007, the percentage of population aged 65+ in Taiwan increased from 2.5 percent to 10.2 percent; aging of population was relatively fast, and is still increasing steadily. The dependency ratio has, because of the rapidly aging population and the low birth rate, declined sharply from 93.6 percent in 1961 to 38.4 percent in 2007 (Table 4-2). Long-term care of the elderly will be a serious social problem in Taiwan in the future.

As tables 4-1 and 4-2 indicate, during the fertility transition, major fertility declines occurred in all age groups, but the declines were particularly large in age group 30-34 and older—a classical demographic transition theory pattern. Since 1983, fertility has been virtually zero in age group 45-49. In the post-transition period, fertility has continued to fall in those below 30 years of age, mainly because of continuing decrease in the proportion of currently married women. However, in age groups 30-34 and 35-39 a small increase in fertility occurred despite the continuing decline in nuptials at these ages, because of modest increases in marital fertility. These increases probably reflect the “making up” of births postponed because of later marriages.

Taiwan had completed the fertility aspect of the demographic transition in the 20 years after the initiation of intensive family planning program while western countries spent at least hundred years to lower the fertility rate.

4.2 Fertility Policy in Taiwan

The four phases of demographic changes in Taiwan are based on Professor Sun’s article (Sun et al., 2001), as modified on the basis of my own perceptions. From 1949 to 1963, Taiwanese considered birth control against family tradition, national

security, and so on. Government and the Taiwanese people did not support this kind of idea. In the first stage, the Joint Commission on Rural Reconstruction and U.S. aid played an important role. However, it still made the initial stage much more difficult than expected. But from 1964 to 1976, birth control and contraception were more accepted island-wide and official institutions and budget were regulated. After the economy arrived at the prosperous stage, the total fertility rate in Taiwan met the replacement rate.

From 1976 to 1990, the government adjusted the direction from birth control to eugenics. People have knowledge about health and birth control, they can choose contraception more wisely and they can change their concepts about how many children they want. In 1992, policy was amended to encourage a moderate increase in the birth rate to counter an aging society and potential labor shortage. This family program promotes the concept that “Two Children is Exactly Right” to reduce the number of single-child families. In addition, measures have been taken to strengthen welfare and medical care for senior citizens, and to encourage them to participate in community service. To raise the quality of life, genetic healthcare measures have been implemented and development plans designed to maintain balanced population distribution. The final objectives of the 1992 amendment were to increase both the proportion and the fertility of the currently married population, to increase the percentage of families with children and to bring fertility up to replacement level by 2036.

At present Taiwan has the low fertility, an increasingly aged population, and more and more foreign labors and spouses. To counter the impacts of these demographic issues, the government has been promoting a new policy, announced on Feb 27 2008 that aims to solve the problems of low birth rate, aging of population, and immigration, establishing a comprehensive social security net, promoting

environmental protection and sustainable development, and formulating an appropriate immigration policy.

1. Fertility Policy in Taiwan—1949 to 1963

Taiwan confronted the problem of excess population after World War II. About 1.3 million migrants from mainland China crowded into a war-torn, small island with a pre-existing population of 6 million around 1950. In 1950 the average area of cultivated land per farm had been reduced to 1.4 hectares.

Officials in charge of the production of basic needs were particularly sensitive to the population pressure on resources. John E. Baker, a member of the Joint Commission on Rural Reconstruction, noted the unbalanced situation between the high rate of population growth and the sluggish agricultural production. With the approval of Dr. Chiang Molin, chairman of the Joint Commission, a million copies of a booklet entitled *The Happy Family* were printed and distributed through a rural health network. The booklet explained and promoted periodic abstinence as a method of birth control.

This effort provoked strong opposition from some legislators and intellectuals, who denounced it as a conspiracy to reduce the nation's military manpower (Cheng and Guan, 1977). The reasons for the opposition were mainly that birth control was incompatible with the Chinese tradition of a large family and that it was against the teachings of Dr. Sun Yat-Sen. Dr. Sun had believed that China would be taken over by western powers if its population growth rate failed to keep pace with the rapid demographic growth in the West over the past hundred years (Sun, 1924).

In 1953, President Chiang Kai-Shek, reminiscing about Dr. Sun's teachings, published a supplementary exposition of Dr. Sun's ideas on nurture and recreation (Chiang, 1953). Concerned about the decline in fertility that Dr. Sun had predicted would accompany industrialization, Chiang proposed the following policies for

solving the republic's population problems ([Chiang, 1953](#)):

- Development of a “National Reconstruction Project” to ensure balanced economic development and population distribution.
- An educational policy aimed at teaching the younger generation to shoulder its parental responsibilities after marriage. Younger men and women were to realize that the family as a social institution was based not just on personal attachment, nor did it concern the nuptial contract alone, but was basically a social unit having duties to the society and the state.
- A social policy providing for marriage loans, maternity leave, extra pay for workers with large families, and full employment. In addition, every family should have the right and the means to own a house where healthy children can be raised in an atmosphere of happiness and security. When this policy is successfully implemented, the birth rate will no longer decline despite the growth of industrialization.

Despite strong opposition, the Joint Commission financially supported a dedicated group of people to organize a China Family Planning Association in 1954. Its mandate was to sponsor training and provide information on traditional contraceptive methods. The work of the private association won support and cooperation from married couples serving in the army and in public enterprises, but it encountered hostility and misunderstanding from agrarian and coastal fishing villages in southern Taiwan. At a press conference in April 1959, Chiang Molin made an emotional appeal in support of family planning, urging the government not to intervene in his efforts to promote it ([Sun et al., 2001](#)).

In 1960 the Taiwan Provincial Maternal and Child Health Institute, with assistance from the Joint Commission, experimented with a pre-pregnancy health program at eight health stations in rural townships in Nantou County. A full-time

worker was assigned to each health station to promote conventional methods of contraception in the townships. Each pre-pregnancy health worker was required to recruit at least 15 new couples with two or more sons every month for family planning guidance and to make follow-up visits after 15 days, 60 days, six months, and one year after each couple accepted a contraceptive method.

A 1962-1963 survey in Taichung City indicated that 70 percent of the couples surveyed unconditionally approved of family planning and 36 percent had already practiced one or more of the major methods of birth control (Freedman and Takeshita, 1969). The Taichung survey findings clarified a widespread misunderstanding about those values and inspired confidence among advocates of family planning.

2. Fertility Policy in Taiwan – 1964 to 1976

In December 1963, speaking to journalists from Los Angeles, Chiang Kai-Shek acknowledged for the first time that Taiwan's population growth rate was extremely high. In the following June, Vice President Chen Cheng introduced the subject of rapid population growth at a ceremony marking the completion of Shihmen Reservoir.

In September 1964, Chiang announced at an interview with Chilean Journalists that “we have made efforts to raise agricultural and industrial productivity and, at the same time, have taken measures to slow down the population growth rate, and both efforts have shown achievements” (Cheng and Guan, 1977).

These statements had a profound influence on the formulation of population and development policies in Taiwan. In January 1964, immediately after President Chiang Kai-Shek publicly acknowledged the problem of rapid population growth for the first time, a Manpower Development Committee was established in the Council for International Economic Cooperation and Development (CIECD), the successor of the Council on U.S. AID. Its mission was to prepare the first Manpower Development

Plan. The task of the committee was not so much to generate original proposals, as to consolidate and synthesize available information—to assemble demographic data, options, and suggestions, and to structure possible alternative solutions. The first plan called for a family planning program aimed at reducing the population growth rate from 3 percent to 2 percent within five years. Projects for job creation and educational improvement were also recommended. The Executive Yuan approved the plan in October 1966 and incorporated it into the Fourth Four-Year Economic Plan (1965-1968) as an integral element.

In 1964 the Provincial Department of Health proposed a Five-Year Family Health Plan for 1964-1969, with a target of 600,000 loop insertions, equivalent to 45 percent of all married women between the ages of 20 and 39. The target was set in accordance with the assumption made in the Fourth Four-Year Economic Plan that each loop insertion would prevent one birth over a period of five years. The plan won support from the vice chairman of CIECD and a timely financial appropriation of US\$1.5 million from the Chinese-U.S. Funds, which were from U.S. AID, and were controlled directly by the Executive Yuan and the U.S. AID Mission.

In December 1966, Chiang Kai-Shek signed the United Nations statement on population, which endorsed family planning and population programs aimed at slowing the growth of population. A population policy committee was established within the Ministry of Interior Affairs to prepare an official population policy for Taiwan. The Sixth National Congress of Kuomintang had already passed, in 1965, revised guidelines for population policy, and in July 1967 it endorsed the committee's proposed regulations governing implementation of family planning in Taiwan and the draft of a eugenic law. The proposed law then went to the Executive Yuan and was approved in 1968.

By 1968, agricultural labor surplus was almost absorbed by the low-skilled,

labor-intensive manufacturing sector. The government extended the six-year compulsory primary-education system to nine years to upgrade the quality of the labor force and, even more important, to reduce the pressure of the postwar baby boom on employment as babies reached working age group.

3. Fertility Policy in Taiwan—1976 to 1990

In April 1969, the Executive Yuan promulgated the Guidelines for Population Policy. To ensure their successful implementation, the government set up family planning offices as an integral part of health agencies at all levels of the government. Agencies concerned with social, cultural, and interior affairs also participated in promoting the program. To demonstrate the government's support for small families, all public employees were discouraged from having more than three children. The measures included disincentives, such as cutting fringe benefits for large families, and positive inducements, including efforts to improve women's status.

In 1973, for instance, the government stopped issuing food rations, which civil and military employees had been receiving for dependents, to employees with more than three children. In 1982, only couples with two or fewer children were allowed an income tax deduction for their dependents. In 1983, allowances for birth delivery and children's tuition subsidies were limited to the first three children, and marriage subsidies and the right to purchase low-cost public housing were restricted to men of age 25 years and older and to women of age 22 years and older. The effectiveness of most of these incentives and disincentives lasted only a short time because public servants' salaries were rising as a consequence of a rapid increase in the country's productivity.

The government set the reasonable rate of population growth at 2 percent per year. This goal was achieved by 1979. In that year, President Chiang Ching Kuo set a

new goal of further reducing the population growth rate to 1.25 percent within 10 years and urged the passage of a Eugenic Protection Law that would legalize induced abortion in certain circumstances. The Guidelines for Population Policy were amended in 1983 to incorporate a target population growth rate below 1.25 percent by 1989. Much to everyone's surprise, the revised target was reached three years earlier, in 1986, when the growth rate fell to 1.10 percent. One reason for the sharp decline was that induced abortion had become an increasingly important method of birth control. The proportion of married women 22-39 years old who had undergone abortions at private clinics increased from 4 percent in 1965, to 12 percent in 1976, to 24 percent in 1985 and to 39 percent in 1998.

The Executive Yuan promulgated the "Plans for Intensive Program for Promotion of the Population Policy" in January 1983, which contained specific measures to regulate population growth and to improve the quality and distribution of population. The "Eugenic Protection Law", which legalized induced abortion and sterilization, was promulgated on July 9, 1984 and was implemented starting from January 1, 1985.

By 1983, Taiwan had attained replacement-level fertility and almost universal use of contraception by married couples. In 1988 the government set a new target for population growth: a level below 0.8 percent by the year 2000, followed by a rise in the total fertility rate to 1.8 children per woman beginning in that year and a further gradual increase to 2.1 children per woman.

Between 1983 and 1997, the declining TFR was entirely the result of the trend of marriage at a late age. Older age distributions now facilitated the decline. Births postponed by those marrying later make the conventional TFR misleading. Computation based on parity-progression ratios raise TFR from 1.7 to 2.0, a number less alarming to policy-makers. Contraceptive practice is at saturation levels in all

major population strata. What would have happened without Taiwan's effective family planning program is impossible to determine, but clearly, contraceptive services supplied by the program were the major proximate cause of Taiwan's fertility decline.

The Council for Economic Planning and Development has forecast that Taiwan's population will peak at 23.23 million to register zero growth in 2018. It will then take a downturn, registering a negative growth each successive year, so that by 2051 the country will see a reduction of around 4 million people, bringing the population down to 18.6 million.

To counter the effects of an aging population on national development, the government has been promoting a new policy that aims to further raise the quality of life through education, foster an environment conducive to child bearing and child rearing, improve pre- and post-natal care and preventative health care, establish a comprehensive social security net, promote environmental protection and sustainable development, and formulate an appropriate immigration policy.

4. Fertility Policy in Taiwan—1990 to Present

In 1992, to avert adverse effects of population decrease and rapid population aging in the near future, the target of the National Guidelines for Population Policy was amended from one of "Moderate Population Growth" to "Maintenance of Rational Population Growth" ([Committee on Population Policy, 2000](#)). Towards this end, the government actively encourages young people to marry and to form ideal-sized families: "Two Children is Exactly Right" ([Appendix 3](#)). The final objectives of the 1992 amendment are to increase both the proportion and the fertility of the currently married population, to increase the percentage of families with one or no child and to bring fertility up to replacement level by 2036.

If the downward trend continues, the population of Taiwan area will reach the

stage of “zero population growth” soon and turn into a “negative growth” quickly. This means further aging of population which will lead to different sorts of social problems, such as lack of labor force and a high dependency ratio. Therefore, the future policy should promote a reasonable growth of the population. The 1992 policy aims to continue the guideline of “two children family”, but advocates increase of the marriage rate and birth rate of married women to maintain the net reproduction rate at the replacement level.

No special pronatalist incentives are proposed. In fact, there is one move in opposite direction, limiting a subsidy for birth and education of children of government employees to two children. The policy statement covers a wide range of other recommendations and includes moral injunctions on such matters as reproductive health, “strengthening the welfare and rights of women,” and “making good use of labor potential of the elderly, women, disabled, and poor people.” It also deals in some detail with population distribution and the quality of population, and of family planning services.

An important measure for pushing up the NRR is to raise the marriage rate through strengthening educational campaigns for the youth. Since 1989, educational activities on marriage, sex and population matters have been organized for the youths through various channels to improve their understanding of the issues and to help them develop desirable attitudes towards sex, family, marriage and child bearing. In addition, counseling, referral and follow-up services have been available to willing infertile couples, depending on their physical, mental and economic conditions, in Taiwan’s new family planning program.

The Ministry of the Interior launched a new population policy in 2002. The focus of the plan is to improve childcare policies and facilities, and to improve medical care and enhance subsidies. In September 2005, the government further

established a population policy committee to supervise implementation of population policies. The Population Policy Guideline was amended in 2006. To counter the effects of demographic issues, a Population Policy White Book was published on Feb 27 2008 that aims to solve the problems of low birth rates and aging population, and to establish a comprehensive social security net, promoting environmental protection and sustainable development, and for formulating an appropriate immigration policy.

4.3 Measures to Raise Fertility

1. Caring Right in Labor Law

The Gender Equality in Employment Act entitles women to request up to two years of unpaid maternity leave and forbids termination because of pregnancy or marriage. Despite the law, women continued to be denied maternity leave or were forced to quit jobs due to marriage, age, or pregnancy. The legislature's Sanitation, Environment and Social Welfare Committee passed an amendment that extends the right of maternity and paternity leave to employees of small businesses. As the law currently stands, workers are allowed to take up to two years of uncompensated maternity or paternity leave per couple without risking their jobs, provided the company has more than 30 employees.¹⁶ The amendment also extended the number of days men can take off to accompany their partner during delivery from two to three days.

According to the Gender Equality in Employment Law, an employer shall stop a female employee from working and grant her a total maternity leave of eight weeks, before and after childbirth. In the case of a miscarriage after having been pregnant for more than three months, the female employee shall be permitted maternity leave for four weeks. In the case of a miscarriage after being pregnant for over two months and

¹⁶ See <http://www.taipeitimes.com/News/taiwan/archives/2007/12/13/2003392333>.

less than three months, the female employee shall be permitted maternity leave for one week. In the case of a miscarriage after being pregnant for less than two months, the female employee shall be permitted maternity leave for five days. Computation of wage during maternity period shall be made pursuant to the related statutes and administrative regulations. While an employee's spouse is in labor, his employer shall grant him three days off as paternity leave. During the preceding paternity leave period, wage shall be paid.¹⁷

2. Child/Family Subsidies

The government will promote community baby-sitting and offer monthly subsidies of NT\$3,000 per child, on the condition that the couples are employed, the annual household income is under NT\$1.5 million and their children under the age of two are taken care of by baby-sitters licensed by the government. The subsidy will increase to NT\$5,000 if the children of economically disadvantaged families are mentally or physically disabled.¹⁸

The government provides assistance to children over 5 years of age in private preschools, starting from September 2000. Children who meet the required conditions can receive an yearly assistance of NT\$10,000.¹⁹ The government also planned a "Child Care Assistance for Middle-to-low Income Families Project", targeting children over 5 years old in registered preschools who are from middle-to-low income families. Starting in 2004, every qualified child is entitled to a maximum of NT\$6,000 assistance every semester.

There is no national maternity subsidy policy in Taiwan. Every county/city provides maternity subsidy according to its financial ability, and each birth has a different rate of subsidy. An example is Hsinchu City, where families can receive

¹⁷ See <http://udnjob.com/balance/>.

¹⁸ See <http://www.taipeitimes.com/News/taiwan/archives/2008/01/03/2003395426/print>.

¹⁹ See <http://www.moi.gov.tw/english/SocialAffairs.asp>.

grants of NT\$15,000 for the first child, NT\$20,000 for the second, and NT\$25,000 or more for any additional children. Some poor counties/cities do not have enough budgets and can afford only symbolic subsidy for every birth (Appendix 2). Military personnel, teachers, and civil servants can receive subsidy of two months' basic salary while farmers' insurance is for two months and laborers' insurance for one month.

3. Children Tax Deduction

For 2007 individual income tax calculation, the personal exemption is NT\$77,000 for each taxpayer, spouse, and any dependent; NT\$115,500 for dependents 70 years of age or older. Each taxpayer may choose to take either standard deduction or itemized deductions. For 2007 individual income tax calculation, the standard deduction is NT\$46,000 for an unmarried taxpayer and NT\$92,000 for a married couple.²⁰

In case of children under 20 years of age, including children having attained 20 years of age who are supported by the taxpayer by reason of school attendance or by reason of physical or mental disability or their inability to earn a livelihood, a taxpayer may claim a maximum deduction of NT\$25,000. However, no deduction can be claimed for children attending an Open University, an Open Junior College, or a five-year junior college for the first three years, as well as those receiving government subsidies or a scholarship.²¹

4.4 Effect Evaluation

Some scholars argue that the significant decrease of fertility in Taiwan is due to social and economic development, and has nothing to do with promotion of family planning. However, Taiwan's experience shows that although social and economic

²⁰ See http://investintaiwan.nat.gov.tw/en/env/guide/tax/individual_income.html.

²¹ See www.ntx.gov.tw/FrontEnd/TaxMessage.files/H1B9700027-2.pdf.

development has contributed to the decline of fertility after the Second World War, the promotion of a family planning program has expedited the process (Sun, 2001). Fertility policy in Taiwan area is just part of the national economic-development program. Investment is pretty small; taking the example of 1976 to 1981, the budget for the fertility policy was only 1 % of major investment programs. Successful fertility policies not only slow declines in fertility rates, but also affect the society and the economy deep and far.

The social norm in Taiwan has changed from “The more children you have the happier you are” to “Two children are exactly right”, due largely to intensive family planning education carried out under the program. Moreover, the universal provision of effective and low-cost contraceptives to eligible couples has helped contraceptive usage rate to rise very quickly. These actions have enabled couples to control their fertility and attain the declining level of the ideal number of children. Thus, Taiwan has been able to complete its demographic transition in 60 years.

4.4.1 The Acceptance of Birth Control Methods

After the 1962-1963 Taichung City survey, the Taiwan Population Studies Center set up a recording system for program acceptors and began conducting periodic nationwide sample surveys of married women. Seven surveys took place between 1965 and 2004. Responses to questions about married women’s acceptance of various contraceptive methods were forwarded to the Taiwan Population Studies Center for analysis and evaluation.

The estimated percentage of married women in the age group of 20-39 years currently using contraceptives rose from 22 percent at the beginning of the organized family planning program in 1965 to 74 percent by 1983, rising further to 81 percent by 1991, though it declined to 75 percent by 1998. Among the current users in 1965, only a third had been recruited by the IUD program; the other two-thirds were using

contraceptives supplied by the private sector. Thereafter, except in 1975 and 1987, the percentage of IUD users increased rapidly, reaching a high of 44 percent in 1976 and stabilizing at 27 percent to 25 percent between 1992 and 1998 (Table 4-3).²²

Table 4-3: Married Women Aged 20-39 Using Contraceptives in Taiwan

| | 1967 | 1973 | 1976 | 1980 | 1985 | 1992 | 1998 |
|---------------|------|------|------|------|------|------|------|
| IUDs | 57 | 50 | 44 | 32 | 25 | 27 | 25 |
| Pills | 8 | 10 | 11 | 9 | 7 | 5 | 4 |
| Sterilization | 17 | 16 | 18 | 25 | 33 | 34 | 24 |
| Condoms | 5 | 6 | 6 | 12 | 18 | 24 | 37 |
| Others | 13 | 17 | 21 | 22 | 18 | 10 | 10 |

Unit: %

Source: Taiwan Provincial Institute of Family Planning (1998).

The program introduced oral contraceptives in 1967. The proportion of women using pills was 8 percent in 1967 and then fluctuated around 5 percent to 4 percent between 1992 and 1998. Condoms, offered from 1970 onwards, gained acceptance from a steadily growing group of couples, reaching 37 percent by 1998. Sterilization, the fourth program method, was first offered as a permanent method in 1972 and it quickly became the choice of an increasingly large number of women. By 1989 more women had opted for sterilization than were using the IUD, and since then sterilization has been the program's leading method. By 1991, 70 percent of married women were using contraceptives offered through the program and only 10 percent were using contraceptives provided by the private sector. Thus, the program has played a major role in providing the means of birth control to Taiwanese couples in recent years.

During the early period of the program, most acceptors were 30 years or older,

²² The years 1975 and 1987, which preceded the Year of the Dragon in the traditional Chinese calendar, were considered auspicious for having a baby.

had three or more children, and had only a primary-school education or less. Most had never practiced birth control before and used the program methods as a way to terminate fertility. As the program matured, the recruited women tended to be younger and to have fewer children and more education. More and more women began using the pill and condoms to control births.

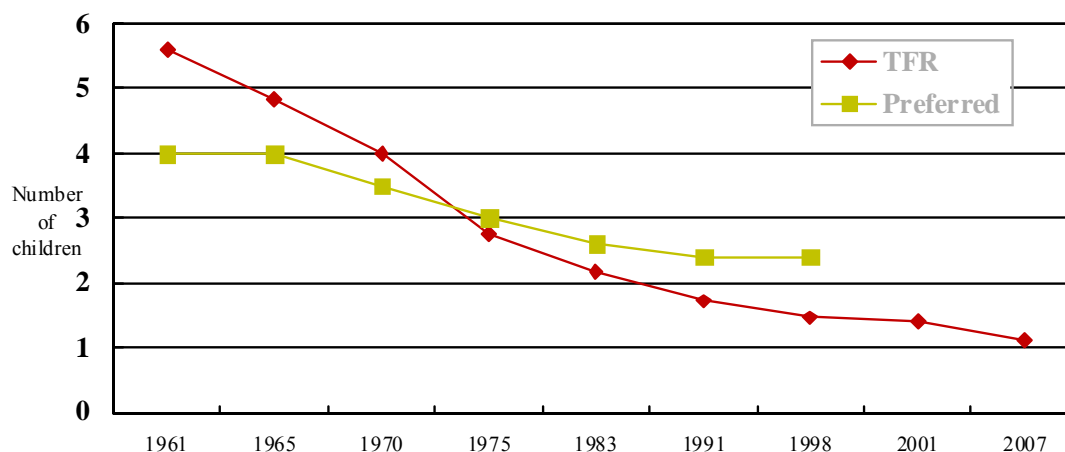
4.4.2 Changes in Ideal Number of Children and Fertility Rates

The program has offered contraceptives to assist couples in achieving their preferred family size. The average number of children preferred by married women in age group 22-39 decreased from 4.0 in 1965 to 2.9 in 1976, 2.4 in 1992 and then to 2.4 by 1998. The average number of children ever born to these women declined from 3.8 to 3.3 and then 2.0 over the corresponding period. The rapid trend in elimination of excess births appears to have resulted largely from the government's effort to promote the program.

The total fertility rate in Taiwan declined to the replacement level of 2.1 children per woman around 1983 and leveled off slightly below that figure thereafter. The average preferred number of children declined to slightly above the replacement level for all age groups by 1992. Accordingly, Figure 4-1 includes a time-series indicator showing that after 1970 excess fertility declined rapidly in response to the family planning program.

Since the early 1970s, however, the decline in fertility rate below the average preferred number of children may be due to the rise in women's median age at first marriage from 21.8 in 1965 to 22.2 in 1975, to 26.6 years in 1995 and to 27.7 in 2007. The rise in age at first marriage caused women to postpone their childbearing.²³ If the preferred number of children remains constant at slightly above the replacement level, the total fertility rate can be expected to rise to the level of the preferred number.

²³ See <http://www.ris.gov.tw/ch4/static/yhs909600.xls>.



Sources: Directorate-General of Budget, Accounting, and Statistics of Executive Yuan, Statistical Yearbook of the Republic of China, <http://www.stat.gov.tw/>; Chang (2003), Table 10.

Figure 4-1: Trends in the Total Fertility Rate and Preferred Number of Children in Taiwan

The evidence to support that expectation is strong. First, the Chinese traditional preference for sons persists among all Taiwanese women, although the proportion of younger persons wanting only one son has increased significantly in the post-transition period (Freedman et al., 1994). Second, nearly all couples are able and determined to achieve their fertility goals. This is seen from the rise in total fertility rate in the “Year of Dragon”, and the resumption of the normal trend in subsequent years. Third, the sharp fall in TRF from 1.77 in 1997 to the record low of 1.47 in 1998 coincided with the lunar calendar Year of Tiger also being the Year of Ku-Luan (Single Phoenix).²⁴ Hence the more severe drop in fertility observed in 1998 compared to that in 1986, the previous Year of the Tiger.

4.4.3 Improving of the Population Quality

Population quality refers to education and health attributes of the population,

²⁴ Sexual union and harmony is symbolized by a paired male and female phoenix, hence, a single phoenix is particularly inauspicious for marriages and childbearing.

sometimes called “human capital.” Although the quality of population influences socio-economic development of countries, it is hard to evaluate it quantitatively. However, after the fertility policy was put into practice in Taiwan, there were four distinct changes which illustrate the enhancement of the population quality.

Table 4-4: Trends of the Growth of Population Age 15-64, Education above College and Service Industry

| | Unit: % | | | | | | |
|-------------------------|---------|------|------|------|------|------|------|
| Year | 1975 | 1980 | 1985 | 1990 | 1995 | 2000 | 2007 |
| Age 15-64 | 61.7 | 63.6 | 65.3 | 66.7 | 68.6 | 70.3 | 72.2 |
| Education above college | 0.38 | 0.41 | 0.51 | 0.7 | 0.91 | 1.32 | 1.6 |
| Service industry | -- | -- | 40 | 46 | 50 | 55 | 58 |

Source: Directorate-General of Budget, Accounting, and Statistics of Executive Yuan, Statistical Yearbook of the Republic of China, <http://www.stat.gov.tw/ct.asp?xItem=6679&CtNode=2205>.

- The age-sex structure that changed mainly as a result of the decline in fertility had important effects. Before the fertility policy was implemented island-wide, the age structure was favorable due to higher numbers of births and, therefore, tended to retard the decline in the birth rate.
- The education levels of the citizens have improved. The rapid rise in educational levels in Taiwan had major effects on fertility, evident both in declining age-specific fertility rates and in the increasing numbers of women who became subject to the lower fertility characteristics of the higher educational strata. Furthermore, education levels have been important in producing the postponement (of marriage and child bearing) effects.
- The structure of the economy evolved from farming to industry, and then gradually it was transformed into the service industry.

We could find supporting statistical data from Table 4-4 and realize that the population's quality has improved. But all these three factors lead to the next demographic impact of the fertility policy in Taiwan.

4.4.4 Shortage of Labor Forces

Labor shortage had become a growing policy concern since the depletion of the surplus agricultural labor around 1968. By 1986 lack of skilled labor and professionals was a major obstacle to economic development. Efforts to upgrade the nation's human resources through education and training had overcome this difficulty, however, and created a technology-intensive economy (Liu, 1992). A lag in structural adjustments of the economy produced a demand for unskilled labor in low-technical manufacturing and construction industries, which has been met by importation of workers from Southeast Asia since the early 1990s.

By 1996, foreign workers with official permits numbered 220,000, accounting for 2.4 percent of the total labor force. The total number of aliens working in Taiwan would be substantially higher. The recent rise in unemployment among higher-educated Taiwanese workers is probably the result of importation of foreign workers and their employment in labor-intensive sectors, where firms hire them to avoid upgrading their enterprises to capital and technology industries.

The current policy is obviously following the international trend in dealing with labor shortage. How to balance local unemployment and the need for low-level foreign workers shall be a big challenge for government in coming years.

4.4.5 Foreign Brides

Women in Taiwan are more independent now; most of women may get married late or even stay single. Many males in Taiwan can't find mates easily; some due to economic, health or age factors, and some because they can't find a stepmother who is

willing to take care of the child. They can only go abroad to find their mates. Foreign brides contribute to balancing of proportion of married persons. Furthermore, foreign brides are not so averse to having babies, which contributes a lot to the problem of declining numbers of newborns in Taiwan.

Table 4-5: Newborn Babies in Terms of Mother's Nationality in Taiwan

Unit: Person

| Year | Total number | Taiwanese | Mainlander | Others | The proportion of Non-Taiwanese (%) |
|------|--------------|-----------|------------|--------|-------------------------------------|
| 1998 | 271,450 | 257,546 | | 13,904 | 5.12 |
| 1999 | 283,661 | 266,505 | | 17,156 | 6.05 |
| 2000 | 305,312 | 282,073 | | 23,239 | 7.61 |
| 2001 | 260,354 | 232,608 | | 27,746 | 10.66 |
| 2002 | 247,530 | 216,697 | | 30,833 | 12.46 |
| 2003 | 227,070 | 196,722 | | 30,348 | 13.37 |
| 2004 | 216,419 | 187,753 | 11,206 | 17,480 | 13.25 |
| 2005 | 205,854 | 179,345 | 10,022 | 16,487 | 12.88 |
| 2006 | 204,459 | 180,556 | 10,423 | 13,480 | 11.69 |
| 2007 | 204,414 | 183,509 | 10,117 | 10,788 | 10.23 |

Note: The proportion of non-Taiwanese mother is the number of newborn babies from non-Taiwanese mothers divided by the total number.

Source: Department of Statistics, Ministry of the Interior, <http://www.moi.gov.tw/stat/>.

In 2007 alone, there were 131,851 registered marriages in Taiwan. 83.9% were with Taiwanese spouses, 10.6% were with Mainlander spouses, and 5.5% were others.²⁵ The number of newborn babies in 2007 was 204,414, and the percentage of

²⁵ See <http://sowf.www.moi.gov.tw/stat/week/week9723.com>.

non-Taiwanese national mothers was 10.23, which was 1.4% lower than in 2006. In terms of mother's nationality, in 2007, 89.77% of newborns were born to Taiwanese mothers, 4.9% were born to mainlanders, and 5.2% had mothers of other origins (Table 4-5).

While most Taiwanese have been concerned with the quality of newborns from foreign and mainland Chinese mothers, it is obvious that these New Taiwanese Children have made an important contribution to retain the total fertility rates in recent years. Despite a popular belief that more children were produced from foreign brides, the average number of children born from these marriages with immigrants is in fact lower than the replacement level. Some female mainlanders were more likely to marry older Taiwanese (i.e. veterans), who actually did not give any births because of health problems and economic difficulties. Due to late and fewer marriages prevailing, the total number of newborns from Taiwanese mothers is, however, decreasing significantly. Nevertheless, it is clear that intercultural marriages can only be adopted as temporal and partial solutions for low fertility.

4.5 Measures Comparison between Developed Countries and Taiwan

Table 4-6 displays fertility measures in France, Germany, United States, United Kingdom, Japan and Taiwan. The data basically confirm the well-established pattern of policy regimes with regard to childcare and benefits structure. The relatively high rate of available childcare and friendly family policies in France set this country off from other countries.

1. Maternity/Paternity and Parental Leaves

Maternity leave provisions are well-established features of OECD social protection systems. While maternity leave provisions (both their duration and benefits) are important for the well-being of children and families — they provide both

employment protection for working mothers and care for infants in a critical phase of their development — their design might harm mothers' career prospects and financial security. In particular, very long periods of maternity leave might lead to detachment from the labor market, dimming the employment and earnings prospects of mothers relative to other women and to men, thereby increasing the indirect costs of childbearing. Leave policies are also intrinsically dependent on socio-cultural attitudes: in countries where child rearing is considered solely the mother's responsibility, maternity leave provisions tend to be stronger.

The country pattern is less clear with regard to the length of leaves. Germany and France for mothers with more than one child have extended care leave up to the child's third birthday. However, the policy objectives in these countries differ markedly. Germany aims to support gender segregation of employment and care through employment restrictions and through a mix of parental leave and care-leave systems, in which regulations concerning job-protected parental leave and duration of benefits do not match. Benefits are flat-rate and in Germany, they depend on the partner's income. The French parental leave set-up combines labor market considerations with pronatalist objectives by targeting families of two and more children via an allowance system in which benefit levels depend on the number of children.

Most countries grant fathers the right to parental leave; some countries also reserve part of the parental leave for fathers. However, the levels of parental leave benefits, employment restrictions during parental or care leave, income gaps between women and men, and gender norms regarding employment and care pose obstacles to the uptake of parental leave by fathers. This is so even in Scandinavian countries, which have otherwise geared their policies towards a gender-equal distribution of employment and care.

Maternity leave in Taiwan is relatively shorter than other countries, and parent has no pay during parental leave. According to Premier Liu's first administration report, the government plans to allow parents to take two years of parental leave immediately after their child is born, without any pay from their employers, with 60 percent of their monthly wage covered by the employment insurance fund during the period of leave.²⁶ All these leaves in Taiwan are not workable because the main purpose of maternity leave is to let mothers get rest after pregnancy, not for taking care of the baby. It is even more difficult for working fathers to leave their jobs for too long, and parental leave makes it difficult for working mothers to re-enter the labor market.

2. Childcare Provision

Affordable and quality childcare is important not only for raising fertility rates but also to make this goal compatible with that of encouraging higher female employment and of investing in children. When childcare is unaffordable, of low-quality, or difficult to access, parents may opt for atypical work schedules in order to share care and work responsibilities, with possible negative consequences on the stability of parental unions and on the well-being of children. Further, mothers' attachment to the labor market may decline, as they opt to care for their children at home.

From the perspective of families, two of the most important features of childcare relate to access and costs. A significant proportion of these formal childcare facilities is directly provided by governments, and translates into significant budgetary costs: different indicators of public spending on childcare facilities highlight large differences in public childcare spending per child across these countries, with very high spending levels in France and Germany, and much lower in Japan and Taiwan,

²⁶ See <http://www.chinapost.com.tw/taiwan/national/national%20news/2008/05/30/158700/Maternity-leave.htm> .

especially for children below the age of entry into pre-primary education.

Table 4-6: The Comparison of Fertility Measures between Developed Countries and Taiwan

| Country | Maternity Leave | Paternity Leave | Parental Leave | Maternity Allowance | Childbirth Allowance | Family/Child Allowance | Tax Benefit | Daycare/ Childminder |
|----------------|-----------------|---------------------------------------|--|---|----------------------|--|-------------|----------------------|
| France | 16 weeks | 11 days | Yes Under 3 / €334 per month | -- | €800 | Under 3 /€159 per month | Yes | Yes |
| Germany | 14 weeks | -- | 3 years/ average wag | €12.78 per day | €77 | Yes | Yes | Yes |
| United Kingdom | 26 weeks | 1-2 weeks, £ 100 per week | 13 weeks per parent | First 6 weeks 90% prior pay, last 20 weeks £ 100 per week | -- | Yes | Yes | Yes |
| United States | 12 weeks | -- | -- | -- | -- | -- | Yes | -- |
| Japan | 14 weeks | No | Till the first birth day of the child | 60% wage if worked at least one year | ¥ 300,000 | ¥5,000 per month for each of the first two children and ¥10,000 per month for each additional child | Yes | Yes |
| Taiwan | 8 weeks | 3 days | 2 years/ no pay | Yes | Yes | -- | Yes | Yes |

Source: Produced by the author.

Childcare costs can play an important role in shaping reproductive decisions. The cross-country correlation between childcare costs and the total fertility rate is indeed negative, although not statistically significant. However, research suggests that it is the combined effect of childcare availability and costs that is most important.

Public childcare for children below age three is hardly available, except in United Kingdom and Germany. For children between three and school-entry age provisions are rather heterogeneous. In Germany, childcare is largely provided by the public sector. Great Britain has started to promote market-based childcare services through “working-family tax credits”. In all of these countries, institutional care is directed at supplementing family care rather than at offering an alternative to care provided or arranged by the parents. As a consequence, in Germany and the UK, institutional care is, to a large extent, only provided on a part-time basis.

Public childcare services have been extended in some countries, but not always to the extent necessary for sufficient coverage, in particular for children below age three. There is also a tendency to de-centralize, marketize, and privatize childcare services, particularly in conservative welfare states. Such policies enlarge social and economic cleavages in accessibility, affordability, and quality of childcare among different groups of women and contribute to an increase in gender division of work.

In Taiwan, parents have to stay in line for public childcare if they are not from middle-to-low income families. Parents can apply for daycare monthly subsidy of NT\$3,000 for children less than two years old put in private daycare centers and education subsidy of NT\$5,000 every semester for children above five years of age . Taiwan’s government should try to increase the number of daycare centers. Daycare centers create jobs for many women. On one hand, it allows working mothers to keep their jobs and on the other it creates more opportunities for other women to improve woman labor force participation rate. Affordable daycare centers are probably an ideal option for Taiwan.

3. Tax Benefits and Family/Child Allowance

Traditionally, government support to families with children has aimed at

reducing poverty and supporting child development within a “cohesive” family environment. However, tax benefits and cash transfers to families with children also affect their costs and, indirectly, childbearing decisions of families. In general, the form of the support provided through the tax and benefits system varies across countries.

Family/child benefits and allowances exist in all countries, although they differ in terms of eligibility conditions; some are universal or means-tested, and some have other conditions restricting eligibility. Support to families with children is also provided through the tax system. Nearly all tax systems have redistributive effects that operate both vertically (i.e. from higher to lower income families) and horizontally (i.e. between households with different number of children). Because of this redistribution, tax systems can affect individual choices concerning employment, union formation and childbearing. Tax systems provide preferential treatment to families with children through specific tax deductions, choices about the unit over which income is assessed, and whether family benefits are taxed or exempted.

It is hard to say which features of the tax systems or family allowances matter the most for increasing fertility rate in Taiwan. According to Huang (2002), the estimated results demonstrate that the real value Personal Tax Exemption exerts a positive and statistically significant effect on regional General Fertility Rate. However, the magnitude of the influence is small; a one-thousand NT dollar increase in real value Personal Tax Exemption will cause an increase of 1.2–1.4 births per thousand women. Keng and Sheu (2008) suggest that education subsidy has a positive and significant effect on the probability of having a child. The probability elasticity of the education subsidy is 0.05.

Potential exists for the government to create greater fertility incentives by offering more generous educational subsidies and/or tax breaks for dependents.

However, the cost of implementing these policies, in terms of foregone tax revenues and fiscal expenditure, can be quite high. It is suggested that a policy that subsidizes child rearing might have positive effects on population growth rate. The gain in welfare is greater if a personal tax exemption or allowances are used to finance family welfare.

4.6 Summary

Taiwan's population profile and fertility policy have undergone several changes over the last six decades or so. Measures needed now are quite different from the 1950s and the 1960s when retarding population growth was the concern. In view of the aging population and the declining fertility, the government needs to play a more positive role to assist families in need while allowing them to maintain their dignity. Furthermore, economic assistance must be managed at the national level rather than the county/municipal level in order to ensure that benefits are standardized throughout Taiwan. Second, the low birth rate will work against national human resource, the labor market and the medical system; its influence will be latent and long term. Furthermore, in the era of globalization and internationalization, the population would tend to become more diverse, especially because of the increasing numbers of citizens marrying immigrants. Assimilation in the society and education of foreign spouses and the New Taiwanese Children are the problems that would need to be addressed. In order to promote Taiwan's competitiveness, we should attract high-level, talented people to move in, and open investment immigration to ensure economic vitality.

The nature of the population problem is influenced by different natures of different time periods and by changing environments. The fertility policy has to conform with the times in order to address the problems inherent in varying environments and conditions. Therefore, policy-makers must observe population

profile transitions and take the economic, social, political, military, educational, cultural and geographic factors into consideration. Only then can national goals be achieved and peoples' lives improved.

Because land area and natural resources are extremely limited in Taiwan, and because of rapid changes in the global economy in recent years, domestic entrepreneurs have been unwilling to expand the manufacturing industry, resulting in a high unemployment rate which, in turn, led to an increase in crime. In addition, population problems caused by the decreasing fertility rate, aging of population and influx of foreign workers not only influence economic development but also affect economic stability and the average living-standard, i.e. quality of life.

Based on the current population transition and the state of social-economic development, our fertility policy should promote a reasonable population structure, improve the quality of peoples' lives, enhance social welfare, balance population distribution and maintain ecological equilibrium. We should arouse the interest of social groups and the industrial and commercial world in addressing population problems, and enable the public to realize the significance and the importance of the fertility policy.