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**The Role of Public Employment Services in a
Developing Country:
The Case of Japan in the Twentieth Century**

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**THE ROLE OF PUBLIC EMPLOYMENT SERVICES IN A DEVELOPING
COUNTRY:
THE CASE OF JAPAN IN THE TWENTIETH CENTURY**

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Abstract (312 words)

Like all developed and developing economies, Japan struggled with labor market issues in the process of industrialization. The Public Employment Service (PES) was probably the only countermeasure of the Japanese government before 1938, since other labor market policies such as minimum labor standard, unemployment insurance, and unionization were highly restricted by the political climate. In this article, we discuss the importance of the institutional arrangements of the PES by examining the developing stage of the Japanese labor market. In Japan, the PES was first institutionalized officially by the Employment Exchange Act in 1921. In the wake of the Kanto earthquake disaster in 1923, the PES played a substantial role in the recovery process, which implies the capacity of the PES to reduce unemployment even in a developing economy. However, under normal economic circumstances during the 1910s and 1920s, the institutional arrangement of the PES—namely, the financial backbone of the government and the nationwide network—was not effective as shown by anecdotes and ad hoc surveys. The statistical analysis of the matching function clearly shows that the PES, at least during the 1920s, had a fundamental problem—lacking long-term relations with other economic agents. Finally, improvements were made in the PES during the 1930s to cope with the economic crisis from the Great Depression. Such improvements were realized by incorporating already-existing networks of organizations that spontaneously emerged at the grassroots level. By 1938, when the Employment Exchange Act was revised to abolish private agencies, some PES centers had already absorbed nearby private networks and the matching technique of the PES was almost the same as that of private agencies. An ad hoc physical and financial investment by the government may not lead to the provision of efficient public services, and it is important to recognize that labor market policies are based on a long-term relationship among the PES, job seekers, and employers.

Keywords: public employment agency, private employment agencies, labor market intermediaries, matching function, Kanto earthquake

JEL codes: J68, N35, O15

1. Introduction

Labor market institutions have been generally regarded as an important determinant of efficient economic performance and welfare distribution in an economy. However, there is no consensus regarding what kind of policy positively affects the economy in relation to its cost (e.g., Botero et al., 2004). For example, the sovereign debt crisis in European countries since the middle of the 2000s revealed the challenges of agreeing on priorities in labor market policies when the government budget is strictly constrained.

The intricacy of labor market policies is mainly due to the complex relation among policies themselves, which are usually divided into four dimensions. First, the mandatory provisions of labor contracts determine the minimum level of wages, the maximum hours of work, and other important items of contracts. Generally, a simple mutual agreement between an employer and employee cannot escape from legal provisions; in other words, the restriction on freedom of contracts is the fundamental root of labor market policies. Second, policies that provide income support for disadvantaged people, typically provided by unemployment insurance, are often referred to as “passive” labor market policies. Based on a normative tradition of poverty relief, most societies have historically constructed a safety net in terms of income. Recently, it has expanded in coverage to social assistance for the unemployed, disabled, etc. Third, “active” labor market policies involve the solving of inefficient mismatches in labor markets by intermediating demand and supply by public employment offices and other entities. Occasionally, this involves vocational training of job seekers, who can then obtain skills that meet the potential demand of employers. Fourth, a set of institutions for collective bargaining is also included in labor market policies.

As governments prepare labor market policies bearing in mind all the categories mentioned above, it is not easy to isolate the effect of a single institution. A typical example is numerous econometric evaluations of unemployment benefits and vocational training. Although economists have attempted to exploit carefully designed experimental circumstances, they have not yet reached an unambiguous consensus (Card et al., 2010). These trials indicate that it is difficult to simultaneously control for the four policy dimensions mentioned above in sophisticated societies. Given such difficulties, a historical review provides an alternative means of understanding and evaluating the role of labor market institutions in the process of economic development. Before the 1930s, labor market institutions were much simpler even in the most

industrialized economies, including the US, the UK, France, and Germany. In addition, their economic circumstances had some similarities to certain developing and emerging countries of today, which allows us to deduce some practical policy implications from their historical experiences.

In this article, we examine the role of the Public Employment Service (hereafter the PES) in the development of labor markets in the beginning of the twentieth century in Japan. The advantages of examining the Japanese case before the Second World War is twofold: it is a successful experience of economic development prior to the Second World War and was the only labor market policy instrument at the time. As is well documented in the Organization for Economic Co-operation and Development (OECD) (1995), Japan was a typical underdeveloped economy when it opened its economy to the world in 1858. Having avoided the wave of colonization by western countries, Japan boosted its productivity and accumulated economic wealth, and finally succeeded in being regarded as an industrialized country by the 1920s. However, the Japanese government had failed to promote labor market policies until its occupancy by the US in 1945. Because the Japanese Factory Act—enforced in 1916—was mainly concerned with women and children’s working conditions, the only comprehensive labor market policy before wartime was the PES, enacted in 1921. Such a historical environment provides us a good ground for examining the importance of a PES in a developing economy and its experience is indicative of the practical pitfalls of organizing a PES.

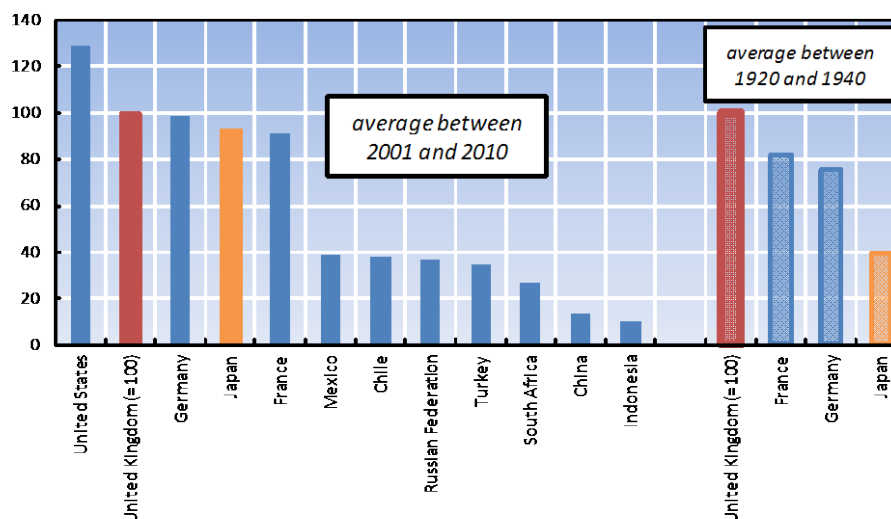
The remainder of this paper is organized in the following manner: In Section 2, we introduce the economic and labor market circumstances between the 1910s and the 1930s in Japan. In Section 3, we document the institutional development of the PES from the 1920s onward, and in Section 4, we present an econometric evaluation of the role of the PES. In Section 5, we further examine the evolution of the PES network by providing the example of the silk reeling industry. In the last section, we present some concluding remarks.

2. Economic Development and Unemployment at the Beginning of the Twentieth Century in Japan

OECD (1995) offers useful benchmark statistics to compare the economic development across countries for the year as well as in the long run. Apart from several caveats regarding the

aggregation methodology, the following estimates show the relative position of the Japanese economy since the beginning of the twentieth century.¹

Figure 1: Relative position of real GDP per capita in Japan



Source: OECD Main indicator for current era, and OECD (1995) Table A-3, B-10, C-1 for previous era. Current real GDP per capita is the average between 2001 and 2010, and normalized as 100 at the UK level. The real GDP per capita before the Second World War is calculated from the population estimation (Table A-3), time series of real GDP index for each country (Table B-10), and a comparison of real GDP level in 1900 (Table C-1). In the comparison of GDP level in 1900, the international exchange rate of US dollars in 1990 is used.

Figure 1 shows that the Japanese economy had achieved approximately 40% of real GDP per capita relative to that of the UK between 1920 and 1940. During the same period, France and Germany stood at approximately 80% of UK's real GDP per capita. The 40% level of UK's GDP per capita compares with countries such as Mexico, Chile, Russia, and Turkey in the 2000s². On the other hand, the real GDP per capita of recently rapidly growing countries such as China or Indonesia is, at most, 10 to 15% of the UK's real GDP per capita. This is lower than

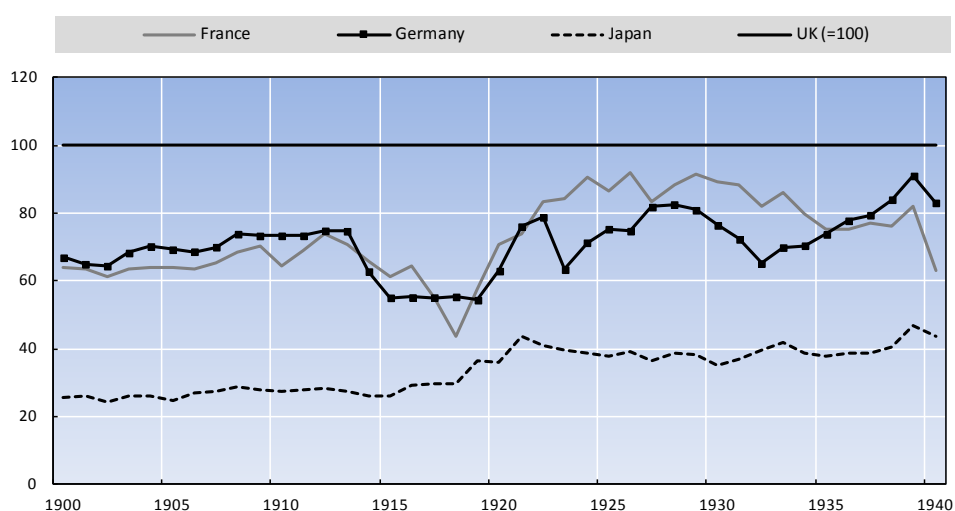
¹Important discussions on the estimates are first related to the cross-country evaluation of the level of national account. Because the exchange rate at a certain point in time reflects the contemporary trade structure, fixing the exchange rate as done to that in 1990 may create some bias if the trade relation differs from 1990 to between 1920 and 1940. The second aspect is making the time series within-country. The deflator index is also problematic unless it adequately captures the change in production and consumption structure.

²In January 2012, Russia was not yet part of the OECD.

the relative position of Japan before the Second World War. Therefore, the average economic development of Japan before the Second World War had already reached a certain level within the global economy at the time, such that Japan was able to compete in global product markets.

However, Japan's economic development began from a relatively low base. The following figure shows the country's economic growth process from the viewpoint of a comparison to the UK in terms of real GDP per head.

Figure 2: Evolution of real GDP per head: 1900–1940



Source: OECD (1995) Table A-3, B-10, C-1. See the footnote of figure 1.

When industrialization commenced in the 1900s, an average Japanese earned 20% of what an average Briton did in real GDP terms. This was only slightly more than an average Chinese or Indonesian, but lesser than an average South African does during the 2000s.

As is apparent in Figure 2, the turning point was the First World War. It is well known that the halt of production in European countries provided an opportunity for Japanese businesses to plug into the product markets that had hitherto been dominated by European economies. Since then, the Japanese production companies maintained their position by constantly enhancing labor productivity (OECD, 1995; Table 2-7(a) p.47). As a result, the average annual growth of real GDP per capita in Japan stood at 0.9% between 1913 and 1950, which is higher than the growth rates of 0.8% for UK and 0.3% for Germany (OECD, 1995; Table 3-2, p.62). The other turning point was the Great Depression. While both France and

Germany experienced a substantial decline of relative GDP per head since the end of the 1920s, Japan resiliently maintained its relative level.

However, the sustained economic growth did not solve every social problem that the country faced. Rather, since the initial stage of industrialization, both Japanese intellectuals and the government continuously recognized the severe labor market issues in the country, which could potentially be a cause of serious political turbulence. As early as 1899, Gennosuke Yokoyama—a journalist—published a report on the low-income areas of large cities such as Tokyo and Osaka, where there was a massive inflow of unemployed workers from rural areas. In 1903, the Ministry of Agriculture and Commerce also published governmental reports to warn of unfavorable working conditions in the main industries.

Regardless of such anecdotal evidence and concerns, the statistics to measure employees' conditions in Japan had not been constructed until the end of the First World War—the first Population Census in 1920. This census was the earliest national representative statistics that estimated unemployment rates in Japan. Ever since, the Japanese government occasionally conducted population census as well as large-scale sampling surveys until the Second World War. Unfortunately, these statistics are not comparable over time, mainly due to the inconsistent definition of unemployment; however, several researchers have attempted to estimate a consistent series of unemployment rates. For example, Odaka (1984) re-aggregated the data and estimated male unemployment rates at 4.83% in 1920, 6.00% in 1930, and 5.99% in 1940 (table 4-4, p.148). Although the level of estimated unemployment rates varies according to researchers, it is almost a common interpretation in Japanese economic history that the unemployment was not higher than in other industrialized countries at the time. In fact, the unemployment rates in UK proposed by Boyer and Hatton (2002) were 2.1% in 1920, 12.3% in 1930, and 8.5% in 1939 (table 6, p.667).³ For the US, Weir (1992) provides 5.16% in 1920, 8.94% in 1930, and 9.51% in 1940 (table D3, pp.341-2). In addition, the upward trend during two decades is more moderate in Japan than in the UK and the US.

³The unemployment rate for 1940 is not available.

3. Institutional Evolution of the Public Employment Service

(Labor market issues and the PES)

The relatively low unemployment in pre-war Japan was likely due to economic development, but it did not always indicate high and stable employment. Rather, once labor demand was temporarily hit by exogenous negative shocks, many workers easily lost income and fell back to poverty. Actually, a majority of the scholars of Japanese economic history explains the low unemployment rates by labor hoarding, which implies that the marginal productivity was less than that in the long-run equilibrium (Okawa, 1955). In addition, the mismatch in the labor market was problematic because a surge in labor demand in certain industries and certain locations attracted far too many rural laborers. Such excess inflow of newcomers to the urban areas resulted in unemployment or casual employment at the outskirts of urban areas⁴. Without an effective regulation of working conditions, sufficient income support for disadvantaged households, nor protection of collective bargaining, it is plausible that the employment services played an important role in preventing workers from starving. Simultaneously, it also promoted efficient allocation of labor through its function as a matchmaker. In this section, we overview the evolutionary process of labor market institutions in Japan at the beginning of the twentieth century and highlight the role of the PES.

The primary purpose of labor policy was the enactment of the Factory Act as in the other developed countries, encouraged first by the reports of the Ministry of Agriculture and Commerce (Noshōmushō, 1903). The government particularly targeted cotton spinning and silk reeling industries to improve employee's working conditions because they were the major

⁴Originally, Okawa's discussion was proposed to understand the low unemployment in the agricultural sector, comparing the deviation of marginal productivity between agriculture and manufacturing. Okawa's idea is substantially the same as those in the literature lead by Theodore Shultz and Arthur Lewis. Subsequently, Japanese economic historians applied Okawa's concept into the duality between casual and formal jobs in urban areas (e.g., Sumiya, 1964). However, without any market failure or institutional obstacles, there should be no disequilibrium between agriculture and manufacturing or between casual and formal jobs. One group of researchers focused on the obstacle of feudalism that characterized the Japanese society of those days. The other group placed more importance on labor market failure in terms of a mismatch between demand and supply. The institutional arrangement of the PES certainly belonged to the second strand of arguments.

industries in terms of both employment and trade⁵. However, the House of Representatives and the House of Peers, which were in place since 1890, were dominated by representatives of employers and high-income earners, and it was not easy for the government to pass the Factory Act to enhance the minimum working conditions. In addition, the government did not have any effective policy to control for the business behavior of targeted industries because these industries grew with little support from the government. After a long negotiation, the Factory Act was finally legislated in 1911, but its enforcement was postponed to 1916. In addition, it did not include male workers except for those aged below 12, and the enforcement regulation of the Act allowed several exemptions for cotton spinning and silk reeling industries as well as for small establishments. Overall, the regulation of minimum labor standards was critically weak in Japan before the Second World War (Hunter, 2003, pp.212-218). Moreover, the intentions of the government to introduce unemployment insurance and the collective bargaining mechanism had eventually failed due to the Houses' objections. This left active labor market policy as the almost only available countermeasure to cope with labor market failure.

While the implementation and development of the PES was motivated by the political and economic circumstances in Japan at the time, it also shared a common motivation with European countries: to counteract the down sides of private intermediaries in labor markets. The negative aspects of private intermediaries were already recognized in the 1903 governmental report in Japan. It mentioned high commission fees, confinement, and human trafficking in the extreme cases. More precisely, because Japanese industrialization focused on export industries up to the 1920s, such as cotton spinning and silk reeling, the location of factories was geographically limited to port towns for cotton spinning and to mountain areas for silk reeling. These factories had rapidly absorbed the nearby labor supply and begun to employ workers from remote areas, some of which were over hundreds of kilometers away. As the transport and communication network was underdeveloped in 1890s, private intermediaries began to be recognized for bridging the gap between the demand and supply of labor. Moreover, government officers in the Ministry of Agriculture and Commerce in those days intuitively understood the economic rationale of such intermediaries (e.g., Toyohara, 1919, pp.156-158). In

⁵ According to the 1920 Population Census, two industries occupied 3.0% (8.5%) and 2.2% (6.1%) of nonagricultural (manufacturing) employment, and in each female workers constituted 85.8% and 69.7% respectively. The "raw silk" industry accounted for almost 40% of the export value during the latter half of the 1920s.

theory, with the decrease in traffic costs due to the development of public transportation and with the accumulation of experiences and information, the need for intermediaries should disappear (Fingleton, 1997). In the extreme case, the profit of an intermediary will remain only if there is an increasing return to scale such as a network effect. With the increase in the size of the business, the network effect becomes more profitable and should lead the matching market to a monopoly (Nocke et al., 2007). In reality, not only in Japan but also in European countries, there remained many small-scale private intermediaries even in 1910s, although telegram and postal services were already widespread by then.⁶ Therefore, the governments suspected the remaining private intermediaries in the matching markets to be inefficient due to the manipulation of information, physical restraint of workers, etc.

(Before 1921)

To suppress the inadequate practices of private agencies and recruiting agents, Japan had introduced regulations since the 1880s that were independently managed by each prefectural police department. However, because many recruitment agencies and agents were active across prefectures, the control by prefectural police was said to be ineffective. It was also inconsistent to regulate an economic activity by criminal justice; this is when the government decided to launch the PES. With negligible commission and governmental credibility, the PES was expected to drive the private employment agencies out of the market (Rōdōshō, 1961). When faced with an economic downturn in the aftermath of the Russo-Japan War in 1907, it was easy for the government to persuade the Houses.

However, the prospect of bureaucrats was not accomplished. In spite of governmental support, the PES found it difficult to expand its coverage. During the 1910s, the actual number of PES centers was approximately 20 to 30, whereas the number of private agencies was 9,659 in 1910 and 12,798 in 1915 (Toyohara, 1919, pp.108-110). In Tokyo, the municipality opened its first two PES centers in November 1911, but by 1914, it had added only two additional centers even with the financial assistance of the government. These Tokyo municipal PES centers accumulated 6,987 job seekers and 7,178 vacancies annually and succeeded in providing 2,783 jobs on average between 1912 and 1917 (ibid. pp.134-135). On the other hand, during the

⁶Japan joined the Universal Postal Union in 1877.

same period and within the same area, 812 private agencies provided 102,924 jobs annually (ibid. p.111 and pp.114-115). The share of the municipal PES in the employment service market in Tokyo was at most 2–3%. This was partially due to the strict budget constraint of the government. The shortage of government funds restricted the action of the government to providing ad hoc financial assistance to important local municipalities such as Tokyo (Kawano, 1941) and to already-existing non-profit organizations such as the Salvation Army (Machida, 2009).

In July 1920, the government made an announcement to promote the construction of PES centers in local municipalities. Some prefectures responded promptly to this announcement. For example, Nagano prefecture coordinated local municipalities and succeeded in opening 197 PES centers. However, as cautiously discussed in Kambayashi (2000), most of these centers were inactive. Only three locations had an independent building and personnel, and numerous PES centers had no budget allotment. The government announcement did not provide effective support.

(Between 1921 and 1938; the Employment Exchange Act and Kantō earthquake)

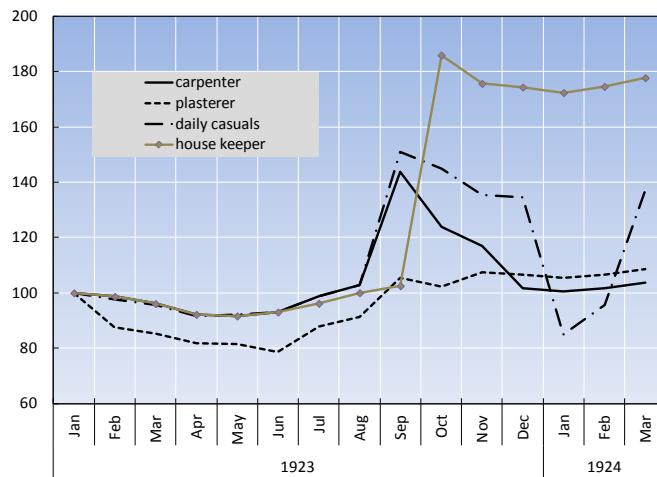
The government attributed the cause of delay in the expansion of the PES to a weak financial basis and lack of a countrywide network. In response, they enacted the Employment Exchange Act (*Shokugyō Shōkai Hō*) in 1921. The Act aimed to clarify the responsibilities of local municipalities in opening PES centers with a standing financial support from the government. It also aimed to construct a national network. Since the enactment corresponded to the ILO's *Convention Concerning Unemployment (C2)* in 1919 and a surge of unemployment was expected due to recession after the First World War, the Houses did not disturb the legislation.

Two years after the legislation, at noon on the first day of September in 1923, a major earthquake shook the capital city. The Kantō earthquake, measuring 7.9 on the Richter scale, destroyed the center of Tokyo and caused widespread damage throughout the Kantō region. The extent of casualty is still ambiguous, and recent estimates stand at approximately 100,000 deaths (Moroi and Takemura, 2004). The municipalities and police departments conducted an extraordinary population census in the damaged area on September 28 and found that the

population of Tokyo decreased by 39.4% (i.e., from 2,265,300 in 1920 to 1,372,076 in Sep. 1923). Among the 1.3 million, 43% (590,415) were refugees. Approximately 825,000 people were evacuated from Tokyo⁷ and a large proportion of people in Tokyo area was at risk; on November 15, the municipality reported 68,866 people to be unemployed in the Tokyo area, which represented 4.8% of the labor force (1,446,260)⁸.

Unemployment was accompanied with a surge in wages. The Tokyo Chamber of Commerce reported the transition of wages in damaged areas, as illustrated in figure 3.

Figure 3: Real Wages of Several Occupations in the Tokyo Municipality after the Kanto Earthquake
(Jan 1923 =100)



Source: *The Central Administrative Office of Employment Agency (1924) pp.70-74. The deflator is the average of 16.2 liters (9 sho) of Noda Shoyu and 3.75 kg (1 kan) of Miso. The wages are on a daily basis.*

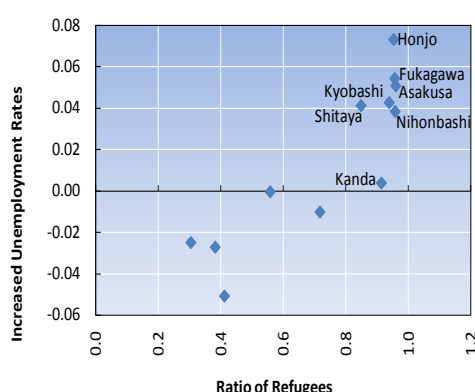
⁷Moroi and Takemura (2004) estimated 68,660 deaths in Tokyo municipality (p.34).

⁸ Differing from the ordinary population census of the period, the definition of unemployment was close to one that has been in use in the recent years; that is, with no job and did no work at the time of the interview and ready to work if work is available. The unemployment rate of 4.8% must be considered cautiously. At the time of the survey, the government had already launched the reconstruction process that absorbed approximately 100,000 daily workers per month and the low unemployment rate could have been the result of this process.

By deflating the nominal daily wages by the price of *miso* and *shoyu* in Tokyo, the real wages in several occupations increased sharply after September. Even at the time of the unemployment survey in November, real wages had not yet gone back to the level before the crisis. The unemployment rate and the trend in real wages together suggest an insufficient labor supply in the Tokyo municipality. Lack of labor supply may partially be due to the substantial evacuation of working people; the positive unemployment suggests it also could be due to the mismatch in demand and supply of workers within the Tokyo area.

The increased unemployment was apparently affected by exogenous damage from the earthquake. Figure 4 shows the increase in the unemployment rate varied from district to district and is related to the severity of damage.

Figure 4: Refugees and Unemployed in the Districts of Tokyo Municipality after the Kanto Earthquake



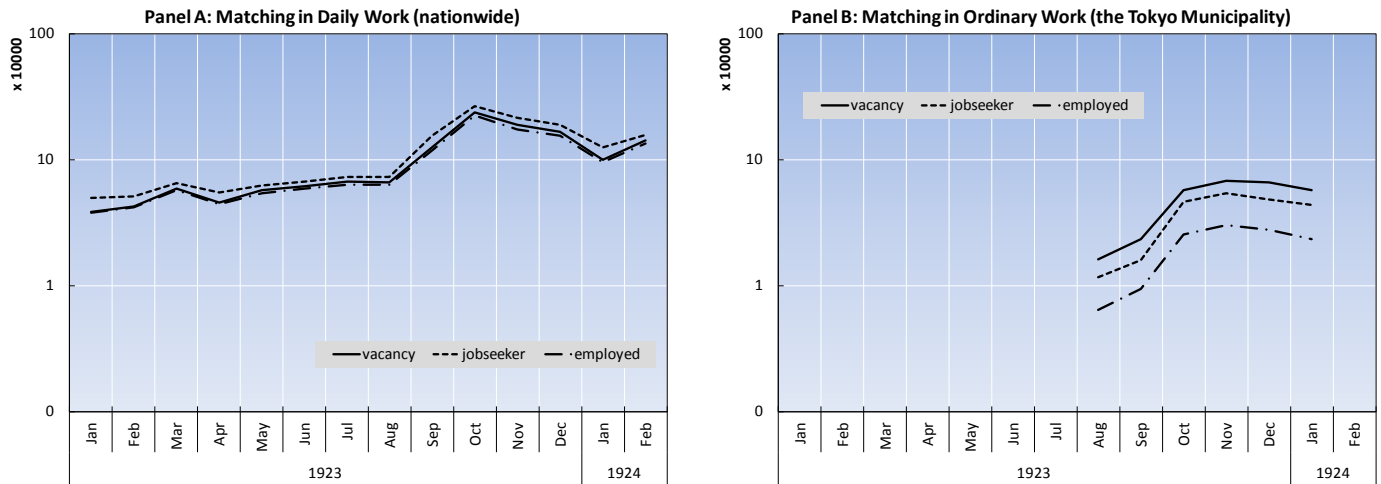
Source: *The Central Administrative Office of Employment Agency (1924) p.83, pp.91-21. The increased unemployment rate represents the difference in unemployment rates from 1920 to 1923. The unemployment rates in 1923 are calculated from the population of each area based on the figures as of September 28 and the unemployed based on the figures as of November 15.*

In the heavily damaged districts in Tokyo, such as Honjyo, Fukagawa, and Asakusa, the ratio of refugees was over 90% (that means almost every house was destroyed) and the unemployment rate increased by over 4 percentage points compared to those in 1920. On the other hand, in the Yamanote area, the ratios of refugees were approximately 30%, whereas unemployment rates actually decreased. This contrast implies that not all refugees lost their jobs and that job matching was important in meeting the surge of labor shortage.

The report by the Central Administrative Office of Employment Exchange (1924) indicated that the PES played an important role in economic recovery through employment exchanges and other extended tasks. Before the earthquake, Tokyo and Yokohama municipalities had 28 nonprofit employment agencies including the PES; the earthquake completely destroyed 18 of them. The municipalities immediately attempted to reconstruct the PES centers with the aid of the government, and one of them reopened on September 2, the day after the tragedy⁹. The Central PES of Tokyo at Kandabashi began business again on September 3 by placing a shack nearby. By the end of September, 17 centers resumed operation and 4 new centers were opened. Adding 6 centers by the end of October, the number of active nonprofit employment agencies increased from 28 before the earthquake to 37, 3 months after the earthquake (ibid. pp.14-15).

The first important role played by the PES was to supply temporary unskilled labor to the construction industry. Initially, they were mainly employed on a daily basis, and gradually shifted to more “regular” ordinary works. Figure 5 depicts the transition of matching markets in the PES before and after the earthquake in log scale.

Figure 5: Vacancies, Job seekers, and Employment before and after the Kanto Earthquake



Source: The Central Administrative Office of Employment Agency (1924) [Panel A] pp.28-29, [Panel B] p.5.

⁹Kita Toshima Kōin Shokugyō Shōkaijyo (North-Toshima Employment Agency for Factory Works).

With regard to daily work, although only nationwide statistics are available, there was a rapid increase in PES matching before and after September 1923. Panel A in the above figure indicates that the number of matching cases for daily work through the PES doubled in the months immediately after the earthquake. While demand for daily work began declining since October, the PES continued to enhance employment exchanges for “regular” ordinary work, as shown in panel B of the above figure.

The role of the PES in absorbing unemployment can be statistically confirmed by examining the correlation between the decrease in unemployment rates and the expansion of PES centers. Here, we estimate the matching function of the PES with district fixed effects in Tokyo area to obtain the accuracy of matching in the PES for each district; further, we statistically relate these effects to the decline of unemployment rates.

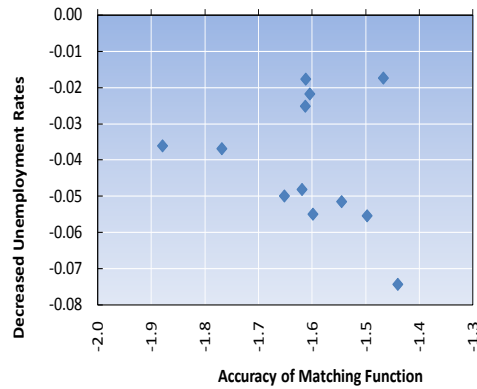
The matching function is a theoretical and empirical device to capture the technology in matching markets. Strongly linked to the general friction in labor markets, it provides key parameters to understand the matching market. According to the long tradition of estimating the matching function (Petrongolo and Pissarides, 2001), we specify it as log-linear:

$$\ln e_{ijt} = \alpha_j + \beta \cdot \ln v_{ijt} + \gamma \cdot \ln u_{ijt} + \text{controls} + \varepsilon_{ijt}. \quad (1)$$

In (1), $\ln v_{ijt}$ represents the log of the number of vacancies at time t , agency i , and district j , $\ln u_{ijt}$ represents the log of the number of job seekers, and $\ln e_{ijt}$ represents the log of the number of successful matching cases. The accuracy of matching in each district is captured by α_j , the fixed effect in district j because it intuitively represents the number of successful matching cases given the number of vacancies and job seekers (Stevens, 2007). We use monthly data from 29 agencies within 15 districts in Tokyo area between April 1923 and August 1924 and classify them into each district by the place of agency. We also include monthly dummies as controls.

The estimated accuracy of matching in the PES and the decline in unemployment rates from 1923 to 1930 in each district is depicted in the next figure.

Figure 6: Accuracy of PES Matching and Decline in Unemployment



Source: Authors' calculation

We find a negative correlation between PES matching and unemployment; this implies the accuracy of matching in the PES contributed to a decline in unemployment. The relation between the two is estimated as

$$U_{1930} - U_{1923} = -0.0998 - 0.0368 \cdot \hat{\alpha}_j.$$

(0.0714) (0.0443) R-sq: 0.064

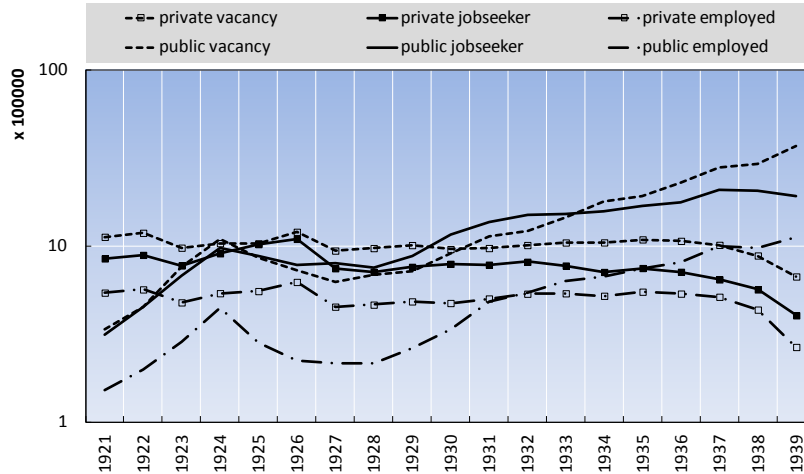
(Standard errors are in parenthesis). Although the estimated coefficient is not statistically significantly different from zero, together with anecdotal evidences of the Kantō earthquake, the role of the PES in reducing unemployment is substantial.

(Difficulty of the PES; macro statistics, anecdotes, and ad hoc surveys)

Interestingly, contrary to the extraordinary situation after the earthquake, once the economy recovered, the Employment Exchange Act neither led to the ouster of private agencies from the matching markets nor achieved a massive expansion of PES centers. By using macro statistics from Employment Agency Statistics (*Shokugyō Shōkai Tōhkei*), figure 7 depicts the trend in the number of vacancies, job seekers, and number of employed under the PES and private agencies during the 1920s and 1930s. Taking logs of each number on the vertical axis, the difference between the two types of vacancies and job seekers represents tightness (=vacancy/jobseeker) in

the labor market and the difference between the two types of job seekers and number of employed represents job finding rates (=employed/jobseeker)¹⁰.

Figure 7: Public and Private Employment Agencies: 1921–1938



Source: Ministry of Welfare, Employment Agency Statistics

The stagnation of the PES during the 1920s and the persistence of private agencies during the 1930s are evident from the above figure. The PES grew rapidly for a few years immediately after the legislation, but it was not able to continue expanding. The job-seeking rate in the PES was approximately 40%, while it was approximately 60% for private agencies. Although the government added restrictions on the operation of private employment agencies in 1927 to support the PES, it was only in the 1930s that the PES consistently had more vacancies and job seekers than private agencies. More importantly, the tightness of the labor market for the PES was lower than that for the private agencies, and it remained below one until 1933; between 1921 and 1929, the yearly average of tightness of the labor market was 1.24 in private agencies and 0.97 in the PES. During the 1930s, while it increased to 1.08 in the PES, it also increased to 1.40 in private agencies. Job finding rates in the PES continued to be lower than

¹⁰The definitions of vacancy and jobseeker used here is no longer effective.

those in private agencies even after the 1930s: that is, 0.71 in private agencies and 0.41 in the PES as annual averages.

The Japanese experience of the PES during the 1920s and 1930s shows that the PES was not able to perform better than private agencies and suggests that simple financial assistance and a nationwide network were not sufficient for public services to dominate the labor markets in Japan. To ascertain the reasons behind the difficulties faced by the PES, Kambayashi (2000, 2005) summarizes anecdotes and ad hoc surveys of those days, abstracting the differences in micromechanisms between the PES and private agencies as labor market intermediaries.

First, the PES could not generate credible information on both vacancies and job seekers. For example, because it is useful to segment labor markets by occupation to match demand and supply, the first task of the PES was to interview job seekers to collect information on occupations in which they had worked and those they were looking for, as it is still the case today. Moreover, the PES also took into account the occupational skills that each vacancy demanded. However, job seekers and employers do not always reveal their true experience and expectations, respectively, to the employment service. As a result, employers often found that the candidates recommended by the PES did not possess sufficient occupational skills to satisfy their demand. Such informational disparity was the cause for unsuccessful matching. Actually, according to the follow-up survey by the Tokyo municipality in 1934, one of the most frequently cited reasons for unsuccessful matching through the PES was the disagreement over occupation (14.6% = 481/3,294) and experience (7.1% = 234/3,294). Since failed matchings due to mismatch in working conditions, such as wages, working hours, and contract periods were 13.2%, 2.4%, and 0.2% respectively, it is evident that the disagreement over occupation was important (Tokyo municipality, 1934, table 2, p.14)¹¹. The Tokyo municipality became interested in why such disagreements occurred, since they believed that there was little room to disagree upon such simple information like occupation. They conducted re-interviews with 481 unsuccessful pairs and found that, when they re-classified occupations at the two-digit level, the

¹¹The most frequent reason was that the candidate did not go to the place of interview with the employer (35.0%).

demand and supply was in accord only in 27% (131/481) of the unsuccessful pairs (ibid. table 3, pp.20-21). It is not easy for the PES to identify crucial information such as occupation¹².

The second difficulty faced by the PES is the inability to guarantee ex-post relations between employers and employees. During the 1920s and 1930s, employers were wary that if a public entity intervened in labor conflicts, it would do so in favor of employees. For this reason, in the process of legislating the PES, employers pushed the government to legally keep the PES away from any ex-post employer-employee relationship. As a result, the PES was legally unable to guarantee any relationships that ensued at the workplace. However, in those days, most vacancies required a third-party guarantor for applicants. For example, the 1930 survey by the Tokyo municipality shows that only 1.2% (297/24,039) of the vacancies did not require guarantors for the job seekers. As a result, the job seekers in the PES had to identify their guarantors on their own and actually 96% (36,520/37,942) of the job seekers had their own guarantors before approaching the PES (Tokyo municipality, 1931, table 3, p.88). However, even if job seekers had guarantors, it was not easy for employers to evaluate their credibility. On the contrary, one of the main tasks undertaken by private agencies was determining the quality of guarantors. This function was already recognized since the 1910s by bureaucrats (Toyohara, 1919, p.157); in addition, in a conference of employers held in 1928, it was reported that the obstacle in using the PES was the lack of mechanism for guaranteeing job seekers (Tokyo Prefectural Office of Employment Agency, 1928). According to the survey on private agencies in 1938 conducted by the Tokyo prefecture, it was found that in 89% (86/97) of the cases, private agencies determined the economic status of the guarantors of job seekers by directly interviewing them, if they were living in the Tokyo area. Even if guarantors lived away from the Tokyo area, private agencies directly interviewed them in 34% (33/97) of the cases (Tokyo prefecture, 1939, table 14, p.8). In addition, at the 1928 conference of employers, some cases in which private agencies mediated the labor conflicts related to wages and presenteeism were reported (Tokyo Prefectural Office of Employment Agency, 1928). Although there was no

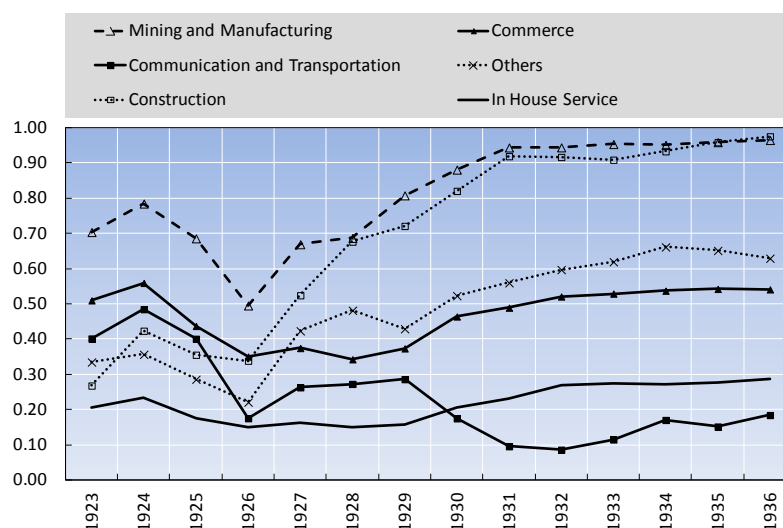
¹² The difficulty in occupational classification is significant. Before the Second World War, occupational classification depended largely on the industry of employers and not on the task of workers. Therefore, the mismatch in occupation was likely to occur. Officially, the distinction between industry classification and occupation classification was first made in 1930, when the 3rd population census was conducted.

statistical evidence that private agencies actually intervened in the conflicts between employer and employee, it is rational given that the cost of public courts were extremely high.

These two major differences between the PES and private agencies suggest that the fundamental function of employment services is to produce credible information. Private agencies did this on the basis of the long-term relation between the agency and employers, as well as the long-term relation between the agency and job seekers. Actually, according to the above survey in 1939, in 38% of the private agencies (37/97), 20% of the job seekers constituted repeat customers. Further, 56% (54/97) of the private agencies recorded over 70% of vacancies from repeat customers. This evidence illustrates that private agencies incurred substantial cost in continuing a long-term relation to obtain credible information on job seekers, guarantors, and employers.

Such long-term credible relationships cannot be created immediately. This is why the PES in Japan could not expand rapidly after its legislation in 1921, in spite of the financial assistance from the government. However, this also implies that private agencies could not rapidly expand themselves to newly emerging industries, such as manufacturing and mining. Figure 8 depicts the transition of the share of the PES in terms of number of aggregated successful matchings by industries.

Figure 8: The Share of the PES in Successful Matching by Industry: 1923–1936



Source: Ministry of Welfare, Employment Agency Statistics

First, there were certain industries in which the share of the PES in successful matchings remained roughly constant in industries such as domestic services (approximately 22%) and commerce (approximately 47%). These industries were relatively old, having existed since the eighteenth century, and required job seekers with well-established credibility to maintain a stable relationship between the employer and the employee. On the other hand, the share of the PES grew gradually in industries such as mining and manufacturing, construction, and other industries that had been newly established since the end of the nineteenth century. These patterns are consistent with the above discussion on the micromechanism of the PES and private agencies.

During the 1930s, private agencies remained active on the basis of their long-term relations with job seekers as well as employers. The intention of the government to push private agencies out of the matching markets through the introduction of the PES had not been achieved. Recognizing the economic rationale of private agencies, the government officials in the Social Affairs Bureau¹³ planned to legally restrict the activity of private agencies. In January 1927, based on the Employment Exchange Act of 1921, the government fixed a stricter administrative rule to regulate private agencies (*Eiri shokugyō shōkai jigyō torishimari kisoku*)¹⁴. The 1927 administrative rule mainly intended to unify regulatory managements, making prefectural administrations take charge of regulation. Therefore, the substance of the regulation was along the same lines as previous prefectural rules—the constraint on an upper bound on commission fees, the prohibition of running other business simultaneously, etc. An important feature that was added in 1927 was the minimum requirement of capital assets that every private agency had to keep. Thus, the 1927 administrative rule eliminated numerous tiny private agencies that were the least equipped in terms of capital. As a result, the number of private agencies declined sharply from 9,712 in 1926 to 3,385 in 1927. However, as evident from figure 6, the actual activity of private agencies in terms of matching vacancies to job seekers did not decrease so much.

¹³The bureau was established in the Ministry of Interior in 1920 and moved to the Ministry of Welfare in 1938. After the Second World War, it became independent as the Ministry of Labor until 2001.

¹⁴The Ministry of Interior made a regulatory order in March 1925 regarding the recruitment of agents (Rōdōsha Boshu Torishimari Rei).

Seeing the ineffectiveness of the 1927 administrative rule, the government officials in the Social Affairs Bureau continued to search for means of banning private agencies. Although this political group was in accord with the international labor standards and they eagerly introduced ILO documents, the government itself had failed to reach a consensus with the Houses and the Privy Council, where there was a firm opinion that private agencies had been governed sufficiently well to reduce their inefficient and exploitative aspects. In fact, the *Fee-Charging Employment Agencies Convention (C34)*¹⁵ that was adopted in the ILC in 1933 to eliminate private employment agencies was not ratified by the Japanese government.

The last phase of the PES before the Second World War was the revision of the Employment Exchange Act in 1938, which legally abolished private agencies. The revision led to public sector monopoly in labor market intermediation, which had basically continued until 1997. It is still unclear how the policy shifted from regulation to abolition of private agencies between 1933 and 1938. The most plausible explanation is the effect of wartime economy, as Japan gradually moved toward a controlled economy during the 1930s.

4. Statistical comparison of the matching technology between public and private employment agencies

In the previous section we discussed the institutional evolution of the PES in Japan before the Second World War. The financial assistance by the government could not overcome the efficiency of the micromechanism of employment agencies because providing credible information was crucial to employment services. Although figures 6 and 7 are not inconsistent with anecdotal evidences, in this section, we employ another approach in estimating the matching function to statistically confirm the economic mechanism of employment agencies.

In this section, we apply the traditional concept of the matching function to the specific matching process used by public and private employment agencies to statistically

¹⁵ Due to revision of C34 in 1949 to C96, C34 is no longer open to ratification.

clarify their characteristics that we discussed in previous sections. The mechanisms we are concerned with here are scale merit and accuracy of matching. The former is believed to be an advantage of the PES. The Employment Exchange Act in 1921 actually aimed to construct a nationwide network of employment agencies. However, if the long-term relation is more important for successful matching, there should not be such scale merit. The latter is a more direct evidence of the technological efficiency in matching, as discussed in the previous section.

The specification of the matching function is almost the same as (1); however, in this section, we use national monthly aggregated statistics from the Employment Agency Statistics due to the availability of data. The scale merit is presented by $\beta + \gamma$ in (1). When $\beta + \gamma = 1$, the matching technology exhibits constant returns to scale. In other words, matching efficiency is independent of the size of the market. It is well known that when demand and supply match randomly, the aggregate matching function in the market exhibits constant returns to scale. On the other hand, if the network effect is important, the matching function will have a scale effect; that is, $\beta + \gamma > 1$. On the contrary, $\beta + \gamma < 1$ also implies a valuable long-term relation.

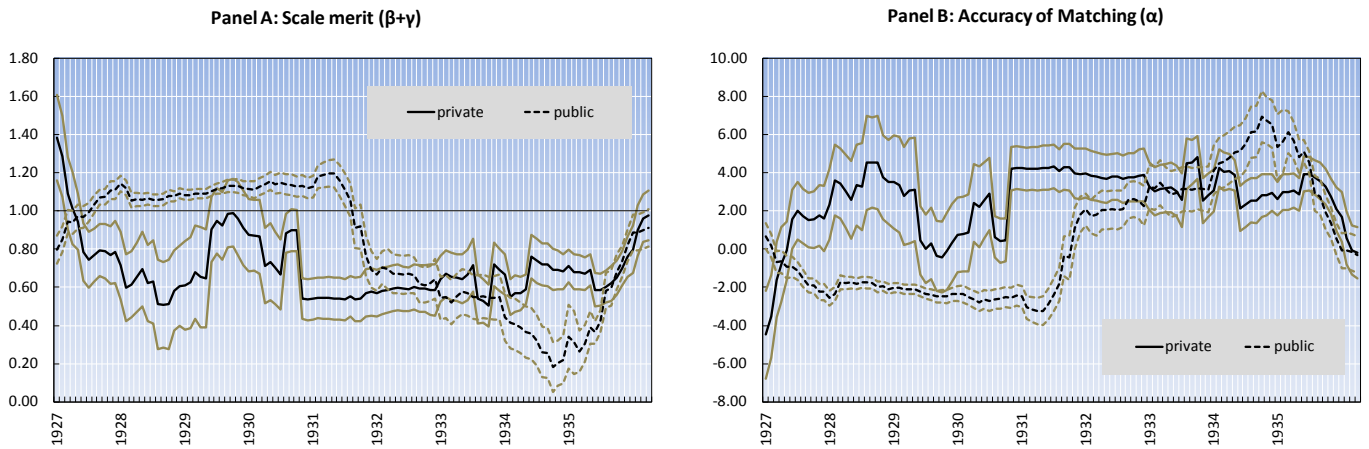
This analysis is restricted to within certain industries: domestic services and mining/manufacturing industries¹⁶. In reality, as is shown in figure 8, the PES faced difficulties in extending its services in the domestic service industry, while it managed to expand them in the mining and manufacturing industries. For example, because of the difference in the importance attached to the credibility of information, it is plausible that the matching technology employed differed from one industry to another. The sample period is also restricted to 1927 to 1938 to obtain statistics disaggregated by industry. Lastly, to see the time series movement of the coefficients of interest, we conducted a rolling OLS with a 36-month window. Therefore, the first estimation is obtained by using the sample between January 1927 and December 1929 and the last one is based on data for the period between January 1936 and December 1938. This implies that we use the time-series rather than cross-sectional variation in the data. In general, estimating a matching function by using the time-series dimension causes a time aggregation bias, which comes from the conceptual difference between stock and flow (e.g.

¹⁶The estimated result for the total is found in Kambayashi (2005). According to the Population Census of 1930, the employment in the domestic services and manufacturing/mining industries accounted for 2.7% and 17.0% of the total employment, respectively (5.4% and 33.7% in the nonagricultural sector).

Anderson and Burgess, 2000). However, in pre-war Japan, this bias is not of much significance because in those days, registrations in employment offices were limited to a maximum of one month and the remaining stock between the months was negligible. In addition, without any unemployment benefit, job seekers and employers did not have strong incentives to extend the search period. As a matter of fact, the concept of “effective” vacancies and job seekers had not been used at least until 1933. Nevertheless, to confirm the robustness of our results, the Appendix includes the estimated result that allows for auto correlation in the error term, thereby allowing for intertemporal correlation between cases of successful matching in the previous month and current period.

Figure 9(a) depicts the estimated $\beta + \gamma$ and α for the domestic service industry with 95% confidential intervals.

Figure 9(a): The Estimated Coefficients of the Matching Function: 1927–1938
(Domestic services industry)



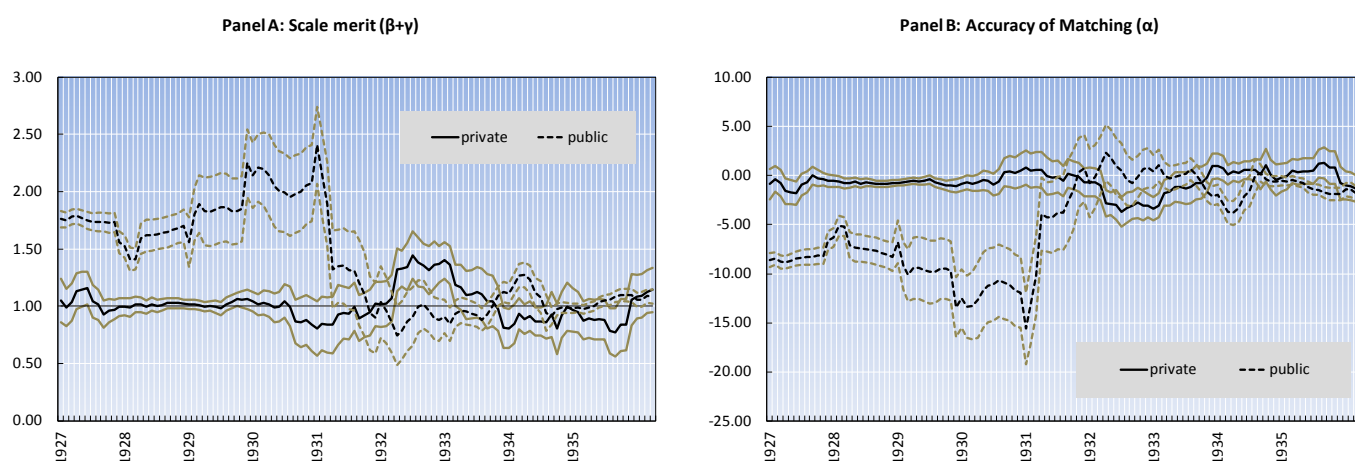
Source: Ministry of Welfare, Employment Agency Statistics

Rolling OLS with a 36-month window. The coefficient and 95% confidential intervals. To control for the seasonal disturbance, we include monthly dummies.

Panel A in figure 9(a) shows the time series transition of scale merit in the domestic service industry through the PES and private agencies. The matching technology in private agencies demonstrates a decreasing return to scale because the linear combination of the coefficients was statistically significantly less than one in most periods. This implies that it is

disadvantageous for them to expand rapidly, which is consistent with the anecdotal findings in the previous section. On the contrary, the PES matching market in the domestic service industry exhibited an increasing returns to scale, at least during the 1920s. Such a result implies a positive network effect even in the domestic service industry. An interesting point to note is that there was a rapid decline in the scale merit in the PES at the beginning of the 1930s; this corresponds to an increase in matching accuracy by the PES, as shown in panel B of figure 9. The accuracy of matching in the domestic service industry had been much higher among private agencies than in the PES during the 1920s, but it began converging from the beginning of the 1930s. Finally, during the latter half of the 1930s, the difference in matching technology between the PES and private agencies had disappeared and converged to a decreasing return to scale of private agencies.

Figure 9(b): The Estimated Coefficients of the Matching Function: 1927–1938
(Mining and manufacturing industry)



See figure 9(a).

Figure 9(b) summarizes the estimated coefficients and its 95% confidential intervals for the mining and manufacturing industry. The message from the figures is almost the same as that in figure 9(a), except that the matching technology stabilized around a constant return to scale since the 1930s. Up to around 1931, the matching market of the PES enjoyed large-scale merit, but it declined to one after the beginning of the 1930s. On the other hand, the matching accuracy of the PES was lower than that of private agencies, but it improved substantially and converged to the level of private agencies after the 1930s. The estimated results of the matching

function in the domestic services and mining and manufacturing industries are consistent with the anecdotal evidences discussed in the previous section, at least during the 1920s.

5. The convergence of the PES to private agencies

The convergence of the PES to private agencies occurred during the 1930s. To understand the transformation of the PES during the 1930s, we use an institutional anecdote on how the PES expanded in a specific sector, taking the silk reeling industry as an example, because the institutional evolution of the Japanese PES during the latter half of the 1930s has not yet been fully explored as implied in the last part of section 3.

The silk reeling industry, centered in Nagano prefecture, was one of the major manufacturing sectors in Japan before the Second World War; its intermediaries (mainly recruiting agents) had already been targeted by the government as the most serious impediment in the labor markets since the end of the nineteenth century. The economic losses incurred by the recruiting agents were apparently enormous. This is why, before the institutional promotion of the PES by the government, both employers and employees had begun to privately organize intermediaries as early as the 1890s to alleviate their inefficiencies and minimize harm to their interests (Hunter, 2003, chapter 8, esp. pp.234-248).

A typical response by the employers was to introduce a registration system of Suwa Silk League, founded at the beginning of the twentieth century in Nagano prefecture. This was a cartel-like activity to transact labor contracts directly among employers, which is similar to the transfer system in professional football leagues these days. While the main purpose of this private institution was to protect the employers' investment in workers, it also regulated workers' turnover, collecting information on employees and employers like a clearing house of the matching market (the detail is discussed in Kambayashi, 2007).

The employees' response was to put in place an employee supply and protection union (*Jyokō Kyōkyū Hogo Kumiai*), organized by local municipalities, the employees' parents, and the employees themselves. The union was first created in 1916 in Hirane village of Nagano prefecture and rapidly expanded mainly in Niigata, Gifu, Yamanashi, and Toyama prefectures. In 1928, there were 161 unions in 5 prefectures (Central Administrative Office of Employment

Exchange, 1928, p.7). The unions attempted to exclude recruiting agents from the area and monopolize intermediation between employers and employees. They also attempted to directly regulate the labor contracts. For example, the unions used uniform contracts and dispatched a monitor to the factories in order to enforce these contracts. In the process, they accumulated information on the employers' past behavior. The coverage of employees was also substantial.¹⁷

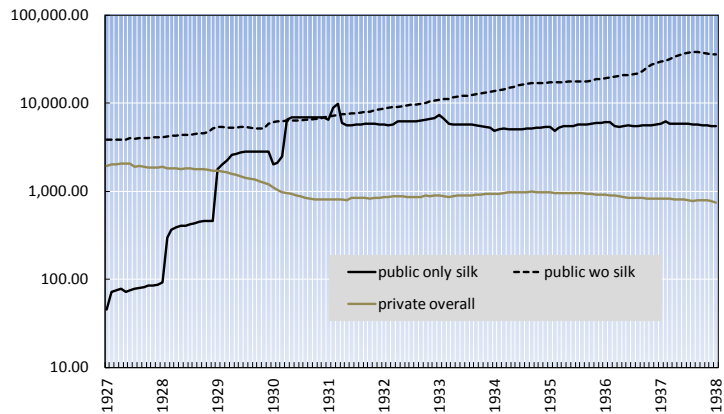
Interestingly, the 1927 administrative rule that originally intended to regulate private agencies had to define these two institutions as private employment agencies, and the government officials exerted political pressures to merge them into the PES. As a consequence, as early as 1927, Niigata prefecture opened PES centers in areas where the unions were organized and unions moved their intermediary function to the newly opened PES centers¹⁸. Therefore, many PES centers in Niigata prefecture initially relied substantially on the network of unions. The Suwa Silk League abolished its registration system in 1926 and became Suwa Silk Research Association; it was absorbed by Okaya PES in 1938. In other words, the recruitment mechanisms that had spontaneously been developed by employers and employees were eventually absorbed by the PES. Although there is insufficient documentation to track the history of every union, the experience of the silk reeling industry suggests that some PES centers were dependent on the already-existing private networks of employers and employees.

This speculative statement can be confirmed, to a certain extent, by crude macro statistics as well as by estimating the matching function. The following figure depicts the transition in the number of successful matching through the PES and private agencies in the Japanese mining and manufacturing industry, isolating the silk reeling industry.

Figure 10: The Number of Successful Matching: 1927m1–1936m1
(Silk reeling and other mining/manufacturing industries)

¹⁷ The coverage was 90% (9,675/10,706) in Gifu prefecture in 1924 (ibid. p.31), 47% (1,743/3,689) in one county in Toyama prefecture in 1926 (ibid. p.51), 43% (2,484/5,791) in two counties in Niigata prefecture in 1926 (ibid. pp.65-66), and 61% (2,098/3,428) in three counties in Yamanashi prefecture in 1924 (ibid. p.69).

¹⁸ Because the PES could not intervene in the ex-post relation between employer and employee, the monitoring process of contracts remained with the unions.

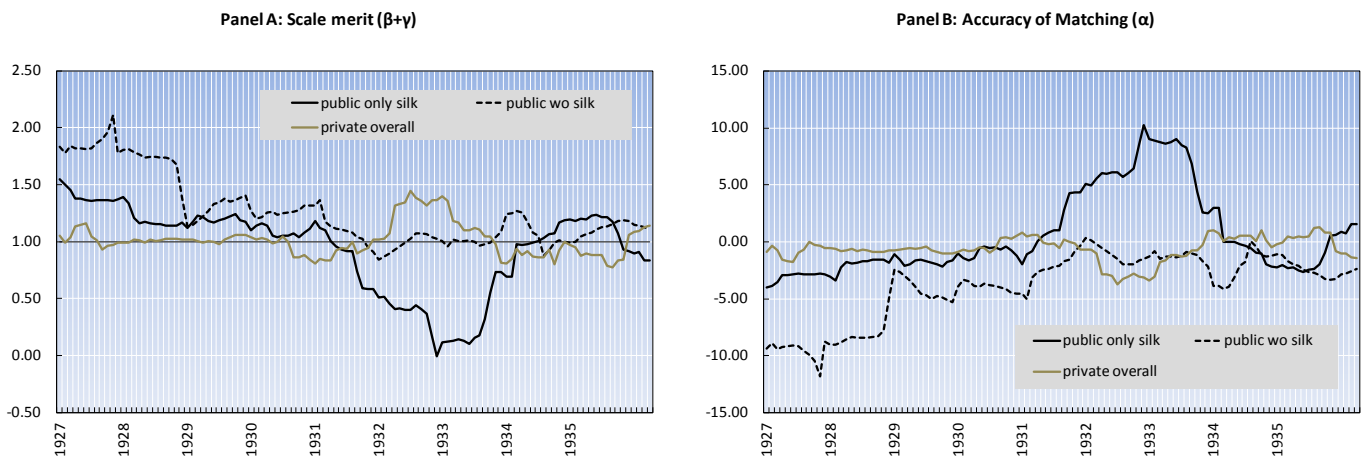


Source: Ministry of Welfare, Employment Agency Statistics; Monthly 12-month moving average. The horizontal line represents the log. Private agencies statistics cannot be decomposed.

When we decompose the number of successful matchings by the PES between the silk reeling and other mining/manufacturing industries, the trend of the former appears discontinuous until the beginning of the 1930s, compared to a smooth increase in other mining and manufacturing industries, whether public or private. These statistics are consistent with the discrete expansion of the PES network in the silk reeling industry, when it incorporated the existing private recruitment mechanism.

The estimates of the matching function also support the above discussion. Because the absorbed organization had more or less been developed as a private institution, it is consistent that the matching technology of the merged PES became similar to that of private agencies. Figure 11 shows the transition of the estimated scale merit and accuracy of matching in the silk reeling and in other mining/manufacturing industries through the PES, and in mining and manufacturing industries on the whole through private agencies.

Figure 11: The Estimated Coefficients of Matching Function: 1927-1938
(Silk reeling and other mining/manufacturing industries)



Source: Ministry of Welfare, Employment Agency Statistics
 Rolling OLS with a 36-month window.

The large fluctuation between 1932 and 1934 in the silk reeling industry was likely to be due to the crisis resulting from a sharp decline in demand from the US. As a result of the large decrease in labor demand, matching accuracy was improved with a smaller scale merit. More importantly, even in the PES, the matching technology in the silk reeling industry became similar and gradually converged to that of private agencies. Thus, the convergence of matching technology between the PES and private agencies may be explained by the fact that the PES expanded its network by taking over the networks of on-the-ground spontaneous organizations.

6. Concluding Remarks: The Heritage for the Post-War Era

During the US occupation of Japan between 1945 and 1952, the Japanese government rapidly instituted a full set of labor market policies. The Labor Standard Act, enacted in 1947, provided for the inclusion of minimum standards in every labor contract. The unemployment insurance was also institutionalized in 1947, and labor unions were legalized by the New Constitution in 1946 and the Labor Union Act in 1945. However, this does not necessarily imply that these institutions were solely installed by the General Headquarter. Rather, the Japanese government had already prepared for the blueprints before the Second World War. Hence, there was some continuity in the development of labor market institutions before and after the War.

Further, the legal framework of the active labor market policy was also modified. First, the Employment Agency Act was abolished and the Employment Security Act (*Shokugyō Antei Hō*) was newly legislated in 1947; however, this continued the public monopoly by the PES, except for a few specific occupations. The additional task entrusted to the PES immediately after the Second World War was to organize the unemployment insurance system. Although the first new task constituted a substantial portion of the workload of the PES, the institutional unification between unemployment insurance and employment exchange was useful in terms of avoiding the potential moral hazard problem of insured job seekers. The second new task to be undertaken by the PES was mandated by the Employment Training Act in 1959. The Act broadly provided for the construction of public training centers and the PES was to coordinate the demand for the training of job seekers. Because Japanese employers usually undervalued public vocational training that was conducted outside of firms, but placed much more value on their own on-the-job training, public training played only a minor role in the Japanese labor market. Therefore, even after the Second World War, the most important task of the Japanese PES was to facilitate employment exchange.

In 1950, as soon as the US entered the Korean War, the US government established a logistics department for combat support in Japan. This created a massive demand for military products and led the Japanese economy to recovery from the Second World War. During the subsequent two decades, the Japanese economy grew rapidly until the oil shock of 1972. However, since numerous people had been evacuated from the urban areas during the war¹⁹, the PES had to coordinate the labor demand in urban areas and the labor supply from rural areas, which was the classic mission of the PES during the 1920s and 1930s. The main difference in the circumstances in the 1950s was that employers mostly demanded younger workers, particularly those who had just graduated from junior high school (subsequently, from high school). Such a shift in demand was largely because young workers were relatively cheap and were able to catch up with rapid technological changes. In fact, in 1951, while the tightness (vacancy/jobseeker) in the labor market was under 0.5 in general, that for the fresh graduates from junior high schools was almost 0.9.

¹⁹Along with industrialization, the share of employees in the primary industry decreased from 53.8% in 1920 to 44.3% in 1940. During the Second World War, evacuation of people from urban areas increased the proportion of primary sector workers to 48.5% in 1950.

Therefore, clearing the labor market for newly graduated job seekers was a vital role played by the PES during the 1950s and 1960s. Since newly graduated job seekers faced a fixed graduation time schedule that was dictated by the school calendar, the PES began to periodically organize the national conference of labor adjustment (*Zenkoku Jyukyu Chōsei Kaigi*). In these conferences, the PES coordinated the demand and supply of newly graduated job seekers at the national level. Although many previous researches attributed the conference to the practice during the war-time era (e.g., Sugayama, 1998), it is useful to remember that the PES had already incorporated private networks and had even attempted to match employment across prefectures before the Second World War. For example, as we indicated in the previous section, the important characteristics of the matching market in the silk reeling industry was its coverage both in terms of number and geography, as well as the tight schedule of recruitment. To meet such conditions, before the PES, private unions had to extend their connections directly to factory areas across prefectures and organized employment exchanges that were concentrated in approximately two weeks around the beginning of January every year. The local PES centers in the supply area that succeeded private union networks naturally began coordinating labor market matching with PES centers in the factory area. Although the Employment Exchange Act in 1921 intended to construct a nationwide network of PES centers and the government actually constructed the hierarchy of employment exchange offices at the top of the Central Administrative Office of Employment Exchange (*Chuō Shokugyō Shōkai Jimukyoku*), the central office did not have the capacity to coordinate the disequilibrium in demand and supply. It was only after absorbing the private networks, as it happened in the silk reeling industry, that the PES began holding a conference to communicate with the local offices to coordinate both the labor market demand and supply sides (Tokyo Area Administrative Office of Employment Exchange, 1929, pp.23-49). In 1928, 781 workers were matched between Maebashi area (factories in Gunma prefecture) and Niigata prefecture as a result of this network, 20.9% of which can be attributed to the PES (ibid. p.186). There are no consecutive records of matching across areas, but it may well have been the case that this experience in the silk reeling industry may have pioneered the national conference on labor adjustment after the 1950s.

(Concluding remarks)

During the period of industrialization, Japan struggled with labor market problems as those experienced by other economies in the past or as some are currently undergoing. The PES was almost the only countermeasure available to the Japanese government, since other labor market policies such as minimum labor standards, unemployment insurance, or unionization, were

highly restricted by the political climate at the time. While the PES improved labor market matching and contributed to lowering the unemployment rate in Japan, the Japanese experience also highlighted the importance of institutional arrangements of the PES. Initially, during the 1910s and 1920s, government officials were sufficiently optimistic to assume that the PES would eliminate private agencies and dominate matching markets easily because of the financial support provided by the government and the nationwide network of the PES. This governmental assistance was institutionalized as the Employment Exchange Act in 1921. However, anecdotes and ad hoc surveys in those days, as well as statistical analysis in this article, clearly indicate that the PES faced a fundamental challenge in enhancing matching in the labor markets, at least during the 1920s. Lacking experience and long-term relations with employers and job seekers, it was difficult for the PES to generate credible information on employers and employees. Finally, improvements were made in the PES during the 1930s to cope with the economic crisis from the Great Depression. Such improvements were realized through mergers of already-existing networks of spontaneous organizations. By 1938, when the Employment Exchange Act was revised to abolish private agencies, some PES centers had already absorbed private networks and possessed almost the same matching technology as private ones.

Public infrastructure is certainly important to support the efficiency of market mechanism, but the Japanese experience of developing the PES gives us one example where an important public infrastructure has been constructed by integrating privately organized networks. In particular, because intermediates in the markets need credible information, employment agencies also need to prepare for long-term relations between employers and agencies as well as between employees and agencies. An ad hoc physical investment by governments may not achieve an efficient public service delivery. Therefore, it is important to recognize that an effective delivery of services through labor market policies are, more or less, based on such an accumulation of experience.

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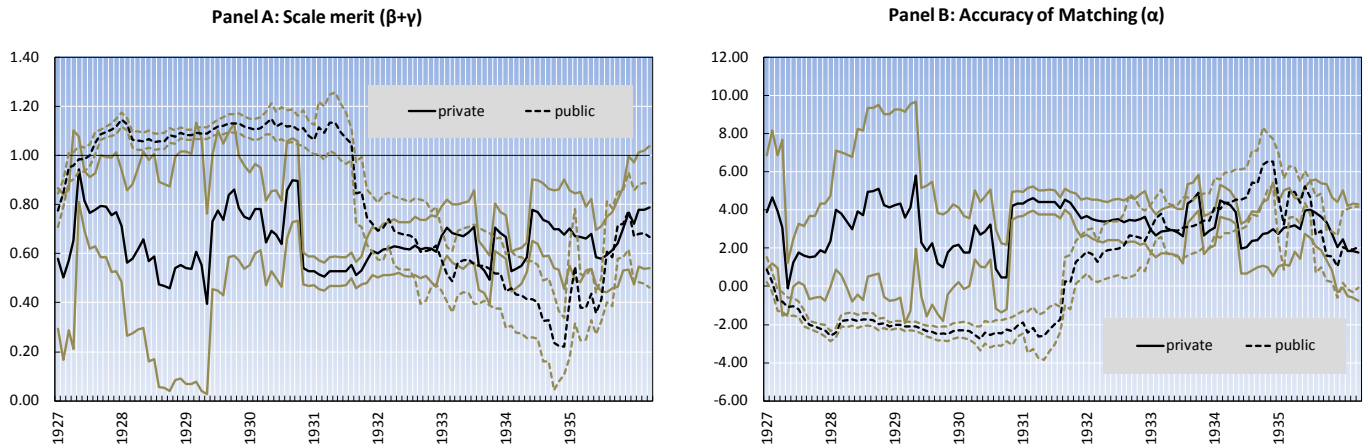
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A. Appendix

Figure A(a): The Estimated Coefficients of the Matching Function: 1927–1938
(Domestic services industry)

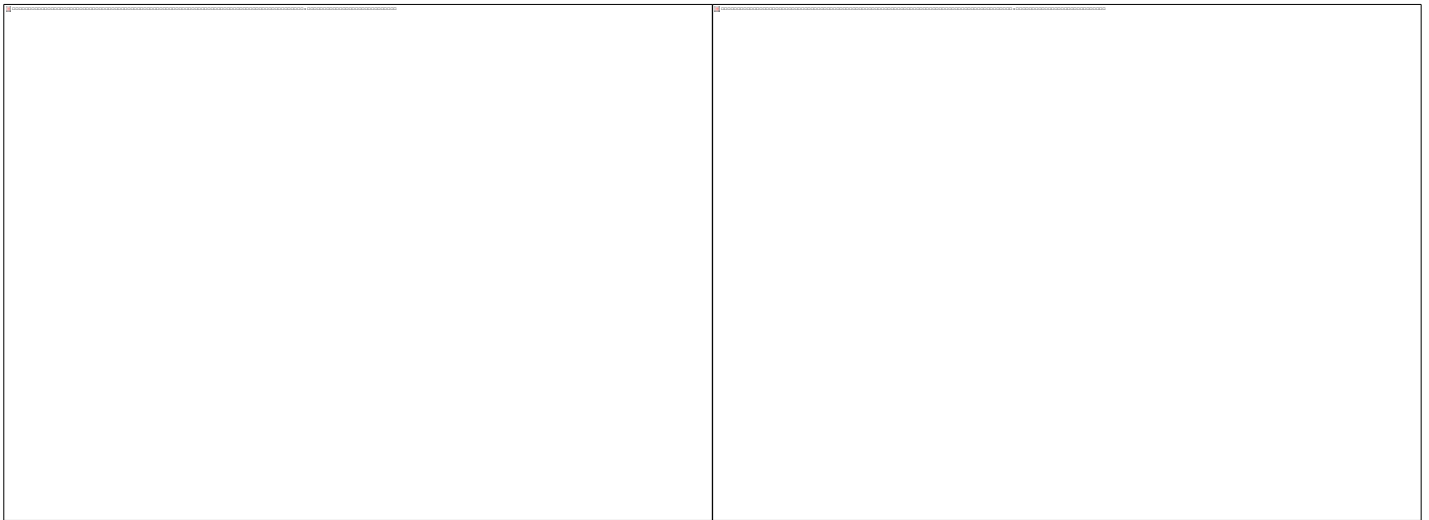


Source: Ministry of Welfare, Employment Agency Statistics

Rolling OLS with 36-month window; the coefficient and 95% confidential intervals were calculated.

Estimation allowed for first-order autoregressive serial correlation in the error term.

Figure A(b): The Estimated Coefficients of the Matching Function: 1927–1938
(Mining and manufacturing industry)



Source: Ministry of Welfare, Employment Agency Statistics

Rolling OLS with 36-month window. The coefficient and 95% confidential intervals were calculated.

Estimation allowed for first-order autoregressive serial correlation in the error term.