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Economic Development, Income Inequality and Social Stability in Prewar Japan: A Prefecture-level Analysis

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Abstract

This paper addresses the relationship between economic development, income inequality and social stability, using the data of prewar Japan. We have made prefecture-level income inequality index, based on tax and wage statistics with respect to four data points, 1888, 1896, 1921 and 1935. Regression analyses of the prefecture-level panel data confirmed that there was an inverse-U shaped relationship between economic development and income inequality. At the same time thorough analyses of the data on thefts and suicides, we found that income inequality gave a negative impact on social stability.

JEL Classification: N3, N15, O15,

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1.Introduction

Income inequality is one of the most serious economic problems confronting the world today. In many developing countries, while the majority suffers in poverty and starvation, a handful of people monopolize a large part of the wealth. In addition to this older and still unresolved problem, recent years have seen income inequality in developed countries attracting attention. Income distribution in developed countries tended toward improvement until the 1970s, but since the 1980s inequality has been expanding again. This is most evident in the US, but similar phenomena are observed in other developed countries, including France, Japan and the U.K. (Atkinson 2001; Moriguchi and Saetz 2007; Piletty 2003; Piketty and Saez 2003). In Japan, income inequality has been a major political issue, arousing a lively controversy in academic circles (Otake 2005; Tachibanaki 2006; Tachibanaki and Urakawa eds. 2006b). It is also a problem in China, which has been on the track of marvelous economic growth since the economic reform. Income Gini index of China in 1995 is 0.42, which is substantially higher than South Asian countries. At the same time, income inequality across regions is increasing (Fujita et al. 2004). Lieu(1999) reports that the ratio of the average income of urban households to that of rural ones has increased sharply since the early 1980s, and that income inequality is causing crimes and labor disputes.

There are a number of empirical studies on income distribution, including the seminal works of Simon Kuznets (Kuznets 1953, 1955). The first strand of the literatures addresses the relationship between economic development and income inequality. On this issue, Kuznets proposed the inverted U-shape hypothesis. That is, income inequality increases in the early stage of development, and declines after that. Some studies use cross-country data (Adelman 1995; Adelman and Morris 1973), and others focused on time series change of inequality within a country (Lindert and Williamson 1985; Williamson 1991; Minami 1996, 1998). Basically, the inverse U-shaped relationship is confirmed until the 1970s, but recent studies using long-term time series data find, as stated above, that income inequality has been expanding in developed countries since the 1980s (Atkinson 2001; Moriguchi and Saetz 2007; Piketty 2003; Piketty and Saez 2003). At the same time, these studies stress the impact of the damage to assets from the Second World War in the downward phase of the inverse U-shaped curve for developed countries. These findings imply that the relationship between development and inequality may not be so simple as the inverted U-shape hypothesis assumes.

The second strand of the literatures explores the implications of income inequality on society and on the political system. Lichbach(1989) pointed out that

inequality brings about the dissatisfaction of the lower income class, thereby causing social instability. Huntington (1987) regarded income inequality as a factor that could frustrate democratization, referring to the experiences of prewar Germany, Italy and Japan. The findings of these literatures imply that resolving the inequality problem is necessary for sustainable development of an economy.

In this paper we will tackle the issues which these two strands of literatures have addressed, using new prefecture-level data for prewar Japan. Analyses based on the prefecture-level data for prewar Japan have substantial advantages. Studies on income inequality based on cross-country data are criticized for not taking into account the difference in the shapes and positions of the Kuznets curves among various countries, which have other disparate conditions in addition to their extent of economic development (Fields 1990; Minami and Kim 1999). One can safely assume that Japanese prefectures were more homogeneous than countries around the world. At the same time, by pooling prefecture-level data over years, one can get much richer information than with just time-series data for each country. Furthermore, for Japanese prefectures in the prewar period, various data on relevant economic and social variables are available. By constructing prefecture-level panel data of income inequality index and other relevant variables, I explore the relationship between economic development and income inequality as well as implications of inequality on social stability, from the start of industrialization.

The paper is organized as follows. Section 2 overviews the prewar Japanese economic development and the changes over time in income inequality, based on the literature. In section 3, I will present the newly estimated prefecture-level income inequality index. In section 4, I examine the determinants and implications of income inequality by regression analyses of prefecture-level data. Section 5 concludes the paper.

2. Overview of economic development and income distribution

The Japanese economy, which had already had a fairly developed market economy at the end of Tokugawa period, got on the track of industrialization based on modern Western technology in the 1880s. The lower diagram in Figure 1 indicates the ratio of industrial production to agricultural production. In the middle of the 1880s, this ratio started on a long-term upward trend. The timing coincides with the so-called “firm establishment boom.” In the late 1880s, many large-sized joint-stock companies were established, which used modern technology and organization. These included textile companies which led industrialization, as well as companies in such sectors as railways,

marine shipping, banking and insurance.

(Figure 1)

At the same time, the basic institutional and organizational framework for modern economic development was created, including the Constitution (1889), the Diet (1890), and the Bank of Japan (1882). The modern banking system was introduced by the National Bank Act in 1872. National banks, which were private banks privileged to issue bank notes, were reorganized into ordinary banks after the foundation of the Bank of Japan, thereby creating the basic structure of the banking system (Okazaki, Sawada and Yokoyama 2005). Also, two major stock exchanges, the Tokyo Stock Exchange and the Osaka Stock Exchange were founded in 1878 (Hamao, Hoshi and Okazaki 2007).

GNP estimation is available from 1885 (Figure 1). In the early stage of industrialization, macro economic growth rate was fairly high at 4.1% per year from 1885 to 1895. Although the growth rate slowed down to 1.9% per year from 1895 to 1915, it accelerated again from the late 1910s. The average growth rate from 1915 to 1935 was 3.8% per year. The acceleration of growth coincides with the acceleration of industrialization, which, in turn, was boosted by development of heavy and chemical industries. This second phase of growth and industrialization was stimulated by the First World War, but continued until the breaking out of the Sino-Japanese War in 1937.

Since the late nineteenth century, per capita real GNP has grown as well. In the period from 1885 to 1936, it grew 2.64 times. In the same period, real wage increased 3.00 times. Looking at the indexes, with 1885 as the base year, we found that, whereas real wages tended to be behind per capita real GNP until the 1890s, after that, in particular after the late 1910s, real wages caught up with and got ahead of per capita GNP (Figure 2). It is implied that at least after the turn of the century, the fruits of economic growth were distributed to workers fairly well. Indeed as Figure 3 indicates with respect to the cotton spinning industry, the level of labor share was stable in the long run, while there were counter-cyclical ups und downs.

(Figure 2, Figure3)

The long-term change in individual income distribution in Japan is an issue that has been investigated since the 1930s (Shiomi et al.1933; Hayakawa 1944, 1951; Mizoguchi, Takayama and Terasaki 1978; Mizogichi and Takayama 1984), but Minami (1996, 1998) started a new epoch. The characteristic of Minami (1996, 1998) is that they

compile and use the household tax (*kosuwari*) data comprehensively. The household tax was a local tax imposed on each household based on its income and assets. A distinctive attribute of this tax was that it covered almost all of the households in the area where it was imposed. For example, in 1930, with respect to Morioka City in the North-East of Japan, 97.6 % of all households were covered, whereas the individual income tax (Class III income tax) covered only 6.6 % (Minami 1996, p.6). Minami and his colleagues collected household tax documents for 210 areas (16 cities, 45 towns and 149 villages). It is notable that the documents contain the income and tax payment of each household for the period from 1922 to 1939. For the period from the 1880s to 1921, the documents contain the tax payment and the number of households by income bracket. Using the data from these documents, Minami (1996, 1998) computed Gini indexes for each area and at the national level for six data points, 1895, 1905, 1915, 1923, 1930 and 1937. Figure 4 shows the Gini index by Minami (1996). An up sloping trend is observed from the late nineteenth century to the 1930s, which Minami (1996, 1998) interpreted as the upward phase of the Kuznets Curve.

(Figure 4)

Recently, Moriguchi and Saez (2007) shed new light on changes over the long-term in the income distribution in Japan. It is a part of the project on the long-term comparative history of income distribution (Atkinson 2001; Piketty 2003; Piketty and Saez 2003). For the international comparison, they focus on the inequality measure, defined as the income share of the top income groups, which can be made for many countries. To compute the income shares of the top class, Moriguchi and Saez (2007) used income tax data. Although the coverage of individual income tax (Class III income tax) was very small as stated above, we can estimate the income of the top x% (1% for example) income group assuming the Pareto distribution for high income people. Dividing the income of the top income group by the national income, they had the top 0.1%, 0.5%, 1% and 5% income groups. The series of top 0.1% and 1% income shares by Moriguch and Saez (2007) are shown in Figure 4. Aside from the decline of the top 1% income share in the late 1880s, the top income shares have upward trends, and are basically parallel with Gini index by Minami (1996). We can say that at the national level, individual income distribution tended to be unequal in prewar Japan at least since the 1890s.

3. Measuring income inequality at prefecture-level

As stated in the previous section, Minami (1996) computed the Gini index for each area for which household taxes are available. Using the Gini indexes, he examined the cross sectional relationship between income inequality and industrialization. Industrialization was measured by the proportion of the non-agricultural population of each area. It was found that income inequality correlated positively with industrialization in 1937, while there was no correlation in 1923, and a weak positive correlation in 1930. He interpreted this to mean that differences in income distribution emerged as a result of the progress of industrialization after the early 1920s (Minami 1996, pp.57-64).

While Minami (1996) is a careful study based on high quality data, it has one shortcoming, caused by data unavailability. As he noted, there were cities, towns and villages which did not impose any household tax, and they included such major cities as Tokyo, Osaka, Kyoto and Nagoya. This means that the areas which were most industrialized and where many of the richest people lived, are excluded from the scope of the study. Taking this problem into account and learning from Moriguchi and Saez (2007), I prepared a prefecture-level income inequality index.

First, let me summarize the income tax system in prewar Japan, relying on Moriguchi and Saez (2007). The Income Tax Law of 1887 comprehensively defined individual income to include capital income (interests, rents and dividends), employment income (salaries, bonuses, benefits and pensions), business and farm income and other income. Income tax rates were defined over five income brackets. After the revision of the Law in 1899, income tax was classified into three classes according to the type of income, viz. corporate income (Class I), interest income (Class II) and the other individual income (Class III). Under the revised system, dividends and bonuses paid by the corporation to individuals were non-taxable, and the rates of Class III income tax were defined over 12 income brackets. In 1920 the Law was revised again, and 60% of dividends and bonuses became taxable.

Referring to the changes in the income tax system, I have selected four data points for which I estimated the income inequality index: 1888, 1896, 1921 and 1935. 1888 is the first year for which prefecture-level data is available in the *Annual Statistical Report of the Tax Bureau* (*Zeimu Tokei Nenpo*). As income tax under the Income Tax Law of 1887 was imposed on the average of the previous three years (Moriguchi and Saetz 2007), I regard the income data in the 1890 issue of the *Annual Statistical Report of the Tax Bureau* as the data for 1888. 1896 is the last year for which comprehensive income data is available in the *Annual Statistical Report of the Tax Bureau*. For the period from 1897 to 1919, information on dividends and interest data

are not available because income tax was exempted for those types of income. Hence, and in order to avoid the impact of the asset bubble and its collapse in 1920, I selected 1921 as the next data point. Under the Income Tax Law of 1920, income tax was imposed on the income in the previous year, so I regard the income data in the 1922 issue of the *Annual Statistical Report of the Tax Bureau* as the income data of 1921. Finally, 1935 is the last year prior to the tax reform to cope with the Sino-Japanese War for which income data is available.

For those four data points, I estimated the income of top 0.1% income group at the prefecture-level. The methodology is basically the same as that used by Moriguchi and Saez (2007) for national-level estimation. As the *Annual Statistical Report of the Tax Bureau* has the number of taxpayers and their total income by income bracket, one can identify the income bracket which includes the lowest income person of the top 0.1% income group. The adult population of each prefecture are estimated by multiplying the total population of a prefecture by the ratio of the adult (15+) people to the total population at the national level. The population data are taken from various issues of the *Statistical Year Book of the Japan Empire* (*Nihon Teikoku Tokei Nenkan*).

Assuming that the bracket is the i^{th} from the highest, we can compute Pareto coefficient as follows.

$$\alpha = [\log(\sum_{1}^{i} X_k) - \log(\sum_{1}^{i-1} X_k)]/[\log(B_{i-1}) - \log(B_i)],$$

where, B_i is the lower income bound of bracket i and X_k is the percentage of tax payers in bracket k. Given that income is distributed as Pareto, we can compute the income of a person whose income is j^{th} from the highest in bracket i by

$$\log(y_j) = [\log(\sum_{1}^{i} X_k) - \log(0.1)]/\alpha + \log(B_i).$$

Then the total income of the top 0.1% income group is

$$\sum_{1}^{i-1} Y_k + \sum_{1}^{J} y_j = I,$$

where Y_k is the total income of all persons in bracket k and we assume that the person whose income is at the lower bound of the top 0.1% income group is J^{th} from the highest

in bracket i. Concerning 1921 and 1935, as interests were taxed separately (Class II) and 40% of dividends and bonuses were non-taxable, these incomes should be added to I. In calculating the amount going to the top 0.1% income group, I assumed the share of top 0.1% income group in the total Class III income.

Morigichi and Saez (2007) measures income inequality by dividing the income of top income group by GNP, but the total added value for the prefecture-level is not available. So, in making an inequality measure, we adopt another strategy-comparing the average income of the top 0.1% income group with the average income of factory workers. In other words, we focus on income disparity between the wealthiest group and lower income group in a society. Dividing I by 0.1% of the adult population, we have the average income of the top 0.1% income group. On the other hand, with respect to 1935, we can take average annual wage income of factory workers at the prefecture level from the *Manufacturing Census* (*Kojo Tokeihyo*). Taking the prefecture-level wage income in 1935 as the benchmark and using district-level wage data from *Wage Statistics* (*Chingin Tokeihyo*) and *Statistics of Agriculture and Commerce* (*Noshomu Tokeihyo*), we extrapolate annual wage income to 1888, 1896 and 1921. Our inequality measure for prefecture l is

$$INEQUALITY_l = (I_l / N_l) / w_l,$$

where I_l, N_l and w_l are average incomes of top 0.1% income group in prefecture l, 0.1% of the total adult population of prefecture l, and average annual wage income in prefecture l respectively.

Figure 5 shows the distribution of INEQUALITY in 1888, 1896, 1921 and 1935 and Table 1 reports the basic statistics. Through out the prewar period, the average level of INEQUALITY was 30 to 50. That is a person in the top 0.1% income group was 30 to 50 times richer than an average factory worker. Observing the changes over time, we find that in the early phase of industrialization INEQUALITY went up substantially, and then became stable. At the same time, INEQUALITY varied substantially across prefectures, for example in 1888, it varied from 6.00 to 103.01. Standard deviation of INEQUALITY increased in the early stage and declined after that.

(Table1, Figure 5)

4. Economic development, inequality and social instability

As we have seen in the previous section, there was substantial variance of income

inequality across prefectures. Then, the question is how the extent of income inequality was associated with economic development. To see this, we need variables indicating economic development. Minami(1996) used the ratio of non-agricultural workers to the total population for the proxy. However, before the first population census in Japan in 1920, this variable is not available. So, in this paper we use the average bank deposit per adult in the population (at 1934-36 price), DEPOSIT, as a proxy for economic development. The idea is that it captures the extent of financial deepening of each prefecture. The prefecture-level data for bank deposits is taken from various issues of the *Statistical Year Book of the Japan Empire* (*Nihon Teikoku Tokei Nenkan*).

Figure 6a-6d shows the relationship between DEPOSIT and INEQUALITY in 1888, 1896, 1921 and 1935, respectively. In 1888, although the variance of DEPOSIT was small, a comparison between two metropolitan prefectures (Tokyo and Osaka) and the other prefectures shows a positive correlation between DEPOSIT and INEQUALITY. The coefficient of correlation is 0.639 and positive correlation is significant at the 1% level. In 1896, as the variance of DEPOSIT increased, the positive correlation between became even clearer. At the same time, it is notable that the relationship seems not to be linear, but concave, which is consistent with the inverted U-shape hypothesis. In 1921, the positive correlation became weak. The coefficient of correlation declined to 0.233, which is statistically insignificant. However, in 1935, a clear positive correlation emerged again. The coefficient of correlation was 0.801 and positive correlation was statistically significant at the 1% level. Also, as in 1896, the relationship seemed to be concave.

(Figure 6a-Figure 6d)

Based on the observation in Figure 6a-6d, I examined the relationship between DEPOSIT and INEQUALITY by pooling the data for 1888, 1896, 1921 and 1935. Equations to be estimated are as follows.

$$INEQUALITY_{lt}=\beta_0+\beta_1 DEPOSIT_{lt}+\Sigma\ \gamma\ YEAR_t+e_{lt} \quad (1)$$

$$INEQUALITY_{lt}=\beta_0+\beta_1 DEPOSIT_{lt}+\beta_2 DEPOSIT_{lt}^2+\Sigma\ \gamma\ YEAR_t+e_{lt} \quad (2)$$

The quadratic term $DEPOSIT_{lt}^2$ is to see whether there was an inverse U-shaped relationship or not. $YEAR_t$ are year dummies and e_{it} is an error term. First I estimated these equations by Pooled OLS. The results are reported in Table 2.

(Table 2)

In (1), the coefficient of DEPOSIT is positive and statistically significant at the 1% level, which confirms the positive relationship between economic development and income inequality. In equation (2), the coefficient of DEPOSIT is significantly positive as well. On the other hand, coefficient of $DEPOSIT^2$ is negative and statistically significant at the 5% level. The negative coefficient of quadratic term implies a concave relationship between DEPOSIT and INEQUALITY, or in other words, the relationship was inverse-U shaped. Next, considering that error terms for the same prefecture are correlated to each other, I estimated equation (1) and (2) by GLS. The absolute values of the coefficients were smaller than the case of Pooled OLS, but the results were qualitatively the same (Table 2).

Having confirmed the relationship between economic development and income inequality, I shall now explore the relationship between income inequality and social instability. As variables indicating social instability, I focus on crimes and suicides. With respect to crimes, the number of thefts in each prefecture in 1888, 1896 and 1921 were taken from the *Statistical Year Book of the Japan Empire*. Also, the number of suicides in each prefecture for 1888, 1896, 1921 and 1935 were taken from the same source. Normalizing these numbers by the population of each prefecture, we create the variables THEFT and SUICIDE. The equations to be estimated are

$$\text{THEFT(or SUICIDE)} = \beta_0 + \beta_1 INEQUALITY_{lt} + \Sigma\, \gamma\, YEAR_t + e_{lt} \quad (3)$$

$$\text{THEFT(or SUICIDE)} = \beta_0 + \beta_1 INEQUALITY_{lt} + \beta_2 DEPOSIT_{lt} + \Sigma\, \gamma\, YEAR_t + e_{lt} \quad (4)$$

The estimation results on THEFT are reported in Table 3 and the results on SUICIDE are reported in Table 4.

(Table 3, Table 4)

First let us look at the results on THEFT by Pooled OLS. In equation (3), the coefficient of INEQUALITY is positive and statistically significant at the 1% level, which implies that income inequality raised the frequency of thefts. In equation (4), while the coefficient of DEPOSIT is positive and statistically significant, the coefficient of INEQUALITY is also positive and statistically significant at the 5% level. This result implies that, whereas an increase in theft was partly caused directly by economic development itself, it was also due to the expansion of income inequality. Table 4 reports

the estimation results of the same equations by GLS. It is confirmed that the results are qualitatively the same.

Income inequality increased not only thefts but also suicides (Table 4). The Pooled OLS estimation result of equation (3) indicates that the coefficient of INEQUALITY is positive and statistically significant at the 1% level. In equation (4), whereas the coefficient of DEPOIST is not significant, the coefficient of INEQUALITY is statistically significant at the 1% level. With respect to equation (3), the result of GLS estimation is qualitatively the same. With respect to equation (4), the coefficient of DEPOSIT is negative and statistically significant at the 1% level, while the coefficient of INEQUALITY is positive and statistically significant at the 1% level. In sum, there is a robust positive correlation between income inequality and the frequency of suicides. On the other hand, economic development itself had the direct effect of reducing suicides. However, it had the indirect effect of increasing suicides by way of expanding inequality.

5. Concluding remarks

The relationship between economic development, income inequality and social stability has been attracting the interest of economists and economic historians as well as political scientists. Preceding literatures on this issue are based on cross-country data or time-series data for a specific country. However, given substantial unobservable differences across countries, cross-country analyses cannot avoid substantial drawbacks. At the same time, if we rely solely on time-series data for one country, it is almost impossible to have an adequate variation of relevant variables. Hence, in this paper, I focused on prefecture-level data for prewar Japan. Since prefecture-level income tax data was available for Japan, I could estimate the income of top 0.1% income group at prefecture level. Regression analyses using prefecture-level panel data confirmed that there was an inverse U-shaped relationship between economic development and income inequality. At the same time the analyses using the data for thefts and suicides showed income inequality to have a negative impact on social stability.

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Figure1 Economic Development in Prewar

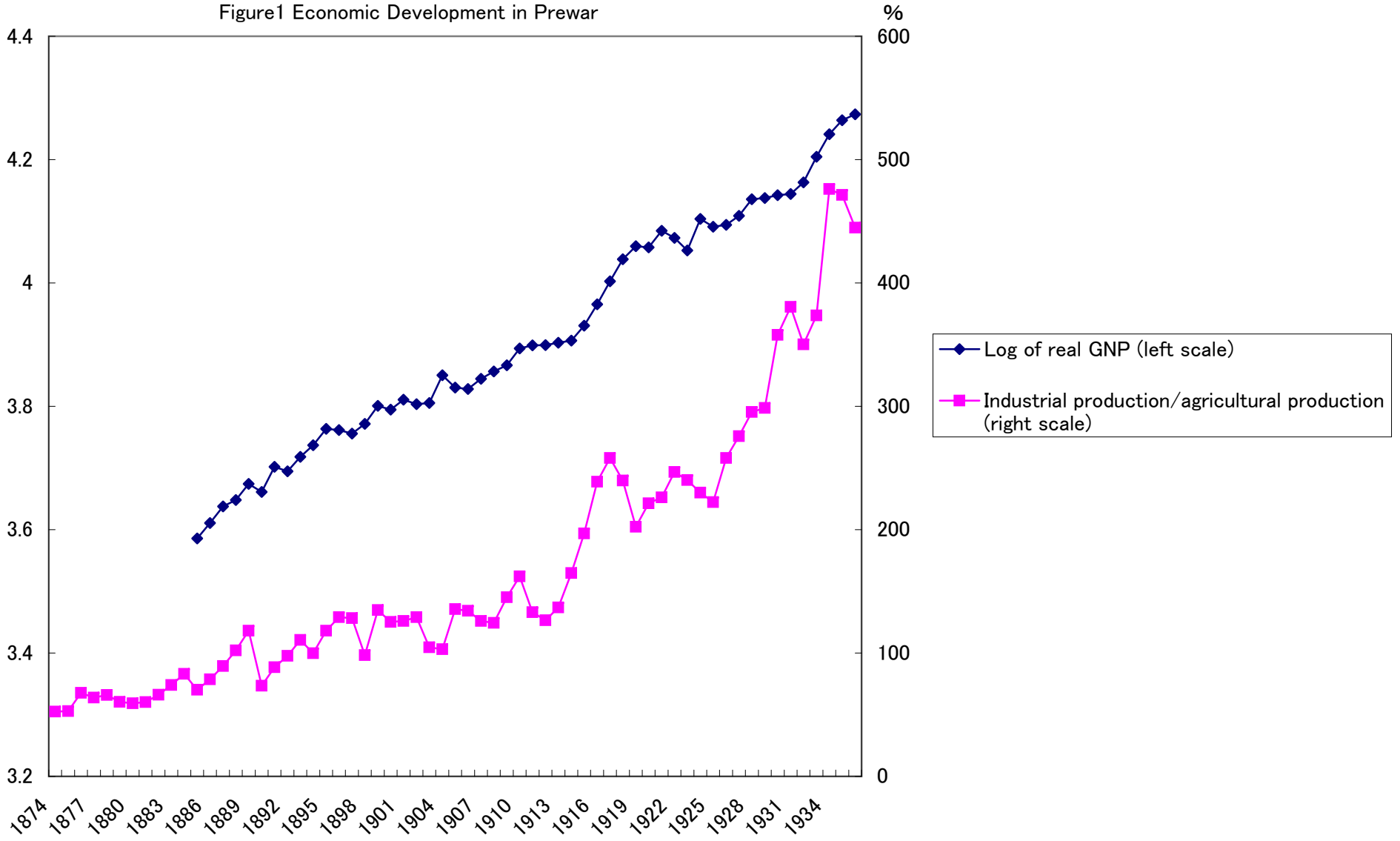

Figure2 Growth of per capita real GNP and real wage (indexes of log value, 1885=100)

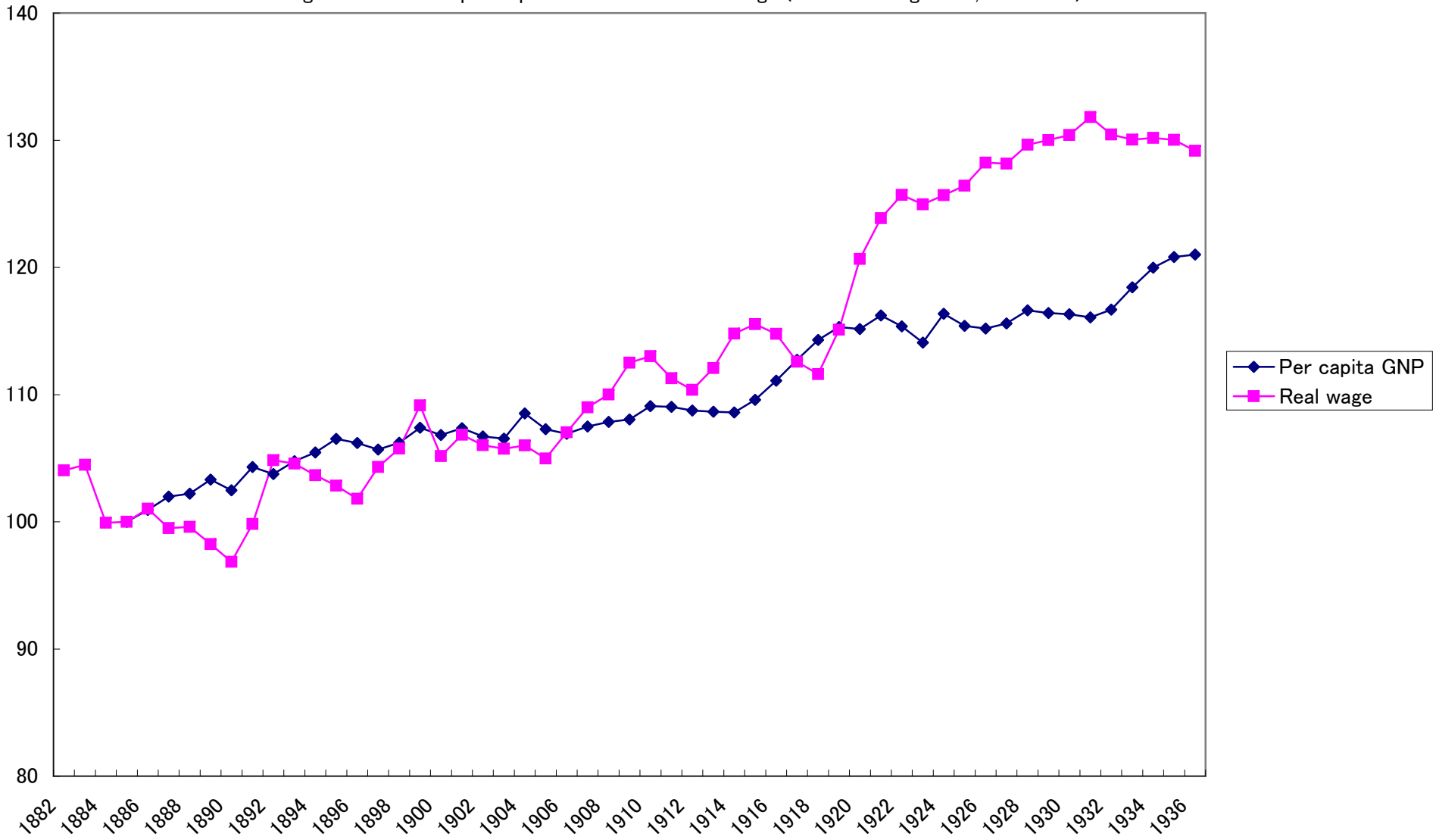

Figure 3 Labor share in the Cotton Spinning Industry

Figure 4 Indexes of Income Inequality

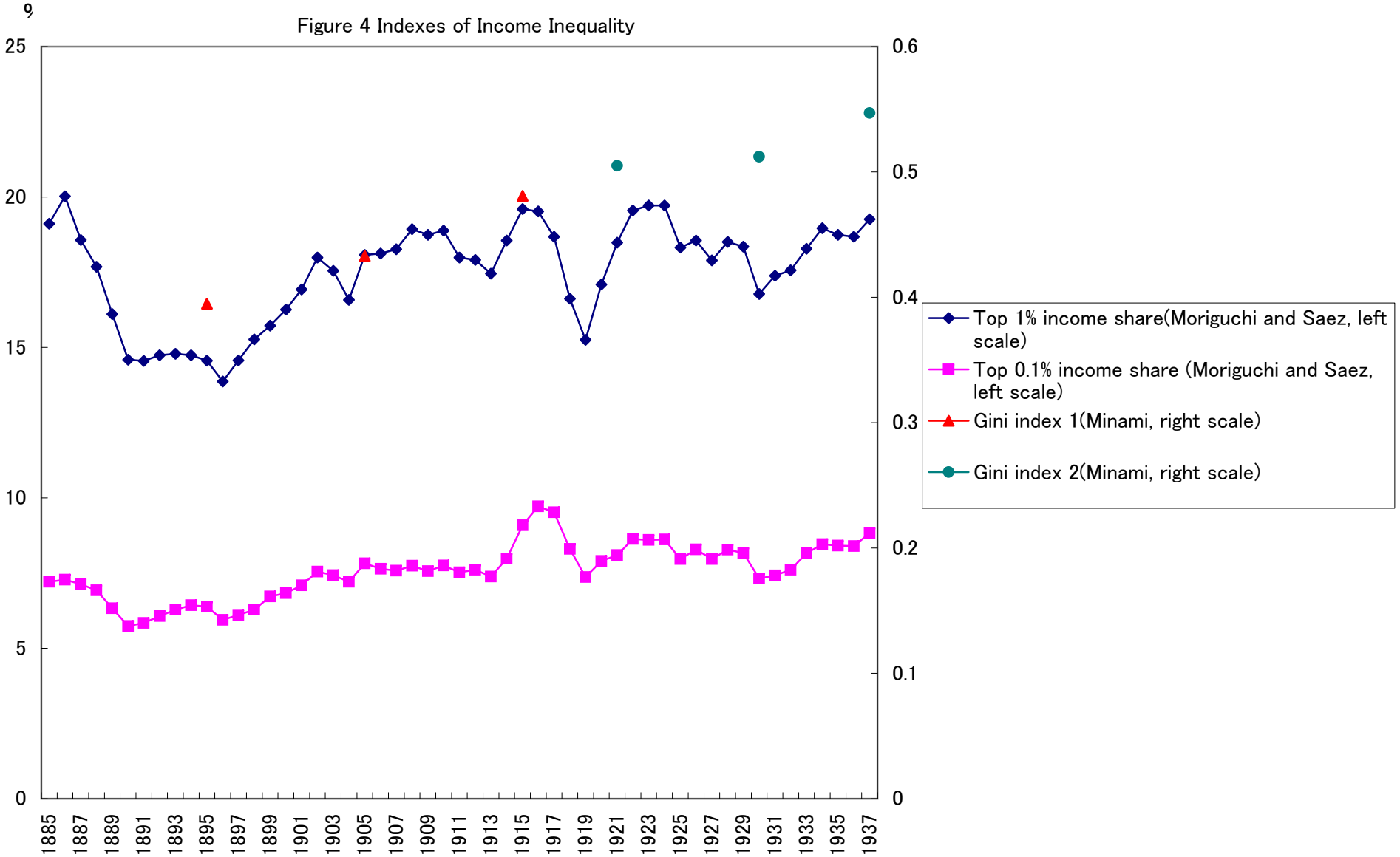

Figure 5 Distribution of income inequality index (prefecture-level data)

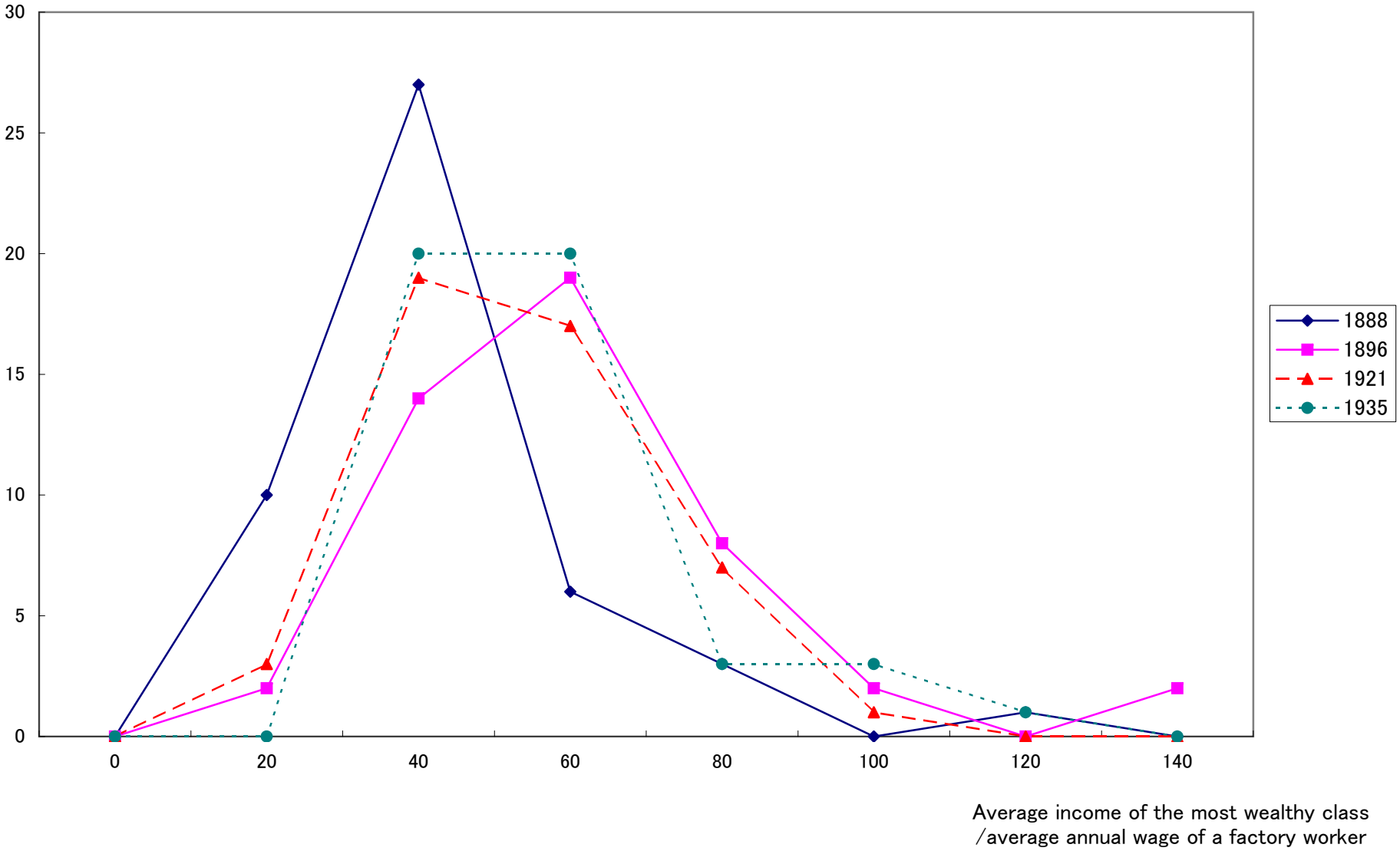

Figure 6a Correlation between economic development and income inequality (1888)

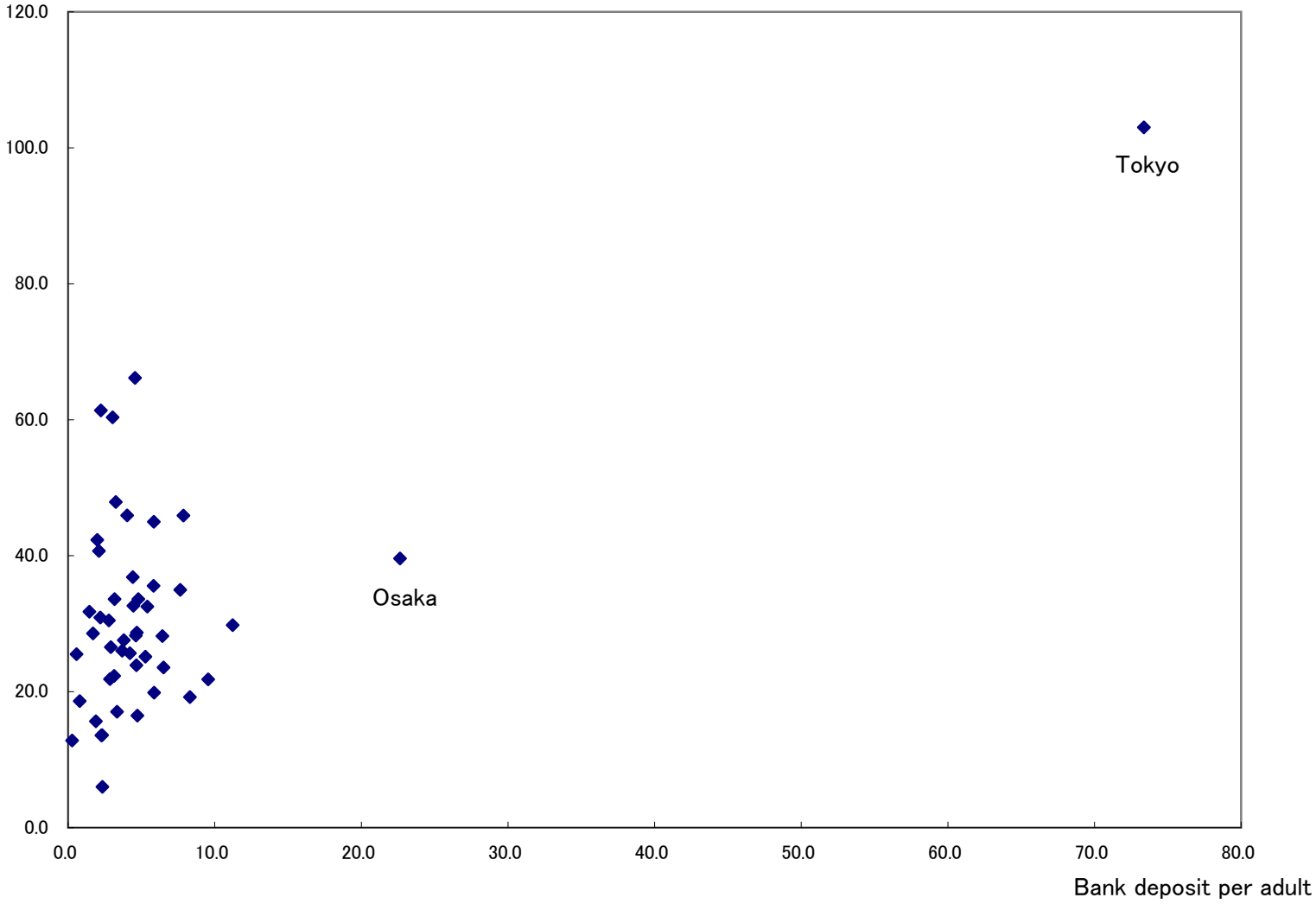

Figure 6b Correlation between economic development and income inequality (1896)

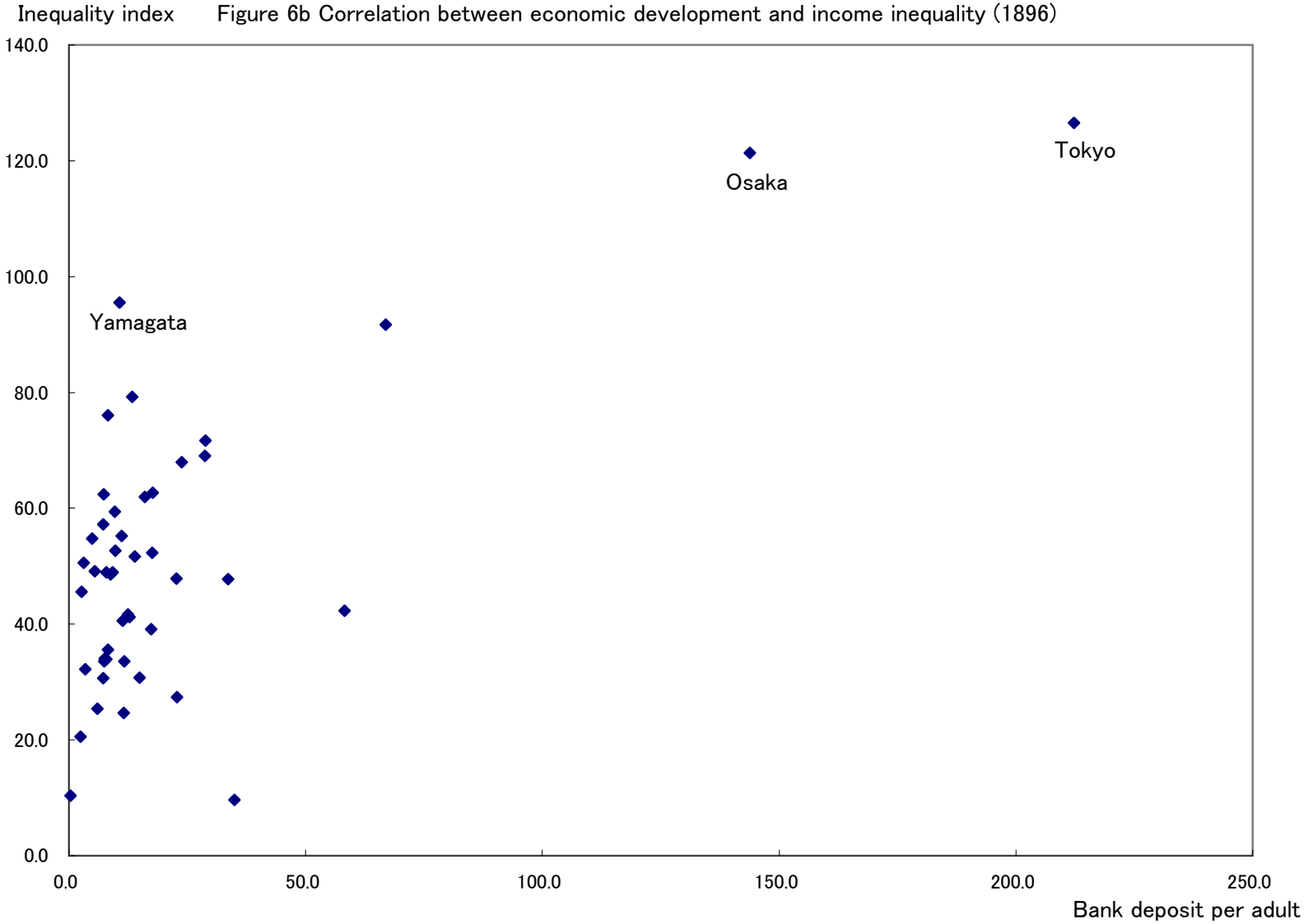

Figure 6c Correlation between economic development and income inequality

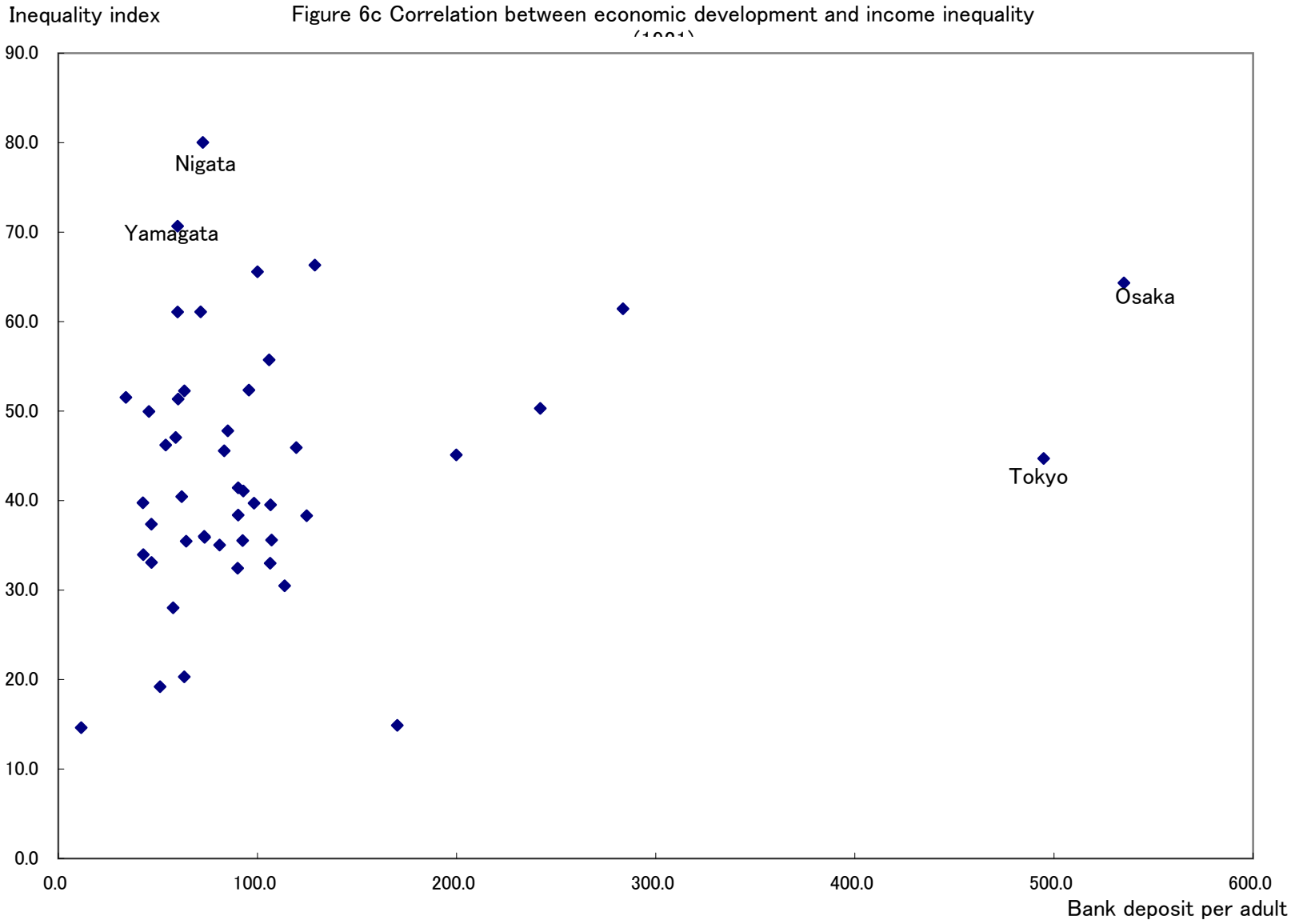

Figure6d Correlation between economic development and income inequality

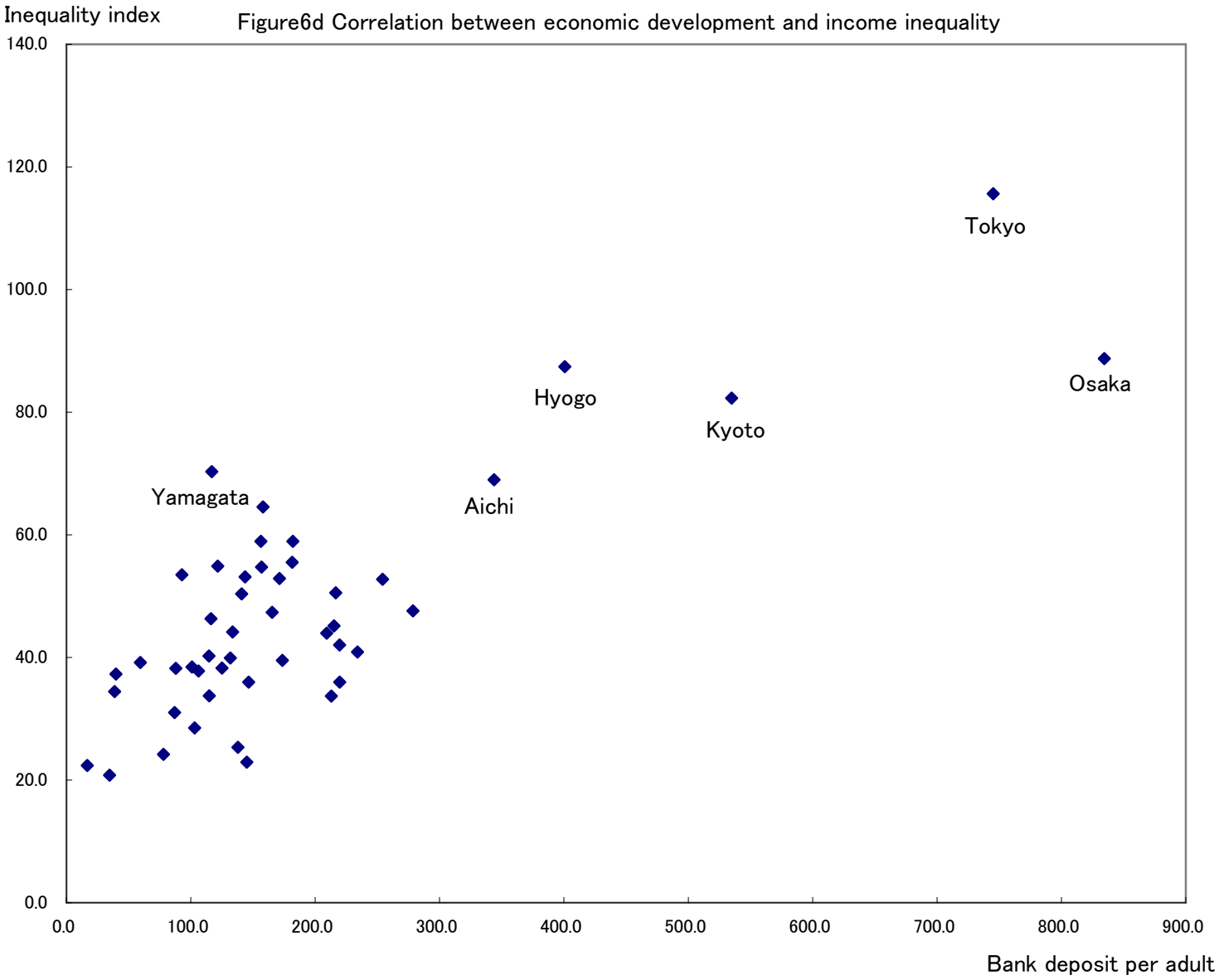

Table 1 Basic statistics of prefecture-level income inequality

	1888	1896	1921	1935
Average	31.86	50.59	43.53	47.44
Standard deviatior	16.57	24.20	14.12	18.78
Max.	103.01	126.57	80.02	115.63
Min.	6.00	9.69	14.62	20.80

Table2 Economic development and income inequality

Dependent variable: INEQUALITY								
Estimation method	Pooled OLS		Pooled OLS		GLS		GLS	
RDEPOSIT	0.0932	(7.32) ***	0.162	(4.65) ***	0.0490	(3.88) ***	0.107	(3.39) ***
RDEPOSIT*RDEPOSIT			$-0.100*10^{-3}$	(−2.12) **			$-0.781*10^{-4}$	(−2.02) **
1896	17.281	(5.05) ***	16.372	(4.79) ***	17.969	(7.28) ***	17.193	(6.97) ***
1921	2.205	(0.60)	−2.657	(−0.62)	6.696	(2.41) **	2.468	(0.71)
1935	−1.314	(−0.32)	−7.819	(−1.53)	6.700	(1.99) **	0.849	(0.19)
Cons	31.306	(12.94) ***	30.909	(12.86) ***	31.570	(13.20) ***	31.235	(13.09) ***
adR^2/R^2	0.310		0.322		0.294		0.317	
Wald chi2(4)					81.54		87.17	
rho					0.471		0.479	
Obs.	188		188		188		188	

Table 3 Income inequality and crimes

Dependent variable: THEFT								
Estimation method	Pooled OLS		Pooled OLS		Random-effect GLS		Random-effect GLS	
INEQUALITY	0.039	(3.54) ***	0.024	(2.28) **	0.0262	(2.27) **	0.0274	(2.46) **
RDEPOSIT			0.015	(4.47) ***			0.0087	(2.74) ***
1896	−1.690	(−3.15) ***	−1.650	(−3.28) ***	−1.460	(−3.49) ***	−1.616	(−3.67) ***
1921	−4.228	(−8.26) ***	−5.533	(−9.85) ***	−4.085	(−10.68) **	−4.982	(−9.75) ***
Cons	5.543	(11.24) ***	5.908	(12.58) ***	5.934	(11.65) ***	5.846	(12.17) ***
adR^2/R^2	0.340		0.420		0.349		0.425	
Wald chi2(4)					125.54		117.70	
rho					0.482		0.290	
Obs.	141		141		141		141	

Table 4 Income inequality and suicides

Dependent variable: SUICIDE								
Estimation method	Pooled OLS		Pooled OLS		Random-effect GLS		Random-effect GLS	
INEQUALITY	$0.913*10^{-3}$	(4.98) ***	$0.852*10^{-3}$	(4.08) ***	$0.633*10^{-3}$	(3.47) ***	$0.746*10^{-3}$	(4.09) ***
RDEPOSIT			$0.408*10^{-4}$	(0.62)			−0.991*10−4	(−3.16) ***
1896	0.020	(1.99) **	0.021	(2.05) **	0.026	(3.81) ***	0.025	(3.83) ***
1921	0.055	(5.55) ***	0.053	(5.12) ***	0.058	(9.40) ***	0.0667	(10.15) ***
1935	0.059	(5.88) ***	0.056	(4.76) ***			0.0796	(9.88) ***
Cons	0.101	(11.26) ***	0.103	(10.88) ***	0.063	(9.84) ***	0.1069	(11.99) ***
adR^2/R^2	0.330		0.327		0.337		0.294	
Wald chi2(4)					208.73		232.33	
rho					0.641		0.660	
Obs.	188		188		188		188	