7-1-1992

Leaving Parental Home: Census-Based Estimates for China, Japan, South Korea,United States, France, and Sweden

Zeng Yi

Ansley Coale

Minja Kim Choe

Liang Zhiwu

Follow this and additional works at: https://elischolar.library.yale.edu/egcenter-discussion-paper-series

ECONOMIC GROWTH CENTER

YALE UNIVERSITY

Box 1987, Yale Station
27 Hillhouse Avenue
New Haven, Connecticut 06520

CENTER DISCUSSION PAPER NO. 673

LEAVING PARENTAL HOME: CENSUS-BASED ESTIMATES FOR CHINA, JAPAN, SOUTH KOREA, UNITED STATES, FRANCE AND SWEDEN

Zeng Yi
Peking University

Ansley Coale
Princeton University

Minja Kim Choe
East-West Center

Liang Zhiwu
Peking University

Liu Li
University of British Columbia

July 1992

Leaving Parental Home: Census-Based Estimates for
China, Japan, South Korea, United States, France and Sweden

ABSTRACT

Using the interactive, intracohort, interpolation procedure, this article tries to remedy the lack of data on home-leaving by providing an international comparison of estimated census-based, single-year, age-specific net rates of leaving home for males and females in China, Japan, South Korea, United States, Sweden, and France. Our study demonstrates the large differences in the age pattern of leaving the parental home between the East Asian and the Western countries. The male and the female median ages at home-leaving in the three East Asian countries studied were higher than those in the three Western countries studied by a margin of 2-3 years. The proportion leaving the parental home in the East Asian countries is also much lower than in the Western countries. For example, in the 1970s, census figures on the proportion living with parents up to age 40 indicated that around 15 percent for males and around 14 percent for females in Japan, in contrast to around 5 percent and 4 percent for males and females, respectively, in the United States. The corresponding figures were even higher in China - 20.7 percent and 17.7 percent for males and females, respectively, in 1990. Social and cultural traditions as well as the ethnic ideologies are hypothesized as relevant to the large differences in the home-leaving pattern between the East Asian and Western countries.

LEAVING PARENTAL HOME: CENSUS-BASED ESTIMATES FOR CHINA, JAPAN, SOUTH KOREA, UNITED STATES, FRANCE, AND SWEDEN

By

Zeng Yi, Ansley Coale, Minja Kim Choe, Liang Zhiwu and Liu Li[1]

The family life course perspective is an important conceptual framework and an emerging sub-field in demography and sociology. Study of the pattern of leaving the parental home, which is one of the major events in the course of family life is very useful for understanding changes in union formation, childbearing, labor force participation, and the size and structure of family and household. It is thus linked with social and economic planning for welfare systems as well as with the demand and supply of housing and other household consumption goods. The academic significance and practical implications of this topic for socio-economic planning and marketing are reflected in a growing body of literature in recent years. Young (1974; 1975; 1985; 1987; 1989) first systematically investigated the process of young adults' leaving the parental home and the associated demographic, social, economic, and psychological factors, using survey data collected in Australia. Goldscheider and DaVanzo, drawing upon data from the

[1]. Zeng Yi is Professor at The Institute of Population Research, Peking University. Ansley Coale is Professor at the Office of Population Research, Princeton University. Minja Kim Choe is research associate at the Population institute, East-West Center. Liang Zhiwu is a faculty member at The Institute of Population Research, Peking University. Liu Li is a Ph.D student at the University of British Columbia. All correspondences should be addressed to: Zeng Yi, The Institute of Population Research, Peking University, Beijing, 100871, China.

U.S. National Longitudinal Study of the High School Class of 1972, have shown that the timing of young adults' leaving and returning home responds to a variety of social and demographic factors (Goldscheider and DaVanzo, 1985, 1989; DaVanzo and Goldscheider, 1990; Goldscheider and Leboardais, 1986). Kiernan (1989) presented an international comparison of young people's living arrangement in Denmark, Great Britain, and the United States. Mayer and Schwarz (1989) have investigated the process of leaving the parental home in Germany. Jone-Gierveld and Beekink (1989) have dealt with issues about leaving home in the Netherlands. Wall (1989) has provided a temporal and spatial perspective on leaving home and living alone in present day Europe, as compared with the situation during the preindustrial period. Using data covering 12 provinces and municipalities in China, Zeng et al. (1991) have investigated the pattern and the model schedule of leaving the parental home after marriage in China.

The usefulness of analyzing the course of family life is enhanced by the estimation of age-specific rates of the occurrence of the relevant events. Relying upon data from vital registration, censuses, and surveys, demographers frequently calculate or estimate age-specific rates of such events in course of the family life as marriage, childbearing, divorce, remarriage, labor force participation, and death. Age-specific rates for another important event in the family life course - leaving the parental home -- are not available in most countries, because no direct information on leaving home is collected in the census or registered in vital

statistics. Even in those few countries in which special surveys on the topic of home-leaving have been conducted, no single-year-specific rates of leaving home at the national level have been published, probably because of the limited sample sizes. No survey data on leaving home are available even in most of the developed countries. It would be useful to estimate the rates of leaving home using data commonly available in censuses.

This article tries to remedy the lack of data on home-leaving by providing an international comparison of estimated census-based single-year age-specific net rates of leaving home for males and females in China, Japan, South Korea, United States, Sweden, and France. China, Japan, and Korea are known to have strong Confucian cultural background which are thought to affect children's co-residence with parents. In these countries, most children are expected to live with their parents until marriage regardless of their age and economic status. While almost all women and some men leave their parental home upon marriage, some men, notably the first son continue to live with parents and some women join their husbands' parental home after marriage. Leaving parental home for other reasons such as higher education and employment may be increasing in recent years. In contrast, children in Western countries are thought to be independent from their parents once they achieve adulthood, and at that time they are expected to leave their parental home to establish their own households even before marriage. Almost no children stay with parents after marriage. Leaving home for higher education may also be more frequent in

Western countries than in the East Asian countries. The findings from this study shall provide empirical evidences of the differences of patterns of leaving home between East Asian and Western countries.

The next two sections outline the method, assumptions, and the data used for this study. The subsequent sections present the results of the estimates and a discussion of the pattern, level and timing of leaving home in each country studied and the differences between Western and East Asian societies.

METHOD AND ASSUMPTIONS

The method employed in the estimation procedure is referred to as iterative intracohort interpolation, which was first developed by Coale (Coale 1984a, 1985; Coale et al. 1985) to allow the use of variable-r relationships (Preston and Coale 1982; Arthur and Vaupel 1984). Coale's procedure was extended by Stupp (1988) to allow for a changing age pattern of the estimated rates within the intercensal period. Stupp showed that the procedure is a maximum likelihood estimator.[1] For a detailed discussion of the technique, see Coale (1985), Coale at al.(1985), and Stupp (1988).

This procedure has been used successfully to estimate age-specific fertility rates from data on parity in two censuses taken five years apart (Coale et al. 1985), in estimating a precise intercensal life table from two accurate censuses eleven years apart (Coale, 1984a) and in estimating an age schedule of immigration from census tabulations of the age distribution of the

foreign-born population (Stupp, 1988). We will show later in this paper that the procedure works successfully in estimating net rates of leaving the parental home.

The estimates derived here by using the iterative intracohort interpolation procedure are based on several assumptions:

1. Two kinds of events decrease the proportions of persons who are children of adults in households, which are the input data for this study, as age x and time t increase: children leaving their parental homes, and the death of both parents. We may reasonably assume that children leaving the parental home do so before age 35 or 40. In the countries studied here, the mortality level is so low that the likelihood that both parents die before the children leave home is very small. Therefore, the effects of death of both parents on the net rates of children's leaving home are treated as negligible.

(2). The age pattern of the rates of leaving the parental home is assumed to remain unchanged between two adjacent censuses. This is not a necessary assumption for using the iterative intracohort interpolation procedure, for one can make a variety of assumptions about the time pattern of the changing rates (Stupp, 1988). We have not allowed for changes in the pattern of age-specific rates over the period between two censuses because we have no information on the time pattern of changes in the home-leaving age schedules. Moreover, since we find only gradual changes in the age pattern of leaving the parental home in one intercensal period to the next,

large changes within intercensal periods seem unlikely. It should be kept in mind that the estimates presented in this paper do not represent any particular year or any real cohort. They are the average rates during the intercensal period.

3. The rates presented in this paper are the <u>net</u> rates of leaving home, defined as the difference between the rates of leaving the parental home and the rates of returning to the parental home. These rates are similar to the classical estimates of net migration rates.[2] No estimates of returning home is made in this study since there is no information about the process of returning home in the census data. However, we found by simulation that the timing in the net rates of leaving home at various prevalence levels of returning home is fairly close to that of one-direction rates of leaving home.[3] Therefore, we assume that the measurements of mean, median, and quartile of the estimated net rates of leaving home can reasonably approximate the timing of leaving home.

4. Synthetic cohort assumption. Similar to the mean, median and quartile calculated from the period age-specific first marriage rates, the quartiles presented in the text are the ages at which 25, 50, and 75 percent of those who eventually leave the parental home would have left the parental home in a hypothetical cohort subject to the estimated age-specific net rates of home-leaving.

Similar to the total first marriage rate, a total net rate of home-leaving was calculated as the sum of the age-specific net rates up to age 35 or age 40. For a cohort, this rate is the

difference between the average number of leaving home and returning home by age 35 or 40. The period total rate in this paper is what would be the difference between the average numbers leaving home and returning home by age 35 or 40 in a hypothetical cohort subject to the given age-specific net rates. When age at home-leaving is declining, the period total rate overestimates the real level, just as the total first marriage rate can exceed 1 when age at marriage is declining, and vice versa. The reason is that the home-leaving (or marriage) of older and younger men or women, which would have occurred sequentially with constant mean age, overlap (Coale, 1984b, p. 41). Overall, we should interpret the quartiles and the total net rates of home-leaving with caution.

DATA

The iterative intracohort interpolation procedure requires single-year age-specific data on the status of the population for at least two points of time to derive single-year age-specific rates. For this study, we need the single-year age-specific proportion of persons who are children of adults in the households (the notion of children in this paper includes grandchildren, daughters-in-law and sons-in-law). We were able to make special tabulations for China, United States, and South Korea. For China, the 1/1000 sample data tape from the 1982 census and the 5 percent sample data tape from the 1987 mini-census (the 1 percent population survey), and the 1 percent sample data tape of the 1990 census were used. For the United States, the official 1/1000 Public

Use Microdata Files for the 1960, 1970, and 1980 census were used. The South Korean data were derived from sample files of the 1960, 1966, 1975 and 1980 censuses.

Single-year age-specific data of this kind are not readily available for most other countries, including Japan, Sweden and France. For comparative analysis, it is imperative to find a way to work with data classified by five-year age groups. We therefore interpolated the U.S. and Korean five-year age group data into single-year age-specific data using cubic splines (a brief description of the application of cubic splines is presented in Appendix A), and then applied the iterative intracohort estimation to these constructed data. Comparing the two sets of estimates, we found that the estimates based on the five-year age-group data are quite close to the estimates based on the single-year age-specific data (see Figures 1 and 2). This satisfactory agreement gives us reason to believe that cubic interpolation adequately transforms data on proportions living in the parental home from a five-year age group classification into a single-year age-specific classification, at least for populations in which the age pattern of leaving the parental home is similar to that in the United States and South Korea.

Next we plotted the proportion living in the parental home by five-year age groups for males and females in the United States, Sweden, and France, representing Western countries, and in South Korea and Japan representing East Asia. The shapes of French and Swedish curves are quite similar to that of U.S., and the Japanese

and South Korean curves also looked alike. Hence the cubic spline interpolation procedure that worked successfully for U.S. and Korean data were applied to Swedish, French, and Japanese data by five-year age group. Because of the similar patterns among the five-year age group data, the cubic spline interpolation provides a good basis for intracohort iterative estimation by single year of age in Sweden, France, and Japan as in the United States and South Korea.

FINDINGS

China: 1982-87

Since the data needed for China are not available before the 1982 census, we can present the net rates of home leaving only for the period of 1982-1990. The estimates presented in Table 1 show that Chinese females leave the parental home about 1.5 years earlier than males. The female curve of net rates has only one peak at age 23 but the male curve has a broad peak ranging from ages 23 to 26 (see Figure 3 and 4).

Table 1 also shows the quartiles - that is ages at which approximately 25 percent, 50 percent, and 75 percent of the synthetic cohort members who will eventually leave the parental home would leave if they experienced the estimated net rates of leaving home. The second quartile is usually known as the median age. The first quartile of the net rates schedule are age 23.4 for males and age 22.1 for females (see Table 1), which means that about 75 percent of the Chinese males and females remained at the parental home until they were 22-23 years old. The median ages are

25.8 for males and 24.2 for females. The means ages are 26.4 and 24.9 for males and females, respectively. Compared with the figures for the other countries to be presented later, these figures demonstrate the late pattern of home-leaving in China. Three explanations may shed light on this phenomenon. The first is that a large majority of young Chinese people continue to live in the parental home after marriage for at least some time. According to life table analysis based on the In-Depth Fertility Survey data, [4] 80 percent of newly married couples in the nine provinces surveyed lived in the parental home after marriage for at least one year (Zeng et al., 1991). The second explanation is that serious housing shortage especially in urban areas may prevent some young people from moving away from the parental home. In many urban areas, waiting lists for assignment of an apartment (or a room) were so long that many married couples were not considered as candidates until they had given birth to a child, sometimes they had to wait until the child reached a certain age. The third explanation is that the university and college enrollment rates in China are quite low so that a very small proportion of young persons leave home for higher education. [5]

South Korea: 1960-66 AND 1975-80

For both sexes in both periods, the schedules have one major peak and one small peak (Figure 2). The major peak is around age 26 for males and age 22 for females in both periods. The small peak has values ranging from 2.5 to 4 percent around age 16, except for the 1960-66 female curve, which has no small peak. The fact

that 2.5 to 4 percent of children left their parental home at age
16 is probably due to education or employment reasons. Those
children who just completed middle school left home for high school
education or working in the factories which may not be in the local
areas of the parental home. The rate of home-leaving at ages 12-14
for both sexes and at age 15-19 for males declined substantially in
1975-80 compared to 1960-66. This is probably the result of
improved educational opportunities in the local areas. During this
period the secondary school enrollment improved greatly and the
employment rates for the young persons of age 15-19 decreased.
Young men and women aged 15-19 employed in the manufacturing and
service sectors, who often lived at the place of employment rather
than the parental home, declined from 13 percent to 11 percent for
men, and from 22 percent to 20 percent for women during 1970-80
period. During the same period, the school enrollment rate for this
age group increased from 40 percent to 64 percent for men and from
27 percent to 55 percent for women.

Korean women leave their parental home[6] earlier than men do
by a difference of about 2-3 years in mean and median. This is
mainly because women generally marry at younger ages than men. [7]
In addition, during the 1960-66 period, more young women than men
were leaving home for employment. The estimates also show that
Korean males and females left their parental home later in the
period of 1975-80 than in 1960-66. The mean ages at leaving
parental home for males and females are about 1 year and 0.3 year
higher in 1975-80 than in 1960-66. The age at which 50 percent of

males and females had left their own parental home are about 0.2 year higher in 1975-80 than in 1960-66. This is consistent with the increase in age at marriage.

Japan: 1965-80

In the period of 1965-70, about 8-9 percent of Japanese boys left their parental homes at ages 18 and 17, respectively. These peak values increased to 9-14 percent in the period of 1970-80. The peak rate for female home-leaving occurred around ages 17 and 18, with lower values than those for the male curves (Figures 3 and 4). The higher home-leaving rates for both sexes around age 17 and 18 may be due to their leaving home for a college education or labor force participation after graduation from high school. That these values were higher in 1970-80 than in 1965-70 is due to the increase in university and college enrollment in the later period (ref. endnote 5). The second peak in the male curves was around age 25 with values of about 5 percent in 1965-70, but shifted to age 29-30 with a value of about 4 percent in 1970-80. The female curve have a second peak around ages 24-25 for both periods. The median ages of the net rates schedules are substantially lower in the latter period, but the mean age at home-leaving for both sexes in the two periods changed little, probably owing to the compensation of smaller rates at young ages and larger rates at higher ages in the latter period.

China, South Korea and Japan Compared

China, South Korea and Japan are three East Asian countries with similar cultural traditions although their levels of economic development differ considerably. Our estimates show clearly that there is a general similarity of the pattern of home leaving in these three countries. The female pattern is even more similar than the male pattern among these three countries: during 1970-87, the standard deviation of the means was 1.7 year for males and 0.61 year for females.[8] Difference in the third quartiles estimated for the three countries are even smaller: the third quartiles of the age schedules for Japanese and Korean males in the 1970s were exactly the same (29.4 year), and for the Chinese in 1982-87 the third quartile was about one year earlier than the Japanese and Korean counterpart in the 1970s. In the same periods, the third quartile for Chinese and Korean females were almost the same, whereas the Japanese one was higher by less than one year. The impressive similarity of the estimates is consistent with the hypothesis that cultural tradition plays an important role in the process of home-leaving.

Although the Japanese median and mean ages at home-leaving were quite close to the Chinese and Korean ones, the shape of the curves of the Japanese rates differs strongly from those of the Chinese and Korean rates (see top panels of Figures 3 and 4). The age for the first quartile of home-leaving in Japan was much younger than that of either China or South Korea. For example, about 25 percent of Japanese males had left parental home at age

18, but among Chinese and Korean males the ages at which 25 percent had left home were 23.4 and 23.9, respectively. Likewise age for the first quartile of female Japanese was 19.1, in contrast to ages 22.1 and 20.4, respectively, for Chinese and Korean females. Obviously, Japanese young people start to leave the parental home at an earlier ages than their Chinese and Korean counterparts. This may be due to the fact that more Japanese leave home at younger ages for a university or college education (ref. endnote 5). The differences of the estimates among these East Asian countries, especially the distinct curve of Japan in contrast with that of China and South Korea, demonstrate the important effect of a country's economic level on the family life course.

The United States: 1960-80

In the 1960, 1970, and 1980 censuses of the United States, anyone who had left home, including persons living in college dormitories, were excluded from the category of "living with parents". We first present the estimates for the United States based on this census definition. The peak rates of leaving home were at age 18 for both sexes in all periods. This result confirms with our expectation because 18 is age of labor force entry for those who finish high school but do not go on to college and it is also the most common age for entering college. Moreover, a large proportion of U.S. college students live away from their parents.

U.S. females leave the parental home, on average, one year earlier than males do (Table 1). This result is consistent with the

observations drawn from the Panel Study of Family Income Dynamics, in which the same sex differential in mean age at leaving the parental home was observed. Our estimates also demonstrate that the difference in mean ages at leaving home for males and for females remained stable from 1950 to 1980. At younger ages, females have larger rates of home-leaving than males do, but the opposite is true at higher ages. The cross-over point is around age 21. The earlier home-leaving for females is due to earlier marriage among females[9].

The first quartile of the U.S. males and females leaving home is around age 18.5 and 18.0, respectively, in all three periods. The median and third quartile ages also indicate that the age patterns of home-leaving were relatively stable, with a slightly earlier pattern in 1960-70 than in 1950-60 and a slightly later pattern in 1970-80 than in 1960-70. The slightly earlier home-leaving in 1960-70 than in 1950-60 may have been due to the fact that more males and females entered college in the 1960s. [10] The slightly later process of home leaving in the 1970s was probably due to later marriage during the 1970s.[11]

Overall, the results show that the age pattern of home-leaving in the United States was very stable in 1950-80. This stability may be attributed to the offsetting effects of delayed marriage, on the one hand, and increased attendance at college, increased labor force participation, and the increased number of unmarried households (consensual unions without marriage), on the other.

Many U.S. college students who do not live in the parental home nevertheless depend on their parents financially and return to their parental home for holidays or even on weekends. One may question whether those students have really left the parental home. To take this phenomenon into account, we have estimated another set of rates, including those college students who were living in campus dormitories, and have treated such person as if they were living at home in the periods 1960-70 and 1970-80. The needed data were derived from the Microfile of Public Use Sample Data for the 1960, 1970 and 1980 U.S. censuses. With this alternative definition of leaving the parental home, the curves of the net rates home-leaving schedules are much flatter than the curves based on the census definition of home-leaving. The peak of the curve is at age 19 for both sexes in 1960-70, but the highest rates are spread over ages 19-21 for females and over ages 19-22 for males in the period of 1970-80. The ratio of the sum of the rates within the age range 15-19 to the rates for the whole age interval 15-35 is lower for males and for females in 1970-80 (males: 28 percent; females: 35.5 percent) than in 1960-70 (males: 32 percent; females: 42 percent). It is evident, especially for females, that after the effects of increased college enrollment is controlled, delayed marriage in the 1970s affected the timing of leaving home, i.e., children lived in the parental home longer in the 1970s than in the 1960s. This finding is consistent with the observations made by Hill and Hill (1976) and by Grigsby and McGowan (1986).

Sweden, 1960-80

In Sweden the process of home-leaving in the 1970s was considerably earlier than in the 1960s, especially for males. Comparing the estimates for Sweden in 1975-80 with those in 1965-70, we find that the mean age declined by 2.2 years for males and 1.0 year for females, and the median age fell by 2.8 years for males and 1.1 year for females (Table 1). These reductions were due mainly to the increased prevalence of cohabitation among young people. Persons in such consensual unions usually move out of the parental home, reflecting the increased preference for independence among young people and improved housing conditions in Sweden. As shown by Hoem and Hoem, among women born during 1956-60, almost half reported that they had started a cohabitation union as teenagers. In contrast, somewhat fewer than one in five had entered a marital or consensual union before age 20 among women born during 1936-40 (Hoem and Hoem, 1988, p. 403; Hoem, 1988). Obviously, this tremendous increase in the prevalence of cohabitation, especially consensual unions among teenagers, resulted in earlier departure from the parental home in Sweden.

The Swedish male peak rates of home-leaving shifted from around age 23 in 1960-65 to ages 18 and 19 in 1975-80. In contrast, the peak rates for the females remained at ages 18 and 19 for all the periods analyzed, with generally much lower values in the 1960s; however, the female rates at ages 22-24 in the 1960s were considerably higher than those in the 1970s. The median age at home-leaving for Swedish males (23.8) was more than two and half

years higher than the female median age (21.0) during 1960-75. This large difference was consistent with that observed by Wall (1989). However, the difference in the median ages between males and females during 1975-80 was only about one year, which may be a result of the increased popularity of cohabitation without marriage.

France: 1962-75

Like the shift downward in ages at home-leaving in Sweden from 1960 to 1980, the French curve of home leaving moved to the left between 1962-68 and 1968-75. A French male or female left the parental home about one and a half years earlier on average in 1968-75 than in 1962-68 (Table 1). These estimates are consistent with that found by Bloss et al. (1990) using data from a sample of French women born in 1947 and in 1959. Using sample cohort data, Toulemon (1989) also observed that the first quartile, median and third quartile of age at home-leaving decreased from cohort to cohort. The tendency to leave home at earlier ages in the later period can be explained mainly by the increasing number of young people who moved from the parental home for cohabitation. As reported by Leridon (1990), the proportion of first unions (before reaching age 30) begun outside marriage increased from 20.2 percent in 1968-70 to 33.4 percent in 1974-76 and 66.0 percent in 1983-85. The increased opportunities of higher education and housing availability may also help to explain the earlier pattern of home-leaving in France in 1968-75 than in 1962-68.

The United, France and Sweden compared

As we have already noted, the U.S. censuses exclude college students who are living away from the parental home from the category of children living with parents. In the Swedish and French censuses, however, college students who have a permanent residence registration at home, although living elsewhere, are classified as children living in their parental home. The estimated net rates of leaving home for the United States based on the census definition are therefore not fully comparable with the estimates for Sweden and France. The percentages enrolled in college in Sweden and France are considerably lower than in the United States. Moreover, university dormitories are much less popular in Sweden and France than in the United States. The leaving-home rates for the United States when the alternative definition is used (that is, when college students who are living in dormitories are considered not to have left the parental home) are more nearly comparable to those for Sweden and France. This comparison shows that both females and males in France leave home later than their American counterparts. Before 1975, Swedish males left home considerably later than their U.S. counterparts, the mean age of at home-leaving of Swedish males (1970-75) and French males (1968-75) being 1.2 years and 1.0 year, respectively, higher than that of U.S. males in 1970-80. The later pattern of home leaving in Sweden and France may be due partly to the fact that marriage and labor force entry begin at later ages in Sweden and France than in the United States. Another explanation might be that children had a stronger tendency to seek independence

from their parents in the United States than in Sweden and in France. After 1975, however, the Swedish males and females left the parental home earlier than their U.S. counterparts. This change may be due to the greatly increased popularity of cohabitation before marriage in Sweden. The level of cohabitation in the United States, although is also increased, is still moderate by the Swedish standard.[12] Note that the difference between the male and female mean ages at home-leaving in France was 0.5 year both in 1962-68 and in 1968-75, a differences that was substantially smaller than those in the United States and Sweden. The corresponding figures were 1.2 and 0.7 year for the United States during 1960-70 and 1970-80 and 2.0 and 2.1 for Sweden during 1975-70 and 1970-75. Two explanations may shed light on this puzzle. One is that in the 1960s, the difference in mean age at marriage between males and females in France (2.1 years in 1968) was smaller than that in United States (2.9 years in 1960) and in Sweden (2.9 years in 1965). Another possible explanation is that in the 1960s the difference between male and female rates of university and college enrollment in France was smaller than that in the United States and Sweden[13].

Comparison of East Asian and Western Pattern of Home-Leaving

In Table 2 the large differences in the age pattern of leaving the parental home between the East Asian and the Western countries are evident. The male and the female median ages at home-leaving in the three East Asian countries studied were higher than

those in the three Western countries studied by a margin of 2-3 years. The difference in mean ages between the East Asian and Western countries had more or less the same magnitude as the median ages. The differences between the two groups of the countries in the third quartiles was even larger -- 3.4 to 4.7 years. The proportion leaving the parental home in the East Asian countries is also much lower than in the Western countries. For example, in the 1970s, census figures on the proportion living with parents up to age 40 listed around 15 percent for males and around 14 percent for females in Japan, in contrast to around 5 percent and 4 percent for males and females, respectively, in the United States. The corresponding figures were even higher in China - 23.6 percent and 18.3 percent for males and females, respectively, in 1982.

Clearly, many more adult children continue to live with their parents in East Asian countries than in Western countries, and the Asians who eventually leave their parental homes do so much later than their Western counterparts. These findings are not surprising, given the large differences in the social and cultural traditions and the ethnic ideologies between the East Asian and Western countries. In most Western societies, children leave the parental home either when they get married or when they enter college or the job market before marriage. Almost all young adults in the Western countries demand independence from their parents, and the parents prefer to see their adult children become independent. The parents depend for financial support on their own income or on pensions or social security if they are not able to work anymore. Children are

not normally expected to make financial contributions to their parental households or to support their parents in old age, although they may still have emotional, and possibly financial, connections with their parents even when they no longer live with them. In East Asian societies studied in this paper, however, the prevailing attitudes toward the generational relationships are quite different from those in modern Western societies. Filiation has been one of the cornerstones of East Asian societies for thousands of years and is still highly valued today (Freedman et al. 1982; Kojima, 1990). The philosophical idea of filiation includes children's duty not only to respect older generations but also to contribute financially to their family household and take care of their elderly parents. The East Asian intergenerational relationship may be described as a feedback model, which can be formulated as F1 <——> F2 <——> F3 <——> Fn (where F stands for generation). It means that generation F1 fosters generation F2, generation F2 contributes to the family household consisting of both generations F1 and F2 and takes care of generation F1 when it becomes old; the same relation holds between generations F2 and F3, and so on. In comparison, the Western practice may be described as a continued linear model, which can be formulated as F1 ——> F2 ——> F3 ——> Fn, i.e., generation F1 fosters generation F2 without financial feedback from F2 to F1, and generation F2 fosters generation F3, again without financial feedback from F3 to F2, and so on (Fei, 1983). The East Asian "feedback" model has two-direction flows whereas the Western continued linear model has

basically only a one direction flow. Moreover, many East Asian parents still take care of their children after the children have grown up, by providing financial aid to their adult children when the children need it and looking after their children's children. In contrast, most parents in the Western countries think that their adult children should rely upon themselves rather than upon anybody else. Consequently, in the typical Western family society the adult children leave the parental home much earlier and almost none of them stay in the parental home after marriage. In the East Asian societies, married children do not necessarily leave the parental home after marriage; if they do so, they may live with parents for at least some period of time. This is the reason why such a large difference in the process of home-leaving exist between the two groups of the East Asian and Western countries studied in this paper.

CONCLUDING REMARKS

The iterative intracohort interpolation procedure makes it possible to estimate single-year age-specific rates of leaving the parental home from single-year age-specific census data on proportions of persons in the household who are children or grandchildren of the household heads. Such data can be derived from the Census Microfile Public Use Sample, which is the source we have used in this paper for China, the United States, and South Korea. We compared estimates for the United States and South Korea based on the single-year age-specific data with estimates derived from

interpolated single-year age-specific values by the cubic splines technique based on the five-year age-group data from the census publication. Since the results of the comparison proved to be quite satisfactory, we estimated home-leaving rates for Japan, Sweden and France using published data classified by five-year age-group.

The results of this study are of potential value to the societies and scholars, not only because they show the age pattern and trend in the process of leaving the parental home in each of the six countries studied and demonstrate the large differences between the East Asian and the Western societies, but also because the estimated single-age specific rates of home-leaving can be used for other research purposes, such as simulating or projecting family and household formation (Zeng, 1986).

1. The method extended by Stupp begins by estimating single-year increments in status within each cohort as 1/T times the intercensal increment during the T years between the censuses, and calculate the average increment for all cohorts passing from one age interval to the next between the censuses. The first estimated rates are then adjusted by scaling the rates estimated for each cohort so that they sum to the known cohort overall increment; the re-scaled rates at a given age are then averaged for all cohorts passing through that age to form the next set of estimated rates. Continued iteration of this form of adjustment leads to a set of estimated rates that, when summed over the age range of each cohort, match the recorded total increment of the cohort (Stupp, 1989).

The original method developed by Coale (1985) combines iterative interpolation with an explicit allowance for the changes in status from census to census at each age, an allowance known as "variable r" (r means the age-specific growth rates of status between two censuses).

Both the method extended by Stupp and Coale's original method have recently been applied to an artificially constructed data set where the schedule of fertility and of increments in parity between two points of time are known. The fertility rates for the Chinese population listed for 1981 in the 1/1000 fertility survey have been cumulated to provide parities at each ages. These constructed parities are then assumed to be listed in census five years apart and then the age-specific-fertility rates based on these constructed parities were estimated using the two methods respectively. The true rates which were used to derive the constructed parities are compared with estimates obtained. Both methods give close approximations to the true schedule.

It can also be observed that an age-specific schedule can be very simply calculated from two listings of status (e.g. parity): by chaining the cohort increments in status of cohorts from age a to a+T to a+2T etc., and from age a+1 to a+T+1 to a+2T+1, etc., and differentiating the resultant sequence of cumulated average status by age. In short, chain the appropriate cohort increments, and take differences. The chaining method is valid, however, only if the rates experienced in each age interval are the same for all cohorts that traverse the interval. When, for example, one cohort has very low rates or has underreporting of the status, the chain incorporating its increment will be low, and irregular estimates will result, often including negative figures. After comparative computations, we found that the iterative intracohort interpolation procedures originally developed by Coale and extended by Stupp are much less sensitive to the changing rates during the intercensal period and data errors than the chaining method.

2. The rates of leaving or returning to the parental home are defined as the number of children who leave or return to the parental home at age x, divided by the total population at age x. Thus the net rates of leaving the parental home are the ratios of the difference between the number of children who leave home at age x and the number of children who return home at age x to the total population at age x.

3. We used the estimated net rates of leaving home for South Korea during 1960-66 (denoted as $n(x)$) as the starting point of the simulation. We assume that a certain percentage of those who left home will return (denoted as C) and that the basic age schedule of the rates of returning home is two years later than the net rates age schedule. We denote the total net rates of leaving home as T ($T= \sum n(x)$), the rates of returning home as $r(x)$, and the one-direction leaving home rates as $l(x)$, so that $r(x) = (n(x+2)/T)*C$; $l(x)=n(x)+r(x)$. We did 50 simulations with various assumption about the values of C (percentage of those who left home and would return) from 2 percent to 100 percent. We compute the mean age of net rates of leaving home and the mean age of the constructed rates of one-direction rates of leaving home. The results show that using the net rates instead of the one-direction rates of leaving home will slightly underestimate the real mean age at leaving home. The larger the percentage of those who return after leaving, the higher underestimate. In this example using the South Korean net rates, if 2, 20, 40, 60, 80 and 100 percent of those who leave home eventually return, the underestimates are 0.15, 1.22, 2.08, 2.72, 3.21 and 3.60 percent of the true values of the mean age at leaving home, respectively; the underestimates are 0.16, 0.58, 1.89, 2.79, 3.46 and 3.97 percent of the true values of the median age at leaving home, respectively.

Using data from the U.S. National Longitudinal Study of the High School Class of 1972, Goldscheider and DaVanzo have reported that 14 percent of the unmarried who lived away from home at time 1 returned by time 2, while 6 percent of the married who had been away returned home (the periods between time 1 and 2 are two to four years) (DaVanzo and Goldscheider, 1990, p. 247). Young found that among interviewed persons aged 18-34 in Australia in 1982, about 48 percent of the men and 39 percent of the women had returned home at least once within 10 years after leaving (Young, 1989, p. 170). If the levels of returning home in the six countries are more or less of the same magnitude as observed in U.S. and Australia, the underestimate of the mean age at leaving home by using the net rates presented in this paper is probably less than 1.5 percent.

4. The In-Depth Fertility Surveys were conducted in Hebei, Shannxi, and Shanghai in April 1985 and in Beijing, Liaoning, Shangdong, Guangdong, Guizhou, and Gansu provinces in April 1987 by the State Statistical Bureau of China, with technical assistance from the Research Centre of the International Statistical Institute. These

representative fertility surveys covered a total population of 329 million. (SSB, 1986, 1988).

5. University and college enrollment ratios (%) for males and females at ages 20-24, China, Japan, and South Korea

Country	Year	Males	Females
Japan	1965	19.52	6.28
	1970	24.48	9.56
	1980	40.60	20.20
Korea	1960	7.81	1.59
	1975	14.60	5.90
	1980	23.00	8.10
China	1980	2.00	0.60

Sources: UNESCO (1975, 1990)

6. All of the estimates presented in the text of this paper are based on the assumption that the married women who live in their husband's parental home are still defined as "children living with parents". This is reasonable since they do live with their parents-in-law. However, one may consider the event of leaving one's own parental home but joining the husband's parental home as one of the turning points in the life course. Therefore, we estimated another set of rates based on the alternative definition: the events of transferring from own parental home to husbands' parental home are treated as "leaving home". The estimated median and mean ages of the schedules of the net rates of leaving home under such alternative definition are 20.6 and 19.6 in 1960-66, and 21.7 and 20.7 in 1975-80 in South Korea, which are two to four years earlier than those estimates presented in the text (ref. Table 1) under the standard definition.

7. In South Korea, the mean ages at first marriage were 27.3 for males and 24.1 for females in 1980 (U.N., 1988).

8. Because the censuses were not taken in the same year in different countries, we can make the comparison only by using the estimates for intercensal periods as close to one and other as possible. For example, we compare China in 1982-87, South Korea in 1975-80 and Japan in 1970-80 here.

9. According to vital statistics, the U.S. females married 2.7, 2.9, 2.2, and 1.9 years earlier than males in 1950, 1960, 1970, and 1980 respectively.

10. University and college enrollment ratios among young males and females of ages 20-24 were 13.3, 74.6, and 180 percent higher in

1980 than in 1970, 1960 and 1950, respectively (UNESCO, 1975, 1990).

11. In the united States the mean age at first marriage for males in 1980 was 1.4 and 0.8 years higher, respectively, than in 1970 and 1960. The mean age at first marriage for females in 1980 was higher by 1.7 and 1.8 years, respectively, than it had been in 1970 and 1960.

12. Using data from the National Survey of Families and Households of the United States, Bumpass and Sweet (1989) reported that the life table estimates of ever-cohabited males increased from 8 percent for the 1940-44 birth cohort to 33 percent for 1960-64 birth cohort, and ever-cohabitated females increased from 3 percent of the 1940-44 cohort to 47 percent of the 1960-64 birth cohort. However, the proportion of Swedish women who started their first union as cohabitant were 44, 58, 82, 93 and 97 percent for the 1936-40, 1941-45, 1946-50, 1951-55 and 1956-60 birth cohorts, respectively (Hoem, 1988).

13. In 1960 the ratio of university and college enrollment for French males was 40.7 percent higher than that for French females, but the U.S. and Swedish rates for males were 68.9 and 73.7 percent higher, respectively, than the female rates. However, it should also be noted that the difference between the male and female university and college enrollment ratios in the United States was reduced to a great extent in 1970s. The male ratio was 26.2 percent higher than the female ratio in 1970 but in 1980 had become lower than the female ratio by 7.1 percent (UNESCO, 1975, 1990).

Acknowledgments

References

Arthur, W. Brian, and J. W. Vaupel. 1984. Some general relationships in population dynamics. <u>Population Index</u>, Vol. 50: 214-226.

Bloss, T., A. Frickey, and F. Godard. 1990. Cohabiting, decohabiting, and recohabiting: The routes followed by two generations of women. (Cohabiter, decohabiter, recohabiter: itineraires de deux generations de femmes. <u>Revue Francaise de Sociologie</u>, Vol. 31, No. 4, Oct.-Dec. 1990.

Bumpass, L., and J. Sweet. 1989. National estimates of cohabitation: Cohort levels and union stability. NSFH (National Survey of Families and Household) working paper No. 2. Madison: Center for Demography and Ecology, University of Wisconsin.

De Boor, Car. 1978. A practical guide to splines. New york: Springer-Verlag.

Coale, Ansley J. 1984a. Life table construction on the basis of two enumerations of a closed population. <u>Population Index</u>, Vol. 50: 193-213.

Coale, Ansley J. 1984b. Rapid population change in China, 1952-1982. Committee on Population and Demography, National Research Council, Report No. 27. Washington, D.C.: National Academy Press.

Coale, Ansley J. 1985. An extension and simplification of a new synthesis of age structure and growth. <u>Asian and Pacific Forum</u>. Vol. 12: 5-8.

Coale, Ansley J., J. Meredith, and T. Richards. 1985. Calculation of age-specific fertility schedules from tabulations of parity in two censuses. Demography, Vol. 22: 611-623.

DaVanzo, J. and F. Kobrin Goldscheider, 1990. Coming home again: returns to the parental home of young adults. Population Studies, Vol. 44: 241-255.

Fei Xiaotong. 1983. Problem of providing for the senile in the changing family structure. Journal of Peking University (philosophy and social sciences), no. 3, 1983, pp. 6-15. (in Chinese).

Freedman, R., Ming-Cheng Chang, and Te-Hsiung Sun. 1982. Household composition, extended kinship, and reproduction in Taiwan: 1973-1980. Population Studies, Vol. 36: 395-411.

Goldscheider, F. Kobrin, and J. DaVanzo, 1985. Living arrangements and the transition to adulthood. Demography, Vol. 22: 545-563.

Goldscheider, F. Kobrin, and J. DaVanzo, 1989. Pathways to independent living in early adulthood; Marriage, semiautonomy, and premarital residential independence. Demography, Vol. 26: 597-614.

Goldscheider, F. Kobrin, and Celine Leboardais, 1986. The falling age at leaving home, 1920-1979. Sociology and Social Research, Vol. 70: 99-102.

Grigsby J. and J. B. McGowan. 1986. Still in the nest: Adult children living with their parents. Sociology and Social Research, Vol. 70: 146-148.

Kojima, Hiroshi. 1990. Correlates of post-nuptial coresidence in Japan. Institute of Population Problems Working Paper Series, No. 4, Sept..

Hill, Daniel and M. Hill. 1976. Older children and splitting off. In G. J. Duncan and J. N. Morgan (eds.), Five American Families: patterns of Economic Progress. Ann Arbor: Institute for Social Research, University of Michigan.

Hoem, B. 1988. Early phase of family formation in contemporary Sweden. Paper presented at the Conference on Teenage parenting and the Formation of Independent Households, Chicago, 29-30, April.

Hoem, B. and J. M. Hoem. 1988. The Swedish family: Aspects of contemporary developments. Journal of Family Issues., Vol. 9: 397-424.

IMSL (International Mathematical and Statistical Library), 1984. User's manual of the International Mathematical and Statistical Library, 1984, Edition 9.2.. IMSL Inc. and Princeton University.

Jone-Gierveld, J. and E. Beekink. 1989. Young adults leaving home in reach of independence and freedom. Paper presented at the IUSSP Conference, Session F23, New Delhi.

Keyfitz, N. 1977. Introduction to the Mathematics of Population, With Revisions. Boston: Addison-Wesley.

Kiernan, N., 1986. Leaving home: Living arrangements of young people in six West-European countries. European Journal of Population. Vol. 2: 177-184.

Kiernan, N. 1989. The departure of children. In E. Grebenik, C. Hohn, and R. Mackensen (eds.). Later Phases of the Family Cycle: Demographic Aspects, pp. 120-145. Oxford: Clarendon Press. .

Leridon, H. 1990. Cohabitation, marriage, separation: An analysis of life histories of French cohorts from 1968 to 1985. Population studies, Vol. 44: 127-144.

Mayer, K.U. and K. Schwarz. 1989. The process of leaving the parental home and the precision of the timing of the leaving-home stage. In E. Grebenik, C. Hohn, and R. Mackensen, (eds.), Later Phases of the Family Cycle: Demographic Aspects, pp. 145-164. Oxford: Clarendon Press.

Preston, S. H. and A.J. Coale, 1982. Age structure, growth, attrition, and accession: A new synthesis. Population Index. Vol. 48: 217-259.

SSB (State Statistical Bureau), 1986. Preliminary Report on In-Depth Fertility Surveys in China, Phase One, Beijing: SSB.

SSB (State Statistical Bureau), 1988. Preliminary Report on the Second Phase of China's In-Depth Fertility Surveys. Beijing: SSB.

Stupp. P. W. 1988. A general procedure for estimating intercensal age schedules. Population Index, Vol. 54: 209-234.

Toulemon, L. 1989. Les etapes vers l'age adulte: vers un nouveau status des femmes: histoire des generations nees en France entre 1941 et 1960. International Population Conference of International Union for the Scientific Study of Population, New Delhi, 1989, Vol. 3: 247- 267.

UNESCO (United Nations Educational, Scientific and Cultural Organization), 1975. Statistical Year Book. Paris.

UNESCO (United Nations Educational, Scientific and Cultural Organization), 1990. Statistical Year Book. Paris.

United Nations, Dept. of Economic and Social Affairs, Statistical Office, 1982. Demographic Year Book.

United Nations, Dept. of International Economic and social Affairs, 1988. First Marriage: Pattern and Determinants. New York.

Wall, R., 1978. The age at leaving home. <u>Journal of Family History</u>. Vol. 3: 181-202.

Wall, R. 1989. Leaving home and living alone: an historical perspective. <u>Population Studies</u>. Vol. 43: 369-389.

Young, C.M. 1974. Ages, reasons and sex differences for children leaving home: Observations from survey data for Australia. <u>Journal of Marriage and the Family</u>. Vol. 36: 769-778.

Young, C.M. 1975. Factors associated with timing and duration of the leaving-home stage of the family life cycle. <u>Population Studies</u>, Vol.29: 61-73.

Young, C. M. 1985. Children leaving home: Reasons, dynamics and conflict. Monograph Series, Institute of Family Studies, Melbourne, Australia.

Young, C. M., 1987. Young People leaving home in Australia. Australian Family Formation Monograph no. 9, Department of Demography of the Australian National University.

Young, C.M. 1989. The effect of children returning home on the precision of the timing of the leaving-home stage. In E. Grebenik, C. Hohn, and R. Mackensen, (eds.), Later Phases of the Family Cycle: Demographic Aspects, pp. 164-182. Oxford: Clarendon Press.

Zeng Yi, 1986. The changes in family structure in China: a simulation study. <u>Population and Development Review</u>, Vol. 12, No. 4, pp. 675-703.

Zeng Yi and A. Coale 1990. Age schedules of leaving the parental home. In Zeng Yi, Zhang Chunyuan and Peng Songjian (eds.), Changing Family Structure and Population Aging in China: A Comparative Approach. Beijing: Peking University Press.

Zeng Yi, Li Xiaoli and Ma Zhongdong, 1991. The trend and model schedule of leaving the parental home after marriage in China. International Statistical Institute: Fertility in China. Conference Proceedings. The Hague.

APPENDIX A: The Application of the Cubic Splines

For a compressed discussion of the general procedures expressed in determinantal form for interpolation used in demography, readers are referred to Keyfitz (1977, pp. 223-245). For a more detailed mathematical treatment of the cubic spline interpolation method, readers are referred to de Boor (1978) and the Manual of the International Mathematical and Statistical Library (IMSL, 1984).

Two points regarding our application of the cubic spline method should be clarified.

First, the data by five-year age-group on proportions living in the parental home are not points but the heights of rectangles. The areas of the rectangles can of course be easily computed. As discussed by Keyfitz (1977, p.229), such data can be converted so that they present points by cumulating them, which is to say, dealing with $F(x) = \sum {}_5f_y$, where $F(x)$ is the cumulative value of the function to age x. The values of $F(x)$ are used as the points for the cubic spline interpolation to produce the single-year age-specific cumulative proportion $F(x)$. After this is done, we obtain the single-year age-specific proportion of persons living in the parental home at age x by subtraction, that is,

$${}_1f_x = F(x+1) - F(x)$$

Second, although the routine of IMSL (called IQHSCU, quasi-Hermites procedure: see IMSL, 1984, chapter I) used for the cubic spline interpolation can handle sharp turns in the data, an additional input data point is needed in the age group 15-19, since

few children leave the parental home at ages 15 and 16, whereas many do so at ages 17, 18, and 19. The additional input data point is the average proportion living in the parental home at ages 15 and 16. We obtained this additional piece of data from the Sample Data Files for United States and South Korea. For Sweden, we fortunately have the data at ages 15, 16-17, and 18-19 for 1980 and single-year age-specific data between ages 15 and 29 for 1975. If, however, we have no single-year age-specific data for ages 15 and 16, as is the case for Japan (1965-80), France (1962-75) and Sweden (1960-70), we can simply estimate a proportion for ages 15 and 16 that is close to the proportion for the age group 10-14, since few children leave the parental home at ages 15 and 16.

Appendix B: Estimated net rates of leaving the parental home

China, 1982-87; South Korea, 1960-80; Japan, 1965-80

Age	China Males 82-87	China Females 82-87	South Korea Males 60-66	75-80	South Korea Females 60-66	75-80	Japan Males 65-70	70-80	Japan Females 65-70	70-80
<10	.0000	.0000	.0209	.0020	.0123	.0000	.0009	.0000	.0000	.0000
10	.0000	.0000	.0037	.0005	.0071	.0001	.0000	.0000	.0000	.0000
11	.0001	.0000	.0070	.0008	.0136	.0012	.0000	.0000	.0000	.0000
12	.0009	.0000	.0137	.0017	.0213	.0008	.0000	.0019	.0001	.0001
13	.0002	.0001	.0199	.0037	.0238	.0045	.0002	.0024	.0011	.0002
14	.0000	.0001	.0252	.0097	.0245	.0229	.0084	.0039	.0106	.0024
15	.0001	.0003	.0313	.0224	.0253	.0362	.0382	.0273	.0402	.0222
16	.0012	.0008	.0321	.0256	.0231	.0394	.0815	.0514	.0826	.0410
17	.0018	.0044	.0268	.0204	.0226	.0341	.1434	.0944	.1253	.0661
18	.0055	.0156	.0197	.0188	.0277	.0348	.0875	.0854	.0639	.0528
19	.0123	.0375	.0163	.0180	.0394	.0412	.0346	.0525	.0236	.0377
20	.0219	.0604	.0173	.0187	.0572	.0538	.0208	.0362	.0167	.0365
21	.0456	.0782	.0209	.0262	.0744	.0710	.0171	.0296	.0197	.0418
22	.0788	.0947	.0244	.0419	.0878	.0878	.0151	.0256	.0274	.0479
23	.0909	.0996	.0316	.0608	.0895	.1024	.0216	.0235	.0524	.0544
24	.0857	.0927	.0502	.0857	.0744	.0962	.0384	.0225	.0904	.0585
25	.0890	.0828	.0739	.1101	.0561	.0728	.0486	.0232	.0908	.0575
26	.0879	.0680	.0853	.1143	.0428	.0519	.0457	.0223	.0639	.0461
27	.0712	.0466	.0768	.1033	.0334	.0369	.0419	.0222	.0426	.0341
28	.0534	.0322	.0623	.0891	.0282	.0268	.0389	.0291	.0283	.0299
29	.0427	.0229	.0485	.0690	.0256	.0213	.0356	.0390	.0199	.0275
30	.0320	.0176	.0378	.0490	.0233	.0179	.0317	.0391	.0168	.0230
31	.0215	.0137	.0298	.0360	.0217	.0153	.0279	.0319	.0166	.0188
32	.0145	.0081	.0233	.0275	.0199	.0144	.0246	.0253	.0171	.0156
33	.0135	.0055	.0197	.0208	.0193	.0137	.0215	.0193	.0181	.0124
34	.0123	.0062	.0200	.0167	.0190	.0134	.0185	.0138	.0186	.0092
35	.0095	.0065	.0232	.0165	.0172	.0136	.0162	.0093	.0175	.0067
36	.0079	.0068	.0240	.0162	.0147	.0120	.0150	.0071	.0158	.0058
37	.0081	.0074	.0232	.0141	.0129	.0094	.0144	.0069	.0145	.0067
38	.0082	.0062	.0234	.0136	.0142	.0086	.0139	.0082	.0144	.0091
39	.0078	.0070	.0221	.0142	.0138	.0126	.0139	.0103	.0153	.0124
tot	.8245	.8219	.9628	1.069	.9957	.9706	.9274	.7729	.9761	.7860

United States, 1950-80; France, 1962-75

	The United States						France			
	Males			Females			Males		Females	
Age	50-60	60-70	70-80	50-60	60-70	70-80	62-68	68-75	62-68	68-75
<15	.0556	.0420	.0410	.0620	.0475	.0470	.0201	.0396	.0270	.0385
15	.0019	.0011	.0040	.0092	.0033	.0046	.0061	.0132	.0000	.0003
16	.0193	.0133	.0247	.0512	.0308	.0306	.0148	.0123	.0023	.0058
17	.1063	.0895	.0848	.1393	.1348	.1129	.0128	.0235	.0166	.0370
18	.1639	.1820	.1584	.1880	.2079	.1906	.0189	.0470	.0256	.0707
19	.1147	.1506	.1336	.1294	.1453	.1398	.0338	.0826	.0444	.1035
20	.0812	.0995	.0951	.0901	.0969	.1028	.0666	.1249	.0837	.1361
21	.0690	.0706	.0728	.0677	.0681	.0837	.0936	.1316	.1102	.1392
22	.0678	.0610	.0612	.0504	.0511	.0640	.1031	.1121	.1161	.1218
23	.0631	.0512	.0593	.0389	.0379	.0494	.1062	.0908	.1201	.1026
24	.0513	.0395	.0461	.0336	.0270	.0332	.0979	.0677	.1080	.0727
25	.0427	.0358	.0373	.0276	.0219	.0185	.0782	.0459	.0789	.0428
26	.0372	.0309	.0317	.0207	.0183	.0114	.0610	.0345	.0576	.0280
27	.0305	.0193	.0182	.0154	.0115	.0089	.0518	.0317	.0461	.0231
28	.0245	.0144	.0123	.0121	.0083	.0068	.0450	.0311	.0377	.0220
29	.0194	.0140	.0075	.0105	.0081	.0057	.0345	.0257	.0261	.0178
30	.0141	.0131	.0059	.0087	.0053	.0056	.0232	.0175	.0152	.0112
31	.0107	.0125	.0078	.0072	.0037	.0071	.0183	.0139	.0110	.0086
32	.0088	.0061	.0043	.0069	.0051	.0053	.0179	.0132	.0118	.0098
33	.0084	.0035	.0036	.0068	.0060	.0043	.0181	.0122	.0135	.0108
34	.0090	.0080	.0063	.0060	.0011	.0013	.0158	.0098	.0121	.0086
35	.0058	.0046	.0050	.0032	.0073	.0057	.0117	.0074	.0088	.0055
tot	1.005	.9625	.9209	.9850	.9470	.9400	.9580	.9880	0.973	1.016

Sweden, 1960-80

	Males				Females			
	60-65	65-70	70-75	75-80	60-65	65-70	70-75	75-80
<15	.0225	.0322	.0305	.0315	.0233	.0327	.0308	.0140
15	.0012	.0019	.0014	.0065	.0059	.0033	.0044	.0025
16	.0064	.0080	.0094	.0357	.0363	.0254	.0347	.0336
17	.0247	.0195	.0253	.0716	.0746	.0681	.0948	.0884
18	.0453	.0482	.0544	.1251	.0310	.1550	.1661	.1908
19	.0599	.0715	.0801	.1276	.1321	.1664	.1761	.2069
20	.0680	.0954	.1100	.1048	.1073	.1239	.1411	.1471
21	.0902	.1139	.1320	.0971	.0996	.1033	.1135	.1062
22	.1051	.1156	.1310	.0933	.0968	.0971	.0951	.0723
23	.1123	.1135	.1181	.0839	.0881	.0912	.0756	.0522
24	.1094	.1070	.0931	.0650	.0683	.0739	.0525	.0350
25	.0883	.0847	.0654	.0396	.0408	.0427	.0306	.0238
26	.0672	.0623	.0489	.0243	.0245	.0231	.0187	.0157
27	.0537	.0475	.0399	.0184	.0184	.0159	.0138	.0101
28	.0414	.0345	.0321	.0149	.0148	.0121	.0109	.0070
29	.0288	.0220	.0230	.0118	.0117	.0089	.0086	.0057
30	.0192	.0134	.0135	.0092	.0092	.0064	.0062	.0038
31	.0150	.0098	.0081	.0073	.0073	.0047	.0042	.0023
32	.0147	.0093	.0067	.0062	.0062	.0037	.0030	.0022
33	.0170	.0110	.0074	.0057	.0057	.0032	.0024	.0024
34	.0185	.0124	.0081	.0060	.0060	.0032	.0024	.0020
35	.0123	.0083	.0045	.0064	.0064	.0042	.0033	.0016
tot	1.021	1.042	1.043	.9740	1.014	1.068	1.089	1.031

Table 1. Median, mean, first and the third quartile age of the
schedule of the net rates of leaving home

Country	Males				Females			
period	C25	Median	C75	Mean	C25	Median	C75	Mean
China								
1982-87	23.4	25.8	28.5	26.4	22.1	24.2	26.7	24.9
Japan								
1965-70	17.6	23.2	29.0	23.7	17.8	24.1	27.3	23.7
1970-80	18.0	21.7	29.4	23.5	19.1	23.6	27.4	23.8
South Korea								
1960-66	20.9	26.4	30.2	25.5	20.0	23.3	27.4	23.6
1975-80	23.9	26.6	29.4	26.5	20.4	23.5	26.5	23.9
U.S.A. (census definition)								
1950-60	18.4	20.5	24.2	21.2	17.9	19.3	22.0	20.0
1960-70	18.5	20.0	23.2	20.9	18.1	19.3	21.6	19.9
1970-80	18.5	20.1	23.3	20.8	18.2	19.6	21.9	20.0
U.S.A. (alternative definition)								
1960-70	19.3	21.2	23.9	21.7	18.7	20.3	22.4	20.5
1970-80	19.4	21.5	23.9	21.6	19.0	20.8	22.7	20.9
Sweden								
1960-65	21.3	23.8	26.5	23.5	18.9	21.0	23.6	21.4
1965-70	20.8	23.1	25.6	23.2	18.9	20.7	23.3	21.1
1970-75	20.5	22.6	25.0	22.8	18.6	20.3	22.6	20.7
1975-80	18.9	21.0	23.7	21.6	18.6	19.9	21.8	20.4
France								
1962-68	21.6	23.9	26.9	24.2	21.4	23.5	26.0	23.7
1968-75	20.2	22.2	24.9	22.6	20.0	21.8	24.1	22.1

Table 2. Median, mean, first quartile and the third quartile age of schedules of net rates of leaving home: three East Asian and the three Western countries compared

|	Males				Females			
	C25	Median	C75	Mean	C25	Median	C75	Mean
(1). Two Asian countries (1960-70)[a]	19.3	24.8	29.6	24.6	18.9	23.7	27.4	23.7
(2). Three Western countries (1960-70)[b]	20.7	22.9	25.6	23.1	19.7	21.6	24.0	21.8
Difference between (1) and (2)	-1.4	1.9	4.0	1.5	-0.8	2.1	3.4	1.9
(3). Three Asian countries (1970-87)[c]	21.8	24.7	29.1	25.5	20.5	23.8	26.9	24.2
(4). Three Western Countries (1968-80)[d]	19.8	21.8	24.4	22.1	19.2	20.9	23.0	21.2
Difference between (3) and (4)	2.0	2.9	4.7	3.4	1.3	2.9	3.9	3.0

a. Average for South Korea (1960-66) and Japan (1965-70).
b. Average for the United States (1960-70), Sweden (1960-70) and France (1962-68).
c. Average of China (1982-87), South Korea (1975-80) and Japan (1970-80).
d. Average for the United States (1970-80), Sweden (1970-80) and France (1968-75).

Figure 1. Comparison between the estimated net rates of leaving home derived
from the original single-year age-specific data and the ones derived
from interpolated single-year age-specific data by the cubic splines based
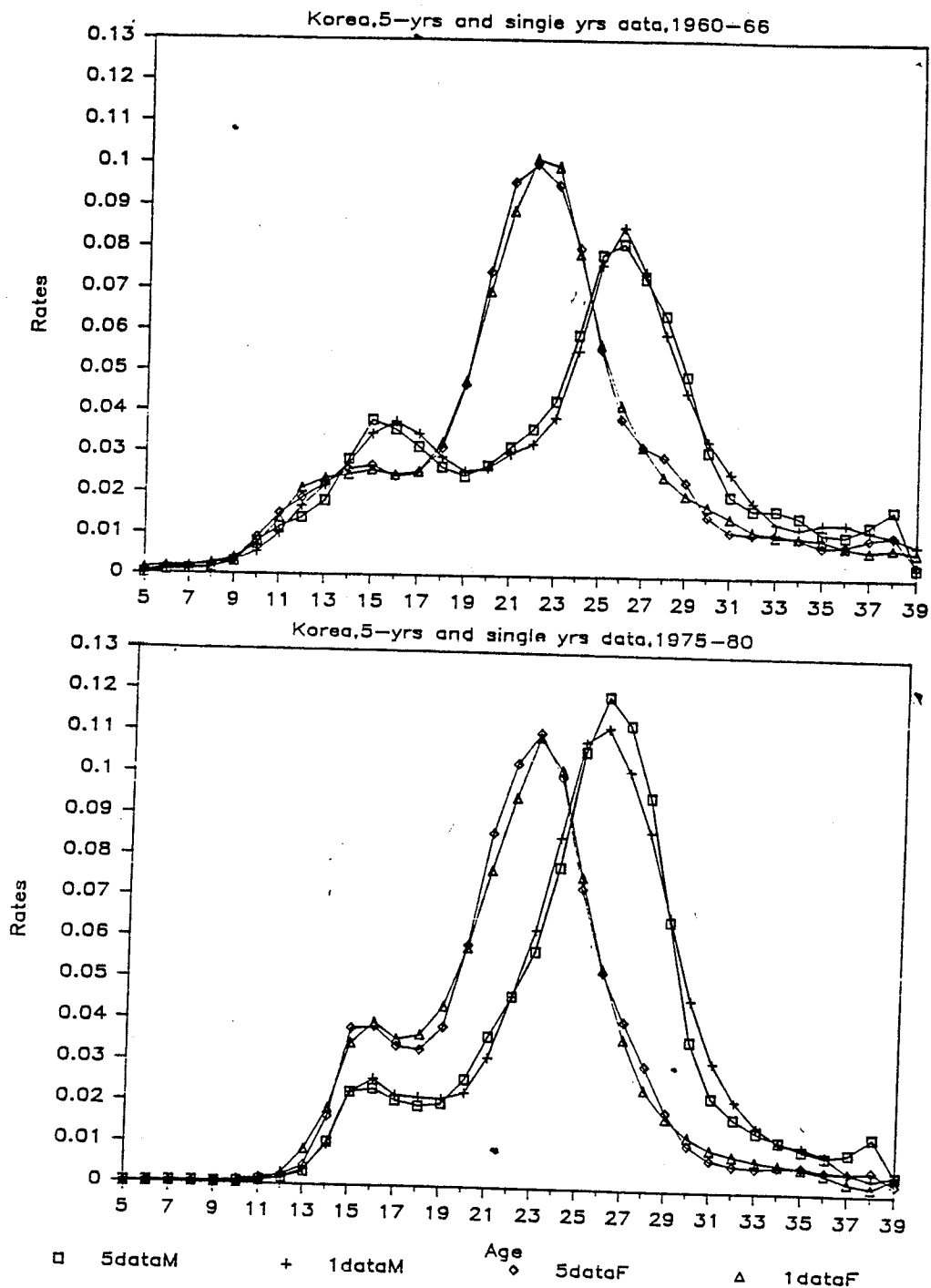on the five-year age-specific data, U.S.A. 1970-80
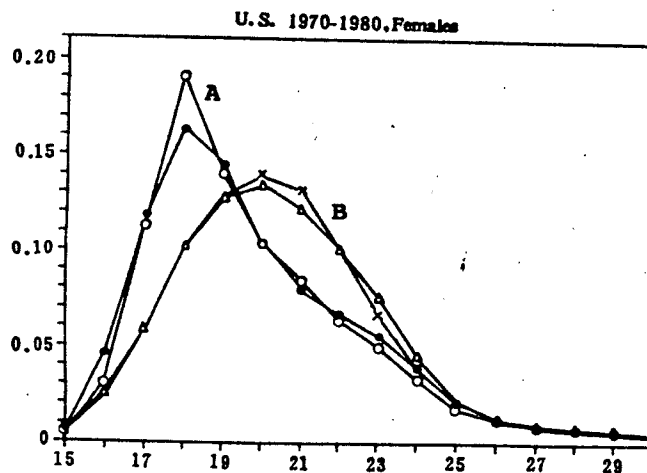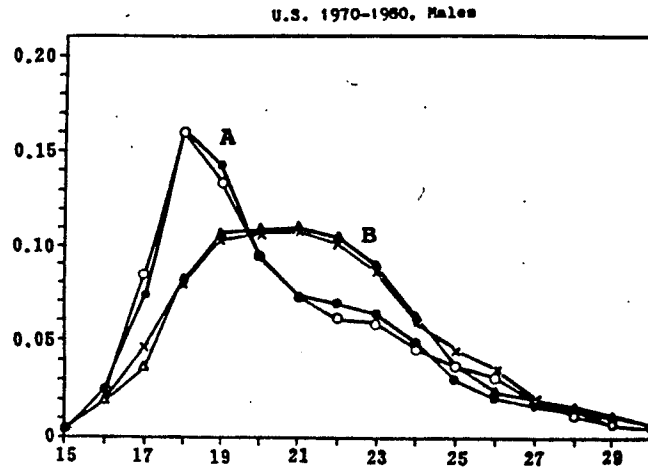
Notes:
A (Census definition)
    o: Estimates derived from the single-year age-specific data
    ●: Estimates derived from the five-year age-specific data

B (alternative definition)
    x: Estimates derived from the single-year age-specific data
    Δ: Estimates derived from the five-year age-specific data
                                    A (census definition: students in school
dormitories are considered to have left home.) B (alternative
definition: students in school dormitories are considered not to have
left home.)

Figure 2. Comparison between the estimated net rates of leaving home derived
from the original single-year age-specific data and the ones derived
from interpolated single-year age-specific data by the cubic splines based
on the five-year age-specific data, Korea 19760-66

Notes:
+ 1dataM Estimates derived from the single-year age-specific data, Males
□ 5dataM Estimates derived from the five-year age-specific data, Males
△ 1dataF Estimates derived from the single-year age-specific data, Females
◊ 5dataF Estimates derived from the five-year age-specific data, Females

Figure 3.   Comparison of the estimated
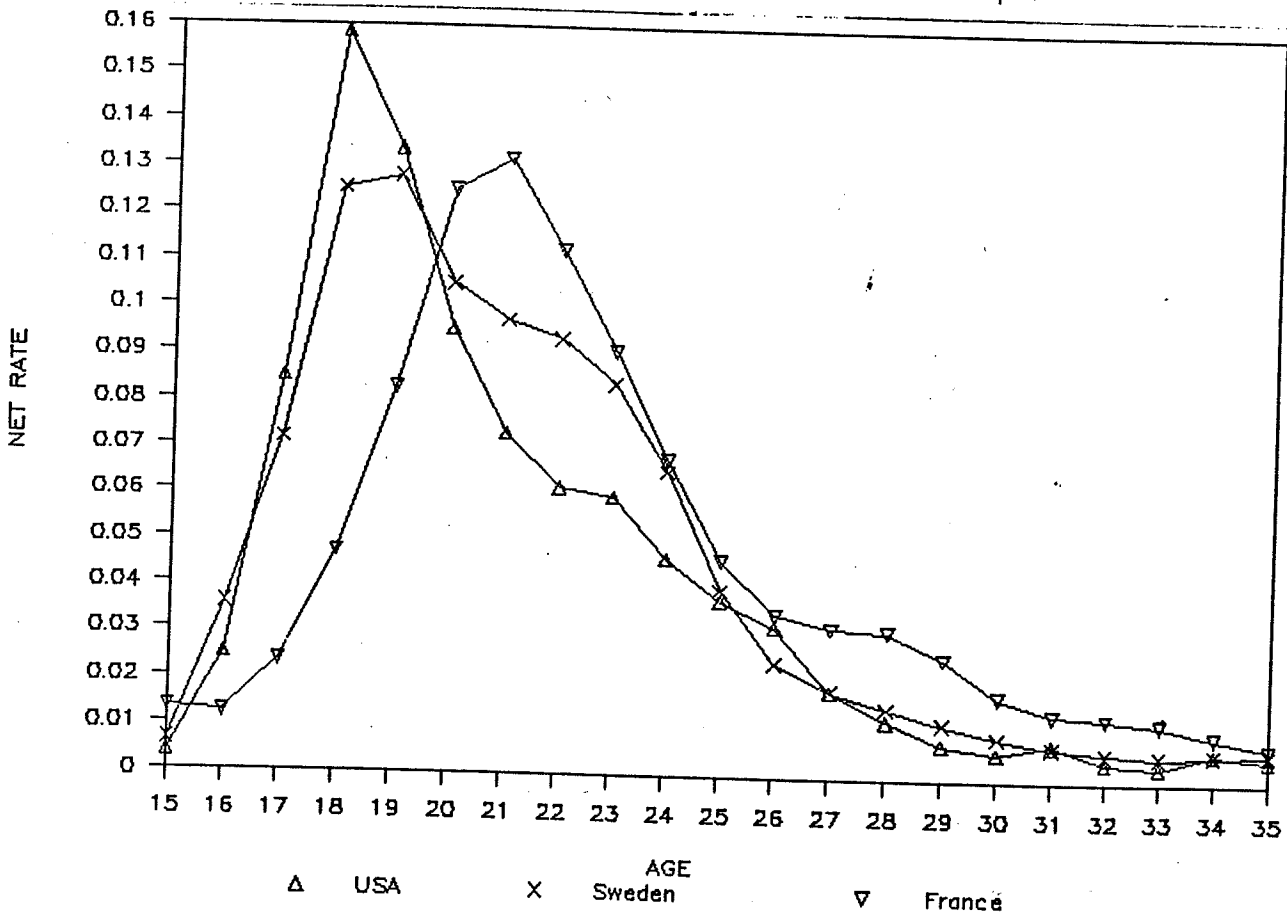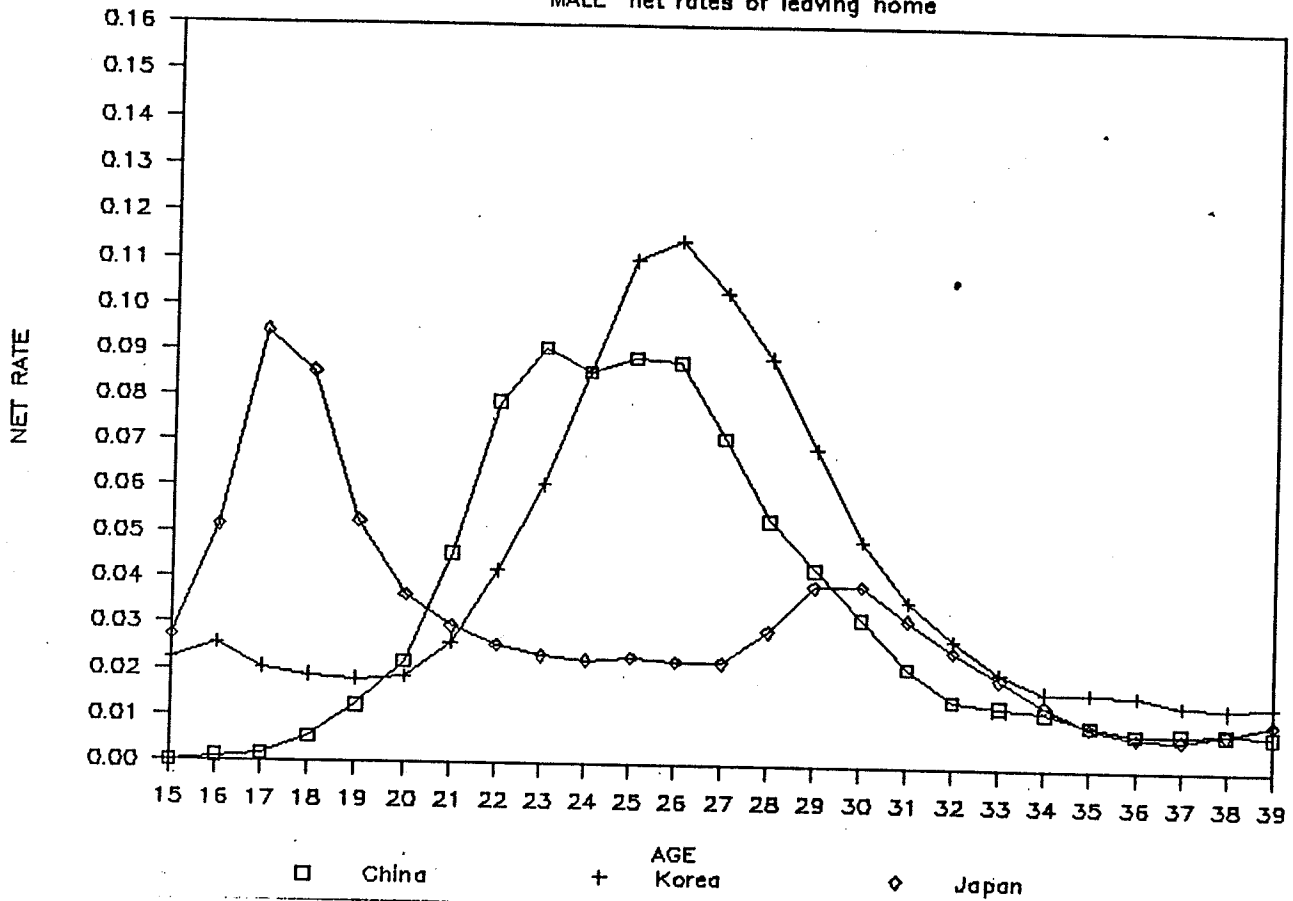### MALE net rates of leaving home

Figure 4.   Comparison of the estimated
FEMALE net rates of leaving home