JAPAN'S POSTWAR POPULATION AND LABOR FORCE

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Although the sharp decline in the birth rate that marked the postwar years in Japan did not continue past the mid-1950's, the effects of this decline are being felt most dramatically some two decades later in an increasing manpower shortage problem. The labor shortage which now troubles Japan was created by the rapid absorption of surplus manpower reserves into the modernized industrial sectors of the economy during the period of accelerated economic growth after the war. But the problem has been considerably aggravated by the decline in manpower supply resulting from the falling-off of the birth rate in the postwar years. As the effects of this decline in the birth rate are going to be felt increasingly for years to come, it is of the greatest necessity that adequate manpower policies be devised to cope with the problems that are sure to arise.

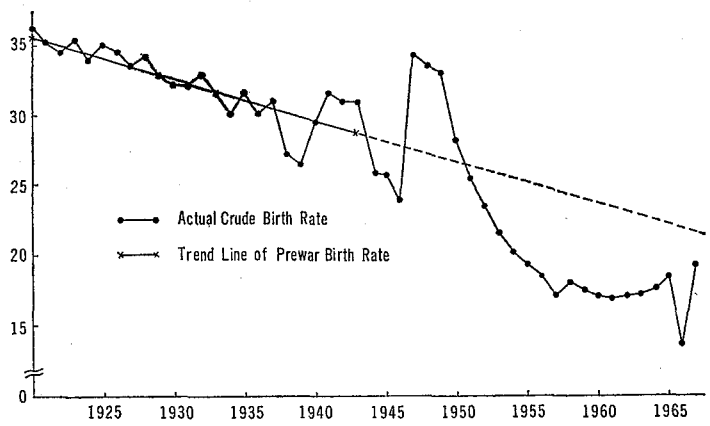
The postwar years have seen dramatic transformations in every aspect of Japan's social and economic structure. Not the least of these changes has occurred in the realm of population. In this paper, we would like to discuss some of the quantitative and qualitative changes in demographic structure that have taken place since the end of World War II, firstly as reflection of paralleling social changes, and second in terms of the significance these changes have had and will have for Japanese economic and social development. Before proceeding any further with our analysis, however, it is necessary that we first make clear just what changes have occurred in the demographic structure since the termination of World War II.

I. THE POSTWAR BABY BOOM AND SUBSEQUENT BIRTH RATE DECLINE

The subsequent drop in the birth rate notwithstanding, the years immediately following the end of the War were marked by a boom in the birth rate of considerable proportion. The annual birth count exceeded 2.6 million for the years 1947–1949, while the crude birth rate for this same period rose above 30.

The baby boom of the immediate postwar years is usually understood as a result of the accumulation of postponed marriages and births over the war years. But was the postwar baby boom no more complex an affair than such an explanation would indicate? Let us examine Figure 1.

Figure 1. Fluctuation of Crude Birth Rate



Source: Ministry of Health and Welfare, *Jinkō dōtai tōkei* (Vital Statistics).

As we see in Figure 1, the crude birth rate has been declining steadily and fairly consistently since the 1920's. But there are several significant deviations from the over-all trend (represented in Figure 1 by the "trend line"). Most outstanding are (1) the sudden lapse in the birth rate caused by the outbreak of the Sino-Japanese Incident in 1937, eventually counteracted by the successful implementation of a population reinforcement program; and (2) the drop in the birth rate that began in the period immediately preceding Japan's surrender and continued into the immediate postwar years until the 1947–1949 baby boom reversed the trend.

During the course of the first of these two fluctuations, the decline below trend projection in the birth count over the years 1938–1940 (−483,000) was almost balanced out by the increase above trend projection during the subsequent three years (+453,000). The 1938–1943 fluctuation is, in other words, nearly a perfect cycle. By contrast, the "deficit" (below trend projection) accruing from a decline in the birth count in the period right before and after the surrender was not simply balanced out but considerably over-compensated by the subsequent baby boom. The years 1944–1946 saw a drop below trend projection of some −651,000 births, while for the period 1947–1949 the birth count rose above the trend line to the extent of +1,510,000.[1]

1 The deviation of the actual birth count from the trend-line projection is shown below for the years 1938–1949.

Year	Actual Birth Count	Trend-line Projection	Deviation
1938	1,928	2,152	−224
1939	1,902	2,141	−239
1940	2,116	2,136	−20
1941	2,277	2,107	+170
1942	2,234	2,106	+128
1943	2,254	2,099	+155
1944	1,902	2,082	−180

It should be clear from the above that the 1947–1949 baby boom cannot be satisfactorily accounted for as a simple accumulation of deferred wartime births. The postwar baby boom must, at least to a certain extent, be understood as a reflection of a temporary loss of ability or desire, on the part of a populace suffering from a war-wrecked economy and depressed standard of living, to maintain a minimum rational level of family planning—a relapse, one might say, into a pre-modern mentality of a people demoralized by war and defeat. The general unavailability of modern birth control methods at the time must also have figured in the sharp increase in the birth rate, as is suggested by the frequency of illegal abortions during those years (a frequency which increased after the enactment and revision of the Eugenics Protection Law).

In whatever proportion the above factors combined to produce the baby boom of the late 1940's, the character of the baby boom itself is indisputably clear. The yearly birth count rose so far above the trend projection that the sharpness of the subsequent lapse in the birth rate can only be viewed as inevitable. For confirmation of the abnormality and irrationality of this baby boom, we need only point out the fact that for the period 1947–1949 more than 30% of the total number of births occurred in families which already had given birth to three or more children (see Table 1). Quite naturally, the post-baby-boom decline in the birth rate was characterized by a dramatic drop in the number of births in families in this category.

Table 1. Variation in Distribution of Births According to Number of Previous Births in Family, 1947–1965

(%)

Year	Total	1st Birth	2nd Birth	3rd Birth	4th Birth or more
1947	100.0	28.6	20.2	15.2	36.0
1948	100.0	32.1	19.4	14.7	33.8
1949	100.0	27.7	24.4	16.0	31.9
1955	100.0	32.5	26.2	19.1	22.2
1960	100.0	43.6	32.6	14.2	9.6
1965	100.0	46.7	37.5	11.7	4.1

Source: *Vital Statistics.*

Another factor that made inevitable a rapid falling off of the birth rate in the early 1950's was an unexpectedly swift decline in the death rate. The significance of this decline will be perhaps clearer if it is established that a child-bearing age distribution similar to that characteristic of the baby-boom years would, in combination with a death rate equivalent to that current in

1945	1,848	2,030	−182
1946	1,751	2,040	−289
1947	2,679	2,156	+523
1948	2,682	2,184	+498
1949	2,697	2,208	+489

Source: *Vital Statistical.*

1955, yield the staggeringly high net reproduction rate of 1.79. Insofar as the drastic reduction in the birth count in the years following the post-war baby boom was the result of decline in the death rate, then, it is to be understood as the consequence of a world-wide demographic trend that has made itself felt in both advanced and developing nations since the close of the War.

With the advent of the 1950's we witness a sudden and swift decline in Japan's birth rate. For the years 1947–1949, the peak baby boom years, the crude birth rate had ranged between 33 and 34‰, but in 1950 this index dropped below 30‰ and continued to decline so sharply that by 1955 it had fallen below the 20‰ level. Before ten years had passed since the start of the baby boom, the annual birth count was cut in half—a rate of decline without precedent in world demographic history.

A significant characteristic of the postwar birth rate decline was that its effects were felt, to a greater or lesser extent, in every part of the country and among every stratum of the population. Generally speaking, signs of a declining birth rate first appeared in the urban sectors, and only afterward did a corresponding decline make itself felt in the rural districts. Vital statistics for the year 1930 (to take a sample from a period when indications of a declining birth rate were first becoming clear) show an urban birth rate of 26.5‰, as compared with a rural rate of 34.2‰. By contrast, the figures for 1950 indicate a decline in the birth rate in the rural areas to the level of 29.6‰, as contrasted with an only slightly declined urban value of 25.6‰. What remained of the much reduced urban-rural birth rate differential was eliminated completely by 1965, for which year statistics show a rural birth rate lowered to some 16.3‰—a figure actually lower than the corresponding index for the cities (19.6‰), though to a certain degree the extremity of this shift must be understood as a result of restructuring in the age composition of the population. Expressed in terms of standardized vital rates, the figures for 1965 show an almost homegenous urban-rural distribution: 15.1‰ for the cities and 15.3‰ for the countryside. By the present regional variation in birth rate statistics has almost ceased to exist.[2]

Paralleling the tendency toward homogenization of urban and rural birth rates has been a trend toward equalization of birth rate statistics among the various social strata, as will be clear from Table 2. Even the nearly equalized rates shown in the 1967 column of Table 2, it must be noted, reflect a not completely modern picture, for the statistics used in compiling this table were derived from samples chosen from marriages of relatively long duration, and accordingly are biased somewhat in the direction of the older occupational disparities in birth rate levels. The differential of birth rates among social strata is supposed to be much less than that shown in the table.

A recent survey of the relationship between birth rate and income bracket reveals that a more subtle birth rate distribution pattern has substituted itself

2 Source: Institute of Population Problems, Ministry of Health and Welfare, *Zenkoku shibu gumbu betsu hyōjunka jinko dōtairitsu Taisho 9—Showa 40 kaku kokusei chōsa nenji* (Vital Rates by Urban and Rural Areas for All Japan 1920–1965), Research Series No. 186, 1968.

Table 2. Average Number of Children Ever Born According to Father's Occupation

Occupation	1940	1952	1957	1962	1967
Over-all National Family Birth Rate	5.17	4.85	4.77	3.91	3.63
Self-employed, Agriculture	5.44	5.39	5.43	4.22	3.97
Self-employed, Non-agricultural	4.64	4.46	4.41	4.02	3.52
Manual Worker	5.20	4.34	4.53	3.82	3.55
Non-manual Worker	4.44	3.89	4.08	3.37	3.36

Source: Institute of Population Problems, *Shussanryoku chōsa* (Fertility Survey).

for the older and more monolithic occupational and regional variations. Among the various income brackets, the medium-bracket income families were found to have the fewest children. If a differential fertility curve is plotted with income level as the X-coordinate and birth rate as the Y-coordinate, the result will be a U-shaped curve.[3]

Behind this U-shaped distribution lie several factors peculiar to the social and economic situation in contemporary Japan. In the mass-consumption economy characteristic of modern Japanese life, it is in fact the middle income group which feels most sharply the pinch of a limited income and a high cost of living, and which is, as a result, most sensitive to the necessity for rational family planning. It must be recalled, in addition, that in the interval since the immediate postwar years, knowledge of birth control methods has gained considerably wider circulation through weekly magazines and other mass media, and that induced abortion has become a much more simple and reliable procedure in cases of unwanted pregnancy than it used to be.

According to statistics assembled by the Mainichi Newspapers' Population Problems Research Council,[4] use of contraceptives has risen from a meager 19.5% in 1950 to a sizable 53% by 1967. And contraceptive devices have come to occupy an ever increasing percentage of birth control practice: after the short-lived boom in artificially-induced abortions right after the War (which reached a peak around 1950), the relative popularity of abortion has declined to the point where abortions account now for only 30% of all prevented births, while the remaining 70% are achieved by pre-conception prophylactic measures.[5]

As a result of the several factors discussed above, we find Japan's birth rate declining to its lowest level to date by the mid-1950's. In 1956, the net reproduction rate fell below the level of 1, and continued at a comparable value for the next decade, during which period Japan experienced a contracting reproduction of her population. The singular lowness of Japan's

3 Shigemi Kōno, *Shusseiryoku ni oyobosu shakaishinrigaku-teki yōin—Shōwa 40 nendo jiishi chōsa* (Social and Economic Factors Affecting Fertility in Japan—Some Results of Survey on Fertility in 1967), Institute of Population Problems, Research Series No. 175, 1967.

4 Population Problems Research Council, The Mainichi Newspapers, *Summary on 9th National Survey of Family Planning*, Series No. 20, Tokyo, 1968.

5 Hisao Aoki, "Kazoku keikaku no shussei yokusei kōka ni tsuite" (On the Effects of Family Planning Practices on Fertility Control), paper presented to the 19th Annual Meeting of the Population Association of Japan, 1967.

birth rate during these years is confirmed by a comparison of the Japanese standardized birth rate (a parameter which takes into account the age composition of the population) with that of other advanced countries: against a figure of 22.4‰ for the U.S., 21.7‰ for England, 20.8‰ for France, and 18.8‰ for West Germany, the Japanese standardized birth rate achieved a rock bottom of 15.7‰.[6]

It is not easy to predict what trends the birth rate can be expected to exhibit in the near future. But it is extremely unlikely that there will be a drastic increase, barring any unforeseeable changes in the relationship between birth rate and social and economic conditions. Rather than attempt to project future developments in the birth rate situation, we shall turn now to an assessment of the effects of the decline in the birth rate upon the age composition of the population as a whole, and, after this, to an evaluation of the consequences of changes in the age composition of the population for the labor market in postwar Japan.

II. THE IMPACT OF THE BIRTH RATE DECLINE

As can be demonstrated by the stable population theory, decline in the birth rate will have a greater impact upon the age composition of a given population than will decline in the death rate. A considerable increase in the proportion of older age elements in the population will be the basic trend in the coming years for changes in Japan's population structure.

Fluctuations in the age composition of Japan's population since the beginning of the Meiji period may be grouped, for the sake of description, into three periods. In the first period, from the beginning of Meiji (1868) to 1920, a declining death rate combined with a generally steady, high level birth rate to produce a gradual increase in the proportion of younger elements in the population. In the period that followed (from 1920 to the end of the War), however, this trend toward a younger population was brought to a halt by the initiation of the gradual decline in the birth rate which has been discussed in Section I. During this intermediary period, we see no significant shifts, in either direction, of the age composition of the population. The third, or postwar, period has been marked, by contrast, by an over-all aging of the population, as we have suggested above. In 1947, the child population (0–14) occupied some 35.3% of the total population; the productive age population (15–64), 59%; and the old age population (65- and over), 4.8%. By contrast the same figures for the year 1965 show a considerable aging of the population, with a distribution of 25.6% child population, 68.1% productive age population, and 6.3% old age population.

But the aging of the population to a degree commensurate with the

6 In the above calculations, the Japanese population in the year 1930 was used as the "standard population." cf. Kiichi Yamaguchi, "Shogaikoku tono hikaku ni okeru waga kuni jinkō no saiseisanryoku" (The Population Reproductivity of Japan in Comparison with Other Countries), *The Journal of Population Problems,* No. 104 (Oct., 1967).

severity of the postwar birth rate decline is still an affair of the future. Population statistics projections indicate that in 1985 the age distribution of the population will be on the order of 20.9% child, 69.2% productive age, and 9.9% old age, while twenty years later, by 2005, the same figures will read 17.7%, 66.3%, and 16.0%.

It is, accordingly, a certainty that the coming years will see both a relative and absolute increase in the older segments of the population. It is thus of the greatest importance that planning be begun now to provide the ever increasing number of senior citizens which the future can be expected to bring us with adequate financial support and social facilities. It must be remembered, furthermore, that over-all aging of the population will result not simply in larger numbers of post-retirement senior citizens, but also in an increase in the proportion of middle and older aged adults within the labor force population. Aging of the work force can be expected to bring with it numerous problems for management, all of which should be taken under consideration in advance.

A trend toward aging of the population will not be the only result of a decline in the birth rate. A more palpable consequence of such a decline will be a reduction in the size of the productive age population, and, by corollary, of the labor force population. The shrinking of the annual birth count statistic from about 2 million in the prewar era to the level of some 1.8 million births in the postwar period (this in spite of an ever-increasing population) should, if all other relevant conditions remained static, logically be a reduction in the size of the labor force. But a dramatic decrease in the death rate in the postwar period has had the result not only of checking the projected shrinkage of the labor force, but of actually expanding the size of the productive age population, albeit at the price of increasing the proportion within this population of middle and older aged adults.

The above developments may be illustrated by the following statistics. If the birth rate for the year 1935—some 1.99 million births/year—were to have maintained itself at that level, and a comparable death rate likewise to have continued, the size of the productive age population would have reached the level of 61.92 million persons. If, by contrast, we should perform the same calculation combining the prewar death rate with the 1965 birth rate figure (declined to the level of some 1.82 million births), we would find ourselves today with a productive age population of some 56.72 million, a figure significantly lower than the prewar projection. If, however, we should calculate the size of the labor force population using not just the 1956 birth rate but that year's death rate as well, the resulting productive age population would be of the order of 82.01 million persons. The labor force population would, in other words, have expanded over its prewar counterpart by more than 30%, even though there had occurred an absolute decrease in the annual birth count.

The reason for this apparently contradictory development lies, of course, in the dramatic decline of the death rate in the postwar years—the scale of

which is suggested by comparison of the average male life expectancy at birth in 1935—46.9 years—with the much higher figure of 68.1 years that had been attained by 1965.[7] The postwar death rate decline must, it seems, be considered of at least equivalent, if not greater, importance than the more spectacular plunging of the birth rate in determining the changing trends of Japan's postwar population structure.

The effect of decline in the birth rate upon the labor force population is a reduction in the rate of entry of new labor manpower into the labor market. But the manifesting of this effect will be delayed for as many years as it takes the average new-born child to mature to the point at which he will enter the labor force population. Variation in the pattern of schooling will thus determine the severity with which the after-effects of a birth rate decline are felt in the labor market.

The most drastic stage of the postwar birth rate decline came, as we have remarked above, in the early 1950's. Under the present educational system, the earliest age for entry into the labor force population is fifteen. It follows that the period of sharpest decline in the rate of new labor force generation should come in the late 1960's. A significant increase in the number of students continuing their education past the middle school level (compulsory education limit) in recent years will, however, have the effect of postponing and tapering off the consequences for the labor market of the birth rate decline, at the same time as it serves to raise the educational level of the new labor force when it finally emerges.

According to the statistics and projections of the Institute of Population Problems,[8] the rate of entry into the labor force of middle-school graduates has been and will continue to decline from a peak figure of 760,000 in 1963 to an anticipated 420,000 in 1970, 370,000 in 1975, 370,000 in 1980, and 340,000 by 1985. Similarly, the rate of entry into the labor market of high school graduates is expected to decline from a peak of 970,000 in 1966 to some 820,000 in 1970 and 670,000 by 1975—after which the rate is expected to recover to the level of 700,000 by 1980 and 800,000 by 1985. As the above estimates show, a decline in the rate of new labor force generation is anticipated to continue until some time in the mid-1970's, after which time the decline will probably

7 The figures used here were computed as follows:

1) (1935 birth count) 1.99 million × (1935 life table $\sum_{15}^{64} L$) 31.1 = 61.92 million

2) (1965 birth count) 1.82 million × (1935 life table $\sum_{15}^{64} L$) 31.1 = 56.72 million

3) (1965 birth count) 1.82 million × (1965 life table $\sum_{15}^{64} L$) 45.0 = 82.01 million

Sources: (a) Cabinet Bureau of Statistics, *Dairokkai kanzen seimeihyo* (The Sixth Complete Life Table), Tokyo, 1941, and Institute of Population Problems, *Daijūkyukai kansoku seishi jinkōhyo* (The Nineteenth Abridged Life Table), Tokyo, 1966.

8 Institute of Population Problems, *Wagakuni rōdōjinkō no shōraisuitei: danjo 5 sai kaikyu-betsu Shōwa 40–60 mai 5 nen 10 gatsu 1 nichi Shōwa 41 nen 12 gatsu 1 nichi suikei* (Estimates of Future Labor Force Population in Japan for Oct. 1 from 1967 to 1985 Estimated in Dec. 1965), Research Series No. 174, 1967.

taper off into a gradual recovery.[9]

The problems resulting from a decline in the rate of new labor force generation will be manifold. Firstly, the rate of expansion of the labor force as a whole will be seriously retarded. The annual rate of increase in the size of the labor force population was 2% for the years 1960–1965, and is expected to maintain itself at a comparable level until 1970. But the years 1970–1975 are expected to show a dramatic reduction in this very important index, dropping the figure to an average of 0.7%. And the reduction is expected to continue, lowering the rate to 0.4% for the 1975–1980 period, and 0.3% for the subsequent half-decades. The plentiful supply of cheap labor that has been such an important element in the rapid growth of Japan's postwar economy is very obviously going to become less and less available in the coming years. While it would be a mistake to anticipate that a decline in the rate of generation of new labor power will be inimical to the continued healthy growth of the Japanese economy, it is certain that the years to come are going to demand an increasingly efficient use of the existing labor supply.

The qualitative effects of a reduction in the rate of generation of new labor must not be overlooked either. The new and younger sections of the work force are characteristically the most mobile sections of the work force. It has been shifts in the employment preferences of newly hired labor that have brought about the most significant changes in the employment structure of the Japanese economy since the mid-1950's. And statistics show that the rate of job conversion varies inversely with the age of the employee. It is to be feared, accordingly, that any relative or absolute reduction in the supply of new or young labor will encroach upon the ability of the labor force to adjust to the kind of constant manpower reallocations that will be required for continued smooth economic development. One must not conclude that it will be impossible to correct this unfavorable development by increasing the rate of job turnover among middle-aged and older employees. But it is doubtful that a re-location of manpower on the scale of that which characterized the decade from the mid-1950's to the mid-1960's could be duplicated in a situation where the supply of young labor had been significantly reduced.

A reduction in the supply of new labor can also be expected to affect the traditional wage structure of Japanese industry. The time-honored "seniority wage system" was the product of a necessity to guarantee that, in a labor market endemically short of skilled labor, the skilled labor trained over the years by a company would not desert after the necessary job experience had been gained in order to profit from the high demand for its skills. A decreasing supply of new and young labor would create economic pressures running counter to the principles of the older system, in that it would, through

[9] The revival in the new labor force generation rate that is anticipated to begin in the mid-1970's will be of course a result of the recovery in the birth rate that characterized the late 1950's. A further boost in the rate of generation of new labor is expected in the mid-1980's, as the children of those adults born in the baby boom of the late 1940's begin to enter the labor population.

operation of the law of supply and demand, tend to boost the wages of the traditionally underpaid younger elements in the work force. If no revisions were wrought in the old system, the result would be a catastrophic increase in labor costs.

Furthermore, the traditional justification for the seniority wage system is being steadily eroded by the decreasing importance of job experience. In an age where industrial technology is progressing so rapidly that what was an innovation yesterday is obsolete by tomorrow, middle and older age labor is rapidly becoming more a handicap than an asset. Under such circumstances, it is clear that the time-honored and characteristically Japanese seniority wage system is on the way out.

III. SUMMARY OF LABOR FORCE POPULATION FLUCTUATION IN THE POSTWAR PERIOD

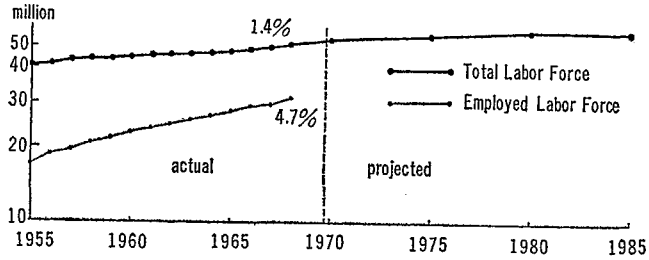
In the preceding two sections we have examined trends in the birth rate since the end of World War II, and have attempted to project the qualitative and quantitative effects these trends will have in the future upon the labor force population. In this section we would like to trace out a brief history of the measurable changes in the structure of the labor force population that have occurred in the period from the end of the War up to the present. A correct assessment of the postwar history of the labor force is a necessary prerequisite, we believe, for predicting the direction changes in the labor force can be expected to take in the coming years and for devising adequate countermeasures to deal with the dislocations and contradictions posed by such changes.

The postwar labor situation divides itself into two rather distinct and contrasting phases, the first phase lasting from the surrender to the inception of the period of rapid economic recovery and growth, and the second phase stretching from the beginning of this period of economic growth until the present. In the first phase, an influx from overseas of repatriated and demobilized manpower combined with a declining death rate and increasing rate of generation of new labor power, raised the supply of labor overnight to an abnormally high level and led rather soon to a massive accumulation of surplus labor.[10]

An oversupply of labor was nothing new for the Japanese economy, however. By and large, similar conditions had prevailed since the early Meiji period. Much more surprising was the rapid transition from labor surplus to labor shortage that accompanied the first years of the second of the two phases we have mentioned. As a result of rapid industrial growth during the early 1950's, the supply and demand picture in the labor market was turned upside down, and what had up till then always been regarded as a chronic problem of the Japanese economy virtually disappeared in a few short years.

10 Mataji Umemura, *Sengo Nihon no rōdōryoku—sokutei to hendō—* (Labor Force of Japan after the War—Measurement and Change—), Tokyo, Iwanami-shoten, 1964.

Figure 2. Comparison of Total and Employed Labor Forces, since 1955



Source: Office of the Prime Minister, Bureau of Statistics, *Rōdōryoku chōsa* (Labor Force Survey).

Figure 2 shows a comparison of the trends in the total labor force and employed labor force figures since 1955. The total labor force population statistic may be taken to represent the supply element in the labor market; the employed labor force figure will then represent the demand level. From this point of view the meaning of the disparity between the rate of expansion of the total labor force (a meager 1.4%/year) and that of the employed labor force (a much higher 4.7%/year) will be clearer: during the period from 1955 to the present, the demand for labor has been increasing at a rate considerably in excess of the supply.

As an average annual expansion rate for the total labor force over a period of some 13 years, a figure of 1.4% is by no means low. The dimension of the disparity between increments in demand and supply is to be explained, rather, by the abnormally high level of the demand factor in the labor market. For a period of over a decade, the size of the labor force employed in the modernized industrial sector of the economy has been increasing at an annual rate in excess of 4%.

In spite of a considerable disparity between the demand and supply aspects of the labor market (upwards of 3% annual increase differential), however, there has not yet materialized the logical end of this development: an absolute shortage of labor. Such an outcome has been avoided up to the present by drawing on the supply of reserve labor accumulated in the non-industrial sectors of the economy.

Most remarkable has been the consistent drain of reserve labor manpower from the agriculture and forestry occupations. As is shown in Table 3, the

Table 3. Changing Composition of Agriculture-forestry Work Force, 1955–67

(ten thousand)

Year	Total Work Force	Self-employed	Unpaid Household	Wage Labor
1955	1,604	533	1,027	44
1960	1,391	508	820	65
1965	1,154	441	673	41
1967	1,084	432	619	33

Source: *Labor Force Survey*

total number of agriculture and forestry laborers declined some 13.3% in the years 1955–1960, and an even greater 17.0% for the subsequent five-year period. Breaking down these figures in terms of employment relationships, it becomes clear that in the first five-year period under consideration, self-employed labor decreased by some 4.7%, while unpaid household labor decreased by a much greater 20.2%. In other words, if we exclude the 47.7% rise in the wage labor force (wage labor, it must be noted, occupied then and still occupies now but a minor fraction of the total agriculture and forestry work force), the most significant trend in the years 1955–1960 will be seen as the dramatic decline in the unpaid household labor force. It was not until the second half-decade (1960–1965) of the period we are studying that the decline in the number of self-employed farm and forestry workers (−13.2%) assumed an importance commensurate with the decrement in the unpaid household labor force (−17.9%).

At the same time, there may also be observed a trend toward aging of the migrating decrement in the agriculture and forestry labor force during the second half of the 1950's and first half of the 1960's. In the years 1955–1960 and 1960–1965, age distribution in the migrating decrement showed the following configuration:

decline in the number of agriculture and forestry workers

	1955–1960	1960–1965
under twenty years old	45.9%	58.9%
between 20 and 29	28.9%	47.3%
between 30 and 39	5.4%	13.4%
forty and over	2.9%	5.7%

It is clear from the above figures that recent years have seen an increase in the rate of absorption of middle and older aged workers from forestry and farming jobs into the more modern industrial sectors of the economy. To state obviously, the postwar economic boom has been, up till recently, able to satisfy its manpower needs by drawing off not just the entire *surplus* labor reservoir, but in fact a good proportion of the *necessary* labor supply from agriculture and forestry related industry. If any further evidence of this manpower drain is needed, we need only call attention to the dramatic upward shift in the age composition of the agriculture-forestry labor force. This labor force has, in fact, been so depleted by the industrial labor drain mechanism that any further reduction in its size will no longer reflect the continued operation of the draining mechanism, but merely the natural depletion resulting from retirements and deaths.

Another source of manpower for the postwar industrial boom has been labor power transferred from small and medium enterprise. Statistics on the changing composition of the labor force employed in enterprises excluding agriculture and forestry (see Table 4) reveal the following trends in the 1955–1965 period. For the years 1955–1960, self-employed labor increased by 3.1%, unpaid household labor decreased by 7.5%, and wage labor increased by some 34.1%. In the subsequent five year period, the numbers of self-employed

labor continued to increase (+0.8%) along with wage labor (+24.2%), while unpaid household labor, predictably, continued to decline (−3.3%). A breakdown of the increment segment in the number of self-employed workers by age bracket shows, furthermore, a trend toward aging. In the 1955–1960 sample, only the under-twenty age bracket showed a significant decrease (as opposed to a pronounced rise in the number of middle and older aged self-employed workers). By contrast, the next five years show the decline trend infecting the age 20–29 bracket as well. Increase in the number of middle and older aged workers, countered by a marked decrease in the younger age brackets, seems to be the trend for unpaid household labor as well.

Table 4. Changing Composition of Non-agricultural Work Force, 1955–1967

(ten thousand)

Year	Total Non-agricultural Work Force	Self-employed	Unpaid Household Labor	Wage Labor
1955	2,514	508	358	1,646
1960	3,067	524	331	2,208
1965	3,590	528	320	2,742
1967	3,851	568	334	2,946

Source: *Labor Force Survey.*

The decade from 1955 to 1965 thus saw a large-scale transferral of labor power reserves from the ranks of self-employed and unpaid household labor into the ranks of the wage labor force. Yet even such a massive liberation of reserve labor power could not keep pace with the relentless manpower demands generated by the industrial boom that began in the early 1950's. The pressures of a diminishing labor force supply soon began to be felt, though the response of management to these pressures varied with the scale of the employing enterprise.

Let us now move ahead and see what becomes of the supply and demand situation in the peak boom years 1959–1962 and the slower years that followed. Table 5 gives the average annual increase rates over these years for both the total labor force population and the wage labor force. For the peak growth years 1959–1962, the total labor force population expanded at an average annual rate of 1.3%, as contrasted with a yearly increment of some 5.0% for

Table 5. Rates of Increase of Total Labor Force Population and Wage Labor Force (by scale of employing enterprise), 1959–67

Period	Average Annual Increment in Total Labor Force (1)	Average Annual Increment in Wage Labor Force (2)	Differential (1)-(2)	Wage Labor Force Average Annual Increment, According to Scale of Employing Enterprise			
				1–29	30–99	100–499	500 or more
1959–62	1.3	5.0	3.7	3.4	10.2	13.1	15.6
1962–67	1.4	3.6	2.2	2.9	5.0	6.1	3.5

Source: *Labor Force Survey.*

wage labor. The supply-demand disparity of 3.7% thereby generated was, as we have suggested above, compensated by a decline of the proportion within the labor force population as a whole of self-employed and unpaid household labor.

The statistics presented in Table 5 show also that, for the years in question, the rate of increase in wage labor employment was greatest in the larger scale enterprises. A significant surplus labor supply was clearly still an important element in the labor market for these years; under such circumstances, expansion in production would characteristically involve a parallel increase in the number of employed workers. Development of employment relationships along these lines would, it should be pointed out, be favorable from the point of view of modernization of the employment structure of the labor force.

As we move along into the slower 1960's, however, we find that the annual expansion rate of the wage labor force begins to drop—this in spite of a rise in the corresponding index for the total labor force population. The disparity in the two growth rates begins, in other words, to be reduced. The supply of surplus labor that had characterized the peak boom years of the late 1950's and early 1960's had clearly been eroded by the mid-1960's, and it should come as no surprise that figures for the latter period also show a considerable falling off in the hiring rate among the large-scale enterprises. With the first signs of a labor shortage and pressures for wage increases, larger scale enterprises naturally began to shift their attention in the direction of labor-economizing production methods.

IV. POPULATION AND LABOR FORCE IN THE YEARS TO COME

The most significant demographic event in the postwar period has been the decline of the birth rate. An equally significant alteration in the labor supply situation has resulted from erosion of Japan's traditional manpower reserves by the rapid and sustained economic growth of the 1950's. The period of most dramatic decline in the birth rate came to an end by the second half of the 1950's; the years since have seen an over-all stabilization of the demographic picture. But the effects, particularly upon the labor market, of the postwar birth rate decline have not yet been felt in their totality.

In the decade 1955–1965, imbalance in the supply and demand aspects of the labor market was primarily a result of the abnormal increase of the demand for labor. In the years to come, however, a diminishing rate of generation of labor force population will become a more and more prominent dimension of the labor shortage problem. A more fundamental and permanent kind of labor shortage seems to be in the making. While it is not inconceivable that the situation might be ameliorated to some extent by the uncovering of previously untapped labor reserves, it is clear that the only long-term solution to the problem is the increasingly efficient and rationalized utilization of the existing labor force.

The labor shortage situation has already reached a critical stage, as is

shown in the most concrete manner by the steady rise in the number of job openings. But it would be an oversimplification to parallel the kind of dilemma we are facing in Japan with the current labor shortage situation in Western Europe.

As a comparison of per capita income figures will show, Japan's economy is still at a relatively low level of over-all efficiency. Contrasted with the almost four times as productive American economy (per capita income $3,132 and twice as efficient West German and British economies (per capita income $1,584 and $1,514 respectively), Japan's economy appears still a relatively backward phenomenon. While part of this backwardness can be explained by the relatively high proportion of Japanese labor still tied up in agriculture and medium-small enterprises, it must also be admitted that even in the modern industrial sectors of the economy labor productivity still ranks below that of American and West European industry. In the face of an increasing shortage of labor and consequent pressure in the direction of higher labor costs, the type of labor-intensive production methods—competitive only when guaranteed a supply of cheap labor—which lie at the root of the low labor productivity of the Japanese economy shall in the near future have to yield to more efficient methods of labor application.

In summary, the labor shortage now confronting Japan is of a different nature from that endemic to Western European industry. It by no means indicates an over-taxing of available manpower reserves, but derives rather from the continuation, under increasingly inappropriate conditions, of the kind of labor-intensive production that had characterized the 1950's, when labor was cheap and plentiful. A corollary to this peculiarity of the Japanese economy is to be found in the unevenness with which the labor shortage is making itself felt.

There is, as we have suggested previously, a lopsided shortage in the supply of middle-school and high-school graduate manpower—a shortage which is to be at least partially accounted for by the large number of relatively low-paying job situations which must be filled from their number. Of course, the demand for middle-school and high-school graduate labor is tied, too, to the superior adaptability of younger labor to the working conditions and rapidly advancing technology of modern industrial production. But the significance for the economy as a whole of the middle- and high-school graduate manpower supply lies primarily in its role as provider of cheap labor.

By contrast, the supply of middle- and old-age labor is still somewhat in excess of the demand. As a result, wages for the senior sections of the labor force are decreasing in comparison with the cost of young labor. Japan finds herself now in a temporary and unusual situation: in some sections of the labor force there are very definite surpluses, while in others critical shortages of manpower. It is clear that the trend is in general toward shortage on all fronts—but is this trend the only one at work in the situation?

Actually things are complicated by the fact that, even if the disparity in labor costs between older and younger workers could somehow be eliminated,

there would still be significant obstacles against substitution of middle and old age workers for young labor on the production line. The demand for labor capable of adapting to and handling the ever more complex technology of modern industry is on the rise. A minimal condition for the interchangeability of older and younger labor would thus be that the former be possessed of at least equivalent technical skills and knowledge as the latter. The present concern for the inadequacy of facilities for the vocational retraining of middle and older aged workers at once foreshadows developments likely in the future and points out the limitations hemming in management in the current situation.

Paralleling the uneven distribution of surplus and shortage among the various age brackets of the labor force is a similar lack of uniformity in the white-collar and blue-collar labor supply. A steady rise in the level of education of the new labor force over recent years has been accompanied by a shift in occupational preferences away from the so-called blue collar jobs. The superior status—as well as wages and working conditions—traditionally attached to white-collar jobs has naturally attracted the ambitions of a better educated young labor force. Inevitably, there has developed an over-supply of potential white-collar workers, while the supply of blue-collar labor becomes increasingly inadequate. And the trend shows no signs of subsiding. It is essential that we do more than simply wait until the law of supply and demand acts eventually to redress the imbalance by making working conditions superior for blue-collar workers. An effort must be made to popularize a more realistic and up-to-date concept of the status of the blue-collar worker.

But even if the above imbalances in supply can somehow be corrected, the *over-all* labor shortage problem will still be with us. Ultimate solution will demand that new sources of labor manpower be developed. But where will this new reserve come from?

Figures on the current age distribution of labor force mobilization rates for Japanese males show an almost 100% absorption into the labor force. Only two groups are exceptions to this pattern: students continuing their education past middle school and senior adults. A rising level of education is both necessary and inevitable in a relatively advanced country like modern Japan: there is no real possibility of increase in the labor force mobilization rate of the first of these two groups. And, even though general advancement of the retirement age might somewhat increase the labor force mobilization

Table 6. 1966 Female Labor Mobilization Rates (showing breakdown by age and household situation)

(%)

Household Situation	Over-all Rate	15–19	20–24	25–29	30–39	40–54	55–64	65 and above
Over-all Rate (all households)	50.9	38.0	70.1	48.7	54.7	61.5	45.9	21.7
Forming Households	69.7	34.3	80.6	87.3	91.6	88.5	67.4	33.7
Wage-labor Households	36.8	31.5	61.8	33.1	35.8	43.0	24.5	7.9

Source: *Labor Force Survey.*

rate among the currently idle members of the second group, the gain in terms of actual added manpower-hours resulting from such a policy could not be of very great long-term significance. There seems to be, in other words, little prospect of uncovering any significant new reserves among the male labor force population.

Prospects are somewhat better, however, for the mobilization of presently untapped female labor power reserves. As is shown by the statistics presented in Table 6, the labor force mobilization rate for women from farming households is practically identical with the figure for men. But the middle and older age brackets in the "wage labor households" category show a generally low rate of labor mobilization, suggesting a significant potential source of reserve labor power.

Of course there is an obvious reason for the disparity in female labor mobilization rates between farming and wage-labor households. In farming households, women work most commonly in the capacity of unpaid household labor. Their employment does not require them to leave the household. Consequently, conflict between job and household responsibilities is kept to a minimum.

In the case of wage labor household female labor, however, employment —whether full- or part-time—must take the form of wife labor employment, and a certain degree of economic and often physical separation from the household is inevitable. In such a situation, the job becomes harder to reconcile with household responsibilities.

Yet, in spite of the difficulties involved in mobilizing female wage labor reserves, it has become clear that increasing reliance upon female labor power is a trend of the future. What is most important at present is that adequate social facilities be designed to reduce to a minimum the contradictions that increased mobilization of female labor power will undoubtedly generate.

In the preceding sections, we have seen how an unprecedented decline in the birth rate in the postwar period, combined with the unusually high level of demand for labor produced by the rapid economic development of the 1950's, resulted in the transformation of a labor surplus into a labor shortage. Continuation of this trend can be expected to bring Japan, eventually, to the stage of endemic manpower shortage at which Western Europe currently finds itself, though the type of labor shortage problem which Japan now confronts is still only of a transitional variety. Manpower policies appropriate to Japan's peculiar situation must, accordingly, aim not simply at long-term problems but at resolving the dislocations and contradictions of the current transitional period as well.