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The Expanding Empire and Spatial Distribution of Economic Activities: The Case of the Colonization of Korea by Japan in the Prewar Period

Kentaro Nakajima
Tohoku University
Tetsuji Okazaki
The University of Tokyo

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Kentaro Nakajima (Tohoku University)*

and

Tetsuji Okazaki (University of Tokyo)**

Abstract

After the First Sino-Japanese War and the Russo-Japanese War, Japan annexed Korea in 1910. We exploit this event as a natural experiment to investigate the effect of improved market accessibility on population growth. It is found that the drastic tariff reduction caused by the annexation raised the population growth rates and that the impact of the tariff reduction was significantly larger in areas close to the eliminated border between Japan and Korea. As predicted by spatial economics theory, market accessibility was indeed a determinant of the spatial distribution of economic activities. In the context of economic history, our findings suggest that it is important to reconsider the economic consequences of imperialism from the angle of spatial economics.

JEL classification: N45, N95, R12

Key words: Imperialism, Colonization, Spatial economics, Economic geography, Economic History,

Japan

* nakajima.kentaro@gmail.com

** okazaki@e.u-tokyo.ac.jp

I

The rise and fall of the Empire of Japan was one of the most remarkable events in the twentieth century history of imperialism. Japan annexed Taiwan, southern Sakhalin and Korea around the turn of the century during the Sino-Japanese War and the Russo-Japanese War. The Empire of Japan expanded its control over the northern part of China and Southeast Asia in the 1930s and 1940s and then suddenly lost the acquired territories following its defeat in WWII.[1] The military and political integration of these large areas into the Empire of Japan had a substantial impact on the economy of Japan itself as well as on the integrated areas. This paper explored how the annexation of Korea affected the Japanese economy.

In particular, we focus on the effect that annexation had on the spatial distribution of economic activities in Japan. Market accessibility has long been considered to be one of the basic determinants of the spatial distribution of economic activities in the theoretical literature of spatial economics.[2] More specifically, market accessibility has been presumed to have a positive effect on economic activities. Redding and Sturm estimated the role of market accessibility on the spatial distributions of economic activities by focusing on the division of Germany into West Germany and East Germany just after WWII.[3] As Germany's division was implemented for military and political reasons, this event can be regarded as exogenous to the economy. They interpreted the division as a loss of access to the East German market for West Germany and tested the theoretical prediction that the impact of the division would be larger in areas closer to the new border between West Germany and East Germany. They found that the German division indeed had a negative impact on population growth in the cities close to the new border. In the same vein, some papers examined the implications of market accessibility by focusing on the division of an economy or the integration of economies.[4]

In this context, the rise and fall of the Empire of Japan is an important subject to explore. Nakajima focused on the independence of Korea from Japan in 1945 to examine the implications of market accessibility, finding that cities in the western part of Japan close to the new border between Japan and Korea suffered from a greater negative impact from the division,[5] which is consistent with Redding and Sturm' s

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[1] On the economy of the Empire of Japan in the 1930s and 1940s, see Bordorf and Okazaki eds., *Economies under Occupation*; Hara, *Nihon Senji Keizai Kenkyu*; Yamamoto, *Nihon Shokuminchi Keizaishi Kenkyu*.

[2] E.g., Fujita et al., *Spatial Economics*.

[3] Redding and Strum, 'The cost of remoteness.'

[4] Brülhart et al., 'How Wages and Employment Adjust to Trade Liberalization'; Ahlheldt et al., 'The Economics of Density'; Nakajima, 'Economic Division and Spatial Relocation.'

[5] Nakajima, 'Economic Division and Spatial Relocation.'

results.[6]

This paper also focuses on the border change between Japan and Korea, but the direction of the change here is opposite to Nakajima.[7] Namely, we exploit the event of Japan's annexation of Korea in 1910 as a natural experiment. Similar to the division and the unification of Germany after World War II, the annexation of Korea can be regarded as a natural experiment exogenous to economic variables because its cause was principally military and political.[8] After the annexation, the Japanese government and the colonial government, i.e., the Governor-General of Korea, sequentially reduced the tariff barrier between Japan and Korea to integrate Korea into the Japanese trade area. This event provides a good opportunity to investigate the implications of market accessibility. In line with the literature, the annexation of Korea would improve accessibility to the Korean market from Japan and thereby affect the spatial distribution of economic activities in Japan. More specifically, the areas closer to the previous border between Japan and Korea would enjoy a larger positive impact from the integration.

By using regional population data, we estimate the tariff reduction effects by using a difference-in-differences (DD) design similar to Redding and Sturm (2008), finding the following results. First, regions close to Korea experienced a 6% increase in population relative to the other regions over the 15 years following the integration. This implies the increased market accessibility by the annexation of Korea positively affects the regional economy close to Korea. Second, integration effects are only observed in villages; non-villages such as cities and towns are not affected by the integration in terms of population. This means that the annexation of Korea positively affects only smaller regions. Finally, we examined the difference in the impact across industries. This enabled us to confirm the channel through which the border removal affected the spatial distribution of economic activities. Within the regions close to Korea, those regions specialized in industries that export to Korea gained more. These results support the notion that the annexation of Korea increased the accessibility of the Japanese industries to the Korean market especially in those regions close to Korea, and the increased market accessibility contributed to regional development. In particular, the result showing that regions enjoying a stronger economic relationship to the Korean market benefitted more than the other regions strongly supports our story.

In the context of the economic history of the Empire of Japan, it is known that after the annexation, the Korean economy was integrated into the economy of the

[6] Redding and Strum, 'The cost of remoteness.'

[7] Nakajima, 'Economic Division and Spatial Relocation.'

[8] Unno, *Kankoku Heigo*.

Empire as a supplier of agrarian products, especially rice, and as a market for Japanese industrial products, including cotton textiles.[9] This paper will contribute to this strand of literature by introducing the perspective of spatial economics and exploring the impact of the annexation on the spatial distribution of economic activities within Japan proper.

The remainder of the paper is organized as follows. Section II describes the brief history of the integration of Korea into Japan. Section III explains the theoretical framework, data, and estimation strategy. In Section IV, we present the estimation results. Section V concludes the paper.

II

Just after the Meiji Restoration, some influential politicians in Japan conceived of integrating Korea under Japan's influence. However, two great powers in the Far East, China and Russia, also had keen interest in Korea. Indeed, Korea was an area of focus for political and military conflicts in this area in the late nineteenth and early twentieth centuries. Given this situation, Japan first excluded the influence of China from Korea through the Sino-Japanese War I (1894-95). Korea had been a tributary country of China since the ancient period, but China recognized the independence of Korea by the Shimonoseki Peace Treaty in 1895. After that, and especially after the Boxer Uprising in Northern China in 1901, the threat of Russia to Korea increased; this resulted in the Russo-Japanese War (1904-05), through which Japan established its dominant position in Korea. Based on the situation, in 1905, Japan made Korea a protectorate, supervised by a Resident-General (*Tokan*) appointed by the Japanese government. Finally in 1910, Japan formally annexed Korea and established a Governor-General (*Sotoku-fu*) there. In other words, Korea became a colony of the Empire of Japan, in addition to Taiwan and the southern part of Sakhalin.[10]

The principle of the Japanese government in colonizing Korea was "assimilation," that is, introducing Japanese institutions into Korea. In accordance with this principle, the Japanese government aimed to integrate Korea into its trade area. The same tariff rates were to be applied to the commodities imported from foreign countries to Japan and Korea, while all the tariffs should be removed within this trade area in the Empire of Japan.[11]

Before the annexation, the Korean government had agreements on tariff rates

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[9] Yamamoto, *Nihon Shokuminchi Keizaishi Kenkyu*; Hori, *Higashi Asia Shihonshugishi-ron*.

[10] Unno, *Kankoku Heigo*.

[11] Kim, *Nihon Teikokushugi kano Chosen Keizai*, pp.20-24; Yamamoto, *Nihon Shokuminchi Keizaishi Kenkyu*, pp.3-62.

with several countries, including Russia, the U.K. and the U.S., based on partial trade treaties. To mitigate the antipathies of those countries to the annexation of Korea, in August 1910, the Japanese government declared that Korea's tariff system would be deferred for the next ten years, until August 1920. It should be noted that the tariffs between Japan and Korea were included in this declaration as well.[12]

However, the Japanese government implemented several amendments to the Korean tariff system before 1920. The most important change was the removal in 1913 of the tariffs on rice and unhulled rice imported from Korea to Japan.[13] Because rice was the largest commodity that Japan imported from Korea, the impact of this change was substantial. Data on the amount of commodities imported from Korea to Japan, as well as on the amount of tariffs imposed on them, are available in the *Annual Return of the Foreign Trade of the Empire of Japan* (*Dainihon Gaikoku Boeki Nenpyo*). Dividing the tariff revenue by import amount, we have the average tariff rate. Figure 1 indicates the average tariff rate on the commodities imported from Korea as well as the import amount. The impact of rice tariff removal is clearly reflected in this figure. The average tariff rate declined from 10.7% in 1912 to 3.6% in 1914, while the import increased by 1.9 times in this period.

Figure 1

In September 1920, when the declaration on the deferment of the tariff system expired, the Japanese government removed all of the tariffs on the commodities imported from Korea. However, the tariffs on the commodities imported from Japan to Korea were not removed at that time, although the declaration had expired. This was because the Governor-General of Korea depended heavily on import tariff revenue generated by commodities from Japan.[14] However, this unbalanced tariff policy received criticism from the Japanese Diet, and as a result, in April 1923, all tariffs on commodities that Korea imported from Japan were removed with the exception of three items – alcohol, alcoholic beverages and fabrics.[15] The proportion of these three items in Korean imports from Japan was not negligible, but the impact of this reform was substantial. Figure 2 indicates the average tariff rate on commodities imported from Japan to Korea. As we can see in this figure, the average tariff rate declined from

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[12] Kim, *Nihon Teikokushugi kano Chosen Keizai*, p30; Yamamoto, *Nihon Shokuminchi Keizaishi Kenkyu*, p.69.

[13] Yamamoto, *Nihon Shokuminchi Keizaishi Kenkyu*, p.70.

[14] Ibid., pp.70-71.

[15] Ibid., p.72.

5.68% in 1922 to 1.32% in 1924. Furthermore, the import tariff rate on fabrics from Japan decreased from 7.5% to 5% in April 1927. As shown in Figure 1 and Figure 2, the integration of Korea into the Japanese trade area, which had been intended by the Japanese government since the annexation, was largely achieved by 1924. Table 1 summarizes the composition of trade between Japan and Korea by commodity group. Major items of import to Korea from Japan were textiles as well as chemicals, metals and machinery, while agricultural products, particularly rice, formed the largest import to Japan from Korea.

Figure 2, Table 1

III
Theoretical background

For the theoretical framework, we follow Redding and Sturm's model,[16] which builds on Helpman.[17] In this section, we briefly present their model. Their model comprises $i \in \{1, \ldots I\}$ regions, two goods (manufacturing and housing), and two inputs (labor and land). The manufacturing sector needs only labor as an input for production, with increasing returns to scale technology. The housing sector has constant returns to scale technology with an inelastic land input (H_i) supplied.

A representative consumer living in region i has a Cobb-Douglas preference on consumption for manufacturing goods C_i^M and housing services C_i^H, with a share of manufacturing goods μ. The sub-utility for manufacturing goods is of the constant elasticity of substitution (CES) form, with the elasticity of substitution among varieties (σ).

While housing services are not tradable, manufacturing goods are tradable among regions with iceberg transport costs. If one unit of the manufacturing good is shipped from region i to region j, only fraction $1/T_{ij}$ of the original unit actually arrives.

In this model, two indices of accessibility determine the characteristics of the equilibrium. *Market access* in region i ($MA_i \equiv \sum_j (w_j L_j)(P_j^M)^{\sigma-1}(T_{ij})^{1-\sigma}$) represents the accessibility to the demand market, where w_j is the manufacturing wage, L_j is the population, and P_j^M is the price index in region j. Market access is the transport cost-weighted sum of the demands for manufacturing goods in each region, adjusted by

[16] Redding and Strum, 'The cost of remoteness.'

[17] Helpman, 'The size of regions.'

competition effect P_j^M. *Supplier access* ($SA_i \equiv \sum_j n_j (p_j T_{ij})^{1-\sigma}$) represents the accessibility to the sources of supply, where n_j is the number of manufacturing varieties produced in city j, and p_j is the corresponding price. Supplier access is the transport cost-weighted sum of supplies for manufacturing goods in region i.

Under this setup, in a long-run equilibrium, the population of labor in region i is an increasing function of market access:

$$L_i = \chi MA_i^{\frac{\mu}{\sigma(1-\mu)}} SA_i^{\frac{\mu}{(1-\mu)(\sigma-1)}} H_i$$

where χ is the composite of parameters. The transport cost is assumed to be an increasing function of distance. Therefore, the integration of two markets increases market access in regions near the border, and its effect diminishes according to the distance from the border.

The integration of two markets would increase the market access of regions close to the border, leading to a relative increase in the real wages in these regions. This would be accompanied by labor inflows into the concerned regions. However, such labor inflows would increase the housing rent, which would decrease the real wages in those cities, resulting in the real wages being equalized across all regions in the long-run equilibrium.

Data and empirical strategy

We use panel data on the population of 3,851 Japanese municipalities (city, town, and village) for the years 1913, 1920, 1925, and 1935; these data are obtained from the Bureau of Statistics, Imperial Cabinet.[18] The distance between municipalities is measured by the great circle distance between centroids of municipalities obtained by historical GIS (Geographical Information Science) data.[19]

Using these data, we empirically investigate the hypothesis derived from the theoretical model above, which states that regions located close to the border show a relative increase in their population growth rates compared to the regions situated further from the border. We divide the Japanese regions into two groups: border regions (treatment group) and non-border regions (control group). The Japanese regions located close to Korea are classified as border regions, while the others are non-border regions. Following Nakajima,[20] we define the border regions as those

18 Bureau of Statistics, Imperial Cabinet, *Nihon Teikoku Jinko Seitai Tokei*; Bureau of Statistics, Imperial Cabinet, *Showa10-nen Kokusei Chosa Hokoku*.
19 Murayama Laboratory in Tsukuba University.
20 Nakajima, 'Economic Division and Spatial Relocation.'

located within 400 km of Pusan, which is the Korean city closest to Japan and has the busiest port in terms of trade between Japan and Korea. The boundary for the border region group is encircled in Figure 3. Pusan is located at the center of a circle that defines a distance of 400 km as its radius. The number of regions included as border regions is 542, while the remainder (3,309 regions) fall under the category of non-border regions.

We also divide the periods into before and after the treatment. As we see in Section 2, tariff removal occurred in 1920 and 1923. Thus, we consider the periods 1913 and 1920 as before-treatment periods, and periods 1925 and 1935 as after-treatment periods.

Figure 3

We econometrically compare the population growth rates of these two groups by using the DD methodology. The estimation equation is as follows:

$$PopGrowth_{it} = \beta Border_i + \gamma(Border_i \times Integration_t) + d_t + \varepsilon_{it}$$

where $PopGrowth_{it}$ is the population growth rate in region i in period t; $Border_i$ is the border region dummy, which is one if city i is a border region; $Integration_t = 1$ if $t > 1920$; and d_t is the year dummy to control for common macroeconomic shocks.

Our primary interest is parameter γ, which captures the treatment effect of integration on the population growth rate of the border regions compared to that of the non-border regions. The result that γ is significantly positive indicates a greater increase in the growth rate of the border regions than in that of the non-border regions due to the integration of the Korean market; this is consistent with the theoretical prediction.

IV
Baseline results

Column (1) in Table 2 shows the baseline results. Our primary interest is the coefficient of Border×Integration, which is positive and significant. This is consistent with the theoretical prediction. Additionally, the magnitude of the coefficient was large. Border regions have 0.4 percentage points of annual population growth rate after integration. This implies that after the integration, the border regions experience a 6% increase in population relative to the other regions over the 15 years following the integration.

Another important consequence of the theoretical model is that small regions experience a greater integration effect than that experienced by large regions. Intuitively, this is because own markets are relatively less important for small regions than the own markets are for large regions. In other words, the economy of a small region depends more on the markets in other regions than the economy of a large region does; hence, the impact of the improved access to the Korean market was expected to be greater for small regions than for large regions.

To examine this prediction, Column (2) restricts the samples to the non-village regions that include cities and towns, which are supposed to be large regions. In this specification, the coefficient of Border×Integration is positive but not statistically significant. That is, there is no statistically significant integration effect for the non-village regions. Column (3) restricts samples to the villages, which are supposed to be small regions. In this specification, the coefficient of Border×Integration is positive and statistically significant. These results suggest that economic integration affected the population growth rate especially for villages or small regions. This is consistent with the theoretical prediction.[21]

Table 2

Because the driving force behind the annexation of Korea was political and military, similar to the division and unification of Germany, it can be assumed that economic integration and hence the determination of border cities was not correlated with economic factors. However, one may be concerned that heterogeneity existed between the border and non-border regions. For example, initial levels of industrialization would affect population growth after integration. To control for such heterogeneity, we use a matching technique. We choose samples of the non-border regions that are as similar as possible to the border regions in terms of their initial conditions. We match populations in 1913 and 1920 by minimizing the difference between the border and non-border regions. Thus, we can compare the border and non-border cities that had similar initial populations and population growth rates. The results are shown in Table 3. Column (1) shows the baseline, Column (2) shows the non-village, and Column (3) shows the village results. Even if we match samples, we

[21] Recently, Brülhart, Carrère, and Robert-Nicoud, 'Trade and Towns,' proposed a theoretical model that can explain the heterogeneous treatment effects between large and small regions and confirm their prediction. They find that large cities do not increase their employment after integration because the accompanying large increase in the nominal wage cancels the effects for employment. Our results are also consistent with their theoretical prediction.

obtain very similar results. The integration effects are robustly observed, especially in villages.

Table 3

Furthermore, our theoretical model implies that the treatment effects differ across locations. To observe such heterogeneity in the treatment effect, we first estimate the heterogeneous treatment effect by a series of dummies for cities lying within cells 50 km wide at varying distances from Pusan, ranging from 250 to 500 km. We include these series of dummies and the interaction terms on the integration dummy in the estimation equation. The results are shown in Table 4. The coefficients of the interaction terms for 0-250 km, 250-300 km, and 300-350 km are positive and significant at the 5% level. However, the coefficients of the interaction term for over 350 km are not significant. These results support our theoretical hypothesis.

Table 4

Furthermore, we test the heterogeneity on the treatment effects by the individual treatment effect using the estimation equation given below:

$$PopGrowth_{it} = \sum_{j=1}^{N} \mu_j \eta_j + \sum_{j=1}^{N} \theta_j (\eta_j \times Integration_t) + \omega_{it}$$

where N is the number of regions and η_j is the region fixed effect. The parameter μ_j captures the mean population growth in region j before the integration, while θ_j captures the individual treatment effect of economic integration. Figure 4 graphs the estimated individual treatment effect (θ_j) against the distance from Pusan.[22] We normalize the treatment effect such that the mean value is zero. The green solid line represents the results of fractional polynomials, and the dark region represents its 95% confidence intervals. The results of the fractional polynomials have a peak in the region nearest to Pusan, then gradually decline with distance. These results support the theoretical implications that the integration of two markets increases populations in regions near the border, and its effect diminishes according to the distance from the border.

[22] To reduce the sample size to estimate fixed effect in each region, we randomly choose 30% of total observations.

Figure 4

Exporting industry

In the previous section, we find a significant positive increase in population in regions close to Korea after integration. If the population growth in border regions after the annexation of Korea is actually caused by the market access improvement predicted by theory, regions that have stronger economic relationships with Korea will gain more than the other regions from integration. In this subsection, we focus on an industry exporting from Japan to Korea as a measure of the economic relationship.

As we saw in Section 2, the largest commodity that Japan exported to Korea is textiles. Thus, the regions specializing in the textile industry have a stronger relationship with the Korean market and would be more affected by the increase in market access to Korea than non-specialized regions would be.

We test this hypothesis using the triple difference estimation as follows,

$$PopGrowth_{it} = \beta(Border_i \times Textile_i \times Integration_t) + \gamma X_{it} + d_t + \varepsilon_{it}$$

where $Textile_i$ is a textile dummy that is equal to one if region i is specialized in the textile industry, and zero otherwise. We define the region specialized in the textile industry by the share of textile plants in the region. For this purpose, we use the micro data of the Census of Manufactures for 1919 (the eve of the treatment periods). That is, we obtain the number of plants by industry and region (city, town and village) from the Ministry of Agriculture and Commerce ed. and calculate the share of textile plants in each region.[23] If the share of textile plants in a region is above the 75th percentile, we regard it as a textile-specialized region; otherwise, we regard it as a non-specialized region. The covariates in X_{it} are all remaining interaction terms and single terms, $Border_i \times Textile_i$, $Textile_i \times Integration_t$, $Border_i \times Integration_t$, $Border_i$, and $Textile_i$. The coefficient β captures the triple difference treatment effects. That is, a positive β implies that border regions specialized in the textile industry have a higher growth rate than the non-textile specialized border regions.

The results are shown in Table 5. Column (1) shows the baseline result. The coefficient for $Border_i \times Integration_t$ is positively significant. This is consistent with the previous analysis. Border regions increase in population after integration. In addition, the coefficient for $Textile_i \times Integration_t$ is also positively significant. This implies that regions specializing in textiles gain more in population than the other regions because of the integration. Furthermore, the coefficient for the triple interaction, β, is also significantly positive. That is, within the border regions where

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[23] Ministry of Agriculture and Commerce ed., *Kojo Tsuran*.

there is an increase in population after integration, regions specialized in the textile industry gain significantly more than other regions from the integration. In other words, within the regions specializing in textiles where there is an increase in population after integration, regions close to Korea significantly gain more by the integration than the other regions. This result strongly supports our story that tariff reduction improves market access in the regions close to Korea, which increases the population size of the regions. Column (2) shows the results after matching, which are similar. Our results are robust for the choice of control group. Column (3) shows the results with restricting the sample to the non-village regions. Similar to the results in the previous section, the coefficient for $Border_i \times Integration_t$ is not significant. However, the triple difference estimator is positively significant. On average, non-village regions close to Korea experience no gains from integration, but non-village regions specializing in textiles experience gains from integration. Finally, Column (4) shows the results with the sample restricted to villages. The results are similar to the baseline one.

Table 5

V

In 1910, Japan annexed Korea to integrate it into the Empire of Japan. According to its policy of assimilating colonies, the Japanese government intended to remove tariffs between Japan and Korea, and this policy was nearly realized by 1923, when tariffs on the commodities imported from Japan to Korea were essentially removed. Reduction of the tariff barrier was supposed to improve market access between Japan and Korea.

We exploit this event as a natural experiment to investigate the effect of improved market accessibility on population growth. It is found that the tariff reduction raised the population growth rates and that it occurred only in areas close to the removed border between Japan and Korea. Furthermore, within the regions close to Korea, those regions specialized in the textile industry, whose products were the major export goods to Korea from Japan, gained more than the other regions after the integration.

Our results suggest that market accessibility was indeed a determinant of the spatial distribution of economic activities as predicted by spatial economics theory. In the context of economic history, our findings suggest that it is important to reconsider the economic consequence of imperialism from the angle of spatial economics.

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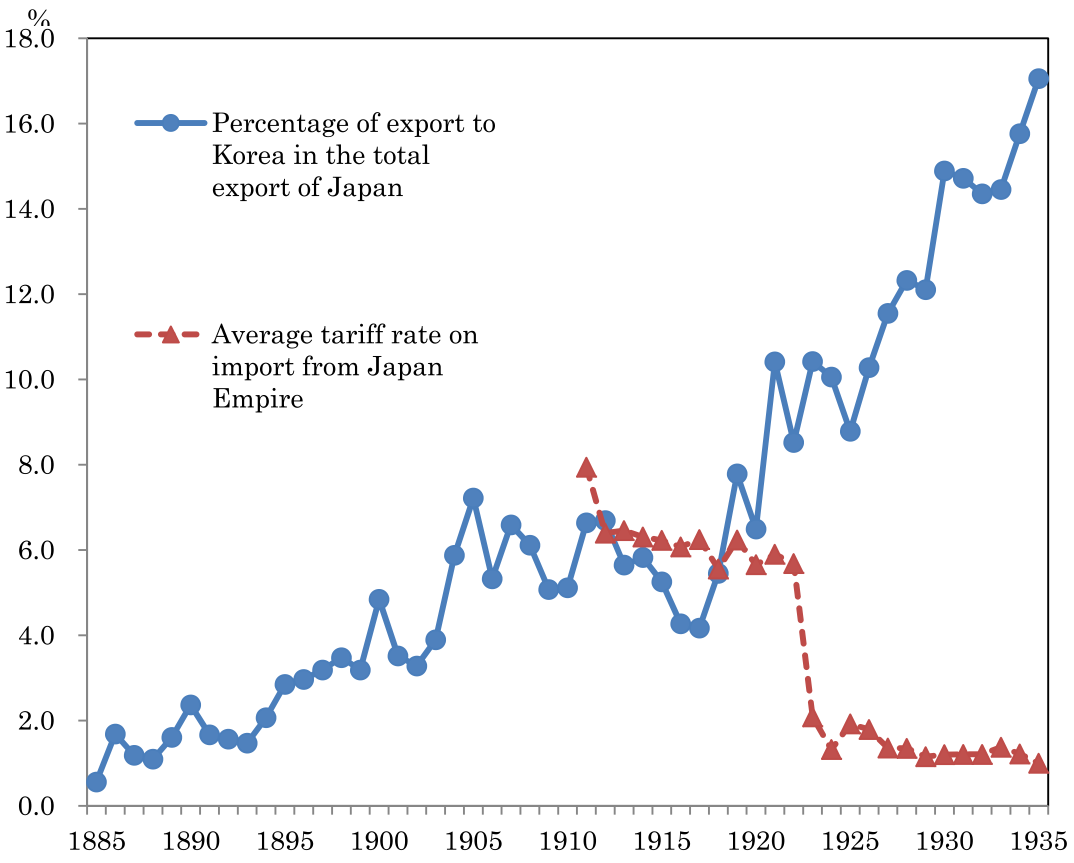
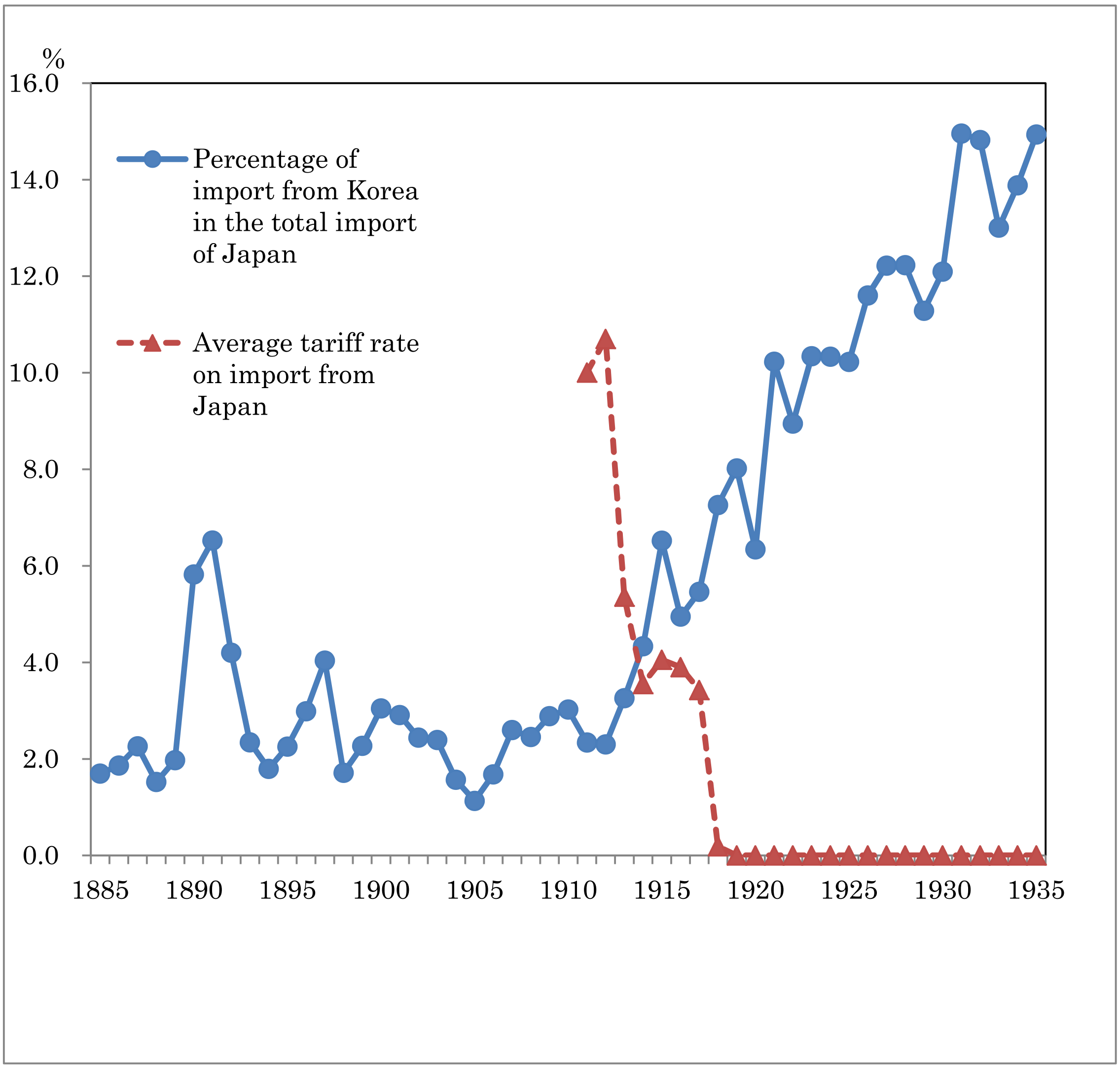
Figure 1 Percentage of exports to Korea in total Japanese exports and average rate of tariffs on imports from the Empire of Japan



Source: Yamazawa and Yamamoto (1979), pp.206-209; Governor-General of Korea (1937), p.7, p.799.

Note: The average tariff rate is the ratio of the tariff revenue of Korea to its total imports.

Figure 2 Percentage of imports from Korea in total Japanese imports and average rate of tariffs on imports from Korea



Source: Yamazawa and Yamamoto (1979), pp.210-213; Ministry of Finance, Japan, Annual Return on the Foreign Trade of the Empire of Japan, 1911, 1916, and 1920 issues.

Note: The average tariff rate is the ratio of the tariff revenue from imports from Japanese colonies to the revenue of imports from Korea.

Figure 3 Map of Japan and Korea

Figure 4 Individual treatment effects

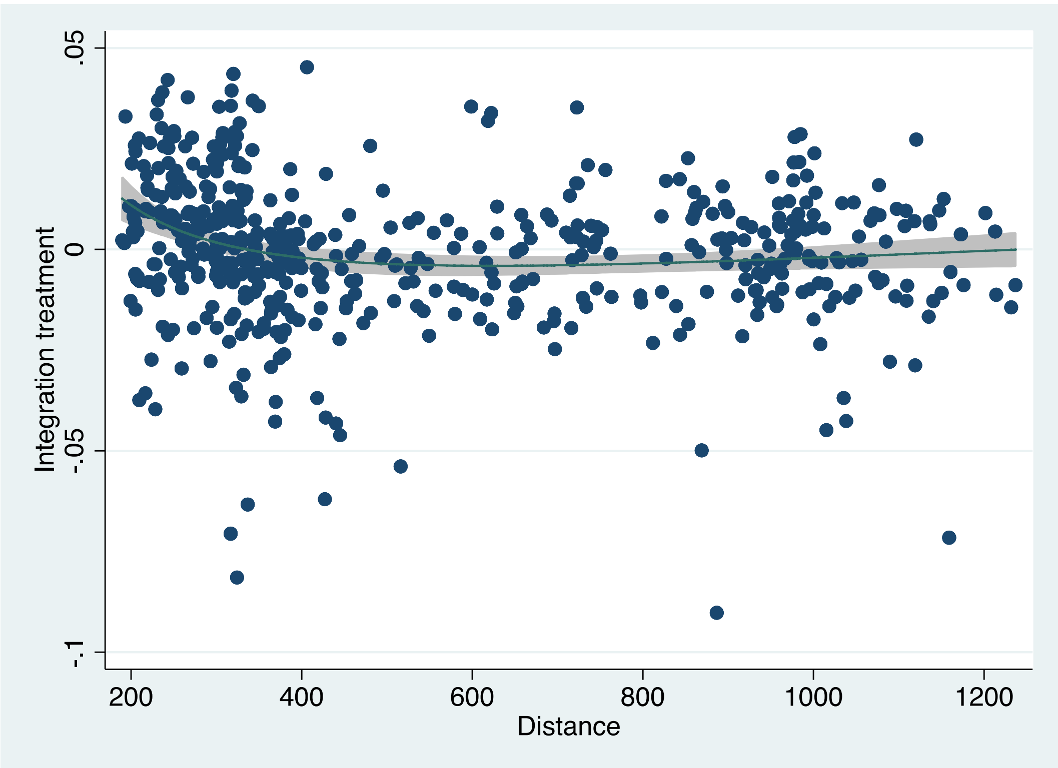


Table 1 Trade between Japan and Korea

A. Imports to Korea from Japan						Million yen
	Total	Agricultural, Fishery and Forest	Mineral	Manufacturing goods		
				Total	Textiles	Chemicals, metals and machinery
1910	22.5	1.1	0.8	20.6	9.5	3.5
1915	37.3	1.7	1.1	34.5	14.7	7.8
1920	122.7	5.9	6.2	110.6	38.7	34.8
1925	222.6	32.6	5.3	184.7	79.7	53.3
1930	264.2	18.9	11.7	233.6	74.2	96.8
1935	540.1	50.3	26.2	463.6	137.0	212.7
B. Import to Japan from Korea						million yen
	Total	Agricultural, Fishery and Forest	Mineral	Manufacturing goods		
				Total	Textiles	Chemicals, metals and machinery
1910	13.4	11.2	0.9	1.3	0.0	1.1
1915	39.4	34.7	2.8	1.9	0.0	1.5
1920	161.9	124.5	7.5	29.9	2.9	22.2
1925	311.5	247.3	5.9	58.3	31.3	15.2
1930	232.9	160.6	6.7	65.6	28.3	26.1
1935	475.3	305.9	20.7	148.7	29.6	103.3
Source: Yamazawa and Yamamoto (1979), pp.204-205.						

Table 2 Baseline results

Dependent: Population growth rate	(1)	(2)	(3)
Border x Integration	0.00405**	-0.00325	0.00493**
	(0.000934)	(0.00486)	(0.000916)
Border	-0.00552**	0.000416	-0.00582**
	(0.000819)	(0.00470)	(0.000782)
Constant	0.00444**	0.0117**	0.00353**
	(0.000141)	(0.000519)	(0.000139)
Year FE	yes	yes	yes
Sample	All	Non-village	Village
Observations	19992	2061	17931
Adjusted R-squared	0.097	0.061	0.124

Table 3 Results after matching

Dependent: Population growth rate	(1)	(2)	(3)
Border x Integration	0.00518**	0.00639	0.00503**
	(0.00103)	(0.00519)	(0.00102)
Border	-0.00648**	-0.00714	-0.00593**
	(0.000947)	(0.00513)	(0.000912)
Constant	(0.000141)	(0.000519)	(0.000139)
Year FE	yes	yes	yes
Sample	All	Non-village	Village
Observations	6444	588	5856
Adjusted R-squared	0.129	0.060	0.142

Table 4 Results on distance cells

Dependent: Population growth rate	(1)	(2)	(3)
Border 0-250 km × Integration	0.00692**	-0.0000750	0.00772**
	(0.00172)	(0.00638)	(0.00179)
Border 250-300 km × Integration	0.00447**	0.00482	0.00482**
	(0.00124)	(0.00468)	(0.00128)
Border 300-350 km × Integration	0.00437**	0.00371	0.00471**
	(0.00115)	(0.00437)	(0.00120)
Border 350-400 km × Integration	-0.00165	-0.00613	-0.00103
	(0.00129)	(0.00494)	(0.00133)
Border 400-450 km × Integration	-0.00163	-0.00909	-0.000681
	(0.00186)	(0.00668)	(0.00193)
Border 450-500 km × Integration	0.00317	0.0175**	0.00137
	(0.00211)	(0.00474)	(0.00212)
Border 0-250 km	-0.00705**	0.000168	-0.00737**
	(0.00142)	(0.00564)	(0.00146)
Border 250-300 km	-0.00671**	-0.00649**	-0.00649**
	(0.00103)	(0.00325)	(0.00108)
Border 300-350 km	-0.00660**	-0.00374	-0.00662**
	(0.00107)	(0.00417)	(0.00111)
Border 350-400 km	-0.0000541	0.00470	0.0000387
	(0.00129)	(0.00391)	(0.00134)
Border 400-450 km	-0.00104	0.00230	-0.00132
	(0.00187)	(0.00722)	(0.00191)
Border 450-500 km	-0.00626**	-0.0244**	-0.00389**
	(0.00191)	(0.00590)	(0.00189)
Integration	0.0115**	0.0177**	0.0107**
	(0.000555)	(0.00137)	(0.000600)
Constant	-0.00780**	-0.00496**	-0.00820**
	(0.000509)	(0.00143)	(0.000545)
Year FE	yes	yes	yes
Sample	All	Non-village	Village
Observations	7896	717	7179
Adjusted R-squared	0.180	0.253	0.176

Table 5 Triple difference: Textiles industry

Dependent: Population growth rate	(1)	(2)	(3)	(4)
Textile × Border × Integration	0.00916***	0.00723***	0.0213***	0.00587**
	(0.00254)	(0.00270)	(0.00572)	(0.00286)
Border × Integration	0.00338***	0.00394***	-5.18e-05	0.00452***
	(0.000812)	(0.000829)	(0.00304)	(0.000865)
Textile × Integration	0.00255***	0.00275**	-0.000280	0.00267*
	(0.000880)	(0.00133)	(0.00326)	(0.00143)
Textile × Border	-0.00903***	-0.00729***	-0.0174**	-0.00570*
	(0.00255)	(0.00272)	(0.00701)	(0.00293)
Border	-0.00456***	-0.00493***	-0.000956	-0.00504***
	(0.000721)	(0.000750)	(0.00294)	(0.000775)
Textile	0.000119	0.000148	0.00239	-0.000858
	(0.000927)	(0.00139)	(0.00347)	(0.00150)
Constant	-0.00695***	-0.00780***	-0.00581***	-0.00804***
	(0.000263)	(0.000505)	(0.00172)	(0.000527)
Year FE	yes	yes	Yes	yes
Matching	no	yes	Yes	yes
Sample	All	All	Non-Village	Village
Observations	19,833	7,872	696	7,176
R-squared	0.117	0.167	0.234	0.163