年人口割合は 39.6%と約 4 割を占める。年少人口と老年人口を合わせると、ほぼ生産年齢人口の規模に匹敵する構成であり、世界でも最先端の少子高齢化の人口構造を示しているといえよう。オーストリアは日本、ドイツに次いで下部がすぼまったつぼ型のピラミッドを示すが、日独に比べればまだ少子高齢化の度合いは低い。

それに対して、いずれも現状で日本やドイツより出生率が高いスウェーデン、オーストラリア、フランス、アメリカでは、若い年齢層の人口割合がそれほど減ることなく、2050 年時点でつりがね型の人口ピラミッドを示している。老年人口割合は 20～26%にとどまり、同指標が 30%を超える日本やドイツに比べて、はるかに高齢化が緩やかで、年齢構成のバランスはよいといえる。

まとめ

日本の人口の将来像は、人口推計の国際比較をしてみると、出生率の低下、高齢化、人口減少の 3 つにおいて、どれも諸外国のどこよりも進むことを示した推計結果となっていた。日本は、今後、世界の中で人口動向について独自の道を歩むのだろうか？人口は、社会・経済・文化のそれぞれについて基礎的な条件の一つである。日本の少子高齢化、人口減少の度合いが将来推計人口に沿って実現していくならば、日本は、参考となる諸外国の事例もないまま、これらの人口条件の変化に対して、社会のあらゆる面で独自の対応を模索していかなくてはならないだろう。

図６－１　日本

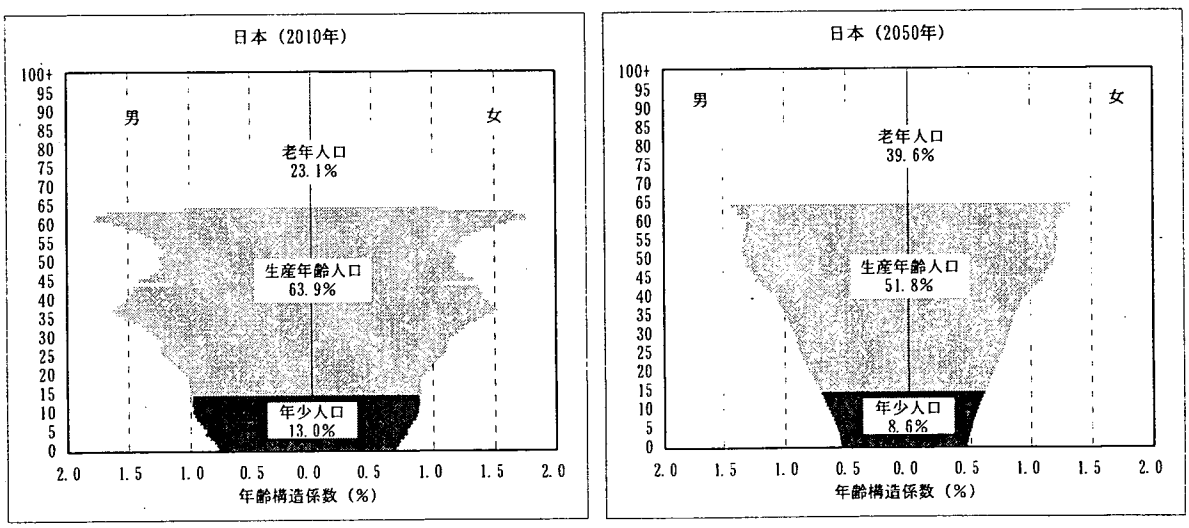


図６－２　ドイツ

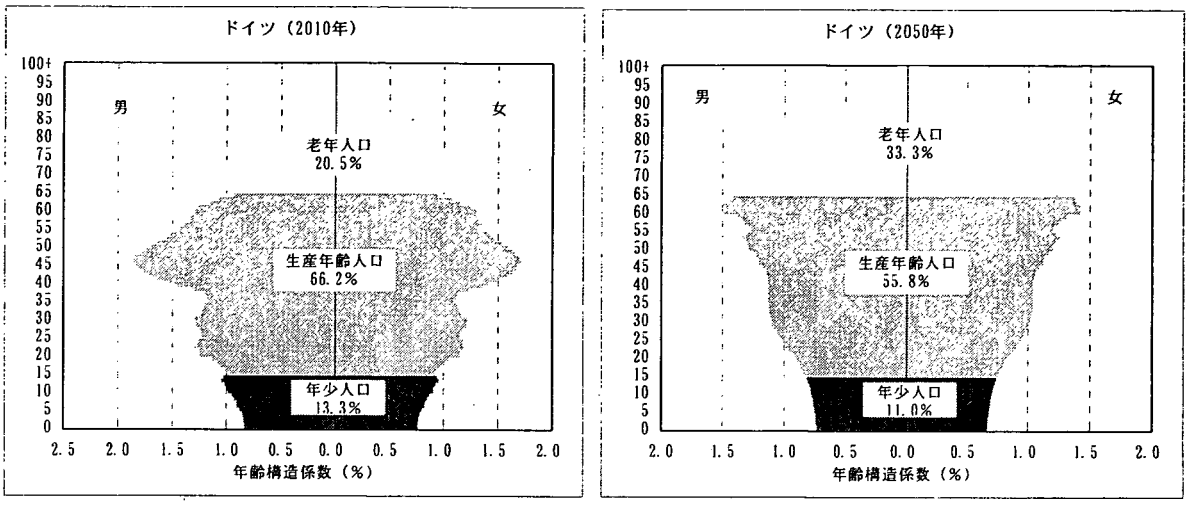
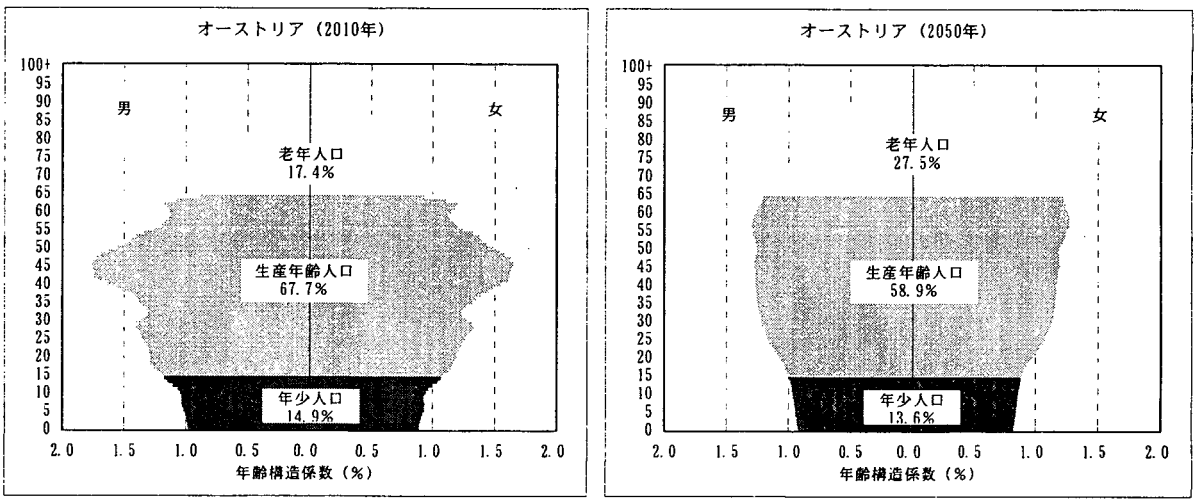


図６－３　オーストリア



注）年齢区分の最高齢は 99 歳以上。

図６－４　スウェーデン

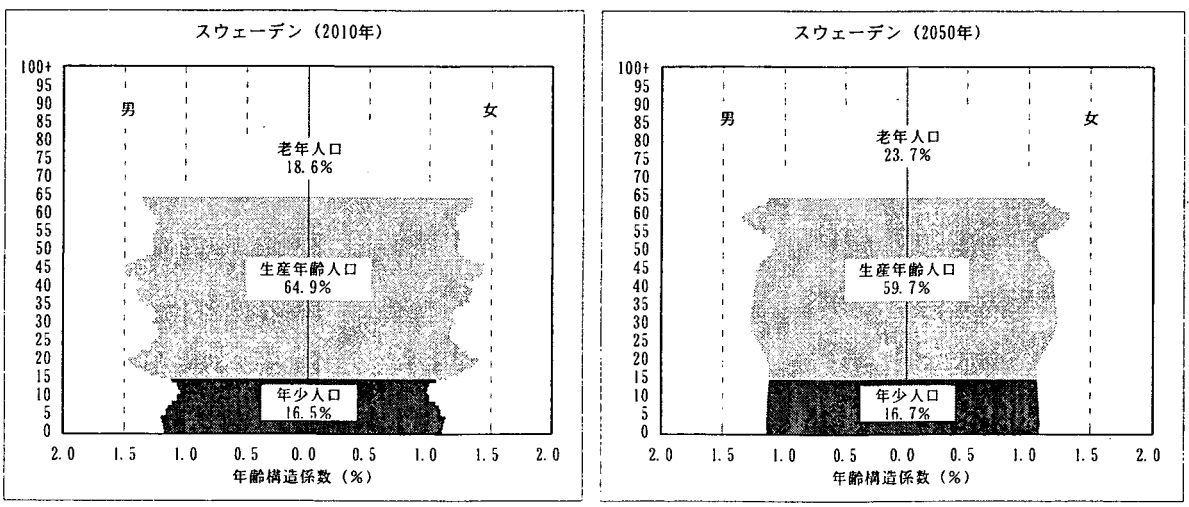
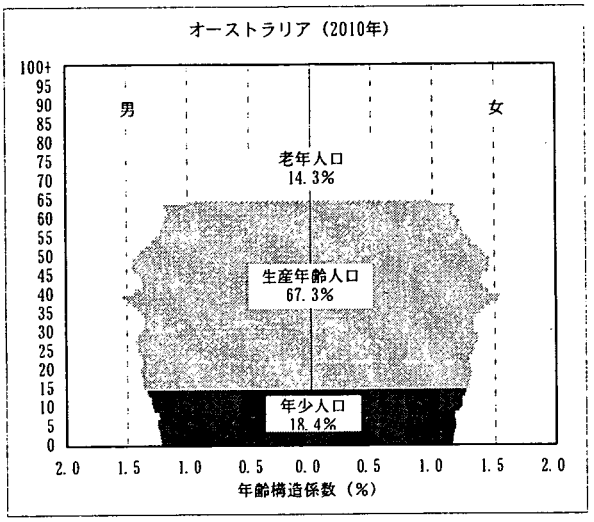


図６－５　オーストラリア



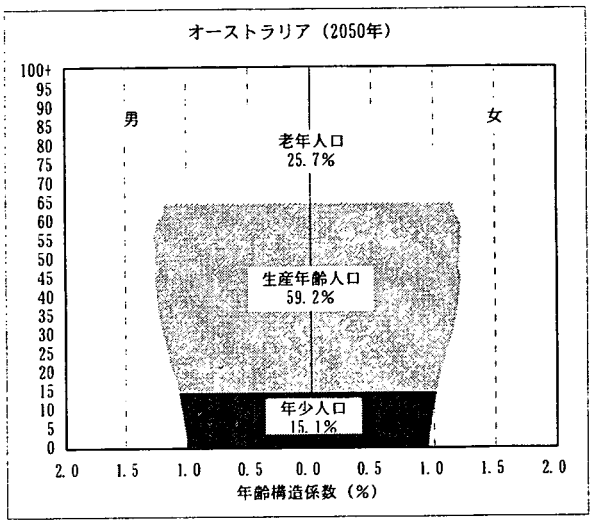
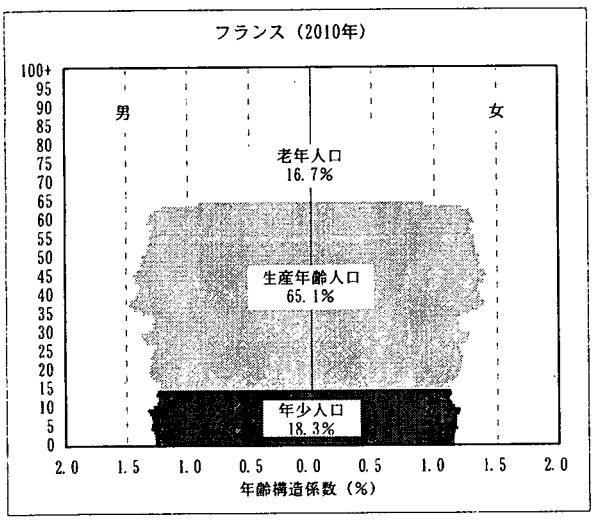


図６－６　フランス



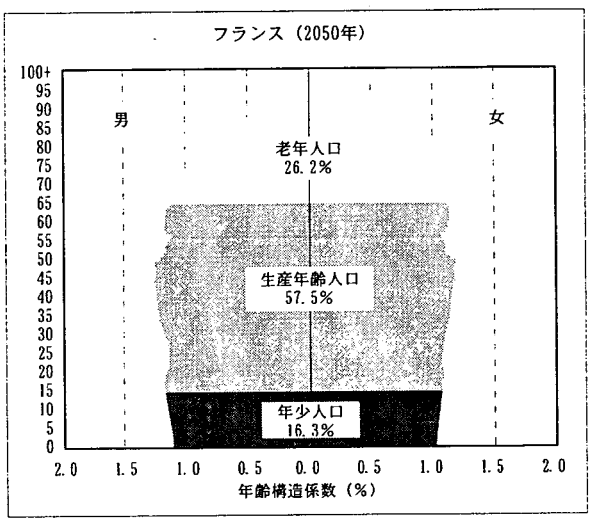
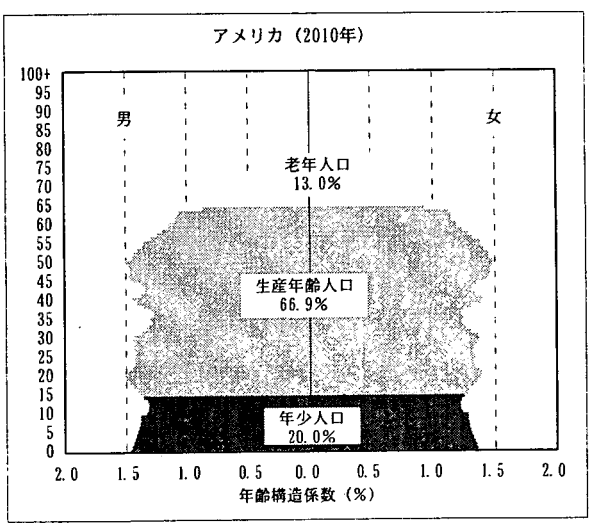
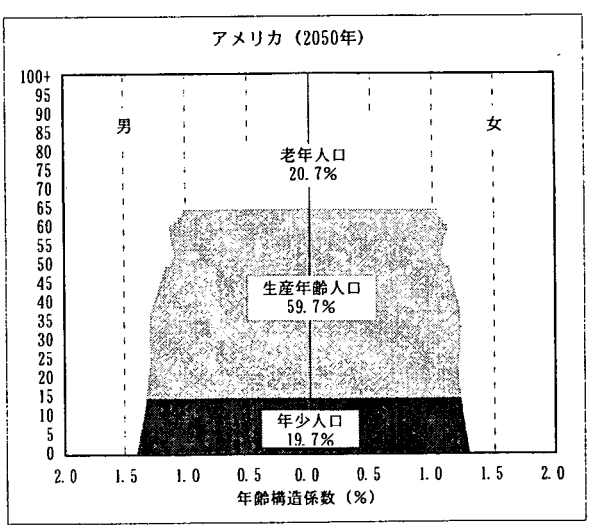


図６－７　アメリカ





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守泉理恵（2007）「将来人口推計の国際比較：その 2」金子隆一編、厚生労働科学研究費『将来人口推計の手法と仮定に関する総合的研究』平成 18 年度報告書。

Ⅱ. 個別研究報告（仮定に関する研究）

7　出生の動向と仮定値設定 (4)：
コーホートの行動変化からみた日本におけるパートナーシップ行動の動向

岩澤　美帆

将来推計人口に必要な年齢別出生率の将来値の予測においては、コーホート出生率法が有効である。この方法では、過去の世代の出生履歴の動向を用いて、若い世代の完結出生率を推定する。出生行動は家族の形成および解消にかかわる行動に影響されるので、将来の出生率仮定設定には、こうした側面の適切な把握が不可欠である。本研究では、とくにパートナーシップの形成と解消の動向について出生コーホートの観点から明らかにすることを目的としている。具体的には結婚行動の変化の出生力に与える影響、および離死別・再婚行動の出生力に与える影響を推定した。今回利用したモデルは出生が婚姻外ではほとんど生じないことを前提して構築されている。しかし、今日では多くの先進諸外国で婚姻外の出生が増加していることから、こうした現象にかかわるパートナー形成行動の新たなパターンについて、日本においてどのように進んでいるのかを確認しておく必要がある。新しいパートナー形成の側面として注目すべきは、同棲、婚外出生、妊娠先行型結婚の動向である。本研究では 1935 年生まれから主に 1990 年生まれの女性について、1956 年以降については推定を含むが、コーホートの行動変化を記述した。なお、データについては、厚生労働省統計情報部提供による人口動態統計（出生、婚姻、離婚）の目的外集計および国立社会保障・人口問題研究所による出生動向基本調査を利用した。

なお、本稿に示す内容は 2007 年 10 月に行われた人口推計に関する欧州連合統計局・国連欧州経済委員会合同会議(Joint Eurostat/UNECE Work Session on Demographic Projections Organized in cooperation with the National Institute of Statistics of Romania (INSSE) (Bucharest, 10-12 October 2007))において報告された論文の抄訳である。詳細については、英文論文を参照されたい。

表 1 は、国連人口部がまとめたレポートに掲載されている、パートナーシップ行動の特徴別にみた先進地域の分類である。日本は、初婚年齢が高く、未婚率が高く、同棲が少なく、従来は離婚が少ないと見られていたが近年の離婚率上昇により、離婚も多い地域に分類できる。これらの条件は出生力にとってもっとも不利な組み合わせである。

また、図 1 は、未婚、有配偶、離死別者を、さらに交際の有無や同棲などを加味した広義のパートナー関係で分類した構成比の時代変化である。若い世代では親密な相手がいる割合に大きな変化はないが、結婚している割合が減り、異性の友人さえもいない層が増加している。20 代以上になると、結婚している割合の減少が著しい。20 代前半で増加の兆しがみられる同棲も、30 代以降で、結婚に代わる形態として広がっている様子は見られない。

以下では、こうした配偶関係構造の大きな変化の要因となっているパートナーシップの形成(初婚)と解消と再形成（離死別、再婚）について、とくに女性に焦点をあて順番に見ていこう。

表1　パートナーシップ行動の特徴からみた先進各国の分類

初婚年齢	普及レベル			地域
	結婚	同棲	離婚	
低い	高い	高い	低い	
			高い	
		低い	低い	東欧 (bu,pl,ro,yu)
			高い	東欧 (cz,hu,lt,md,ru)
	低い	高い	低い	
			高い	
		低い	低い	
			高い	
高い	高い	高い	低い	
			高い	
		低い	低い	
			高い	
	低い	高い	低い	
			高い	北欧, 西欧, 北米, 豪州/ニュージーランド
		低い	低い	東欧, 南欧
			高い	*日本?*

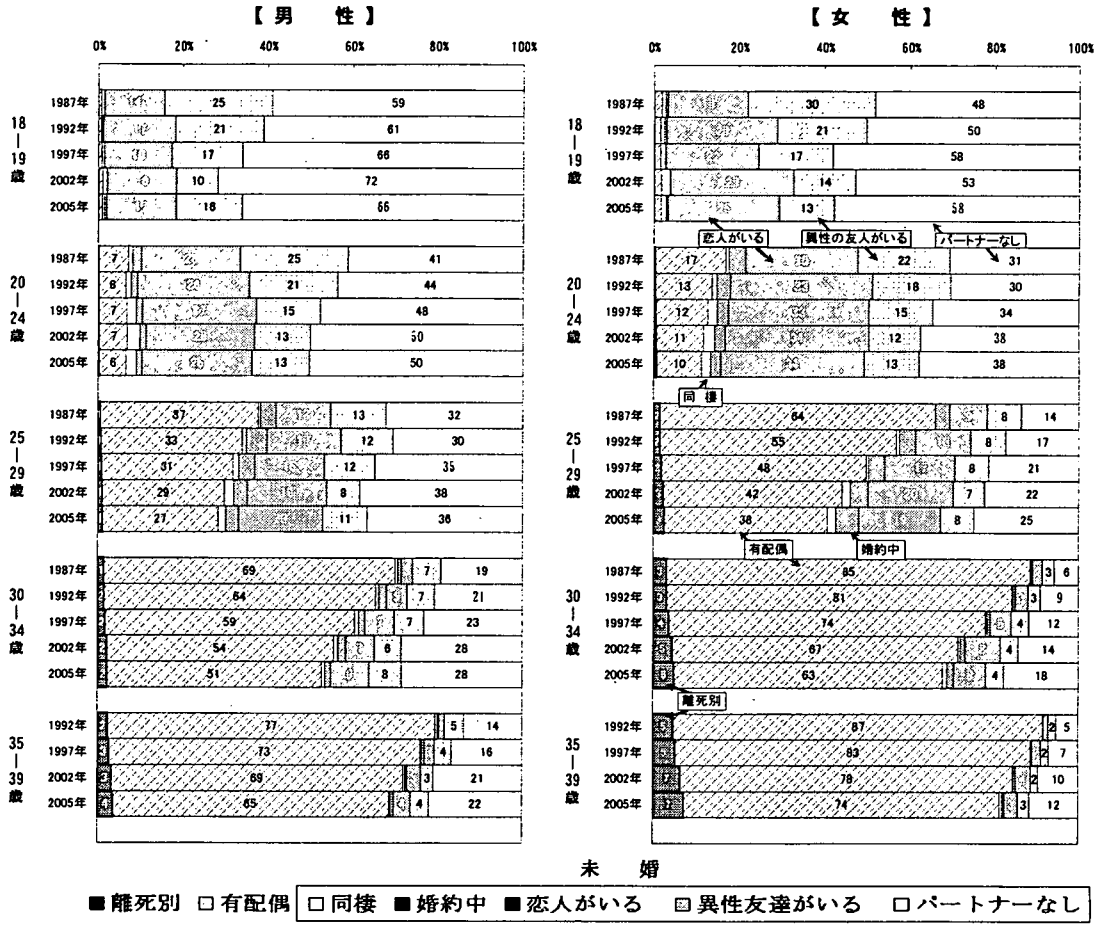
注：UNPD (2003) に基づく表に筆者が日本を追加。

初婚については期間指標でみた平均初婚年齢は1970年代半ば以降から一貫して上昇しており、また、年齢別初婚率の合計値である合計初婚率についても、1980年代以降、多少上下しながらも、2005年は0.7を少し上回る程度にまで落ち込んでいる。これをコーホートの行動変化としてとらえるために、コーホート別累積初婚率および、1950年を基準にしたベース・コーホートとの年齢別の差異を見てみると、1960年代後半生まれ以降で、20代後半で落ち込んだ初婚率が30代以降でもキャッチアップされていないことがわかる。国立社会保障・人口問題研究所による平成18年推計では、年齢別初婚ハザードの傾向を先のばすことによって、中位の仮定値としたが、それによれば1990年生まれの50歳時点での累積初婚率は0.77である。

続いて離婚の動向を見てみたい。期間指標である、年齢別離婚率の合計値である合計離婚率をみてみると、1980年代前半および2002年前後に急上昇と低下がみられるが、総じて上昇傾向にある。離婚は、婚姻経験者からしか発生しないので、離婚経験の動向をみるためには、結婚経験者からの離婚発生を見る必要がある。そこで、出生コーホート別に、年齢別の結婚経験者にしめる離婚経験者の割合を求めた。すでに50歳を迎えている1955年生まれの結婚経験者にしめる離婚経験者は18％である。仮に、過去の2005年から3年間における平均的な離婚発生が続くとすれば、1990年生まれにおける離婚経験率は36％に

上ると推定される。こうした水準は、これまで離婚が少ないと見られていた日本の印象を大きく変えるものである。結婚コーホート別に結婚持続期間別離婚確率を推定した Raymo et al.(2005、2006)によれば、結婚 20 年以内におよそ 3 割が離婚に至る水準は、米国には及ばないものの、欧州の中では高いグループに所属するものである。

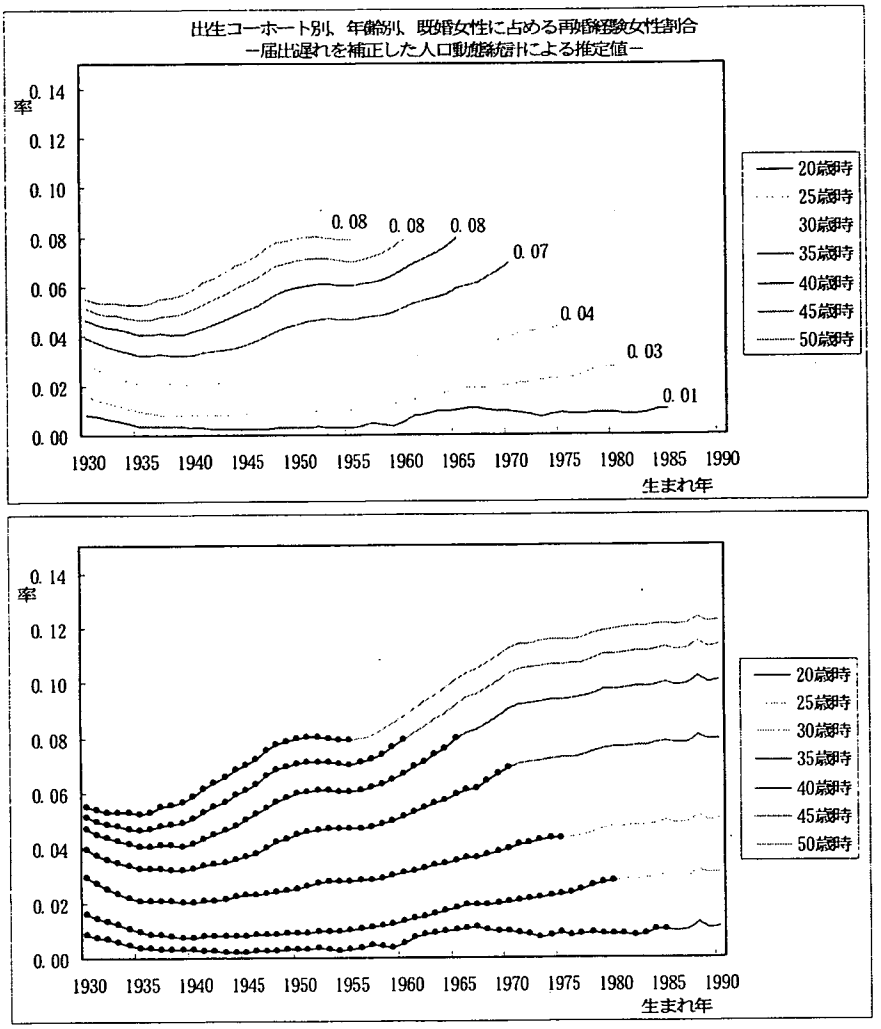
図 1　男女年齢階級別にみた、広義のパートナーシップ構成の変化



注：国勢調査から推定される本調査各年次の配偶関係(未婚・有配偶・離死別)構成と、「出生動向基本調査」から得られる未婚者の交際状況から各年齢層でのパートナーシップの状況を推定したもの。1987 年の 35～39 歳は調査結果なし。図中の数値はパーセンテージ。

再婚の動向については、十分な検討ができているわけではないが、離別経験と同様、結婚経験者に占める再婚経験者割合を算出してみたところ、再婚者割合は 1935 年生まれ以降で上昇しており、1950 年代前半生まれで一時変化が収まるが、1955 年以降、再び上昇傾向を示している。このままの傾向が続けば、初婚者の 1 割以上が再婚を経験することもありうると見られる。

図 2　出生コーホート別、年齢別、既婚女性に占める再婚経験女性割合



注：累積再婚率を累積初婚率で割った値。下のグラフは、2005 年から過去 3 年の再婚発生率を延長して求めた推計値。

今回は、死別、再婚の動向については、離婚の動向に連動するよう見通しをたて、初婚の動向を加味すると、女性 50 歳時点での配偶関係構造を予測することができる。表 2 には 1935 年出生コーホート以降 1990 年まで 5 年おきで、女性 50 歳時点における配偶関係（結婚経験）構造をしめした。1960 年生まれ以降は推計値を含む。50 歳時未婚率が上昇する一方で、離別者、再婚者が増加している。したがって、初婚どうし夫婦の割合は、1935 年出生コーホートでは 75％と 4 分の 3 を占めていたが、1965 年生まれになると 6 割を下回り、1980 年うまれ以降に関しては 5 割を下回る可能性が示されている。

表2　コーホート別にみた50歳時女性の配偶関係(結婚経験)の構成(%)：実績値と仮定値

妻の結婚経験／出生コーホート	出生コーホート											
	実績値 ←→ 推計値											
	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990
総数	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
死別	5.7	4.7	3.7	3.0	2.7	1.9	1.1	0.7	0.6	0.5	0.4	0.3
離別	6.0	7.4	9.7	11.8	11.8	13.3	15.5	16.9	17.0	17.4	18.5	18.8
妻再婚	5.3	5.8	5.5	5.3	5.7	6.3	7.3	7.9	7.9	8.2	8.6	8.8
妻初婚・夫再婚	3.7	5.0	4.7	3.8	5.1	4.7	4.4	4.0	3.7	3.5	3.4	3.3
妻初婚・夫初婚	74.8	72.8	71.1	71.0	68.9	64.4	59.6	54.3	50.8	47.8	45.8	45.3
未婚	4.4	4.2	5.2	5.0	5.8	9.3	12.0	16.2	20.0	22.6	23.3	23.5

注：1960年生まれ以降については、初婚および離死別・再婚に関する平成18年社人研推計中位仮定に基づく推計値。

さて、このような初婚行動の変化および離死別・再婚行動の変化は、出生力にどのような影響をあたえるのだろうか。初婚行動変化の影響、離死別・再婚行動変化の影響にわけて、コーホート完結出生率への影響測定を試みた。

初婚行動の影響については、コーホート完結出生率が年齢別初婚率の分布と夫婦の結婚持続期間別累積出生率で表現できるモデルを構築し、初婚率を変化させることによって、蓋然性の高い仮定値に基づく結果と比較し、初婚行動変化の影響を定量的にあらわすことを試みた。具体的には、完結出生率を生涯未婚率、初婚パターンに規定される夫婦の出生児数、初婚の年齢分布、結婚出生力変動係数、離死別再婚効果係数の各パラメターで表現し、それぞれのパラメターを変化させて結果を求めた。

シミュレーションの結果、仮に1955年出生コーホート以降、年齢別初婚率（未婚者割合と初婚タイミング）のみ変化したと仮定すると、1990年出生コーホートのコーホート完結出生率は1.4程度であることがわかった。1955年出生コーホートの完結出生率は1.96、一方、蓋然性の高い初婚行動変化の見通しを使った、社人研推計の中位仮定（日本人女性出生率）は1.20なので、初婚行動の変化は、コーホート出生率変化の73%を説明することになる。

同様に、離死別・再婚行動の変化の影響についても、離死別・再婚効果係数を動かすことによってその影響をみることができる。離死別・再婚効果係数は、初婚どうしを最後まで継続する夫婦の出生力を基準とした場合に、現実には多様な配偶関係を含む配偶関係構造影響を、出生力の引き下げ率として表現するものである。具体的には、初婚どうし夫婦以外の配偶関係別完結出生児数と初婚どうし夫婦の完結出生児数の比を、各配偶関係の構成に従って加重した値となる。なお、死別については離婚の増加に反比例して減少していること、再婚の動向は離婚に連動していることが実績値から予測できるため、配偶関係の構造変化は、離婚経験率の関数と考えることが妥当である。前述した50歳時結婚経験者に占める離婚経験者割合の推計値を用いて、計算された離死別・再婚効果係数との関係をみ

ると、やや上に凸の負の曲線になる（離別経験が高まるほど、離死別・再婚効果係数は減少)。さて、離死別・再婚がまったくないと想定した場合（離死別・再婚効果係数が 1.0)、1955 年以降、離死別再婚行動に変化がおきないと想定した場合の二つのシミュレーションを行った結果、前者の 1990 年出生コーホートのコーホート完結出生率は 1.3、後者のコーホート完結出生率は 1.24 であった。蓋然性が高い仮定値をつかった値は 1.20 なので、1955 年出生コーホート以降の離死別・再婚行動変化の出生力への影響はおよそ 3%といえる。

離婚は結婚持続期間を短縮させる効果があるので、出生行動にマイナスの影響をもたらすと考えられてきたが、いまや平均的な子ども数が 2 人を下回る状況では、他の要因に比べてその引き下げ効果はあまり大きくないとみなすことができる。むしろ再婚女性と初婚夫婦は、それほど出生児数に違いが見られないので、再婚の動向によっては、離婚の増加の影響はますます小さくなる可能性もある。なお、今回のモデルでは、50 歳時未婚者の出生力は 0 と仮定されている。しかし、出生時における婚外出生割合はわずかに上昇傾向にあることから、今後は 50 歳時点での未婚者出生率にも影響を与えると考えられる。

これまでの日本社会は出生が婚姻内に限られ、初婚どうし夫婦が大部分を占めていた。出生率予測においても、1990 年代に著しく進んだ未婚化の影響把握が中心的なテーマであったが、今後増加するとみられる婚外出生や離再婚の影響について、より精密な分析が求められるところである。

8 Trends in Partnership Behaviour in Japan from the Cohort Perspective

Miho IWASAWA
Ryuichi KANEKO

Abstract

Assumptions about the future age-specific fertility rates required for population projections can be obtained using the cohort fertility method. With this method, we forecast the average completed family size of younger cohorts, based on the actual birth process of preceding cohorts. Since childbearing behaviour is affected by family formation and dissolution processes, it is inevitable to observe these processes for constructing and assessing the future fertility assumptions.

In this paper, we provide descriptive trends in patterns of partnership formation and dissolution from the birth cohort perspective. Recognizing that declining exposure to marriage may place a strong structural restriction on childbearing, we then examine the extent to which these behavioural changes contribute to fertility decline by cohorts. In addition to marriage, divorce, bereavement and remarriage may also be crucial factors for fertility. However, in most developed countries, the link between marriage and fertility has been weakening. We also look into the trends in the new patterns of family formation; unmarried cohabitation, non-marital fertility, and marriage preceded by pregnancy. We provide cohort indices for cohorts born from 1935 to 1990, incorporating some estimation for cohorts born after 1956. As for data, we use Vital Statistics data for calculation of fertility, marriage, and divorce rates, and we also use Japanese National Fertility Surveys for estimating the average family size by marital status.

The mean age of first marriage and the proportion never married has risen for cohorts born after 1950 and these changes in marital behaviour explain nearly 80 percent of the difference in family size for the cohorts born in 1950 and 1990.

At the same time, cumulative divorce rates among first married women have been increasing across cohorts. Based on synthetic cohort projection, 36 percent of first married women eventually experience divorce by age 50. However, since bereavement has been declining and some proportion of divorced women get remarried, the net contribution of the change in divorce, bereavement and remarriage to the cohort fertility decline between 1950 and 1990 is about 3%.

The visibility of cohabitation remains low in Japan but is clearly becoming an increasingly common part of the union formation process. Experience of cohabitation is associated with a rapid transition to parenthood through premarital pregnancy (especially among those at the lower end of the educational distribution), but cohabitation experience delays first birth beyond age 25 for women with higher education. Unmarried fertility is still very low in Japan, but has increased slightly since

the 1990s. The projected lifetime unmarried fertility of the 1990 cohort seems to be nearly .03 children; two percent of their cohort TFR. Another notable behavioural change is an increase in marriages preceded by pregnancy (MPP). Based on the extrapolative projections, the proportion of the MPP to first married women will rise to over 20% in the 1990 cohort, while it was less than 5% among cohorts born prior to 1950. Increase in unmarried childbearing is concentrated among teenagers, and the MPP is concentrated among women in their early 20s. These behaviours seem to be related to the trends in the contraceptive behaviour and unintended pregnancy.

Introduction

Assumptions about the future age-specific fertility rates required for population projections can be obtained using the cohort fertility method. With this method, we predict the average completed family size of younger cohorts based on the actual birth process of preceding cohorts. Since childbearing behaviour is affected by family formation and dissolution, it is essential to consider these processes in the construction and assessment of future fertility assumptions. Results in this paper are based on the preliminary analyses for producing official population projections for Japan conducted by the National Institute of Population and Social Security Research (NIPSSR 2007, Kaneko 2007).

In this paper, we describe patterns of partnership formation and dissolution from a birth cohort perspective. Recognizing that declining exposure to marriage may place a strong structural restriction on childbearing, we then examine the extent to which these behavioural changes contribute to fertility decline, by cohort. In addition to marriage, divorce, widowhood, and remarriage may also be significant factors for fertility.

However, in most developed countries, the link between marriage and fertility has been weakening. We also look into the trends in new patterns of family formation: cohabitation, non-marital fertility, and marriage preceded by pregnancy. We provide cohort indices for cohorts born from 1935 to 1990, incorporating some estimation for cohorts born after 1956.

Data

We use Vital Statistics data for calculation of fertility, marriage, and divorce rates. We also use Japanese National Fertility Surveys, conducted by NIPSSR every five years, for estimating average family size by marital status.

Since roughly 10% of marriages and 30% of divorces are not registered in the year in which they occur (Ishikawa 1995), we estimated the number of marriage and divorces in the year they actually occurred using ratios of delayed to on-time registration obtained from the observed data.

Due to the recent increase in non-Japanese residents and the relatively poor data on them, trends in indices among all residents in Japan including non-Japanese could be unstable and difficult to understand. We therefore focus on events in the lives of Japanese female residents and look into indices for those people.

Trends in marriage

We will focus on the relationship between fertility trends and changes in marriage, divorce, widowhood and remarriage. In Table 1 shown in a UN report, low-fertility regions are classified according to four characteristics of nuptiality: age at first marriage, prevalence of marriage in the prime reproductive ages, prevalence of cohabitation, and prevalence of union dissolution. Characteristics of Eastern Asia and Southern Europe, such as high age at first marriage, and low prevalence of both marriage and cohabitation, seem to have the most negative impact on fertility. However, it has been suggested that in Japan the occurrence of divorce is actually higher than expected. Therefore, Japan might be moving into a more unfavorable situation for childbearing than ever before. We will return to the quantifiable change in divorce later.

Postponement of family formation, which has been widely witnessed in most industrial countries since the second half of the 20th century (Billari 2005), can be also seen in Japan. The mean ages at first marriage and first childbearing have risen dramatically since the late 1970s, and total fertility rates and total first marriage rates (the sum of age-specific first marriage rates for ages 15 to 49) continue declining (Figure 1, Figure 2).

To obtain data on cohort age-specific first marriage rates for those who have not reached the end of their reproductive ages, we applied a generalized log-gamma distribution model presented by Kaneko (2003) to the actual values for the cohort age-specific first marriage rates. Because future trends are highly uncertain, we work with three sets of assumptions (medium, high, and low).

The mean age at first marriage and the proportion of those never married has risen for cohorts born after 1950. We show the cumulative first marriage rates relative to those of the 1950 birth cohort, using the scheme provided by Frejka and Calot (2001). For recent birth cohorts, a decline from the base cohort observed in the 20s will not be entirely made up in the 30s (Figure 3, Figure 4).

Trends in Divorce and Marital Status Composition

Divorce rates in Japan have risen since the 1960s, and the total divorce rate (sum of age-specific divorce rates for ages between 15 and 49) is beyond 0.25 in the 2000s (Figure 5). We tried to calculate the cohort index on divorce experience: that is, the proportion of those who experience

divorce at least once among women with marriage experience, by age and birth cohort. For future values, we made three assumptions. Medium values were produced with the assumption that the average trends in the past three years will continue. The lowest combination of rates over the last 10 years was used for the high assumption, and the highest combination over the last 10 years was used for the low assumption.

According to the medium assumption (synthetic cohort projection), 36 percent of first-married women in the 1990 birth cohort will eventually experience divorce by age 50 (Figure 6). This is consistent with the results on the proportion of divorce experience by marriage duration and marriage cohort calculated by Raymo et al. (2005), projecting that at least one third of marriages in 2002 may end in divorce within 20 years. Figure 7 shows that the occurrence of divorce in Japan more closely resembles Central Europe rather than Southern Europe.

Based on these trends in divorce experience and the future trends in the proportion of women never married by the age of 50 and the occurrence of remarriage estimated from National Fertility Survey data, we obtained the actual and assumed composition of marital status of women at age 50 by birth cohort from 1930 to 1990. We can see that first-marriage couples were in the majority up to the 1950s birth cohort, but due to the increase in women without marriage experience and divorced women, the proportion of first-marriage couples has been decreasing, and will eventually be around 50 percent (Figure 8).

While divorce rates have been increasing, widowhood has been declining due to the decline in male mortality rates. Widowhood is expected to be increasingly rare for recent birth cohorts.

Impact on cohort fertility

What impact does the change in partnership behaviour - declining marriage rates and increasing divorce rates – have on fertility? We measured the contribution of both factors using models for cohort TFR.

We use a mathematical model in which cohort completed fertility consist of its segments from the factors, i.e., marriage, divorce, and couple's reproductive behavior with in marriage. With the model, the cohort cumulative fertility rate at age 50 (CTFR) is expressed as;

$$\begin{aligned} CTFR &= (1-\gamma)\cdot CEB\cdot\delta \\ &= (1-\gamma)\cdot\left(CEB^{*}(afm)\cdot\kappa\right)\cdot\delta. \end{aligned}$$

Here, γ is the proportion of never-married women at age 50 (one minus cumulative first

marriage rate), the CEB is the average completed number of children of women in the first-marriage couples, and δ is the coefficient of the divorce and widowhood effects. As the second line of the equation indicates, the CEB can be broken down into the expected cumulative number of births (CEB^*) that is dependent of the age pattern of first marriage (denoted as *afm*) and κ, a coefficient that represents deviation of marital reproductive behavior from the expected pattern derived from the previous standard cohorts.

Change in γ and the age pattern of first marriage (*afm*) reflect behavioural change in first marriage, change in δ indicates behavioural change in divorce, and change in κ reflects changes in couples' reproductive behaviour after marriage.

By calculating the counterfactual CTFR with unchanged coefficients, we can see the contribution of each behavioral change on the CTFR compared with the medium assumptions for the projection.

CEB^* requires a standard pattern for the completed number of children, by age at first marriage. We obtained this from the average pattern of 1932 - 1965 birth cohorts using the 7th through the 13th Japanese National Fertility Surveys (Figure 9).

Figure 10 shows the three simulated CTFRs. The first line is based on the assumption of no change in γ, *afm*, κ, or δ, since the 1955 birth cohort, while the second curve provides the results where only γ and *afm*, (i.e., marriage behavior), have changed. The third curve uses the medium assumption with changes in all coefficients. Changes in marital behaviour explain 73 percent of the difference in family size for the cohorts born in 1950 and 1990.

The value of δ was set in the following manner. Using data from the NFS, we calculated the completed number of children of women with marriage experience by four marital status categories: first-marriage couples (*ff*), couples with a first-married wife and a remarried husband (*fr*), couples with a remarried wife (*r.*), and divorced/widowed women (*dw*) (Figure 11). We can obtain the indices for each marital status category relative to the average number of children for first-marriage couples (*R..*). In the previous section, we generated the predicted composition of female marital status at age 50 (*P..*) by birth cohort. δ is the weighted mean of *R..* with *P..* as weights, as defined as below.

$$\delta = \left\{P_{ff} + P_{fr}R_{fr} + P_{r.}R_{r.} + P_{dw}R_{dw}\right\}/(1-\gamma).$$

δ is represented as the function of the proportion of those who experience divorce by age 50 (Figure 12).

Cumulative divorce rates among first-married women have been increasing across cohorts (Figure 6). Based on a synthetic cohort projection, 36 percent of first-married women will

eventually experience divorce by age 50 in the 1990 birth cohort. Therefore, the valve of δ in this cohort is 0.925.

Using the variable δ, we can obtain a CTFR without the divorce, widowhood and remarriage effects or one with δ held constant since the 1955 birth cohort (Figure 13).

However, since widowhood has been declining and some proportion of divorced women get remarried, the net contribution of the change in divorce, widowhood and remarriage to cohort fertility decline between 1950 and 1990 is about 3%.

New patterns of family formation: Cohabitation, nonmarital childbearing, and marriage preceded by pregnancy

Do these changes in partnership formation and dissolution mean the emergence of new patterns of family formation? Here we show some aspects of change regarding new patterns of family formation recently observed in Japan.

In the context of the second demographic transition, novel patterns of family formation, such as cohabitation and extramarital childbearing, were once considered to be related to fertility decline to below replacement level. However, very low levels of these behaviours are now commonly found among the lowest-low fertility countries. The visibility of cohabitation remains low in Japan but is clearly becoming an increasingly common part of the union formation process (Figure 14, Figure 15). There is, however, substantial variation around the median duration of 15 months for the most recent cohabitating unions, with one-fifth of the cohabitations lasting under six months and roughly one-third lasting two years or more. Experience of cohabitation is associated with a rapid transition to parenthood through premarital pregnancy (especially among those at the lower end of the educational distribution), but cohabitation experience delays the first birth beyond age 25 for women with higher education.

The fertility of unmarried women is still very low in Japan, but has increased slightly since the 1990s. The projected lifetime unmarried fertility rate of the 1990 cohort is nearly .03 children; two percent of their cohort TFR. Compared with the pattern of age-specific nonmarital fertility rates in 1990, the pattern in 2005 shows a dramatic increase for women under age 25 (Figure 16). This change might be in common with some Anglo-Saxon countries such as the UK or the US, where the birth rates among unwed young mothers contribute to relatively high fertility. When we consider the impact of these changes on future fertility, we need to examine whether these people remain as single mothers or move into marital relationships and continue to reproduce as members of the latter group.

Another notable behavioural change is an increase in marriages preceded by pregnancy (MPP). Based on extrapolative projections, the proportion of MPP to first-married women will rise

to over 20% in the 1990 cohort, while it was less than 5% among cohorts born prior to 1950. The increase in childbearing of unmarried women is concentrated among teenagers, and the MPP is concentrated among women in their early 20s. These behaviours seem to be related to the trends in use of contraceptives and unintended pregnancy.

Conclusion

Fertility assumptions for the latest population projections for Japan based on the 2005 census suggests the extremely low level of fertility– in 2030 and after, the medium variant TFR for Japanese women is assumed to be 1.20. These prospects were led by drastic changes in the patterns of family formation and dissolution. Among the 1990 birth cohort, the mean age at first marriage is 28.2, the proportion of never-married women at age 50 grows to 23.5%, and 36% of first-married women will eventually experience divorce.

Counterfactual CTFRs with variant patterns of family formation and dissolution have shown that over 70% of the CTFR decline is attributed to a decline in marriage rates. The contribution of increase in divorce rate on CTFR's reduction would be 3% in the 1990 birth cohort according to calculation of the counterfactual value if divorce behaviour remained unchanged since the 1955 birth cohort,

Developed countries with relatively high fertility rates show relatively high levels of unmarried couples cohabiting and childbearing at young ages. The visibility of cohabitation and childbearing of unmarried couples is still low in Japan, but among cohorts born in the 1980s and later, these new patterns of family formation have been increasing. Since these changes could lead to a rise in fertility rates for women in their 20s in the near future, we need to pay attention to these trends.

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