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Values and Fertility Change in Japan*

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In this paper we consider how value change and underlying economic and social changes have jointly affected fertility in Japan since 1950, when survey data on fertility-related values started to become available.

It is convenient to classify Japan's fertility decline since 1950 into three periods: (i) 1950–57, a period of rapid decline at the end of which total fertility reached the replacement level of about two children per woman; (ii) 1957–73, during which fertility did not change much; and (iii) 1973–93, a period of resumed fertility decline when total fertility fell to 1.46. Our analysis relates mainly to the third period.

We consider values at several levels of generality. At one end of the spectrum are general value orientations such as individualism and equality of opportunity (e.g. between the sexes), which not only affect fertility but also pervade many other spheres of life. Somewhat less general are values, such as filial piety, which relate more specifically to family and fertility. Even more specific to fertility are values that parents attach directly to children, such as their economic value, their security value for disability and old age, and their value as a 'consumption' good.

Fairly detailed time-series data on fertility, but not on values, are available for Japan. Time-series data on ideal family size and attitudes about caring for elderly parents are available from the National Survey on Family Planning (NSFP), conducted approximately every other year since 1950 by the Mainichi Newspapers of Japan. But time-series data on other fertility-related values are mostly lacking. During the 1980s and early 1990s, additional questions on values were included in the NSFP and other national surveys. But we lack information about how values have changed over time, and this makes it difficult to determine which is cause and which is effect in the relationship between values and fertility. Inevitably, therefore, many of our conclusions are tentative.

THEORY AND HYPOTHESES

The prevailing view held by researchers is that the fundamental force that drives the transition from high to low fertility is not value change but economic and social development.[1] The key factors are mortality decline, reduction of the economic value of

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[1] For an alternative view which assigns greater importance to changes in values, see J. Cleland and C. Wilson, 'Demand theories of the fertility transition: an iconoclastic view', *Population Studies* **41** (1987), pp. 5–30.

children, and the emergence of new goods and opportunities that compete with children for parents' resources. In the later stages of fertility decline, these new opportunities include expanded educational and employment opportunities for women outside their homes.

Changes in values have played a role in the transition, but these changes, like changes in fertility itself, tend to be driven by development. To some extent value changes attain a life of their own and exercise an independent influence on fertility which may retard or enhance the transition. Retarding effects tend to occur when high-fertility values are enshrined in religious doctrines or in civil law (e.g. on abortion and contraception). Enhancing effects occur when international agencies promote small-family values and legitimize birth control by supporting family planning programmes in countries with limited economic and social development.

Before the transition, high-fertility values are pervasive because, when mortality is high, fertility also must be high in order to avoid population decline. As economic and social development proceeds, birth control becomes more acceptable and resistance to it collapses, often rather suddenly. The idea that deliberate family limitation is morally acceptable diffuses through the population, and fertility begins to fall. The decline is more rapid in populations which are socially integrated (in the sense of shared values and good internal communications). Social integration is enhanced by homogeneity in such characteristics as ethnicity, language, and religion.[2]

As resistance to birth control collapses and fertility falls, couples are more apt to perceive the advantages of smaller families, and views about ideal family size begin to favour smaller families. Declines in ideal family size tend to follow, rather than to precede the beginning of fertility decline.[3] The delayed reduction in ideal family size may be regarded as a cultural lag which feeds back on fertility and contributes to further fertility decline. Rapid declines in both fertility and ideal family size continue until couples' revised perceptions of the utility and cost of children are more closely aligned with underlying economic and social realities.[4]

Cultural variability in values in different populations helps to explain variability in the timing of fertility decline, but such timing is also influenced by other factors. The timing of fertility decline is a complex function of mortality, economic, social, and cultural factors relating to the utilities and costs of children and economic, social, geographical, political, and cultural factors that influence not only the timing but also the subsequent rate of diffusion of birth control. There is no unique combination of these factors that brings about fertility decline. Any specified level of fertility – before, at, or after the onset of fertility decline – is compatible with a range of values of specific factors.

[2] J. Knodel, 'Family limitation and the fertility transition: evidence from the age patterns of fertility in Europe and Asia', *Population Studies* **31** (1977), pp. 219–250; J. Knodel and E. van de Walle, 'Lessons from the past: policy implications of historical fertility studies', *Population and Development Review* **5** (1979), pp. 217–245; R. D. Retherford and J. A. Palmore, 'Diffusion processes affecting fertility regulation', in R. A. Bulatao and R. D. Lee (eds.), *Determinants of Fertility in Developing Countries: A Summary of Knowledge*, vol. 2 (New York, Academic Press, 1983); R. D. Retherford, 'A theory of marital fertility transition', *Population Studies* **39** (1985), pp. 249–268; R. D. Retherford, 'An integration of two fertility analysis frameworks', *Genus* **43** (1987), pp. 1–18.

[3] R. Freedman and B. Berelson, 'The record of family planning programs', *Studies in Family Planning* **7** (1976), pp. 1–40; R. Freedman, 'Summarized findings on Asian population programs', *Population Reports* Series J (1978), pp. 380–381; T. H. Sun, H. S. Lin and R. Freedman, 'Trends in fertility, family size preferences, and family planning practice: Taiwan, 1961–76', *Studies in Family Planning* **9** (1978), pp. 54–70; J. Knodel and N. Debavalya, 'Thailand's reproductive revolution', *International Family Planning Perspectives and Digest* **4** (1978), pp. 34–50.

[4] Retherford, 1985, *loc. cit.* in fn. 2.

A constellation of related values comprises the utility of children as helpers in production, as insurance, and as consumption.[5] The production value of children tends to fall early in the transition, as economic activities shift to locations outside the home, and children increasingly tend not to follow in their parents' occupational footsteps, but to attend school, and thus are not available for work.

The perceived value of children as insurance against disability and old age tends to fall later in the transition with the advent of social security systems, pensions, insurance, and personal savings for old age. The elderly tend to place greater reliance on these services and less on their adult children.[6] This shift occurs partly as a result of pressures generated by a substantial increase in the dependency burden, which was induced in the first place by falling fertility, and later by mortality declines at the older ages.[7]

A more complex set of reasons why the old-age dependency burden tends to shift away from adult children is bound up with the rise of individualism – a very important and pervasive value in modern societies – and a parallel decline in certain family values.[8]

In a peasant-agrarian economy production tends to be family-based and unspecialized with relatively low labour mobility. Sons tend to follow in their fathers' footsteps, and children of both sexes learn their economic roles by working alongside their parents. Parents retain a high degree of respect and authority because of their cumulative working experience, so that intergenerational conflict is minimized. In these conditions, co-residence of elderly parents and adult children makes both economic and social sense. In an urban industrial economy, however, production is no longer family-based, and labour is mobile. Jobs are obtained in the labour market, which treats individuals as free agents. This fosters a greater degree of individualism, not only in the labour market, but also in kinship relations. Parents and children often reside in different locations. Where co-residence arrangements do exist, parental authority retains a social, but little or no economic basis. Potential for intergenerational conflict is thus increased, particularly when young wives, who are generally well-educated, work outside their homes. In these circumstances, it is natural that both adult children and elderly parents prefer to maintain at least partial independence by living in separate households.

Here, too, changes in behaviour which reduce filial care for elderly parents tend to precede, rather than follow, changes in values. These lags again tend to feed back on behaviour, and lead to further changes.

Another complex of changes in values relates to changes in sex roles and the status of women. During the later stages of economic and social development a large proportion of women opt to take up gainful employment outside their homes. This extends their horizons beyond marriage and the family and increases the opportunity cost of both marriage and children. Increasing economic independence also tends to offset pressures to marry young. The mean age at marriage increases and fertility falls. Within marriage, the difficulty of combining domestic responsibilities with paid employment also encourages lower fertility.

[5] This classification was originally proposed by Leibenstein, who used the term 'utility', rather than 'value'. See H. Leibenstein, *Economic Backwardness and Economic Growth* (New Haven, Conn., Yale University Press, 1957).

[6] D. O. Cowgill and L. D. Holmes (eds.), *Aging and Modernization* (New York, Appleton-Century-Croft, 1972).

[7] N. Ogawa, 'Consequences of mortality change on aging', in *Consequences of Mortality Trends and Differentials* (New York, United Nations, 1986).

[8] This process has been described by N. Ogawa and R. D. Retherford, 'Care of the elderly in Japan: changing norms and expectations', *Journal of Marriage and the Family* **55** (1993), pp. 585–597, who drew on earlier formulations by K. Davis and J. W. Combs, 'The sociology of an aging population', in *Proceedings of the Eastern States Health Education Conference, March 31–April 1, 1949: The Social and Biological Challenge of Our Aging Population* (New York, Columbia University Press, 1950), and by others.

The effects of changes in sex roles and in the status of women tend to be largest for women who are engaged in higher education and careers. Negative fertility differentials by education tend to diminish towards the end of the rapid-diffusion phase of the transition, but may diverge again in a negative direction as women enter higher education and full-time employment.

Another aspect of our perspective of value change is that it often occurs in spurts, rather than gradually. The process resembles that of the diffusion of birth control which has been described earlier. Where deviation from values meets with strong social disapproval, changes in values may be delayed until they are initiated by opinion leaders. Once the changes get under way, diffusion may be rapid because of the unusually large build-up of latent receptivity, particularly in culturally homogeneous and socially integrated populations in which values are widely shared.[9]

In Japan, the pace of economic and social change has been very rapid, and the cultural lag, when changes in values follow changes in fertility, has been longer than in western industrialized nations. Because Japan is culturally homogeneous, we expect spurts of changes in values to be more pervasive and more visible. In general, there is a dynamic interplay between fertility and values, and a reduction in fertility induces changes in values which, in their turn, lead to further fertility decline.

RECENT FERTILITY TRENDS IN JAPAN

We begin our empirical analysis with a brief examination of the trends in fertility that we wish to explain. Figure 1 shows the trend in total fertility (TF) in Japan since 1950. It fell rapidly between 1950 and 1957 from 3.65 to 2.04 births per woman, and then remained at near-replacement level until 1973 (except for a temporary dip in 1966, the year of the fire horse, which is traditionally considered to be an unlucky year in which to give birth to a girl).[10] After 1973, total fertility resumed falling, to 1.50 in 1992, and 1.46 in 1993. Total marital fertility fell much more slowly after 1973, which suggests that changes in nuptiality were responsible for much of the fall in total fertility after that year. Ideal family size changed little after 1973. In 1990, the latest year for which we have estimates of total marital fertility, ideal family size exceeded total marital fertility by 0.7 of a child, and total fertility by 1.1.

Figure 2 shows trends in period parity progression ratios. The synthetic proportion who remained single ($1-p_M$, where p_M denotes the PPPR from birth to marriage) tripled from four per cent in 1951 to twelve per cent in 1990. PPPRs for higher-order transitions declined from 97 to 88 per cent for p_0 (marriage to first birth), from 93 to 83 per cent for p_1, from 58 to 37 per cent for p_2, from 62 to 14 per cent for p_3, and from 57 to 18 per cent for p_4^* (4+ to 5+). The pattern of decline varied at different times. The fall in total fertility between 1951 and 1957 was almost entirely the result of rapid reductions at parities two and above. Between 1973 and 1990, the fall in total fertility resulted largely from a reduction in progression ratios from birth to marriage and from marriage to first birth. The contribution of PPPRs at higher parities to the decline in fertility after 1973 was negligible, although their values dropped sharply between 1973 and 1975, probably as a result of the oil crisis which led to a major recession which lasted two years. However, these PPPRs returned almost to their previous levels by 1990. The PPPRs can be aggregated to provide estimates of total marital fertility, the trend of

[9] Retherford, 1985, *loc. cit.* in fn. 2; R. W. Hodge and N. Ogawa, *Fertility Changes in Contemporary Japan* (Chicago, University of Chicago Press, 1991); Ogawa and Retherford, *loc. cit.* in fn. 8.

[10] Hodge and Ogawa, *loc. cit.* in fn. 9.

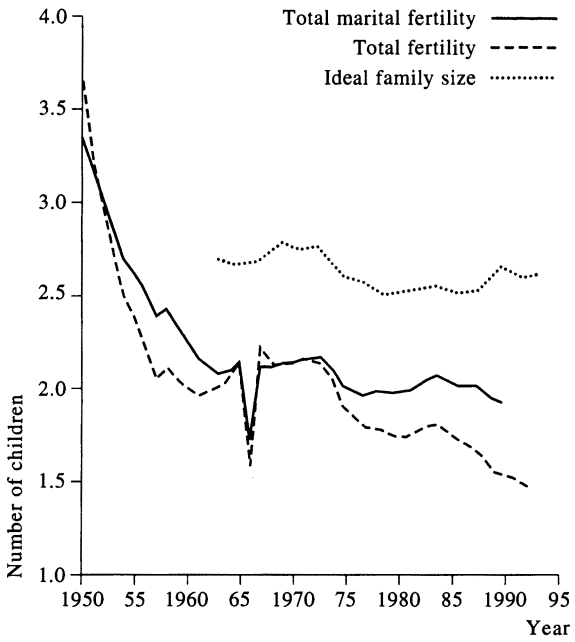

Figure 1. Trends in total fertility (TF), total marital fertility (TMF), and ideal family size: Japan, 1950–94.
Notes: TFs were obtained from Statistics Bureau, *Population Census of Japan* (various years) and Ministry of Health and Welfare, *Vital Statistics* (various years). TMFs were calculated from period parity progression ratios. Average values of ideal family size for currently married women of reproductive age were calculated from the 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1984, 1986, 1988, 1990, 1992 and 1994 rounds of the National Survey on Family Planning, conducted by the Mainichi Newspapers of Japan. Values of ideal family size for 1963, 1965, and 1967 are based on currently married women of reproductive age who had at least one child. Values of ideal family size from the other survey rounds are based on all currently married women of reproductive age.

which is also shown in Figure 1. Overall, total marital fertility declined from 1973 to 1990, but the decline was small: from 2.17 to 1.93. However, total marital fertility has been falling steadily since the mid-1980s.[11]

To complete the picture of fertility trends, we look at cohort measures. The most commonly used index is the mean number of children ever born to currently married women of reproductive age. Figure 3 shows the trend in this measure by age; it is based on information from various rounds of the National Survey on Family Planning.[12]

Since the early 1970s, the trend of CEB among currently married women has been remarkably constant. The only hint of decline appears in the trend of CEB at ages 20–29, which fell gradually between the late 1970s and 1992, and then sharply between 1992 and 1994. No doubt these declines have occurred partly because an increasing proportion of first births has been delayed to age 30 and over, as age at marriage has risen. Although it remains to be seen whether the delays in first births will eventually translate into lower completed family size by age 50, the trends in TMF and PPPRs suggest that they will. A trend toward lower completed family size in Japan is also suggested by hazard models of parity progression which indicate that delayed marriage for women has a strong negative effect on subsequent parity progression ratios, even after education and some

[11] N. Ogawa and R. D. Retherford, 'The resumption of fertility decline in Japan: 1973–92', *Population and Development Review* **19** (1993), pp. 703–741.

[12] Unfortunately, no statistics on children ever born were collected in the quinquennial Japanese censuses after 1980, so that no information on trends can be obtained from these censuses.

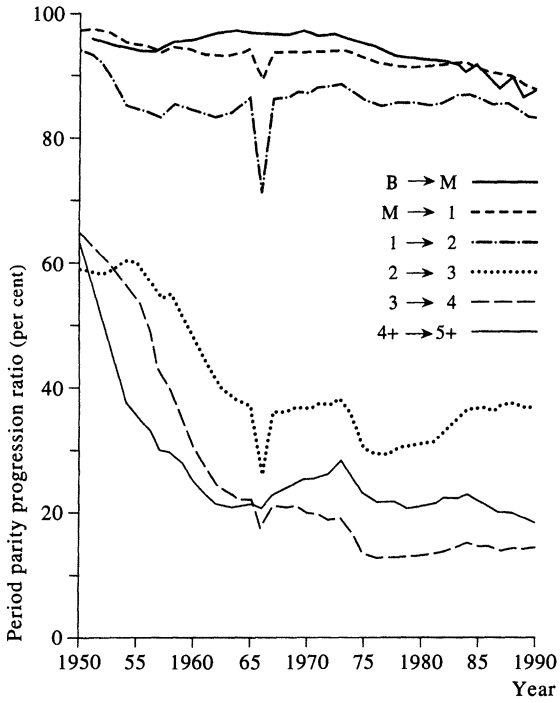

Figure 2. Trends in period parity progression ratios (PPPRs): Japan, 1950–90.
Source: N. Ogawa and R. D. Retherford, 'The resumption of fertility decline in Japan: 1973–92', *Population and Development Review*, **19** (1993), pp. 703–741.

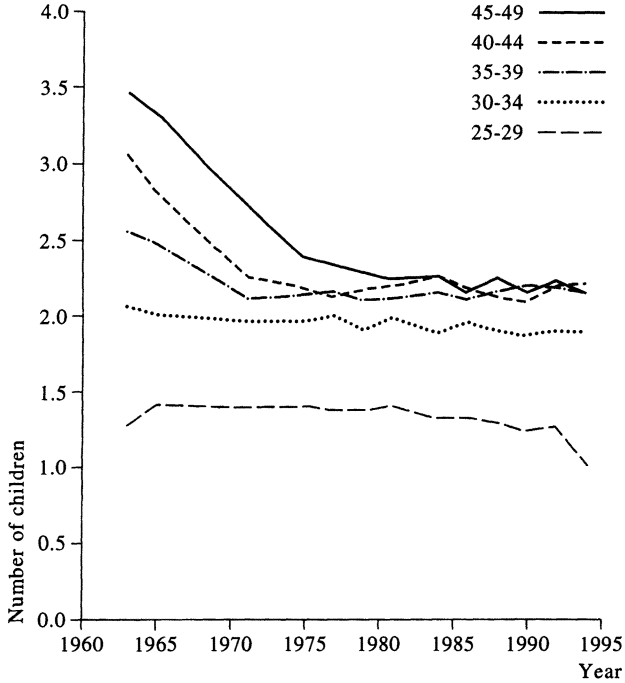

Figure 3. Trends in number of children ever born to currently married women of reproductive age, by age: Japan, 1963–94.
Note: Calculated from data from the 1963, 1965, 1971, 1975, 1977, 1979, 1981, 1984, 1986, 1988, 1990, 1992 and 1994 rounds of the National Survey on Family Planning.

other socio-economic factors have been statistically controlled. The effect is strongly negative, not only for parity transition $2 \rightarrow 3$ but also $1 \rightarrow 2$.[13]

THE RISING AGE AT MARRIAGE SINCE 1975

Changes in nuptiality have had a substantial impact on fertility after 1975. Decomposition of fertility decline into components from parity progression ratios indicates that changes in nuptiality accounted for about half of the fall in total fertility between 1973 and 1990.[14]

Figure 4 shows trends in nuptiality as measured by the singulate mean age at marriage, calculated for each sex separately using data on proportions never-married from Japan's quinquennial censuses. Between 1950 and 1960, this index increased sharply for both sexes, only to level off between 1960 and 1975 and even to decline somewhat for women. After 1975 it increased again, and in 1990 the mean age at marriage was 26.9 years for women and 30.3 years for men. These values are among the highest recorded anywhere and in 1988 were exceeded for women only in Sweden (30.8), Denmark (28.8), Switzerland (27.1), and the Netherlands (27.0 in 1989).[15] This is even more remarkable, given the low frequency of pre-marital cohabitation in Japan: for single women aged 20–24 in 1987 this was one per cent, compared with 29 per cent in Denmark in 1975, and 44 per cent in Sweden in 1981.[16] In Japan, these changes have coincided with very rapid economic and social development. Between 1955 and 1990 real income per head increased almost eightfold,[17] the proportion urban increased from 37 to 77 per cent,[18] and life expectancy rose from 50 to 76 years for males and from 54 to 82 years for females.[19] Between 1955 and 1993, the proportion attending junior college or university increased from 15 to 39 per cent for men and from 5 to 43 per cent for women.[20]

It is pertinent to ask whether some aspect of this rapid economic and social development can explain the levelling and even slight decline of SMAM for women between 1960 and 1975. Changing patterns of women's work provide the principal explanation. In Figure 4 it is shown that labour force participation rates for women aged 20–29 fell between 1960 and 1975, and rose sharply afterwards.[21] The fall in the rate between 1960 and 1975 was due mainly to a decline in the proportion working as farmers and unpaid family workers as a consequence of rapid industrialization and urbanization, and the rise after 1975 was due mainly to an increase in the proportion working for pay in urban areas. The slight reversal in the trend between 1990 and 1993 was due to the economic recession which began in late 1990, and which for a time reduced women's chances of finding paid employment.

[13] Ogawa and Retherford, *loc. cit.* in fn. 11.

[14] *Ibid.*

[15] United Nations, *Demographic Yearbook 1990* (New York, United Nations, 1992).

[16] M. Atoh, 'Attitude toward marriage among the youth: causes for the recent rise in the proportion single among the twenties', in Population Problems Research Council, *Summary of Twentieth National Survey on Family Planning* (Tokyo, Mainichi Shimbun, 1990).

[17] Economic Planning Agency, *Annual Report on National Accounts* (Tokyo, Government Printing Office, Various dates).

[18] N. Ogawa, *Internal Migration in Japanese Postwar Development*, NUPRI Research Paper Series No. 33 (Tokyo, Nihon University Population Research Institute, 1986); Statistics Bureau, *1990 Population Census of Japan* (Tokyo, Japan Statistical Association, 1992).

[19] Ministry of Health and Welfare, *White Paper on Health and Welfare for 1993* (Tokyo, Kosei Mondai Kenkyu Kai, 1994).

[20] Ministry of Education, *Statistical Bulletin of Education* (Tokyo, 1994).

[21] 1960 was the first year for which women's labour force participation rates in this age group were published.

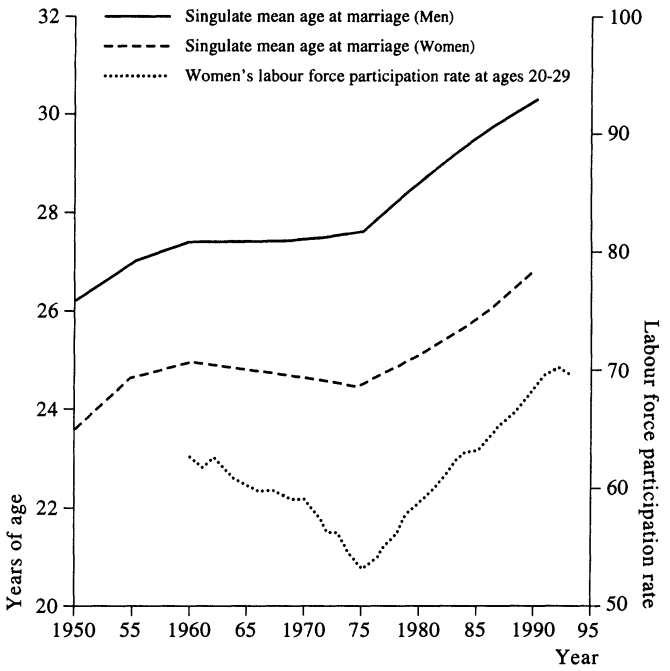

Figure 4. Trends in the singulate mean age at marriage (SMAM), by sex, and in women's labour force participation rate at ages 20–29: Japan, 1950–93.

Sources: Statistics Bureau, *Population Census of Japan* (various years) and Statistics Bureau, *Annual Report on the Labour Force Survey* (various years).

The agreement between the trend in the female labour force participation rate at ages 20–29 and the trend in SMAM for women is remarkable. Although there is undoubtedly some reverse causation operating (some women work because they remain single, rather than *vice versa*), the results strongly suggest that the trend in the labour force participation rate for young women is a major determinant of the trend in mean age at marriage. The fact that the dip in the trend in the labour force participation rate at ages 20–29 can be explained in terms of industrialization and structural changes in the labour market without reference to the trend in age at marriage, whereas the dip in the trend in age at marriage cannot be explained without reference to the trend in the labour force participation rate, suggests that causation is mainly one way, from labour force participation to age at marriage. It also appears that the trend in men's SMAM, which does not level off as much as the trend in women's SMAM, was influenced by the trend in the SMAM for women, the linking mechanism being that men tend to marry women about two to three years younger than themselves.

Different rounds of the NSFP provide additional information on women's work before marriage, which is shown in Figure 5. The proportion of women who worked before marriage rose steeply from 49 per cent in 1955 to 98 per cent in 1992. The rise would have been even steeper if the figures could have been restricted to paid employment before marriage, but good estimates of these changes are not available from the survey data. The movement of women into paid employment is a consequence of their rapidly rising educational qualifications, of structural changes in the labour market, including rapid expansion of the service sector, and of labour shortages and expanding job opportunities in a rapidly growing economy. Economic gains from education (wage gain per additional year of education) have been greater for women

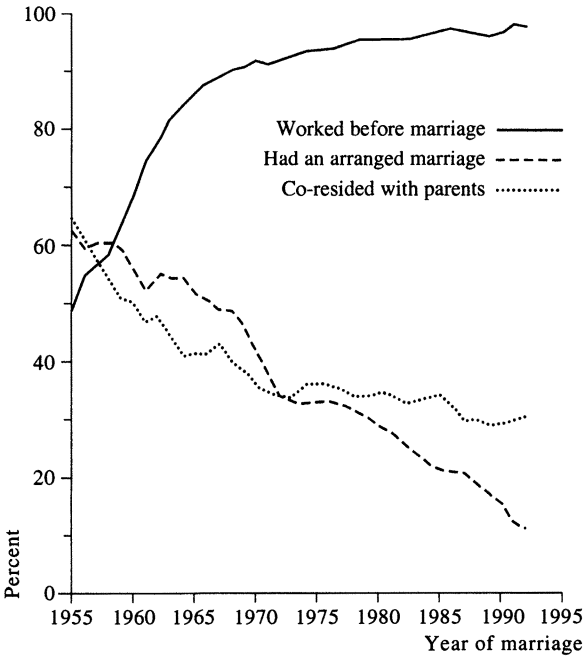

Figure 5. Trends in the percentage of women who worked before marriage, the percentage who had an arranged marriage, and the percentage who co-resided with parents immediately after marriage: Japan, 1955–92.

Note: Calculated from pooled data from the 1981, 1984, 1986, 1988, 1990, 1992 and 1994 rounds of the National Survey on Family Planning. Curves are based on three-year moving averages.

than for men.[22] Between 1955 and 1993 the proportion of university graduates who obtained jobs on graduation increased from 75 to 77 per cent for men and from 68 to 76 per cent for women.[23]

Better jobs and higher wages tend to decrease the attractiveness of marriage relative to employment, especially if women are forced to give up their jobs on marriage. This happens often in Japan, which is unique among industrial nations in that it still has an M-shaped pattern of women's labour force participation by age. The dip in the middle of the curve, which has become shallower over time, reflects temporary withdrawals from the labour force following marriage or first birth.[24]

CHANGES IN VALUES AND MARRIAGE

The factors mentioned above have contributed not only to delayed marriage, but also to an increase in love marriages and a decline in arranged marriages. The decline in the proportion of arranged marriages, as calculated from retrospective survey data, is shown in Figure 5. Massive urbanization and major changes in the occupational structure of the population have weakened the institution of arranged marriage by eroding the network of economic, kinship, and interpersonal ties in local communities and neighbourhoods, which in earlier times formed the primary basis for arranged

[22] N. Ogawa and R. L. Clark, 'Earnings patterns of Japanese women: 1976–88'. *Economic Development and Cultural Change* **43** (1995), pp. 293–314.

[23] Ministry of Education, *op. cit.* in fn. 20.

[24] N. Ogawa, 'Sex differentials in labour force participation and earnings in Japan', in *Women's Economic Participation in Asia and the Pacific* (Bangkok, United Nations ESCAP, 1987).

marriage.[25] Values and norms which support the institution of arranged marriage have also eroded. When in the 1994 round of the NSFP single women were asked whether they preferred an arranged marriage or a love match, fewer than one per cent preferred an arranged marriage, 66 per cent preferred a love match, and 27 per cent had no preference. Arranged marriages often follow failure to secure a love match, as is suggested by the considerably steeper increase in mean age for an arranged marriage than for a love match.[26]

The decline in arranged marriages has been accompanied by a decline in co-residence with parents immediately after marriage. It is shown in Figure 5 that the proportion of newly married couples who co-resided with their parents fell from 64 to 31 per cent between 1955 and 1992. Over approximately the same period the proportion of husbands who were eldest sons increased from 40 to 69 per cent, and this tended to slow the decline in the proportion of newly married couples who co-resided with parents.[27] Unfortunately, the survey data do not include direct information on the values and desires of newly married couples regarding co-residence vs. independent residence. We can only conjecture that, for reasons given in the theory presented earlier, the value placed on co-residence has declined as co-residence itself has declined. Later we consider some indirect evidence, relating to trends in values of filial piety, which supports this conjecture.

The decline in arranged marriages has not been compensated by the emergence of a well-developed marriage market. The weakening of communities, extended kin networks, and arranged marriages in Japan has not been offset by the emergence of voluntary associations where young men and women with similar interests can meet socially.[28] Because contact with potential marriage partners tends to be limited, often to a small circle of colleagues at work or former schoolmates, many single persons experience considerable difficulty in meeting potential spouses. Sex imbalances at the tertiary level of education exacerbate the problem. In 1993, 92 per cent of new entrants to junior college were women, and 67 per cent of new entrants to university were men.[29]

Problems in finding a suitable spouse are reflected in answers to the 1994 round of the NSFP, when single women were asked whether they had any close male friends. Five per cent said they had a fiancé, 27 per cent had a boy friend, 20 per cent had male friends, but 44 per cent had no male friends. The same respondents were also asked whether they wanted to marry. Twenty-nine per cent wished to marry immediately, 63 per cent wished to marry later, and six per cent wished to remain permanently single. Those who said they wanted to marry, but not immediately, were asked why they did not want to marry now. Thirty-two per cent replied that they could not find a suitable partner. These percentages differ little from those recorded in the 1990 survey four years earlier.

The other responses to the question 'why not marry now' reflect the increased salience of emergent values of independence and individualism among the new generation of young single women. Forty-eight per cent said they wanted to work, study, or enjoy hobbies for the time being. Another 30 per cent said they were too young. Nineteen per cent said marriage would deprive them of their liberty. Only nine per cent cited financial obstacles, despite the high cost of getting married and setting up a household, which for

[25] T. Fukutake, *The Japanese Social Structure*, 2nd edition (Tokyo, University of Tokyo Press, 1989).

[26] K. Otani, 'Time distributions in the process to marriage and pregnancy in Japan', *Population Studies* **45** (1991), pp. 473–487.

[27] Calculated from pooled data from the 1984, 1986, 1990, 1992 and 1994 rounds of the NSFP. Numbers are three-year moving averages over calendar years.

[28] According to Fukutake, *op. cit.* in fn. 25, this is one of many instances where the evolution of modern institutions and values has not kept up with economic development.

[29] Ministry of Education, *School Basic Survey* (Tokyo, Ministry of Education, 1994).

Japanese couples in the Tokyo and Osaka metropolitan areas averages about 8 million yen, or US$96,000,[30] and only one per cent cited care of parents or siblings as an obstacle.

Changes in values are also reflected in the 'new single' concept, which received considerable attention in the mass media in the last half of the 1980s. The new single concept refers to the enjoyment of life as a single person, without pressure to marry, and is a new phenomenon in Japan, where strong familial traditions and social organization have in the past generated considerable pressure to marry.[31] In the 1988 National Family Survey, the 'new single' concept was regarded favourably by a large majority of single persons: 78 per cent of single women, and 59 per cent of single men. These proportions have hardly changed since. In the 1993 National Survey on Female Labour, Rearing of Infants, and Care for the Elderly, in which the same question was asked, 76 per cent of single women and 62 per cent of single men favoured the concept. It would appear that a major shift in values had already occurred by the time the 'new single' concept was taken up by the media, and when age at marriage was already very high.

Although the proportions who favoured the 'new single' concept did not change much after 1988, certain other values related to marriage did change. In various surveys taken between 1972 and 1993 people were asked: 'There are many views relating to women's marriage. Which of the following do you agree with?' The responses are shown in Table 1. Between 1972 and 1993, the proportion who agreed that 'women should get married because a woman's happiness lies in marriage' declined from 40 to 14 per cent among women and from 36 to 15 per cent among men, and most of the change occurred after 1987. The proportion who agreed that 'if women can be on their own, they don't have to marry' increased from 13 to 33 per cent among women and from 7 to 24 per cent among men, again mainly after 1987. It would appear that not only delayed marriage but also not marrying at all is becoming more acceptable in Japan.

These changes have been accompanied by greater acceptability of pre-marital sexual relations, perhaps made inevitable by very high age at marriage and the availability of contraception and abortion. In the 1990 round of the NSFP, single women were asked directly whether they had ever engaged in sexual intercourse, and 35 per cent of respondents answered 'yes'. When the same question was asked in the 1994 round of the Survey, the figure had risen to 42 per cent.

For these same women, a multivariate analysis of factors that affect the likelihood of having engaged in sexual intercourse indicated that, in 1990, the only significant explanatory factors were age, enrolment in education, and co-residence with parents. The probability of sexual experience was lower for younger women, those currently enrolled in education, and those who co-resided with parents. Other socio-economic factors had no effect, which suggests that sexual values were changing across the board. However, the same multivariate analysis of data from the 1994 round of the NSFP indicated that current urban residence significantly increased the likelihood of having had sexual intercourse, but that urban residence in childhood lowered the probability significantly. The reasons for this are not clear. The figures suggest that changes in sexual behaviour may have been more rapid in the cities than in the countryside.

During the same period, the proportion of single women aged 20–24 who were currently using contraception increased from 45 to 68 per cent, and the proportion of

[30] Asahi Shimbun, 'Greater importance attached to honeymoon' (in Japanese) (13 October 1992). Findings are based on a June/July 1992 survey of approximately 600 couples married during the year before the survey, living in the 14 prefectures constituting the Tokyo and Osaka metropolitan areas. The survey was conducted by the Sanwa Bank.

[31] Fukutake, *op. cit.* in fn. 25.

Table 1. *Percentage of women and men aged 20 and over who gave specified answers to the question, 'There are many views concerning women's marriage. Which view do you agree with?'*

	Women					Men				
Response	1972*	1979	1984	1987	1993	1972*	1979	1984	1987	1993
Women should marry because a woman's happiness lies in marriage	40	32	30	28	14	36	33	33	32	15
Women should marry because marriage provides them with psychic and economic security	21	21	22	24	25	22	23	21	23	26
Marriage is a natural thing for human beings	20	18	18	17	19	26	22	22	24	23
If women can be on their own, they don't have to marry	13	23	24	24	33	7	13	15	16	24
It is better for women not to marry, because marriage places constraints on women's freedom	0.4	0.3	0.5	0.4	0.3	0.2	0.0	0.4	0.2	0.3
Do not know	6	6	6	6	8	9	9	9	6	12
Number of respondents	16,645	4,590	4,431	2,144	1,366	2,413	3,649	3,600	1,635	1,056

* In the 1972 survey, results were tabulated for persons aged 18 and over, instead of 20 and over. The difference of two years makes hardly any difference to the results.

Source: Prime Minister's Office, *Report on the National Survey on Women* (Tokyo: Government Printing Office, various years). Results for 1993 were calculated from the National Survey on Female Labour; some results were published in Mainichi Newspaper, 'Results from the National Opinion Survey on Female Labour, Rearing of Infants, and the Care for the Elderly' (Morning edition, 4 January 1994).

all single women who regarded abortion as permissible from 33 to 42 per cent. These rapid changes are amply evident in the mass media, where erotic displays of nudity and promiscuity have become not only more common, but also more pornographic.

Further evidence on pre-marital sexual activity comes from the National Survey on Sexual Behaviour of Youth. Between 1974 and 1987, the proportion of junior college and university students who reported having had sexual intercourse increased from 23 to 47 per cent among men and from 11 to 26 per cent among women.[32]

The increase in pre-marital sexual activity is also indicated by the trend in the proportion of first births that occurred before the eighth month of marriage. This proportion increased from 9 per cent among women born in 1930–34 to 27 per cent among those born in 1960–64. The increase was found both in love matches (12 to 29

[32] T. Inoue and Y. Ebara, *Data Book on Women* (in Japanese) (Tokyo, Yuhikaku Press, 1991).

per cent) and in arranged marriages (7 to 12 per cent). This indicates that the character of arranged marriage has changed as the frequency of arranged marriage has declined.[33]

The rapid change in values relating to sexual and reproductive behaviour in Japan in recent years is consistent with our earlier hypothesis that changes in values tend to occur in spurts, where previously deviations from values met with strong social disapproval. Social disapproval of pre-marital sex was strong in Japan until the 1980s.

Table 2. *Trend in the proportion of first births resulting from pre-marital pregnancy, by marriage type (per cent)*

Birth cohort	Percentage having pre-marital pregnancy, by marriage type			Number of women		
	Arranged	Love	Total	Arranged	Love	Total
1935–39	6.6	12.3	8.9	50	63	113
1940–44	5.7	12.8	9.0	79	156	235
1945–49	9.2	15.2	12.7	138	319	457
1950–54	10.7	18.9	16.4	109	425	534
1955–59	11.3	22.4	19.7	51	306	357
1960–64	11.8	29.1	26.5	14	192	206

Note: Pre-marital pregnancies were defined as those resulting in a birth that occurred either before marriage, or after marriage but before the eighth month since marriage. Percentages were calculated from pooled data from the 1981, 1984, 1986, 1988, 1990, 1992, and 1994 rounds of the National Survey on Family Planning.

Perceptions of the ideal age at which to marry, when compared with actual ages at marriage, provide another way of assessing whether value changes relating to marriage are primarily a cause or an effect of the rise in age at marriage. Responses to a question on ideal age at marriage in the 1992 Survey on Preferences in the National Life indicate that among women the ideal age at marriage was 25.4 years, and among men 28.0 years. A multiple regression analysis (not shown) indicates that these figures tend to be the same irrespective of the socio-economic circumstances of the respondents. These survey estimates of ideal age at marriage may be compared with the estimates of SMAM from the Census of 1990, of 26.9 years for women and 30.3 years for men. Ideal age at marriage appears to have lagged behind the trend in age at marriage itself.[34]

An important factor that could cause age at marriage to fall is related to the declining trend in the period parity progression ratio from marriage to first birth (see Figure 2). The magnitude of this trend suggests that it is not only the proportion childless that is increasing, but also the interval between marriage and first birth. Figure 6 shows that this interval increased from 16.4 months in 1955 to 27.1 months in 1992, when first births which occurred before the eighth month of marriage are excluded from the calculation. When they are included, the interval increased from 14.5 months in 1955 to 21.5 months in 1990. The lower increase reflects a rise in the proportion of women who are pregnant at marriage.

A major factor in the trend to longer first birth intervals appears to be the declining proportion of women who stop working outside the home when they marry. This proportion declined from 78 per cent of those who married in 1966 to 56 per cent of those who married in 1992. This upward trend may ultimately usher in a 'new marriage'

[33] For further discussion of the change in the character of arranged marriage, see S. Iwao, *The Japanese Woman: Traditional Image and Changing Reality* (New York, Free Press, 1993, pp. 31–32).

[34] Cherlin came to a similar conclusion for the United States, and argued that the rise in age at marriage and divorce rates tended to precede associated changes in values. See A. Cherlin, *Marriage, Divorce, Remarriage* (Cambridge, Mass.: Harvard University Press, 1981, pp. 40–48).

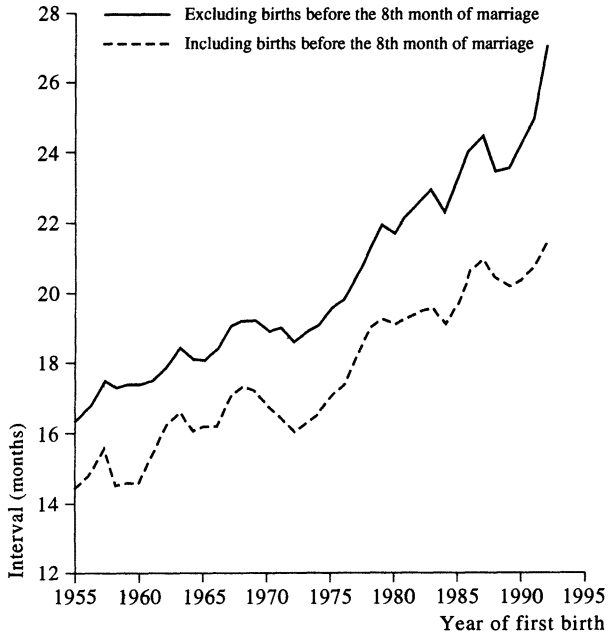

Figure 6. Trend in the mean interval between marriage and first birth.

Notes: Calculated from pooled data from the 1981, 1984, 1986, 1988, 1990, 1992 and 1994 rounds of the National Survey on Family Planning. First births are considered premaritally conceived if the difference between the date of first birth and the date of marriage is less than eight months. Curves are based on three-year moving averages.

concept (a term coined by the authors that is not in current use), meaning enjoyment of married life without pressure to have a child straightaway. This would represent another major change in values in Japan, where, in the past, women's primary source of emotional satisfaction has been their children rather than their spouse, and partly for this reason the first birth interval has been short.[35] Viewed in broader historical perspective, the norm that a first birth should follow quickly after marriage is part of a legacy of high-fertility values that again illustrates the lag in value change in Japan.

Delaying the first birth allows women to marry but to continue working for a while before giving birth at the time of their choice. It reduces the incompatibility of marriage and full-time paid employment and weakens the causal linkage between women's labour force participation and age at marriage, and may, indeed, ultimately lead to a fall in age at marriage. However, even such a fall would probably not lead to a renewed increase in fertility. The tendency for changes in values to lag behind changes in behaviour suggests that the interval between marriage and first birth may continue to increase for a while, before a major shift in values in the direction of a 'new marriage' concept occurs.

VALUE CHANGE AND MARITAL FERTILITY

Trends in ideal family size

Replies to questions asked in surveys about ideal family size provide a summary indicator of changing values. Our estimates of mean ideal family size are based on replies by currently married women of reproductive age to questions asked in various rounds

[35] P. Morgan, R. Rindfuss and A. Parnell, 'Modern fertility patterns contrasts between the United States and Japan', *Population and Development Review* **10** (1984), pp. 19–40.

of the NSFP. It is shown in Figure 1 that between 1963 and 1994 ideal family size hardly changed from 2.7 to 2.6 children. The estimates for intermediate years vary in a narrow range between 2.5 and 2.8 children. Figure 7 shows the trend in ideal family size by age

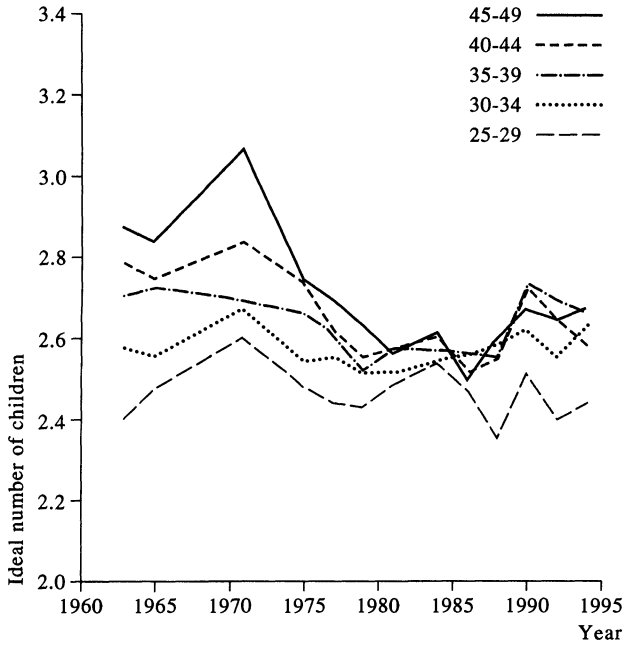

Figure 7. Trends in mean ideal family size among currently married women of reproductive age, by age: Japan, 1963–94.

Note: Calculated from data from the 1963, 1965, 1971, 1975, 1977, 1979, 1981, 1984, 1986, 1988, 1990, 1992 and 1994 rounds of the National Survey on Family Planning. Note that the scale of the graph visually exaggerates small changes.

of respondent. Ideal family size is slightly larger for older than for younger women, but the figures do not change much over time. The near-constancy of ideal family size among women aged 25–29 is especially remarkable, given the substantial increase in age at marriage and associated changes in women's labour force participation and values discussed earlier.

Figure 7 also shows that between successive rounds of the NSFP ideal family size has been lower among younger than among older women. If women's ideal family size were to remain constant as they grow older, we would expect ideal family size to decline over time. But it is clear from Figure 7 that no such drop has occurred. Women tend to revise their ideal family sizes upward as they grow older, no doubt because some of them experience accidental higher-order births which they then rationalize as having been wanted. Despite legalized abortion and widespread use of contraception (though the pill remains illegal), the proportion of unplanned births fluctuated between 20 and 23 per cent between 1981 and 1994, and there was no clear trend.[36] Thus there remains ample scope for rationalizing unwanted births as having been wanted.

Figures 1 and 7 show that a decisive shift in ideal family size from three to two children is still nowhere in sight, even among younger women. But rising age at marriage

[36] N. Ogawa and R. D. Retherford, 'Prospects for increased contraceptive pill use in Japan', *Studies in Family Planning* **22** (1991), pp. 378–383; see also Ogawa and Retherford, *loc. cit.* in fn. 11. The value for 1994 was calculated from the 1994 round of the NSFP.

and falling marital fertility, as measured by TMF, and value changes associated with these trends all suggest that a reduction in ideal family size is not far away.

This view is supported by social-psychological theories of cognitive dissonance, which suggest that divergence between behaviour and values tends to result in adjustments to relieve dissonance.[37] At present, large differences between fertility behaviour and fertility values exist in Japan, where in 1990 mean ideal family size exceeded TMF by about 0.7 and TF by about 1.1 children.

Because behaviour, in the form of actual fertility, is driven primarily by economic and social forces that are continuing to reduce fertility, it seems unlikely that fertility behaviour will adjust to fertility values, but rather that ideal family size will adjust to behaviour.

The shift in ideal family size to a value much closer to two children is likely to be rapid because of Japan's cultural homogeneity, illustrated by the minimal variation of ideal family size in different socio-economic groups. In Table 3 we show adjusted estimates of ideal family size by socio-economic characteristics, obtained from multiple classification analysis. Ideal family size is practically constant for women of different ages, place of

Table 3. *Adjusted estimates of ideal family size by socio-economic variables among currently married women of reproductive age: Japan, 1975, 1984, 1992 and 1994*

Characteristic	Year of survey			
	1975	1984	1992	1994
Age				
< 25†	2.4	2.2	2.5	2.5
25–29	2.5	2.5*	2.4	2.5
30–34	2.6	2.5*	2.5	2.6
35–39	2.7*	2.6*	2.7*	2.7
40–44	2.7*	2.6*	2.7	2.6
45–49	2.7*	2.6*	2.7	2.7
Residence				
Urban	2.6	2.6	2.6	2.6*
Rural†	2.7	2.6	2.7	2.7
Education				
Junior high school†	2.6	2.5	2.5	2.5
Senior high school	2.6*	2.6	2.6	2.6*
Junior college or other	2.7	2.6	2.6	2.6*
University	2.8	2.7	2.7*	2.6
Occupation				
Housewife†	2.6	2.6	2.6	2.6
Family worker	2.7*	2.6	2.7*	2.6
Paid employee	2.6	2.6	2.6	2.7
Other	2.6	2.5*	2.6	2.6
Number of respondents	2,763	2,635	2,319	1,755

Notes: Adjusted values of ideal family size were obtained by multiple classification analysis. The adjusted estimates of ideal family size for categories of a particular predictor variable statistically control for the other predictor variables by holding them constant at their mean values in the sample. In the row labels, a dagger after a variable category indicates the reference category of that variable in the underlying multiple regression. An asterisk after a numerical entry in the table indicates that the underlying multiple regression coefficient differs significantly from zero at the five per cent level. Data are from the 1975, 1984, 1992, and 1994 rounds of the National Survey on Family Planning.

[37] See, for example, S. B. Kiesler, 'The aging population, social trends, and changes of behavior and belief'. In S. B. Kiesler, J. N. Morgan and V. K. Oppenheimer (eds.), *Aging: Social Change* (New York, Academic Press, 1981); H. Kendig, *Social Change and Family Dependency in Old Age: Perceptions of Japanese Women in Middle Age*, NUPRI Research Paper Series No. 54 (Tokyo, Nihon University Population Research Institute, 1989).

residence, education, or occupation. In the 1994 survey round, the predictor variables in Table 3 explained only two per cent of the variation in ideal family size ($R^2 = 0.02$).

Women's work and marital fertility

As we showed in Figures 1–3 and 7, neither marital fertility nor ideal family size among married women has fallen much in Japan since 1975. This partly reflects offsetting effects of increases in husbands' incomes, which have affected fertility positively, and rapid increases in the incidence of wives' paid employment and earnings, both of which affect fertility negatively.[38]

In Japan, married women's labour force participation is characterized by an unusual pattern of part-time and full-time employment that helps to explain why marital fertility has not fallen significantly since 1973, despite the dramatic increase in married women's paid employment. Married women who work in the labour force tend to work full-time before marriage, but a large proportion shift to part-time work after having married. In 1994, 52 per cent of married women of reproductive age who were in paid employment worked full-time, and 48 per cent part-time. Part-time workers are excluded from the lifetime employment system, rarely receive annual bonuses, and their wages are much lower than those of full-time workers.[39] In 1994, the average wage of married part-time women workers was 45 per cent of that of their full-time colleagues.[40]

Despite these disadvantages associated with part-time work, part-time employment expanded faster than full-time employment among married women during the period 1979–94, caused in part by rapid growth of the service sector, which needs a substantial amount of part-time labour during peak service hours, and partly because of women's desire for jobs that minimize conflict with child rearing and other household responsibilities.[41]

Some unusual features of Japan's tax code, social security system, and company policies regarding allowances and benefits for dependent spouses also help to explain the more rapid increase of part-time workers over the last 20 years. Couples in which the wife's earnings exceed one million yen annually (about US$12,000) are liable to pay income tax. This threshold has been revised upward from time to time, most recently in 1990. In addition, the wife loses entitlement to dependant's allowances in the determination of her husband's salary. She also loses her dependant status in her husband's pension and medical insurance, and functions instead as an independent worker who acquires pension and medical benefits at a substantially higher cost.

The result is a major financial incentive for women to limit their incomes to no more than one million yen annually by working part-time only. The incentive is greater for more highly educated women, because their husbands tend to earn higher salaries and receive better pension and medical benefits, which would be lost if their wives were to work full-time. Because of the unattractive nature and low wages of much part-time work, many women with higher education do not work at all, and instead devote their

[38] N. Ogawa and A. Mason, 'An economic analysis of recent fertility in Japan: an application of the Butz-Ward model', *Journal of Population Studies* **9** (1986), pp. 5–14; M. Osawa, 'Working mothers: changing patterns of employment and fertility in Japan', *Economic Development and Cultural Change* **36** (1988), pp. 623–650.

[39] L. Martin and N. Ogawa, 'The effect of cohort size on relative wages in Japan', in R. D. Lee, W. B. Arthur and Gerry Rodgers (eds.), *Economics of Changing Age Distributions in Developed Countries* (Oxford, Clarendon Press, 1988).

[40] Calculated from the 1994 round of the NSFP.

[41] Ministry of Labour, *Report of a Study Group on Problems Related to Part-time Work*, Mimeographed (In Japanese, Tokyo, Ministry of Labour, 1992).

full energies to domestic duties. This attitude may help not only to explain the slow decline in marital fertility and the constancy of ideal family size, but also the unusual absence of differentials by education in marital fertility and ideal family size which we discussed earlier.[42] A related aspect is that motivation for part-time work is not to obtain self-fulfilment, but to earn money to pay expenses associated with children's education.[43] This indicates that working part-time does not lead to strong attachments to work, but is compatible with women's traditional role as mothers and housewives.

Of course, these relationships could change considerably if the government and business (particularly the latter) were to abolish the tax and benefit disincentives that discourage married women from working full-time. Some progress toward equality of the sexes has been achieved as a consequence of the Equal Employment Opportunity Law of 1986, which requires non-discrimination in employment, and equal pay for equal work for men and women. However, the law lacks provisions for enforcement, and in practice many inequalities remain.

Partly as a consequence of the trend to greater equality between the sexes in the labour market, acceptance of sexual equality is rapidly increasing throughout Japanese society, and is reflected by the attention given to it by the mass media. In Table 4 we show

Table 4. *Percentage of women and men aged 20 and over giving specified responses to the question, 'The external world for the husband, the domestic world for the wife. What do you think of this view?'*

	Women				Men			
Response	1972*	1984	1992	1993	1972*	1984	1992	1993
Positive	49	29	20	15	52	35	27	21
Rather positive	34	41	36	42	32	41	39	46
Rather negative	8	18	26	23	6	13	21	17
Negative	3	5	12	9	2	4	8	6
Don't know	7	7	6	11	8	7	6	11
Number of respondents	16,645	4,431	1,971	1,376	2,413	3,600	1,553	1,073

* In the 1972 Survey, results were tabulated for persons aged 18 and over instead of 20 and over.

Notes: The percentages for 1972 and 1984 are based on the *Report on the National Survey on Women*, and the percentages for 1992 are based on the *Report on the National Survey on Equality of the Sexes*. The percentages for 1993 were calculated from the National Survey on Female Labour, Rearing of Infants, and Caring for the Elderly. The question and response categories on which percentages are based are the same in all four surveys. See Prime Minister's Office, *Report on the National Survey on Women* (Tokyo: Government Printing Office, various years); and Prime Minister's Office, *Report on the National Survey on Equality of the Sexes* (Tokyo: Government Printing Office, 1992).

percentages of men and women reacting positively and negatively to the question: 'The external world for the husband, the domestic world for the wife'. Between 1972 and 1993 the proportion who responded positively declined from 49 to 15 per cent among women, and from 52 to 21 per cent among men. Partially offsetting this, the proportion responding 'rather positively' increased from 34 to 42 per cent among women and from

[42] Hazard model analyses show that education has a strong negative effect on progression from the single to the married state, but negligible effects on parity progression ratios for higher-order transitions; see Ogawa and Retherford, *loc. cit.* in fn. 11. The effect of education on overall fertility appears to be somewhat negative, but further research is needed on this point.

[43] Ogawa and Retherford, *loc. cit.* in fn. 11; N. Ogawa and R. W. Hodge, 'Patrilocality, childbearing, and labour supply and earning power of married Japanese women', in J. F. Ermisch and N. Ogawa (eds.), *The Family, the Market, and the State in Ageing Societies* (Oxford, Clarendon Press, 1994).

32 to 46 per cent among men. The proportion who responded negatively or rather negatively increased from 11 to 32 per cent among women, and from 8 to 23 per cent among men.

Other relevant findings come from the 1992 National Survey on Equality of the Sexes, in which 64 per cent of women aged 20 and older held the view that men receive preferential treatment over women in the workplace. The same percentage considered that men are treated better than women in the home.[44] Unfortunately, similar data are not available for previous years, so that we cannot assess whether these figures have changed over time.

Changes in the value of children

Demographic theory predicts that the security or insurance value of children declines toward the end of demographic transition. Figure 8 shows that this is indeed the case for

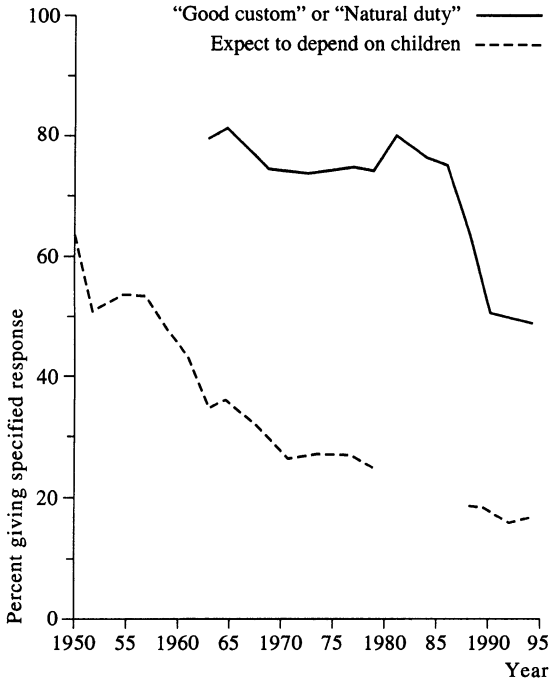

Figure 8. Trends in norms and expectations about care for the elderly: Japan, 1950–94.

Notes: The solid curve shows the percentage who responded 'good custom' or 'natural duty' to the question, 'What is your opinion about children caring for their elderly parents?' The dashed curve shows the percentage who responded 'expect' to the question, 'Do you expect to depend on your children in your old age (including adopted children, if any)?' Percentages were calculated from data from the 1950, 1952, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1984, 1986, 1988, 1990, 1992 and 1994 rounds of the National Survey on Family Planning. The question on expectations of support was asked differently in the 1981, 1984 and 1986, rounds, so data points for these years are not plotted. See also N. Ogawa and R. D. Retherford, 'Care of the elderly in Japan: changing norms and expectations', *Journal of Marriage and the Family*, **19** (1993), pp. 585–597.

Japan. The lower curve relates to expectations of old-age support from children, and is based on the question 'Are you planning to depend on your children in your old age

[44] Prime Minister's Office, *Report on the National Survey on Equality of the Sexes* (Tokyo, Government Printing Office, 1992).

(including adopted children, if any)?' The proportion expecting support declined steadily from 65 to 17 per cent between 1950 and 1994.

Beginning in 1963, questions about filial care for elderly parents were added to the NSFP. The question asked was 'What is your opinion about children caring for their elderly parents?' The principal response categories were 'good custom', 'natural duty', 'unavoidable', and 'not a good custom'. In Figure 8, the categories 'good custom' and 'natural duty' were combined, since they both support values and norms of filial piety. The proportion of respondents who chose one of these two categories fell from 80 to 49 per cent between 1963 and 1994.[45]

As the value of children as security against old age has declined, the principal remaining value of children has been reduced to what Leibenstein has called the 'consumption utility' of children. As this value became more widely held, and as disposable income increased, Japanese couples have been demanding 'higher-quality' children, and particularly better education. Parents are increasingly concerned to obtain education for their children in elite universities, because attendance in these institutions confers a substantial advantage when children apply for jobs in government and major corporations, which recruit their senior staff almost exclusively from these universities.[46] Another reason is that rising education and income levels have resulted in a dramatic increase in the number of applicants for entry to these institutions.

In Japan, gaining admission to a university depends on performance in an entry examination of a do-or-die nature, which has led to an explosive increase in expensive *juku* (private cram schools) and private tutoring, conducted after normal school hours, on weekends, and during vacations. Spending on private education has increased to the point where the costs now exceed normal school expenses for pupils in Japanese public high schools.[47] Between 1982 and 1991 the proportion attending *juku* increased from 40 to 48 per cent among sixth formers, and from 43 to 58 per cent for ninth formers.[48] It is not surprising that a major motive for women's part-time work is to earn money to meet the expense of education for their children.[49]

These educational costs have caused considerable economic and psychological strain on Japanese families. In the 1992 NSFP, 54 per cent mentioned the cost of education as one of the difficulties associated with rearing children; 48 per cent mentioned the psychological strain of educating and training children; nine per cent mentioned the difficulties of coping with child-rearing as well as working outside the home; nine per cent mentioned that it was difficult to provide food, clothing, and housing; and eight per cent mentioned the physical strain of rearing children. In replying to a companion question about the satisfactions obtained from child rearing, a large proportion indicated that rearing children was a rewarding experience, but only eight per cent mentioned 'enjoyment of children', indicating that child rearing was a difficult job. In a recent government white paper it was shown that the cost of rearing a child from birth to university graduation in Japan is at least 20 million yen, or about US$241,000.[50]

[45] In this case, however, the decline was not gradual; the proportions remained fairly steady until 1986, declined sharply between 1986 and 1992, and this decline was followed by a further small decline between 1992 and 1994. See Ogawa and Retherford, *loc. cit.* in fn. 8, for further discussion of the spurt of value change between 1986 and 1992.

[46] Y. Nakata and C. Mosk, 'The demand for college education in postwar Japan', *Journal of Human Resources* **23** (1987), pp. 377–404.

[47] *Japan Times*, 'Tutors deemed top education cost' (9 August 1992).

[48] Economic Planning Agency, *Annual Report on the National Life for Fiscal 1992* (In Japanese, Tokyo, Government Printing Office, 1993). Management and Coordination Agency, *White Paper on Young People* (In Japanese, Tokyo, Government Printing Office, 1993).

[49] Ogawa and Hodge, *loc. cit.* in fn. 43.

[50] Ministry of Health and Welfare, *White Paper on Health and Welfare for 1993* (Tokyo, Kosei Mondai Kenkyu Kai, 1994); *Japan Times*, 'Boost child-care support, paper urges' (9 April 1994).

These changes in attitude imply a potential trade-off between quantity and quality of children.[51] At the same time, the need to earn income to pay for children's education has tended to legitimize the role of working mothers. Cramming establishments, which operate outside school hours, function to some extent as child-care organizations which have made it easier for women to work full-time. These changes are likely to continue to exert downward pressure on ideal family size and marital fertility for some years to come.

CONCLUSION

The picture that emerges from this analysis is that Japan's resumption of fertility decline since 1973 has been driven primarily by underlying economic and social change, not by changes in values. Changes in fertility-related values have tended to lag behind changes in fertility behaviour. The lag of value change behind fertility change has tended to be greater in Japan than in other advanced nations, mainly because the pace of change in underlying economic and social conditions has been faster in Japan, and because it takes time for values to adjust to changes in underlying conditions. Value change often occurs in spurts in Japan, in part because values are widely and quickly shared, reflecting a high degree of cultural homogeneity. According to our theory, when fertility-related value changes occur, they tend to feed back on fertility to produce further fertility decline. However, this feedback is difficult to measure, and it is not measured well in this paper, so this aspect of the theory remains somewhat conjectural.

Many of the more important value changes affecting fertility are bound up with major educational and job gains by women, which have led to greater economic independence and increasing emphasis on values of individualism and equality between the sexes. These developments, which are likely to continue as compliance with the Equal Employment Opportunity Law of 1986 improves, have already led to a major increase in mean age at marriage and a major drop in period fertility.

Although marital fertility has declined only modestly, and ideal family size hardly at all, during the past two decades, downward pressure on both these quantities has been building up. However, future trends will be affected to some extent by government actions. The government is concerned that fertility is too low and is taking measures to improve the quality and attractiveness of family life in order to reverse the upward trend in age at marriage and the downward trend in fertility. The government's recently announced five-year economic plan, for example, calls for a substantial reduction in the exceedingly long hours worked by men.[52] It remains to be seen how effectively the government will implement this new policy.

[51] G. S. Becker, 'An economic analysis of fertility', in *Demographic and Economic Change in Developed Countries* (Princeton, Princeton University Press, 1960); G. S. Becker, *A Treatise on the Family* (Cambridge, Harvard University Press, 1981).

[52] Economic Planning Agency, *Five-Year Economic Plan to Improve the Quality of Life* (In Japanese, Tokyo, Government Printing Office, 1992).