

Career Competition within Organizations: Competition among Graduate White-Collar Workers in Medium-Sized Manufacturing Firms*

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The purpose of the present study is to make clear the severity of interpersonal career competition in companies somewhat smaller than are usually counted as “large corporations.” It uses as its data-set the micro-data of three medium-sized manufacturing firms (with a little over 1000 employees each). These are companies which use the Ability-Based Grade System common in Japanese personnel management. The study analyses at two points in time, both the dispersion in basic salaries and changes in the ranking of individuals within those dispersions.

My findings are: (i) At the beginning and in the early stages of a career, competition focuses on the effort not to become a drop-out, (ii) Individuals differ in the career point at which they become sub-section chiefs (*shunin*), (iii) In mid-career the competition focuses on gaining early promotion to the rank of section chief (*kacho*), (iv) Competition continues through into the later stages of careers when changes in individuals’ rank order can still occur.

These results may be considered to demonstrate that what is commonly described as a *nenko*¹ system of pay and promotion in Japanese enterprises nevertheless involves fierce competition.

I. The Nature of the Problem

The purpose of the present paper is to analyze how differences in pay develop over the course of individual careers as a result of the personnel evaluations they receive. The pay system is based on a series of grades and sub-steps within grades, and the observations used are of differentials both in basic pay and in grading. The evidence concerning the way in which dispersions develop, and the changing positions of individuals within those dispersions, may be taken as an index of the nature of competition among career white collar

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¹ *Nenko* system is usually translated as “seniority system.” *Nen* means “age” and *ko* means “achievement/merit/performance.” The original meaning, therefore, is “pay and promotion according to seniority plus merit,” and the system of annual or semi-annual evaluations of “merit” for pay-fixing purposes, referred to in this paper, has always been a standard accepted part of the system. However, the common translation of *nenko* as “seniority” *tout court*, does no injustice to the common Japanese usage of the term, particularly in recent years when it is often used in sharp contrast to *seika-shugi*—“performance pay.”

workers.

Career competition within Japanese enterprises is often described as a *nenko* ranking system. Some studies, however, have pointed out that differential personnel evaluations give rise to fierce competition (Koike 2009). In this paper I wish to demonstrate the real existence of such fierce competition, in spite of the fact that it is nominally a *nenko* ranking system.

There have been a number of earlier studies of which Hanada (1987) may be considered representative. He created a “career tree” for the male graduate employees of five large corporations, and showed how the initial weeding out took place between their fifth and their twelfth year of employment. Koike (1991), based on interviews with white collar workers in three large corporations, found initial selection to take place over the same period, and later, Koike (2005) came up with the characterization of the Japanese system as a “late selection system,” differentiating the “initial selection period” from the “moving in step period.”

Among studies of individual firms one might cite Hirata and Imade (1995) which looked at the data for a major heavy industrial corporation and identified what they called a “multi-layered promotion competition” system—an initial period of “*nenko*-like marching in step promotion,” a mid-career period of “competition for fast promotion” and the final period of “tournament competition.” They also identified a “mezzanine waiting floor” and the notion of a “return match.” Takeuchi (1995) also created the career tree for a large finance and insurance corporation. He saw the “all go up together” period as lasting for five to eight years, followed by “competition for fast promotion” and the “return match.”

In this way the image emerging from existing studies is of the selection period being the main index of career competition—competition being relatively relaxed in the initial period, but then increasing in mid-career as people struggle to become promoted faster than others.²

However, what has not hitherto been made clear is whether in medium and small firms the same career competition takes place as in the large enterprises. In general the usual assumption is that it does not. Koike (1981) asserted that in small and medium enterprises, one found a gathering together of three heterogeneous groups: the core group of employees with a high level of broad skills, semi-skilled workers who had reached a plateau after some ten years’ experience, and unskilled workers. Matsushige et al. (2005) in a panel data study of small and medium firms showed that quite wide dispersions developed at an

² By contrast, Uehara (2003) in a detailed study of three major banking corporations found that in two of them competition became fierce after promotion to mid-manager level (i.e. *kacho* level). He explained differences within the three firms as being attributable to their different functional organization. Tsuru, Abe, and Kubo (2005) also studied the micro-data of three firms and created boxplot diagrams for each age group (monthly pay, plus bonuses and annual salary). In all three companies there were quite a lot of outlier values which they assumed to be due to the fact that some employees were being held back in lower grades over long periods.

early stage in the careers of graduate employees.

Given these differences in the general assumptions about large corporations and small and medium firms, the question naturally arises: what about what one might call “near-large” firms—those with around a thousand employees? This paper uses micro-data to try to answer that question, to fill in the gaps in the story and further the discussion.

The structure of the paper is as follows: in Section II I discuss methodology; in Section III, the different institutional practices of the firms; in Section IV, the data and in Section V, I show the basic statistics and draw conclusions about the real state of career competition. Section VI concludes.

II. Method Used

As already described, most studies use as a main index, the career point at which an initial selection takes place. However, that alone may not capture the whole reality of career competition: other indicators might give different results. If there are differences between individuals in the annual increases they receive in monthly pay or bonuses and if these act as work incentives, then this might generate competition. Also, before there is competition for promotion, there might well be competition for job assignments (Umezaki 2005). Or there might be micro-competition among those who do not get promoted (Matsushige 2005). To get a good picture of all this one needs to develop new indices and go beyond data simply on promotion to higher rank.

For this study I have obtained the personnel records of the three firms and selected the individuals into groups which are homogeneously male university graduates recruited at the beginning of their work careers rather than in mid-career. I look at the distribution of individuals by years of service in each grade, and at the distribution of basic salaries and grade for each years-of-service cohort, plus the changes in individual rankings in salary and grade. In this way I am able to examine the nature of competition as a whole, including both competition for grade promotion and competition for salary increase.

The analysis proceeds from three angles. First I look at the years-of-service distribution in each grade. If there were some in low grades who had long lengths of service this would be an indication that the firm did not practice the “everyone marching in step promotion,” and the presence of people with over thirty-years’ service in sub-managerial grades would show that not everybody gets to be a middle manager. Moreover the distribution of years-of-service by grade gives information on variations in individual promotion speeds and on the overtaking of older by younger employees.

Secondly, I look at the distribution of grade levels and basic salary in each years-of-service cohort and calculate the coefficient of variation within each. An increase in this coefficient as years-of-service increase would indicate an increase in the spread, and a decrease would mean that it contracts. Moreover, if the two coefficients, for basic salary and for grade, showed divergent behavior, that would mean that competition for promotion and

competition for salary increase were interacting in a complex way.

Thirdly, I look at the rank-ordering of individuals by both grade and basic salary at two points in time, using the Spearman rank correlation coefficient. The interval between the two time points was five years, a choice made bearing in mind the fact that the standard frequency for grade promotions in most firms was around four years.³ A high correlation would mean that there was little change in the ranking over the interval, a low one would mean the reverse. Also, if there was a divergence between the correlations for salary and the correlations for grade, this would mean that competition was not solely competition for grade promotion, but a more complex matter involving also salaries.

A combination of these three observations gives a picture of the nature of career competition in firms not quite large enough to be called “large corporations.”

III. The Three Firms’ Personnel Management Systems

1. Firm A

A is a consumer goods producing firm with somewhat over 1300 employees founded during the Taisho period, i.e. between 1911 and 1925. The average age of its employees in the year 2000 was 37, and their average length of service was 13 years. University graduates made up 63% of employees. The enterprise union had a policy of cooperation with management. It experienced steady growth in the 1990s, by dint of its efforts to develop new products. In the second half of the 1990s it energetically pursued a policy of personnel management reform.⁴

The process began with the introduction, in 1994, of an Ability-Based Grade System. This was followed by the abolition of the age-related element in pay, a shift to annual (rather than monthly) salaries for management, and the introduction of management by objectives, competency assessments, etc. There were, however, no changes in the Ability-Based Grade System during the period of this research.

This system was based on 12 grades (see Table 1). The first five were considered to be the basic grades, passing through which employees were expected to acquire basic skills. University graduates entered at Grade 3. Grades 6 to 10 were the professional grades during which employees honed their skills and were expected to produce results. The last two grades were executive grades for senior management with responsibility for company decisions. Managers, i.e. people with supervisory responsibility referred to as *kanrishoku*, were normally of Grade 9 or higher, though sometimes people of lower grades were given such positions.

³ I also tried working with an interval of 4 years but it made no difference to the overall result.

⁴ For a description of the reform process, see Nakashima (2005), and Nakashima, Umezaki, and Matsushige (2004).

Table 1. The Ability-Based Grade System at Firm A

Salary System	Grade	Corresponding Post	Entry Qualification	Stratum	
Employees with annual salary	Grade 12	Management		Executive stratum	
	Grade 11			Professional Stratum	
	Grade 10				
Employees with merit-based wage	Grade 9	Ordinary employees			
	Grade 8				
	Grade 7				
	Grade 6				
	Grade 5				
	Grade 4			Masters degree	Basic stratum
	Grade 3			Bachelo degree	
	Grade 2		Junior college or specialist high school diploma		
Grade 1	High school graduation				

There are guidelines setting standards for promotion to each grade. Promotion is automatic up to Grade 3. Thereafter there is a committee evaluation, top-level interview, etc. The minimum period to be spent in each grade before promotion out of it, and the parameters to be used for personal evaluation are also specified; promotion does not depend on earlier evaluations.

2. Firm B

Firm B is a manufacturer of producer goods with a long history. It had 1100 employees in the year 2000, average age 37 and average length of service 13 years. University graduates make up 52% of employees. The firm is doing well thanks to its highly competitive products. The union has adopted a policy of cooperation.

B adopted the Ability-Based Grade System in 1995. Since then it has, as one personnel manager described it, “reformed its excessively seniority-based wage system” and introduced reforms to the remuneration system gradually and in stages.⁵ During the present study, however, there were no changes in the Ability-Based Grade System.

That system is divided into four “general” grades (career path for routine and support work) and ten “comprehensive” grades. The comprehensive grades with which we are concerned here, are divided into four segments. Grades 1 to 3 are for younger general workers, with university graduates entering at Grade 3. Grades 4 to 6 are for group-leaders and sub-section chiefs (*kakaricho* and *shunin*), Grades 7 and 8 are for section chiefs (*kacho*) and 9 to 10 are for division chiefs (*bucho*). Grades above 7 are counted as management positions (see Table 2).

⁵ This is analysed in Ikawa (2004).

Table 2. The Ability-Based Grade System at Firm B (Comprehensive Grade)

Grade	Job Description	Corresponding Post	Entry Qualification	Minimum Age
Grade 10	Executive support	Department head		
Grade 9				
Grade 8	Supervisory management Specialist professional	Section chief		35
Grade 7				
Grade 6	Supervision, leadership	General workier		32
Grade 5			29	
Grade 4			Graduate school	26
Grade 3	Responsible worker		University bachelor, master	22
Grade 2			Specialist high school/junior college	20
Grade 1		High school	18	

The procedures for promotion are made known to employees and evaluations are carried out. For promotion from one of the four segments to the next, in addition to the regular personnel evaluations, there is a more complex review process involving written examinations, thesis-writing, and personal assessments. There is also a fixed minimum age requirement for each rank.

3. Firm C

Firm C is also a manufacturer of producer goods with a long history: 1400 employees in 2000, average age 40, average length of service 18 years and 34% university graduates. The union is cooperative. The only difference from the other two firms is that in the mid-nineties its earnings deteriorated and in 1998 it offered early retirement to workers over 45.⁶

The firm introduced the Ability-Based Grade System in 1991 with 12 grades. Grades 1 to 4 are for general task positions, with university graduates coming in at Grade 3. Grades 5 to 7 are called leadership Grades and 8 and above management grades, management posts being given to those above Grade 8 (see Table 3).

The criteria for promotion are made clear to employees and personnel evaluations and interviews are used for promotions. There is also a requirement for report-writing for promotion to Grade 5 and taking an aptitude test before promotion to Grade 8. For grades of 7 and below, successive promotions must be at least two years apart.

Thus, all of the firms had introduced Ability-Based Grade Systems with 10-12 Grades in the 1990s, and this may be seen as typical of manufacturing firms of comparable size.

⁶ This is analysed in Kakizawa (2004).

Table 3. The Ability-Based Grade System at Firm C

Work Ability Stratum	Grade	Characteristic Tasks	Entry Qualification
Managerial stratum	Grade 12	Execcutive support	
	Grade 11	Coordination	
	Grade 10	Supervisory Management	
	Grade 9		
	Grade 8		
Leadership stratum	Grade 7	Leadership and supervision	
	Grade 6		
	Grade 5	Adjudicatory work	
General work stratum	Grade 4	Complex tasks	Graduate school
	Grade 3	Standard tasks	University bachelor, master
	Grade 2		Specialist high school/junior college
	Grade 1	Assistance for standard tasks	High school

IV. The Data Set

The firms provided for our study microdata comprising details of age, educational qualifications, years of service, grade, sex, basic salary, bonus, evaluation of the previous year and job position/department.

Given my emphasis on graduate careers, I extracted from these the schedules for those male employees who were university graduates and were recruited into the firm at the beginning of their work careers. The records over a five year period were available for all the firms.

The sample for Firm A consisted of 761 men, average age 35.5, average length of service 11.8 years, gradings concentrated in the middle and averaging 6.7 and average basic salary 330,000 yen (see Table 4) .

The sample for Firm B consisted of 420 men, average age 35.4, average length of service 12.2 years, gradings concentrated in the lower grades and averaging 4.8 a sign, probably, of a recent increase in graduate recruitment. The average basic salary was around 300,000 yen (see Table 5).

The sample for Firm C consisted of 440 men, average age 37.6, average length of service 14.2 years, gradings concentrated at the higher end, averaging 7.0, a sign of the fact that with poor recent results the firm had recently cut back on graduate recruitment. The average basic salary is 350,000 yen (see Table 6).

The great similarity in the firm's age and salary structure will be obvious.

Table 4. Firm A: Basic Statistics (2000)

Variable	Numbers	Average	Standard Deviation	Lowest Value	Highest Value
Age	761	35.5	8.05	22.0	58.0
Years of Service	761	11.8	8.09	0.0	35.0
Grade	761	6.7	2.18	3	12
Basic Salary	761	332705	116016	206700	812840

Table 5. Firm B: Basic Statistics (2000)

Variable	Numbers	Average	Standard Deviation	Lowest Value	Highest Value
Age	420	35.4	7.84	23.0	56.6
Years of Service	420	12.2	7.93	0.9	33.0
Grade	420	4.8	1.54	3	10
Basic Salary	413	304965	81729	202806	633419

Table 6. Firm C: Basic Statistics (2000)

Variable	Numbers	Average	Standard Deviation	Lowest Value	Highest Value
Age	440	37.6	8.30	24.0	56.0
Years of Service	440	14.2	8.32	2.0	33.0
Grade	440	7.0	2.54	3	12
Basic Salary	440	347447	118348	205520	639900

V. The Pattern of Career Competition

My focus was primarily on whether one found evidence of career competition in the early stages (first ten years) of careers which earlier studies had not considered in depth, and also in the later stages—after 20 years. If one did so find, this, together with earlier studies, would show that there was fierce competition throughout graduate careers.

The method was as already described. The distribution of years-of-service within grades, identifying the left-behinds and the promotion of younger over older: the coefficient of variation for grades and basic salaries within years-of-service groups to ascertain the extent to which dispersions increase, and the comparison of rankings at two points in time to see how far they diverge or remain the same; the three measures giving an overall measure of career competition within the firm.

1. Firm A

Beginning with the results for Firm A, Table 7 shows the distribution of grades within each years-of-service cohort. Note, first, the range, which in most grades is over 10 years; in Grade 8 as much as 21 years and in Grade 4, 18 years. Since Grade 8 is the pre-management

Table 7. Years-of-Service Distribution within Each Grade (Firm A, 2000)

Grade	Numbers	Average	Standard Deviation	Coefficient of Variation	Lowest Value	Highest Value	Range	Skewness	Kurtosis
Grade 12	5	32.3	3.243	0.101	27.9	35.8	7.9	-0.346	1.589
Grade 11	19	29.3	4.306	0.147	23.9	35.8	11.9	0.170	1.590
Grade 10	68	24.3	3.248	0.134	19.9	33.8	13.9	0.633	2.836
Grade 9	94	20.5	3.708	0.181	15.9	33.8	17.9	1.309	4.445
Grade 8	101	17.5	4.069	0.232	12.8	33.8	21.0	1.204	4.789
Grade 7	68	14.1	3.603	0.255	10.8	24.8	14.0	1.164	3.207
Grade 6	139	9.8	1.715	0.175	7.8	16.9	9.1	2.182	9.199
Grade 5	137	7.0	1.724	0.246	4.8	17.9	13.1	2.074	13.323
Grade 4	85	3.3	2.276	0.691	1.8	19.8	18.0	4.902	34.506
Grade 3	45	0.8	0.000	0.000	0.8	0.8	0.0		
Total	761	12.7	8.124	0.640	0.8	35.8		0.534	2.534

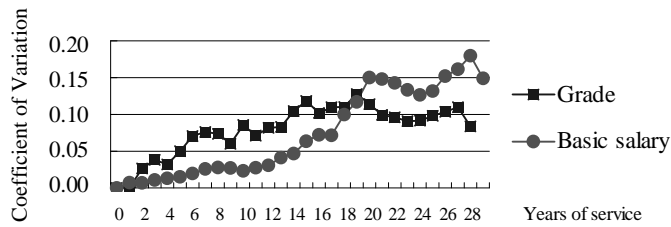


Figure 1. Differentials of Pay and Grade within Each Years-of-Service Cohort (Firm A, 2000)

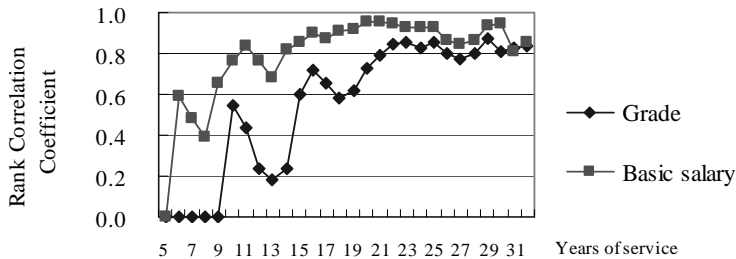


Figure 2. Spearman Rank Correlation Coefficient for Each Years-of-Service Cohort (Firm A)

grade, this means that there are some who are falling well behind in the promotion race. One person has 34 years of service and there is a distinct possibility that he will never reach a *kanrishoku* position. The long-service people in Grade 4 are those who have lost promotion chances in their early careers. Already they are overtaken by, and possibly under the supervision of, men who joined the firm after they did. There is, therefore, no automatic promotion in the early stages.

Looking next at the skewness of the distributions, in Grades 4 to 6 the skewing is to the right. Since the curve has high kurtosis, this means that the pattern in the early stages is for simultaneous promotion of most of a cohort, leaving behind a small number of people who then become subordinated to their juniors.

Following on this I calculate the coefficient of variation (i.e., the standard deviation divided by the average) in grade and basic salary for each age cohort. Since there was considerable variation in the numbers in the various cohorts⁷ to eliminate this effect, the graph shows the results of a moving three-year-span average.⁸

The changes in the coefficient for grades show a step-like pattern. There is a slight increase in the first three years, and then a stable pause. Subsequently it increases at the seventh year and again stabilizes. There is a further increase between the 12th and the 16th year, and then, after the 19th year, the tendency is for stability with a slight decrease.

As for the coefficients for basic salary, they increase from the very beginning and quite steadily until about the 8th year. Then, after a pause, from the 12th to the 22nd year there is a rapid increase followed by stability (see Figure 1).

Thus, a salary dispersion begins to appear after the first year and widens gradually, and the grade variation appears, and begins to increase step-wise, two years later. The dispersion of grades is a matter of differential speed of promotion into the key transition grades, with variation in basic salary kicking in later.

The changes in the ranking of individuals as between 1995 and 2000 was the next to be calculated, using a Spearman rank correlation of the two points in time for each years-or-service cohort, a score of 1 indicating zero change in ranking, the more changes, the lower the coefficient. How the coefficient changed is shown on the graph, (the x axis being years of service) using a moving three-year average to reduce the effect of variations in the numbers in each cohort.⁹ The plotting on the y-axis shows the correlation for the beginning year, that is to say the figure for three-years-service is the correlation of the third

⁷ As for the numbers in each age cohort, the average was 24.8 and the standard deviation 13.7.

⁸ Similar graphs are provided for the other two firms.

⁹ One problem is posed by the fact that the numbers in some of the cohorts are low, and even zero, outlier figures which distort the results. The precautions taken were, first to eliminate all 0 cohorts and to calculate the three-year moving average from a time-series which excluded them. Secondly, I filled in missing variables by using a weighted average of the preceding and the subsequent years. The subsequent recalculation of the figures is shown in the graph. The data for the other two firms were similarly treated. For the first year cohort for which there could be no stability correlation, the first year's coefficient was used in the graph, not a weighted average.

year cohort in 1995 with the eighth year cohort in 2000 (see Figure 2).

Note also that when in the base year everybody is of the same rank so that there can be no ordering, the coefficient is not calculated. It is calculated however if there are differences in rank in the base year. Hence the absence of a coefficient calculated for those cohorts in which there were in fact numbers of employees involved means that in the base year they were all of the same basic salary (or grade) or were at the first stage of differentiation. With this in mind, let us look at what the data tell us.

First let us look at grades. The calculation starts with the five-years-of-service group since the youngest four 1955 cohorts were all of the same grade in the base year (or had received only one promotion). The 1955 five-years-of-service cohort coefficient can be calculated and since by this time two grade promotions are possible, it shows that the ordering of promotion to the first grade differs from the order of promotion to the second grade. From the five years-of-service cohort to the eighth, the coefficient gradually shrinks which means an increased change in ranking. After that, from cohort 9 to 12 comes a period of lesser change, but then from the 12th to the 17th year again greater change, followed subsequently by a period of a relatively stable correlation. However, even after the 17th year the coefficient is around 0.8 which shows that changes in relative rankings occur right to the end of the career.

For basic salary, variation begins in the 1955 two-years-of service cohort. That is to say the salary increase after the first year varies from person to person, but the rank order thus established changes over the following five years. Changes in ranking increase for the next three cohorts, and from the 1955 six-years-of-service cohort to the nine-years cohort, the same increase in changes in pay ranking occurs as was found in the grade ranking. Thereafter, the ranking becomes more stable and for cohorts later than 14-years-of-service, the coefficient gets close to 1.

Thus we find changes in rank ordering from the very earliest stages of careers with respect both to grades and to basic salaries, and after the quite extreme changes of the early years, in mid-career rankings stabilize, particularly the pay ranking, though the grade ranking continues to show changes. One can assume that this happens because when those who experience slow promotion finally reach a given grade, the people who were there before them already have higher wages and so there is no change in the salary ranking. Nevertheless, since there is some change in both grade and salary rankings right up to the 30-years-service cohort, one can safely say that competition continues right to the end of careers.

To summarize, career competition in Firm A is characterized by (i) competition for pay increases begins right from the point of entry into the firm. Most people are promoted in grade at the same time, but a minority remain without promotion for long periods; there is competition not to become one of the 'dropped-outs'; (ii) in the early stages of a career there is considerable change in individuals' rank-ordering within their cohort, but during this time variations in basic salary rankings diminish and tend to produce a more stable

ordering; (iii) although variations in rank achieved occur through the middle career period, the ranking in terms of pay moves towards stability but with differentials widening; but (iv) even towards the end of careers some changes in ranking occur, so there is always, until the end, something to compete for.

2. Firm B

To turn to Firm B, and again begin with the distribution by years of service within each grade, as Table 8 shows, there is no great dispersion in grades above 8, but in the lower grades it is more than 10 years – almost 20 in Grades 6 and 5. Again, if we look at the individual with the greatest length of service in each grade, for Grades 6, it is around 30 which suggests that some people do not manage to get promotion into Grade 7, which corresponds to the section-chief level. At the same time, the maximum length of service in the lower Grades 3 and 4 is over 10 years. The existence of relatively long-serving people in Grade 3 means that there is not automatic promotion even for the first step, and the “younger getting ahead” phenomenon is there from the start.

Next I examine the skewness and the kurtosis. With the exception of Grades 5 and 7, the higher up the grade scale you go, the lower becomes the skewness and the kurtosis, but Grades 5 and 7 show a different tendency from the other grades. In Grade 5 there are just a few outliers with long service, while most of the others are bunched together. This is presumably because Grade 6 is seen as the preparation for a section-chief position, and people deemed unsuitable for such positions have their promotions blocked at the previous stage. Again the high degree of both skewness and kurtosis in Grades 3 and 4 suggests the presence of a small number of longer-serving employees stuck in those grades (see Table 8).

Next, let us look at the changes in the dispersion of grades and of basic salary within years-of-service cohorts which I have plotted on a graph¹⁰ (see Figure 3). It will be obvious that in Firm B there is a wide discrepancy between grade differentials and salary differentials.

The dispersion of grade positions increases rapidly from the second to the fifth year of service. Beyond the 5th year there is basically stability in the range of the dispersion, though there is a slight increase from the 8th to the 10th year. Thereafter the dispersion diminishes slightly, though a good deal more than slightly in the 18th year, increasing slightly thereafter.

The basic salary distribution shows a tendency of gradual increase, but there are several things to note even within that tendency. The first is that the dispersion begins from year 2, slowly increasing until year 4. From 5 to 10 year's service it remains level, followed by a slight increase in year 11, and continuous growth thereafter as the years of service lengthen.

Next, in Figure 4, we have details of changes in rank orders from the second half-year of 1998 to the second half-year of 2003 for each year-of-service cohort. Analysing first by

¹⁰ The numbers in each cohort averaged 14.2 with a standard deviation of 9.4.

Table 8. Years-of-Service Distribution within Each Grade (Firm B, 2000)

Grade	Numbers	Average	Standard Deviation	Coefficient of Variation	Lowest Value	Highest Value	Range	Skewness	Kurtosis
Grade 10	2	31.5	0.707	0.022	31.0	32.0	1.0	0.000	1.000
Grade 9	9	28.3	3.354	0.118	24.0	33.0	9.0	0.115	1.719
Grade 8	12	25.1	2.503	0.100	22.0	29.0	7.0	0.556	1.788
Grade 7	37	23.6	4.481	0.190	16.0	31.0	15.0	-0.373	2.288
Grade 6	64	18.3	4.906	0.268	10.9	33.0	22.1	0.903	2.892
Grade 5	73	14.0	3.590	0.256	7.9	27.0	19.1	1.102	5.685
Grade 4	128	8.6	2.520	0.292	4.9	16.0	11.1	0.937	3.322
Grade 3	95	3.3	2.469	0.741	0.9	10.9	10.0	0.865	2.768
Total	420	12.2	7.927	0.652	0.9	33.0	32.1	0.633	2.624

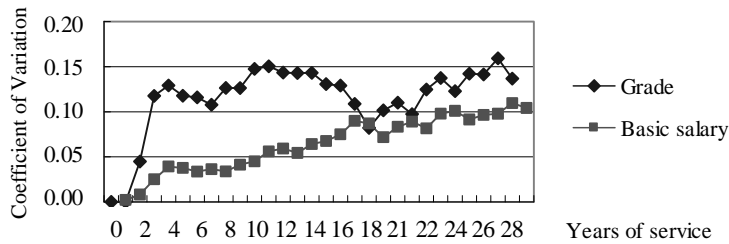


Figure 3. Differentials of Pay and Grade within Each Years-of-Service Cohort (Firm B, 2000)

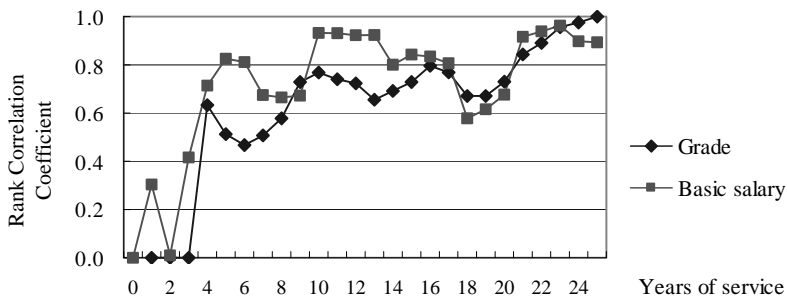


Figure 4. Spearman Rank Correlation Coefficient for Each Years-of-Service Cohort (Firm B)

grade, for the first three cohorts there is no coefficient calculated since the 1998 entrants remained for three years at the same grade. The rank correlation coefficient is calculated for subsequent grades. By the fifth year of service some have received one grade promotion and some two, thus generating changes in rank order. Particularly worth noting are the coefficients for the 4th to 9th years-of-service cohorts, those around the 13th and those around the 18th. In these periods one finds a V-shaped shift in the coefficients; they become smaller (i.e. more change) but then stabilize at a higher correlation. As in Firm A there is first a period with a good deal of change in individuals' speed of promotion, but then a settling down, reflecting, one presumes, differences in the speed of promotion to sub-section chief (*shunin* or *kakaricho*). Nevertheless, in spite of such episodes the general tendency is for the coefficient to rise with the age of the cohort, that is to say for the interpersonal ranking to stabilize after the cohort reaches its 22nd or 23rd year of service.

Looking next at salary rankings, coefficients can be calculated from after the first year of service in this case, and for year 2 the coefficient is extremely low—meaning that the evaluation in the second year is carried out with no reference whatever to that of the first year and so change in ranking is very great. In year 4 the coefficient rises considerably, but between years 6 and 10 one sees the v-shaped shift. The ranking, once established, remains stable and then stabilizes, reflecting, probably, changes in salary accompanying promotion to sub-section chief. From year 10 there is a period of relative stability, followed by further ranking changes between the 14th (to 19th) and the 20th (to 25th) year of service. This is the period in which lies the turning-point event of promotion to section chief where the central focus of competition is on how early one makes that grade. From the 18th year the coefficient grows; things settle down and relative rankings do not change greatly.

To summarize the picture for career competition in Firm B, (i) differential evaluations leading to differential pay levels start from the point of entry into the firm, and, as another source of competition, although grade promotion is simultaneous for most of the people in the cohort, there is competition not to be among the small number who are not promoted; (ii) in the early stage of the career there is fierce competition resulting in considerable changes in ranking, but a relatively stable ranking hierarchy becomes established via differential speeds of promotion to managerial positions; (iii) in mid-career that competition particularly hots up over promotion to section chief posts; (iv) but thereafter rankings are more stable with respect both to grade and to basic salary.

3. Firm C

Again I begin with the dispersions of years-of-service within grades (see Table 9). Grade 3 has nobody with many years of service, but there is at least one person with 10 years' service in Grade 4, indicating that promotion to Grade 5 is not automatic and later entrants can overtake earlier ones. The fact that the dispersion increases in Grades 5 and 6 shows that there are wide differences in the speed of promotion. As in Grade 4 with 10 years service as the upper limit the skewness and kurtosis of the distribution shows that the

great majority go up together but a minority is left behind. In Grade 7 there is someone with 32 years' service, someone that is, who has been prevented from entering the managerial grades which begin with Grade 8, Grade 7 being the grade in which selection for managerial ranks takes place.

Looking next at differentials within years-of-service cohorts,¹¹ in Firm C they increase both for grades and for pay steadily as people become more senior, but differently for the two measures.

For grades (see Figure 5) the differentials appear in the 5th year, grow until the 10th, and remain relatively stable until the 16th after which they begin to grow again reaching the greatest dispersion in the 23rd year. Thereafter there is a slight tightening of the dispersion and then a steady level. Again one assumes that this reflects differential speeds of promotion to sub-section and section chief posts.

For salary, the differentials start to appear in the 3rd year and slowly increase until the 15th year. Thereafter there is a rapid increase in dispersions until the 22nd year, after which they diminish—again one can assume this to be a function of differential speeds of promotion to managerial positions.

As for the stability of rank orderings, Firm C shows fewer changes than in either of the other two. The changes in rankings also tend to begin later in careers. This is presumably partly the effect of automatic promotion of everyone in the early grades.

The correlation coefficient for grades shows change as beginning from the 6th year of service, and then increasing (i.e., the coefficient is declining, competition is getting fiercer) until the 14th year. Thereafter rankings become more stable, but start shifting again to a peak degree of ranking change in the 20th year. Change continues, however, to the 29th year; there is no final period of stable rankings.

For salaries the change in rankings begins from the 5th year, but the coefficient rises to show lesser changes in ranking. However, one can discern a tendency for the rate of change to be slightly higher—i.e., for competition to become fiercer between the 8th and the 12th years, around the 16th and around the 21st year (see Figure 6), again presumably as a result of differential speeds of promotion to managerial positions.

So, to summarize these observations on competition in Firm C, (i) there is automatic promotion in the early years, but different speeds of grade promotion thereafter, with salary differentials appearing as a result of evaluation differences from the 3rd year. There is also a limited process of “dropping out” through delayed promotion; (ii) in the early part of the career, there is fierce competition to gain earlier promotion to sub-section chief positions, leading to sharp changes in ranking, though those ranking shifts are not as great as in the other two firms; (iii) In mid-career, competition for early promotion to section chief positions is the focus and interpersonal differences increase; (iv) rankings become relatively more stable in late career, though there are still some shifts in ranking.

¹¹ The numbers in each cohort averaged 15.0 with a standard deviation of 10.4.

Table 9. Years-of-Service Distribution within Each Grade (Firm C, 2000)

Grade	Numbers	Average	Standard Deviation	Coefficient of Variation	Lowest Value	Highest Value	Range	Skewness	Kurtosis
Grade 12	35	27.9	3.081	0.110	21.0	33.0	12.0	-0.567	2.322
Grade 11	30	24.9	4.744	0.191	19.0	33.0	14.0	0.306	1.799
Grade 10	31	24.0	4.929	0.205	18.0	33.0	15.0	0.157	1.518
Grade 9	19	21.2	5.287	0.249	17.0	33.0	16.0	1.202	2.836
Grade 8	43	16.4	3.471	0.212	13.0	27.0	14.0	1.825	6.002
Grade 7	48	16.0	5.623	0.351	11.0	32.0	21.0	1.864	5.189
Grade 6	82	11.1	3.436	0.310	8.0	30.0	22.0	3.285	15.569
Grade 5	90	8.1	1.197	0.148	6.0	12.0	6.0	0.543	3.685
Grade 4	51	4.5	1.554	0.348	3.0	10.0	7.0	1.671	6.542
Grade 3	11	2.0	0.000	0.000	2.0	2.0	0.0		
Total	440	14.2	8.316	0.587	2.0	33.0	31.0	0.690	2.421

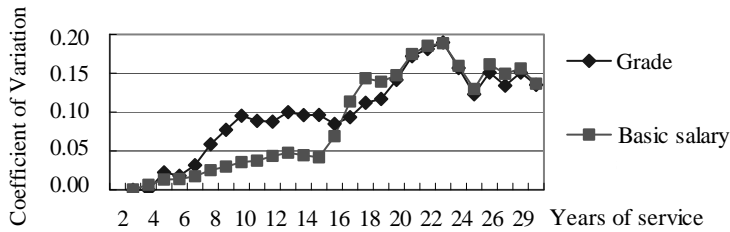


Figure 5. Differentials of Pay and Grade within Each Years-of-Service Cohort (Firm C, 2000)

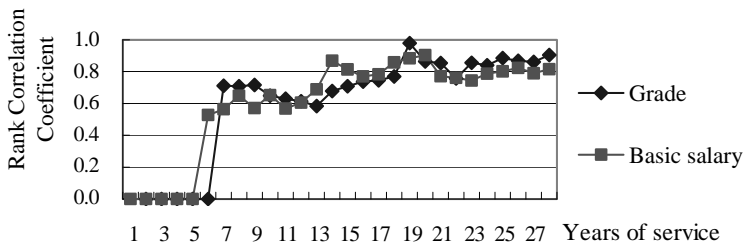


Figure 6. Spearman Rank Correlation Coefficient for Each Years-of-Service Cohort (Firm C)

4. Career Competition in the Three Firms

The common elements in all three firms are as follows. In the early stages, for the first few years of a career the competition focuses on getting evaluations that yield higher salary increases, and also on getting earlier grade promotion. In firms A and B not everybody is automatically promoted to the second grade, and even in firm C, some are promoted ahead of others from the second to the 3rd grade. This produces a small minority of people who are held back, right from the first or second grade promotion hurdle. The competition not to be “dropped out” starts early.

In the early stages, promotion to the sub-section chief positions occurs earlier for some, later for others. In this period there can be changes in individuals’ ranking within their entry cohort, but these changes diminish once this period is passed, but the stable ranking is of differences in both grade and salary which are increasing. One can assume that this is the period when people who are thought to be suitable for managerial positions are being sorted out from people who are not.

In mid-career the difference lies in earlier or later promotion to a post as section chief. There are fewer changes in ranking as compared with the earlier competition for sub-section chief posts, but nevertheless rankings for both grade and salary do to some extent shift, and differentials in both dimensions increase.

By late career, rankings tend to stabilize. In two of the firms the dispersal of both grades and salaries increases and in the other decreases. There is also some shift in the rank order of individuals at A and C after long years of service, (though not at B) indicating that there is no final stable state.

To put these findings in the context of earlier studies, first they differ from earlier studies in discerning competition already at the beginning and in the early stages of careers. Earlier studies have stressed “*nenko*-style everyone up” promotion, “marching in step” promotion, but I have found marching-in-step promotion for the great majority, accompanied by competition not to be “dropped out” and the creation of a small group of long-term laggards. Again, in the early stage of a career, there is competition for early promotion to sub-section chief posts. Earlier studies have put the “point of first selection” at between the 5th and the 12th year, but I would put the emergence of differential promotion speeds at the earliest point ever mentioned by previous studies.

Secondly, I have been able to confirm that in mid-career the focus of competition is on early promotion to a section chief position which is what earlier studies refer to as “promotion speed competition.”

Thirdly, as far as the later period of careers is concerned, rankings of individuals by both grade and salary change relatively little. But in two firms there was still some change. That is to say that competition in the later stages of careers is not only tournament competition, but involves also small ranking changes in which some overtake others. Given the relatively small number of earlier studies of this career stage, this can be counted as one of this study’s discoveries. One can sum up by saying that in Japanese firms of this size—not

quite big enough to be counted as large corporations—there is consistently fierce competition from the beginning to the end of careers.

VI. In Conclusion

In this paper we have examined the micro-data of three firms in order to grasp the reality of career competition within them. I have ascertained that (i) there is competition not to be “dropped out” at the beginning and in the early stage of careers; (ii) that there is competition to get appointed to the position of sub-section chief earlier than others; (iii) that in the middle stages of the career there is competition for early promotion to a position as section chief; (iv) that even in the later stages competition does not cease; some people can still compete to overtake others.

This picture of career competition differs from that of earlier studies, particularly in stressing the “drop-out” process and in pointing out that in the competition for positions as section chief some people never succeed and remain unpromoted.

If one asks the reason for the competition not to be “dropped out” in the early stages of a career, the explanation probably goes as follows. The university graduates who are recruited to firms of this size show a very wide dispersion of ability. Compared with large corporations, the resources they can devote to the recruitment process are limited. The largest corporations can choose among a selected group of talented graduates, and firms like those I studied have to be content with those who are left over, which probably means that the variation in ability is very great. There are likely to be some among them who are not likely to become candidates for managerial positions. In such cases, early differentiation of treatment may be seen as a signal indicating the hope that people would voluntarily leave the firm. And by several selection phases at an early stage the firm can rigorously select the candidates for managerial positions. These are certainly possible interpretations.

As for the reason for maintaining competition until the latest stages of a career, one can see it as a means of continuing to evoke effort until the very last. It is best indefinitely to postpone the conclusion of a competition, otherwise it becomes difficult to get people to put out their best efforts. If even those who have lost out at earlier stages can still compete for advancement, employees can be motivated to use the best of their abilities to the very end of their careers.

Competition of this sort is reminiscent of the marathon. The runners start off all bunched together; gradually a few become stragglers; they separate into clusters. The top runner is competing in the top-runner group; the second-rank runners in the second-rank group. For those in the tail-end group it is a matter of struggling to get there before the close-out time. Matsushige (2005) did well to name this the “career marathon.”

What was hitherto the predominant image of Japanese practices, namely the initial marching-in-step followed by later selection, was established by studies predominantly in large corporations. As this study has demonstrated in enterprises smaller than large corpora-

tions, a different pattern of competition prevails.¹² That is to say that career competition in Japanese enterprises may be much more diverse than has hitherto been thought to be the case. Consequently, when generalizing about career competition within organizations, one needs to consider carefully such factors as type and scale of the enterprise. And if the creation of pay differentials through the evaluation process functions as a work incentive, one needs also to consider the delicate interaction between competition for grade promotion and competition for a higher salary.

This paper has been about career competition in firms smaller than large corporations. The reality which it has revealed may be to some extent generalized. Whether that is so or not depends on the accumulation of many more studies to which I hope to contribute.

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¹² If one were to use the methods employed in this study, it might transpire that a similar pattern was found even in large corporations. That possibility must remain open as a subject of future research.

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