Chapter——5

Innovation and Change in the Rapid Economic Growth Period

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In 1983 there were 22.63 million women in the Japanese labour force, 14.86 million working as salaried employees. Compared to the figures for 1955—17 million in the labour force, 5.31 million as salaried employees—these figures represent increases of approximately 1.3 and 2.8 times respectively. With the corresponding rates of increase for male workers over the same period being 1.5 times and 2.2 times, it is evident that, over the past nearly 30 years, the numbers of female salaried workers have increased significantly.[1] The typical attributes of the female salaried worker have also changed considerably, from the pre-war pattern of young, single women working on a short-term basis, primarily in the textile industry, to women working on a long-term basis, continuing even after marriage, and middle-aged and older women returning to the workforce after temporarily taking time off for marriage and childbearing.

This trend is likely to continue as employment patterns diversify and the service sector grows. With housewives leaving the home to work, home-making, child-rearing, and the care of the elderly and sick are being taken over by public welfare and commercial services. At the same time, the traditional role distinctions, with men working outside and women staying in the home, are becoming blurred. The greater participation of women in the labour force is affecting more than simply the workplace and management practices, and is also having a profound effect upon the family and welfare services.

In Japan, women first entered the wage-earning labour force in significant numbers during the post-war period of rapid economic growth[2] during which major technological advances were made. This period began in 1955 and lasted until the 1973 oil crisis. Automation of the production of light electrical appliances and precision instruments, the introduction of office automation, and the expansion of the sales sector all combined to broaden the opportunities available to women workers, who had until then been mostly confined to the textile industry. Such advances also created a new

demand for the latent workforce of married women. Not only labour-saving automation in the workplace, but also a new affluence and change in life-styles generated by the introduction of many new technologies, were critical factors in stimulating this change in the Japanese female workforce.

Between 1965 and 1970, at the peak of the rapid-growth period, nearly every home had running water, electricity, and gas utilities, and electric rice-cookers, washing machines, refrigerators, and vacuum-cleaners were commonplace. These electrical appliances, along with increasingly available processed and instant foods, freed housewives from many time-consuming tasks. The decrease in the birth rate, extended life-spans, and higher education for women all combined to create extra time for women. The availability of more time, as well as the increasing need to supplement the family income, turned many Japanese women's interests away from the home to work outside.

Today, rapid advances in micro-electronics technology are affecting all industrial sectors, in particular contributing to an expansion in services, and this is bringing about more significant changes in female labour patterns. In view of these changes, let us look back at the post-war years of rapid economic growth, the changing nature of salaried employment at that time, and the new issues which emerged for the working woman as a result of these changes.

I. Changes in the Employment Structure

1. Increase in Salaried Female Workers

The acute shortage of labour generated by the spurt in economic growth was met primarily by siphoning off labour from the farms. This led to a reduction in female labour in the primary industries that was greater than the corresponding reduction in male labour, and at the same time brought about a greater increase in the salaried female workforce than in salaried male workers.

Over the 1960–1970 decade, at the peak of Japan's rapid economic growth, male labour in the primary industries of agriculture, forestry, and fisheries dropped from 25.8 to 20.0 per cent and female labour fell sharply from 43.1 to 26.2 per cent. In contrast, the number of workers in the secondary and tertiary industries increased (table 5.1). The same pronounced increase in female workers as compared to male workers is evident when we look at the two decades following 1955, our base year. Over this time-span the number of male workers nearly doubled as opposed to a 2.2-fold increase in female salaried workers (table 5.2).

As shown in table 5.3, there was little change in the percentage of self-employed workers among the total female labour population during this time, but the proportion of women working for family-owned businesses (including farming and forestry) dropped while that of salaried workers

Table 5.1. Number of Workers by Industry, 1960–1980 (10,000 persons)

Year	Total number	Industry[a]		
		Primary	Secondary	Tertiary
1960	M. 2,660 (100.0)[b]	686 (25.8)	931 (35.0)	1,042 (39.2)
	F. 1,712 (100.0)	738 (43.1)	345 (20.2)	628 (36.7)
1965	M. 2,902 (100.0)	570 (19.6)	1,061 (36.6)	1,270 (43.8)
	F. 1,861 (100.0)	604 (32.5)	429 (23.1)	826 (44.4)
1970	M. 3,172 (100.0)	475 (20.0)	1,241 (39.1)	1,456 (45.9)
	F. 2,039 (100.0)	534 (26.2)	530 (26.0)	974 (47.8)
1975	M. 3,338 (100.0)	376 (11.3)	1,300 (38.9)	1,661 (49.8)
	F. 1,964 (100.0)	361 (18.4)	505 (25.7)	1,093 (55.7)
1980	M. 3,385 (100.0)	294 (8.7)	1,321 (39.0)	1,770 (52.3)
	F. 2,142 (100.0)	283 (13.2)	605 (28.2)	1,250 (58.4)

a. Primary industries refers to agriculture, forestry, fisheries, and mining; secondary industries to construction and manufacturing; and tertiary industries to wholesale marketing, retail marketing, finance, transportation, communication, utilities (electricity, gas, water), services, and public services.
b. Numbers in parentheses are percentages.
Sources: Prime Minister's Office, *Kokusei chōsa* [National Census], 1960–1975, and *Rōdōryoku chōsa* [Labour Force Surveys].

Table 5.2. Number of Salaried Workers by Sex, 1945–1980

Year	Total (10,000 persons)		% women	Index (1955 = 100)	
	Male	Female		Male	Female
1945	152	71	22.0	12	13
1950	962	342	26.2	84	68
1955	1,247	531	27.9	100	100
1960	1,632	738	31.1	131	139
1965	1,963	913	31.8	157	172
1970	2,210	1,096	33.2	177	206
1975	2,479	1,167	32.0	199	220
1980	2,617	1,354	34.1	210	255

Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys], except for figures for 1945, which are based on Ministry of Commerce and Industry, *Kōgyō tōkeihyō* [Industrial Statistics].

rose. In 1970, the percentage of salaried female workers exceeded 50 per cent of all female labour. This trend has continued through the 1973 oil crisis, marking the end of the rapid-growth period and the beginning of the period of slow economic growth. By 1980, the distribution of male labour had shifted to 64.3 per cent salaried, 24.1 per cent working for family-owned business, and 11.6 per cent self-employed.

Table 5.3. Total Female Working Population by Type of Occupation, 1960–1980

Year	Total	Salaried	Self-employed	Family business
Percentages				
1960	100.0	41.9	13.5	44.7
1965	100.0	49.2	12.1	38.6
1970	100.0	53.2	13.9	32.9
1975	100.0	59.7	12.0	28.1
1980	100.0	64.3	11.6	24.1
Fluctuations (1,000 persons)				
1960–65	1,483.0	1,977.1	−54.7	−470.1
1965–70	1,888.0	1,752.2	602.7	−435.6
1970–75	−883.1	813.4	−516.2	−1,227.6
1975–80	1,347.2	1,767.8	72.2	−460.7

Source: Statistics Bureau, Prime Minister's Office, *National Census*.

2. Married Women in the Workplace

The second major change to take place among female workers was the increase in middle-aged and older married women entering the labour market as salaried workers. This has changed the female labour participation curve from one that peaked at a young age bracket to an M-shaped double curve with two peaks, one for very young workers and one for middle-aged and older workers (fig. 5.1). Unlike in other countries, there is a conspicuous drop in female workers in the 25–35 age-group. This group is the one most likely to quit for marriage and childbearing.

Since the period of rapid economic growth, the proportion of very young female workers aged 19 and younger has dropped significantly, while that of female workers aged 40 and older has gone up (fig. 5.2). There are two reasons for this: the higher level of education among women today means that more young women are in school, while at the same time married women in their forties and older, whose children have grown up, are returning to the workforce.

A shortage of male workers compelled corporations to hire these middle-aged and older women. The effect by 1975 was a greater percentage of married female workers than of single female employees. By 1980, this percentage was up to 57.4 per cent, with more than half of all salaried female workers being married (fig. 5.3). This is quite a significant change from the pre-war years, when most female workers were very young and single.

Most of the married women entering the labour force at this time were employed at unskilled simple tasks on a part-time basis. The rate of increase among part-time women workers considerably exceeded that among men, and though the 1976 oil crisis temporarily put a damper on part-time

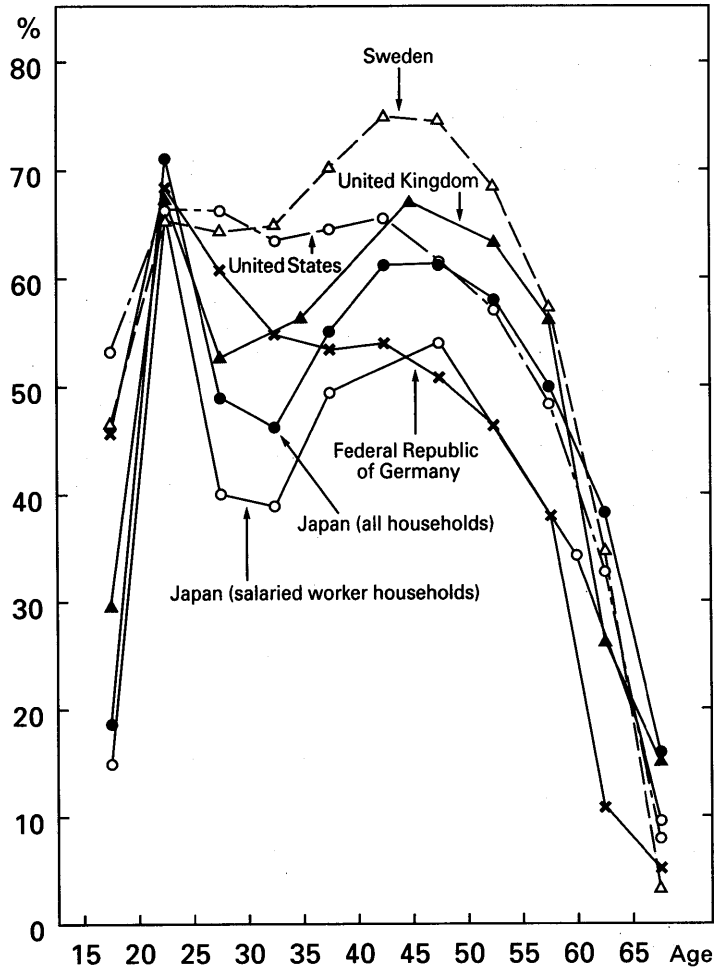

Fig. 5.1. Salaried Female Workers by Age, 1960–1980
Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys].

employment for women, their number continues to increase (fig. 5.4). In the two decades between 1960 and 1980, the proportion of part-time workers rose from 6.3 to 10.0 per cent of the total labour force. Among women, the increase was especially pronounced, going from 8.9 to 19.3 per cent. A 1980 survey[3] found that among married working women, the percentage of part-timers at 73.4 per cent was far above the 34.7 per cent of those working full-time.

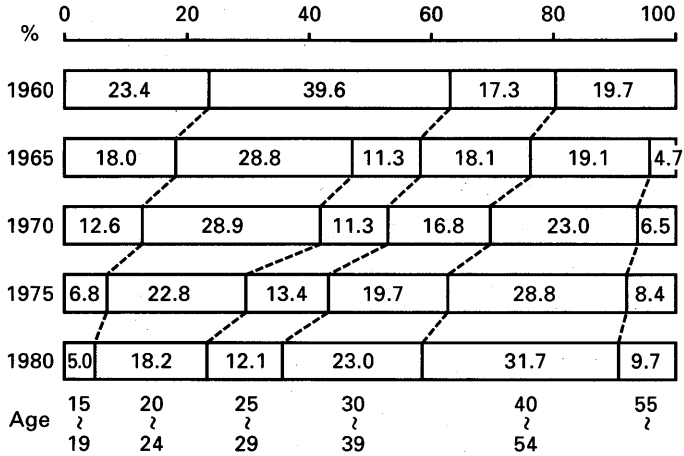

Fig. 5.2. Salaried Female Workers by Age, 1960–1980
Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys].

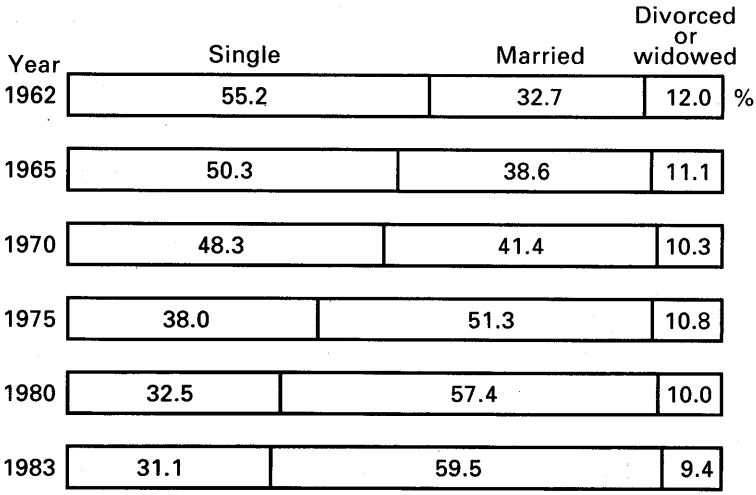

Fig. 5.3. Female Labour Force by Marital Status, 1962–1983 (percentages)
Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys].

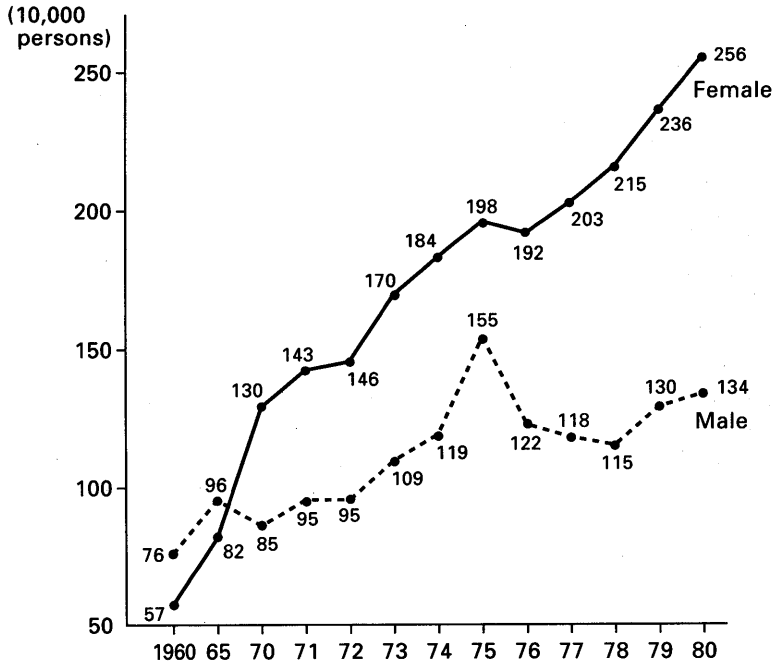

Fig. 5.4. Part-time Workers, 1960–1980
Note: Part-time workers are defined as those who work less than 35 hours per week (including seasonal workers and those working irregular hours). Figures for 1960 and 1975 have not been adjusted for time-series connections.
Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys].

3. Changes in Types of Work

The third change that has taken place in female labour in Japan has been the diversification of employment opportunities engendered by changes taking place in the industrial structure.

As shown in table 5.4, the occupations with the greatest number of workers and with the highest percentage of female workers in the 1960–1970 decade were: professional/technical, clerical, sales, skilled/manufacturing, physical labour, and services. There was a significant increase in the number of workers in management, transport, and communications during this decade, but though the number of women in these fields rose correspondingly, their percentage of the total never became very significant.

Clerical, sales, and skilled and manufacturing occupations were the most directly affected by technological advances. The introduction of automation into mass production actually caused clerical and management functions to increase and, of course, led to an increase in sales volume. Companies sent

Table 5.4. Number of Salaried Female Workers by Job Type, 1960–1980

Job type	1960	1965	1970	1960–70 rate of increase (%)
Professional/technical	60 (33.3)[a]	76 (37.6)	100 (40.7)	166.7
Management	2 (2.5)	4 (3.4)	5 (3.8)	250.0
Clerical	170 (35.9)	251 (39.9)	339 (46.9)	199.4
Sales	58 (34.7)	88 (37.0)	112 (32.6)	193.1
Agriculture/forestry/ fisheries	24 (32.9)	14 (23.7)	10 (23.8)	41.7
Mining/quarrying	2 (5.7)	1 (5.0)	1 (10.0)	−50.0
Transport/communications	5 (5.3)	22 (12.0)	22 (10.0)	440.0
Skilled/manufacturing		220 (24.9)	291 (25.9)	
Physical labour	240 (26.9)	70 (31.5)	66 (33.2)	148.8
Services	108 (54.8)	150 (54.7)	150 (56.2)	138.9

a. Percentages (in parentheses) show proportion of women in total (male and female) workforce.
Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys].

their male workers out as salesmen and installed female workers in their new offices and retail outlets. A new type of female worker appeared on the scene, having at least a high-school or junior college education, quite capable of handling complex office work, and thoroughly versed in her company's product line.

The simplification of work processes in the manufacturing sector led to an increase in female workers here as well. A major change in the structure of the manufacturing sector further contributed to this increase. Prior to the era of rapid economic growth, female production workers were concentrated in the textile industry, but with the advent of rapid growth they shifted to the metal and machinery manufacturing industry. In 1954, women accounted for 43.1 per cent of all workers on textile production lines and only 14 per cent in the metal and machinery industries. By 1961, the shift from one sector to another was becoming apparent, with women comprising 32 per cent of all textile workers and 24 per cent of metal and machinery workers. In 1970 the percentages had completely reversed: 42 per cent in metal and machinery and only 18 per cent in textiles.[4]

With the rapid technological advances made during the rapid-growth years and the increase in automated manufacturing processes in general machinery, electrical appliances, and the petrochemical industries,[5] experienced male workers were replaced by unskilled female labour. The shift was directly related to the shift in export industries from textile to metal, machinery, and electrical appliances.

Another such shift has been taking place since the 1970s as micro-

Table 5.5. Salaried Female Workers by Job Type, 1960–1980 (percentages)

	Professional/ technical	Management	Clerical	Sales	Manufacturing	Services	Other	Total (10,000)
1960	8.6	0.3	24.5	8.3	34.5	15.5	8.3	100.0 (738)
1965	8.7	0.5	28.8	10.1	33.2	14.5	4.2	100.0 (913)
1970	9.1	0.5	30.9	10.2	32.6	13.7	3.0	100.0 (1,096)
1975	11.6	0.9	32.2	11.1	28.3	13.7	2.2	100.0 (1,167)
1980	13.0	0.8	32.7	11.6	27.2	12.9	1.8	100.0 (1,354)

Source: Prime Minister's Office, *Rōdōryoku chōsa* [Labour Force Surveys].

electronics and office automation stimulate a further change in Japan's industrial structure. The number of female employees in such tertiary industries as information services, research, advertising and publicity, retailing, insurance, and social services is increasing at a rate of 30 to 45 per cent. In the secondary industries, by contrast, while the rate of increase in female workers in precision machinery and electrical appliances is holding steady at around 30 per cent, their number is actually declining by 10 to 20 per cent in textiles, steel, paper and pulp, and petrochemicals, a rate of decline that is faster than that for men in these same industries.[6]

The story is not quite the same when it comes to professional and technical occupations and administrative management positions, however. A higher level of education and greater expectations have indeed fostered an increase in the number of women in these kinds of jobs, but, as of 1980, the percentage of all female workers in professional and technical occupations was only 13 per cent, and in management only 0.8 per cent (table 5.5). Even though the ratio of female workers in the workforce definitely went up during the rapid-growth era, this increase was primarily in the office, manufacturing, and service fields, and what professional work women did perform was still concentrated in jobs traditionally filled by women, such as child care (day care), elementary and junior high-school teaching, and nursing. Doctors, lawyers, university professors, and researchers are still primarily men, and these high-paying positions have yet to be seriously challenged by women.

For this it will be necessary for corporations to be more equal in their hiring and employment practices for men and women, and there will have to be an increase in social services and a change in perceptions of male and female roles if women are to be freed from the double burden of both outside employment and homemaking. It is notable in this context that, during the UN-declared "Decade for Women," many countries established equal opportunity laws reflecting the change that is taking place in the traditional perceptions of man as breadwinner and woman as homemaker.[7]

II. The Effects of Automation and Computerization

1. New Jobs for Women

The technological advances of the rapid-growth years were a major factor in opening up traditionally male-dominated jobs to women. According to a survey of 2,040 companies of all sizes and types,[8] approximately 30 per cent said they were using women in positions formerly reserved for men, the greatest rate of increase in their employment of women taking place between 1965 and 1967.

The larger corporations and factories producing electrical appliances, machinery, non-ferrous metals, metal products, steel, and chemicals (table 5.6) were the most aggressive in hiring women. All of these industries had a

Table 5.6. Secondary Industry Companies Providing New Job Types for Female Workers, 1968 (percentages)

Industries with many new job categories for female workers		Industries with few new job categories for female workers	
Chemicals	41.4	Foods	22.0
Steel	38.5	Tobacco	23.8
Non-ferrous metals	43.2	Textiles	17.9
Metal products	38.5	Lumber/wood products	19.2
Machines	49.0	Paper/paper products	25.4
Electrical appliances	50.4		

Source: Compiled from Women's Employment Office, Employment Promotion Project Corporation, *Joshi rōdōryoku no dōkō to joshi ni atarashiku hiraketa shokushu* [Trends in the Female Labour Force and New Job Categories] (1969), p. 20.

pronounced shortage of male workers in the past, and all had seen major advances in automation of their production and work processes. By installing new equipment and adopting improved safety measures, the large corporations were able to make up for the lack of male labour by hiring unskilled female workers. Small- and medium-sized businesses had always had more female workers than the large corporations, but among them also the shortage of male workers during the high-growth years led to an increase in the hiring of female workers.

According to a Ministry of Labour survey, 57.7 per cent of new positions for women were in manufacturing, 19.6 per cent in clerical and office work, and 13.8 per cent in completely new job categories created by the introduction of computers into the workplace. Looking at the reasons for hiring female workers, as shown in table 5.7, the most common reasons given by manufacturing companies were that automation had simplified work processes so that they could be handled by unskilled female workers and that certain aspects of jobs performed by male workers were being assigned to women. Non-manufacturing companies said they had found female workers better at certain jobs than men, and, again, that certain aspects of jobs performed by men were being relegated to women. As for professional and technical positions, quite a number of companies stated that they had given these positions to women on an experimental basis.

A 1969 survey showed that there was growing diversity in the job types being made available to women between 1963 and 1968 (table 5.8) in both manufacturing and non-manufacturing industries.[9] In the heavy machinery and chemical industries, automation and simplified and smaller equipment made it possible to have women workers operate lathes, drills, and mills, as well as take over washing and gas and electric-welding operations in shipbuilding and automobile production.

With the shortage of male technicians, women stepped in to take over

Table 5.7. Reasons for Employing Female Workers by Job Type, 1968—Multiple Responses (percentages)[a]

Reason	Professional/ technical	Clerical	Skilled/ manufacturing	Unskilled	Total
Female workers better at certain jobs than men	55.9	47.4	28.6	17.7	31.9
Women hired to make up for shortage of male workers	14.7	15.6	25.1	25.3	23.3
Women can be paid less than men	11.8	8.6	15.7	21.5	14.4
Automation has simplified processes so that they can be handled by women	5.9	9.3	47.3	41.8	38.8
Certain aspects of jobs performed by male workers assigned to women	47.1	45.4	47.0	40.5	45.9
Assigned on an experimental basis	32.4	7.3	11.7	10.1	11.5
Other	11.8	13.6	6.1	10.1	8.4
Total[b]	100.0 (34)	100.0 (303)	100.0 (1,499)	100.0 (79)	100.0 (1,915)

a. A few companies that gave no reason for hiring female workers are not included in this table.

b. Figures in parentheses indicate actual numbers.

Source: Ministry of Labour, Women and Minors Bureau, *Joshi rōdōdōsha no shūrō jōkyō no henka ni kansuru chōsa* [Survey on Changes in Types of Jobs for Female Workers] (1969).

such semi-skilled work as chemical analyses in the manufacturing industry and drafting in the non-manufacturing sectors. This was unprecedented, but it must be kept in mind that women filled only subsidiary positions, acting as assistants rather than becoming professionals or acquiring the necessary technical expertise themselves. Women have been hired in large numbers for the assembly of electrical appliances, thanks to the development of the conveyor-belt assembly system and the printed circuit board.

Mechanization has also opened up new jobs for women in the food and textile industries, sectors with a traditionally high percentage of female workers. For example, at one major food-processing company, there were 31 women working on automatic sausage-stuffing machines in 1963, 27 operating high-speed packaging equipment in 1965, and seven women in charge of automatic canning equipment in 1967. In the textile industry, the

Table 5.8. New Job Types for Women, 1963–1968

Manufacturing	Metalworker, lathe operator, metal press operator, mill operator, electrical appliance parts assembly, semiconductor element maker, light-bulb and vacuum-tube assembly, rolling-machine operator, wiring, casting-machine operator, welder, platemaker, transport machinery assembly, transport machinery inspector, optical machinery parts assembly, clock-assembly lens-grinder, automobile assembly, chemical analyst, drafter, finishing workman
Information processing	Keypuncher, checker, computer operator, teletypist, transcriber, telex operator, programmer
Management	Dormitory manager, section chief assistant, subsection chief, foreman or group leader, personnel placement director, assistant branch manager, branch office director

Source: Compiled from Women's Employment Office, Employment Promotion Corporation, *Joshi rōdōryoku no dōkō to joshi ni atarashiku hiraketa shokushu* [Trends in the Female Labour Force and New Job Categories] (1969), pp. 60–83.

introduction of automatic spinning machines, presses, cutting machinery, and dyeing processes has led to women replacing men in the operation of this kind of equipment.

Computers have contributed to startling advances for female workers in the non-manufacturing industries by opening up opportunities as keypunchers, computer operators, and other positions related to information-processing and data telecommunications. At first these kinds of jobs were limited to the finance and insurance, wholesale and retail, transport and communications, and utilities (electricity, gas, and water) industries, but between 1963 and 1968 they also became available in the chemical, steel, machinery, and electric appliance manufacturing industries.

Other jobs for women in the non-manufacturing sector were those related to the sales and marketing of new products developed during the rapid-growth years. These include, for example, new gas and electrical kitchen appliances, microwave ovens, and other home appliances. Women are now giving advice and providing technical services for these kinds of products, and they are considered to have an advantage in their better understanding of what the homemaker needs. It is in these areas that women have for the first time become involved in new product development and sales.

2. Working Conditions

How has automation affected working conditions for women, especially in the electrical appliance and precision instruments manufacturing industries and in computer-related jobs?

Replacing the textile industry in the rapid-growth period as the primary

export industry, the electrical appliance industry offered new opportunities for young, single women workers. Whole groups of young women who had just completed their compulsory education (graduation from junior high school) were hired *en masse* by companies in the industry—a trend heralded with much fanfare in the media—but in actuality work in the modern, automated factory was not always as wonderful as it was made out to be.

Assembly of transistor radios, calculators, and tape-recorders on a line is tedious, repetitive work. At the Toshiba Yanagimachi plant, there was an almost complete turnover of assembly line workers at least once every three years, the reasons given for quitting not being marriage or childbirth, but the desire to be free of the monotony and tension of the work. Contributing stress factors were the shift-work system and the requirement that all workers live in company dormitories. Young female workers were not very happy with the restrictive dormitory life.[10]

Stress and high turnover rates were evident in other studies as well. An electric appliance factory in the Tokyo suburbs speeded up its assembly line, forcing workers to do their jobs faster. In just six months roughly 20 per cent of the women on the line quit, many of them to find new jobs in offices and coffee shops, later gravitating to bars and cabarets. The female workers at this particular company stated in response to a questionnaire prepared by the company's labour union that, after a day on the assembly line, everything seemed to keep moving even though working hours had ended.

In a study of the health problems of female workers in a television assembly plant, Sony discovered that the women who spent their day doing very fine wiring work and welding operations complained after three months or so of double vision, lack of appetite caused by fatigue, near-sightedness, astigmatism, burns, and rheumatism.[11]

At the peak of the rapid-growth era, a 1965 survey found that wages in manufacturing were especially low, second only to wages in the mining and construction industries (table 5.9). In the electrical appliance manufacturing industry, female workers were receiving above-average salaries, but still considerably less than males in the equally-booming steel industry; even though the gap between female and male wages was not as wide as in many other sectors, women were still only being paid 49.8 per cent of men's wages (table 5.10).

The results of a study conducted by the Ministry of Labour's Women and Minors Bureau revealed that many of the same features characterized working conditions for women in the precision instruments industry as in the electrical appliance industry.[12] This survey found that women involved in making measuring, medical, and optical equipment and timepieces shared four characteristics: (1) they were junior and senior high-school graduates and had taken up their occupation in place of work in the textile industry; (2) the majority were young and single with little work experience; (3) a considerable number lived with their parents or siblings and used their in-

Table 5.9. Women's Wages and Discrepancy with Men's Wages by Industry, 1965

Industry	Monthly wage (yen)	Percentage of male wage
Mining	18,173	41.4
Construction	19,372	45.3
Manufacturing	19,796	44.7
Production	18,371	47.5
Management	25,125	43.3
Wholesale and retail	22,939	50.0
Finance	32,393	47.5
Real estate	25,176	43.3
Transport and communications	30,310	60.4
Utilities	36,251	58.3
Total	22,275	47.8

Source: Ministry of Labour, *Maitsuki kinrō tōkei chōsa* [Monthly Labour Statistics].

Table 5.10. Women's Wages and Discrepancy with Men's Wages by Manufacturing Industry Sector, 1965

Industry	Women's monthly wage (yen)	Women's wages / Men's wages (%)
Manufacturing	19,796	44.7
Food-processing	18,249	40.5
Tobacco	39,884	67.5
Textiles	18,109	43.6
Clothing, textile products	16,256	43.0
Lumber, wood products	15,478	47.0
Furniture, interior products	17,131	50.8
Paper, pulp, and paper products	19,995	44.3
Publishing, printing, related industries	27,143	51.0
Chemicals	23,978	47.1
Petroleum and coal products	25,256	44.1
Rubber products	20,105	49.6
Leather and fur products	20,396	49.9
Ceramics and stone products	19,658	45.1
Steel	24,826	48.1
Non-ferrous metal	23,164	49.5
Metal products	20,044	50.7
General machinery	21,153	50.7
Electric appliances	19,830	49.8
Transportation equipment	23,187	50.0
Precision instruments	23,113	54.0

Source: Ministry of Labour, *Monthly Labour Statistics*.

comes freely, putting away money for marriage or to contribute to the family income; and (4) companies hired these women primarily because they were deemed skilled at detail work, were patient, persevering workers and could be paid low wages. These findings indicate that there was little change in female working conditions from the days when most female labour was concentrated in the textile industry.

Though many companies built modern, totally automated factories, the pressing need for rapid expansion of production capacity often compelled them to adapt old factories to new production processes. Many of these factories were old wartime munitions plants and spinning plants, their floors dirt or concrete and their lighting and ventilation very poor. The Ministry of Labour study cited above noted these conditions and urged that they be improved. A high near-70 per cent of women workers in such factories complained of ailments directly related to their work, mostly tired eyes and stiff shoulders.

In terms of wages, women in the precision instruments industry were also paid less than their male counterparts whom they had replaced at machining and inspection processes. The difference between men and women was also evident in compulsory retirement ages. Of the companies surveyed by the Ministry of Labour, roughly one-third had different retirement ages for men and women, most of them age 35 for women and 50–55 or no compulsory retirement age for men. These companies saw their female workers primarily as cheap, disposable labour.

During the rapid-growth era, computerized office work had as high an appeal among women as the electrical appliance industry. In actual fact, however, working hours were irregular and overtime was common. Poor working environments coupled with the repetitive and sedentary nature of the work caused many women to quit, and in some companies female workers were not expected to last very long.

Female keypunch operators, teletypists, and computer programmers stated that acquiring a skill in computer operation made it easy for them to change jobs, but at the same time they complained that little was known of how long hours at computer terminals might affect their health and that long working hours made it nearly impossible to continue their jobs after marriage.[13]

Computerization in financial institutions, beginning around 1960, led to a sharp increase in complaints by keypunchers and teletypists of physical and mental distress caused by their jobs. Their most common complaints were of pain in their hands, fingers, arms, backs, and shoulders, and eye fatigue. Some claimed that they could not even lift their arms to wash their faces and that they suffered from insomnia and restlessness. Very soon the same symptoms were appearing among women working as telephone operators, checkers (cash-register operators), assembly-line workers, and clerical workers. So common were these symptoms that they were given a name—tenosynovitis—and because most of these jobs were filled by women,

female workers suffered the most. It was not long before the new disease became an issue of widespread concern.[14]

While technology was providing women with new opportunities as professionals and technical workers, it was also creating many new kinds of problems. Computers and automation made jobs simple, repetitive, and monotonous, a continuing trend today as micro-electronics permeate the business world. Already the terminal operation of video displays, a relatively simple process requiring little skill, is on the way to becoming women's work. If the kind of occupational health problems that appeared in the rapid-growth period are to be avoided this time, it will be necessary to create new work standards and to limit working hours. Women should also be given more opportunities, both within and outside the company, to train for positions in data-processing management and research and development.

III. Female Part-time Workers

1. Part-time Workers and Types of Work

Whether they are hired to work on a regular basis, only temporarily, or for just one day at a time, part-time workers are defined as those who work fewer hours per day, week, or month than full-time employees. During Japan's period of rapid economic growth, many middle-aged and older housewives took on part-time jobs and were called *pāto taimā* (part-timers).[16]

Part-time workers became most prolific in factories and offices in the 1960s as corporations sought to make up for the labour shortage by hiring housewives who had finished with early child-rearing. Technological advances and automation simplified work processes and made it possible to use unskilled labour. Part-time work enabled the housewife to earn an income without detracting from her duties as mother and homemaker, and she was generally satisfied if she earned just enough to supplement her husband's income and cover increasing household expenses.

At first it was assumed that "part-timers" were a temporary phenomenon proliferating in response to the labour shortage caused by the nation's rapid economic growth. Yet the number of part-time workers has continuously increased since the rapid-growth era, especially in tertiary industry, only decreasing temporarily when companies were forced by the oil crisis to streamline their operations. Even today there is no sign that the increase is temporary. Through the rapid-growth era to the present, part-time workers have continued to be an important source of labour. The average number of years part-time workers stay at one job has increased significantly over the nearly ten years between 1970 and 1979, increasing from 2.5 to 3.8 years in the manufacturing sector and from 2.1 to 3.2 years in wholesale and retail industry (fig. 5.5).

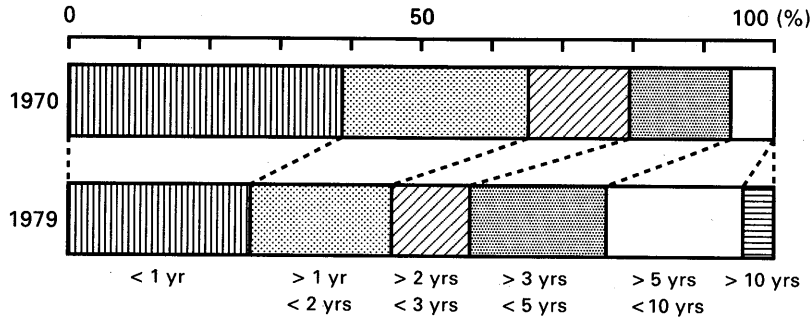

Fig. 5.5. Average Number of Years Female Part-time Workers Stay at One Job, 1970 and 1979
Sources: For 1970, Ministry of Labour, *Joshi pāto-taimu koyō chōsa* [Employment of Female Part-time Workers], 1971; for 1979, Ministry of Labour, *Daisanji sangyō koyō jittai chōsa* [Employment Conditions in Tertiary Industries] (see notes 17 and 20).

A 1970 Ministry of Labour survey found that part-time workers were concentrated in the manufacturing and wholesale and retail sectors, with 89.3 per cent of those in manufacturing involved in production processes compared to 73.9 per cent of those in wholesale and retail sales. At the time of the survey, most part-time workers were assigned unskilled jobs with low pay,[17] the most common being parts assembly, packaging, sales, money-collection, cleaning, cooking, and dishwashing.

A look at the part-time workers employed by Hitachi's Mobara plant gives a typical view of female part-time labour during the rapid-growth years.[18] This particular plant hired its first part-time female workers in the autumn of 1959, starting with some 30 to 40 housewives from farming households, to help with cleaning, shipment preparation, and transport. In 1968, wives of salaried company workers were added to bring the number up to 300, and part-time female workers were assigned throughout the plant, their duties expanding to include the assembly of vacuum tubes and electrodes for colour and black-and-white television sets. Hitachi had made the decision to hire more part-time workers after it found that it just could not maintain a staff of younger female workers capable of keeping up with its ever-increasing production rate. Once it had hired middle-aged and older housewives to fill out its labour force, Hitachi found that it had tapped an unexpectedly rich source of labour. This caused the company to reconsider its long-standing policy of hiring only young, single women, and to shift to a greater reliance on part-time labour made up primarily of older, married women.

Newspaper flyers proved an effective mean of recruiting part-time workers, as did simple word-of-mouth transmission among friends and neighbours. In 1968, the average age of the female part-time worker was 34.4,

and though she usually had children, they were already of elementary-school age, freeing her for much of the day. Money earned through part-time work went primarily to pay school fees and to otherwise supplement the household budget.

To ensure that the part-time housewife labour force would continue working at its plant for an extended period of time, Hitachi first made sure that their husbands had no objection to their working. Special commuter buses were provided to make commuting as easy as possible, and within the plant part-time workers were treated much the same as their full-time counterparts despite differences in wages. As the Hitachi example demonstrates, the company's willingness to foster this new source of labour dovetailed nicely with housewives' desire for supplemental income and greater availability of time. Companies in the southern Kanto area and in the Kyoto-Osako-Kōbe industrial zone, where the shortage of young labour was especially acute, were among the first to hire such part-time workers on a large scale.

2. Improvement in Wages and Working Conditions for Part-time Workers

Female part-time workers quickly became a mainstay of the rapid-growth era, yet though they most often worked at the same kinds of jobs and for nearly the same hours as their full-time counterparts, they were not earning nearly as much. At one time this discrepancy was corrected somewhat, bringing the part-time hourly wage to approximately 82 per cent of that of the full-time worker in 1976. Yet in 1980 this percentage had actually dropped to 76 per cent. As female part-time workers became an established part of the labour market, the gap between their wages and those of full-time workers gradually widened, at the very least remaining stable and showing no signs of closing.[19]

As for working conditions other than wages, there does appear to be some improvement among the larger companies, though slight differences in the targets of surveys made in different years make accurate comparison difficult. According to a 1965 study,[20] 26 per cent of part-time workers were receiving social security benefits and 30 per cent health insurance benefits. By 1982, both figures had gone up to around 40 per cent. Only 9.6 per cent of the companies surveyed said they paid some kind of retirement allowance to their part-time workers. On the other hand, companies that paid bonuses to part-time as well as full-time workers had gone up between 1965 and 1982 from 35 to 62.7 per cent. Without the lifetime employment guarantee of the full-time employee, the part-time worker naturally found the bonus a greater incentive than a lump-sum retirement allowance.

With part-time workers accounting for a growing segment of the labour market and with companies finding more and more varied uses for such workers, it is inevitable that this will have a major effect on hiring practices for the full-time employee and on labour management policies. Con-

sidering this, it would seem logical that part-time workers be paid more, but a number of factors act to keep part-time wages low. Companies are reluctant to increase the wages of what they perceive as a cheap labour pool, and there are any number of middle-aged and older housewives seeking part-time jobs. Furthermore, many of these housewives do not want to earn more than the limit set by the government on non-taxable income earned by a dependent (as of 1985, the ceiling was 900,000 yen per year).

Another factor that has delayed the payment of better wages to part-time workers is the fact that they have not been organized to establish a strong bargaining position, and the labour unions already in existence have so far shown little interest in improving their plight. It is only very recently that the national labour federations in Japan have started to look into the possibilities for organizing part-time workers and to begin making serious efforts to seek improved wages.[21] The first such efforts took place in the distribution industry, particularly in supermarkets, which are major employers of part-time workers. Even here, however, the labour unions are motivated more by the fact that the number of full-time workers is dwindling, threatening their own continued existence.

Local unions took the lead, the Shōgyō Rōren publishing its "Standards for Part-time Employees" in June 1979 and the Japan Federation of Textile Industry Workers' Unions issuing a statement on "The Organizing of Part-time Workers" in May 1980. Among the major national labour federations, the General Council of Trades Unions of Japan (Sōhyō) in January 1981 and the Japanese Confederation of Labour (Dōmei) in June 1982 both announced their intention to organize part-time workers. Recognizing part-time work as a legitimate employment category, these national union federations have committed themselves to closing the remuneration and work-benefits gap between part-time and full-time workers. The Dōmei has made a distinction between those who wish to remain part-time workers and those who wish to become full-time employees, and is concentrating on improving the possibilities for part-time workers wishing to go full-time.

The motivation and types of occupations of part-time workers have diversified considerably since they first appeared on the scene in the era of rapid economic growth. As figure 5.6 shows, housewives seeking part-time work are coming from higher income brackets. The need to supplement the household budget is less pressing for them than is their desire to enjoy a more affluent lifestyle and to spend their free time constructively employed. With this new kind of labour and the greater importance being placed on workers' attitude and ability today, companies' employment and payment policies for part-time female workers will inevitably diversify according to types of jobs.

There are 3.06 million part-time female workers in Japan today, and the Ministry of Labour has finally got around to establishing certain minimal regulations concerning their employment.[22] Companies with ten or more part-time workers on their payroll must set employment regulations specifically for these workers. Part-time workers employed for 22 hours or more

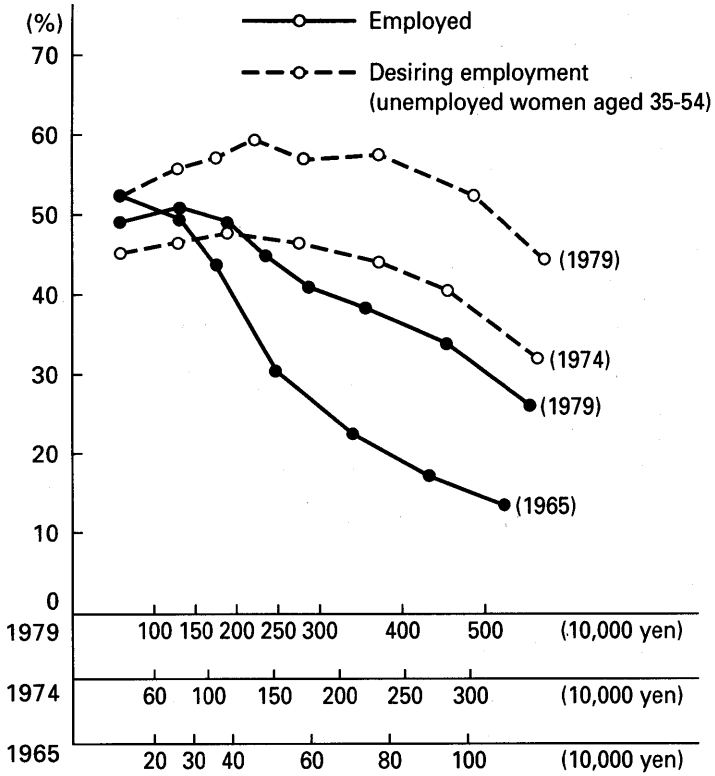

Fig. 5.6. Household Income Bracket of Married Women, Employed and Desiring Employment, 1965, 1974, and 1979
Source: Shioda Sakiko, "Kyōkyū-gawa kara mita saikin no joshi pāto-taimā no dōkō" [A Supply-side View of Recent Trends among Female Part-time Workers], in Koyō Shokugyō Sōgō Kenkyūjo [Employment Research Institute], *Koyō to shokugyō* [Employment and Jobs], vol. 42 (1982).

a week or who work at least three-quarters of the hours of a full-time employee are eligible for unemployment insurance. Those employed four days a week must be given some annual paid days off from work, and, finally, part-time workers who meet certain conditions must be paid salaries equivalent to their full-time counterparts.

Since they first emerged during the years of rapid economic growth, part-time workers have been a major force in Japan's economic development, and the housewife working on a part-time basis is likely to become a permanent fixture of Japanese society. Today, women looking for part-time positions are often highly educated and have specialized skills and previous work experience, and a growing number of them will probably be gravitat-

ing to professional and technical jobs. Companies would do well to tap this rich lode, not only improving the working conditions for conventional part-time positions but opening up more and better job categories to the part-time worker.

IV. Social Ramifications of Women in the Labour Force

1. Changes in the Home

The post-war period of rapid economic growth brought about major changes in the home as a result of the widespread availability of electricity, gas, and running water, and the many new products appearing on the market as a result of significant technological advances. Over the period 1956–1965, more than 60–70 per cent of all households had acquired an electric washing machine, electric rice-cooker, and electric refrigerator, and by the end of the rapid-growth era just about every home had these appliances (fig. 5.7). This, of course, greatly reduced the time required for household work, and led to the kind of major change in lifestyles indicated in figure 5.8.

Rice, the staple food, could be cooked with just the touch of a switch—no more need to chop wood and keep a cooking fire going. Laundry could

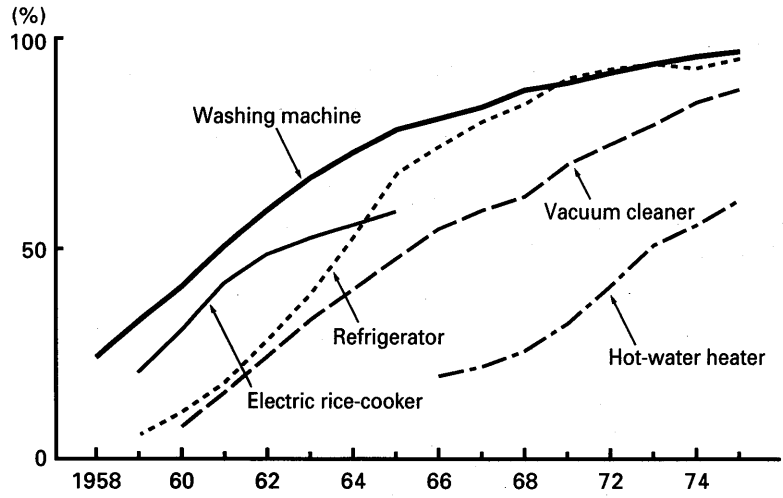

Fig. 5.7. Ownership of Electrical Household Appliances, 1958–1974
Note: Surveys were conducted in February of each year in cities with populations 50,000 and greater.
Source: Economic Planning Agency, *Shōhisha dōkō yosoku chōsa* [Forecasts of Consumer Trends].

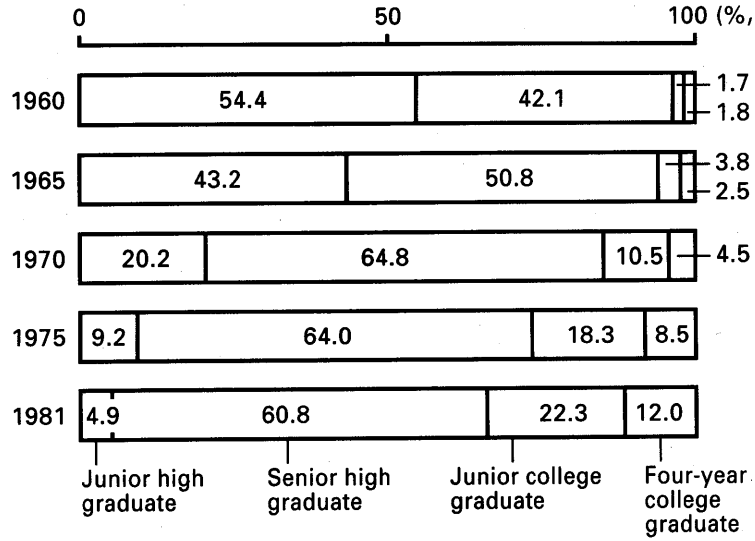

Fig. 5.8. Women Graduates by Educational Level, 1960–1981
Source: Ministry of Education, *Gakkō kihon chōsa* [Basic Survey of Schools].

be washed in a machine filled with water from a tap—no more need to haul up buckets of well water and spend backbreaking hours hand-washing each item of clothing. Meals could be prepared with processed, semi-processed, and frozen foods stored in a refrigerator. Inexpensive, ready-made clothing made it unnecessary for the housewife to spend late nights sewing and mending her family's wardrobe. When she did want to sew or knit, there were sewing-machines and knitting-machines that greatly speeded up the process.

All these new conveniences freed women, particularly housewives, from the strenuous labour that had once been necessary simply to keep the household going and to maintain the family's welfare. According to a Japan Broadcasting Corporation (NHK) 1975 survey of how people spend their time, the post-war housewife of a typical salaried worker's household spent approximately three hours less on household chores than her pre-war counterpart and had roughly four hours of free time to herself every day.

Life was certainly easier than it had once been, but the many new conveniences also meant a greater burden on the household budget. Their husbands' salaries not being enough to cover these extra expenses, housewives sought their own sources of income to supplement the household budget, and this is what generated the mass entry of married women into the labour market during the years of rapid economic growth. The necessary social services to support this influx of female labour were still far from sufficient, however, there being few child-care facilities, for example, or corporate

Table 5.11. Changes in Household Chores before and after 1955

	Item	Before 1955	After 1955
Food	Fuel	Cooking stove heated with firewood and charcoal	Gas and electric stoves with automatic pilot
	Water	Well or pump water or water hauled in buckets	Running water inside the house, gas hot-water heaters
	Kitchen	Dark, earthen floor	Bright and airy, stainless-steel sink and counters
	Utensils	Iron pot for cooking rice, pans, cutting board, knife	Electric and gas rice-cookers, wide variety of pots and pans, thermos jars and hot-water pots, toasters, mixers, refrigerator with freezer, electric or gas oven
	Food	Meat, fish, and vegetables, homemade preserved foods (pickles and *tsukudani* soysauce-boiled preserves)	All foods available regardless of season Increased consumption of dairy and meat products, processed, semi-processed, and pre-cooked foods, variety of frozen foods.
Clothing	Laundry	Soap, well or pump water, washing by hand	Synthetic detergents, running water, electric washing machine, dry cleaning
	Fabrics	Cotton, hemp (natural fibres)	Natural and synthetic fabrics
	Apparel	Hand sewn and knitted, frequently mended	Ready made and made-to-order clothing Sewn on electric sewing and knitting machines
Housing	Furniture	Storage chests	Dressers, closets, couches and armchairs, carpeting, stereo, television, beds.
	Heating/ cooling	Handheld fans, *kotatsu* (quilt-covered table with charcoal brazier underneath), open fire pit, briquettes, open brazier	Electric *kotatsu*, kerosene and gas heaters and air-conditioners, electric fans, central heating
	Cleaning	Broom, duster, rags, dustpan	Vacuum cleaner, chemically treated dust cloths, mops, wax, cleaning solutions
Attitudes		Frugality: repair and recycling, tightly controlled budget, low living standard	Preference for disposable products, "consumption as virtue," used items readily replaced with new purchases, higher standard of living, increased spending and higher prices

Source: Tanabe Giichi, ed., *Katei keieigaku sōron* [Household Management] Dōbun Shoin 1977 ada ted from

policies accommodating the special needs of the working mother.[23] Most women, also, wanted only to work to the extent that they would still be able to fulfil their traditional functions of mother, wife, and homemaker, and because of this they opted for part-time rather than full-time jobs.

Thus, though there were now a greater number of women in the labour force, few had the careers or the working benefits of their male counterparts. Instead, most of these women worked for low pay at simple, unskilled tasks made available to them through advances in automation and mechanization.

2. Equal Employment Opportunities

In the democratization that took place just after the Second World War, the equality of men and women under the law was recognized for the first time, and equal educational opportunities provided for men and women. This, combined with the fact that people began to have more money to spend on education, resulted in a sharp increase in the number of women going on to senior high school and higher education. The two-year college entry rate for women increased from 3.0 per cent in 1960 to 11.2 per cent in 1970, and the percentage of women going on to four-year universities nearly tripled over the same period, jumping from 2.5 per cent in 1960 to 6.5 per cent in 1970. As is evident in figure 5.8, the educational level of women entering the labour force rose significantly over this decade, the percentage of those who had only gone as far as junior high school shrinking drastically.

The narrowing of the educational gap between men and women has contributed to more equal employment opportunities as well. Women, now just as highly educated as men, are increasingly looking for job opportunities once considered the exclusive territory of men. This was already evident in the rapid-growth period, as women began appearing in management positions traditionally assumed to be the exclusive preserve of men. Whereas there were only approximately 20,000 women in management positions throughout the country in 1960, their number had grown to roughly 110,000 by 1980. In terms of number, this is still insignificant, but in terms of growth it represents a hefty, more-than-fivefold, increase. The entry of women into traditional male-dominated job categories is certain to continue to escalate.

Another notable factor in the growing number of women in the labour force has been the major change that has taken place in women's lifestyles (fig. 5.9). In 1930, women typically married around age 22, had an average of five children, and died soon after the youngest had married. The pre-war Japanese woman devoted her whole life to husband, children, and often the husband's family-run business. In contrast, in 1974, the final year of the rapid-growth era, women were spending a longer time in school and therefore marrying later, having only two or three children at the most, and simply living longer. As a result, they had many years of free time ahead of them even after they had finished raising their children.

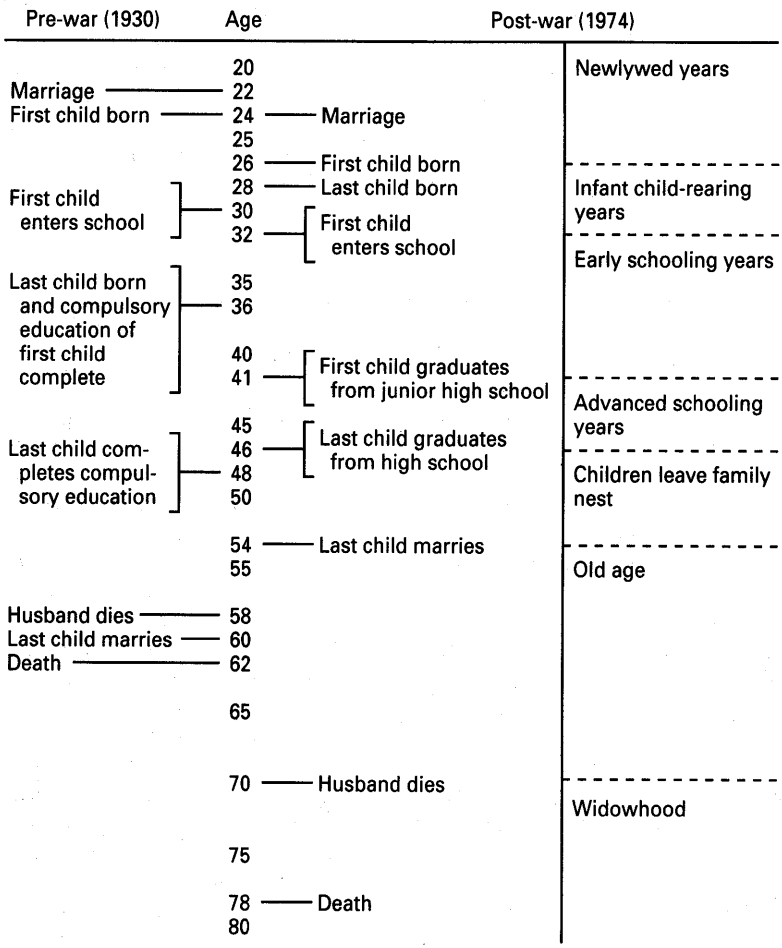

Fig. 5.9. Changes in the Japanese Woman's Life Cycle, 1930 and 1974
Note: The average number of children before the war was five, after the war around two.
Sources: Prime Minister's Office, *National Census*; Ministry of Education, *Gakkō kihon chōsa* [Basic Survey of the Schools]; Ministry of Health and Welfare, *Nihon jinkō no dōko* [Trends in Japanese Demographics] and *Jinkō dōtai tōkei* [Population Movement Statistics]; Shōrai Kōsō Kenkyūkai, ed., *Zusetsu onna no genzai to mirai* [Women, Present and Future: Illustrated] (Aki Shobo, Tokyo, 1979), adapted from p. 139.

Of basic concern to women today is how to spend the many years they have free, years their mothers and grandmothers never had, most productively. This is one of the reasons you find so many women in continuing education programmes and involved in a wide variety of hobbies and interests of all kinds including dance, swimming, tennis, and much more. There have been negative effects of this trend. Many mothers pour their excess energies into their children, leading to overprotectiveness and an excessive concern for their children's educational advancement. Other middle-aged and older housewives, finished with childrearing and lacking a truly close relationship with their company-oriented husbands, are swept by a sense of worthlessness and sink into a depression that is generating numerous physical and psychological disorders peculiar to the modern Japanese housewife.[24]

Today's Japanese woman wants to work not simply for economic reasons, but because she seeks money to finance her leisure activities or because she is looking for something worthwhile and interesting, some way of participating in society. Now that they can expect to live well into their eighties, Japanese women are incorporating work into their lifestyles, considering it as important as marriage, childbearing, and homemaking.

The rapid-growth era saw an exodus of young male workers from the farming communities to the cities, where they became salaried employees. As these men married, the phenomenon of small, nuclear families emerged. Women were expected to concentrate on the household and their children, and were idealized as the perfect helpmate whose function was to create a comfortable home so that the man, the breadwinner of the household, could concentrate on his outside work. This ideal image of women was emphasized in women's magazines.

The assumption that a woman's place was in the home was accepted without question throughout Japanese society, and companies only viewed women as a temporary labour force to be tapped before marriage. Female university graduates were considered to have very few workable years before marriage, and women who aspired to true careers found very few such opportunities.[25]

In general, women workers of this period felt little commitment to their jobs. In response to a survey of female office workers, 46 per cent responded that they would quit upon marriage, and 30 per cent upon having children. Only 5 per cent expressed any interest in continuing work even after marriage and pregnancy.[26] This lack of commitment, however, related directly to corporate attitudes toward female workers; it was the general practice among private companies during the rapid-growth era to retire their female workers when they married or got pregnant.

By the latter half of the rapid-growth period, frustration at the discrepancy in retirement practices and wage scales for men and women were causing more and more women to take their complaints to the courts. Landmark cases in which retirement practices applying exclusively to women were declared discriminatory and illegal include the December 1966 ruling against

Sumitomo Cement's policy of retiring female workers at marriage; the March 1977 ruling against Mitsui Engineering and Shipbuilding on the issue of requiring women to retire when they became pregnant; and the August 1975 ruling against the Shaboten Koen (Cactus Park) authorities' setting of different retirement ages for men and women.[27] By 1983, only 18.5 per cent of all private corporations had different retirement policies for men and women workers.

The gradual erosion of long-held distinctions between male and female workers resulted directly from the fact that more women are working for longer periods of time at higher-level jobs than ever before, and, though they are still a minority, these women are beginning to find the voice to assert their rights and demand equal treatment with men.

V. Conclusion

On 17 May 1985, the Equal Employment Opportunity Law was passed. Though this law does not do much more than urge corporations to make an effort to treat their female and male employees in exactly the same way, it does indicate a shift toward the elimination of discriminatory practices regarding employment, promotion, training, and firing practices. The new law replaces the special protective measure that used to be applied to female workers under the Labour Standards Act, but in actuality neither corporations nor their female workers are very optimistic about its application.

In a survey made just before the law went into effect,[28] a majority of corporations said it would not affect their policies and that women workers would have to show greater job commitment first. Among female workers, it was found that two-thirds did not even know about the proposed law and those who did felt that legal elimination of discrimination depended upon their employers' efforts.

The movement toward equality between the sexes in both the home and the workplace and the changing interpretation of the traditional division of labour is an international one. Equality in employment was the premise of the agreement, to which Japan was a signatory, to eliminate sexual discrimination against women at the World Conference of the United Nations Decade for Women held in Copenhagen in 1980. Japan is being compelled to follow this trend as new technological innovations and the development of the information society rapidly move it toward greater internationalization.

The long-accepted axiom, "man's place is in the workplace; women's in the home," no longer holds true, and the time has come for greater flexibility in allocating jobs to both men and women. Women should no longer have to endure lower wages and inferior working conditions.

Rising incomes, modernization of lifestyles, and the still-falling birth rate have all contributed to narrowing the educational gap between men and women and to increasing the importance of work within a woman's life

cycle. The entry of married women into the workplace has led to a new consciousness that the husband and father has a role to play in the home after all. Outside the home, society is gradually coming to accept the fact that women, too, can have lifelong careers and can fulfil just as competently functions previously reserved exclusively for men.

The female labour force that emerged during Japan's years of rapid economic growth thus had an effect upon employment that extended beyond the simple increase in the number of women workers to encompass a major transformation in traditional employment practices and social mores. It is hoped that corporations will continue with this change, that the government will encourage it, and that the Japanese people as a whole will develop a heightened awareness of the need for greater equality in the labour market.

Notes

1. *Rōdō hakusho* [White Paper on Labour] (Ministry of Labour, 1984), pp. 14–16.
2. During this period, automation and other technological advances pulled Japan out of the aftermath of war, transforming the defeated nation into one with the second-largest GNP in the world. Five basic reasons are generally given to explain this phenomenon: (1) private industry's investments in equipment and facilities coincided with major advances in technological innovation; (2) industriousness, a national trait, combined with a high level of education, created a superior labour force; (3) the Japanese people's propensity to save helped to fund large-scale capital investment; (4) the government adopted growth-promoting measures, providing investment financing and encouraging exports; and (5) postwar democratization stimulated the Japanese people to greater productivity and higher consumption.
3. Ministry of Labour, "Daisanji sangyō koyō jittai chōsa" [Employment Conditions in Tertiary Industry], *Fujin rōdō no jitsujō* (1981), p. 97.
4. Figures for 1956 and 1961 from Ministry of Trade and Industry, *Industral Statistics*; for 1970 from Ministry of Labour, *Monthly Labour Statistics*.
5. Technological innovation introduced from overseas between 1949 and 1956 included, by industry, 143 innovations in electrical appliances, 148 in all other kinds of equipment, and 146 in chemicals. These three industries combined accounted for 66 per cent of all technological innovations adopted from abroad, while the spinning industry accounted for only 6 per cent, or 37 innovations. From Hoshino Yoshirō, *Gijutsu kakushin no konpon mondai* [Basic Issues of Technological Innovation] (Keisō Shobō, Tokyo, 1958), p. 247.
6. Ministry of Labour, Women and Minors Bureau, *Fujin rōdō no jitsujō* (1981), p. 11.
7. Some readily available works on the issues of eliminating sexual discrimination and promoting equal employment opportunities include: Higuchi Keiko et al., *Shokuba, hataraki tsuzukeru anata e* [The Workplace: For Career-minded Women Workers] (Chikuma Shobō, Tokyo, 1982); Takenaka Emiko, ed., *Joshi rōdō ron* [A Study of Female Labour], (Yūhikaku, Tokyo 1983); Ōba Ayako and Inoue Shigeko, eds., *Josei ga hataraku toki: Hogo to byōdō to* [When a Woman Works: Protection and Equality] (Miraisha, Tokyo, 1984).

8. Employment Promotion Project Corporation, Fujin Koyō Chōsashitsu [Women's Employment Office], *Joshi rōdōryoku no dōkō to joshi ni atarashiku hiraketa shokushu, Shōwa 38nen–Shōwa 43 nen* [Trends in the Female Labour Force and New Job Categories, 1963–1968] (1969). Basic divisions by industry are: the production division in manufacturing industry; the administrative divisions in the electricity, gas, and water supply industries; the services division in transportation and communication; the administrative division in finance and real estate; and the services division in the service industries.
9. Ibid., based on case-studies of new job categories.
10. Furukawa Sachiko, "Denki sangyō ni okeru fujin rōdō" [Female Workers in the Electrical Appliance Industry], in Ōba Ayako and Ujihara Masajirō, eds., *Fujin rōdō* [Female Labour] (Aki Shobō, Tokyo, 1969), pp. 213–240.
11. Shimazu Chitose, ed., *Gōrika to joshi rōdōsha* [Rationalization and Female Labour] (Rōdō Shunpōsha, Tokyo, 1965), pp. 10–15; and *Ruporutaaju shokuba* [Report: The Workplace] (Shin Nihon Shuppansha, Tokyo, 1971), pp. 43–71.
12. Ministry of Labour, Women and Minors Bureau, *Seimitsu kikai kigu seizōgyō no joshi rōdōsha* [Female Labour in the Precision Machinery and Tool-making Industries] (1962). Other references include the following reports made by the Bureau on female labour in the changing industries of the rapid-growth era: *Pankashi seizōgyō no joshi rōdōsha* [Female Labour in the Bread and Confectionery Industry] (1959); *Suisan shokuryōhin seizōgyō no joshi rōdōsha* [Female Labour in the Marine Food Production Industry] (1960); *Kinzoku kikai seizōgyō ni okeru fujin rōdō jittai chōsa* [Female Labour in the Metal and Machinery Industry] (1972); and *Sen'i kōgyō ni okeru fujin rōdō jittai chōsa* [Female Labour in the Textile Industry] (1973).
13. Employment Promotion Project Corporation, Fujin Koyō Chōsa Kenkyūkai [Women's Employment Research Centre], *Fujin no shokugyō bunya toshite no konpyuutaa kanrenshokushū ni kansuru chōsa kenkyū* [Study of Computer-related Occupations as Employment for Women] (1970).
14. In 1964, the keypuncher's complaints were formally recognized as a kind of occupational disease, and work standards were established by the Ministry of Labour. For details, refer to Saitō Hajime, ed., *Keikenwan shōgai to yōtsū* [Tenosynovitis and Lumbago] (Rōdō Kagaku Kenkyūsho, Tokyo, 1979).
15. Studies on the effects of office automation on women workers have only recently been carried out. They include: "Microelectronics kakumei to Nihon no josei rōdōsha" [The Micro-electronics Revolution and Women Workers in Japan], a paper presented at an international conference on New Technologies and Women by the Computer to Josei Rōdōsha o Kangaeru Kai [Study Group on Computers and Female Labour], June 1983; and *OA, Jōhōka no josei rōdōsha e no eikyō chōsa* [Study of the Effects of Office Automation and Information Processing on Women Workers] (All-Japan Federation of Electric Machine Workers' Unions, 1984).
16. Today part-time workers fulfil a wide variety of functions, many working the same hours as full-time workers. Other types of non-full-time workers include short- and long-term temporary employees, regularly hired part-time workers, contract workers, commissioned workers, etc. Recently studies have been made of employment trends for these kinds of non-full-time workers and how they are being affected by the changing industrial structure. These studies include: *Fuantei Shūgyō to shakai seisaku* [Unstable Employment and Social Policy] (Ochanomizu Shobō, Tokyo, 1980) and *Chūshō jigyōsho ni okeru hi-seiki jūgyōin no jittai chōsa*

[Study of Non-full-time Employees in Small Offices] (Tokyo Labour Institute, Tokyo, 1981).

17. Ministry of Labour, Women and Minors Bureau, *Joshi paato taimu koyō no jitsujō* [Employment of Female Part-time Workers] (1971), pp. 18–19.
18. Hashimura Hideaki, Labour Section, Hitachi Mobara Plant, "Pāto-taimā kanri no kotsu" [Managing Part-time Workers], *Rōmu jijō* (Industrial Labour Institute), no. 133 (1968).
19. Shinozuka Hideko, "Joshi paato-taima no saikin no dōkō" [Recent Trends among Female Part-time Workers], *Shokken* (Employment Research Institute), no. 32 (1980): 6.
20. Figures for 1965 are taken from Ministry of Labour, *Joshi paato-taimu koyō chōsa* (1966); figures for 1982 are taken from p. 58 of Ministry of Labour, *Fujin rōdō no jitsujō* (1983). Rapid advances have been made in studies of part-time workers over the past few years. Outstanding examples include Japan Federation of Textile Industry Workers Unions, *Pāto-taimā no jittai to ishiki chōsa* [Study of Part-time Workers and Their Attitudes] (1980), and Zenrōdōshō Rōdō Kumiai, *Joshi pāto-taimā jittai chō* [Female Part-time Workers] (1982). The former is a detailed study of typical part-time job categories and the latter is a national survey.
21. For further information on the labour unions and their dealings with part-time workers, see Ōsawa Masanori, "Izumiya ni okeru pāto soshikika no torikumi" [Organizing Part-time Workers in Izumiya], *Kikan rōdōhō*, no. 117 (1980); Nakamoto Takahisa, "Shōgyō Rōren ni okeru pāto-taimu shain no soshikika" [Organizing of Part-time Workers by the Japan Federation of Commercial Workers' Unions], *Rōmu jijō*, no. 502, (1980); and Sugai Yoshio, "Zensen Dōmei no pāto-taimā soshikika no tame no gutaisaku" [The Japan Federation of Textile Industry Workers' Unions' Proposals for Organizing Part-time Workers], *Rōmu jijō*, no. 502.
22. As reported in the evening edition of the 17 September 1984 *Nihon keizai shimbun*. The *Pāto-taimā hakusho* [White Paper on Part-time Workers] (1984), put out by the Sangyō Rōdō Chōsajo [Industrial Labour Institute], presents a comprehensive view of recent part-time labour activities.
23. In 1960 there was a total of 9,782 public and private nurseries with capacity for 689,242 children. By 1973, the number of public nurseries had been increased 1.7 times to 16,411, expanding the total nationwide capacity to 1,425,637 children, a 2.1-fold increase. However, according to Fuse Akiko ("Shufu ga shigoto o motsu koto" [When a Housewife Holds a Job], in *Gendai Nihon no shufu* [The Contemporary Japanese Housewife], NHK Books, 1980), in 1976 there were 1,680,000 households with 2,270,000 children requiring child-care facilities, yet only nursery facilities for 1,800,000 children, leaving some 470,000 infants and children with nowhere to go.
24. Saitō Shigeo, *Tsumatachi no shishūki* [Housewives' Midlife Crisis] (Kyōdō Tsūshinsha, Tokyo, 1983). According to a report in the 17 June 1983 *Asahi shimbun*, the National Health Research Institute found in a study that full-time housewives in their late forties often suffered from an extreme dislike of housework, depression, and irritability.
25. See the comments made by management and female student representatives in "Joshi gakusei no shūshoku mondai o kangaeru" [Employment Issues for Female College Graduates], *Rōmu jijō*, no. 49 (1965). In around 1961 there was considerable debate over the so-called "corruption" of the many women graduates

who were then entering the workforce in large numbers. A sound refutation of this idea, supported by facts, is given by Fujitani Atsuko and Uesugi Takami, eds., *Daisotsu josei hyakumannin jidai* [One Million Women College Graduates] (Keisō Shobō, Tokyo, 1982).

26. Prime Minister's Office, Secretariat's Public Relations Office, "Joshi jimushokuin no ishiki chōsa" [Survey on Attitudes of Female Office Workers] (1962), as reported in *Rōmu jijō*, no. 115 (1967), pp. 6–11.
27. Akamatsu Yoshiko, ed., *Kaisetsu joshi rōdō hanrei* [Judicial Precedents Relating to Female Labour] (Gakuyō Shobō, Tokyo, 1976). Women only began to win such cases after many of them had become a long-established presence in the workplace. Among these forerunners were a number of women forced by the war to remain single and to support themselves. Also see Tani Kayoko, *Onna hitori ikiru: Dokushin sabetsu no naka o ikinuku chie* [A Woman Alone: Learning to Live with the Discrimination against Single Women] (Mineruba Shobō, Tokyo, 1982).
28. The Recruit Corporation surveyed 1,538 women working in private companies within the Tokyo metropolitan area on their attitudes toward the proposed equal employment opportunity law. The Industrial Labour Institute surveyed corporations on their response to the proposed law and also made a study of the law's effects on personnel management immediately after it went into effect. The results of both surveys were presented in *Rōmu jijō*, no. 619 (1984). Further studies are certain to be made on equal employment practices. In the meantime, *Jurisuto, no. 819-Danjo koyō kintō hō* [The Jurist, no. 819: The Equal Employment Opportunity Law] (Yūhikaku, Tokyo, 1984) gives some perspective on the labour laws involved, while *Fujin rōdō ni okeru hogo to byōdō* [Protection and Equality for Female Labour] (Keibunsha, Kyoto, 1985) looks into the social ramifications.