Marital Dissolution in Japan - Recent Trends and Patterns

September 14, 2004

James M. Raymo[1]

Miho Iwasawa[2]

Larry Bumpass[1]

1: University of Wisconsin-Madison, Department of Sociology

2: National Institute of Population and Social Security Research, Tokyo

Abstract

Existing research on recent trends in divorce in Japan is extremely limited. In this paper, we use available data from the Japanese vital statistics and census to describe trends in the experience of marital dissolution across the life course and to examine trends in educational differentials in the prevalence of divorce. Cumulative probabilities of marital dissolution for real and synthetic marriage cohorts show that divorce has increased rapidly over the past twenty years, with roughly one-third of Japanese marriages now expected to end in divorce. Estimates of educational differentials in the prevalence of divorce also indicate a rapid increase in the extent to which divorce is concentrated among those with lower levels of education. Educational differentials were negligible in the 1980 census but women with a high school degree or less are far more likely than their more highly educated counterparts to be divorced in the 2000 census.

Introduction

Over the past 30-40 years, substantial changes in family behavior and organization of the life course have occurred in all industrialized countries. Often characterized as the "second demographic transition," these changes include: (a) delayed marriage and fertility, (b) increasing cohabitation, divorce, and non-marital childbearing, and (c) increasing maternal employment (Lesthaeghe 1995; McLanahan 2004). Theoretical explanations for these changes have focused on increasing economic opportunities for women, increasing consumption aspirations, declining economic prospects for men, as well as increasing secularization and growing emphasis on individual fulfillment (Lesthaeghe 1998). Key empirical features of these family changes include substantial socioeconomic and regional variation. For example, in her recent presidential address to the Population Association of America, Sara McLanahan (2004) argued that patterns of family change are following two different paths. Changes with favorable implications for children (e.g., later marriage, delayed childbearing, maternal employment) are increasingly prevalent among women with greater socioeconomic resources whereas changes with unfavorable outcomes for children (e.g., divorce, non-marital childbearing) are increasingly prevalent among women with fewer socioeconomic resources. While McLanahan (2004) emphasized the similarity of socioeconomic differentials across a wide range of western industrialized countries, it is also clear that there is considerable variation across countries in the pace and the nature of family changes (Lesthaeghe 1995; Lesthaeghe and Moors 2000).

In comparative studies, Japan stands out as one setting in which some family changes associated with the second demographic transition have been particularly rapid while others have been slow to emerge. Very early transition to below replacement fertility (1975) and very late age at marriage place Japan at the forefront of the second demographic transition while other

family behaviors such as cohabitation and non-marital childbearing have been very slow to emerge (e.g., Thomson 2003). Other changes, such as increases in maternal labor force participation and divorce, have occurred but appear to remain at lower levels than in most other low-fertility societies (Tsuya and Bumpass 2004). This distinctive pattern of family change in Japan presumably reflects tension between the social and economic forces of change noted above and the continued strength of family forms and family values very different from those in most western societies (e.g., Mason, Tsuya, and Choe 1998). Previous studies of demographic change in Japan have linked trends in marriage and fertility to relatively universal social and economic forces of change including increasing educational attainment, increasing economic opportunities for women, increasing consumption aspirations, and more tolerant attitudes toward formerly "deviant" family behaviors such as late marriage and maternal employment (Raymo 2003; Retherford, Ogawa, and Matsukura 2001; Tsuya and Mason 1995). At the same time, however, other family changes such as cohabitation and non-marital fertility have yet to emerge despite rapid socioeconomic and normative change. One possible explanation is that increase in individualistic attitudes, central to theoretical explanations of the second demographic transition but not yet apparent in Japan (Atoh 2001), is more important for particular components of family change than for others.

In this paper, we focus on recent trends and socioeconomic differentials in divorce. Despite clear evidence that divorce has increased in recent years, research on divorce in Japan is extremely limited. Existing analyses of divorce in Japan are largely limited to descriptions of trends in crude rates. Furthermore, almost nothing is known about the correlates of divorce in Japan, trends in socioeconomic differentials in divorce, or how these differentials compare to those observed in other societies. We draw upon several sources of data to begin filling this

major gap in both the literature on family change in Japan and international research on divorce. Using vital statistics data, we describe divorce trajectories for real and synthetic marriage cohorts. These figures provide a clear picture of the extent to which divorce has increased over time and allow for comparisons with other industrialized countries. Using census data, we examine educational differentials in the prevalence of divorce and describe how these differentials have changed over time. Results of these analyses enable us to assess the extent to which the increasing socioeconomic differentials in divorce observed in other low-fertility societies (McLanahan 2004) are also observed in Japan. Before presenting these results, we provide a brief background on family change in Japan and existing scholarship on divorce.

Background

Figure 1 presents trends in the crude divorce rate in Japan between 1965 and 2002. For comparative purposes, we also include recent figures for several other low-fertility, industrialized societies. Following steady increases throughout the 1990s, Japan's crude divorce rate reached 2.3 in 2002, a level similar to most industrialized countries other than the U.S. This figure is also much higher than in Italy and Spain, two European countries with which Japan shares many other demographic similarities (Lesthaeghe and Moors 2000). As in the U.S., rapid increases in divorce suggest a major restructuring of the family life course in Japan. Indeed, the prevalence of extended family residence (Rindfuss, Choe, Bumpass, and Byun 2004), the importance of family provided care (Ogawa and Retherford 1997), and married women's relatively tenuous attachment to the labor force (Brinton 2001) suggest that rising divorce rates may have even more profound implications for women and families in Japan than in the U.S. and other high-divorce societies.

As a non-western society characterized by a family history and patterns of family change that are very different than observed in most other industrialized countries, Japan is also an interesting case with which to assess the generality of McLanahan's (2004) description of growing socioeconomic differentials in family outcomes associated with the second demographic transitions. Our expectations are ambiguous. On the one hand, the homogeneity of the family life course in Japan's recent past (Brinton 1992) leads us to expect rather limited socioeconomic differentials in divorce. These expectations are strengthened by the fact that other family changes such as fertility reduction in the 1950s and more recent trends toward later and less marriage have occurred rapidly across all social strata (Hodge and Ogawa 1992; Raymo 2003), while other features of the second demographic transition such as cohabitation and non-marital childbearing remain uncommon among all social strata. On the other hand, we have also found a growing socioeconomic bifurcation in the experience of bridal pregnancy, an increasingly common pathway to family formation (Raymo and Iwasawa 2004). Similar to the relationships between educational attainment and non-marital fertility described by McLanahan (2004), it is clear that Japanese women with lower levels of education are increasingly likely to marry while pregnant relative to their more educated counterparts. Finding a similar pattern with respect to divorce would provide further evidence of a decline in the very homogeneous family life course in Japan and would suggest that, as in other industrialized countries, patterns of family change associated with the second demographic transition may contribute to increasing socioeconomic stratification. Although the subject of increasing socioeconomic inequality has been much discussed in Japan during recent years (Sato 2000; Tachibanaki 2001), very little attention has been paid to the potential role of growing socioeconomic differentials in family behavior.

Indeed, there is very little academic research on divorce at all. Existing work is limited to descriptions of trends in crude rates by age and sex (e.g., Koyama and Yamamoto 2001), analyses of regional variation in crude rates (Fukurai and Alston 1990; Uchida; Araki, and Murata 1993), and synthetic cohort analyses based on age-specific divorce rates (Beppu 2002, Ikenoue and Takahashi 1994). Data limitations are presumably the primary reason for the scarcity of research on divorce in Japan. Complete marriage histories required to conduct the kinds of analyses common in the U.S. and Western Europe are not available in Japan.[1] This does not mean, however, that we must wait until ideal data are available before beginning to describe the changes currently taking place. Following the long demographic tradition of using limited data to provide meaningful interpretations of family change, our goal in this paper is to use currently available data to extend our understanding of divorce in Japan in several ways. First, we update previous synthetic cohort analyses of divorce by using data from 2002. This is an important extension given the low economic growth, corporate restructuring, and increasing unemployment (Yamagami 2002) that have characterized the 1990s as well as the fact that the crude divorce rate has nearly doubled over this period. Second, we improve upon previous analyses by using marital duration-specific dissolution rates rather than age-specific rates. Because age-specific rates reflect changes in the likelihood of being married at a given age, analyses of divorce based on duration-specific rates are preferable in settings such as Japan where marriage timing has changed rapidly (Raymo 2003). Third, we use data that measure marital duration from the time of coresidence to the time of separation rather than the duration between registration of marriage and registration of divorce. This measure of marital duration is

[1] Marital history data are available from the National Family Relations survey conducted by the Japan Society for Family Sociology and from the Japanese General Social Survey, but both surveys seriously underrepresent divorced respondents.

preferable given that many marriages and divorces are not registered in the year that they occur (Kaneko 2003). Our focus is therefore on the experience of marital dissolution rather than the registration of divorce. Fourth, we present data for both real and synthetic cohorts. We are not aware of any previous analyses of marital dissolution in Japan describing the trajectories of real marriage cohorts. Fifth, we use available census data to begin examining socioeconomic differentials in divorce. In the absence of survey data on the timing of divorce and its correlates, we employ simple methods to provide a rough estimate of educational differentials in the experience of divorce based on census data.

We present these analyses and their results in two sections. In the first, we examine trends and levels in marital dissolution and in the second, we examine educational differentials in the prevalence of divorce.

Trends and levels

We describe trends in marital dissolution by first examining the cumulative probability of dissolution for single-year marriage cohorts beginning in 1980. We then describe recent levels of dissolution by constructing synthetic cohort dissolution trajectories based on duration-specific dissolution rates observed in 2002. All calculations are based on vital statistics data. Data on marital dissolutions come from special tabulations not included in the annual volumes published by the Ministry of Health and Welfare. These tabulations classify all divorces registered in a given year (between 1979 and 2002) by the year in which the marriage began and the year in which the marriage ended. Because roughly 10% of marriages and 30% of divorces are not registered in the year that they occur, it is preferable to classify divorces by the years in which the union began and ended rather than by the years in which marriage and divorce were registered. It is therefore important to use data that allow us to allocate all divorces registered in

a given year back to the year in which the marital dissolution actually occurred. We calculate the number of marital dissolutions by marriage cohort and marital duration by summing all registered divorces in the data by the years in which coresidence began and ended.

Because the earliest marriage cohort in the data is 1979 and the most recent year of data is 2002, we can observe divorces registered up to twenty-three years after they occurred.[2] Of course, it is only for the earliest marriage cohorts that we can observe divorces registered with such a long delay. In fact, for the most recent marriage cohort (2002), we only observed divorces at duration zero which were registered in 2002. Because a large proportion of divorces are registered with delay, it is essential to adjust the number of marital dissolutions upward for more recent marriage cohorts. We take advantage of the fact that patterns of delayed registration have been remarkably stable over time to estimate the number of divorces that have occurred by 2002 but will be registered in 2003 and beyond. To estimate the number of divorces that will be registered in the future, we first calculate the ratio of divorces registered x years after the marriage ended to divorces registered in the year that the marriage ended. We do this for all marriage cohorts and marital durations using information on delayed and on-time registration of divorce between 1979 and 2002. Using the most recently observed ratios, we estimate the number of divorces that will be registered in the future with a given number of years of delay for each marriage cohort at each marital duration. For example, to calculate the number of marital dissolutions occurring at duration 0 in 2002 that were registered with one year delay, we multiply the number of dissolutions at duration 0 in 2002 that were registered in 2002 by the ratio of the

[2] Vital statistics data obviously provide no information on marriages that were dissolved but never officially ended by registration of divorce. If "de facto" divorces are common in Japan, as in the U.S. (Bumpass, Castro Martin, and Sweet 1991), the vital statistics data will understate the incidence of divorce. Furthermore, if there are socioeconomic differentials in the likelihood of registering divorce, the analyses described below may understate or overstate educational differentials in the experience of divorce.

number of dissolutions at duration 0 in 2001 that were registered with one year delay (i.e., in 2002) to those registered in 2001. We then sum across years of delayed registration to estimate the total number of marital dissolutions for each marriage cohort at each marital duration. Comparing numbers estimated in this manner with observed values of divorces registered with delay indicates that this is a very accurate adjustment procedure.

We use similar techniques to construct yearly marriage cohorts. Vital statistics tabulations classify all marriages registered in a given year by the year in which the marriage actually occurred. As with the divorce data, we are thus able to reconstruct annual marriage cohorts by allocating late-registered marriages from the year in which they were registered back to the year in which they occurred.[3] We adjust the size of marriage cohorts upward by estimating marriages that have already occurred but have not yet been registered using the procedure described in the previous paragraph. With yearly counts of marriages and duration-specific numbers of marital dissolutions for each marriage cohort, it is straightforward to calculate the cumulative duration-specific proportions of each marriage cohort to experience marital dissolution. Rearranging cohort and duration-specific dissolution probabilities as year and duration-specific dissolution probabilities allows us to calculate the synthetic cohort cumulative probability of marital dissolution for recent years. Because the earliest marriage cohort in our data is 1979, we can calculate a synthetic cohort divorce trajectory through 23 years of marriage in 2002. For the sake of simplicity, we ignore mortality in these life-table calculations. This simplification is unlikely to affect results given the very low levels of young adult and mid-life mortality in Japan.

[3] We use data on all divorces and marriages. We do not distinguish between first marriages and remarriages.

Figure 2 presents five marital dissolution trajectories. The four solid lines represent the cumulative proportion of marriages that have ended for the 1980, 1985, 1990, and 1995 marriage cohorts. The broken line represents the synthetic cohort dissolution trajectory calculated from duration-specific dissolution probabilities observed in 2002. The rapid increase in marital dissolution is very clear, particularly between the 1985 and 1990 marriage cohorts. The proportion of marriages ending within five years is 50% higher for the 1995 marriage cohort (12%) than for the 1980 marriage cohort (8%). 12% of marriages begun in 1980 and 17% of marriages begun in 1990 dissolved within 10 years. It is clear that the proportion of marriages dissolving within 10 years will be even higher for the 1995 marriage cohort.

The synthetic-cohort trajectory indicates that the level of marital dissolution in Japan is quite similar to that of Western European countries with the highest rates of divorce. The proportion of marriages ending within 10 years is 22% and the proportion ending within 20 is 31%. Comparative figures from Andersson and Philipov (2001) presented in Table 1 indicate that, although levels of marital dissolution in Japan are substantially lower than in the U.S., they are similar to those of Sweden and Germany and much higher than those of Italy and Spain. Even at twenty years duration, the cumulative probability of marital dissolution is substantially higher than the lifetime probability of divorce calculated in the previous marriage table estimates of divorce in Japan (Beppu 2002; Ikenoue and Takahashi 1994). Although we cannot use the duration-specific dissolution figures from the vital statistics data to extend the trajectory beyond 23 years of marital duration, external data sources can be used to make simple extrapolations to 30 years duration (a good indicator of the lifetime probability of divorce). In particular, by drawing upon synthetic cohort studies of divorce in the U.S. and elsewhere, we can calculate a range of values for the ratio of the cumulative proportion divorced by duration 30 to the

cumulative proportion divorced by duration 20. Multiplying the proportion divorced by 20 years in Japan by these ratios provides a range of values for the lifetime probability of divorce in Japan. Figures from the U.S. (1.12) and France (1.3) suggest that the synthetic cohort probability of marriage ending in divorce in Japan is between 34% and 39%. Based on the observed values for durations 21-23, we believe that the actual value is closer to the lower bound.

Educational Differentials

It is extremely important to understand the extent to which this rapid increase in marital dissolution has occurred across the socioeconomic spectrum or is increasingly concentrated among certain groups. As noted above, cross-national studies of family change associated with the second demographic transition indicate that divorce is increasingly concentrated among the less educated (McLanahan 20004). To the extent that economic hardship is associated with marital instability and to the extent that Japanese couples with more limited socioeconomic resources have been most adversely affected by the economic downturn of the 1990s, we expect that recent increases in divorce may be concentrated at the lower end of the socioeconomic spectrum. Unfortunately, however, data required to examine educational differentials in the risk of divorce do not currently exist in Japan. Registration forms for vital statistics do not collect information on educational attainment and data such as the CPS or NSFH which collect respondents' socioeconomic characteristics and marital histories are not currently available in Japan.

Rather than waiting for such data to become available, we believe that it is important to take advantage of the data that are available to begin providing some insights. We therefore use data from the census to describe educational differences in current marital status and to examine how these differentials have changed over time. Examining differentials in current marital status

to shed light on educational differentials in divorce poses two important problems. The first is that current marital status understates the actual amount of divorce because those who have remarried are classified as married. We are thus forced to assume that there are no educational differentials in the likelihood of remarriage. Growing educational differentials in the transition to first marriage in Japan (Raymo 2003) suggest that this assumption may not hold. However, the fact that studies of remarriage in the U.S. and other industrialized societies have typically not found significant educational differentials in remarriage (de Graaf and Kalmijn 2003), suggests that the same may be true in Japan. Regardless, this possibility should be kept in mind when evaluating our results. A second problem is that age-specific educational differentials in current marital status reflect not only educational differentials in divorce but also educational differentials in age at marriage. Because those in lower educational groups marry at younger ages, on average, than those in higher educational groups (Raymo 2003), the length of exposure to divorce is inversely related to educational attainment. We take a simple approach to addressing this problem. Using an external source of data to calculate age-specific mean ages at marriage by educational attainment at roughly the same time as each census, we weight the education-specific ever married populations by the number of years between mean age at first marriage and the census date. This provides an approximation of exposure to the risk of divorce. Dividing the divorced population by this measure of exposure provides an indicator of the exposure-adjusted prevalence of divorce. For each educational group at each census, we are thus able to calculate the number of currently divorced individuals for each person-year of exposure to the risk of divorce.

We begin with tabulations of age and marital status by educational attainment for women in the 1980, 1990, and 2000 census publications. The census contains six categories of

educational attainment: junior high school graduates, high school graduates, junior college/vocational school graduates, university graduates, in school, and never attended school. We do not consider the last two categories given the very small numbers in each and the transient nature of the first category. To calculate education-specific values of mean age at marriage, we use data from the Japanese National Fertility Surveys (JNFS). Conducted every five years by the National Institute of Population and Social Security Research, these surveys provide information on educational attainment and age at marriage for large nationally representative samples of 18-49 year-old women. Measures of mean age at marriage for the 1980 census are calculated from the 1982 JNFS, values for the 1990 census are calculated from pooled data from the 1987 and 1992 JNFS, and values for the 2000 census come from the 1997 JNFS. One limitation of these JNFS data is that information on age at first marriage is only available for women in their first marriage at the time of the survey. Because we are interested in educational differentials rather than in the prevalence of divorce, this is a problem only if the relationship between age at first marriage and the likelihood of marital dissolution differs by educational attainment.

Figure 2 presents education-specific trends in these adjusted measures of the prevalence of divorce for 35-39 year-old women.[4] It is immediately clear that the prevalence of divorce (adjusted for exposure) has increased for all educational groups, especially between 1990 and 2000. Even more striking is the sharp increase in educational differentials. In the 1980 census, there is very little difference in the prevalence of divorce across educational groups. In 1990, there is a slight divergence between women with higher education and those who completed high school and a very large relative increase in the prevalence of divorce among women who did not

[4] The patterns described here are very similar for women in adjacent five-year age-groups.

finish high school. These patterns of divergence between women with and without higher education grew rapidly between 1990 and 2000. In the 2000 census, the exposure-adjusted prevalence of divorced female high school graduates is 1.6 times larger than for university graduates. Among women who did not complete high school, the prevalence of divorce is 2.8 times higher than among college graduates. Trends for this group of women with the lowest levels of education may be discounted given the increasingly small and select nature of this group – in the 2000 census, only 5% of 35-39 year-old women were in this category. However, with high school graduates comprising 51% of women in this age-category, it is clear that there are growing educational differentials in the experience of divorce in Japan.

In addition to the data limitations noted above, there are other caveats with which these figures must be evaluated. First, because the age at first marriage has increased substantially between 1980 and 2000, age at divorce has also increased, thus inflating the prevalence of divorce (i.e., women have had less time to remarry). This makes a difference for evaluating educational differentials only if this change has differed by education. The fact that age at marriage shows an increasingly positive association with educational attainment (Raymo 2003) suggests, however, that if anything, educational differences in trends in age at first marriage (and thus age at divorce) should contribute to a reduction in educational differentials in the prevalence of divorce. Second, it is possible that educational differentials in the likelihood of remarriage following divorce have increased. If highly educated women are increasingly likely to remarry soon after divorce (relative to their less educated counterparts), the patterns depicted in Table 2 would overstate the increase in educational differentials in divorce. We are not aware, however, of any empirical or anecdotal evidence to suggest that this is the case.

In sum, our measurement of trends in educational differentials in divorce rests upon several unverifiable assumptions. As such, we do not place much weight on the specific values presented in Figure 2. Rather, it is the general pattern of change that is important. The very clear trends convince us that the growing educational differentials in divorce are not an artifact of the crude measurement techniques necessitated by data limitations. The ratio of divorced high school graduates to divorced university graduates may be more or less than the 1.6 we calculate but it is surely larger than it was in 1980 and 1990.

Discussion

Very little is known about recent trends in marital dissolution in Japan. It is clear that crude divorce rates increased sharply during the 1990s, but other informative measures of the likelihood of marital dissolution are not available. Furthermore, nothing is known about socioeconomic differentials in divorce. The very homogeneous family life course in Japan and evidence of increasing socioeconomic differentials in family behavior in other industrialized societies heighten our interest in understanding patterns of divorce in Japan. Is divorce increasingly common across socioeconomic strata, as suggested by the limited socioeconomic differentials in fertility trends and changes in marriage timing? Is divorce increasingly concentrated among those with fewer socioeconomic resources, as in other industrialized countries? Our goals in this paper are to use available data to describe trends in the experience of marital dissolution across the life course and to examine trends in educational differentials in the prevalence of divorce.

Cumulative probabilities of marital dissolution for real and synthetic marriage cohorts show that divorce has increased rapidly in Japan. Indeed, our synthetic cohort estimates indicate that roughly one-third of Japanese marriages are expected to end in divorce. This figure is

similar to that observed in most western European countries and very clearly indicates that Japan is no longer a society characterized by low levels of marital dissolution. Rough estimates of educational differentials in the prevalence of divorce indicate that there has been a rapid increase over the past two decades in the extent to which divorce is concentrated among those with lower levels of education. While educational differentials in the prevalence of divorce were negligible in the 1980 census, women with a high school degree or less are far more likely than their more highly educated counterparts to be divorced in the 2000 census. Because some unverifiable assumptions are required to estimate these differentials, it is not the specific figures but rather the general patterns that we wish to emphasize. As in the U.S. and most other industrialized societies, it appears that family changes associated with the second demographic transition may have important implications for social stratification in Japan. Indeed, the economic implications of rising divorce rates for women may be even more pronounced in Japan where married women's attachment to the labor force is far more tenuous than in the U.S. and many European countries. At the same time, however, the prevalence of coresidence with parents following divorce may mitigate the economic implications of divorce for Japanese women and their children.[5] Tabulations of Japanese census data and data from the National Survey of Families and Households indicate that the proportion of 35-39 year old divorced women coresiding with parents is 25% in Japan but only 2% in the U.S.

Finally, we suggest that the sharp increase in marital dissolution, along with the increase in other formerly "deviant" behaviors such as bridal pregnancy and never marrying, suggests the possibility of increases in cohabitation and non-marital fertility. Although it is clear that non-marital fertility remains very low (roughly 2% of all births are to unmarried mothers) and that

[5] Mothers receive custody in roughly 80% of divorces involving children (National Institute of Population and Social Security Research 2004).

cohabitation is far less common than in most other late-marriage societies, data from two recent nationally representative surveys indicate a sharp increase between 2000 and 2004 in the proportion of women reporting that they have ever been in a cohabiting union. Together, these changes suggest that the family forms and family values contributing to the relatively slow pace of change in Japan may be weakening relative to the social and economic forces of change associated with the second demographic transition. At the same time, patterns of spousal relations and intergenerational relationships in Japan continue to differ in important ways from those in most other industrialized countries. An important avenue for subsequent research, as the necessary data become available, is to evaluate linkages between distinctive family patterns in Japan (e.g., high levels of extended family coresidence) and the implications of family behaviors associated with the second demographic transition.

References

Andersson, Gunnar and Dimiter Philipov. 2001. "Life-Table Representations of Family Dynamics in 16 FFS Countries." *MPIDR Working Paper Series.* vol. WP 2001-024, Rostock, Germany: Max-Planck Institute for Demographic Research.

Atoh, Makoto. 2001. "Very Low Fertility in Japan and Value Change Hypotheses." *Review of Population and Social Security Policy* 10:1-21.

Beppu, Motomi. 2002. "An Analysis of the Marriage Life Cycle in Japan Using Multistate Life Tables: 1930, 1955, 1975, and 1995." *Journal of Population Studies* 30:23-40. (in Japanese)

Brinton, Mary C. 1992. "Christmas Cakes and Wedding Cakes: The Social Organization of Japanese Women's Life Course." Pp. 79-107 in *Japanese Social Organization,* edited by Takie S. Lebra. Honolulu, HI: University of Hawaii Press.

Brinton, Mary C. 2001. "Married Women's Labor in East Asian Economies." Pp. 1-37in *Women's Working Lives in East Asia,* edited by Mary C.Brinton. Stanford, CA: Stanford University Press.

Bumpass, Larry L., Martin Teresa Castro, and James A. Sweet. 1991. "The Impact of Family Background and Eary Marital Factors on Marital Disruption." *Journal of Family Issues* 12:22-42.

de Graaf, Paul M. and Matthijs Kalmijn. 2003. "Alternative Routes in the Remarriage Market: Competing-Risk Analyses of Union Formation After Divorce." *Social Forces* 81:1459-98.

Fukurai, Hiroshi and Jon Alston. 1990. "Divorce in Contemporary Japan." *Journal of Biosocial Science* 22:453-464.

Hodge, Robert W. and Naohiro Ogawa. 1991. *Fertility Change in Contemporary Japan.*. Chicago: University of Chicago Press.

Kaneko, Ryuichi. 2003. "Elaboration of the Coale-McNeil Nuptiality Model As the Generalized Log Gamma Distribution: A New Identity and Empirical Enhancements." *Demographic Research* 9:223-262.

Koyama, Yasuyo and Chizuko Yamamoto. 2001. “Trends in Japanese Marriage and Divorce: 1996-1998.” *Journal of Population Problems* 57(3): 53-76. (in Japanese).

Lesthaeghe, Ron. 1998. "On Theory Development and Applications to the Study of Family Formation." *Population and Development Review* 24:1-14.

Lesthaeghe, Ron. 1995. "The Second Demographic Transition—An Interpretation." Pp. 17–62 in *Gender and Family Change in Industrial Countries.* edited by Karen O. Mason and Jensen An-Magrit. Oxford, U.K.: Clarendon Press.

Lesthaeghe, Ron and Guy Moors. 2000. "Recent Trends in Fertility and Household Formation in the Industrialized World." *Review of Population and Social Policy* 9:121-170.

Mason, Karen O., Noriko O. Tsuya, and Minja K. Choe. 1998. "Introduction." Pp. 1-16 in *The Changing Family in Comparative Perspective: Asia and the United States*, edited by Karen O. Mason and Minja K. Choe. Honolulu, HI: University of Hawaii Press.

McLanahan, Sara. 2004. " Diverging Destinies: How Children Fare Under the Second Demographic Transition." Forthcoming in *Demography*.

National Institute of Population and Social Security Research. 2004. *Latest Demographic Statistics*. Tokyo: National Institute of Population and Social Security Research. (in Japanese)

Raymo, James M. 2003. "Educational Attainment and the Transition to First Marriage Among Japanese Women." *Demography* 40:83-103.

Raymo, James M. and Miho Iwasawa. 2004. “Premarital Pregnancy and Spouse Pairing Patterns in Japan: Assessing How Novel Family Behaviors “Fit in” to the Family Formation Process.” Annual Meeting of the Population Association of America, Boston, MA (March).

Retherford, Robert D., Naohiro Ogawa, and Rikiya Matsukura. 2001. "Late Marriage and Less Marriage in Japan." *Population and Development Review* 27:65-102.

Rindfuss, Ronald R.; Choe, Minja Kim; Bumpass, Larry L., and Byun, Yong-Chan. 2004. “Intergenerational Relations.” Pp. 54-75 in *Marrriage, Work, and Family Life in Comparative Perspective: Japan, South Korea, and the United States*, edited by Noriko O. Tsuya and Larry L. Bumpass. Honolulu, HI: East-West Center.

Sato, Toshiki. 2000. *Unequal Japan*. Tokyo: Chuo Koron Shinsha. (in Japanese)

Tachibanaki, Toshiaki. 2001. *Economic Inequality in Japan*. Tokyo: Iwanami Shoten. (in Japanese).

Thomson, Elizabeth. 2003. “Partnerships & Parenthood: A Comparative View of Cohabitation, Marriage and Childbearing.” Presented at the eleventh annual National Symposium on Family Issues, The Pennsylvania State University, College Park, PA (October).

Tsuya, Noriko O. and Larry L. Bumpass. 2004. “Introduction.” Pp. 1-18 in *Marrriage, Work, and Family Life in Comparative Perspective: Japan, South Korea, and the United States*, edited by Noriko O. Tsuya and Larry L. Bumpass. Honolulu, HI: East-West Center.

Tsuya, Noriko O. and Karen O. Mason. 1995. "Changing Gender Roles and Below Replacement Fertility in Japan." Pp. 139-67 in *Gender and Family Change in Industrialized Countries.* edited by Karen O. Mason and An-Magrit Jensen. Oxford: Clarendon Press.

Uchida, Eiichi, Shunichi Araki, and Katsuyuki Murata. 1993. "Socioeconomic Factors Affecting Marriage, Divorce, and Birth Rates in a Japanese Population." *Journal of Biosocial Science* 25:499-507.

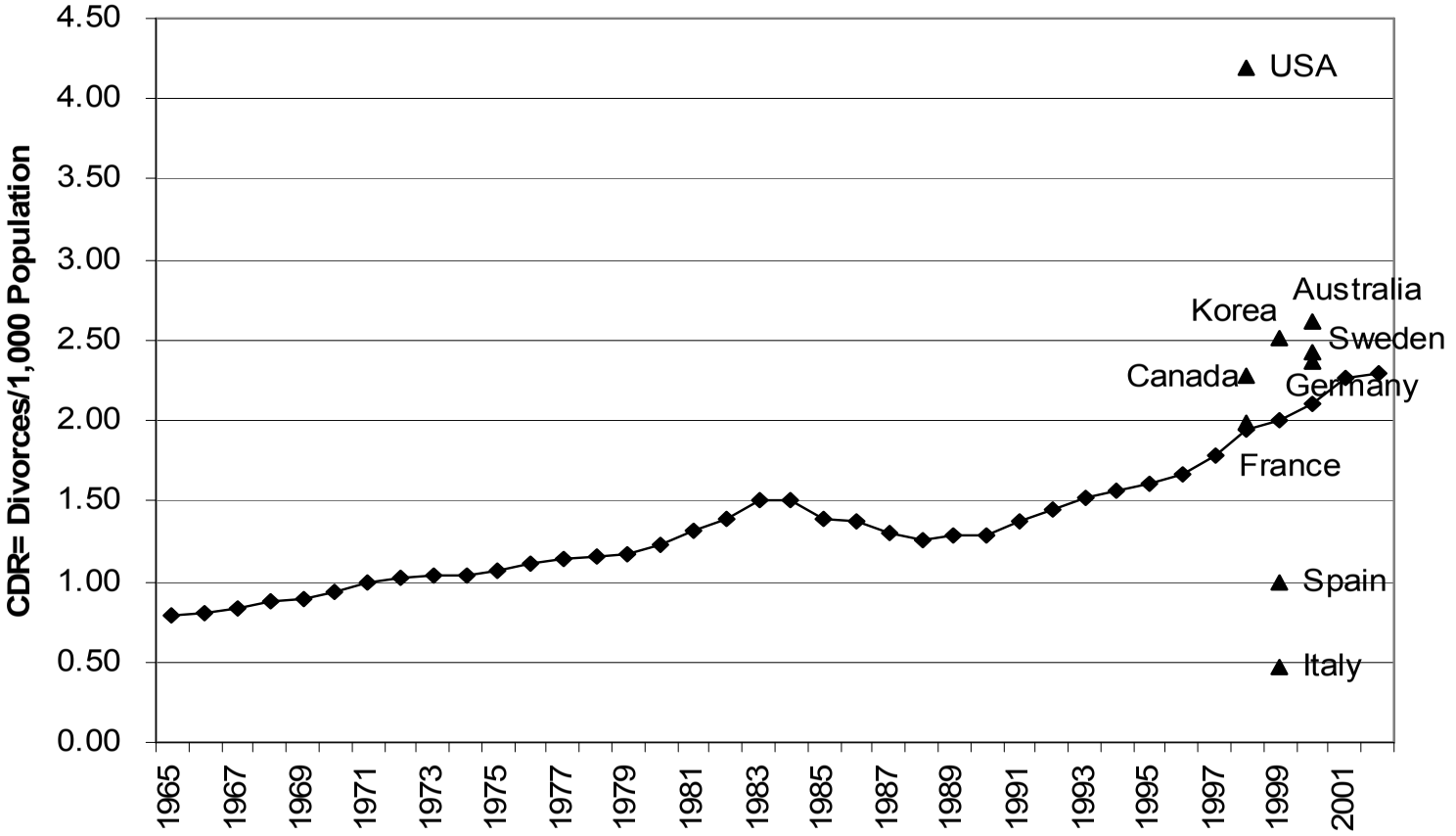
Yamagami, Toshihiko. Utilization of Labor Resources in Japan and the United States. Monthly Labor Review; 125(4):25-43.

Table 1: International Comparison of Synthetic Cohort Cumulative Divorce Probabilities, by Marital Duration

		Marital Duration			
Country	Year	5 Years	10 Years	15 Years	20 Years
Japan	2002	14	22	27	30
Sweden	1985-93	5	14	20	24
Finland	1983-92	8	17	21	25
USA	1989-95	20	31	38	44
Germany	1986-92	13	19	24	30
Italy	1990-95	3	5	8	9
Spain	1989-95	3	5	7	8

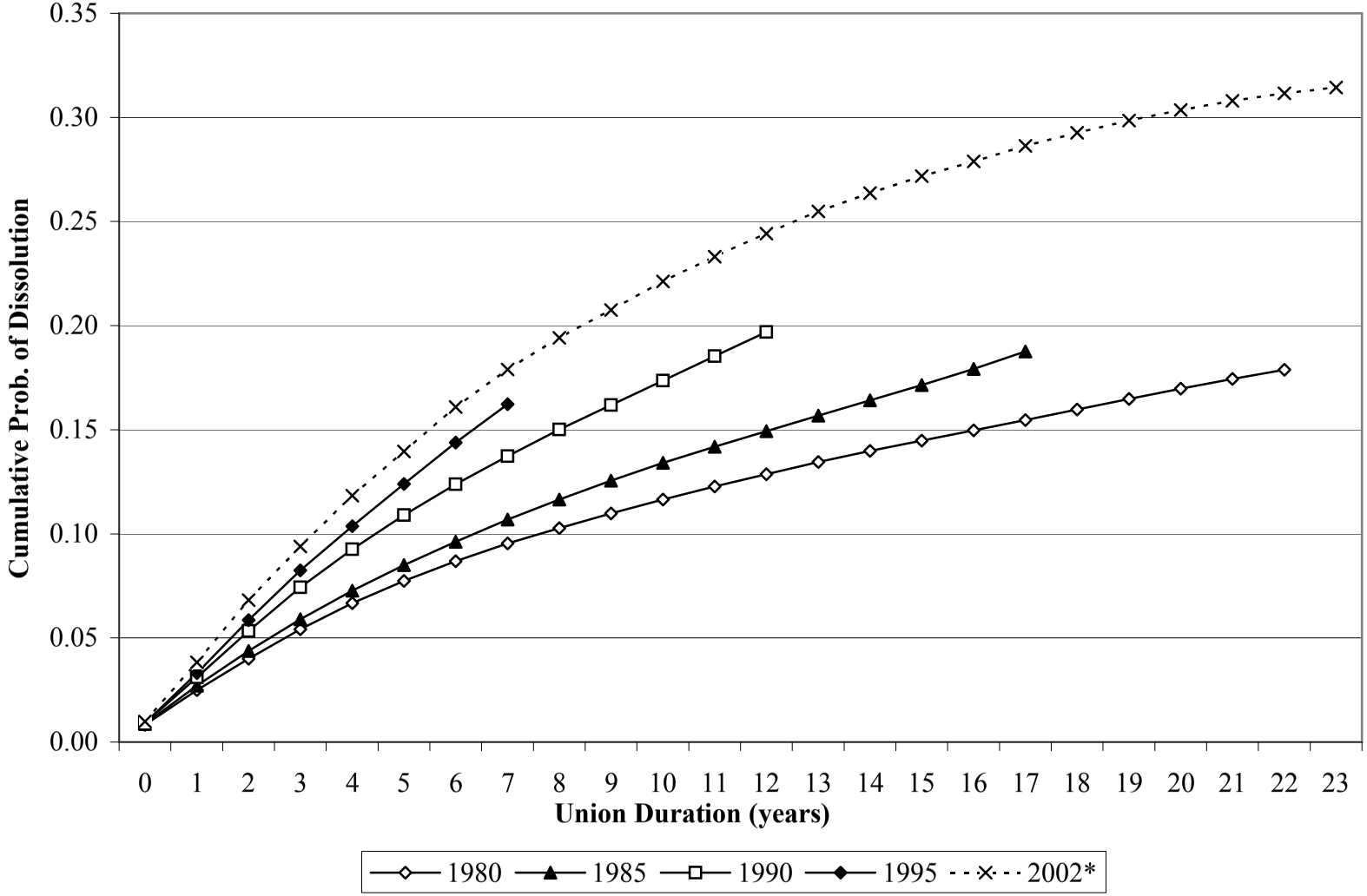
Note: All figures except those for Japan come from Andersson and Philipov (2001).

Figure 1: Trends in Japan's Crude Divorce Rate and Recent Figures from Other Countries



Source: National Institute of Population and Social Security Research. 2004. *Latest Demographic Statistics*. Tokyo: National Institute of Population and Social Security Research.

Figure 2: Cumulative Probability of Marital Dissolution, by Marriage Cohort



*Refers to hypothetical cohort

Figure3: Trends in Duration-Adjusted Proportion of Women Divorced at Age 35-39, by Education