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ABSTRACT

As early as elementary school, a Japanese child faces a sequence of narrowing choices for an occupational future. Through decisions on further schooling, curriculum, and job entry, earlier choices severely restrict later ones. Usually, men go to four-year universities to study engineering or social sciences. Women generally attend two-year colleges and study humanities or home management. College enrollment has peaked, but attendance at post-secondary specialized schools and vocational training centers continues to rise. Youth unemployment hardly exists since 95 percent of all high school graduates are employed within a month after graduation. A wide variety of formal and informal patterns of on-the-job training exists and employees of larger firms appear to have more opportunities for broadening skills than their United States counterparts. Dramatic demographic and technological changes may lead to increased flexibility in school curricula, preparation for occupational specializations and mobility in labor markets. A four-page list of references concludes the report. (CFR)

FINAL REPORT

JANUARY 30, 1986

EDUCATION AND LABOR FORCE SKILLS IN POSTWAR JAPAN

by

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EXECUTIVE SUMMARY

This study examines relationships in postwar Japan between education and work skills and covers both the school-to-employment transition and job experience. In the postwar period formal education levels rose notably until the 1980's after Japan's "miracle growth" era ended. While educational attainment of Japan's labor force is still below the U.S., in a few years it will be comparable, likely higher in percent of high school graduates. By the year 2,000, 40 percent of adults will be college educated (two or more years). Non-formal education adds substantially, placing Japan at the top of the world's most advanced economies.

Hiring of new graduates is without delay. A month after graduation less than 5 percent of new high school leavers are unplaced. Youth unemployment hardly exists. The recruiting process is highly structured and, regulated by law, begins more than a year before graduation. Employers, placement officials, teacher, and Public Employment Stabilization Offices (PESO) play key roles. Careful matching of students and employers shifts competition from labor markets to school entrance. School prestige is crucial in pairing jobs and graduates.

College enrollment has peaked, but attendance at post-secondary "specialized" and "miscellaneous" schools and vocational training centers outside the regular education continues to rise. The latter vary greatly in course offerings, but most prepare for vocations or college entrance exams. The schools supervised by the Ministry of Education (MOE) tend to provide basic training for the young; and those by the Ministry of Labor (MOL), adult retraining. Most MOE students are young female high school graduates preparing for office or service jobs. MOL enrollees usually have only compulsory education (nine years) and are trained for industrial work and construction trades. Both types head eventually for self-employment, since large companies hire few.

As early as elementary school, a Japanese school child faces a sequence of narrowing choices for his/her occupational future. Through decisions on further schooling, curriculum, and job entry, earlier choices severely restrict later ones. In the process sharp sex differentiations take place. Usually men go to the four-year universities, mainly to study engineering or social sciences. Women populate two-year junior colleges and study humanities or home management. As a result, lower paid jobs for women appear certain, although a new 1985 law is attempting to "equalize" employment opportunities. Men college graduates mainly enter professional, technical, clerical, and sales jobs and can anticipate eventual promotion to managerial positions. Women junior college graduates usually go into clerical work and teaching. Entry jobs are often labelled "technical, professional" -- often a misleading designation. Among large firms a recent trend is to promote male college graduates as "staff specialists" rather than managers. Large companies thus may have excess supplies of managerial resources, which serve to depress and equalize their compensation and stimulate turnover.

For acquiring skills in jobs, the learning process is diverse. Primary emphasis is on training young workers. While Japanese industry has long been known for systematic training-within-the-enterprise, a wide variety of formal and informal patterns exist. However, most business firms report having formal training for at least a small number of their employees. Actually, skill acquisition seems to occur mainly through job experience. Its extent is not well known but likely to be limited as most jobs require only elemental instruction. In selective large-scale organizations, more opportunities for broadening skills appear to exist than in their American counterparts. One observer believes this results from different work structuring and sequencing and is enhanced by tight-knit worker teams kept together for long periods ("lifetime"). The more experienced continually instruct the less experienced

as team members rotate among tasks. Strong employment security, regular wage advances, extensive fringe benefits, and status promotions, indicative of strong "internal" labor markets, help maintain this continuity. However, small enterprises, which account for most employment, do not share these characteristics and instead rely heavily upon "external" labor markets for finding work skills.

Recent studies of employment tenure in Japan and other countries do not strongly support the idea that "lifetime employment" is more prevalent in Japan than elsewhere. Rather, they show that continuous employment with a single firm has been longer for younger workers in Japan than in most other advanced industrial economies. It has been less for older employees. "Middle-length" employment (5 to 20 years) seems more prevalent in Japan. It is this which may well support the notion that investment in skill formation is greater in Japan than elsewhere. How much greater is a question in need of further research.

Relative to population, "high level" professions and occupations--school teaching, science and engineering, medicine, etc.--recently have come abreast of other advanced industrialized countries. Also, since 1958, government-run testing and licensing for the highly skilled manual trades, including certifying instructors, have become widespread.

After decades of emphasizing training for young workers, Japan now faces a growing problem of retraining (and employing) larger numbers of older workers, many of whom have "retired" from previous careers. Programs for career planning are growing as well as attempts to restructure work and compensation to accommodate older workers. Dramatic demographic and technological change may call for important shifts away from the emphasis on new school graduates and are apt to entail increased flexibility in school curricula, preparation for occupational specializations, and mobility in labor markets.

Introduction

This study is an overview of the relationship in Japan since the 1950's between formal educational attainment and employee skill development in paid employment. The first part of the study examines this relationship in the transition from formal schooling to the world of work. The second part deals with the process of skill formation and accumulation in the careers of employees once that transition is completed. For a major, perhaps overwhelming, proportion of the occupied population since the 1950's formal education in Japan has played an indirect but important role in providing a base for skill formation and acquisition in paid work. It appears to have been highly significant for recruitment, assignment to training opportunities, compensation and promotion, and retirement. Probably, of even greater importance in skilling the labor force has been direct on-the-job experience itself. Yet, this is likely to change in the future as formal education becomes increasingly relevant for direct acquisition of work skills, especially if the educational system undergoes "reform" in that direction.

Levels of Educational Attainment

In recent decades, the occupied population of Japan breaks down by level of education as follows (MCA, 1984, p. 63):

	Compulsory Education (9 Years)	Secondary Education (12 Years)	Higher Education (14 or more years)
1960	68.7%	23.0%	6.6%
1970	54.9	33.1	10.6
1980	38.4	42.9	17.5

The percentage of working people with higher education (including technical schools beyond high school, two-year junior college, 4-year university, and graduate school) shown above appears low by standards one would associate with Japan's reputation as a country of high-quality human resources. For comparison, in 1980, 18.8 percent of the U.S. population 25 years or older had received 4 or more years of college education. If people with 1-3 years of college education are added, this raises the percentage of people with higher education in the U.S. to more than 30 percent (U.S., 1985, p. 134).

The college enrollment rate in Japan increased rapidly in the 1950s and 1960s. It peaked at 38.6 percent in 1976. In the 1980's, this high college enrollment rate is not yet fully reflected in the composition of the labor force by education. Given time, however, as older, less educated members of the labor force retire, the proportion of the labor force with higher education will eventually converge on the college enrollment rate which, despite slight decreases after 1976, still remains high at more than 35 percent. (Japan's college enrollment rate is defined as the ratio of all new college students in a given year to all boys and girls who completed 9-year compulsory education three years earlier. Since the attendance rate during compulsory education is almost perfect in Japan, this way of calculating the college enrollment rate is almost identical with the ratio of all new college students to all 18-year olds. One complication is that nearly 30 percent of the new college students have spent a year or more after high school in preparation for college admission. But so long as the rate of delayed college entry remains constant, the enrollment rate as calculated is a good way of relating the cohort of 18-year olds to those who eventually go to college from among them.)

Table 1 presents the 1980 data on enrollment, graduation, and employment for three levels of education: compulsory (9 years), secondary (+3 years), and higher (+2 or more years). "Persons whose highest education attained is compulsory (secondary, or higher) education" mentioned in the table are the graduates of compulsory (secondary, or higher) education who did not advance to the next higher level of education upon graduation. Graduation was in March 1980, and the Ministry of Education survey was conducted on May 1, 1980. If the enrollment structure of 1980 continues in the future, the distribution of Japan's adult population by level of education by the early 2000's will be substantially like what is shown in Table 1, Column B in parentheses, for the distribution of graduates by terminal level of education. This means that nearly 40 percent of the adult population in the future will have had a college education of 2 or more years and that nearly 95 percent will have had at least 12 years of education through high school. This is a remarkable achievement, considering the optional nature of high school education in Japan. Even this is an underestimate of the educational level of these Japanese. It is based on the formal track of education without taking into account additional non-formal education people can take advantage of (such as "miscellaneous" and "specialized" schools to be described later).

Further historical and cross-national perspective of Japan's educational attainment may be seen in an index of human resource development, originally devised by Harbison and Myers (1964, pp. 45-48). In applying this measure to Japan, Levine and Kawada (1980, pp. 50-83) estimated "composite" indexes of Japanese educational levels as they rose from 1885 to 1975, including and excluding enrollments in "miscellaneous", or quasi-secondary, schools. Extension of these measures to 1983 show additional gains, but again, as

Table 1. The Distribution of Graduates of March 1980 by Highest Level of Education Attained and by Employment Ratio as of May 1, 1980

Level of Education	(A) All graduates (in thousands)	(B) Employed by May 1, 1980 (in thousands)	(C) Employ ratio ((%
1. Compulsory education completed	1,723		
2. Advanced to high school	1,623		
3. Compulsory highest (=1-2)	100 (6.2)[3]	67 (6.1)[3]	67 0
4. High school completed	1,399		
5. Advanced to college	446		
6. High school highest (=4-5)	953 (59.1)[3]	600 (54.5)[3]	63.0
7. Junior college graduates[1]	178		
8. University graduates[2]	379		
9. 2 or more years of college (=7+8)	557 (34.6)[3]	433 (39.3)[3]	77.7
10. All graduates excluding those advanced to next stage (=3+6+9)	1,610 (100.0)[3]	1,100 (100.0)[3]	75.3

[1] Two years above high school. Includes graduates of 5-year technical colleges which admit students finishing 9 years of compulsory education. The entering students of these colleges are counted in "Advanced to high school."

[2] Four years above high school. Implicitly includes those who enroll in and later graduate from graduate school.

[3] Figures for Rows 3, 6 and 9 under Columns (A) and (B) are also expressed as percentages of those for Row 10.

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics 1985), pp. 28-37.

earlier noted, there has been a levelling off since about 1980. The "composite" measures comprise the sum of (1) enrollment at the secondary level of education as a percentage of the 15-19 age group and (2) enrollment at the tertiary (higher) level of education as a percentage of the 20-24 age group, multiplied by a weight of 5. With and without enrollments in "miscellaneous" schools included, these measures rose very rapidly after 1945, in contrast to somewhat slower growth prior to World War II. (Of course, the rise in the indexes is reflected in the labor force some years later.) By 1950, if not earlier, according to either index, Japan clearly had risen into the ranks of the sixteen advanced national economies as defined by Harbison and Myers (Levine & Kawada, p. 85). Japan today is close to the top of those countries, although still trailing the United States as of about 1960 (without including quasi-secondary education.)

Table 1 also shows the distribution of the March graduates who found jobs by May 1, 1980, by level of education. The relationship between Columns A and B roughly indicates how the structure of the working-age population translates into that of the employed labor force, both by level of education. The two structures are similar to each other. The employment ratio (that is, the ratio of the graduates employed by May 1 to the March graduates less those who have moved on to the next higher stage of education) is highest for college graduates and lowest for high school graduates. However, there is a statistical problem here with respect to high school graduates. Many of those who did not enroll in college immediately after graduation from high school did so a year or two (or even more) later. In Japan, those who make a smooth transition from high school to college account for only 76 percent of new

college entrants (MOE, 1980). The remainder are the students who failed to pass the entrance examination at their first try and succeeded in getting in a year or two (or more) later. (More on this later.) High school graduates can also choose to enroll in culturally or vocationally oriented non-formal schools for a year or more before seeking employment. After subtracting these high school graduates who are preparing for the next round of college entrance examinations (most of them enrolled in preparatory courses at non-formal schools) and those who are enrolled in vocational courses at these schools, the high school graduates' employment ratio should be much higher than shown in Table 1. This point will become clearer when the choices for youth after compulsory education are discussed later in this paper.

For some years, Japan has stabilized the enrollment structure by level of education. According to the year-to-year statistics, the college enrollment rate peaked at 38.6 percent in 1976. Subsequently, it has been decreasing (35.6 percent in 1984). The high school enrollment rate peaked at 94.3 percent in 1981 and tapered off. Thus in the late 1980s, young Japanese in the labor force would be distributed by terminal level of education as follows: about 6 percent with compulsory education, 56-59 percent with high school, and 35-38 percent with college. Provided the school enrollment structure by level of education remained stable, this would be the structure of the entire labor force by level of education a generation later.

Interestingly, the peaking of the college enrollment rate in 1976 and its subsequently decline have occurred in close parallel to the end of Japan's "miracle growth" in 1973-75 and its transition to low growth at rates half as high. This apparent correlation between slowdown in economic growth and the stabilization of enrollment in higher education is a product of complex relationships between economic growth and demand for education (Kaneko, 1984).. One can think of two kinds of demand for education: as a consumption

good and as an investment in human capital. By enriching households, economic growth enables them to buy more goods and services, education being one of the services households want to buy. Public opinion polls about reasons for going to college reveal the same motivation as the "demonstration effect" on the household demand for consumer goods (Iwauchi et al., 1985,. pp. 119-120). By requiring more sophisticated technology, a growing economy also needs higher-quality human resources to go with the changing technology. Firms, then, are willing to pay differentials for higher education, justified by higher productivity to result from better technology and higher-quality human resources. On the other hand, some (if not all) people consider education as an investment and wonder whether the differential income that more education brings about justifies the cost of obtaining that additional education.

Table 2 shows a recent example of calculations of rates of return on investment in college education for male employees in manufacturing firms (MOL, 1981). Interest rates on one-year time deposits are also noted for comparison. This table shows a declining trend in the rate of return on investment in college education. (According to Umetani (1980), the declining trend started in the early 1950s.) Compared to the interest rates on savings, college educaton may have been a sound investment earlier but has of late lost its attractiveness. The calculations for Table 2 show the standard formula that equates the present value of all future earnings of college graduates over and above the earnings of high school graduates to the present value of foregone earnings and direct educational expenses of college years. The college years are assumed to be from 18 through 21 years of age (for 4 years). This assumption is perhaps too rigid and likely to result in an

Table 2. Rates of Return on Investment in University Education for Male Employees in manufacturing, Total and by Size of Enterprise, Selected Years, 1966-80 (%).

Size of Enterprise[1]	1966	1970	1976	1978	1980
Total	8.2	7.5	6.4	5.7	2
1,000 or more	9.0	7.9	6.5	5.7	.1
100 - 999	5.0	5.9	4.9	4.4	4.0
10 - 99	4.5	4.9	4.6	4.3	3.9
Interest rates on one-year time deposits	5.7	6.0	6.75	4.5	7.5

[1] By the number of employees.

Sources: Ministry of Labor, Rodo Hakusho (White Paper on Labor 1981), p. 142. Interest rates are from the Bank of Japan, Keizai tokei nenpo (Annual Economic Report), various years.

underestimate of the college costs for two reasons. (1) In any year, one-third of college freshmen do not come directly from the same year's high school graduating class but have spent a year or more after high school preparing for the college entrance examinations. The costs of the preparatory period should be charged to the college costs. (2) Not all, but only 76 percent of a given year's entering cohort graduates from college 4 years later. Some of those who do not graduate may have dropped out, but most eventually graduate a year or more later. Those who drop out pose no problems for the calculation of the rate of return on college education, but the longer period of college life due to delayed graduation adds to the college costs. For these reasons, for more than 50 percent of a given year's graduates, college life (from graduation from high school to graduation from college) has been 5 years or more. Considerations like these should raise the costs of college education and reduce its rate of return. On the other hand, the availability of financial aid and employment opportunities reduce the cost due to forgone earnings. Reportedly, more than 90% of college students do some kind of "arbeit" (part-time work) (Asahi July 30, 1985).

Although the absolute figures for rates of return in Table 2 are suspect, the declining trend observed in these rates seems plausible. There are materials that corroborate the declining trend. For example, the earnings differentials between workers with and those without college degrees have narrowed for all age groups over the years shown in Table 2 (MOL, 1981, p. 141). In addition, the profitability of college education differs by size of firm. In Table 2, it is only the larger firms that show higher rates of return on college education than interest rates on savings. Even there, this net profitability occurred earlier, disappearing later. In small firms, returns on college education have always been inferior to those on savings. This implies that unless college graduates find jobs in larger

firms, they can not recoup the costs of investment in college education. Furthermore, during the 1970s, especially after the Oil Shock of 1973, larger firms cut back employment in order to cope with the impact of slower economic growth. In some years, many firms passed up the recruitment of new college gradutes altogether. It appears to have been in response to the long-run decline in the rate of return on college education and the narrowing of employment opportunities for college graduates in the 1970s that the college enrollment rate peaked in 1976 and decreased subsequently, as observed earlier. Of course, this trend has hardly affected the one-fourth of the college graduates from public universities, in which tuition and fees are exceedingly small for the individual student.

One may generally suppose, then, that in Japan, firms' demand for college graduates is closely linked with households' demand for college education, although one should also allow for the consumption demand for education in the sense that people want and value more education for its own sake. In subsequent pages, we will describe how firms' demand for labor, schools' and colleges' supply of education, and households' preferences for different levels and kinds of education are inter-related in ways basically consistent with how the labor market is expected to work as an allocative mechanism for human resources, though subject to the exogenous constraints on rational calculations from social values and belief systems.

Recruitment of School Leavers

Japan's alleged "lifetime employment system" requires that the new recruits come directly out of school or college with no interval of employment or unemployment. The required articulation between school and work results from a period of careful mutual search by employers and students during the

last school year. As explained later, the recruitment process is heavily regulated by the law and closely supervised by the Ministry of Labor. It takes the employer more than a year to employ new graduates.

To illustrate the recruitment process with respect to high school graduates, the typical employer formulates hiring plans in January-April for a share in the March graduates of the following year. (The following description of a recruitment schedule draws heavily on Tsuchiya (1978). For a more general description, see Clark (1979), Rohlen (1974).) In May, he explains the plans to the Public Employment Stabilization Office (PESO) in his area. In June, he fills out the officially prescribed recruitment forms with details of his plans. By this time, he has targeted certain high schools for visits by his recruiters. These schools tend to be the alma maters of the current employees. In July, the completed recruitment forms are submitted to the PESO for approval. The forms approved by the PESO are copied and mailed to the targeted schools. Recruiters are then ready to visit the schools. However, the law prohibits the recruiters to meet students individually. This is to prevent unfair pressures that recruiters might bring on the youth whose knowledge of the world and whose skills to handle employment contracts are still immature. The recruiters only explain their plans to the school placement officers and groups of students. Individual students, however, can visit companies on their own for informational purposes.

In August, the employer sends out notices on hiring tests, dates, places, etc. to the school placement officers. In September, the placement officers and students file applications for taking the tests. In October, the tests are administered. Letters of reference usually are also required. The results are speedily communicated to the students, placement officers, and PESOs. The successful ones are now prospective employees. (In case their

number falls short of the planned level of recruitment, plans are made for additional recruitment.) In November, the prospective employees and their guardians are asked to sign tentative agreements to accept the employment offers. Although these are still tentative agreements, they carry certain legal effects; for example, the employer will be hard-pressed to defend his decision to cancel the tentative offer if an aggrieved prospective employee chooses to sue him in a court. After the tentative agreements, however, the employer's worry is usually how to keep the prospective employees from changing their minds during the next 4 months before they are formally employed in April of the following year. The employer uses the pre-employment period for the education of the prospective employees by intensive information services and occasional interviews. In April, new employees are formally admitted to the firm at a grand rite of passage in which all the important company officials and the new employees' parents and relatives also participate. At this point, the youths who were students a week or so ago acquire a totally new status as responsible citizens (shakaijin) and company employees (kaishajin)--or so it is perceived by everyone concerned. The implied gravity to the individual of the event of admission to a company in Japanese practice can hardly be conveyed by a bland English phrase like "getting a job."

The above process of recruitment also applies to college seniors with minor variations in the schedule. A major difference is that college seniors are fully grown individuals assumed to be capable of legally binding business transactions on their own behalf. They are free to do whatever they want to do in search of jobs, while employers are free to work on them individually with employment offers, including checking with relatives and friends of applicants. A main constraint is that the students still have the school work

to finish. Problems occasionally arise when students who have found good jobs fail to graduate. Instructors are under pressure from all interested parties, including the students themselves, to grant them passing grades so they can graduate and work. Wiser students plan easier, failure-proof courses for the last college year to secure a safe passage from college to employment. Such arrangements may often run counter to the normal course of academic progress, however. Although the formal "employment entrance examinations" are administered on November 1, intensive mutual search by companies and students during the preceding months will have pretty well determined successful candidates for employment by then. Under the circumstances, the tests are a mere formality used as a step toward employment contracts with the applicants the company has already informally decided to hire (Matsuura, 1978).

With respect to college students, the pre-examination recruitment process is decisive. How early companies want to start looking for potential employees at colleges depend on the strength of the demand for high-level manpower. When the demand is tight, companies even scramble for college students in their third year! Colleges are rated by companies, while companies are rated by students and their college placement officers. Students at highly-rated colleges have no difficulty in getting offers from better-rated companies. In this way, better human resources are first allocated to better organizations. Excellent companies and prestigious universities are thus directly linked in their labor market functions (demand and supply). If one desires a career in an excellent company, one first has to be admitted to a prestigious university. Thus labor market competition is transformed into college entrance competition.

On May 1, the Ministry of Education surveys how the March graduates have fared in their transition to a new stage of life. Table 3 shows the results of the May 1 surveys for recent years. Nearly 40 percent of the high school graduates of March 1984 had found jobs by May 1. In addition, nearly 30 percent of the graduates had gone on to college, while about 25 percent were enrolled at "miscellaneous" or "specialized" schools (run or supervised by the Ministry of Education) or at the public vocational training centers (run by the Ministry of Labor) for further training and education. Only about 5 percent of high school graduates were in the "non-active" category (neither working nor going to school - and usually not counted as "unemployed"). It appears then that youth made an orderly transition to a new stage of life after high school with a minimum of delay and uncertainty. (However, the category "enrolled in non-formal school or training" is a mixed bag which contains many young people who are still uncertain about their life course. On this, comments follow shortly.)

The lower part of Table 3 has to do with the job placements of college graduates. On May 1, 1984, nearly 85 percent of the March graduates were employed or doing graduate work, leaving about 15 percent in non-active or unknown statuses. Some of these non-active graduates may have been "unemployed" in the sense that they were still looking for work. On the whole, however, one would consider it remarkable that within a little over a month of graduation, the placement rates of new graduates were as high as shown in Table 3. At this point, the satisfied Ministry of Education stops bothering the graduates. They now begin to be watched by the Ministry of Labor.

Table 3. The Distribution of March High School and College Graduates by Path Chosen, as of May 1 of Each Year, 1980-1984 (%).

Year	Advanced to College or Graduate School[1]	Enrolled in Non-formal School or Training[2]	Employed[3]	Non-active	Deceased or Unknown
(A) High School Graduates (Total = 100)					
1980	31.9	20.2	41.6	6.2	0.1
1981	31.4	21.2	41.8	5.4	0.2
1982	30.9	22.0	41.6	5.3	0.2
1983	30.1	24.2	40.2	5.2	0.3
1984	29.6	25.1	39.8	5.2	0.3
(B) College Graduates (Total = 100)					
1980	4.4	-	76.7	9.6	9.3
1981	4.6	-	77.6	9.5	8.3
1982	5.0	-	78.3	9.4	7.3
1983	5.3	-	78.0	9.8	6.9
1984	5.7	-	78.5	9.2	6.5

[1] Includes those expected to work while going to school.

[2] Means "miscellaneous" and "specialized" schools under the Ministry of Education as well as public vocational training centers of the Ministry of Labor.

[3] Does not include working students among high school graduates, but includes medical internes among college graduates.

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics), pp. 58-59, 88-89.

Some more comments on Table 3 are called for. The college enrollment rates among high school graduates (Column 2) show a declining trend. This is part of the declining trend after the peak of 1976. In parallel, one observes a rising trend in the enrollment rates for "miscellaneous" (kakushu) or "specialized" (senshū) schools and public vocational training centers (Column 3). (Prior to 1980, these school goers and trainees were reported included in the "non-active" category.) These schools and centers are outside of the regular educational track and often take up the youngsters who are said to be less bright than the regular-track students. Some have failed to advance to high school, and some more have later flunked college entrance examinations. The "miscellaneous" schools enroll students by course and "educate" them in the enrolled course commonly for a year or two. Since 1975 better organized "miscellaneous schools" have been upgraded as "specialized schools" and strengthened as post-high school institutions of vocational or general education. The "specialized school," to qualify for its name, is required by the Ministry of Education to offer at least a year-long curriculum with 800 or more hours of instruction per year (MOE, 1980, p. 207). This is equivalent to full-time course work for an average college student. The "specialized school" therefore looks almost like a junior college. In 1984, new entrants into 4-year colleges, 2-year junior colleges, and "specialized schools" were respectively 416,000; 181,223; and 156,001 (counting only those high school graduates who entered these institutions immediately after graduation). Both the non-formal "miscellaneous" and "specialized" schools can also enroll younger people with compulsory education only into lower-grade curricula. Even college graduates and adults are not denied admission; there are still useful skills they can pick up at these schools.

The courses offered by the "specialized" and "miscellaneous" schools are diverse. The top five courses by enrollment size at the "specialized" schools in 1983 were, in descending order, (1) nursing, (2) tailoring, (3) preparations for entrance examinations, (4) cooking, and (5) information processing. These courses accounted for 48 percent of total enrollment. At the "miscellaneous" schools, preparatory courses were most popular, alone accounting for 35 percent of total enrollment. Thanks in part to preparatory courses at the "specialized" and "miscellaneous" schools, about a third of every year's college entrants come from the ranks of repeaters (rōnin) who failed at the first try. The schools offering the prep courses (yobikō) are often profitable private enterprises. Whether the returns on college eudcation justify the stiff tuition and fees for the prep courses is certainly a good question in view of the declining trend in the rate of return on investment in college education previously mentioned. Nevertheless, it is interesting that the demand for improved chances to pass college entrance examinations has called forth a commercial supply of training to help attain that objective. This is an example of how the training market responds to the demand of the labor market. In view of the intensely Japanese phenomenon that high school and college entrance competition is a surrogate for labor market competition, training in the art of passing entrance examinations is a very important step toward a desirable career. In this view, one could also assume that the rising enrollments in various courses at the "specialized" and "miscellaneous" schools reflect the economy's demand for skills that these courses offer.

The public vocational training centers are run by the Ministry of Labor (MOL). They might just as well be called "schools." But the peculiarly

Japanese taste for status differentiation denies the application of the "school" title to these centers, reserving it only for educational institutions under the jurisdiction of the Ministry of Education (MOE). "Education" also evokes a better image than "training." Thus, the MOL training centers "suffer" from a status deprivation, even though they are perfectly capable of offering vocational "training" comparable to the vocational "education" offered by various MOE "schools." Training at the public vocational training centers is offered to youth and adults alike. A variety of courses cater to the needs of different kinds of trainees. Fresh graduates of compulsory education or high school enroll in basic courses which, aside from their emphasis on practice, would look much like those offered at MOE schools. It is the "basic trainees" fresh out of high school who are counted together with enrollees at miscellaneous and specialized schools in Table 3. The adult trainees are treated to different kinds of training according to their vocational objectives. Some need training for the purpose of acquiring national trade certificates (see below). Some want to acquire new skills to change jobs. In recent years, the "basic trainees" have been a minority of all trainees at the MOL training centers. On the average, the "basic trainees" number about 60,000 and adult trainees about 140,000 (Umetani, 1980; Ishikawa, 1981).

According to a study of samples of the MOL training centers and the MOE vocational schools, there are noticeable differences in participant characteristics between the two systems (Odaka, II, 1982). Youth (19 years or younger) are a smaller proportion of the MOL trainees (41.8%) than of the MOE students (63.0%). The MOL trainees are predominantly male (83.8%), while the MOE students are largely female (66.7%). Among the MOL trainees, those with compulsory education only (48.1%) are a larger proportion than those with high

school diplomas (45.0%). The percentages are reversed among the MOE students (13.4% against 79.5%). The MOL trainees are overwhelmingly training in industrial skills and construction trades (88.4%), while the proportion of the MOE students enrolled for these skills and trades is small (13.9%). Most of the MOE students are young female high school graduates preparing for office work or service trades. Both systems' participants want to become self-employed eventually. For the time being, they are willing to work for wages. But they do not have good prospects for well-paid jobs, which in Japan mean employment in large companies. Although more than a fifth of the current MOL trainees hope to work for such companies, only 7.7% of the past trainees actually succeeded in getting into these companies. The MOE students show higher aspirations (35.3% hoping to work for large companies) and better results (20.3%). Unfortunately, even these trainees or students who have succeeded in entering large firms are likely to be treated as "mid-career recruits" (chuto saiyōsha) and regarded as second-class enterprise citizens vis-a-vis the "standard employees" recruited fresh out of regular schools and trained at the company expense.

Japan's so-called "lifetime employment system" in large companies is a very carefully guarded institution with highly restrictive criteria for admission. The elaborate recruitment process described earlier implies a barrier to entry into the fold of lifetime employment. The requirement of uninterrupted transition from school or college to a company in April is a minimum condition that must be fulfilled by anyone who hopes to enter the "lifetime employment system." Since the "standard employees" (as the participants in this employment system are called) start their careers without prior job training, the employer automatically assumes the burden of training them. The management of initial and continuing training in close parallel to

each employee's career progression undoubtedly requires considerable company resources. The cost constraints limit the feasibility of the "lifetime employment system," making it more or less a function of size and excellence of a company. Even in large Japanese companies, the employee coverage of lifetime employment is hardly one hundred percent. At best, it is the "core" employees that this system safeguards, and the core then is supplemented by flexible buffers of non-lifetime workers hired (and fired) under various shorter-term arrangements (Taira, 1985) - as discussed later.

Education and Occupation: A Sequential Narrowing of Choices

At two points in a person's earlier life, serious decisions have to be made with implications for the occupational future (Bowman, 1981). (1) At the end of the 9-year compulsory education, a person chooses between high school enrollment and labor force entry. If the high school path is chosen, further thoughts have to be given to school types (public or private, day or night, regular or technical, on-campus or correspondence) and curriculum types (general or vocational). The decision on the school and curriculum types at this point also constrains choices at the end of the 3-year high school education. (2) At this second point, the choice is between college enrollment and labor force entry. There are two types of college: 2-year junior college and 4-year university. Night and correspondence courses as well as miscellaneous schools are also available for choice. The outcome of the second choice is usually implied in that of the first choice: e.g., advance to a 4-year university almost requires prior enrollment in the "general" curriculum at a regular high school, as will be illustrated by statistical data. One unique choice that can be made at the end of compulsory education is enrollment in a 5-year technical college (kōtō senmon gakkō), which combines the equivalent of a high school and a 2-year junior college.

An unusual rigidity exists in the Japanese school system, although some flexibility has been introduced recently: i.e., credits are largely non-transferable between schools or colleges as well as between curriculums within schools or between departments within colleges. Once a path is chosen, one has to follow it to the end. There is no way to shift to another path, short of starting all over again, when the first choice is later felt to be a gross mistake. The difficulty of course correction in school repeats itself as the difficulty of career change. Such difficulties tend to generate a dogged determination to stick it out with the first choice till the end of the world. A high degree of personal commitment to the first choice, be it school, course, or employer, results.

As soon as compulsory education is over, sex begins to play a differentiating role with respect to the educational paths that the boys and girls are encouraged to pursue. At high school boys and girls balance roughly equally in enrollment, but the sex ratio varies widely among vocational courses. At the college level, the junior college is more than 90 percent female, the university largely male, and the graduate school predominantly male. Those who enter the labor force also experience different sex ratios in different occupations and industries.

Table 4 shows the 1984 distribution of all high school students by curriculum. A little over 70 percent of all students are enrolled in the general curriculum. This curriculum is essential for college entrance later, although a large proportion of aspirants are destined to fail at the entrance examinations for the colleges of their first choice. For those enrolled in vocational curriculums, high school is practically their terminal education. Unusually bright students enrolled in these curriculums may succeed in

Table 4. The Number of High School Students and Sex Composition by Curriculum, 1984

	All Students (number of persons)	% Female
Total Enrollment	4,885,913	49.6
General Curriculum	3,487,047	51.0
Vocational Curriculum	1,398,866	46.1
Agriculture	152,769	31.3
Fishery	16,237	11.1
Industry	465,979	3.7
Business	563,181	70.8
Home Management	138,256	97.6
Nursing	26,587	99.8
Others	25,857	48.3

Source: Ministry of Education, Monbu tōkei yōran (Abstracts of Education Statistics, 1985), pp. 54-55.

advancing to the 4-year university. But if the university is the goal, no sensible youngster should enroll in vocational curriculums in the first place. The differences in the sex composition of students enrolled in vocational curriculums follow a predictable pattern: boys dominate vocations likely to need physical strength such as agriculture, fishery, and industry, while girls dominate, often monopolize, business, home management and nursing.

In recent years, 94 percent of boys and girls who finish compulsory education advance to high school. This leaves only 6 percent for labor force entry. In the 1950s, a great majority of new labor force entrants were 15-year old boys and girls who had just finished compulsory education. Company training programs then were organized with these recruits in mind. Now, entry into the labor force with only compulsory education is regarded almost anomalous. Companies have already re-adjusted their new-employee training programs with high school and college graduates in mind, as explained later.

Table 5 shows what happened to the high school graduates of March 1984. How high school graduates branched out into college, employment, non-formal schooling and other statuses was mentioned in the previous section of this paper. Table 5 adds some more detail to this differentiating process. Although sexes seem balanced in the group of high school graduates going on to college, this is deceptive: men go to 4-year universities and women to 2-year junior colleges. Sex is already working against women with respect to the allocation of the type and amount of college education. Sex also steers female high school graduates into occupations generally considered suitable for women: clerical work, sales and services. Male graduates largely become blue collar workers (skilled craftsmen, production operatives, laborers,

Table 5. The Distribution of High School Graduates by Path Chosen and by Sex, 1984

Path Chosen	All Graduates (number of persons)	% Female
Total	1,482,312	50.4
Advanced to college:	439,250	55.4
4-year university	266,810	31.1
2-year junior college	168,107	93.8
Other types of college	4,333	61.8
Enrolled in non-formal school or training[1]	372,669	40.6
Employed:[2]	607,237	53.8
Professional, technical	18,574	53.0
Clerical	173,238	86.5
Sales	110,150	55.9
Craftsman, production process workers, laborer	202,828	39.9
Services	61,131	67.4
Others	41,316	15.3
Non-active	77,574	48.6
Deceased or unknown	2,694	45.6

[1]Means "miscellaneous" and "specialized" schools under the Ministry of Education and the public vocational training centers of the Ministry of Labor.

[2]Includes working students enrolled in college.

Source: Ministry of Education, Monbu tōkei yōran (Abstracts of Education Statistics), pp. 54-55.
The statistics of the employed are supplemented by Ministry of Education, Gakkō Kihon Chōsa (Basic School Survey), 1985.

etc.). Some of them, if employed in large companies, are joining Japan's lifetime employment system, and well developed training "programs" await them in these companies. Although lifetime employment is theirs for the taking, turnover among them during the first few years is nonetheless rather high (Koike, 1983). A tiny percentage of high school graduates (3%) become "professional, technical." One only wonders what "professional, technical" standards these jobs imply.

We now more to the college level to which more than a third of our high school graduates have advanced. Table 6 shows the distribution of three levels of college students by field of specialization together with sex ratios by level and field. Many 4-year universities offer all or most of the fields appearing in the table, organizing them into faculties and departments. But 2-year junior colleges (some are "junior college faculties" of 4-year universities) generally have small enrollments and can offer only a narrow range of subjects. Indeed, 75 percent of junior colleges operate on the basis of a single curriculum (gakka) (Tomita, 1984). A curriculum may be a subset of "humanities" like English literature, or a subset of "fine arts" like music or painting. A junior college can be started in a small scale with a few hundred students enrolled in a few selected courses. Private enterprise plays a much larger role in establishing and operating junior colleges: more than 80 percent of 500 odd junior colleges are private. (Private enterprise in Japanese higher education is generally substantial. Even among 4-year universities, a little more than 70 percent of them are private and depend mainly on revenues from tuition and fees. Many of them are in financial difficulties and subsidized by the Ministry of Education. The graduates

Table 6. The Number of College Students and Sex Composition by Level and Field, 1984

Field	Number of Students			Percent Female		
	Junior Col.	University	Graduate Sch.	Junior Col.	University	Graduate Sch.
Total	337,107	1,734,080	62,692	90.0	23.4	13.7
Humanities	83,642	245,489	8,762	98.0	58.6	31.0
Social Science	36,379	675,501	6,681	68.8	8.9	15.2
Science	1	58,446	6,846	1	21.9	7.8
Engineering	19,961	342,456	21,691	15.4	2.6	1.7
Agriculture	4,110	59,777	5,834	20.3	14.4	13.2
Health Care	20,072	117,071	10,385	88.5	32.6	5.8
Merchant Marine	0	1,539	59	0	3.5	0
Home Management	100,558	31,448	349	99.9	99.2	93.7
Education	82,870	134,711	3,939	99.2	51.5	29.6
Fine Arts	19,160	45,133	1,320	93.4	63.9	45.1
Others	10,355	22,009	426	98.2	27.4	16.2

[1] No entry for science.

[2] Includes enrollment in "general education" (kyōyō).

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics), pp. 74-77.

of these universities are not as prized by large excellent companies as graduates of state or public universities. This generates a squeeze on the rate of return on college education for the students of large metropolitan private universities: i.e., costs are high, but employment opportunities after graduation are inferior).

The question of "comparable worth" has not arisen yet in Japan. But the tradition which steers women to two years of college education and men to four or more years is a convenient way of preempting the question. With such a clear differential in the amount of education between men and women, lower pay for women would appear all too certain. Only this year (1985), Japan passed a watered-down law (with no clearcut enforcement requirements or penalties on violations except an appeal mechanism) concerning equalization of employment opportunities for men and women. In the course of the debate on this legislation, the Japanese made it clear that they did not want a straight-forward "equality" of employment opportunity, but considered it desirable to move in that direction by progressive "equalization," acknowledging that the current situation was one of inequality. Thus the title of the law: Koyō kikai kintō hō, in which the well chosen work is kintō--equalizing or equalization, not "equality." Since it is the belief system that motivates boys and girls in different ways as reflected in different course preferences and amounts of education between sexes long before they join the labor force, one would expect inequalities between men and women in such limited contexts as workplaces.

The 4-year university student body is not entirely male. At least nearly a quarter of it is female. But, again, female university students tend to

enroll in "women's courses" like humanities, home management, education, and fine arts. Social sciences and engineering are the fields which count most as desirable backgrounds for successful careers in large private companies. And predictably, very few women enroll in these courses. Graduate school is male-dominated almost to the same extent that junior colleges are female-dominated. Even so, "women's fields" have drawn relatively large numbers of women. For example, graduate courses in home management remain as female as ever.

We now follow college graduates to their occupations. Table 7 shows various levels of college graduates in different socio-economic statuses as of May 1, 1984. A good majority of the graduates from each level joined the labor force, although a small proportion continued to add to their education. Of all the employed graduates of three levels of college, more than 95 percent are professional, technical, clerical, and sales workers. Blue collar workers among college graduates are a miniscule minority (fewer than one percent). Despite great increases in their supply, graduates still can avoid blue-collar jobs without risking unemployment. This may imply that the technological and occupational changes in the Japanese economy create higher-grade jobs as fast as the supply of college graduates increases. Or it may largely be a matter of widely shared per caption: e.s., even intrinsically blue-collar jobs which college graduates do should not be considered blue collar - at the worst, they should be upgraded to "gray-collar."

In Table 7, it is understandable that a large number of junior college graduates who are redominantly women obtained clerical jobs. But more than a half of university graduates who are predominantly men also took clerical and sales jobs. For male college graduates, however, these occupations are entry

Table 7. The Number of 1984 College Graduates and Sex Composition by Path Chosen After Graduation, 1984

Field	Number of Students			Percent Female		
	Junior Col.	University	Graduate Sch.	Junior Col.	University	Graduate Sch
Total	170,041	372,247	22,583	92.8	24.61	11.7
Advanced to next stage study	4,684	20,992	3,118	70.2	12.1	13.5
Employed:[1]	134,463	285,443	15,360	93.3	29.3	7.4
Professional ..& Technical	42.29	115,330	14,151	91.9	27.6	7.0
Technical	6,366	66,677	8,626	60.6	9.5	2.0
Educational	14,351	33,714	2,746	98.8	51.8	16.9
Health Care	8,741	7,241	1,402	94.3	59.0	12.5
Others	12,836	7,698	1,377	98.2	49.1	12.7
Managerial, Administrative	191	682	42	72.2	7.3	9.5
Clerical	77,489	95,056	597	97.8	27.6	14.4
Sales	8,541	63,304	107	34.6	7.6	12.1
Craftsmen, Production, Process Workers, Laborers	2.150	901	15	1.7	7.7	0.0
Services	1,832	3,327	122	91.8	27.5	6.6
Others	1,960	6,843	326	87.1	10.3	9.8
Non-active	25,045	34,164	2,772	95.4	48.9	28.0
Deceased or Unknown	5,849	24,716	1,333	86.6	26.7	24.2

1 Includes working students.

Source: Ministry of Education, Monbu tōkei yōran 1985 (Abstracts of Education Statistics), pp. 74-77, 94-97. The statistics of the employed are supplemented by Ministry of Education, Gakkō Kihon chōsa (Basic School Survey), 1985.

jobs which anticipate promotions to managerial positions in due course. According to the Japanese rules of lifetime employment, new recruits on the tenure track are deliberately placed in jobs at the bottom of the organizational hierarchy with implicit promise that, subject to performance and good behavior, they will be rotated out of these jobs into positions more worthy of college graduates. Strictly speaking, on May 1 when the survey is conducted the employed college graduates would still be going through basic training with no job or unit assignments in the company as yet. Occupational categories at such an early date would make little sense in view of the Japanese employment practices. The techniques of occupational statistics are ill-equipped for accomodating the results of such widespread personnel practices in the internal labor markets of companies.

Nearly a third of junior college graduates obtained "professional and technical" jobs. Even high school graduates, though much smaller in proportion, got such jobs. But "professional" sounds a little too grandiose for what one can do after high school or junior college. The Japanese seem to have perceptual problems in relation to occupational categories used for statistical purposes. The categories are borrowed from America and almost empty of real meanings in Japan. Words like "professional" or "technical" (senmonteki, gijutsuteki) carry in Japanese no such nuances of a special accomplishment, independence, dignity or prestige as they imply in the socio-economic context of English-speaking countries. The word "profession" as understood in America has no counterpart in Japanese. Even "job" is hard to translate into Japanese. The translation, if done, will not be understood in the same way "job" is understood in America (Cole, 1979). Since there is no established native meaning to "professional and technical," the category it represents is obviously quite liberally defined. Thus persons with such

diverse educational qualifications as high school only, two years or four years of college, or years of graduate work can be bundled together and called "professional and technical" workers. One may perhaps speak of "occupational democracy" as a supplement to well-established concepts of industrial and social democracy.

The suspected laxity of the concept of "technical worker" (gijutsusha) may be seen in the curriculum backgrounds of the workers so classified. For example, the "technical workers" with a junior college education include many graduates of apparently non-technical curriculums. Although 41 percent of the "technical workers" recruited from junior colleges in 1984 had engineering backgrounds, other curriculums like social studies and education also supplied as many "technical workers" as engineering did (MOE, 1985, p. 84). The picture becomes more credible with respect to the "technical workers" who are graduates of 4-year universities or holders of graduate degrees. Of the "technical workers" who are university graduates, 77 percent came from the engineering faculties. Of "technical workers" who hold graduate degrees (master's or doctor's), 80 percent took their degrees in engineering. Nevertheless, the role of non-engineering backgrounds as sources of "technical workers" is still substantial--20 percent or more. This mixed bag of "technical workers" in Japanese occupational statistics cautions against a hasty conclusion that Japan produces the largest number of engineers in the world and that Japan's enviable economic growth has been due to this large supply of engineers. The figures are considerably inflated for the ranks of technical workers by ambiguous concepts of technical standards. The data are largely useless as a basis for international comparison of relationships between economic growth and technical education (Kinmonth, 1985).

Some degree of association should be expected between the curriculum or faculty backgrounds of college graduates and the kinds of jobs they took after graduation. In the spring of 1984, nearly 87 percent of the humanities graduates of 4-year universities became teachers, clerks, and salespersons. (No separate table is shown for these percentages in this paper. These are calculated from MOE, 1985, p. 94.) More than 90 percent of the social science graduates took clerical and sales jobs. These are the entry jobs for the future managers and executives. (While there is an occupational class managerial and administrative employment in Table 7, it is not likely that college graduates can become functional managers within a month of graduation.) The science graduates' occupational concentration was highest in "technical" work (52 percent), followed by teaching (24 percent). Nearly 90 percent of the engineering graduates were employed as "technical" workers: this is the closest association of all the relationships between the faculty graduated from and the job taken. Nearly 80 percent of the education graduates became certified teachers. Interestingly, the home management graduates spread out all over with the highest concentrations in clerical work (36 percent) and teaching, certified and uncertified, (26 percent). The fine arts graduates joined teaching and "others," together accounting for 74%.

In relation to the Japanese employment system, the groups of college graduates to watch are the men, who are statistically in clerical and sales work. These statistical categories for college graduates reflect the initial training and testing stages of managerial candidates. It is generally assumed that all male graduates of four-year colleges should eventually attain at least middle-level managerial positions like section manager. With the increase in the number of college graduates, this assumption becomes less and less tenable. In 1970, the proportion of 50-54 year-old men with college

degrees who were managers and executives was 37 percent of this age-education group. In 1979, this proportion was down to about 30 percent (MOL, 1981, p. 109). This was due in large part to the proportionately greater increase in the number of men with a college education in that age group. The supply of managerial positions increases by a different logic from that which governs the supply of college-educated people. In recent years, the discrepancy between the two has become a great managerial problem. Companies have been looking for ways to match promotions with the available managerial positions without at the same time hurting or demoralizing those not promoted. One solution is to create "staff specialists" outside the line hierarchy with pay and prestige comparable to what their peers promoted to managerial positions enjoy. The basic philosophy here is that the promoted and the non-promoted are equally eligible for the managerial positions by such objective criteria as age and education and that the decision to promote some, but not others, runs the risk of errors in judgment which unfairly injure the non-promoted. The unhappiness of the non-promoted and the less-than-enthusiastic support of many employees for promotion criteria other than age and education have adverse effects on the efficiency and morale of the entire company. (The suspicion of nepotism is perennial). This implies that the efficiency and morale of the company depend to a large degree on how well the non-promoted are treated! Thus the solution, which goes back several decades in some enterprises, arises in the form of comparable pay and prestige for the non-promoted vis-a-vis their promoted peers. In 1981, 36 percent of large Japanese companies had already installed the specialist programs. Most of these programs were introduced in the period after the Oil Shock of 1973 when extensive employment adjustment was needed (MOL, 1981, p. 139).

If those "specialists" are just as qualified for managerial positions as their peers who actually became managers, this implies that a company is hoarding an excess supply of managerial resources (i.e., in-house "unemployed"). This excess supply dampens the rise in managerial compensation just as unemployment in the labor market dampens wage increases. Indeed, between 1965 and 1981, in establishments employing 500 or more employees, the average salary of ther non-managerial personnel in the age group of 40-43 years rose from 52 percent to 70 percent of the average salary of the division manager. The differentials among managerial levels also narrowed (MOL, 1981, p. 137). This is part of the story that the rate of return on college education has been declining as a long term trend. As the ranks of eligible and actual managers swell, as the better educated younger employees grow older, the resources for managerial compensation must be spread thin over larger numbers of educated employees over 40.

The Japanese employment system thus embraces a peculiar logic of "comparable worth" among the college-educated men and at the same time reduces the rate of return on college education on the average. This may be lauded as an achievement of industrial democracy of postwar Japan. But this probably cannot continue for long. Sooner or later demand for differential pay and privileges will arise from individuals who are brave enough to claim their "superior worth", especially if they threaten to leave for other employment. The companies also may have to turn their attention to the problem of underutilization of superior abilities. This may require some new philosophy which, for example, condones the notion of the survival of the fittest in career competition and implies a move away from the view of a company as one big family. With the prospect of an increasing popularization of college education, it is now the turn of the educated to engage in a fierce labor

market competition under an excess supply of labor which they might have thought was the lot of the uneducated, but not theirs.

Skill Acquisition In Employment

Once Japanese employees begin to participate in paid work, the process of learning and applying work skills becomes highly diverse. Opportunities for skill formation range from unconscious and unplanned experience to highly organized educational programs both off and on the job. While Japanese industry has been long known for training-within-enterprise institutions (Levine and Kawada, 1980), no single pattern of skill acquisition appears to predominate. However, a safe generalization is that to the extent wage and salary earners do learn new or improved job skills the preponderance of this activity takes place informally within the employing organizations and at workplaces. As Umetani (1980, p. 94) has pointed out, "... Japanese industries rely heavily on learning-through-experience for the production of occupational skills" and "Since learning-through-experience cannot be measured, it is not usually recognized as training." Although formal within-industry programs are by no means neglected in Japan (and will be taken up later), it is first necessary to understand, at least in a general way, the process by which informal learning-by-doing takes place.

Little is known about the extent of the informal training progress. On the one hand, almost everyone who takes a paid job probably learns how to do it better over time, although it is suspected that the great bulk of occupations, performed by the great bulk of employees, are quickly exhausted in a matter of a few weeks or months for potential skill improvement. For most of these jobs, little formal training is required. Indeed, the fraction of the labor force that actually undertakes formal job training after entering

work careers probably is exceedingly small. Apparently, formal training is offered more for managerial than for non-managerial personnel, for male employees than for female employees, for younger workers than for older workers, and for the more educated than for the less, for recruits brought in directly from school graduation than for mid-term recruits, and for those who already have received training than those who have not. As discussed below, in 1977 half or more of all firms employing at least 30 workers (and the percentage increases with the size of firm - e.g., 98 percent of those employing 1,000 or more workers) did have some type of formal training program(basic and advanced skills, general knowledge, supervisory, etc.). However, these programs provided training to only about five percent of all employees. Of these, apparently the most widespread are short-term (10 to 30 days) basic training courses for new school leavers (Umetani, 1980, p. 89). Even then, as Umetani (p. 92) points out, two-thirds of the new recruits from school receive no training at all in taking up their jobs. This depiction of formal training in Japan seems far removed from that frequently portrayed in the popular media.

Perhaps, as much as anyone else, Koike (1984) offers the most systematic and plausible description of the informal process of skill acquisition on the shop floor in Japan, which he compares to the United States. Rejecting the primacy of cultural influences (e.g., groupism, work ethic, loyalty to enterprise authority, etc.), he attributes any strong drive by workers in Japan for skill acquisition and improved work efficiency to the "rationality" of employment security and increased rewards. The chief mechanism to obtain this behavior, he contends, lies largely in the structure of skill enhancing work opportunities available to Japanese workers and the means for learning such skills. While formal educational level has a bearing on both this

structure and learning ability,there is nothing like the actual experience of trying out new jobs and tasks on the job itself for getting ahead. What Koike finds in many large-scale enterprises in Japanese industry is that work is layered into a large number of progressively sequenced tasks which permit a worker, properly instructed, to move rather continuously from one task to another, always adding to his stock of skill and ability. In his comparisons with counterpart American industries, Koike claims that typically the Japanese work structure affords more of these opportunities, both "horizontally" and "vertically" than in the U.S. Thus, with continued experience in a single firm (and often only in a single workshop, department, or division, but with opportunities for transfer), the "mature" Japanese employee has a broader and deeper stock of skills than his American counterpart. While this hypothesis cries for much more systematic research than Koike himself has carried ont, it seems to square with the skill characteristics attributed to the older workers in Japan (say, over 30 or 35 years of age) who are members of "core" worker teams in the large-scale firms and organizations. Moreover, such progressive learning, he points out, is likely to minimize training costs to the firm in comparison with the process of skill acquisition derived from moving from one enterprise to another or recruiting from outside vocational training institutions. To capture the benefits of such skill improvement for the employing enterprise, a management offers inducements to the worker, particularly in the form of employment security, wage advances, fringe benefits, and promotions, thereby fortifying the labor market "internal" to the firm, whether the skills acquired are enterprise specific or of more general applicability.

The other side of this coin is the instructional process, most of which in Japan also is informal and almost "unconscious." Here, as Japanese management

of large-scale operations began to learn on a wide scale in the 1920's (Levine & Kawada, 1980), skill training is best enhanced by attaching new young recruits to older experienced workers who transmit their own knowledge to the recruit in actually doing the work on the job. Even though senior and junior might perform the same tasks and together face the challenge of new processes and technologies, the older worker, partly as the result of his broader mastering of related jobs through experience and partly because of his teaching function, would be rewarded at a higher level (usually a considerable differential) than the younger team member. Also, the older member would be first to be promoted. Thus, it is important to the workers and management alike for the experienced workers to transmit knowledge to the inexperienced.

Such work teams change dynamically as the older workers retire, younger workers move up to middle-age, and new unskilled recruits enter at the bottom. This "flow-through" institution means that all members of a team would be secure in their employment as long as they keep on learning new skills that are handed down from older to younger. Koike also notes that because of the knowledge of skills and operations held within the team, often beyond that possessed by management and technical (engineering) personnel, team leaders (foremen or equivalent) have considerable autonomy and discretion in assigning and rotating tasks among team members. Because of the close interpersonal relationships which develop, rotation usually occurs on an egalitarian basis, and a degree of participation for all members of the team becomes well-established. The formalized QC circle can easily emerge in these circumstances. Also, it is no wonder that wage rates and benefits in Japan are based heavily on length-of-service and level of formal education rather than specific jobs. However ad hoc it may appear to be, such a skill acquisition strategy was probably more effective than attempting to rely

on high cost vocational training in the formal education system or await the emergence of well-defined craft apprenticeships.

With such factors in mind for explaining progressive accumulation of work skills, Koike (1984, p. 58) finds that, on the basis of 1961 data, "internal careers with late and high ceilings extend commonly in large firms in any industry in Japan, while they are confined to heavy industries in the U.S." On the other hand, small and medium firms apparently have neither the technological possibilities nor widely experienced older employees to provide such "high and late" ceilings to the degree present in large firms. Thus, they are apt to seek skills in the external labor market, from miscellaneous schools, and from public vocational training programs.

In the large firms, where the job skills can become broad and deep, the treatment of regular, or standard, blue collar workers becomes akin to that for white collar employees (Koike calls this "white collarization"). This process of skill acquisition, so prevalent in large Japanese enterprises, contrasts with skill acquisition achieved through craft apprenticeship or through inter-firm mobility, where "breadth and width" of job skills either remain constant, grow only slightly, and reach their limits at a relatively lower level. Any industrialized country is likely to have all these types, but in the Japanese experience the "internal promotion" kind seems to be comparatively more frequent than in other national settings. If so, it should come as no surprise that large enterprise managers and employees rely upon formal training programs, including the use of public vocational training institutions, only to a very minor degree. At best, formal training is likely to be utilized only when the same objective cannot be achieved informally on the job or within the enterprise itself. However, should the internal structuring of skill acquisition opportunities become obstructed, as may well

become the case with microelectronic technology, the established pattern of informal training could crumble.

Employment Tenures

If one closely examines the informal within-enterprise training process as typified in Koike's analysis, certain characteristics emerge which seem to differentiate Japanese industrial experience from that in other countries - at least in the large-scale sector. These include: (1) relatively long employment tenures of workers in a single company and even in one workshop; (2) highly interactive personal relationships within continuing work team structures; and (3) an unusual degree of "homogenity" in attitudes, values, and other characteristics among work team members. These factors are believed to be especially reinforcing for the employee's skill learning process, although there is a problem of ascertaining cause and effect. Unfortunately, except for a limited set of case studies, mostly by non-Japanese scholars (eg. Dore, 1973; Cole, 1979; Clark, 1979; Rohlen, 1974; Marsh and Mannari, 1976; etc.) and anectodal scattered material, there are few systematic cross-national measurements of (2) and (3), despite oft-repeated assertions about them for Japan. However, considerable quantative evidence has now been accumulated about employment tenures in Japan in comparison with other countries.The question of very long ("life-time") job tenure in a single enterprise goes back almost to the beginning of systematic studies of Japan's employment system in the postwar era. Most of this material has been summarized by Levine (1983).

Even if one accepts the notion that in Japan employers and employees together proclaim their continuing and permanent obligations to each other (and this is questionable), actual experience, even roughly measured, indicates that throughout the postwar period, let alone the prewar era, the

employment relationship is much more "casual" than idealized: that is, on the average for a large majority of labor force participants, even when females are excluded, durations of such employment tenure fall far short of covering full careers. Most male employees in Japan seem to change employers (and vice versa) two to four times during their careers, including entering self-employment -- a rate which admittedly is half or less that of the United States in recent years.

Of course, duration of employment with a single firm in postwar Japan had to remain speculative for many years simply because many new enterprises and job openings only came into existence after Japan's high growth rate began in the 1950's. Now that three decades have passed since the early assertions, and thanks to detailed labor market surveys conducted regularly by Japanese government agencies, especially the Ministry of Labor and Prime MInistries Office, in more recent days expert analysts have been able to examine the actual record systematically. Prominent among recent studies are Sterling (1984), OECD (1984), Tachibanaki (1984), and Hashimoto and Raisian (1985). Their analyses could not be undertaken earlier because of the lack of statistical data systematically accumulated..

Agreement is lacking among these analyses. While all concur that only a minority of paid employees in Japan during the past 30 years has experienced "lifetime" employment in its ideal form, they differ over the proportion and distribution of the employee labor force that has had long tenures, such as 20 or more years, with one employer, and over the results of statistical comparisons with other countries, particularly the United States. The differences may be attributed at least in part to differing methodological approaches.

In the Sterling analysis (1984), a major finding is that there is little difference between the United States and Japan in terms of the proportion of the total labor force with job tenures of 20 years or more with the same employer.(Job tenure in all these studies is defined as a worker's employment duration in a given enterprise). Using current tenure data for random samples of already employed workers in 1979, Sterling finds that about one in four workers in each of the two countries occupies a job that will last at least two decades. This, despite considerably higher average rates of unemployment and job turnover in the U.S. than Japan (in 1979, 5.8 percent and 46.8 percent respectively versus 2.0 percent and 16.8 percent.) "In other words," Sterling says, "Japan's low turnover rates do not translate into an abundance of long-term jobs relative to the U.S." Rather, he finds a much larger proportion of "middle-length" jobs in Japan, but none long enough to qualify as the idealized lifetime employment of "model (standard) workers" (almost exclusively male) in the large scale enterprises (1,000 workers or more). In fact, the Sterling analysis concludes that jobs of 30 years duration or more, which would be more akin to that ideal, are more frequent in the U.S. (30 percent) than in Japan (2.2 percent).

As others have recognized, however, the major difference between the U.S. and Japan is the timing of the long-term tenures during the work careers of employees. In Japan, they tend to occur at earlier ages, beginning usually soon after school graduation. Even then, Sterling finds, only about one out of six employees in Japan follows the pattern of beginning long tenures soon after leaving school, and only one in ten <u>males</u> entering the labor force directly from school graduation sticks with the same employer until mandatory "retirement". The fact that "middle-length" jobs (5-20 years) are proportionately more numerous in Japan, and "short" jobs (5 years or less)

proportionately more numerous in the U.S. apparently has created an illusion of life-time employment as the overriding characteristic of Japanese labor markets.

The recent OECD study (1984) takes job tenure (single employer) analysis further by comparing 11 countries for which some comparable data are available, but with a main focus on labor market experience in Australia, Canada, and the United Kingdom as well as the United States and Japan. According to this report, covering various years in the 1970s and 1980s, Japan led all the others in terms of the "distribution of job tenure" and "average number of years in the current job" for male workers. Differing somewhat from Sterling, the OECD analysis finds Japan ahead in the proportion of male workers who had completed 20 years or more on the same job. The figure for Japan was 21.9 percent (in 1982), and the next closest, Luxemburg, 18.8 percent (in 1972). The U.S.(in 1983) ranked eighth with 9.9 percent (and Australia - in 1981 - was lowest with 6.8 percent).

Also, the OECD data showed Japan at the top in the average job duration for both males and females with 11.7 years, Luxemburg again ranking second with 9.9 years, the U.S. ninth with 7.2 years, and Australia last with 6.3 years. For males only , Japan led the group with 13.5 years, and the U.S. was ninth with 8.4 years. Even in the case of females, Japan topped all the others with 8.8 years, while the U.S. was tied for seventh with 5.6 years (and the Netherlands was last with 3.7 years).These averages, as one would expect, are influenced considerably by the proportion of workers in current jobs not exceeding one year in duration. Only about one-tenth of the Japanese workers occupy such jobs, whereas about three times as many do so in the United States, Australia, and Canada.

Applying the "doubling theorem" (somewhat similar to the Sterling approach), the OECD study estimates the distribution of eventual tenure of jobs currently held. Japan again leads with an average of 23 years, while Australia at the bottom averages almost 13 years (OECD, 1984, p. 57). According to this method, 28.1% of all workers in the United States eventually would have 20 years or more in the same job (a result quite similar to Sterling), and more than 43 percent would be in jobs lasting 10 years or more. (No comparable figures are given for Japan, but presumably could be estimated.) All these estimates, of course, bear out the long-established finding for most countries that show that the longer workers are already in a job the more likely they will stay longer than will short termers. Since early job leaving is less frequent in Japan than the other countries, the average tenures are bound to be lengthier, but not necessarily of the "lifetime" variety.

On the basis of 1979 survey data Tachibanaki finds that, while a preponderance of both Japanese male and female workers, in all age categories and job tenure groups, desire to remain with their present firm (or job), in actuality, the data on tenure do not fulfill these desires. As in other studies, he finds that the longer one is in a job, the more likely the person wants to remain on it. (This desire is well over 90 percent among workers who have been with the same firm for at least 20 years, while it is only about 75% when tenure is under three years.) However, using data from the government conducted surveys supplemented by a panel sample of employees, Tachibanaki's statistical analysis concludes that only about ten percent of male workers and less than two percent of female workers over the age of 45 have never changed jobs. Thus, there seem to be very few "pure" lifetime employees in the sense

of remaining with one enterprise from school to retirement. "It is necessary to understand," Tachibanaki says (p. 81), "that the vast majority of employees change their employers willingly or unwillingly during their careers."

Among the completely immobile workers, according to Tachibanaki, are males with higher formal education holding down white-collar jos in the larger firms. But such workers comprise only a small proportion of the labor force. Moreover, the supplementary panel data show that almost 42 percent of the panelists changed employers three times or more in their careers up to thattime, while about 27 percent had changed but once. More frequent changes seem to take place among workers with less formal education in "lower" occupational levels, employed in smaller firms. Surprisingly, but supporting the rationality thesis, those who did not change jobs at all reported lower incomes on the average than those who did change. (Changing only once, however, was better on this score than changing twice.) While Tachibanaki observes that "only a very minor group of employees are actually part of the lifetime employment system" (p.98), he was unable to penetrate the relationship between job tenure and mobility because of inconsistent results from the two sets of data utilized.

In contrast, Hashimoto and Raisian (1985), using still another mode of econometric analysis, conclude that indeed there is longer job tenure, especially for males, in Japan compared to the United States, not only in large-scale but also in small-scale firms. (They find, too, that Japanese earnings-tenure profiles are steeper in slope than in the U.S., indicating a more rapid build up of human capital). By comparing official survey data from 1962 and 1977 for Japan and from 1973 and 1978 for the United States, they find that average job tenures in Japan, which twenty years ago were less than

in the American, eventually outpaced the latter in more recent years. "This finding," they claim, "reinforces the conclusion this pattern is not an artifact of the age-demographic composition of the respective populations" (p.724).

Yet, even in the Hashimoto and Raisian analysis, by the time the average male worker reaches the 55-64 age category, he has had almost five (4.91) jobs (or employers) whereas his counterpart in the U.S. has held almost 11 (10.95) by that age. These frequencies seem to be higher than previous estimates, but do not make much difference in the ratio between the two countries (see OECD 1984, p. 63). In both countries, the average male worker holds about half the jobs by his mid or late 20's, that is, within about a decade after beginning his career. The other half occur over the ensuing three or four decades. Both countries show a notable slowdown in job changing after 25-30 years of age. Indeed, the two even out in the 55-64 age range.

What the Hashimoto and Raisian data for the late 1970's do clarify is that in each size class of enterprise job tenures of five or more years are held by a larger percentage of Japanese male workers than by their American counterparts. In both countries, on the other hand, tenures are longer for males in the larger firms than in the smaller. These analysts conclude: "Although job tenure is longer in large Japanese firms, it is quite long even in the tiny and small firms." (p. 727)

Their further conclusion, based on econometric analysis, is that the rate of growth of wages over a worker's career attributable to tenure "are far greater in Japan than in the U.S."(p.732) They believe that this finding supports the contention that there is "more specific human capital in Japan than in the United States." (P.733). If that is indeed the case, then it follows that taking advantage of skill acquisition opportunities - through

education and training beyond school graduation either on or off the job, formal or informal - has been more likely in Japan than America at least for work specific to employing organizations. This seems to support the proposition that longer tenures, especially at earlier stages of worker careers, permit more skill formation regardless of enterprise size.

These findings lend credence to the hypothesis that Japanese employers provide on the average more learning and training opportunities for their workers than do employers in other countries. This seems to be both the result of job duration and actual investment in training. What is unclear, however, is whether actual average tenures - ranging from 7.0 to 13.5 years for males - provide enough of a difference to have resulted in substantially different opportunities for training and skill acquisition. Much the same questions may be raised for expected average tenures and distribution of tenures. The conventional wisdom is that they do, but actually the answer remains unsettled. It is further clouded when skill acquisition and learning is primarily an informal process on the job. With lower turnover rates for shorter-duration jobs in Japan than elsewhere, one might logically expect Japanese employers to make training opportunities more available to their younger workers in comparison with other countries. On the other hand, turnover rates in other countries are no higher for their older workers than in Japan, and therefore one might just as logically expect increased skill acquisition for such older workers compared to the Japanese case where so frequently learning opportunities seem to come to a halt with mandatory retirement between 55 and 60 years of age. In addition, it is not well known whether mobile workers, moving from firm to firm, learn more or fewer skills during their early years than those who remain with a single employer.

Certainly, the newer studies utilize much fuller and up-to-date data than ever before. They provide an improved perspective on the relative importance of "lifetime employment" in several countries, especially Japan and the U.S. Remaining in doubt, however, is whether Japan has a decisive edge in this regard, as has often been claimed. Most of the recent data do support the claim of longer job tenures in Japan than elsewhere, although the averages fall far short of the "lifetime employment" ideal even in Japan. Still in need of further research is whether such lengthier tenures make a vital difference for skill acquisition, either of the specific or general variety -- a plea for which Umetani(1980) earlier made in his study of vocational training in Japan .

Rise of "High-Level" Occupations in Japan

One fairly certain indicator of skill acquisition in an industrialized society is the proportions of the population engaged in various "high-level" professions and occupations. For a number of years now, preparation for high-level occupations has required at least 14 to 16 years of formal education or their equivalent in experience and other training.

In an earlier study (Levine & Kawada, 1980), these ratios for Japan were estimated for elementary and secondary school teachers, scientists and engineers, physicians and dentists, nurses, and licensed pharmacists - a selection assumed representative of most of the "high-level" occupational groups. In all these occupations, measured by number of persons per 10,000 population, Japan had come abreast of ratios found in other advanced industrialized countries by the 1960's or 1970's (Levine and Kawada, 1980, pp. 70-77). Most attained their current levels, or close to them, by the late 1970's. While they have inched upward since, the leaps experienced in earlier

Table 8 Number of Persons per 10,000 Population Engaged in "High-Level" Occupations in Japan for Selected Years, 1940-1982

Occupation	Year						
	1940	1950	1960	1970	1975	1980	1982
Teachers (elementary & secondary)	39.6	71.8	74.5	76.9	87.6	100.3	103.5
Scientists & Engineers	14.2	30.9	42.3	80.1	113.3	n.a.	n.a.
Physicians & Dentists	12.4	12.4	14.6	15.2	17.6	21.0	22.6
Nurses	19.2	15.6	19.9	26.5	35.5	47.6	54.1
Licensed Pharmacists	4.4	5.5	6.5	7.7	9.4	11.6	12.4

Source: Solomon B. Levine and Hisashi Kawada, Human Resources in Japanese Industrial Development. Princeton, N.J.: Princeton University Press, 1980. p. 71.; Japan Statistical Yearbook. Tokyo: Office of the Prime Minister, 1979, 1984.

decades (especially the 1970's) no longer seem to be occurring, as seen in Table 8.

While it is not known whether the "quality" of the skills in these occupations is the same as in other nations, there has been a rise over the years in training, licensing, and other requirements to enter them. Earlier, however, we have commented on the dubious quality of some engineers and other technical personnel in Japan. Japan's ratio for scientists and engineers notably lagged behind other advanced economies into the 1960's. In a sense, the great increase in this "high-level" occupational group since 1960, as seen in Table 8, has compensated for earlier shortages.

Another key type of "high-level" human resource development are specific trade and occupational skills which are explicitly encouraged and officially licensed because they are recognized as vital for high productivity and quality work. Earlier we described the numerous programs and institutions that have been promoted for that purpose by the Japanese government. Official recognition of skill achievement comes in the form of: (1) licensing instructors for specific trade and occupational skills, and (2) formally testing and certifying those who intend to enter or are already in specified trade and occupations. Japan has long had official programs for both.

Instructor training in Japan for trades and occupations goes back to the 1930s, if not earlier, but most of them failed to survive the wartime period (Ishikawa, 1981). In the postwar era, the 1958 Vocational Training Law was the first legislation to place systematic training and licensing of qualified instructors under the jurisdiction of the Ministry of Labor (but executed through the offices of prefectural governors). The Institute of Vocational Training, established in 1961 by the 1958 Act, has carried out these programs

ever since. By 1979, more than 733,000 instructor licenses had been issued, covering most skilled manual trades, with the largest numbers in the construction crafts, automechanics, and machine shop work. (Ishikawa, 1981, p. 14). Also, it was estimated that at that time most of the licensees earned their livings in actual jobs rather than instructing others. Most, too, received their licenses based on experience rather than through training courses and qualifying examinations. Nonetheless, this army of licensed instructors is available to provide formalized skill trade instruction as necessary within enterprises or at public vocational centers.

A national system of skill trade testing and certification also began in 1959 for qualified workers. Under the law, the Ministry of Labor designates the trades for the offering of tests and cetificates. At the outset, there were only five such trades designated for testing, but this number gradually expanded over the years, embracing 102 trades (209 jobs) by 1979 (Ishikawa, 1981, p. 16). Among these, various skill grades, usually related to years of work experience, educational background, and degree of difficulty, have been established. Tests commonly include practical and theoretical materials.

Between 1959 and 1979 almost two million applications for skill testing were received by the Ministry of Labor or prefectural governors (Ishikawa, 1981, p. 16). Successful applicants numbered more than 1,175,000. Again, the largest number of certificates have been issued for building trades and machinists. Obtaining a certificate, of course, does not guarantee a job, but it is often helpful in securing employment, receiving additional wage increases or bonuses, or in obtaining promotions. Many employers, especially in smaller firms, seem to encourage their workers to take the tests and give additional tests themselves. Under the law, a central nation-wide

organization with regional branches promotes the taking of tests, designates trades to be tested, and determines test content and standards. A big annual event in Japan is the national skill competition in the certified trades, from which winners are selected to represent Japan in the International Training Competition ("Skill Olympics"). The Ministry of Labor awards prizes in all these events (Ishikawa, 1981, p. 17).

Training the Older Worker

Despite these sytematic efforts to assure a growing flow and stock of highly trained and skilled personnel, substantial groups in the Japanese labor force appear to be largely cut off from skill training opportunities. Notable among those left out are older male workers, usually beyond 50-55 years of age, and an assortment of "part-time" and non-regular workers, a large bulk of which are women. These groups are growing much faster than the labor force itself.

Especially problematic are the older male employees who already have had long years of formal and informal training. With a dramatic demographic change occurring rapidly in present-day Japan, several critical policy problems face government, employers, and unions regarding employment opportunities for the swelling numbers of such older workers. In 1983, for example, almost 39 percent of males and about 16 percent of females over 65 participated in the Japanese labor force, compared to less than 18 percent and eight percent, respectively, in the U.S. Solutions so far include a movement to extend retirement ages gradually from 55 to 60 (and in some cases, beyond) although at the same time reducing peak earnings rates to earlier ages or encouraging separations from companies prior to the mandatory retirement age.

Another solution, although not necessarily confined to older workers. is to transfer employees from one enterprise to another, often on an indefinite "loan" basis, on the theory that such transferred workers actually remain members of their original companies and will eventually return to them. (This may be one reason why the average number of jobs held by Japanese workers is only half the average American experience). In this case, it is presumed that skills acquired in one enterprise are useful elsewhere or that the transferred workers will be retrained in new skills appropriate to the borrowing enterprise. However, relatively little is known about what actually happens in such transfers. Presumably, most of the transfers take place from enterprises with low or declining productivity to shops where productivity is expanding. Certainly both aging and inter-firm worker transfer, in addition to intra-enterprise job reassignments, have called for a high degree of cooperation among departments of personnel administration and human resource development of numerous companies (Amaya 1983, pp. 11-12), especially for training and retraining activities.

Because of the increasing frequency of such shifts, it has become quite fashionable among large scale enterprises to develop career planning programs for their regular employees, especially at the managerial levels. Related also are conscious efforts to redesign work itself to permit employee adaptation to jobs and to tap latent skills and abilities. As personnel and training costs mount, moreover, managements often turn to labor-saving automation and robotization, thus making career planning all the more urgent. There is a race here between the growing number of older and non-regular workers and the job opportunities for them under conditions of rapid structural and technological change and moderate economic growth.

While various experiments are underway in Japan for providing productive employment opportunities for ageing workers, and laws have been adopted to encourage companies to retain older employees (and handicapped, also), Japan has yet to make a shift in training patterns and practices for this group comparable to what occurred in the past 30 years as the educational level of young recruits rose dramatically. This remains a major challenge for the future.

CONCLUSIONS

Aggregate averages concerning education and labor markets in Japan move in ways broadly consistent with economic analysis. During the period of rapid economic growth, 1950-1970, enrollment in secondary and higher education increased rapidly. Although the estimated rate of return of investment in college education showed a long term decline, it apparently was still competitive with rates of return on alternative, financial investments available to households. Managerial positions worthy of college graduates also opened up rapidly during this period. One possible discrepancy was that the supply of college graduates in the labor market perhaps increased faster than the supply of jobs requiring college eduation, as may be inferred from the growth of the number of college graduates not attaining managerial positions and the narrowing of wage (or salary) differentials by level of education and by level of position in the organizational hierarchy. The potential excess supply of college graduates came to a head when economic growth slowed down after the Oil Shock of 1973. The college enrollment ratio soon peaked in 1976. The high school enrollment ratio then followed by peaking in 1981-82.

Nevertheless, the educational content (human capital) in the Japanese labor force continues to rise as the more educated younger people are added to it every year and as less educated older workers retire. When the ratio of college graduates is equalized in time for all age groups as a result of the stabilized enrollment among youth, the problems of unemployment and underemployment of older educated people are bound to rise. Managerial positions will become relatively scarce and scarcer. A solution that commands widespread attention is "professionalization" of work that older educated people can do, through greater "specialization." The objective is to enable them to be individually independent with dignity, supported by their own professional practices. "Professions" certifiable by the national government are multiplying, giving rise to all kinds of specialists and consultants inside and outside companies. (The supply of certificates may outrun the demand for the specialized skills that they certify. For example, the certificates of "labor management specialists" (rōmu kanri-shi, shi meaning samurai by old lexicon and therefore relevant to the dignity of a specialist) probably have trouble in competing with uncertified, but intrinsically skilled personnel managers. To think of it, the creation of various XYZ-shi may be viewed as a modern adaptation of the time-honored ennoblement process.)

Much of the agonizing problem in education and employment today arises from the tyranny of "unilinear" thinking and its institutional reinforcements. A respected life course for a man (though not for a woman) is the regular progression in education in the 6-3-3-4 sequence (elementary school, junior high school--compulsory through this, high school and college) and, after a successful entry into the employ of a major company, the scheduled rise, as if on an escalator, through ranks to retire as a ranking

official of the company. This is "the model path" put on a single string of time. At major junctures of this path, there are examinations to pass. Man's merits are thus constantly evaluated. Man's worth and social prestige are then judged by the degree of consistency of his life course with this model path, although as Plath (1983) points out there are important exceptions. The education system and the employment practices of the government and major companies apparently enforce "the model path" with special kinds of reward and punishment systems (recruitment fresh out of school or college, lifetime employment, nenkō wages and teinen retirement). But a great majority of Japanese men fail to get on this model path of education and employment. They are "failures," although they are ordinary people. Those put on the model path constitute an elite, meritocrats. The wonder of it all is that this particular system of elite formation and perpetuation evokes so little resentment anywhere in Japan. It is, on the contrary, enthusiastically supported by most and people have devised various means to cope with the rules of the game this system imposes on them. The labor market is the major mechanism by which the non-elite populace tries to settle with the second, third, and n-th best outside "the model path. "In these circumstances, one would expect a rising demand for "self-help education and training opportunities to cope with the rigidities of the unilinear system especially when the employment and stenographic structures face enormous modification,

This also implies that the use of labor markets carriers a degree of social stigma as something distinctly beneath the dignity of the fashionable people. The low prestige of labor marketsd rubs itself on the Ministry of Labor, which is the ally and overseer of them. Thus, the Ministry of Labor ends up doing less desirable work than the Ministry of Education. A result is a less than perfect articulation between the educational and employment experience of many Japanese.

REFERENCES

Amaya, Tadashi, 1983. "Human Resource Development in Industry" (Japan Industrial Relations Series No. 10) Tokyo: The Japan Institute of Labour.

Asahi The July 30, 1985.

Bowman, Mary Jean. 1981. Educational Choice and Labor Markets in Japan. Chicago: The University of Chicago Press.

Clark, Rodney. 1979. The Japanese Company. New Haven: Yale University Press.

Cole, Robert E. 1979. Work, Mobility, and Participation: A Comparative Study of American and Japanese Industry. Berkeley: University of California Press.

Dore, Ronald. 1973. British Factory - Japanese Factory: The Origins of National Diversity in Industrial Relations. Berkeley: University of California Press.

Harbison, Frederick and Charles A. Myers, 1964. Education, Manpower and Economic Growth: Strategies of Human Resource Development. New York: McGraw-Hill Book Company.

Hashimoto, Masanori and John Raisian. 1985. "Employment Tenure and Earnings Profiles in Japan and the United States." American Economic Review September, vol. 75, no. 4, pp. 721-35.

Ishikawa, Toshio. 1981. "Vocational Training" (Japanese Industrial Relations Series No. 7). Tokyo: The Japan Institute of Labour.

Iwauchi, Ryoichi. 1980. Gakurekishugi wa hōkai shitaka (Has Credentialism Crumbled?). Tokyo: Nihon Keizai Shinbunsha.

Idem., et. al., eds. 1985. Kyōiku to shakai (Education and Society). Tokyo: Gakubunsha.

Japan Statistical Yearbook. 1979, 1984. Tokyo: Office of the Prime Minister.

Kaneko, Motohisa. 1984. "Rise and Fall of Educational Expansion." (paper presented at the 29th CIES Conference, Houston, Texas).

Koike, Kazuo, 1983. "Internal Labor Markets: Workers in Large Firms." Chap.2 in Taishiro Shirai, ed. Contemporary Industrial Relations in Japan. Madison, Wisc: University of Wisconsin Press.

Idem. 1984. "Skill Formation Systems in the U.S. and Japan: A Comparative Study." Chap. II in M. Aoki, ed., The Economic Analysis of the Japanese Firm. Amsterdam, The Netherlands: Elsevier Science

Kinmonth, Earl H. 1985. "Engineers and Engineering Education in the United States and Japan" (Working paper). University of California, Davis. Publishers B.V. (North-Holland).

Levine, Solomon B. 1983. "Careers and Mobility in Japan's Labor Markets." Chap. 1 in David W. Plath, ed., Work and Lifecourse in Japan. Albany, N.Y.: State University of New York Press.

Levine, Solomon B. and Hisashi Kawada. 1980. Human Resources in Japanese Industrial Development. Princeton, N.J.: Princeton University Press.

Management & Coordination Agency (MCA). 1984. Kyōiku kara mita nihon no jinkō (Japanese Population as Seen from Education). Tokyo: Nihon Tokei Kyokai.

Marsh, Robert M. and Hiroshi Mannari. 1976. Modernization and the Japanese Factory. Princeton, N.J.: Princeton University Press.

Matsuura, Takanori. 1978. Shūshoku (Occupational Entry). Tokyo: Nihon Keizai Shinbunsha.

Ministry of Education (MOE). 1980. Wagakuni no kyōiku suijun (Our Country's Level of Education). Tokyo: The Ministry of Finance Press.

Idem. 1985. Gakkō Kihon chōsa (Basic School Survey)

Idem. 1985. Monbu tōkei yōran (Abstracts of Education Statistics). Tokyo: Daiichi Hoki Shuppan KK.

Ministry of Labor (MOL). 1981. Rōdō hakusho (White Paper on Labor). Tokyo: The Ministry of Labor.

Idem. 1985. Rōdō tōkei yōran (Abstracts of Labor Statistics). Tokyo: The Ministry of Finance Press.

Morishima, Michio. 1985. The Production of Technologists and Robotization in Japan. Suntory-Toyota International Centre for Economics and Related Disciplines, London School of Economics and Political Science.

Odaka, Konosuke. 1982. "Thinking About Vocational Education" (in Japanese). I, The Monthly Journal of the Japan Institute of Labour, vol. 24, no. 2 (February), pp. 2-11; II, ibid., no. 3 (March), pp. 26-37.

OECD. 1984. "The Importance of Long-Term Job Attachment in OECD Countries." OECD Employment Outlook. September. pp. 55-68.

Plath, David W. 1983. Work and Lifecourse in Japan. Albany, N.Y.: State University of New York Press.

Rohlen, Thomas P. 1974. For Harmony and Strength: Japanese White-Collar Organization in Anthropological Perspective. Berkeley. University of California Press.

Sterling, William. 1984. "Patterns of Job Duration in Japan and the United States." (mimeo).

Tachibanaki, Toshiaki. 1984. "Labor Mobility and Job Tenure." Chap. III in M. Aoki, ed., The Economic Analysis of the Japanese Firm. Amsterdam, The Netherlands: Elsevier Science Publishers B.V. (North-Holland.)

Taira, K. 1985. "Japan's Lifetime Employment Revisited." (Faculty Working Paper No. 1127). Bureau of Economic and Business Research, University of

Tomita, Koshi. 1984. Monbukei tanki daigaku no saihen katei ni kansuru kenkyū (An Inquiry into the Reorganization of the Ministry of Education's Junior Colleges). Sagamihara, Kanagawa: Research and Development Center, Institute of Vocational Training.

Tsuchiya, Hiroshi. 1978. Saiyō no jitsumu (Hiring in Practice). Tokyo: Nihon Keizai Shinbunsha.

Umetani, Shunichiro. 1980. Vocational Training in Japan. Hamburg: Institut fur Asienkunde.

United States (U.S.). 1985. The Statistical Abstract of the United States