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Widowhood Later in Life in Japan:
Considering Social Security System in Aging Society

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1. Introduction

The falling birthrate and aging population give us a good opportunity to seriously examine the current social security system in Japan. A dramatic transformation of demographic structure has been led by a continuous decline in the total fertility rate and a sharp increase in the proportion of the elderly aged 65 and over and the expansion of longevity. The total fertility rate has declined particularly since the “1.57 shock” in 1990 and it was 1.29 in 2003. On the other hand, the proportion of the elderly aged 65 years and over in the total population has been continuously rising, particularly since 1980 and it became 19.1 percent in 2003. It took just 24 years for the proportion of the elderly to double from 7 percent to 14 percent in Japan, and its length is less than one-fourth of the corresponding figure in France where aging population took place with the slowest pace in Europe. A combination of continuously declining birthrate and fast aging population characterizes the recent demographic change in Japan. This speed of change is one of the main reasons why people became overly pessimistic and at the same time confused about the future. It is time to discuss seriously how to reform the social security system in Japan, while it is not wise to overly react to this rapid social change. First of all, we have to examine the current situation based on the empirical data and to see what has changed and what has not changed.

Figure 1 about here

Aging means not only an increase in the proportion of the elderly aged 65 and over in the total population, but also the extension of longevity (life-span extension). It changes health conditions, employment status and the household type among the elderly. Life expectancy at 65 years old rises for both men and women (Figure 1), and an important finding here is the widening difference in the life expectancy between men and women. In 1955, the life

expectancy of men after the age of 65 was 11.8 years and that of women 14.1 years, the difference being 2.3 years. In 2003, the life expectancy of men after the age of 65 was 18.0 years and that of women 23.0 years, the difference being more than double. This difference in life expectancy between men and women is associated with the change in the household structure to which they belong later in life. The most noticeable example is the increase in the proportion of the elderly living alone (hereinafter referred to as a single-person household). The proportion of male single-person households modestly increased from 2.2% in 1986 to 3.4% in 1998, while the proportion of female single-person households sharply rose 9.7% to 13.6% in the same period (Shirahase 2005b). However, becoming widowed for the elderly does not always mean an immediate shift to single-person households. People usually have another option of living with their children since the majority of married couples have child(ren) in their ages. Therefore, the difference in the proportion of single-person households between men and women cannot be explained only by the gender difference in life expectancy. Nevertheless, considering that women have longer life expectancy than men and that on average, wives are younger than their husbands, we can expect that the chances of the female elderly forming a single-person household are higher than their male counterparts.

Figure 2 about here

Figure 2 shows the trend of the distribution of household structure with the elderly aged 65 and over from 1975 to 2000. The largest increases over 25 years are found among the elderly living alone (single-person household) and couple-only households, while the proportion of the multi-generational households, typically three-generational households, sharply has declined. Many elderly used to enjoy basic life security through living with their children in three-generational households. However, the proportion of the elderly living with their children has decreased, while the rate of those living only with their spouse and the rate of those living alone have increased. As a result, where or how the elderly receive their basic life security has changed, and at the same time people's expectation towards the role of the social security system has increased. Nevertheless, the current social security system in Japan is not prepared to meet the high expectation. The Japanese social security system has depended on the role of the

family in which its members could receive the basic life security within the household. This was known as the Japanese-type welfare society (Liberal Democratic Party of Japan 1979). The social security system was built on the latent assets of the families (Harada 1988; Osawa 1993). However, the living arrangement has changed as represented by the change in the household structure in contemporary Japan. It means that we cannot expect as much safety net provided by the family as before.

In this study, I will examine the needs of the elderly people, focusing on the economic well-being of the elderly living alone compared with those who live with their family. People's social risks such as illness and poverty associated with aging would vary depending on their socio-economic situation: the higher the socio-economic status, the better they are ready for their potential risks of aging. The more the family members with whom they share the household, the better the level of receiving the basic life security within the household. The household can pool various social resources among co-residing family members with different generations, but if the elderly live alone, they will be more likely to face various risks directly. We will see how the elderly living alone are disadvantageous with respect to economic well-being and how much vulnerable to various risks later in their life in Japan compared with those in other nations.

This study consists of three major parts. In the first part, the change in economic well-being of the elderly living alone in Japan will be examined from the mid-1980s, to the beginning of the twenty-first century. Shirahase (2002) and Seike and Yamada (2005) pointed out that the elderly living alone are economically disadvantaged. I will examine if the level of socio-economic well-being for the elderly living alone has changed, corresponding to the increase in the number of single-person households among the elderly since the mid 1980s. In the second part, I will compare the extent of economic inequality for the elderly living alone at the beginning of the 21st century with that in other industrial nations. The nations which are compared with Japan in this study are Germany, Italy, Sweden, Taiwan, United Kingdom, and the U.S.

In the final part, focusing on the elderly who are under the long-term care, I will examine how much personal networks and personal resources are utilized in receiving the long-term care among the elderly living in different types of household structure. The expansion of longevity

implies a higher proportion of those aged 75 and over and the increase in those who face a higher risk of receiving the long-term care. When the elderly enter the latter stages of old age, the chance of deteriorating their health condition becomes higher and consequently a chance of requiring long-term care strikingly increases dramatically (Japan Ministry of Health, Labor, Welfare 2005). The work life of the elderly depends on their health condition and further it determines their level of economic well-being. We then like to examine how personal network and personal resources work in supporting the life of the frail elderly in Japan.

2. Economic Well-Being of the Elderly Living Alone

The Japanese data used in this study is the National Survey of Living Conditions (Kokumin Seikatsu Kiso Chosa), conducted by the Japan Ministry of Health, Labor and Welfare in 1986, 1995 and 2001. The unit of the survey is the household, and the household with the elderly means the household where those aged 65 and over live and it does not necessarily mean that the head of the household is the elderly. The extent of income inequality is measured by disposable income, which is calculated by subtracting tax and social insurance payments from total gross income. In order to take into account the difference in the family size, I will use the equivalent scale of elasticity 0.5, following the previous study by Nishizaki et al. (1998). I assume that there is no difference in equivalence of elasticity between working adults and children or retired elderly. Behind this assumption, it is supposed that family members more or less equally share the economic well-being within the same household, regardless of differences in their life stages. Since the basic unit of consumption is the household, I believe that this assumption is in general reasonable in contemporary capitalist societies.

The other main variable in our analysis is the type of the household structure, and it is constructed by the number of the household members and their relationship to the head of the household. The household structures used in this study are divided into the following five categories: (1) the single-person household, (2) the couple-only household, (3) the household consisting of only the married couple and unmarried child(ren), hereafter the nuclear-family household (4) the three-generational household and (5) other household. In this study, I like to

focus on the elderly living alone (hereinafter referred to as the elderly single-person household) in Japan and other nations. The three-generational household in which most elderly used to live and the nuclear household whose number is increasing due to the delay in marriage among the adult child(ren) are sometimes combined into the a single category, called “other household.”

Figure 3 about here

First, in this section, economic well-being of the elderly living alone is examined with respect to economic inequality, indicated with the gini coefficient and the poverty rate which is the proportion of those whose disposable income is less than half of the medium disposable income of the total household. Figure 3 shows the trend of the gini coefficients among the total households, the households with the elderly, and the elderly single-person households since the mid-1980s. Shirahase (2005b) claimed that the degree of economic inequality by household type with the elderly converged; in the past, economic inequality in the male single-person household was the highest and that in the three-generational household the lowest. The extent of economic inequality used to be largely different by household type. However, the differences in the extent of economic inequality by household type with the elderly were becoming smaller, although the degree of economic inequality among the elderly single-person household remains high, compared with those among other types of the household with the elderly. The extent of economic inequality among the households with the elderly has improved primarily because the economic inequality among the male single-person household and the couple-only household has declined. However, the overall extent of economic inequality (including all households) has become worsened mainly due to the expansion in economic inequality among the households headed by the young- and middle-aged head since the mid 1980s.

The degree of economic inequality in the total households expanded from .2998 in the mid-1980s to .3718 in 2001. In contrast, the degree of economic inequality in households whose head is 65 years old and over dropped from .3668 to .3479. Japan has been characterized by a higher degree of economic inequality among households with the elderly than that among households without the elderly (Shirahase 2002), but economic inequality among households with the elderly in general declined from the mid-1980s to 2001.

Table 1 about here

One of the reasons for the decline in the extent of economic inequality among elderly households is due to a decrease in the rate of low-income households with the elderly (Shirahase 2005c). Table 1 shows the proportion of the households whose disposable income was less than 50 percent of the median disposable income of the total households among those aged 60s and 70 and over. The proportion of low-income (i.e. less than a half of the median) among single-person households aged 60s largely declined: the proportion of the low-income households declined from 56.1 percent in 1986 to 39.4 percent in 2001. The proportion of the low-income household whose head is aged 70 and over also declined from 69.7 percent to 44.9 percent. The extent to which the elderly face the economic risk represented by the low-income rate, thus, has recently reduced. The one of the reasons for this decline in the low-income rate among the household with the elderly is derived from the improvement of the social security system. Although the level of the social security benefits, as shown as its ratio to GDP, is not favorable in Japan, compared with Europe, it still did improved over the period and consequently resulted in the decline in the low-income rate among the households with the elderly.

Table 2 about here

Table 2 presents gini coefficients by the four categories of the households headed by those aged 60s and those aged 70 and over. The household categories shown in Table 2 are the single-person household, the couple-only household, the nuclear-family household, and the three-generational households. Among the households whose head is aged 60s, the degree of economic inequality is the highest among single-person households, that is, .04309 in 2001. On the contrary, economic inequality increases among nuclear-family households and among three generation households. The increase in the number of nuclear-family households with the elderly where unmarried children live with their parents is closely associated with the delay in marriage among the young people, and Yamada (1999) referred to them as “parasite singles.” Such households where the elderly parents and unmarried adult children co-reside increased regardless of different economic levels of the household: they can be found in both rich and poor families. The low-income rate among the households whose age of the head is in their 60s is also

increasing among the nuclear-family households. Among the households whose head is aged 70 and over, the degree of economic inequality declined across all households categories. In particular, the extent of economic inequality among couple-only households largely declined from .4304 in 1986 to .3200 in 2001.

Figure 4 about here

Figure 4 shows the trend in the proportion of low-income households where the elderly live alone by gender and age group. For both men and women, the rate of low-income households declined sharply, and the economic situation of the elderly single-person households appeared to have improved. Among women aged 70 years old and over who live alone, the rate of low income declined sharply from 73.1 percent in 1986 to 48.8 percent in 2001. In 2001, the difference in the low-income rate by age group became small for both men and women. Nevertheless, about 30 percent of male single-person households aged 70 and over and about 50 percent of female single-person households aged 70 years old and over are in the low-income group. This suggests that living alone later in life is closely associated with a high economic risk.

3. The Japanese elderly living alone in Japan in cross-national perspective

In this section, I examine the extent of economic well-being of the elderly in Japan in comparison with that in the U.S. and Europe. The data used in this study is Luxembourg Income Study Data (hereinafter referred to as LIS) of the year of 2000 from each country (for the U.K., the data related to 1999). The countries which we analyze in this section are the U.S., the U.K., Italy, Germany, Sweden and Taiwan. According to the type of welfare regimes advocated by Esping-Andersen (1990; 1999), the U.S. and the U.K. are regarded as liberal, Germany as conservative, and Sweden is regarded as social-democratic welfare state. Italy is considered to be the welfare state with a strong familialism. Japan is a mixture (ad hoc type) of the conservative-type and the liberal-type welfare states (Esping-Andersen 1997). In Japan, the social security system leans heavily on the role of the family in its design, and the dependence on the family can also be seen in both Germany and Italy (Esping-Andersen 1997; Shirahase 2003). As Japan has always been compared with the U.S. and European countries, her peculiarity tends

to be because of the only Asian country. I, then, include Taiwan in my analyses as another Asian country. In examining the level of economic well-being of the elderly in Taiwan, the important role of multi-generational household in maintaining the basic life security for the Taiwanese elderly has been pointed out (Smeeding and Saunders 1998). The multi-generational households have been a typical place for the elderly to receive the basic life security in both Japan and Taiwan. Therefore, I can examine the level of economic well-being of the elderly single-person household in two Asia countries.

Figure 5 about here

Figure 5 presents the distribution of the household structure whose head is aged 65 years old and over for each country. Japan is characterized by the highest proportion of the “other” household including multi-generational and nuclear-family households among the elderly, compared with other countries. The other country in which the proportion of the other household is relatively high is Italy (27.2 percent). Regarding Taiwan that is another Asian society in our analysis, the proportion of couple-only households is as high as that of Germany and Sweden, and the majority of the Taiwanese elderly live in the couple-only household. The proportion of other households is about 20 percent in Taiwan. Thus, the proportion of other households in Taiwan is higher than that of America and European countries, except for Italy, but it is not as high as that of Japan.

Another characteristics of the household with the elderly in Japan is that the proportion of the male single-person household is low. The gender difference in the proportion of the single-person household is large in Japan. Japanese men are likely to live with other family members such as parents, spouse, and children throughout the life course, and even if they became a widower, they often do not live in alone. One of reasons why the number of male single-person household is small in Japan is that the average age of marriage is higher among husbands than among wives and male life expectancy is shorter than their female counterparts. Although the gender difference in life expectancy in Japan is 6.9 years, that is the largest among our nations, it appears that the low proportion of the single-person household of the male elderly in Japan cannot be explained solely by these demographic characteristics. In fact, the gender

difference in life expectancy in Taiwan is large, that is, 6 years, the rate to Japan, while the proportion of the male single-person household is not as low as in Japan. This means that other reasons except for the gender difference in life expectancy must explain the difference in the proportion of the single-person household by nation. One of them is probably due to the difference in the marital status of the elderly living alone by nation. Japan is peculiar with respect to the very low proportion of the elderly who have never got married. For instance, about one third of the male single-person households have never got married in Taiwan. On the other hand, in Japan, the corresponding figure is about ten percent, that is the lowest among our nations. This is a good example of the differences in people's life course reflecting the household structure of the society.

Figure 6 about here

The degree of economic inequality by household type is compared by nation in Figure 6. First, let us look at the overall gini coefficient by nation at the beginning of the 21st century. The extent of economic inequality in Japan is most similar to that in Italy (.3323 and .3329, respectively). The society with the highest degree of economic inequality is the U.S.(.3981), and followed by the U.K. (.3448). Japan stands at the third place with regard to the degree of economic inequality. The extent of economic inequality in Japan is not particularly different, compared with other societies.

The degree of economic inequality among the households whose head is aged 65 years old and over is .3479 in Japan. Only the U.S. (.3733) and Taiwan (.3758) have higher rates. In the mid-1980s, the gini coefficient of the households with the elderly was largely different from the one among the total households in Japan, which is similar to Taiwan. Japan was characterized by a large degree of economic inequality among the households with the elderly. However, as shown in Figure 3 of the previous section, the degree of economic inequality among the total households has increased, while the degree of economic inequality among the household with the elderly has declined since the late 1990s. As a consequence, the difference between the gini coefficient among the total households and the one among the households with the elderly has decreased, and the pattern in the difference in the degree of economic inequality by the

household type in Japan has become similar to the one in the U.S. and Europe. In Taiwan, on the other hand, the degree of economic inequality among the households with the elderly remains high, compared with other types of the households. One of the reasons for such a high degree of income inequality among the households with the elderly in Taiwan is probably derived from the immature social welfare system, particularly for the elderly.

Returning our attention to Japanese figures, we see that the degree of economic inequality among the elderly single-person households in Japan is as large as the one in the U.S.: their gini coefficients are .3718 and .3798, respectively. In particular, the degree of economic inequality among the male single-person household in Japan is high (.380), which is the second highest after the one in the U.S. (.411). Further, the degree of economic inequality among the elderly male single-person household in Italy, which is regarded as a familial-type welfare state, is also relatively high.

Table 3 about here

However, economic well-being cannot be measured only by the degree of economic inequality. Another important index in measuring the economic well-being is the low-income rate. In Table 3, the low-income rate by the household type is presented. The low-income rate among the total households in Japan is high (16.3%), following that in the U.S. (17.0%). On the other hand, the countries whose low-income rate among the total households is relatively low are Sweden (6.5%), Germany (8.3%) and Taiwan (9.1%). Once we focus on the households with the elderly, the low-income rates among them jumped in Taiwan, the U.S. and Japan, that is, 37.9 percent, 24.2 percent and 21.5 percent, respectively. Particularly in Taiwan, the low-income rate among the households with the elderly is strikingly high. In fact, in Taiwan where the social security system has not fully developed, the majority of the elderly living alone are in the low-income group. Similarly in Japan, the low-income risk among the households with the elderly is high. The low-income rate among the elderly in Japan is similar to the one in the U.S., and in particular, the female elderly living alone in Japan face a high risk to be in the low-income group as pointed out by Shirahase (2002, 2006). Seike and Yamada (2006) state that one possible reason for such a high low-income rate among the female elderly living alone in Japan is

due to a low employment rate of the female elderly and the pension system which developed fully for widows against the poverty.

Although the low-income rate among the elderly single-person households has declined since the mid-1980s (see Table 1), we should not overlook the fact that in Japan the low-income rate among the single-person households of the female elderly is higher than that in the U.S. and Europe. It is, however, commonly found in all societies that the elderly women living alone tend to have a higher risk of being in the low-income group than other living arrangement.

Table 4 about here

The economic risk of the elderly living alone is examined focusing on the difference in marital experience among the single-person households. Table 4 shows the low-income rate by marital status among the elderly living alone by gender. The difference in the low-income rate by marital status among the single-person households in Japan is not statistically significant for men and women. The low-income rate among the never-married elderly living alone and that among the divorced elderly living alone are not statistically significant. However, in other countries, the differences in the low-income rate by marital status among the single-person household are statistically significant. In general, entering later life without spouse involves a high economic risk. In Taiwan and Germany, a higher risk of being in the low-income group can be seen among the divorced elderly living alone than among the elderly living alone who had no experience of being married or got widowed. However we have to be cautious of our interpretation because I analyzed the cross-sectional data. We can speculate the impact of becoming widowed, but we cannot measure the impact of the change in the marital status on the low-income risk using our data.

Iwata (2004) claims that being unmarried or divorced contributes to increasing the low-income rate, using the panel data of women aged 20 to 40 conducted by the Institute for Research on Household Economics in Japan. Whether the elderly entered the later stage of life without being married or getting divorced or living with their spouses makes different in their level of economic well-being. As far as our results are concerned, the difference in the low-income rate by marital status among the elderly single-person households is not statistically

significant in Japan. However, since the unmarried rate and divorce rate have increased recently and will continue to increase, we suspect that the difference in marital behavior over the life course will influence the level of economic well-being at the later stage of life.

Table 5 about here

Table 5 presents the ratios of the median disposable income among the female single-person household to the one among the male single-person household, the ratios of the disposable income among the male single-person households to the one among the couple-only households, and the ratios of the disposable income among the female single-person household to the one among the couple-only household. Japan is characterized by a very disadvantageous economic status of the female single-person household: the gender difference in disposable income in the single-person households is large, and the extent of economic disparity between the female single-person households and the couple-only household is the largest, that is, 58.22. Based on my analyses, the economic loss associated by becoming widowhood is striking in Japan. The disadvantageous economic condition among the widowed is similarly found in the U.S. and the female elderly living alone in Japan face as high economic risk as in the U.S. in which the degree of economic inequality is very high.

3. The elderly living alone who need the long-term care

We have so far examined the economic disadvantage among the elderly belonging to different types of the households. However, the elderly are differentiated not only by the level of economic resources, but also by the degree of support network which they have. How much the elderly have access to support network is critical in determining their level of well-being.

In this section, I like to examine how much the elderly who require the long-term care possess the personal support network by the household type. The data analyzed in this section is the survey on the daily life of the elderly aged 65 and over who live around the Tokyo area. The municipalities in which the survey is conducted in October of 2003 is Shinagawa Ward of Tokyo, Inagi City of Tokyo, and Kamagaya City of Chiba. The frail elderly will be analyzed in terms of the relationship between the degree of personal network and the type of the household.

Table 6 about here

Table 6 presents the frequencies of the visits by families and relatives who live separately, neighbors, and friends. The frequency of visit is categorized into six: (1) no visit, (2) less than once a year, (3) 2 to 3 times a year, (4) more than once a month, (5) more than once a week, (6) almost every day. I made the frequency of visit to be a 5-point scale and resorted to the regression analysis. The independent variables entering the equation of the analysis are the age of the respondents who are the elderly, years of the education, the respondent's gross income before tax, household-type dummy categories (the single-person household dummy, couple-only household dummy, and the nuclear family dummy and the other household that includes the three-generational household, that is used as the reference category), the degree of long-term care required, the family caregiver dummy in which the reference category is the non-family caregivers, and the length of the long-term care. The analysis is done separately between men and women.

First, let us look at the results for the visit from families and relatives. The variables which show a significant effect among the male respondents are age, income, the single-person household dummy, the couple-only household dummy, the degree of long-term care required, and the family caregiver dummy. The older the respondent and the higher income they have, the more they are likely to receive visit by family and relatives living separately. The frequencies of the visit by their families that the male elderly living alone and living only with their spouse receive are significantly higher than those live in the three-generational household. The higher the level of long-term care required, the more frequently he receives the visit by families and relatives who live separately. Further, when the main caregiver is a family, he receives more visits from families and relatives who live separately.

Next, let us move to the results for the female elderly. The independent variables showing the significant effects are age, the single-person household dummy, the couple-only household dummy, the degree of long-term care required, and the family-caregiver dummy. The older she is, the more frequently she receives the visit by families and relatives who live separately. The elderly women requiring long-term care who live alone or live only with their spouse receive the visit by families and relatives who live separately more frequently than those who are in the three-generational household. The higher the level of long-term care required, the more frequently she receives visit by families and

relatives who live separately, and if the main caregiver is a family, she receives the visits by families and relatives who live separately more frequently than those whose main caregiver is not the family.

The elderly living alone or living only with the spouse receive more frequent visits by families and relatives living separately than those living with the younger generation for both men and women. However, the extent of the effect of the single-person household dummy or the couple-only household dummy is larger among women than among men. The significant effect of the individual income is found only among male respondents. The more income they have, the more frequently they receive the visit by families and relatives who live separately. This means that when the socio-economic condition of the elderly person is good, families and relatives visit the frail elderly often and a good relationship can be maintained among the family. In explaining the frequency of the visit by families and relatives, the type of the household which the elderly belong to, such as the single-person household or the couple-only household, is important among both the female and male elderly. On the other hand, the income level is not statistically significant among the female elderly in determining the frequency of the visit by families and relatives.

Let us move to examine the visit by neighbors (the middle of Table 6). Among the male elderly who need the long-term care, the effect of the educational level and the family-caregiver dummy are significant in explaining how often the neighbors visit them. If the main caregiver is a family or relative, the male frail elderly are less likely to receive the visit by neighbors than those whose main caregiver is not a family. Similarly, the frequency to have the visit by neighbors significantly declines when the male elderly with the long-term care are highly educated. Such a negative effect of the higher education on the frequency of the visit by the neighbors can also be seen among the female frail elderly. The better the female elderly were educated, the less frequently they receive the visit by neighbors. The educational level can be a proxy of measuring the level of socio-economic status of the respondents. The attainment of higher education does not seem to help the frail elderly expand the size of the support community, but it seems that they keep their strong family network based on their advantageous socio-economic status. It can be said that, even if they need the long-term care, the elderly with the higher socio-economic status do not necessarily rely on the community network because they have a good quality of support network within the family. Particularly, the male

elderly with the long-term care need do not have a wide range of community network, but they have enough support network through their families and relatives living separately. On the other hand, among the female elderly with the long-term care need, the frequency of the visit by neighbors significantly differs by the type of the household: those living alone have significantly more visit by the neighbors than those who live with the younger generation. The female frail elderly who live only with the spouse or are in the nuclear family are more likely to have the visit by neighbors than those who are in the three-generational households. On the other hand, if the main caregiver is a family or relatives, the female frail elderly have the visit by neighbors less frequently than those whose main caregiver is a non-family member.

The negative effect of education on the frequency of the visit by neighbors can be seen for both men and women. Among the elderly with the advantageous socio-economic status, the elderly receive frequent visit by their families and relatives living separately. On the other hand, for the elderly with the low socio-economic status, the neighborhood community seems to function as an important support network. The effect of the household type is statistically significant only for the female frail elderly: those in the single-person household, the couple-only household or the nuclear family household are more likely to have the visit by neighbors than those in the three-generational household. However, among men, the household type is not statistically significant in explaining the frequency of the visit by neighbors. Even if they live alone, the frail male elderly does not have more frequent visit by neighbors than those in the three-generational household. In other words, men do not have enough community network due to a lack of their relation to the community since they were busy with their work. In order to have a reliable support network in the community, people have to get involved in the community. Investing time in the community is necessary to make the community work as a reliable support.

The last column of Table 6 presents the analysis on the visit by friends. The independent variables which show significant effects among the male respondents are the respondent's age and the nuclear family household dummy. The older they are, the less frequently they receive the visit by friends. The male frail elderly who belong to the nuclear family household which consists of parents and their unmarried child(ren) receive the visit by friends more frequently than those who live in the

three-generational household. On the other hand, the female elderly who live alone have more networks in the community and friends than those who live with the younger generation. The independent variables that have significant effect in explaining the frequency of the visit by friends are age and the single-person household dummy among women. The female frail elderly living alone have more visit by friends than those in the three-generational household, while the type of household does not have a significant effect on the visit by friends among the male frail elderly.

Table 7 about here

Finally, I examine how many people are involved in the long-term care they received. Table 7 is the results of the regression analysis on the number of people involved in the long-term care by gender. The same set of independent variables used in Table 6 is used here. Among male respondents, the significant variables in determining the number of people involved in the long-term care are the single-person household dummy, the couple-only household dummy, the level of the long-term care required, and the family-caregiver dummy. Among the male frail elderly living alone or living only with the spouse have significantly less number of caregivers involved than those in other-type households. In contrast, if the level of the long-term care required is high or the main caregiver is a family, a larger number of caregivers are involved in the long-term care services. Among the female frail elderly, a series of household variables, the level of the long-term care required and the family caregiver dummy have significant effect in explaining the number of people involved in the long-term care. The female frail elderly living alone, living only with the spouse or in the nuclear family households have less number of people involved in the care than those in the three-generational household. On the other hand, if the level of the long-term care required is high or the main caregiver is a family, the number of people involved in the long-term care tends to be large.

According to our analyses, the number of the people who are involved in the long-term care seems to be closely associated with the number of families and relatives. In fact, the elderly living alone do not necessarily have a large number of people involved in the long-term care. The more families the elderly live with, the larger number of caregivers are involved in the long-term care. The frail elderly living alone or living only with the spouse, therefore, does not have a wide variety of non-family caregivers. In other words, the kinds and the number of non-family caregivers are limited in

contemporary Japan. The long-term care is largely provided by families and relatives, although the non-family caregivers became more involved in the long-term care now than before the long-term care insurance system was implemented in 2000.

In the future, the number of the frail elderly in the three-generational household will further decline, and it will become more and more difficult to receive the care within the household. Under such a change in the household structure, non-family caregivers will be more important in supporting the frail elderly. The family will remain to be one of the main providers of the care for the frail elderly, but it is obvious that non-family caregivers will be another important care provider in the future. We have to enrich and diversify the long-term care services by non-family members so as to make the level of well-being of those living alone as good as those in the three-generational household.

4. Conclusions and Discussions

In this study, the relationship between the change in the household structure following the birthrate decline and the aging of population and the economic well-being among the elderly was discussed. Since the mid-1980s, the degree of economic inequality has expanded in Japan, and also the rate of low-income households has increased. In the households whose head is 65 years old and over, the degree of economic inequality has declined, but the economic inequality in the household with the elderly is still larger than that of households without the elderly. And although the rate of low-income households with the elderly has improved since the 1980s, the situation where female single-only household of the elderly in particular are at high economic risk has not largely changed.

From the results of the analysis, we found that the elderly living alone faced a high risk of low income. In fact, while the proportion of the low-income household among the elderly living alone has lowered since the mid-1980s, almost a half of all female single household and about one-fourth of all male single households are still in the low-income group. This fact should not be overlooked.

The situation where the elderly live alone is closely associated with the risk of low income and the female elderly single household have a relatively low economic well-being is not peculiar to

Japan. In all the countries analyzed in this study, the female elderly single households have a higher low-income risk than their male counterparts. In particular, the economic status of the female elderly living alone is low and a high degree of economic inequality is confirmed.

An important finding that emerged from the international comparison analysis is that the economic situation of the households with the elderly in Japan was similar to that in the U.S. In the U.S., the market principle is dominated and public support systems are restricted to the low-income families. The extent of economic inequality in Japan is also similar to the level in the U.K., which is another liberal welfare state. Common points between the U.S. and the U.K. are a high rate of low-income households and considerably high degree of income inequality. The result in which the economic situation of the Japanese elderly is similar to that of countries of liberal welfare states suggest important clues in the future study of the welfare state. As far as our results are concerned, we are becoming similar to countries where the extent of economic inequality is quite high.

As the budgetary constraint is frequently mentioned, the introductions of privatization and of market principles are considered viable options and small government is advocated recently. However, actively adopting privatization does not necessarily reduce the role of the government. It is time to reconstruct a social security system based on the rapidly changing demographic transformation, and there is no doubt about the need for such a reconstruction.

In this study, we discussed personal network that the elderly who require long-term care possessed. The scale of personal network depends on the number of families and relatives that the elderly have. As the size of the individual family is becoming small (as seen in the increase of the single-person households or couple-only households), the scale of personal network has also shrunk. Hence an important policy issue is how to diversify the content of non-family support and to broaden the kinds of support, by supplementing the decreasing size of families or relatives.

In determining the size of personal network, the type of household to which elderly belong and their socio-economic status are important. For women, the effect the type of household was significant. For the female elderly living alone, neighbors are important resources as support

network. On the other hand, personal network of the male elderly tends to be concentrated in their family, particularly their spouse. Especially for highly educated men with a high economic status, they are satisfied with their family support network and other choices of support are not seriously explored.

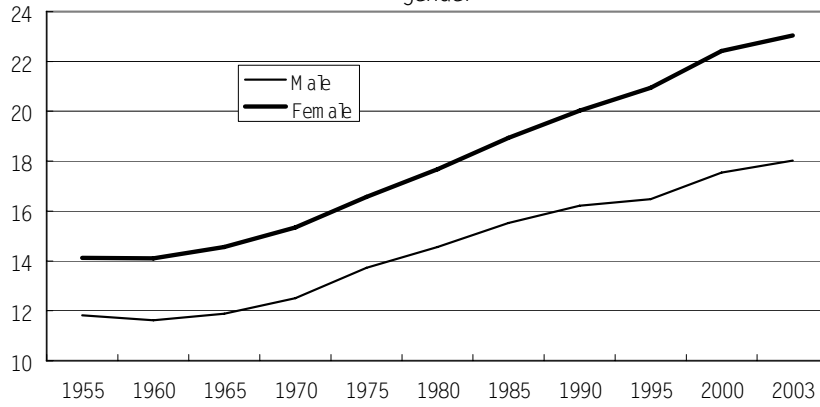
Non-marriage is increasing among men, and their size of families is likely to decline. In order to deal with such a declining size of the family, we have to encourage a variety of non-family network and to make the infra-structure of both family and non-family support network available. The family will remain a critical support network in the future although the population is continuously aging. In fact, even in the U.S. where divorce rate is high, the support from families and relatives is strongly expected. However, it is difficult to maintain support network that largely depends on the role of families. How to build the safety net based on the non-family support should be the challenge in the face of demographic transformation. Who will be a non-family support? Not only the government but also the community and the NPO/NGO will play a crucial role in providing non-family support in the future.

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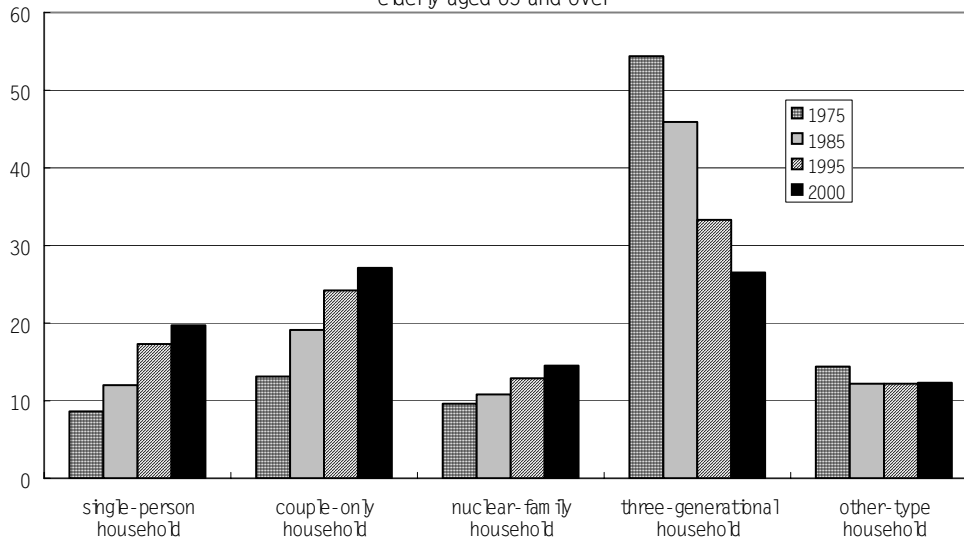
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Figure 1 Change in the life expectancy at the age of 65 by gender

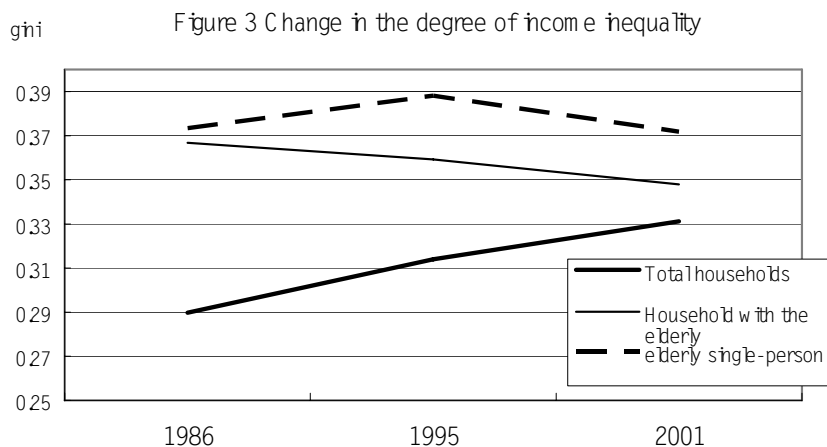


Source) "Latest Demographic Statistics 2005" (NIPSS 2005)

Figure 2 Change in the household structure among the households with the elderly aged 65 and over



Source) "Latest Demographic Statistics 2005" (NIPSS 2005)



Source) National Survey of Living Conditions (MHLW, each year)

Table 1 Change in the low-income rate by the household type by the age of the household head (%)

	60s			70 years old and over		
	1986	1995	2001	1986	1995	2001
Single-Person Household	56.10	40.62	39.37	69.70	56.50	44.89
Couple-Only Household	16.47	14.56	15.41	37.23	22.57	16.65
Nuclear-family Household	12.36	13.13	14.56	25.50	25.00	19.52
Three-Generational Household	6.95	9.12	10.84	8.02	9.47	10.19
Other Household	17.11	15.51	14.94	36.61	27.34	22.40
Total Household	19.09	17.18	18.69	39.57	31.21	25.00

Source) "National Survey of Living Conditions" (MHLW, each year)

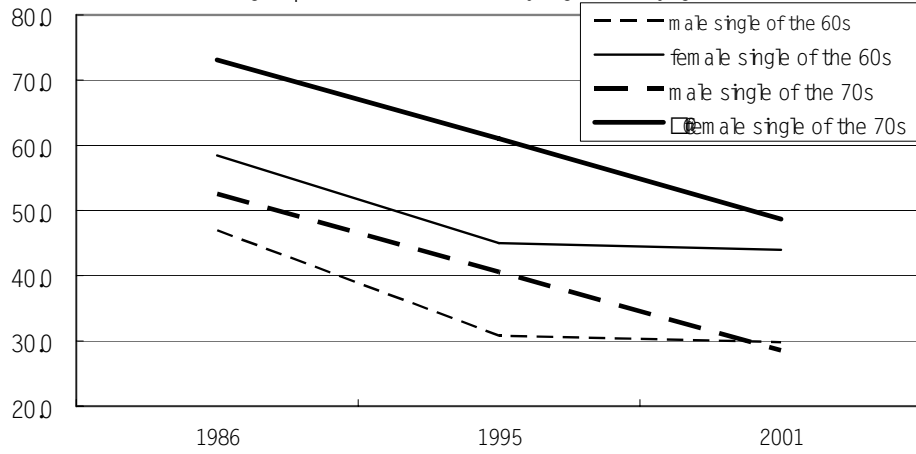
Table 2 Change in the degree of income inequality by the household type by the age of the household head

	60s			70s and over		
	1986	1995	2001	1986	1995	2001
single-person household	0.4215	0.4119	0.4309	0.3920	0.3826	0.3660
couple-only household	0.3847	0.3775	0.3711	0.4303	0.3549	0.3200
nuclear-family household	0.3319	0.3462	0.3621	0.3714	0.3834	0.3269
three-generational household	0.2877	0.2949	0.3161	0.2935	0.2930	0.3053
other-type household	0.3279	0.3456	0.3490	0.4193	0.3490	0.3713

Note) The degree of income inequality is presented by the gini coefficient.

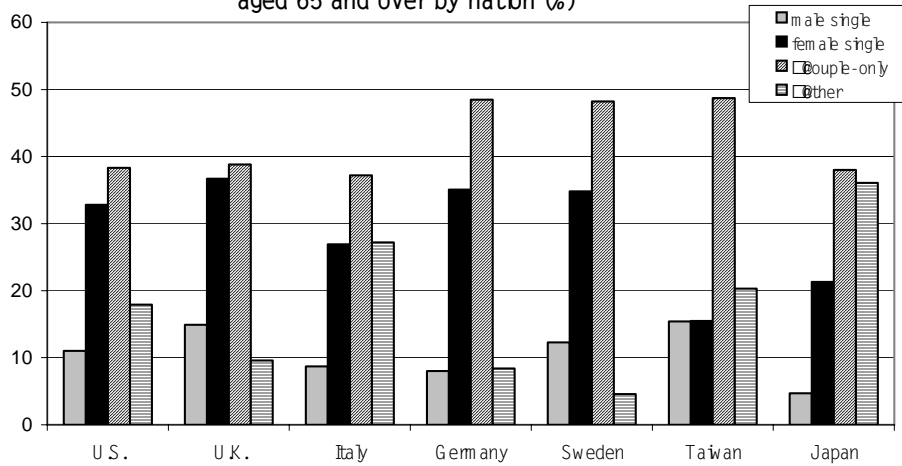
Source) "National Survey of Living Conditions" (MHLW, each year)

Figure 4 Change in the low-income rate among the single-person households by age and by gender (%)



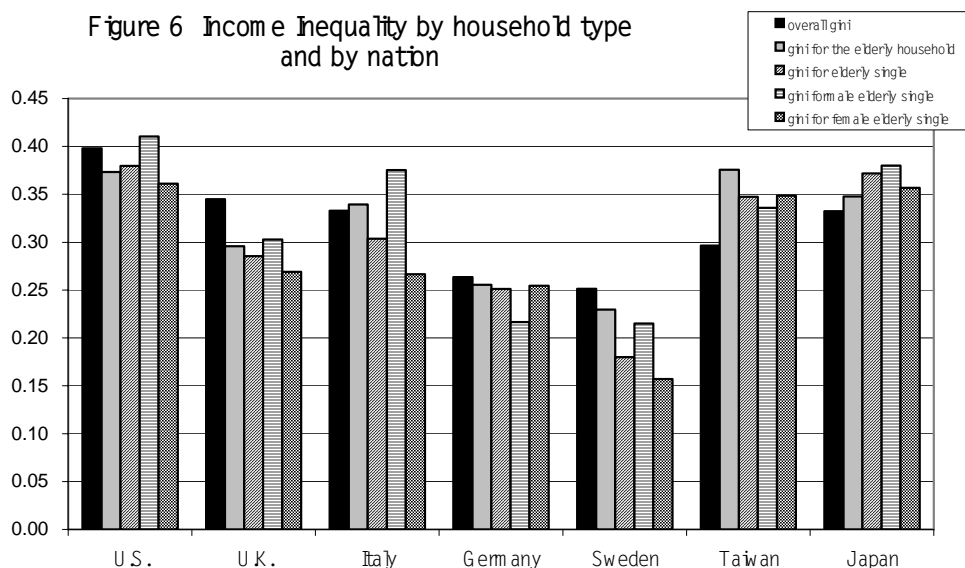
Source) "National Survey of Living Conditions" (MHLW, each year)

Figure 5 Structural distribution of the households of the head aged 65 and over by nation (%)



Source) Japan National Survey of Living Conditions (2001)
 other nations: LIS in 2000 and 1999 for the U.K.

Figure 6 Income Inequality by household type and by nation



Source) Japan National Survey of Living Conditions (2001)

Table 3 Low-income rate by the household type and by nation (%)

	U.S.	U.K.	Italy	Germany	Sweden	Taiwan	Japan
overall low-income rate	17.00	12.40	12.70	8.30	6.50	9.10	16.30
the elderly household	24.19	18.70	14.20	9.75	7.36	37.92	21.50
single-person	42.90	35.42	25.70	17.82	14.76	52.78	40.24
male single	35.04	20.85	15.55	9.30	10.00	42.99	24.68
female single	45.49	40.47	28.74	19.57	16.54	62.62	43.69
couple-only	16.68	12.76	9.12	4.64	1.49	39.76	14.68

Source) Japan National Survey of Living Conditions (2001) other nations: LIS in 2000 and 1999 for the U.K

Table 4 Low-income rate by marital status by gender among single-person household (%)

	U.S.	U.K.	Italy	Germany	Sweden	Taiwan	Japan
male single							
never married	45.17	23.43	39.83	17.33	18.72	42.07	27.91
divorced	33.44	18.68	13.10	10.09	9.79	51.29	18.99
widowed	32.70	19.93	10.64	7.76	10.00	46.08	18.45
female single							
never married	42.68	21.49	35.17	18.46	15.36	85.35	34.16
divorced	40.36	23.48	35.32	39.53	9.22	NA	38.32
widowed	46.00	45.17	27.30	16.39	18.04	62.29	36.10

Source) Japan National Survey of Living Conditions (2001) other nations: LIS in 2000 and 1999 for the U.K

Note) * There is no enough cases.

Table 5 Income ratio between the types of the households by gender by nation

	U.S.	U.K.	Italy	Germany	Sweden	Taiwan	Japan
female single/male single	76.20	85.50	87.56	79.80	89.61	79.19	71.12
male single/couple-only	78.04	86.68	90.40	93.19	75.30	92.00	81.86
female single/couple-only	59.46	74.11	79.15	74.36	67.48	70.10	58.22

Note: Figures are the ratios of the median disposable income between the different household types.

Source: Japan National Survey of Living Conditions (2001) other nations: LIS in 2000 and 1999 for the UK

Table 6 Regression Analysis on the frequencies of the visit by gender by the types of visitors

	families living separately		neighbors		friends	
	male	female	male	female	male	female
age	1.596 **	1.360 **	0.166	-0.010	-0.356 **	-0.210 **
year of education	-0.365	1.573	-2.493 **	-0.108 **	0.217	0.039
income	4.107 **	1.704	-0.329	0.005	0.125	0.093
single-person dummy	68.455 **	82.314 **	-5.182	0.868 **	1.196	5.501 **
couple-only dummy	24.954 **	33.405 **	10.520	0.882 **	-0.311	0.664
nuclear dummy	-7.398	9.979	4.982	0.350 **	15.420 **	1.304
level of the care	7.058 *	6.567 **	2.725	-0.072	-0.986	0.030
caregiver dummy	30.935 *	46.461 **	-19.947 *	-0.327 *	0.291	-2.872
length of being cared	-0.455	-0.297	0.079	-0.008	0.255	0.112
constant	-146.596 **	-163.031 **	38.971	3.863 **	30.737 **	27.748 **

Note: ** significant at the 1% level * significant at the 5% level

Source: The Survey of the Daily Life of the elderly (2004)

Table 7 Regression on the number of people involved in the long-term care by gender

	male	female
	coefficient	coefficient
age	0.006	0.005
year of education	0.005	0.028
income	0.006	0.012
single-person dummy	-0.590 **	-0.193 *
couple-only dummy	-0.244 *	-0.175
nuclear dummy	-0.272	-0.560 **
level of the care	0.151 **	0.120 **
caregiver dummy	0.363 *	0.449 **
length of being cared	-0.008	-0.015
constant	1.479 *	1.341 **

Note: ** significant at the 1% level * significant at the 5% level

Source: The Survey of the Daily Life of the elderly (2004)