

Changes in “Educational Credentials” when Recruiting Employees: Analysis of Employment Advertisements from the 1950s to the 1970s

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1. Introduction

This paper analyzes educational credentials as criteria for employment during high economic growth in Japan from the 1950s through the 1970s. Using data from newspaper job advertisements, I will examine how educational backgrounds sought by companies changed in this period.

Research on educational credentials is a classic and self-generated theme in the sociology of education (Shimizu 1957, Shinbori 1966), and a great variety of studies have been conducted. The importance of research into educational credentials can be seen in the dictionary compiled by the Japan Society of Educational Sociology (2018), which includes three entries on academic background (“Marriage and Educational Credentials,” “Selection in Educational Credentials Societies,” and “Development of Educational Credentials Societies”). However, the perspective from the employer’s side, i.e., education as a condition for employment, has not received much attention.¹

In the sociology of education in Japan, the study of educational credentials flourished in the 1970s and early 1980s. At the time, a number of books were published dealing with entry into job market and promotion in the internal labor market. During this period, however, employers’ views of educational requirements rarely came up as the subject of research. So, how do employers position educational credential as a condition for employment, and how has this position changed? Changes in educational requirements for employment are a simple but overlooked area of study.

In this paper, I will analyze educational credentials as a criterion for employment, focusing on the period of high economic growth in Japan. Japanese society experienced, mainly in the 1960s, two parallel expansions: expansion of opportunities for high school education and expansion of opportunities for employees (or manual labors) (Gordon 2003), a phenomenon not seen in the West (Kariya 2015). In some ways, this unique experience may have led to a marked change in the recruitment conditions. To understand details of conditions of employment during that period, I examined newspaper job advertisements.

First, from a review of studies on educational requirements for employment, I present my analytical perspective as well as the significance of using job advertisements (section 2). Then, after giving an overview of the data (section 3), I empirically examine the changes in educational requirements for employment (section 4). Finally, I summarize our findings (section 5).

2. Analytical Perspectives and Data Characteristics

2.1 Focus on Job Ads

In analyzing credentials societies, there are two main perspectives: “the impact of education on social status” and “education as a selection criterion” (Hirasawa 2014). The former is the perspective of employees, and the latter is one of employers; depending on which perspective to take, the view of credentials societies may differ. Nevertheless, it is possible to discuss credentials societies without making a strict distinction between the two by assuming that they often coincide in recruitment and promotion situations.²

In Dore’s classic study of credentials societies, *The Diploma Disease* (1976), he argued that a sign of educational inflation was not only the increase in the educational level of job applicants but also the increase in the educational requirements for employment. However, the actual analysis only touched on a few examples of employment conditions and did not necessarily reveal how the educational requirements for employment have changed.

In this context, Jackson et al. (2005) is a noteworthy study that approaches changes in recruitment conditions based on job advertisements (Jackson 2001). His aim was to explain the decline in the effect of education on occupational attainment, but the challenge is to treat job advertisements in a cross-sectional manner to depict changes in employment conditions.

Referring to this study, it may be possible to capture changes in educational credentials by dealing with job advertisements at multiple points in time. Of course, in Japanese society, the recruitment of new graduates is regarded as the norm in occupational transition, and job advertisements have rarely been the target of analysis. Nevertheless, analyzing job advertisements is a fundamental step in assessing the value of educational requirements in recruitment.

2.2 Basic Assumptions about the Conditions of Employment

What are the keys to understanding changes in educational requirements for employment? The signaling theory and the job competition model provide some clues.

Theoretical considerations of educational credentials from the employer’s point of view have been raised mainly in economics. In the signaling theory, which assumes imperfect information in the labor market, employers should use observable signals to estimate productivity of job applicants (Spence 1974). In addition, in Thurow’s model of job competition, education is treated as an essential signal of trainability (Thurow 1975).

In these discussions, educational background is assumed to be a signal for estimating the productivity/trainability of job applicants. However, there is no theoretical basis for the absolute validity of the link between educational requirements and productivity/trainability (Arita 2006), and employers do not rigorously test such links (Labaree 2010). The relationship between educational background and ability is merely an assumption, and the estimated ability will be different if employers’ assumptions are changed. Of course, the validity of the above theories is not lost. I want to consider whether these assumptions will change with adjustments to educational opportunities and the labor market.

2.3 Change in Assumptions

How did employers’ assumptions change during high economic growth in Japan? I will consider this in two ways: the expansion of education and changes in labor management.

The first assumption is educational expansion. Spence mentions a change in employers’ views of signals (Spence 1974),³but Thurow describes the change in detail. Central to the job competition model is the relative position in the job queue, and as the structure of educational opportunities changes so does the position. For example, an increase in the number of university graduates lowers the relative position of high school graduates in the job queue, and employers raise the educational level for employment. This argument (thought experiment) predicts that the expansion of education and rise of educational requirements for employment will change in tandem, but it develops under the assumption that “all college workers are preferred to all high school workers, who in turn are preferred to all grade-school workers” (Thurow 1975, p. 115). However, there may be a gap between Thurow’s thought experiment and Japan’s experience during its period of rapid economic growth.

It is well known that educational opportunities expanded dramatically during high economic growth in Japan. The high school enrollment rate was 50.9% , and the university enrollment rate 7.9% in 1954, but toward the end of the period of rapid economic growth, the high school enrollment rate exceeded 85%(i.e., 87.2% in 1972), and the university enrollment rate was more than 20% (i.e., 21.6% in 1972). In less than 20 years, the university enrollment rate almost tripled, but the most striking change was the high school enrollment rate. Whereas in the early 1950s, half of all young people had a secondary school education, in the 1970s, most young people went to high school, and high school diplomas became the minimum standard (Gordon 2003). In this context of educational expansion, one would expect that educational requirements for employment would also rise, as in Thurow’s thought experiment, but in reality, this was not the case.

For example, in manual jobs, junior high school graduates were preferred even in the early 1960s (Kurauchi 1963), and high school graduates were only hired as a last resort because of the decline in the number of junior high school graduates (Honda 2005). As this example shows, there is a potential gap between educational expansion and educational requirements for employment.

The second assumption is labor management. As has been pointed out many times, in the 1950s, Japanese companies tried to introduce modern, job-centered labor management (such as job-based pay) to break away from traditional labor management (the seniority system). In the early 1960s, however, the scope of jobs was ambiguous in a system based on long-term employment, and the difficulty of job-centered management was identified (Hyōdo 1997). In the early 1960s, the labor policy advocated for job-based pay and a cross-sectional labor market, but in reality, the movement toward the reconstruction of the seniority system became more active (Inui 1990, Nomura 2007, Oguma 2019). At that time, Nishikawa pointed out that academic background had to become the standard for ability assessment in Japanese companies, which were not as familiar with job-specific ability assessment as in Europe and the United States. He also argued that, because long-term employment was a prerequisite, the evaluation of adaptability and potential in recruitment had to be based on the traditional seniority system (Nishikawa 1963, 1964).

As Japanese companies moved toward meritocratic management, they began to look for “flexible adaptability” (Kumazawa 1997). Under these circumstances, it may have been not easy to introduce new, non-traditional recruitment criteria. There were no criteria for assessing ability other than

academic credentials (Oguma 2019), and from the mid-1960s onward, the significance of educational requirements in recruitment may have been strengthened.

From the above, analysis issues are as follows. The first is the relationship between educational expansion and educational requirements for employment. Did the increase in the high school enrollment rate correspond to an increase in educational requirements for employment? If it did, I would expect to see a consistent upward trend in educational credentials during the period of rapid economic growth. However, considering the example of manual jobs, there would be no one-to-one correspondence between the two.

The second is the link between changes in labor management and educational requirements for employment. In the move toward meritocratic management, employers may have become more conscious than before of the significance of academic backgrounds in recruitment. If this is the case, then I should expect to see a sharp increase in educational requirements from the late 1960s onward.

Concerning the above two issues, I examined the changes in the conditions of employment from the 1950s to the early 1970s.

2.4 Analysis of Geographic Areas

This paper's analysis was limited to one region, as job advertisements are targeted at a specific area. In selecting a region, it was necessary to consider trends in educational opportunities and the labor market. Specifically, I chose regions with similarities to the national changes regarding the high school enrollment rate and the occupational structure. As a result, Aichi Prefecture was selected as the region for analysis.

Figure 1 shows the changes in the high school enrollment rate in Japan and in Aichi Prefecture from 1955 to 1980, and I can see that the rate Aichi Prefecture is similar to the national average.

Next, I inspected the changes in Japan and Aichi Prefecture from 1950 to 1975 through the lens of the distribution of occupations (Figures 2 and 3). Figure 2 indicates that before the period of rapid economic growth, almost half of the workers were engaged in agriculture, forestry, or fishery. However, during that period, the proportion of this category decreased significantly, and the proportion of sale and service workers, and craft workers increased. In Aichi (Figure 3), the change trend is almost the same, although there are some differences in the proportions.⁴

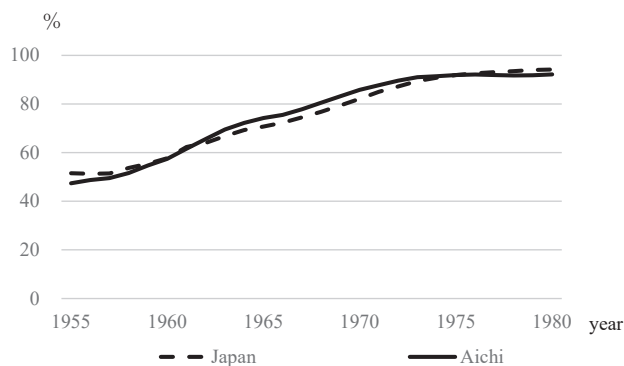


Figure 1 Annual High School Enrollment Rate (Japan and Aichi)

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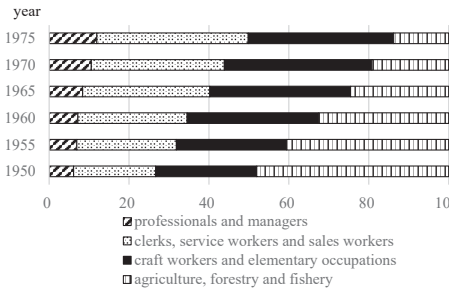


Figure 2 Changes in Occupational Distribution (Japan)

Source: Japanese Census

Note: Excludes “unclassifiable occupations”

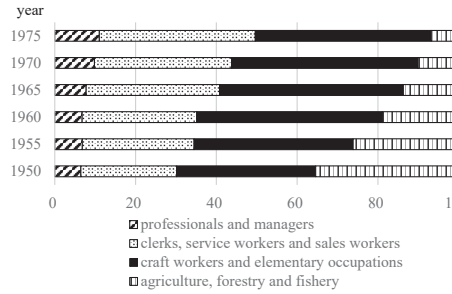


Figure 3 Changes in Occupational Distribution (Aichi)

3. Data

3.1 Materials and Samples

The data used for my research were collected from job advertisements published in *Chunichi Shimbun*, which was selected because of its high readership in Aichi Prefecture. *Chunichi Shimbun* reported a readership rate in Aichi Prefecture in 2015 of over 60%, which was significantly higher than the readership rates of national newspapers such as the *Asahi*, *Yomiuri*, and *Mainichi* (10.0%, 2.6%, and 1.1%, respectively) (Chunichi Group Media Guide 2016).

Although it would have been desirable to compile data on all job advertisements in newspapers, this would have taken a huge amount of time and effort, so I have limited my research to the advertisements appearing on the first and third Sundays of the month, every three years from 1951 to 1972.

Because of the limited space available in job advertisements, there is a limit to the employment conditions listed. However, the information contained therein is considered to be essential to employers (Jackson 2001). The primary data identified were the type of employment,⁵ occupation, salary, location, age, experience,⁶ qualifications, and education. If an advertisement did not contain any of the above items, it was treated as “not listed.” If more than one occupation was listed in a single advertisement, each was counted separately. The above results are shown in the “Input” row of Table 1.

Since the information provided in job advertisements varies widely, I excluded from my analysis those advertisements that did not meet certain conditions, such as those that did not include any information on age, experience, qualifications, or education, to extract a reliable picture of possible changes in recruitment conditions. In addition, I analyzed only those advertisements in which “male” was a condition of employment. The result is displayed in the “sample” row shown in Table 1.

Table 1 Data

year	1951	1954	1957	1960	1963	1966	1969	1972
Input	519	1287	1943	2815	4358	4477	4679	3590
sample	42	303	476	550	942	1129	1110	825
extraction rate	8.1	23.5	24.5	19.5	21.6	25.2	23.7	23.0

3.2 Variables

In my analysis, I categorize occupations into three categories: (i) professionals and managers, (ii) clerks, service workers, and sales workers, and (iii) craft workers and elementary occupations. Although the proportions of occupations vary slightly from period to period (Table 2), in all periods (ii) clerks, service workers, and sales workers and (iii) craft workers and elementary occupations are the majority of the sample.

Table 2 Occupation

<i>year</i>	1951	1954	1957	1960	1963	1966	1969	1972
<i>professionals and managers</i>	4.8	5.3	4.6	8.9	9.0	7.3	11.0	11.9
<i>clerks, service workers and sales workers</i>	73.8	51.5	41.0	37.5	42.1	40.5	51.4	51.6
<i>craft workers and elementary occupations</i>	21.4	43.2	54.4	53.6	48.8	52.3	37.6	36.5

Educational backgrounds are categorized into four categories: no educational background, junior high school graduate, high school graduate, and over high school graduate. Specifically, “no educational background” and “no previous education” were classified as no educational background. Higher levels of education than high school diplomas, such as university graduates or junior college graduates, are classified as over high school graduate level. When no education was given, it was classified as not listed.

The other categories are as follows: reference (i.e., whether the identity guarantee is stated or not), experience (i.e., whether the working experience is stated or not), and age (i.e., whether the requirements of age are stated or not).

4. Results

4.1 Changes in Recruitment Conditions

How did the conditions of employment demanded by companies change during rapid economic growth?

Let us start by looking at the changes in the conditions of employment. Figure 4 shows the changes in the conditions of reference, experience, age, and education. In the figure, the rate for age is higher than that for the other criteria, at around 80% each year, indicating that age is the most crucial factor in recruitment. Reference was 31% in 1951, but gradually dropped beginning in 1963. Experience is low, although it fluctuates from year to year. The details of the educational level (junior high school graduate, high school graduate, etc.) will be analyzed later, but in this analysis, the values indicate an almost flat trend from the 1950s to the mid-1960s, but a sharp increase in 1969 (from 32.0% in 1966 to 50.3% in 1969).

The above results may differ between occupations, so the changes in conditions of employment should be checked by occupational category. However, as the sample of professional and managerial workers is negligible (Table 2), two groups will be addressed below: clerks, service workers, and sales workers and craft workers and elementary occupations.

The changes in employment conditions in clerks, service workers, and sales workers are indicated in Figure 5. Age is similar to Figure 4, and experience is consistently low. Reference was

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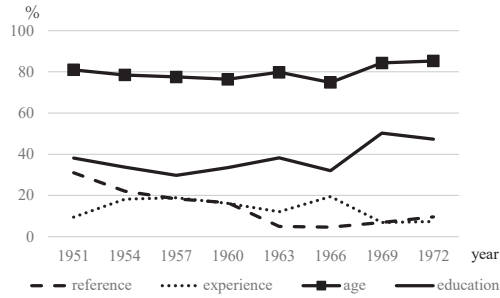


Figure 4 Changes in Recruitment Conditions

35.5% in 1951 but declined sharply, falling to 5.8% in 1963 and remaining below 10%. Education has increased from 1951 to 1954 (from 38.7% in 1951 to 50.0% in 1954) and further increased in the late 1960s (from 47.7% in 1966 to 63.4% in 1969). In the case of clerks, service workers, and sales workers, it appears that reference decreased from the 1950s to the early 1960s and became less important in recruitment, while education increased in the late 1960s and became more important.

The result in craft workers and elementary occupations is indicated in Figure 6; in the figure 1951 was excluded from the analysis because of the small sample size (9 samples). Age is higher than other criteria. This suggests that age is also an important condition for craft workers and elementary occupations. Experience had the second-highest value after age until the mid-1960s. However, from 1969 onward, the value fell, dropping to the 10% level. Education was lower than experience until 1966. However, after 1969, it increased, replacing experience (from 16.1% in 1966 to 24.9% in 1969).

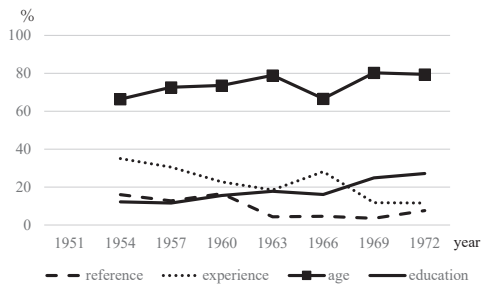


Figure 5 Changes in Recruitment Conditions of Clerks, Service Workers, and Sales Workers

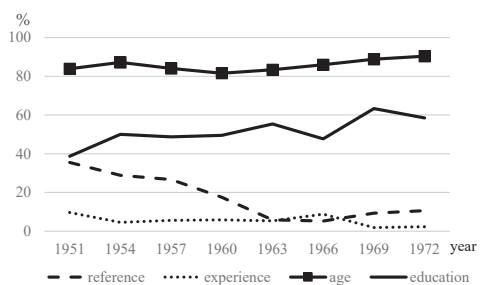


Figure 6 Changes in Recruitment Conditions for Craft Workers and Elementary Occupations

Concerning changes in conditions of employment, different trends were observed in different occupations. For example, age was consistently an essential condition for both clerks, service workers, and sales workers and craft workers and elementary occupations, but in the case of reference, experience, and education, the trends were different. In clerks, service workers, and sales workers, reference was an important condition in the early 1950s but later became less important. In contrast, education remained a vital condition to a certain extent until the mid-1960s and became even more important in the late 1960s.

In the case of craft workers and elementary occupations, experience was an important condition from the 1950s to the mid-1960s, but its importance declined from the late 1960s onward. In its place,

education has become an essential condition.

4.2 Changes in Educational Credentials

In the following, I will divide educational backgrounds into four categories, namely, no educational background, junior high school graduate and high school graduate and above, and analyze the changes in these categories from two perspectives (the increase in the high school enrollment rate and changes in labor management).

Figure 7 shows the changes in education for clerks, service workers, and sales workers, broken down into four categories. Figure 5 shows that education did not change significantly from the 1950s to the mid-1960s, but looking at Figure 7, I can see that the situation was very different. In 1954, nearly 40% of companies required a junior high school degree as a condition for employment, but by the early 1960s, this had fallen sharply. On the other hand, the proportion of companies requiring a high school degree had risen (from 9.0% in 1954 to 38.8% in 1963). In response to the increase in the high school enrollment rate, the value of high school diplomas increased rapidly during only 10 years. Moreover, the increase stalled in 1966 and rose again in 1969.

Let us examine craft workers and elementary occupations (Figure 8) in a similar way. Again, all figures are generally low, but combining the values of junior high school graduates and no educational background, I can infer that, from the 1950s to the early 1970s, a certain number of companies required junior high school diplomas as a condition for employment. The results in Figure 8 reflect the fact that even as the high school enrollment rate rose, junior high school diplomas were still required for manual jobs. In the 1970s, however, there was a significant increase in the proportion of high school diplomas (from 1969 to 1972).

As I have seen above, with the rise in the high school enrollment rate, junior high school diplomas were replaced by high school in a short period. However, given that the rise of high school diplomas subsequently came to a halt and then rose again, I suspect that in addition to the rise in the high school enrollment rate, changes in labor management may have had an impact.

On the other hand, in craft workers and elementary occupations, educational backgrounds did not rise quickly, and high school diplomas gradually increased until the mid-1960s. It can be interpreted that with rapid educational expansion, there was not necessarily an increase in educational requirements. In the 1970s, however, high school diplomas rose sharply. It is possible that this was not simply a result of the growth of opportunities in high school but that changes in labor management affected educational requirements.

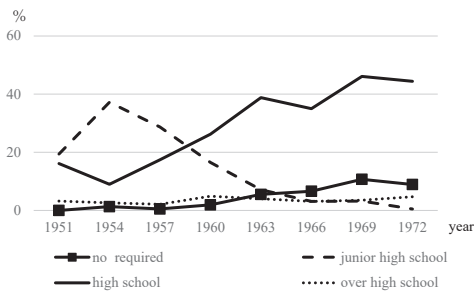


Figure 7 Changes in Educational Backgrounds of Clerks, Service Workers, and Sales Workers

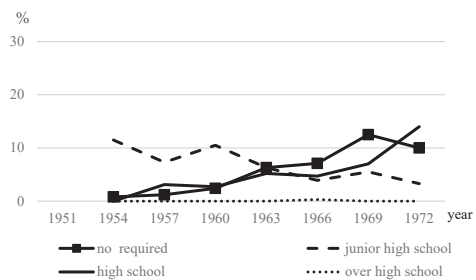


Figure 8 Changes in Educational Backgrounds of Craft Workers and Elementary Occupations

Although I have analyzed the results for each occupational category, it is easy to imagine that the conditions for employment also differed according to firm’s size. I, therefore, divided the sample in Table 1 by firm size and examined the changes in educational requirements for employment (large companies = 300 or more employees, small and medium companies = 299 or fewer employees).⁷

In all the years sampled, the percentage of high school graduates is the highest in large companies (Figure 9). In large companies, high school graduate was the predominant requirement in the early 1950s, and the percentage was on the rise, but this trend came to a halt in the mid-1960s. However, from the late 1960s to the early 1970s, high school diplomas rose again.

For small- and medium-sized enterprises (Figure 10), unlike large companies, in the 1950s, the most sought-after educational conditions were junior high school diplomas. However, this trend gradually diminished, and high school diplomas were sought instead. By the 1970s, all types of companies desired highly educated employees.

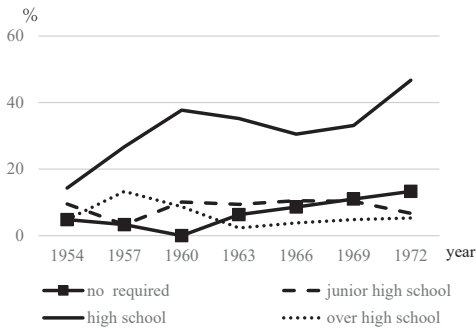


Figure 9 Changes in Educational Backgrounds of Large Companies

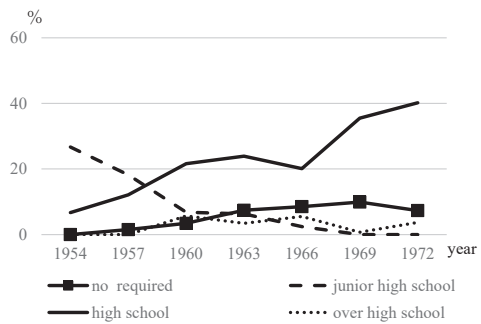


Figure 10 Changes in Educational Backgrounds of Small- and Medium-sized enterprises

5. Conclusion

Using job advertisements as data, I examined changes in recruitment conditions during rapid growth. Here is a summary of my findings.

The first finding is the change in the conditions of employment. This paper examined changes in the conditions of employment in two occupational categories, and in both cases, age was consistently an essential condition. However, there were differences in other conditions. For example, until the early 1950s, identity guarantee was the second most crucial condition for the clerical, sales, and service sectors, and until the mid-1960s, work experience was the second most important condition for manufacturing industry, after age. From the 1960s onward, however, these conditions declined in importance (identity guarantee from the late 1950s onwards).

The second is the change in educational requirements. The proportion of educational backgrounds in advertisements has risen, replacing identity guarantee and work experience, and has become an important condition for employment. However, when the detailed requirements were examined, differences were observed in two occupational categories. For clerks, service workers, and sales workers, the number of companies requiring high school diplomas increased rapidly from the late 1950s to the early 1960s, along with the rise in the high school enrollment rate; for craft workers and

elementary occupations, such growth was slower over the same period. In addition, with the rapid expansion of secondary education, many employers in the service sector raised educational backgrounds for employment from junior high school diplomas to high school ones, while many employers in the manufacturing sector did not.

Furthermore, from the late 1960s onwards, a common trend was observed in which high school diplomas became a necessary condition for employment in both categories. It may have been due not only to the rapid educational expansion but also to changes in labor management. In other words, employers' perspectives on education may have changed between the early and late 1960s. Of course, I do not have the materials to examine why the view of education changed during this period. It would have to be clarified using the labor management data of the period.

By using job advertisements, it is possible to observe, employers' views on the relationship between educational credentials and ability. Different results may also be observed in different regions. One limitation of this paper is that its analysis is drawn from a single case study of Aichi Prefecture; future studies should examine various regions as case studies.

Notes

- 1 Although there are studies that refer to the institutionalization of Japan's credentials society using the conditions of employment in the pre-war period as data (Kinmonth 1981, Amano 1992), there are few studies that deal with the conditions of employment itself.
- 2 Hirasawa (2014) points out the difficulty of verifying educational requirements for employment with data.
- 3 Spence (1974) states that it is not interesting to end with the assumption that employers estimate the productivity of job applicants from their educational backgrounds. After hiring, employers have the opportunity to verify the relationship between productivity and educational backgrounds by witnessing their employees. It is assumed that views on education may change based on experience.
- 4 Figures 3.1 to 3.3 show the changes in occupational distribution in Tokyo, Kanagawa, and Osaka Prefectures, which, like Aichi Prefecture, are urban areas. In Tokyo and Osaka, agriculture, forestry, and fishery had already become a minority industry before the period, and the proportion of manufacturing industry did not increase significantly during high growth. On the other hand, Kanagawa shows changes similar to those seen in Japan and Aichi Prefecture. Regarding the composition of occupations, the urban areas also show different trends.

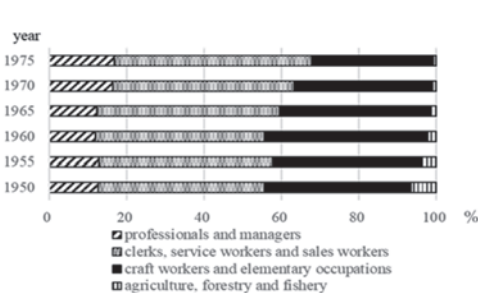


Figure 3.1 Changes in Occupational Distribution (Tokyo)

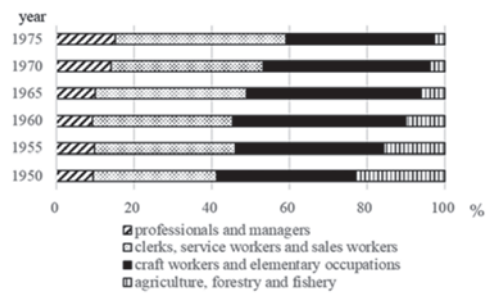


Figure 3.2 Changes in Occupational Distribution (Kanagawa)

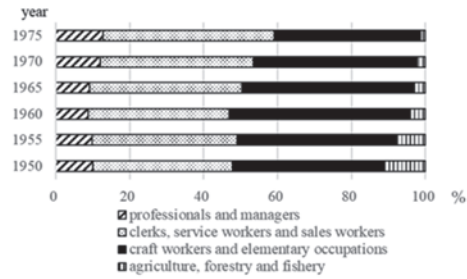


Figure 3.3 Changes in Occupational Distribution (Osaka)

- 5 Part-time jobs were excluded from the input.
- 6 The term “experience” refers to the work-related experience as a requirement for employment and excludes ambiguous terms such as “experience preferred.”
- 7 I used the Chubu Handbook (1963 and 1964 editions), which contains information about firms when determining firm size. The procedure was to match the names of the companies in the input sample (Analysis Sample in Table 1) with those in the Chubu Yōran and to input the number of employees for companies judged to be identical. As a result, the number of samples is shown in Table 3. The available sample is not necessarily significant, ranging from 16% to 32% of the total (i.e., the analyzed sample), but specific trends can be discerned.

Table 3 Sample by Firm Size

year	1954	1957	1960	1963	1966	1969	1972
sample	303	476	550	942	1129	1110	825
large company	21	30	69	128	105	145	75
small and medium-sized Company	30	66	88	176	164	141	82

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