CONTINUITIES IN THE DECLINING FERTILITY OF THE JAPANESE

IRENE B. TAEUBER*

IN 1925, Japan's people were predominantly agricultural and rural. The birth rate was in the upper thirties; the gross reproduction rate[1] was 2.6. Presumably fertility had been higher in the past, for the rates of marriage and childbearing among women were related both to the urbanization of their areas of residence and to the occupations and the educational levels of their husbands. Presumbly fertility would continue to decline slowly along with increasing urbanization, advancing industrialization, and higher educational levels. In fact, economic growth and social change were rapid in the years after the Pacific war, and declines in fertility were even more rapid. In 1955, the birth rate was below 20, while the gross reproduction rate was 1.1. The ratio of births to women in the childbearing ages was less than half its level a generation earlier.

The path of this decline in the fertility of the Japanese is difficult to trace empirically or to assess theoretically. The levels of fertility and the data that measure it were alike related to political and economic events. In the years from 1925 to 1937 there were regularities in the changes in fertility and in the developments in statistics. From 1940 to 1950 there were many statistical activities, but publication was limited. In 1955, numerators from vital statistics and denominators from census tabulations permit the computation of age-specific total and marital fertility rates for the women of the prefectures. Thus it is possible to contrast the fertility of the women in the prefectures in 1925 and in 1955.

The childbearing of the women in 1925 occurred in the tra-

* Office of Population Research, Princeton University.

[1] As conventionally used, the gross reproduction rate is the average number of daughters that a cohort of newly-born females would have if, as they pass through life, they were subject to the age-specific fertility rates of a given date, and if all survive the childbearing ages.

ditional Japan of the pre-Manchurian years. The childbearing of the women in 1955 occurred in a period of rapid economic growth after a decade had lessened many of the influences of war. The differences between these two years permit comparisons of the fertility of Japanese women who were separated from each other by a generation. Interpretations of the results of the comparisons in terms of the processes of fertility decline must be cautious, for the actual course of the declines is known only in broad outline, and the course that the decline would have followed in more normal circumstances cannot be determined. It is not possible to determine what fertility would have been in 1955 in the absence of war and defeat. Given war and defeat, it is not possible to determine the relation between the actual developments in fertility over the last fifteen years and those that would have occurred if there had been no legalization of abortions. Projections of prewar trends and other manipulations of the data indicate the magnitude of the fluctuations and the extent and rapidity of the declines in the years from 1949 to 1955, but such projections do not indicate the fertility that would have been expected in the absence of imperial expansion and war. The demographic facts of size and growth in 1925 alone precluded the orderly and slow transformations of the population over a period of many decades or even a century or so. They did not determine a specific direction of movement for government, economy, migration, or future population growth.

The present note involves comparisons of the levels and the differentials in fertility mainly in 1925 and in 1955, with emphasis on the narrowing or the widening of the differences and the shifts in the relations of age and marital status to reproduction. The areas that are utilized include prefectures, industrial groupings of prefectures, and rural and urban areas.

All Births to All Women

The outstanding fact in the changing fertility of the Japanese over the last generation is decline. The picture is apparent in

Table 1. The fertility of women in the prefectures of Japan, 1925, 1947, and 1955.

Regions and Prefectures	Births per 1,000 Population			Gross Reproduction Rates			Female Births per 1,000 Women Aged 15 to 49		
	1920–1925[a]	1947	1955[c]	1925	1947	1955[d]	1925	1947	1955[d]
Japan	36.7[b]	34.3	19.4	2.6	2.2	1.1	75.7[b]	64.9	36.2
Hokkaido	43.3	36.8	21.7	3.2	2.4	1.3	92.6	69.8	41.9
Tohoku									
Aomori	44.8	41.5	25.5	3.2	2.6	1.5	94.6	78.6	47.8
Iwate	42.1	36.5	24.3	3.0	2.6	1.4	88.0	71.8	45.3
Miyagi	41.6	35.4	22.3	3.1	2.2	1.3	90.0	67.8	41.4
Akita	43.4	38.0	22.5	3.2	2.4	1.3	92.7	72.5	41.2
Yamagata	40.5	32.8	20.2	2.9	2.1	1.2	83.7	60.2	36.6
Fukushima	40.3	35.7	23.4	3.0	2.2	1.5	85.0	67.8	45.2
Kanto									
Ibaraki	38.8	34.3	21.6	2.9	2.2	1.4	82.5	65.6	42.2
Tochigi	40.7	35.7	21.6	3.0	2.3	1.3	85.8	67.9	40.6
Gumma	38.3	34.7	20.0	2.6	2.2	1.2	74.8	64.4	36.6
Saitama	38.5	36.8	21.1	2.7	2.3	1.3	76.6	69.3	38.4
Chiba	35.5	34.8	19.8	2.7	2.2	1.2	75.8	65.6	36.8
Tokyo	34.4	31.7	15.9	2.2	1.8	0.9	66.1	54.6	28.1
Kanagawa	36.6	33.9	17.7	2.6	2.4	1.0	78.9	63.4	32.5
Chubu									
Niigata	38.2	35.4	20.8	2.8	2.2	1.3	80.0	67.9	38.7
Toyama	38.9	42.2	18.1	2.9	2.6	1.0	82.7	78.2	32.4
Ishikawa	35.6	40.1	18.7	2.6	2.5	1.1	72.8	73.8	34.2
Fukui	37.4	34.9	19.7	2.8	2.1	1.2	77.8	63.9	36.8
Yamanashi	37.6	32.6	19.4	2.9	2.1	1.3	81.7	63.0	37.3
Nagano	34.6	30.0	17.6	2.5	1.8	1.1	69.1	55.7	33.3
Gifu	37.9	34.3	18.5	2.8	2.1	1.1	79.8	64.8	34.8
Shizuoka	39.2	34.6	20.5	2.9	2.1	1.2	82.4	64.8	37.8
Aichi	36.5	33.4	17.3	2.5	2.0	1.0	71.0	60.6	31.2
Kinki									
Mie	35.9	32.6	17.1	2.6	2.0	1.0	73.7	59.0	32.1
Shiga	33.7	30.1	17.6	2.5	1.9	1.1	68.7	54.5	32.2
Kyoto	32.0	31.0	14.4	2.1	1.9	0.9	60.2	53.5	26.6
Osaka	34.0	31.2	15.9	2.0	1.9	0.9	59.0	52.2	29.9
Hyogo	34.9	32.0	17.2	2.2	2.0	1.0	65.4	56.2	32.6
Nara	34.9	30.8	16.8	2.4	1.8	1.0	68.0	53.1	31.1
Wakayama	33.9	32.0	17.3	2.4	1.9	1.0	67.4	57.6	31.8
Chugoku									
Tottori	34.2	32.8	19.4	2.6	1.7	1.2	72.4	57.3	37.2
Shimane	32.6	36.4	18.5	2.5	2.3	1.2	70.6	68.3	37.4
Okayama	31.0	33.0	16.9	2.2	2.1	1.0	61.9	60.2	32.3
Hiroshima	34.6	33.7	17.5	2.6	2.1	1.0	73.3	61.4	32.8
Yamaguchi	32.3	33.3	17.9	2.4	2.2	1.1	69.5	62.6	35.6

Table 1. (*Continued*).

Regions and Prefectures	Births per 1,000 Population			Gross Reproduction Rates			Female Births per 1,000 Women Aged 15 to 49		
	1920–1925[a]	1947	1955[c]	1925	1947	1955[d]	1925	1947	1955[d]
Shikoku									
Tokushima	35.3	37.0	20.5	2.7	2.3	1.2	76.0	69.3	39.1
Kagawa	36.6	37.3	17.6	2.6	2.3	1.1	74.9	67.2	33.2
Ehime	35.3	36.3	19.9	2.6	2.3	1.2	74.6	68.0	38.0
Kochi	33.8	33.8	18.2	2.4	2.1	1.1	71.6	61.0	33.8
Kyushu									
Fukuoka	36.2	34.1	19.8	2.4	2.2	1.1	71.3	62.0	36.8
Saga	36.5	34.7	22.9	2.6	2.2	1.4	75.1	64.1	43.2
Nagasaki	35.4	34.6	24.7	2.6	2.2	1.6	76.0	64.7	48.5
Kumamoto	34.8	34.6	22.2	2.6	2.2	1.4	74.4	64.3	42.8
Oita	35.3	34.3	20.7	2.7	2.2	1.3	74.6	63.7	39.1
Miyazaki	36.6	37.6	23.5	2.7	2.4	1.5	78.9	71.5	46.3
Kagoshima	37.2	33.6	24.5	2.7	2.1	1.6	78.5	62.7	49.0

[a] Adjusted for under-enumeration and mal-distribution on the basis of enumerated children aged 0.
[b] Including Okinawa.
[c] Calendar year 1955.
[d] Average births of 1955 and 1956 related to enumerated populations as of Oct. 1, 1955.
Sources of data: For births: Nihon. Naikaku tōkei-kyoku. *Jinkō dōtai tōkei*, 1920–1925. Kōsei-shō, eisei tōkei-bu. *Jinkō dōtai tōkei*, 1947–1957. Also, for 1925, Naikaku tōkei kyoku. *Fubo no nenrei betsu shussei tōkei. Taishō 14-nen.* For populations and ages of women: Nihon. Naikaku tōkei-kyoku. *Taishō jūyo'nen kokusei chōsa hōkoku*, II, 4, Parts 1–46. Nihon. Sōri-fu, tōkei kyoku. *Shōwa 22-nen rinji kokusei chōsa kekka hōkoku*, Sono 7, *Nenrei betsu jinkō*. Nihon. Sōri-fu, tōkei-kyoku. *Shōwa 30-nen kokusei chōsa hōkoku*. 1955 Population Census of Japan. Vol. II, Part I, Statistical table 5.

crude birth rates, but the outlines are more incisive in gross reproduction rates and in ratios of births to women in the childbearing ages (Table 1). Even a postwar baby boom such as that in process in 1947 failed to lift current birth rates to the levels of 1925 except in an occasional prefecture.

The ratios of births to women in the childbearing ages were substantially lower in 1947 than they had been in 1925, Ishikawa alone showing an increase, and that an insignificant one. Percentage declines amounted to less than 10 in eight of the prefectures. Declines of 10 to 19 per cent occurred in 24 prefectures, declines of 20 per cent or more in 13 prefectures. This, it should be emphasized, is a comparison of fertility ratios for a year of unusual concentration of first births and of births to re-united couples with a normal year in the mid-'twenties. Furthermore, it is a postwar year prior to the legalization of abor-

tion and the public health education for planned parenthood through contraception.

For all Japan, the ratio of births to women in 1955 was less than half that in 1925. Decline amounted to less than 45 per cent for five prefectures, to 55 per cent or more for 11. So great were the declines that there was no overlap in the distributions of gross reproduction rates or birth-women ratios for the prefectures in 1925 and in 1955.

There were major continuities in the relative levels of fertility in the prefectures from the beginning of the census period in 1920 to 1955. Linear correlations of gross reproduction rates in successive census years were above .9 until 1943. The correlation of the 1943 rates with those for 1947 was .7; the correlation of the 1947 rates with those for 1950 was .6. The correlations were .8 for 1920 and 1935, .9 for 1935 and 1950.

Thus there were drastic declines in fertility, but there were also persistent relations in the levels of fertility in the prefectures at succeeding periods of time. The variations among the prefectures were appreciable in 1925, and they remained appreciable in 1955. The level of fertility was lowered, but the prefectures maintained their relative positions with reference to each other. Thus the forces of stability that underlay reproductive behavior must have involved institutions and values that specified families and children, but not numbers of children. The altered economic, social, and psychological conditions that were responsible for the altered levels of childbearing must have been nation-wide rather than local; they must have influenced the peoples in remote rural areas as well as those in great cities. However, it does not seem likely that responses of reproductive behavior either to slowly changing or to sharply altered conditions, values, and aspirations would be uniform among all groups and in all areas.

In general, the initial impact of economic development and urban growth is greatest on those who labor in industry and live in cities. Among the Japanese, it was the people in the great cities who responded first and farthest with delayed mar-

riages and reduced fertility among the married. By 1925, however, the increasing productivity in agriculture, the migrations of rural youth to cities, the extension of school attendance, and other changes were transforming life in the most remote of the villages as in those close to cities. Levels of fertility in the prefectures in 1925 were measures of the relative participation of the people in the newer segments of the economy and the development in the larger society. In the succeeding years, the quantitative impact of changing conditions on age at marriage and rate of childbearing was greatest in the areas that were most agricultural in ways of working and most traditional in institutions and values.

In the slowly changing conditions of the years from 1925 to 1935, declines in fertility were roughly proportional to initial levels. There were disturbances in the years when urban peoples fled to the countryside, but on the whole the greater declines of fertility during the war years occurred in the areas where fertility remained relatively high. Convergence toward a national level of fertility that characterized all the people was especially pronounced in the years of rapid decline after the war. None the less, the differences among the prefectures that had been so substantial in 1925 and 1935 remained so in 1947 and 1955. Convergence was in process, but uniformity was not yet an achievement.

The regularities in the responses to altered conditions and values extended not only to the general level of fertility but to the incidence of the lower fertility in the reproductive years of the women. Later ages at marriage reduced the childbearing of younger women and placed the first births of the newly married in higher age groups. Childbearing had never been appropriate among older women, especially those who had achieved the status of mother-in-law. Throughout Japan, the reductions in fertility among the younger and the older women were so pronounced that they seemed to tend toward the elimination of childbearing among women below age 20 or above age 40. The major irregularities among the prefectures involved the

extent and the timing of the reductions in fertility among women in the central reproductive years.

The preceding generalizations on the age structures and the age-specific declines in fertility could have been deduced from the developments of the prewar years alone. They remain valid when the time span includes the prewar, the war, and the postwar years. In fact, the regularities in decline and the convergences in levels were greater in the postwar years of rapid decline than they had been in the prewar years of slow change. The correlations of the amounts of decline in age-specific birth rates and initial levels are given here for the prefectures for selected years:

Age	*1925–1955*	*1925–1947*	*1947–1955*
15–19	.99+	.97	.97
20–24	.64	.24	.80
25–29	.61	.67	.52
30–34	.52	.72	.26
35–39	.73	.45	.65
40–44	.92	.41	.92
45–49	.99+	.95	.99

The persistent differences among the prefectures in levels of childbearing were associated with the occupational structure of the labor force and the predominance of city versus town or village living. In Table 2, age-specific birth rates per 1,000 women are given for 1955, the prefectures being grouped according to the proportion of the employed labor force in primary industry. The lowest birth rates at each age were in Group I, which included Tokyo and Osaka prefectures; the highest were in Group VI, which included the most agricultural prefectures in northeast Honshu and southeast Kyushu. In general, increases in fertility occurred along with increases in the predominance of primary industry. This relationship, so apparent in 1955, had also characterized the childbearing of women at each of the earlier census periods. Declines from 1925 to 1955 reduced the range of variation, but the similarities among the

prefectures in the amount and the age incidence of the declines were more striking than the differences.

From 1925 to 1955, advancing age at marriage reduced childbearing among those aged 15 to 19 to very low levels and

Table 2. Births per 1,000 women by age, industrial groupings of prefectures, 1955 and change since 1925.

Ages of Women	Japan	Prefectures by Per Cent of Labor Force in Primary Industry, 1955[a]						Hokkaido (42)
		I (Below 10)	II (10–29)	III (30–44)	IV (45–54)	V (55–59)	VI (60 or Over)	
				1955[b]				
15–49	74.4	59.4	67.0	71.5	76.9	80.6	92.3	86.3
15–29	5.6	3.5	4.8	5.3	5.9	6.1	9.0	6.9
20–24	112.2	76.3	102.5	121.0	117.6	121.6	142.2	133.4
25–29	183.6	152.8	171.2	181.0	191.2	196.9	208.8	207.7
30–34	110.4	88.1	96.2	98.2	118.2	124.8	140.8	114.4
35–39	47.7	34.8	38.0	37.5	51.7	54.9	72.2	55.6
40–44	11.9	7.9	8.4	8.7	12.6	13.5	21.5	17.5
45–49	0.7	0.5	0.5	0.5	0.7	0.7	1.3	1.4
				CHANGE SINCE 1925: AMOUNT				
15–49	−79.6	−69.2	−73.8	−80.7	−76.2	−77.6	−82.3	−102.1
15–19	−43.2	−27.6	−33.0	−45.4	−40.7	−44.2	−67.1	−67.4
20–24	−125.4	−105.0	−116.4	−134.4	−122.4	−125.6	−132.5	−165.3
25–29	−83.4	−72.0	−75.4	−83.9	−81.0	−83.1	−83.2	−90.0
30–34	−124.6	−107.4	−118.6	−129.9	−123.5	−120.2	−111.5	−148.1
35–39	−133.0	−110.9	−125.8	−132.2	−135.1	−130.3	−120.1	−155.0
40–44	−66.2	−53.1	−61.0	−65.0	−67.4	−65.4	−64.0	−84.4
45–49	−12.5	−10.3	−11.1	−11.3	−11.1	−12.5	−18.3	−18.1
				CHANGE SINCE 1925: PER CENT				
15–49	−51.7	−53.8	−52.4	−53.0	−49.8	−49.1	−47.1	−54.2
15–19	−88.4	−88.8	−87.3	−89.6	−87.3	−87.9	−88.1	−90.7
20–24	−52.8	−57.9	−53.2	−52.6	−51.0	−50.8	−48.2	−55.3
25–29	−31.2	−32.0	−30.6	−31.7	−29.8	−29.7	−28.5	−30.2
30–34	−53.0	−54.9	−55.2	−57.0	−51.1	−49.1	−44.2	−56.4
35–39	−73.6	−76.1	−76.8	−77.9	−72.3	−70.4	−62.5	−73.6
40–44	−84.8	−87.0	−87.9	−88.1	−84.3	−82.9	−74.9	−82.8
45–49	−94.5	−95.7	−95.8	−95.4	−93.7	−94.5	−92.9	−92.6

[a] Prefectures classified according to the per cent of the employed labor force aged 15 and over in primary industry, 1955. By primary industry is meant agriculture, forestry, fishing, and mining.
[b] Births adjusted for under-enumeration and the omission of persons not in *koseki*, particularly Koreans.
Sources of data: References, note to Table 1.

Age	Legitimate Births per 1,000 Men		Per Cent Change
	1952	1957	
15–59	82.4	58.6	-28.9
15–19	1.1	0.3	-72.7
20–24	48.1	27.2	-43.4
25–29	189.0	155.9	-17.5
30–34	222.9	158.2	-29.0
35–39	152.4	81.7	-46.4
40–44	83.0	33.9	-59.2
45–49	33.2	12.7	-61.7
50–54	9.7	3.9	-59.8
55 and Over	3.6	1.6	-55.6

Table 3. Legitimate births per 1,000 men 1952 and 1957, and per cent change, by age.

halved the childbearing of those aged 20 to 24. Declines were least among those aged 25 to 29; here altered ages at marriage and altered rates of childbearing minimized declines but altered the relation of the age-specific to the expected completed fertility of the women. The greatest absolute declines in births occurred among women aged 30 to 39; relative declines amounted to one-half at ages 30 to 34, three-fourths at ages 35 to 39. Above age 40, childbearing was limited severely. Reductions averaged 85 per cent at ages 40 to 44, 95 per cent at ages 45 to 49.

The preceding analysis of declining fertility has been presented exclusively in terms of births to women, a limitation dictated by the availability of data. The intricacies of the changes would have differed somewhat if a comparable analysis had been made for men. Internal and imperial migration, military mobilization, and war produced temporary or permanent deficits of men. However, the altered balance of the sexes has been a minor factor in the declines of the last decade; in so far as there was an influence, the aging of decimated cohorts of men contributed to increasing marriage and increasing fertility among women in the central childbearing years.

The direct evidence for the years from 1952 to 1957 indicates continuously declining age-specific birth rates for men. The rate for the years 1952 and 1957 are given in Table 3 with the percentage changes for this five year period.[2]

The halving of general fertility from 1925 to 1955, the widely variant declines among the age groups of women, and the continuities in relations among the prefectures characterized the total childbearing of women without reference to the legitimacy of the births or the marital status of the women. In order to determine the priorities and interrelations of changing marital status and changing practices of limitation among the married, it is necessary to examine the initial levels and the course of change in the legitimate fertility of married women.

Legitimate Births to Married Women

In 1955, the regularities in the associations of the legitimate fertility of married women with the industrialization of the prefectures of residence were even greater than those for the total fertility of all women. For each age group of married women, and for all married women aged 15 to 49, the number of legitimate births per 1,000 women was lowest in the metropolitan prefectures of Tokyo and Osaka, highest in the most agricultural prefectures (Table 4). The relative penetration of the new economy and society was reflected directly in the childbearing of the married. Advancing ages at marriage and family limitation within marriage were associated rather than independent variables in the reproductive performance of the women in the geographic areas and social-economic groups in 1955.

The overall declines in marital fertility from 1925 to 1955 corresponded closely to those in total fertility except that the amounts of the declines were somewhat smaller. Altered marital status had been a factor, although a minor one, in the declines in the general levels of fertility over the course of this generation. However, the changes in marital fertility by age were

[2] Source of data: Nihon. Kōsei-shō, eisei tōkei-bu. *Jinkō dōtai tōkei,* annually, 1951–1957, Vol. 1.

strikingly different from those in total fertility. For all Japan, there were increases in marital fertility at ages 15 to 19 and 20 to 24. Little significance can be attached to the increases at ages 15 to 19, for the numbers married at these ages in 1955

Table 4. Legitimate births per 1,000 married women, by age, industrial groupings of prefectures, 1955 and change since 1925.

Ages of Women	Japan	Prefectures by Per Cent of Labor Force in Primary Industry, 1955[a]						Hokkaido (42)
		I (Below 10)	II (10-29)	III (30-44)	IV (45-54)	V (55-59)	VI (60 or Over)	
				1955[b]				
15-49	127.4	109.0	116.8	120.2	129.1	136.0	153.8	143.2
15-19	327.3	277.3	302.8	314.6	325.3	342.1	345.0	436.5
20-24	338.6	304.2	327.3	338.1	336.6	354.3	355.2	369.7
25-29	237.0	222.0	226.1	225.8	238.6	250.0	256.6	249.4
30-34	127.4	107.6	112.2	112.3	134.0	142.4	160.3	126.1
35-39	56.4	41.6	44.9	44.8	61.0	64.6	85.6	62.0
40-44	14.6	9.7	10.3	10.9	15.4	16.6	26.6	20.3
45-49	0.9	0.6	0.6	0.7	0.9	0.9	1.8	1.7
				Change since 1925: amount				
15-49	−87.6	−82.7	−85.9	−90.8	−87.5	−86.6	−85.4	−101.5
15-19	7.9	23.0	6.9	−9.7	2.0	−3.3	4.9	92.1
20-24	2.9	23.6	11.9	−3.1	−10.8	−4.7	−9.1	8.9
25-29	−56.3	−32.5	−48.0	−64.6	−64.2	−62.6	−67.3	−61.4
30-34	−122.6	−105.3	−119.6	−133.1	−126.7	−122.6	−115.1	−141.8
35-39	−136.8	−119.0	−133.7	−140.2	−143.4	−138.1	−127.8	−153.6
40-44	−72.1	−60.1	−69.1	−72.4	−75.2	−73.7	−72.6	−87.6
45-49	−14.6	−12.5	−13.2	−13.2	−13.0	−15.0	−22.5	−20.2
				Change since 1925: per cent				
15-49	40.8	−43.1	−42.4	−43.0	−40.4	−38.9	−35.7	−41.5
15-19	2.5	9.0	2.3	−3.0	.6	−1.0	1.4	26.8
20-24	.9	8.4	3.8	−0.9	−3.1	−1.3	−2.5	2.5
25-29	−19.2	−12.8	−17.5	−22.2	−21.2	−20.0	−20.8	−19.7
30-34	−49.0	−49.5	−51.6	−54.2	−48.6	−46.3	−41.8	−52.9
35-39	−70.8	−74.1	−74.9	−75.8	−70.2	−68.1	−59.9	−71.2
40-44	−83.2	−86.1	−87.1	−87.0	−83.0	−81.7	−73.2	−81.2
45-49	−94.2	−95.6	−95.5	−95.1	−93.4	−94.3	−92.7	−92.1

[a] Prefectures classified according to the per cent of the employed labor force in primary industry, 1955.

[b] Total births minus illegitimate births, the latter assumed to have the same distribution by age of mother as all births.

Sources of data: References, note to Table 1.

were so few that they represented a stringent selection from the general population. In the modal ages of legitimate fertility, roughly ages 20 to 34, the frequency of childbearing was reduced least in the earlier years, most in the later years. Numbers of legitimate births per 1,000 married women either increased or declined slightly for women aged 20 to 24. There was a reduction of one-fifth for women aged 25 to 29, a reduction of one-half for women aged 30 to 34. Relative declines became progressively greater with the advancing ages of the women until they amounted to more than ninety per cent for women aged 45 to 49. If married women aged 15 to 19 are ignored, the rate of change increased progressively from small increases or decreases at ages 20 to 24 to the virtual cessation of childbearing at ages over 40. The process was clearly the limitation of higher order births rather than the avoidance or even the substantial postponement of first births.

Fertility in the *SHI* and the *GUN*[3]

In Japan, there were close associations among nonagricultural occupations, life in cities, age at marriage, and childbearing among the married. In the years from 1925 to 1937 the highest ages at marriage and the lowest fertility among the married occurred in the six great cities. There were progressive increases in fertility from the cities of 100,000 and over to the lesser cities, the *machi,* and the *mura.* At any given time, there were high correlations between the fertility in the *shi* and the *gun* of the prefectures.

In the prewar years, the fertility of the women in a given area was related directly to the extent of the dependence of its population on primary industry. These relations, too, persisted in the postwar years. In 1955, fertility was lower in the cities of 200,000 and over than in all *shi,* and it was lower in the *shi* than in the *gun* (Table 5). The range in gross reproduction rates

[3] The terms *shi* and *gun* are often translated as urban and rural. *Shi* are incorporated municipalities, most of which have populations of 50,000 or more. All the population not in *shi* live in *gun.* Thus much of the population that would be considered as urban in the United States live in *gun,* rather than *shi.*

extended from .85 in the cities of 200,000 and over in the most industrial prefectures to 1.58 in the *gun* of the most agricultural prefectures. In fact, the fertility of the women in the *shi* of the most agricultural prefectures was higher than that of the women in the *gun* of the most industrial prefectures.

Since there were substantial differences in marital status between the women of the *shi* and the *gun*, the childbearing of women in 1955 is examined separately for total and for married women (Table 6). In each industrial grouping of prefectures, the ratio of children below age one to women aged 20 to 34 was lowest in the cities of 200,000 and over, intermediate in the smaller *shi*, highest in the *gun*. For any given type of area of residence, fertility was lowest in the most industrial prefectures, highest in the most agricultural prefectures. These relationships held both for the ratios of infants to all women and for the ratios to married women.

Uniformities in Change, 1951 to 1957

In 1955, general fertility was less than half what it had been a generation earlier, marital fertility 40 per cent less. It is apparent that declines such as these could have been achieved only

Table 5. Gross reproduction rates, the *shi* and the *gun* in industrial groupings of prefectures, 1955.[a]

Prefectures by Per Cent of Labor Force in Primary Industry, 1955	All Japan	*Shi*		*Gun*
		Total	200,000 and Over	
Japan	1.15	1.01	.90	1.36
I (Below 10)	.88	.86	.85	1.07
II (10–29)	1.02	.95	.91	1.23
III (30–44)	1.10	1.01	.96	1.20
IV (45–54)	1.21	1.09	1.04	1.33
V (55–59)	1.26	1.10	.95	1.39
VI (60 and Over)	1.46	1.27	1.10	1.58
Hokkaido (42)	1.30	1.10	.94	1.48

[a] Births, 1955 and 1956, related to enumerated popluations as of October 1, 1955.
Sources of data: Nihon. Sōri-fu, tōkei kyoku. *Shōwa 30-nen kokū sei chōsa hōkoku. 1955 Population Census of Japan.* Vol. V, Parts 1–46, Statistical table 2. Nihon. Kōsei-shō, eisei tōkei-bu. *Jinkō dōtai tōkei*, 1955 and 1956, Vol. 1.

if there had been major reductions in the frequency of upper-order births among large portions of the families. Information on order of birth is not available for the prewar years, but it is available for the prefectures for the years from 1951 through 1957. In these years there were continuing increases in the proportion of all births that were first births, continuing reductions in the proportion that were fourth or higher order births (Table 7). Again, the changes were occurring in all industrial groupings of prefectures, from metropolitan Tokyo and Osaka to the prefectures most heavily dependent on primary industry.

Table 6. Children below age 1 per 1,000 women aged 20 to 34, all women and married women in the *shi* and the *gun*, industrial groupings of prefectures, 1955.

Prefectures by Per Cent of Labor Force in Primary Industry, 1955	All Japan	*Shi*			*Gun*
		Total	200,000 and Over	Below 200,000	
	ALL WOMEN				
Japan	151	132	117	145	179
I (Below 10)	113	110	109	118	147
II (10–29)	135	125	121	135	162
III (30–44)	145	133	127	136	160
IV (45–54)	161	144	138	145	177
V (55–59)	166	145	121	148	184
VI (60 or Over)	189	164	141	167	206
Hokkaido (42)	171	145	123	156	194
	MARRIED WOMEN				
Japan	240	220	204	237	267
I (Below 10)	205	202	200	217	241
II (10–29)	221	210	203	226	250
III (30–44)	224	213	206	217	236
IV (45–54)	248	231	223	233	264
V (55–59)	258	237	215	241	274
VI (60 or Over)	281	258	261	258	296
Hokkaido (42)	257	223	209	230	285

Source of data: Nihon. Sōri-fu, tōkei kyoku. *Shōwa 30-nen kokūsei chōsa hōkoku. 1955 population census of Japan.* Vol. V, Parts, 1–46, Statistical table 2.

Table 7. Per cent distribution of births by order, prefectures in industrial groupings, 1951, 1953, 1955, and 1957.[a]

Prefectures by Per Cent of Labor Force in Primary Industry, 1955	All Births	First	Second	Third	Fourth to Sixth	Seventh or Higher
Japan						
1951	100	24.9	27.8	19.2	22.1	6.0
1953	100	28.1	25.5	21.4	21.0	4.0
1955	100	32.5	26.2	19.2	19.5	2.7
1957	100	36.9	29.3	16.7	15.3	1.9
I (Below 10)						
1951	100	29.0	29.4	19.1	19.4	3.1
1953	100	35.2	27.8	19.2	16.0	1.8
1955	100	41.4	28.6	16.2	12.6	1.2
1957	100	36.9	29.3	16.7	15.3	1.9
II (10–29)						
1951	100	26.4	28.2	19.9	21.2	4.3
1953	100	30.9	26.7	21.1	18.9	2.5
1955	100	36.1	27.8	18.3	16.1	1.6
1957	100	40.4	31.2	15.7	11.7	1.0
III (30–44)						
1951	100	25.7	29.4	19.2	20.9	4.9
1953	100	29.6	27.0	21.8	18.8	2.9
1955	100	34.1	27.7	19.3	17.0	1.9
1957	100	38.1	30.9	17.0	12.8	1.3
IV (45–54)						
1951	100	24.3	27.9	19.6	22.3	6.0
1953	100	27.0	25.3	22.0	21.8	3.9
1955	100	30.8	25.8	19.8	20.8	2.7
1957	100	34.4	28.9	17.5	17.2	2.0
V (55–59)						
1951	100	23.8	28.4	19.1	22.2	6.5
1953	100	25.9	25.2	22.5	22.1	4.3
1955	100	29.6	25.4	20.6	21.6	2.8
1957	100	33.5	28.5	18.2	17.8	2.0
VI (60 or Over)						
1951	100	22.8	25.6	18.4	24.1	9.2
1953	100	23.9	23.0	21.2	25.1	6.8
1955	100	26.8	23.1	19.6	25.5	4.9
1957	100	29.9	25.6	17.9	22.7	3.8
Hokkaido (42)						
1951	100	22.5	23.0	18.6	25.4	10.6
1953	100	25.9	22.5	19.2	25.0	7.4
1955	100	30.2	24.6	17.9	22.0	5.2
1957	100	35.9	27.6	16.3	16.7	3.5

[a] Live births by total birth order.

Source of data: Nihon. Kōsei-shō, eisei tōkei-bu. *Jinkō dōtai tōkei.* Annually, 1951 through 1957. Vol. 1.

The reductions in upper-order births were so rapid that the proportion of seventh or higher order births in the most agricultural prefectures in 1957 was little higher than that in Tokyo and Osaka prefectures in 1951.

In most prefectures, the proportion of all births that were first order increased consistently from 1951 to 1957. In the metropolitan prefectures, however, there were fluctuations similar to those of countries where fertility has long been low. First births were relatively less frequent in 1957 than in 1955, while upper order births were relatively more frequent. The changes were slight, for the concentrations of births in the lower orders were greater in 1957 than they had been in 1953.

In the distribution of births by order, as in the other measures of fertility, the characteristics of urban and rural populations differed according to the extent of the industrialization of the prefectures of residence. In 1953, the proportion of all births that were first or second declined consistently from the most industrial to the most agricultural prefectures, while the proportions of fourth or higher orders increased consistently.[4] This was true for the *shi* and the *gun.* Differences among the six great cities were slight, but the predominance of lower order births was greater in the large cities than in all *shi.*

The reductions in the fertility of the Japanese were consistent with the values and the codes of behavior of the family whose primary function was the continuity of the generations. More than fourth-fifths of all first-born legitimate births occurred to women who had been married less than two years. There were some indications of postponement of legitimate first births among women aged 25 to 34, but they were slight. The percentage of all legitimate first births that occurred within two years of marriage are summarized here by the ages of the mothers for recent years:[5]

[4] Numbers of live births by total birth order by age of mother were given for the *shi* and the *gun* in the prefectures for 1953. Nihon. Kōsei-shō, eisei tōkei-bu. *Jinkō dōtai tōkei. 1953.* Vol. 1.

[5] Source of data: Nihon. Nihon kōsei-shō, eisei tōkei-bu. *Jinkō dōtai tōkei.* Annually, 1951 through 1957. Vol. 1.

Age of Mother	*1951*	*1953*	*1955*	*1957*
All Ages	83.4	82.8	81.8	80.3
15–19	94.1	94.5	94.6	94.2
20–24	88.0	88.2	87.9	87.6
25–29	77.1	76.4	75.5	74.1
30–34	62.8	59.5	59.6	59.1
35 and Over	48.0	44.7	46.7	47.0

Advancing ages at marriage and severely limited childbearing that began after an initial birth in the early years of marriage produced an increasing concentration of childbearing within a brief period of married life. In 1957, more than 90 per cent of all legitimate births in Japan occurred to women aged 20 to 34. More than three-fourths occurred to women aged 20 to 34 who were married to men in the same or the next higher quinquennial age group. The major concentrations of legitimate births were those to women aged 25 to 29. The percentage of all legitimate births occurring to women in this modal age group married to men of the same or the next higher age group increased from 29.6 in 1952 to 34.8 in 1955 and 38.6 in 1957.

Thus conformity to modal behavior became increasingly prevalent in Japan during the years of rapid decline in the levels of the fertility.

Conclusions

If an analysis of the declining fertility of the Japanese had ended with the data for the year 1950, there would have been a series of firm conclusions. Fertility had changed slowly in the ways made familiar in analyses for other industrializing countries, but the preservation of a stable peasantry had retarded national declines in fertility. Furthermore, this study of the years from 1920 to 1950 would have concluded that war was simply a disturbance to long-run trends, that the major declines in fertility had been and would probably remain those associated with changes in rural-urban distribution, occupational composition, and marital status. The anticipations would have

involved continuing growth for many decades and very substantial multiplications of numbers before demographic transition was completed.

If analysis of the declining fertility of the Japanese had been undertaken for the postwar years only, the base line would have been the year 1947. Rates of decline could have been described appropriately as miraculous. No comparable experiences would have been found elsewhere. The outlook for other Asian countries would have had to involve the possibilities for demographic miracles, for it would have seemed that one had happened in Japan.

The analysis that has been summarized in this paper was made when comparable data were available for the long period of slow change and for the recent period of rapid change. The major technique utilized was the measurement of net change from 1925 to 1955, but there were sustaining analyses of relationships in levels of fertility throughout the period and of the form and incidence of the changes in the years from 1951 to 1957.

The substantative results need be summarized only briefly. Fertility declined rapidly over the period from 1925 to 1955. General fertility was reduced fifty per cent, marital fertility forty per cent. Declines extended from the metropolitan areas to the remote villages, and they tended to be greater where the initial level of the fertility was higher. There were convergences, but they were not sufficient to blur the intricate relations among industrialization, urbanization, and fertility. In 1955, as in 1925, the general and marital fertility of the total population and of its urban and rural components declined progressively from the most agricultural to the most industrial prefectures. Relationships at the relatively low levels of 1955 were similar to those at the relatively high levels of 1925.

The net declines in fertility between 1925 and 1955 and the annual changes between 1951 and 1957 alike proceeded in conformity with the changing institutions and the enduring values of Japanese culture. Advancing age at marriage remained the

major means for the reconciliation of income, aspirations, and the ideals of family life. Major portions of those who married had a child within two years. Birth rates for married women below age 25 were as high or even higher in 1955 than they had been in 1925. However, in all industrial groupings of prefectures, and in cities and rural areas within all groupings, there were sharply increasing proportions of first births, sharply declining proportions of higher order births. There were some evidences of increasing postponements of initial childbearing, but the evidences were limited, and they were found only in the great metropolitan populations. It was numbers of children rather than the role of marriage, family, and the child in Japanese culture that had changed.

The net declines in fertility between 1925 and 1955 and the annual declines in recent years are quite consistent with expectations of declining fertility derived from experience elsewhere. There were extraordinary economic and educational advances in Japan between the early 'twenties and the late 'fifties. The declines in fertility in the 'twenties and the 'thirties could be ascribed primarily to the structural changes involved in urbanization, industrialization, and marriage postponement. However, the rapidly increasing prevalence of urban life and industrial employment implied massive internal migration, and the continued lower fertility in urban areas and industrial regions meant that people reared as peasants were adopting whatever limitation practices were prevalent in the cities. Internal migration joined old and new within a single generation, and migrants formed continuing channels for communication and influence between cities and rural areas.

The plasticity of the reproductive mores of the Japanese was demonstrated early in the reduced and declining fertility of the populations of the great cities. The bases for rapid declines in the fertility of rural people may also be found in the continuing contacts of village people who had moved to cities and those who had remained in the villages.

The major unresolved problems in the declining fertility of

the Japanese do not concern either the magnitudes or the associations of the declines that have occurred. They concern the timing of the declines, or, more specifically, the sequence of slow declines over a period of decades and then precipitant declines within a few years. There are two foci for research. One involves the reasons for the long persistence of relatively high fertility in Japan, and particularly among its literate peasantry. The other involves the reasons for the sudden spread of rigid limitation practices throughout the entire population, and particularly the peasantry. The clues to the interpretation of the developments within Japan, and the question of the relevance of these developments to other Asian countries, lie in further analyses of the changing fertility of the agricultural population.