UN/POP/PRA/2000/9
11 September 2000
ENGLISH ONLY

EXPERT GROUP MEETING ON POLICY RESPONSES TO POPULATION AGEING AND POPULATION DECLINE

Population Division
Department of Economic and Social Affairs
United Nations Secretariat
New York, 16-18 October 2000

THE COMING OF A HYPER-AGED AND DEPOPULATING SOCIETY AND POPULATION POLICIES THE CASE OF JAPAN *

Makoto Atoh **

*This document was reproduced without formal editing.

**National Institute of Population and Social Security Research, Tokyo, Japan. The views expressed in the paper are those of the author and do not imply the expression of any opinion on the part of the United Nations Secretariat.

In this paper, first, the assumptions and outcomes of official population projections for Japan are reviewed which were undertaken by the Japanese government during the last quarter of the 20th century when Japanese fertility continued to decline below the replacement level. With this, to what extent such continuous fertility decline has changed population prospects of Japan in the next century is examined. Second, policy responses toward demographic factors that the Japanese government has undertaken, faced with the coming a hyper-aged and depopulating society in the next century, are discussed : One is those related to declining fertility and the other is those related to international migration, mainly the acceptance of foreign labor.

A. Prospects of Japanese Population

1. Longer life span and below-replacement fertility

Japan completed "vital revolution" in around 1960. Mortality had gradually declined already before World War Ⅱ, but in the postwar 15 years the infant and child mortality and youth mortality was dramatically reduced due to the eradication of major infectious diseases. Life expectancy at birth reached 65 years for male and 70 years for female population in 1960, catching up with mortality levels of the contemporary developed countries. Fertility had also declined gradually before the War, but it precipitated, just after the three-years postwar baby boom, to the replacement level in the end of the 1950s.

Mortality has continued to decline after it had reached the third stage of epidemiological transition (Omran, 1971), that is, the era when degenerative diseases were predominant. Even in prewar years, mortality due to cerebro-vascular diseases was among the top three causes of death in Japan, conspicuously higher than other developed countries. It has declined steadily since around 1960. As the age people fell in degenerative diseases, including cerebro-vascular diseases, came to be delayed, mortality declined for the middle-aged and elderly people and Japanese longevity became among the highest in the world in the 1980s : Life expectancy at birth in 1999 reached 77.1 for male and 84.0 for female population. Japan entered the fourth stage of epidemiological transition (Olshansky and Ault, 1986). Such decline in mortality among the middle-aged and elderly people has accelerated population aging that started after the end of fertility transition in the 1950s.

Until around the beginning of the 1970s, fertility maintained the replacement level since the end of the 1950s. Then, fertility dropped under this level in 1974, continued to decline thereafter and the total fertility rate (TFR) recorded 1.34 in 1999. The main demographic cause of such a quarter-century long fertility decline is analyzed to be the conspicuous rise in the proportion never-married among women aged 20s and early 30s, but also marital fertility has been declining since the middle of the 1980s (Kaneko, 2000). It is

true that cohort completed fertility kept around the replacement level between the birth cohort of early 1930s and that of the middle of the 1950s. However, the comparisons of cumulative fertility at the same age levels for the subsequent birth cohorts following them reveal its gradual declining trend (NIPSSR, 1999).

2. The comparison of official population projections undertaken since the middle of the 1970s,

The National Institute of Population and Social Security Research (formerly the Institute of Population Problems), a government institute belonging to the Japanese Ministry of Health and Welfare, has undertaken five official population projections (in 1976, 1981, 1986, 1992, and 1997) since the middle of the 1970s (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997). The comparison of the assumptions and outcomes of these projections would reveal how population prospects in the next century have changed in accordance with the on-going fertility decline during the last quarter of this century.

a. Changes in the assumptions of vital rates

Assumptions of mortality were set up for the 1976 and 1981 projections by the construction of the future life tables based on the lowest age-sex-specific mortality rates observed at prefectural levels, and for the 1986, 1992, and 1997 projections based on the future life tables which were built by extrapolating the trend curves applied for age-sex-cause of death-specific mortality rates. It turned out that assumptions of mortality decline were always conservative and, thus, observed gains of longevity always surpassed its assumptions. (See Figure 1-1 and 1-2.) As a result, the more recent projections have assumed the larger gains in life expectancy at birth in the future : The life expectancy at birth for 2050 was assumed to be 79.4 years for female and 86.5 years for male population in the latest projections(1).

As for fertility assumptions, the method of transformation of the future cohort fertility rates into future total fertility rates has been used for all the projections. Then, how have cohort fertility rates been assumed for the future? The basic idea behind the setting up of fertility assumptions has been such that the rise in the proportion never-married among-women aged 20s would decelerate gradually and women aged 30s would recuperate their delayed births (Atoh, 1984 ; Kaneko, 1993). It has been assumed, therefore, that the cohort completed fertility would never drop to the level of TFR at the time of projections or, in other words, TFR would rebound eventually to the level of future cohort completed fertility.

Since the proportion never-married has risen among women aged 20s and even 30s much more than expected, the observed trend of TFR has always betrayed its assumptions. (See Figure 2.) In the 1976, 1981 and 1986 projections it was assumed that cohort completed fertility could keep around the replacement level in the future because the TFR decline was assumed to be caused primarily by changes in marriage and birth timing, not by the changes in “quantum” factors(2). In the latest two projections it was

assumed that the more recent female cohorts could not recuperate the delayed births during their 30s because of the stagnant rise in fertility observed among women aged 30s and, thus, that cohort completed fertility would gradually decline from 2.00 for the 1955 birth cohort to 1.61 for the 1980 birth cohort in the case of the 1997 projections(3).

As for the assumption on international migration, the annual average age-sex-specific net migration rates were assumed to be constant in the future. Since the observed annual net migration rate for the whole population was extremely low, as is shown by –0.1 per mill for the period of 1990-1995, the effect of international migration on the outcome of population projections was negligible.

b. Changes in the outcome of projections

According to the 1976 projections, for which gains in longevity was assumed to be negligible but TFR was assumed to bounce back immediately to the replacement level, the size of the total population was projected to approach gradually the stationary population of around 140 million after 2020's. (See Figure 3.) In the more recent projections, since the final levels of TFR were assumed to be lower than the previous ones under the replacement level, though the final levels of the life expectancy at birth was assumed to be somewhat higher than the previous ones, the total population was projected to reach the peak in around 2010 and start to decrease thereafter. The latest 1997 projections showed that Japanese total population would increase from 126 million in 1995, reach the peak at 128 million in 2007, and decline thereafter up to 100 million in 2050 : The annual population growth rate was –0.8 percent during 2040s(4).

As for changes in age structure, the 1976 projections in which TFR was assumed to rebound to the replacement level showed that the proportion of the elderly people aged 65 or more would continue to increase from 7.9 percent in 1975 to about 18 percent in the 2020s and stabilize thereafter. The prospect of the proportion of the elderly increased gradually for the subsequent projections. (See Figure 4.) The latest 1997 projections showed that the proportion of the elderly would increase from 14.5 percent in 1995, through 25 percent in 2015, to over 30 percent in the end of 2030s.

Similarly, the 1976 projections showed that aged dependency ratio, the ratio of the elderly population aged 65 or more to the working-age population aged 15-64, would increase from 11.7％in 1975 but the ratio would stabilize at the level of 20.9％ in 2050. (See Figure 5.) The 1997 projections revealed that the aged dependency ratio would increase from 29.0 percent in 1995 to 59.1 percent in 2050. Compared with the outcome of the 1976 projections, the aged dependency ratio in 2050 for the latest projections was projected to become 2.8 times.

c. The comparison of the 1997 projections by Japan and the 1998 projections by the United Nation.

The assumptions of vital rates and the outcome of the 1997 projections for Japan by the Japanese government are compared with those of the latest ones by the United Nations (United Nations, 1999) are

shown in Table 1.

The United Nations projections assumed somewhat longer life expectancy at birth, longer by 1.2 years for male and by 0.2 years for female population in 2050, and somewhat higher TFR, higher by 0.12 in 2050 than Japanese latest official projections. (The difference in the assumptions on international migration was negligible.) Because of this, the United Nation projections resulted in the outcome of somewhat larger and less aged population in 2050 than the Japanese ones, but their difference was not so large.

As was shown in several revisions of Japanese official population projections and the latest United Nations projections, it came to be more probable that Japan would become a hyper-aged society with ever-decreasing population at least during the first half of the 21st century. This is partly due to large gains of life expectancy at old ages and mainly due to large decline in fertility below the replacement level. Such population prospects seem to overshadow Japanese society in terms of such broad areas as labor, saving, consumption, economic growth, the social security system, including social insurance such as old age pension, medical insurance, and long-term care insurance, and families and communities. The Japanese government has proposed and implemented various plans for restructuring the social security system in accordance with the prospect of the coming of a hyper-aged society in the first half of the 21st century, on the one hand, but it has also taken action, though indirectly, for influencing demographic trends, on the other. In this paper, only policy responses to demographic factors, namely fertility and international migration, will be discussed below.

B. Policy Responses to Declining Fertility

1 . "1.57 Shock" and the beginning of policy responses

Japanese fertility has continued to decline below the replacement level since the middle of the 1970s, but it was only 1990 that being concerned about declining fertility the Japanese government began to examine policy options for it. In that year, it was announced that the total fertility rate in 1989 had recorded 1.57, the lowest in the history of Vital Statistics in Japan. "1.57 Shock" became a trendy phrase among the public. The government established, in 1990, an inter-ministerial liaison committee for "Creating an environment where people can bear and rear healthy children" in the Office of Cabinet Council on Internal Affairs. This committee delivered a bief policy guideline on declining fertility in 1991 (OCCIA, 1991). With the basic recognition that the issue of declining fertility was deeply related to each individual person's private life, it expressed its view that the government should promote the creation of social environment to support young people who desire to marry and raise children, and set force three basic policy guidelines : 1) to keep harmony between family life and occupational life, 2) to improve living conditions (such as housing), and 3) to support family life and child raising.

In line with the guideline, a bill to raise child allowances partially, and a bill for Parental Leave were passed in 1991. The latter had employers recognize that their full-time employees have a right to take a one-year parental leave to raise a child below one year old. Later (in 1994), it was decided that parental leave takers would be given 25 percent of their wage before taking the leave while they would be exempted from paying premiums of the Employees' Pensions and Health Insurance while on leave. In the same year, the basic policy direction for supporting childcare (nicknamed as "Angel Plan") was formulated. Under the 5-year urgent childcare program (1995-1999) related to this Angel Plan, the government has increased authorized nursery schools to accommodate children in urban sectors on waiting lists, expanded their provision of services, such as infant care, extended hours of childcare and counseling on childcare, encouraged kindergartens to render extended childcare services, expanded after-school care for elementary school children, and promoted to establish family support centers (baby-sitter networks organized by local governments) in urban areas (MHW, 1996 and 1998).

A report by the Advisory Council on Population Problems

In 1997, the Advisory Council on Population Problems published its report after ten-month intensive deliberations on the background and consequences of declining fertility (PPED, 1998). Elaborating on this report, the White Paper on Health and Welfare for 1998 was published by the Ministry of Health and

Welfare in 1998 (MHW, 1998). Both documents made it clear that the major cause for declining fertility was the increasing proportion never-married among the youth. It emphasized that behind this phenomena had been a heightened sense of burden entertained by working women for building families and that of making child-rearing and working outside compatible. They analyzed that even when women's participation in the labor market and other social activities had been expanding, the fixed employment practices and corporate culture as well as the fixed gender role division in Japan had not changed. In addition to the promotion of the Angel Plan to support families with small children, therefore, both papers suggested the rectification of the stereotyped gender role division and work-centered employment practices neglecting employees' family life as the main policy goal.

Based on the proposal in two papers, Ad Hoc Committee of Experts to Consider Policy Responses to Declining Fertility in the Prime Minister's Office was set up in 1998 and the Cabinet Minister's Conference on Declining Fertility was set up. Through the latter, the government published "Basic Policies to Promote Programs Related to Declining Fertility" in 1999, based on which a new Angel Plan for 1999-2004 was formulated to expand facilities and services for childcare. Furthermore, in 2000, a bill to raise the rate of parental leave benefit to 40 percent of the salary before taking the leave was passed and the bill extending the age of recipients of child allowances from below three years old to six years old was enacted (MHW, 2000 ; Ministry of Labor, 2000).

Evaluation of policy responses to declining fertility

In what way are policy responses to declining fertility evaluated that the Japanese government has taken for the last decade?

First, are Japanese policies on this matter characterized as pro-natalist policies? To the enquiry to all the member countries on their population policies by the Population Division of the United Nations, the Japanese government responded in such a way that it recognized its fertility was "too low" but it did not take any intervention to "raise fertility" (United Nations, 1998). Apart from such public statement, the Japanese government has not mentioned the goal of raising fertility or a specific desired fertility level in any official documents, has not undertaken any media campaign to encourage fertility, and has not limited any effective means for fertility control. Therefore, Japanese policies are not pro-natalist ones but family policies, the main goal of which is to improve childcare environment for families(5).

Second, family policies by the Japanese government, despite its decade-long efforts, have not been effective so far for raising fertility, since Japanese fertility has continued to decline in this decade. It is not clear yet whether their ineffectiveness has been due to its piecemeal approach, due to the deficiency of budget for realizing the goals of various programs(6), or due to the fact that family policies focussing on married couples are not effective for changing the trend of delaying marriage among young people.

Third, the ideal of Japanese family policies seemed to have changed from pro-traditional (family) model based on the division of labor by gender to pro-egalitarian model which characterized family policies in Nordic countries(7). But the reality is such that about 70 percent of working women still quit their job either at their time of marriage or at their first birth, and so the labor force participation rates among women aged 30s in Japan are much lower than those in Nordic countries. This may be due to the robustness of traditional family norms based on the division of labor by gender as well as due to the difficulties of changing employment practices of private companies toward family friendly ones.

C. Policies Related to International Migration

1. From emigration policies to immigration policies

Japan had been rather a country of emigration for a long time since she opened her society to the outside world in the end of the 1860s. While population growth accelerated due to gradual mortality decline, the expansion of labor opportunities was not enough before World War Ⅱ. This was the basic cause for emigration pressure in prewar Japan. Out-migration to colonial regions and emigration to China, South-east Asian regions, Hawaii, the United States, Latin American countries such as Brazil, Peru, etc. were popular in prewar years and the Japanese government was involved, directly or indirectly, in such emigration stream. Emigration pressure gradually weakened in postwar years because of fertility transition in the 1950s as well as the high economic growth of the subsequent period, and government efforts to send out emigrants for permanent settlements almost ended in the 1960s (PPED, 1993).

In the middle of the 1980s Japan plunged into "bubble economy", which, all of a sudden, gave rise to severe labor shortage. The situation was aggravated by the fact that Japanese young people had inclined to be hesitant to take the so-called "3D jobs, (namely, difficult, dirty, and dangerous jobs)" because they grew up in more affluent families and were enrolled in higher levels of education. Furthermore, Japanese labor market became very much attractive for would-be immigrants in developing countries because of the rapid appreciation of Japanese Yen which had been caused by Plaza Agreement in 1985. As a result, Japan was transformed into rather a country of immigration.

While the net inflow of foreign people had been much less than ten thousand in a year up until the middle of the 1970s, it continued to increase, having reached the peak at 260 thousand, 0.2 percent of the total population, in 1992. Whereas foreign residents in Japan had been about 0.6 percent of the total population in postwar years, who had been mostly composed of Koreans with permanent residence visa, due to the rapid inflow of foreign people at the time of "bubble economy", even registered foreign residents overshot 1 percent level of the total population in early 1990s, with the larger share of those who came from Latin American countries and other Asian countries (NIPSSR, 1999). The latest estimate of this

proportion is 1.44 percent in 1999, including illegal stayers estimated to be about 270 thousand.

At that moment when Japan faced increasing illegal stayers (supposed to be also illegal workers), there was fierce debate among opinion leaders on whether Japan should open the door of her labor market to foreign workers, especially unskilled or semi-skilled workers (Nishio, 1988 ; Hanami&Kuwabara, 1989 ; Miyajima, 1989). The overall revision of the Law on the Regulation of Emigration and Immigration and Refugee Recognition in 1989 was the response to this issue by the Japanese government, which clarified and expanded the requirements needed for foreign people to stay and/or work in Japan. The point of this revision was that (1) unskilled workers were not permitted to stay, (2) Japanese descendants were permitted to stay and work, and (3) employers of illegal workers were punished (Tanaka&Ebashi, 1997). Because of this revision, the number of foreign workers who were Japanese descendants in Latin American countries, such as Brazil and Peru, increased dramatically, but the number of illegal stayers has not been affected much.

Immigration policy in a hyper-aged and depopulating society replacement migration?

"The bubble economy" collapsed in early 1990s and Japanese economy has stagnated thereafter, with rising unemployment rates. Because of this economic change, the current policy debate on immigration policies is not so hot as in the 1980s. Although the net inflow of foreign people dropped dramatically in the first half of the 1990s, however, it has been increasing again in the latter half of the 1990s, and the proportion of foreign residents has also been increasing. It suggests that Japanese economy has come to need foreign workers permanently at least in some types of jobs or industries.

United Nations' Population Division published a report showing to what extent a country or a region needed "replacement migration" in order to maintain (1)the current size of working-age population or (2)the current potential support ratio up to 2050 (United Nations, 2000). According to this, Japan needs (1)600 thousand immigrants on average every year or (2)10 million immigrants on average every year.

Such calculation of replacement migration is demographically valid but seems to be economically unrealistic and politically unacceptable as policy options for the Japanese government.

First, there is no economically clear evidence for the necessity to keep the current level of the size of working-age population or of the potential support ratio. It goes without saying that from the economic point of view not the size of working-age population but the size of labor force is important. While labor demand in the future can be reduced by gains in labor productivity due to technological innovation such as the revolution of information technology (IT), labor supply can be expanded to a certain degree by the involvement of more women and/or more elderly people in the labor market. If more elderly people take a role supporting other elderly people economically and socially, economic and social support ratio can be

raised.

Secondly, Japan is a country where there have been only ten or twenty thousand net immigrants annually at most in the recent past and foreign residents occupies only the level of 1 percent of the total population. In such a society it will be politically infeasible to accept the number of immigrants as large as from several hundred thousand to several million people annually.

Replacement migration calculated for Japan by the Population Division does not seem to be a realistic policy option for Japan. But it is sure that fewer young people will dare to take "3D" jobs due to declining fertility and rising educational aspirations, labor demand for workers for long-term care will surely rise because of increasing old-old population, and more professional and technical workers are needed in such area as information technology in this era of global competition. If so, more foreign workers will be needed in such a hyper-aged and depopulating country as Japan in the next century, though not so numerous as the estimates of the Population Division.

ENDNOTES

(1) Only one scenario has been prepared for mortality assumptions in all the official population projections in Japan.

(2) The setting up of fertility assumption of these official projections was implicitly influenced by the demographic transition theories which had suggested the continuation of replacement-level fertility in the post-transitional stage.

(3) The idea behind the setting up of fertility assumption of the latest two official projections was in accordance with the second demographic transition theory which had been asserted by D. Van de Kaa and R. Lesthaeghe. (Van de Kaa, 1999 ; Lesthaeghe, 1999). Three scenarios have been prepared for fertility assumptions in all the official population projections in Japan.

(4) Three Variants have been prepared in all the official population projections in Japan, which have depended upon three assumptions on fertility.

(5) At municipal levels, many towns and villages suffering from their decreasing and aging population have taken more explicitly a pro-natalist position.

(6) For the past thirty years, the increase of social expenditures for children has been only just over 20% of that of social expenditures for the elderly in Japan (Fukuda, 1999).

(7) A. Gauthier distinguished family policies of the developed countries into four types, that is, (1)pro-natalist (such as France), (2)pro-traditional (such as Germany), (3)pro-egalitarian (such as Nordic countries), and (4)non-interventionist (such as Anglo-Saxon countries) (Gauthier, 1996). Japanese family policies seem to move from (2) to (3) at least at the government statement level as well as in some policy programmes.

References

Atoh, Makoto, (1984). Causes of Declining Fertility and its Prospects, *Journal of Population Problems*, No.171, pp.22-35.

Fukuda, Motoo, (1999). *Restructuring of the Social Security System : Its Transition to the System Giving Importance to Child Support*. Tokyo, Chuo-Hoki.

Gauthier, Anne H., (1996). *The State and the Family : A Comparative Analysis of Family Policies in Industrialized Countries*. New York, Clarendon Press.

Hanami, Tadashi and Kuwabara, Yasuo, (1989). *Tomorrow's Neighbors ―Foreign Workers*. Tokyo, Toyokeizai.

Institute of Population Problems (IPP), (1976). *Future Population Projections for Japan as of November 1976*. IPP Research Series No. 213, Tokyo.

Institute of Population Problems (IPP), (1982). *Future Population Projections for Japan as of November 1981*. IPP Research Series No. 227, Tokyo.

Institute of Population Problems (IPP), (1987). *Population Projections for Japan as of December 1986*. IPP Research Series No. 244, Tokyo.

Institute of Population Problems (IPP), (1992). *Population Projections for Japan as of December 1986*. IPP Research Series No. 274, Tokyo.

Kaneko, Ryuichi, (1993). A Projection System for Future Age-Specific Fertility Rates. *Journal of Population Problems*, 49-1, pp.17-38.

Kaneko, Ryuichi, (2000). Below-replacement fertility in Japan : Trends, determinants and prospects. In United Nations, *Population Bulletin of the United Nations : Below Replacement Fertility*. Special Issue Nos. 40/41. 1999, Sales No. E99.XIII13, pp.266-291, New York.

Lesthaeghe, Ron et al., (1999). Is Low Fertility a Temporary Phenomenon in the European Union?. *Population and Development Review*. 25-2, pp.211-228.

Ministry of Health and Welfare (MHW), (1996). *White Paper on Health and Welfare for 1996 : Families and the Social Security System– Social Support to Families*. Tokyo.

Ministry of Health and Welfare (MHW), (1998). *White Paper on Health and Welfare for 1998 : Reflecting a Society with Fewer Children To Build a Society Where People can have Dreams to Bear and Rear Children*. Tokyo.

Ministry of Health and Welfare, (MHW), (2000). *White Paper on Health and Welfare for 2000 : Seeking a New Image of Elderly People*. Tokyo.

Ministry of Labor, (2000). *White Paper on Women's Labor*. Tokyo.

Miyajima, Takahashi, (1989). *The Logic of Accepting Foreign Workers*. Tokyo, Akashi-

shoten,

National Institute of Population and Social Security Research (NIPSSR), (1997). *Population Projections for Japan as of January 1997*. NIPSSR Research Series, No. 291, Tokyo.

National Institute of Population and Social Security Research (NIPSSR), (1999). *Latest Demographic Statistics 1999* (Research Series, No. 297), Tokyo.

Nishio, Kanji, (1988). *Strategic Closing-the-Door Policy*. Tokyo, Kodansha.

Office of Cabinet Council on Internal Affairs (OCCIA), (1991). *On the Creation of an Environment Where People can Bear and Rear Healthy Children*. Tokyo.

Olshansky, S. Jay and A. Brian Ault, (1986). The Fourth Stage of the Epidemiological Transition : The Age of Delayed Degenerative Diseases. *The Milbank Memorial Fund Quarterly*. 64-3, pp. 355-391.

Omran, Abdel. R., (1971). The Epidemiologic Transition : A Theory of the Epidemiology of Population Change. *Milbank Memorial Fund Quarterly*, 49-4, pp.509-538.

Policy Planning and Evaluation Division of Minister's Secretariat (PPED), (1993). Ministry of Health and Welfare (ed.). *The Current State of International Migration : Japan and the World*. Tokyo, Toyokeizai.

Policy Planning and Evaluation Division of Minister's Secretariat (PPED), (1998). Ministry of Health and Welfare (ed.). *A Society with a Decreasing Population Responsibilities and Choices for the Future*. Tokyo, Gyosei.

Tanaka, Hiroshi and Ebashi, Takashi (eds.), (1997). *White Paper on Human Rights of Foreign Residents in Japan*. Tokyo, Akashi-shoten.

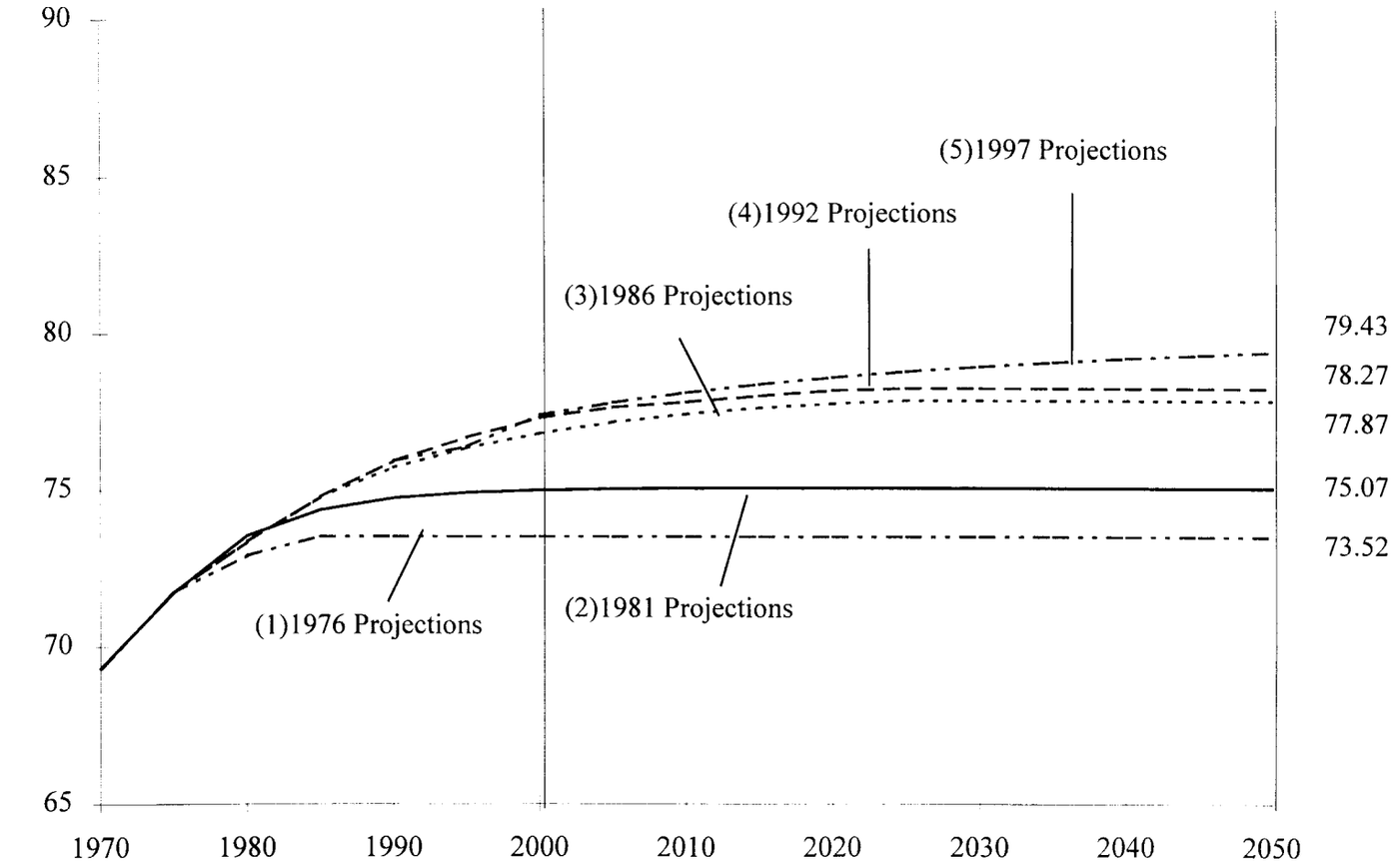
United Nations, (1998). *National Population Policies*. Sales No. E99. 3. New York.

United Nations, (1999). *World Population Prospects : The 1998 Revision, Vol.1 : Comprehensive Tables*. Sales No.E99.9. New York.

United Nations, (2000). *Replacement Migration : Is it a Solution to Declining and Aging Populations?*. ESA/P/WP.160, New York.

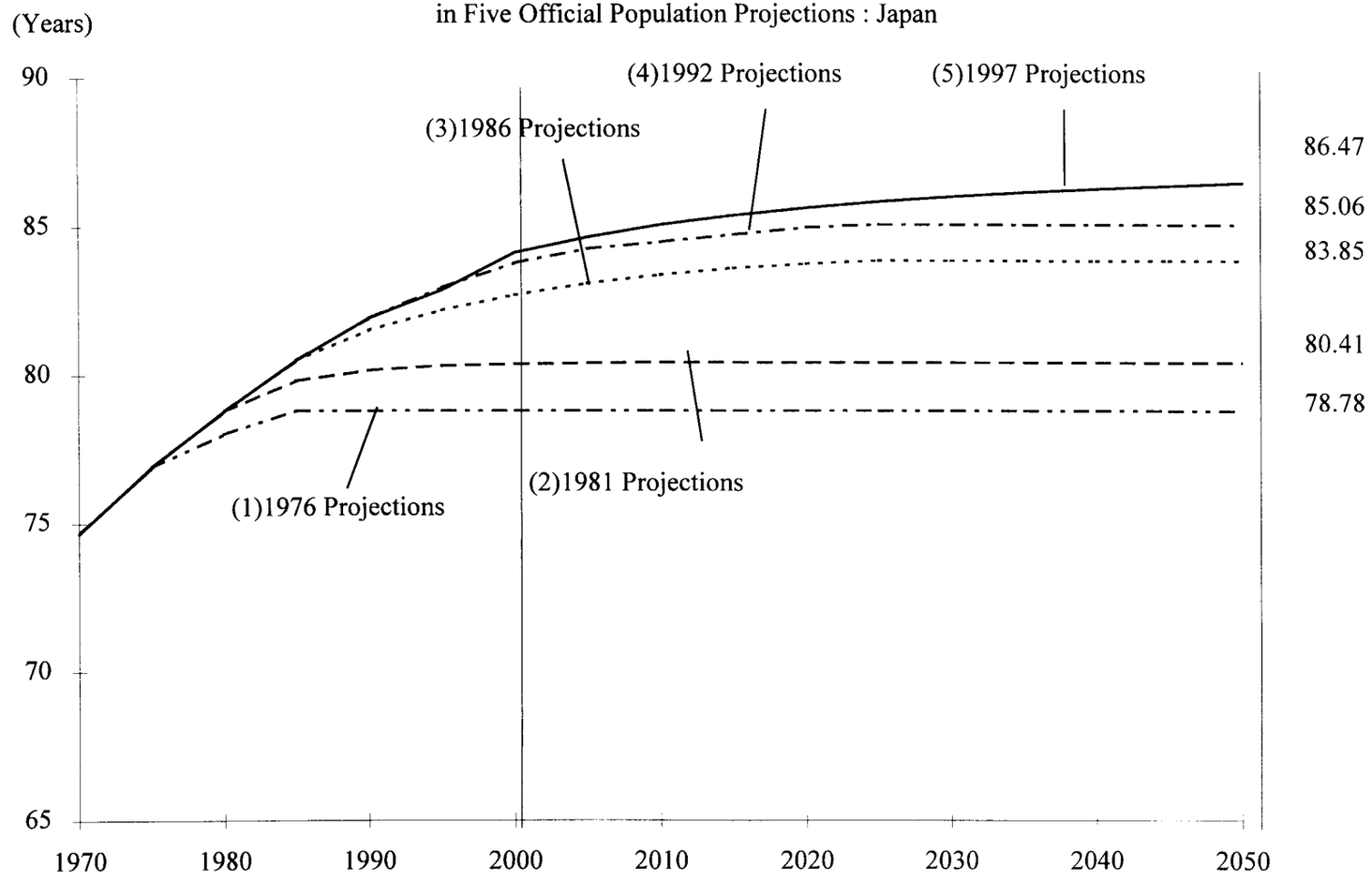
Van de Kaa, Dirk J., (1999). Europe and its Population : The Long View. In European Population Conference. *European Populations : Unity in Diversity*. Kluwer Academic Publishers, pp.1-50.

Figure 1-1. The Comparison of Assumptions of Male Life Expectancy at Birth in Five Official Population Projections : Japan



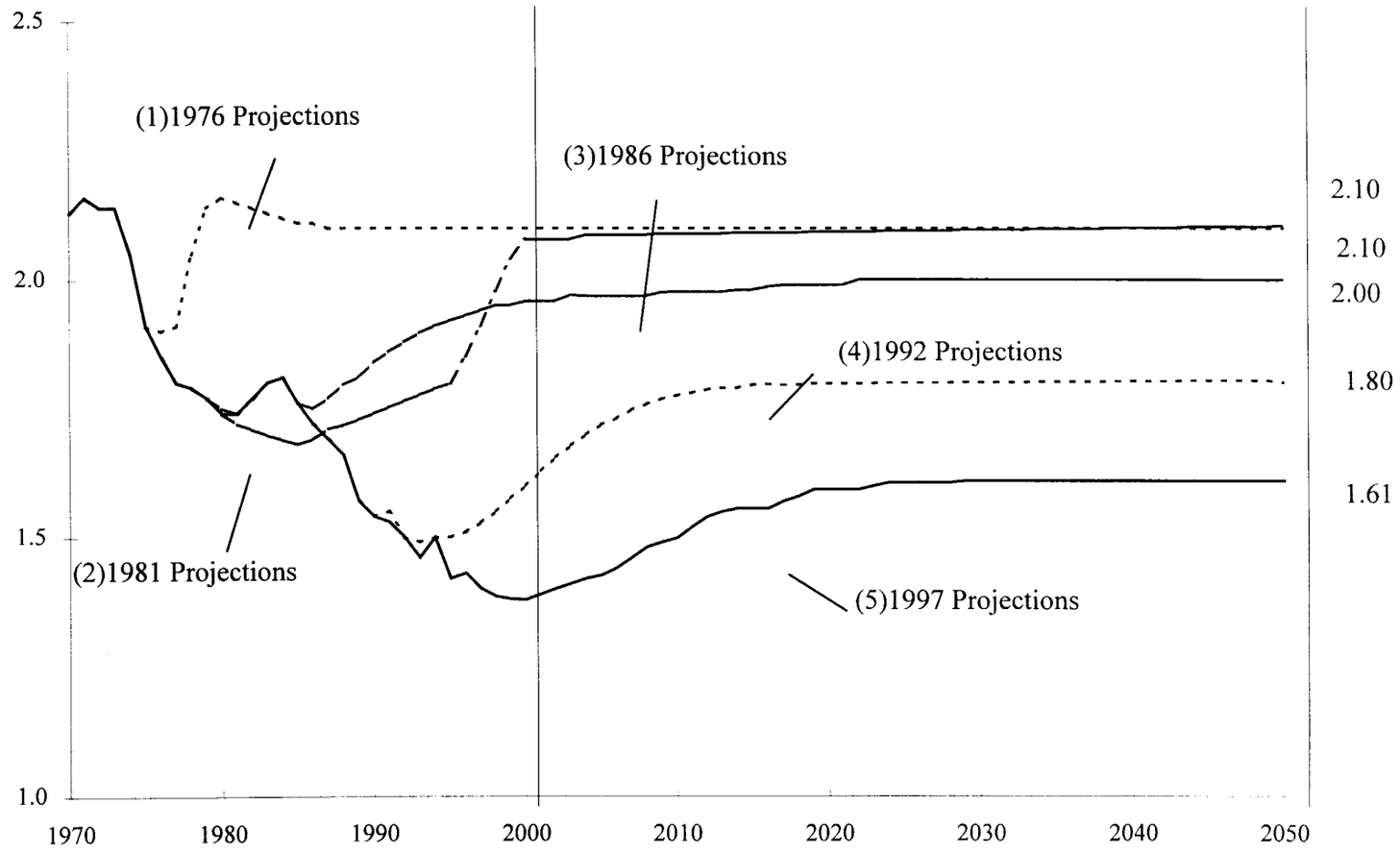
Source : (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997)

Figure 1-2. The Comparison of Assumptions of Female Life Expectancy at Birth in Five Official Population Projections : Japan



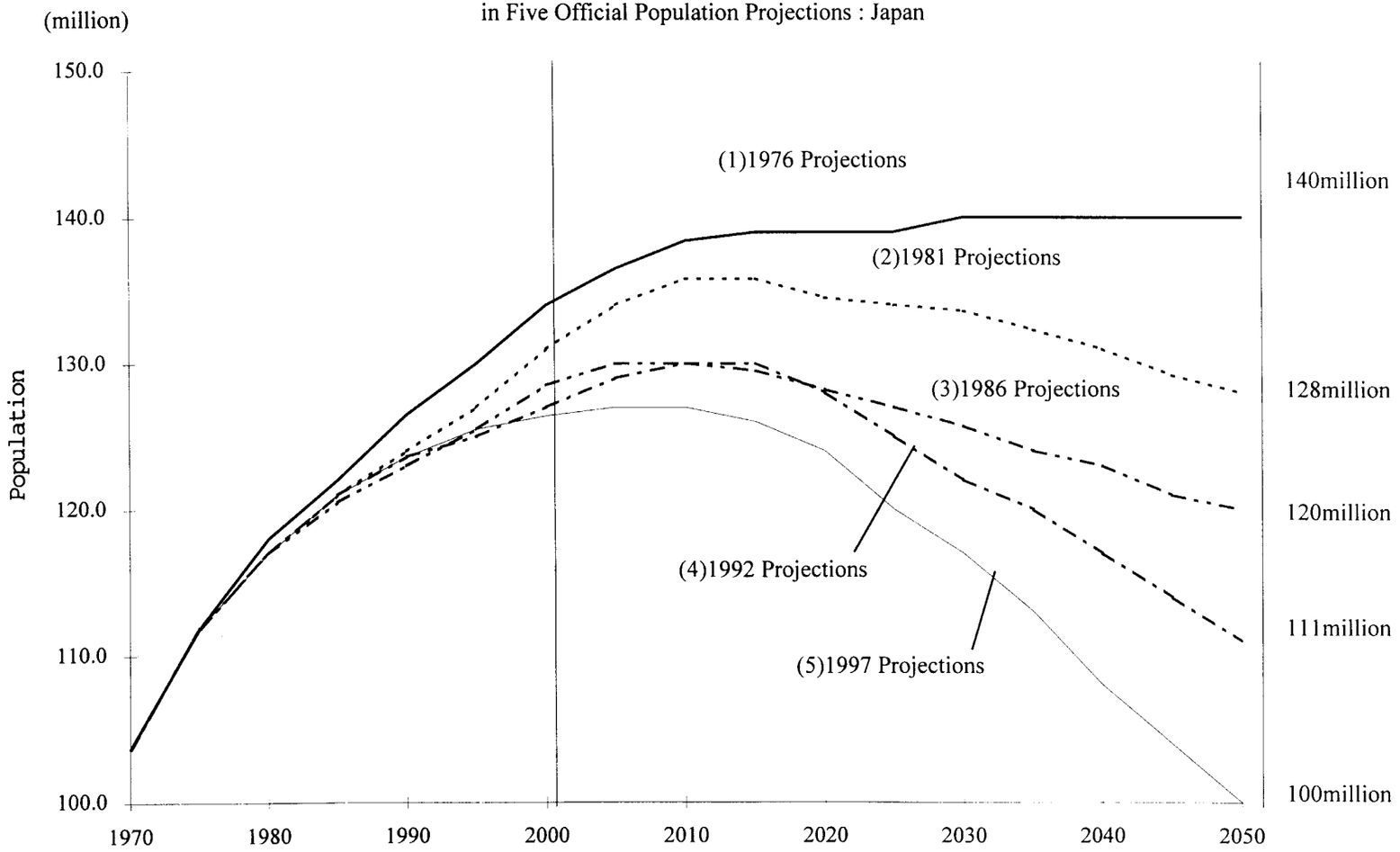
Source : (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997)

Figure 2. The Comparison of Assumptions of the Total Fertility Rate
in Five Official Population Projections : Japan



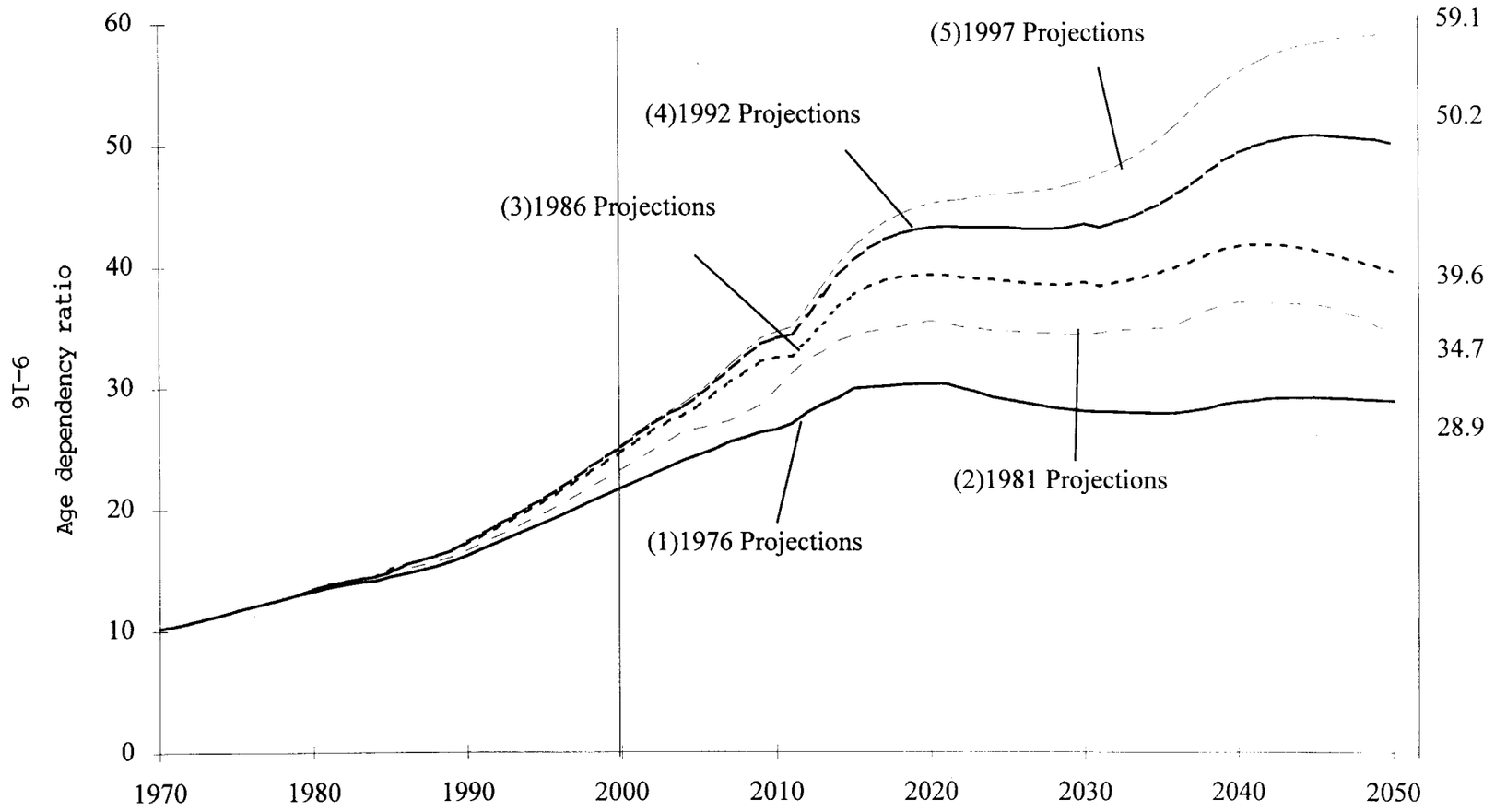
Source : (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997)

Figure 3. The Comparison of the Outcomes of the Total Population Size
in Five Official Population Projections : Japan



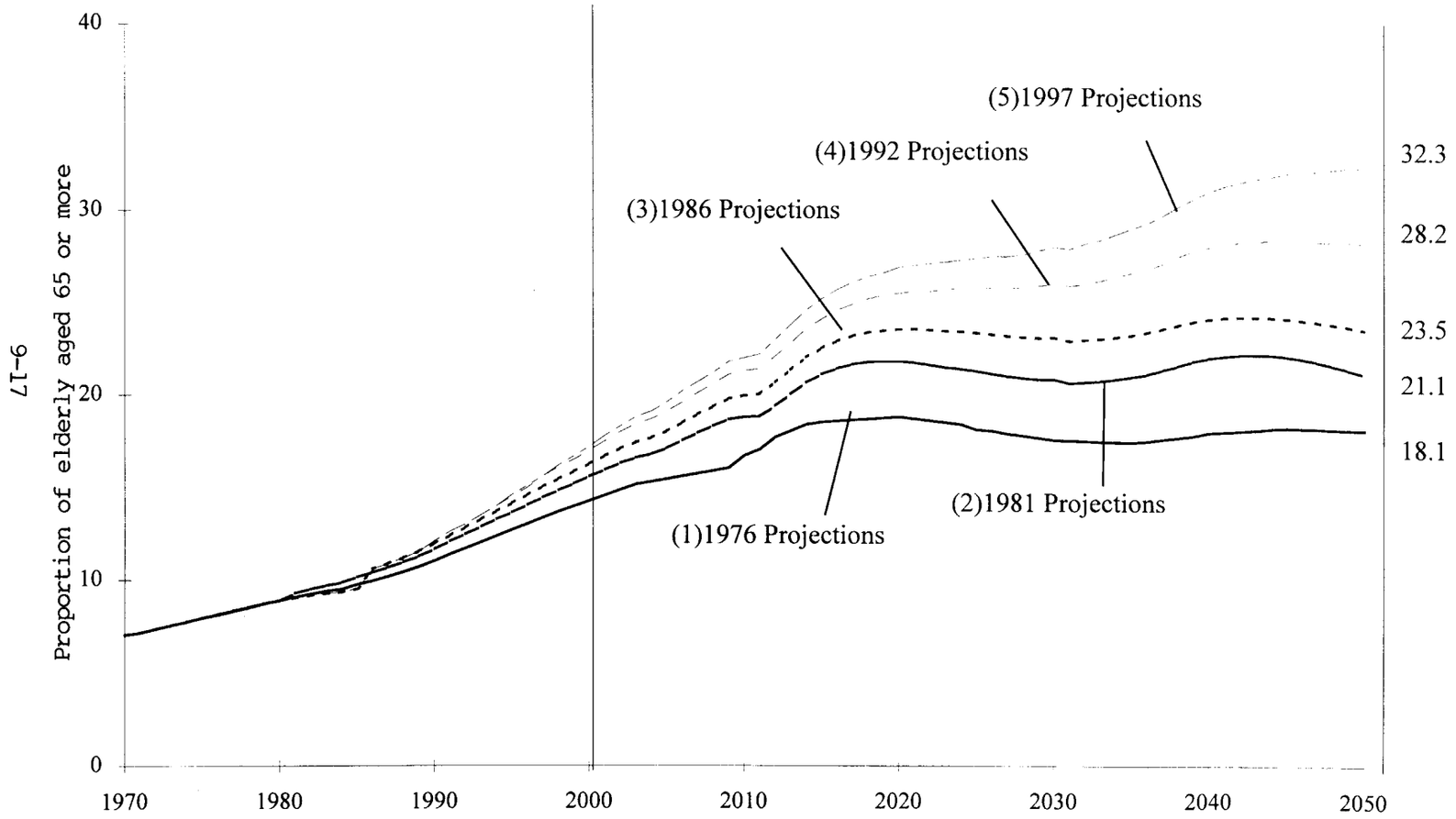
Source : (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997)

Figure 4. The Comparison of the Outcomes of the Aged Dependency Ratio in Five Population Projections : Japan



Source : (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997)

Figure 5. The Comparison of the Outcomes of the Proportion of the Elderly Aged 65 or More in the Total Population in Five Official Population Projections : Japan



Source : (IPP, 1976, 1982, 1987 and 1992 ; NIPSSR, 1997)