

'Lifetime earnings' in Japan for the class of 1955

*Those who followed a 'lifetime' employment pattern
have received higher earnings than job changers
despite the decline in returns for
education and tenure during economic growth*

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Japan's employment model has been that of *Shūshin Koyō* or "lifetime employment," especially for male college-educated workers.¹ Under such a system an individual becomes employed by a firm upon graduation, and remains in its employ until retirement some 33 or more years later. This is an idealized system which applies to perhaps 40 percent of the labor force, and with quite specific exceptions.² In particular, women and employees in small firms are less well represented. Still, it has remained the model employment relationship and, as such, has dominated Japanese thinking and employer practices.

This article seeks to provide some understanding of earnings in this world of lifetime employment by examining the experiences of male college graduates from the class of 1955.³ An ideal analysis would be based upon individual income records and would be done once the age cohort had completed its life cycle of work and had withdrawn from the labor market. No known data source allows completely for the first, and the second would relegate the analysis to the domain of economic history. Lacking more appropriate data, the article focuses upon that representative person, the average individual, as recorded once every 5 years in reports of the *Wage Structure Survey (Chingin Kōzō Kihon Tōkei Chōsa)*.⁴

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Tenure versus mobility

The experience of those men who entered the labor force in 1955 has been unique. During that year, Japan's real per capita national income reattained its prewar level (1934-1936).⁵ There followed the 1960's with double-digit rates of real growth, and the 1970's with the oil shock and the first postwar year of negative growth (1974). In 1980, at the age of 47, these men had almost reached the peak of their real annual earnings, and many had attained their positions of highest rank and authority.

In a world whose model is lifetime employment, one would expect that the years of economic expansion following 1955 would have been characterized by increasing lengths of employee tenure. In 1955, college graduates then age 40 to 49 had an average tenure of 9.7 years, a number which certainly reflects the dislocations caused by the war. Twenty-five years later, the average tenure for 40- to 49-year-olds had nearly doubled to 18.9 years.⁶ Yet the pattern of long service in 1980 was not uniform across major industries. Overall, approximately 6 in 10 of those 45 to 49 years of age had worked between 20 and 29 years for their current employer. In public utilities and in finance and insurance the ratios were about 9 in 10, but in the business and personal service industries, it was 4.3 in 10, less than half the average.

The trend toward longer tenure has been experienced by all age cohorts. Ichirō Kitayama reported that the proportion of standard workers (lifetime employees) rose from 29.7

Table 1. Wage index for college-educated men age 45 to 49, and percentage with 20 to 29 years of service, by industry and firm size, 1980

Years of Service	Industry							Firm size		
	All industries	Manufacturing	Wholesale and retail trade	Finance and insurance	Public utilities	Service	Transportation and communication	1000 workers or more	100 to 999 workers	10 to 99 workers
1	72	73	62	45	48	89	115	57	90	76
2	82	79	85	62	...	88	...	75	94	92
3—4	79	79	67	67	85	97	81	86	101	72
5—9	83	75	73	97	82	104	85	84	94	90
10—14	90	88	76	93	75	114	88	93	106	90
15—19	88	90	83	85	80	95	92	90	97	90
20—29	100	100	100	100	100	100	100	100	100	100
Percentage employed with 20—29 years of service	59.6	65.8	50.7	86.7	88.5	42.6	81.9	78.3	53.2	25.2

NOTE: The premium for tenure equals 100 for 20 to 29 years of service.

percent of all workers in 1954 to 54 percent in 1978.⁷ In large firms (1,000 or more employees), the proportion of standard workers was 72.3 percent in 1978, but for small firms (10 to 99 employees), the share was only 30 percent. The proportion of standard workers was highest in finance and insurance, 83.8 percent, and lowest in mining, 28.3 percent. Yet all industries and firm sizes recorded increased proportions over the postwar years including the period after the 1973–74 oil shock.

As indicated in table 1, those in the 1955 cohort who have stayed with their original employer generally have higher salaries than others of the same age and educational background subsequently hired by the same employer. The premium for tenure is the excess value of money associated with consistent, lifelong employment. However, in the service industry, the premium received by those with lifetime employment was smaller compared with the premium of those with only 10 to 14 years of tenure, who joined firms which needed mid-career professionals during the 1960's, when the economy was growing most rapidly.

The premium of tenure was largest for employees of major firms. A newly employed college graduate, 45 to 49 years of age, earned 57 percent of what a similar employee who had been with the firm for 20 to 29 years would have received. Yet, only when long-service employees are compared with those who had changed jobs in the last 5 years,

is the premium for long tenure so high. For major firms, these last few years have been a time of slow growth and weak demand for new employees. As a general rule, the smallest premium for long tenure is paid by small firms which adhere least to the lifetime employment pattern. Mobility for employees in medium sized firms and firms in the service industries has been rewarded over tenure, especially during the years of rapid growth in Japan's economy.

Wage differentials

During 1955–80, the average real wage for the class of '55 has risen 7.38 times. (See table 2.) If bonuses are included, the increase has been 8.35 times.⁸ (For an American, the comparable real increase might be on the order of 2.75 times, or about one-third as much, approximately in line with the different rates of economic growth in the two countries.⁹)

The greatest gain in wages for the 1955 cohort occurred between the ages of 27 and 37. Specifically, wages increased about 70 percent during both 1960–1965 and 1965–1970, when per capita real growth in Japan's economy was 50 percent and 60 percent.

As can be seen in table 3, there was a distinct widening of wage differentials in the early years of postwar growth, 1955–60. Since that time there has been a marked reduction in wage differentials by age, especially during the years of

Table 2. Monthly real wages of the class of 1955, by industry, 1955–80

[In 1,000 of 1975 yen]

Age	Year	All industries		Manufacturing		Trade		Finance and insurance		Public utilities		Services		Transportation and communication	
		Wage	Wage and bonus	Wage	Wage and bonus	Wage	Wage and bonus	Wage	Wage and bonus	Wage	Wage and bonus	Wage	Wage and bonus	Wage	Wage and bonus
22	1955	37.9	148.1	40.4	...	35.4	...	38.3	...	...	...	...	...	36.8	...
27	1960	63.7	...	66.7	...	59.5	...	66.3	...	64.4	...	...	...	63.5	...
32	1965	109.7	139.4	106.7	130.8	102.7	134.6	108.5	153.1	101.1	136.3	...	...	100.0	131.9
37	1970	175.7	243.3	182.4	252.5	172.9	236.0	231.9	357.6	171.0	234.0	...	...	159.5	210.1
42	1975	236.3	339.6	242.2	355.7	237.4	351.6	259.8	396.7	247.5	342.5	232.5	323.5	208.5	291.1
47	1980	279.8	401.6	275.2	396.7	244.5	370.9	322.0	501.5	418.1	421.7	295.8	418.5	243.5	335.2

¹Assumes that the bonus/wage ratio of 1965 also applied in 1955.

SOURCE: *Chingin Kōzō Kihon Tōkei Chōsa* [Wage Structure Survey], various years.

Table 3. Ratios of earnings of college-educated workers age 40 to 49 to those of similar workers age 25 to 29, by sex, selected years, 1955-80

Year	Men		Women	
	Wage	Wage and bonus	Wage	Wage and bonus
1955	1.81	(1)	1.75	(1)
1960	2.67	(1)	(2)	(2)
1965	2.41	2.64	(2)	(2)
1970	2.04	2.26	(2)	(2)
1975	1.89	2.04	1.69	1.73
1980	1.98	2.19	1.68	1.72

¹Data not available.²Separate data for female college graduates were not available for 1960-1970.SOURCE: *Chingin Kōzō Kihon Chōsa* [Wage Structure Survey].

rapid growth, 1960-75, and a modest widening during the following 5 years.

In the manufacturing firms, pay differentials between college-educated white-collar workers and high school-educated blue-collar workers have also declined. (See table 4.) In 1960, college graduates, ages 20 to 24, received about 10 percent higher wages than did similarly aged high school-educated blue-collar workers. By 1980, it was the blue-collar workers who received almost 10 percent more. Similarly, the educational premium, which at older ages had been more than 100 percent, declined significantly. Interestingly, the largest percentage declines occurred at older ages. It would appear that the slowdown in the economy after 1974 has also slowed the decline in educational ratios, but it did not, as was the case for the age premium, reverse them. These declines in the relative return to college educated workers may reflect the very large increase in the number of such workers.

While the size of birth cohorts age 20 to 24 generally declined after 1953,¹⁰ the number of graduates did not, because of the large increase in the number of students who continued their education beyond high school. In 1960, there were 17 college graduates for every 100 high school graduates; by 1980, the ratio was 48 to 100. This meant that there were 2.1 times as many college graduates (as a proportion of their age group), ages 25 to 34, compared with

Table 4. Earnings of white-collar college graduates relative to those of blue-collar high school graduates by sex and age, selected years, 1960-80

Age	Men						Women
	No bonus		Bonus				
	1960	1965	1965	1970	1975	1980	
20-24	1.16	1.08	1.04	.95	.91	.92	1.05
25-29	1.14	1.09	1.14	1.08	1.08	1.04	1.45
30-34	1.32	1.23	1.33	1.28	1.19	1.19	1.92
35-39	1.58	1.44	1.60	1.51	1.42	1.34	2.62
40-44	—	—	—	1.84	1.68	1.59	2.58
45-49	—	—	—	2.17	1.98	1.87	2.52
40-49	1.98	1.78	2.10	1.97	1.79	1.63	2.55

NOTE: Data before 1980 for women not available. Dashes indicate data are not available.

SOURCE: *Chingin Kōzō Kihon Tōkei Chōsa* [Wage Structure Survey].

those ages 45 to 54. In 1978, the United States had 1.4 times as many college graduates 25 to 34 as in 1960.

During the period of rapid growth, 1955-75, the Japanese labor market moved from conditions of relative surplus to relative shortage. The ratio of jobs available to job seekers at the Public Employment Offices rose from .22 in 1955 to more than 1 in 1967 and remained above 1 until 1975. This tightening in the labor market affected both the hiring and wage policies of companies. They became willing to hire midcareer employees as well as those just graduating from school. This increased competition for labor resulted in higher wages for those entering at the hiring ports. The relatively lower wages for older workers are a direct result of such pressure. At the same time, the premium for tenure also declined as midcareer employees' wages rose relative to those of continuing employees of similar age and education. In 1965, male college graduates ages 40 to 49 with 5 to 9 years of tenure received 65 percent of the wages of those with 20 to 29 years of service; in 1970, they received 76 percent and in 1981, 82 percent.

Given these large increases in the number of college educated workers, it is hardly surprising that the premium for a college education has declined. However, the largest percentage decline has occurred at older ages where the number of college graduates was relatively small, yet, in percentage terms, the increase in the number of college graduates at older ages had been more rapid.

Labor market for women

The labor market for Japanese women, even well educated ones, is quite distinct from that of men. Traditionally, Japanese society has considered marriage, household responsibilities, and the raising of children as a woman's central concern (though there are signs this view is changing). Thus, the employment of women extends from graduation until the birth of a first child, followed by withdrawal from the labor force and possible reentry some years later. Among female college graduates, ages 45 to 49 in 1980, only 22.2 percent had worked for the same firm for 20 to 29 years, compared with 51.6 percent for their male counterparts. As a consequence, most women have never been given the opportunity to progress to more responsible, higher-paid positions. In 1980, the average wage differential between male college graduates ages 45 to 49 and those 25 to 29 was 2.19, compared with 1.79 for women of similar ages and educational attainment. Yet, even when years of firm service are comparable, women's wages lag behind. In 1980, female college graduates 45 to 49 with 20 to 29 years of company service earned 71.6 percent of the male graduates' income including bonuses. The ratio was lower in large firms, 67 percent, and higher in middle-sized firms, 83.6 percent. The service and transportation and communication industries had greater ratios for women than those in manufacturing and trade. At younger ages, before the impact of more responsible jobs associated with tenure for

Table 5. Percent of college graduates in the U.S. and Japanese populations, by sex and age, 1978 and 1980

Age	Japan (1980)		United States (1978)	
	Men	Women	Men	Women
25 and under	15.3	2.9	20.4	13.9
25-34	25.2	6.9	27.7	20.0
35-44	17.2	3.2	24.4	15.0
45-54	11.8	1.3	19.7	10.6
55-64	6.3	.5	14.2	8.2
65 and over	4.8	.4	9.6	7.7

SOURCE: *Rōdō Hakusho [Labor White Paper]*, appendix, p. 118. The Japanese data are from the 1980 census and the U.S. data are from the Current Population Reports.

men is felt, the ratio of female to male wages is much higher, 91.0 percent for college graduates 20 to 24 years of age in 1980.

Some of these differences reflect divergent patterns of college attendance. Table 5 shows that the college graduation rate of Japanese women is much lower than that of men. The distribution of courses of study also varies by sex and may contribute to earnings differences: In 1980 the two principal majors for men were social science (47.9 percent) and engineering (24.6 percent), and for women, humanities (35.4 percent) and education (18.2 percent).

Returns for education: U.S. versus Japan

The recent interest in earnings of the U.S. baby-boom generation¹¹ has provided some data which may be compared with those for Japan. The following tabulation presents relatively equivalent income ratios for male college-educated workers in the two countries. The educational premium for workers ages 35 to 44 in the United States appears to have remained constant at about 50 percent, while in Japan that premium, initially about equal to that in the United States, has declined to about 20 percent. Both countries have experienced declining income ratios for younger men, but the Japanese decline has been more pronounced.¹²

College/high school	United States		Japan	
	1967	1979	1965	1980
Age 35-44	1.50	1.49	1.49	1.21
Age 25-34	1.32	1.20	1.24	1.09

The pattern of income-age ratios for the two countries over time is very different. For the United States, the ratio has widened; older college-educated workers now receive

relatively more than do younger college-educated workers. In Japan, that ratio has closed somewhat, although because it was initially large, older college-educated workers continue to earn relatively more than younger ones. There are several possible explanations.¹³ One is the difference between the two countries in the proportions of college-educated workers at different ages. A greater proportion of the highly educated males in the United States are found at older ages as compared with Japan.¹⁴ In the United States, college-educated workers, if they retain their health, may expect to maintain their high salaries into their 60's. In Japan, with nominal retirement between 55 and 60 years of age, a worker must either accept reemployment with the primary firm at lower wages or seek alternative employment, usually at lower wages. In 1980, Japanese college-educated workers 55 to 64 earned 15 percent less than did those 45 to 55. For those 60 to 64, the difference was 28 percent. In 1978, the earnings of U.S. male college graduates 60 to 64 were only 3 percent less than those of college graduates 45 to 49 years of age.¹⁵ Thus, in Japan, a greater proportion of lifetime earnings must be achieved in the middle years.

The premium for tenure

Although there are qualifications, it seems that in Japan those who have not been mobile have received the highest incomes.¹⁶ There are no exactly comparable data for the United States. In a recent article, George Borjas has argued that higher U.S. wages are associated with long tenure, not mobility. Using data from the National Longitudinal Survey for older men, he found that the least mobile men in 1964 had wages 37 percent higher than the most mobile ones. He explained this on the basis of their having obtained more on-the-job training experience.

THOSE GRADUATES WHO ENTERED the labor force in 1955 have seen their incomes rise dramatically, despite the fact that over most of their working lives, the relative returns to both education and experience have been declining.¹⁷ Their entry into the labor market came at a time when the pattern of long tenure was becoming stronger, and generally, it appears that those who have followed the practice of "lifetime employment" have benefited from it. With the exception of the boom years during 1960-70, the long service member of the 1955 cohort has done best. □

FOOTNOTES

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¹For a recent discussion of lifetime employment, see Robert E. Cole, *Work, Mobility and Participation* (Berkeley, University of California Press, 1979), pp. 11-32.

²Robert Evans, Jr., *The Labor Economies of Japan and the United States* (New York, Praeger Publishers, 1971), p. 39.

³Although data for a single year are illustrative, they may be too re-

strictive. The generation of the Great Depression or the one destroyed in Europe during World War I were each composed of several graduating classes. Even multiple year groupings have problems because of substitution across age classes.

⁴The survey has been conducted annually by the Ministry of Labor since 1954. The reports contain data by industry, firm size, education, tenure, and age in 5-year intervals. For the 5-year surveys, 1955, 1960, 1965, 1970, 1975, and 1980, the average age in the relevant age bracket is that of members in this class. In 1955, the average age for those 20 to 24 was a little higher, and the average age for those with less than 6 months of service has been used.

⁵William W. Lockwood, "Japan's New Capitalism," in William Lockwood, ed., *The State and Economic Enterprise in Japan* (Princeton, N.J., Princeton University Press, 1965), p. 449.

⁶For those 40 to 49 years of age, the average tenure was 17.3 years, an 80-percent increase.

⁷Ichiro Kitayama, "Chingin Kōzō Tōkei kara mita Nenkō Chingin to Shūshin Koyō" ["Seniority Wages and Lifetime Employment as seen in the Wage Structure Surveys"], *Rōdō Tōkei Chōsa Geppō* [Monthly Labor Statistics and Research Bulletin], September 1979, pp. 14–22. The meaning of "standard worker" in this article is a less strict definition of the number of years of tenure needed to be considered to have followed a lifetime employment pattern. In 1980, Kitayama's method would show that 75.8 percent of those in the class of 1955 were lifetime employees, but according to my approach, 59 percent followed lifetime employment. The difference is my exclusion of those with 15 to 19 years of tenure.

⁸This assumes that the bonus/wage ratio for 1965 also applied to 1955.

⁹The estimate is based upon movement from a level I position to the top position in the occupations accountant, auditor, job analyst, chemist, and engineer over the years 1955–1980, with the 1955 average being a backward projection. The comparison of growth rates is based upon those contained in *The Statistical Abstract of the United States*, 1981, p. 423.

¹⁰Japan had a short baby boom after the war. Live births, which had been 2.3 million in 1944, peaked in 1949 at 2.7 million, and remained above 2 million until 1953. Since that time, the number of births has exhibited a general pattern of stagnation or decline, with the exception of the years 1971–74, during which the 2-million mark was surpassed. In 1971, there were 12.5 million people 20 to 24 years old, but 10 years later there were only 8.1 million. The bulge appears in the 30-to-34 age range in 1981. This demographic bulge, at least for college graduates, does not seem to have been disproportionately affected by changes in the returns to education, although the dramatic inflation of the early 1970's and the slowdown in growth after the oil shock may mask some effects.

¹¹See, for example, Richard B. Freeman, "The Effect of Demographic Factors on Age Earnings Profiles," *Journal of Human Resources*, Summer

1979, pp. 289–318; and Finis Welch, "Effects of Cohort Size on Earnings, The Baby Boom Babies' Financial Bust," Part II, *Journal of Political Economy*, October 1979, pp. s65–s97.

¹²The U.S. source contained data for the period 1967–79. For comparison with the Japanese data, the closest years were used which also had been used for the class of 1955. For the United States, peak earners are those with 20 to 29 years of experience and new entrants have 1 to 5 years of experience. For Japan, the ratios are for earnings including bonuses of 40- to 49-year-olds for peak earners and 20- to 24-year-olds for new entrants. Also, the 1965 data for Japan for those age 35 to 44 are an estimate based upon a rate of 1.6 for 40- to 49-year-olds and 1.42 for those 35 to 39 years of age. See *Wage Structure Survey* [Chingin Kōzō Kihon Tōkei Chōsa]. Data on full-year workers are from the Current Population Reports, contained in a seminar paper presented by James Smith, Keio University, Tokyo, Nov. 4, 1982.

¹³U.S. age-income profiles are compared with those in Japan in Haruo Shimada, *Earnings Structure and Human Investment* (Tokyo, Kōdansha, 1981). See in particular the discussion on pp. 81–96.

¹⁴For example, 14.2 percent of men age 55 to 64 are college graduates in the United States compared with 6.3 percent in Japan. See *Rōdō Hakusho 1982* [Labor White Paper], appendix, p. 118.

¹⁵*Rōdō Hakusho 1982* [Labor White Paper], reference materials, p. 24.

¹⁶The statement is based upon data which indicate income by length of service with the employer. A worker could be at a disadvantage compared with long-service employees in the same firm and still be better off than if he had not changed jobs. In 1980, 16 percent of those college-educated men who changed jobs obtained at least a 10-percent wage increase. Another approximately 20 percent received up to a 10-percent increase in wages, but may have had lower income owing to a loss in bonuses. *Rōdō Hakusho 1982* [Labor White Paper], reference materials, p. 75.

¹⁷Some sense of how they have fared compared to older and younger college cohorts may be seen in Yoko Sano, "Nenreibetsu Chingin no Cōhōto Bunseki" ["Wage Analysis Based on Cohorts by Age"], *Mita Shōgaku Kenkyū* [Mita Business Review], February 1983, p. 182.