

CIRJE-F-517

**The Role of the Courts in Economic Development:  
The Case of Prewar Japan**

Masaki Nakabayashi  
University of Tokyo

Tetsuji Okazaki  
University of Tokyo

September 2007; Revised in October 2010

CIRJE Discussion Papers can be downloaded without charge from:

<http://www.e.u-tokyo.ac.jp/cirje/research/03research02dp.html>

Discussion Papers are a series of manuscripts in their draft form. They are not intended for circulation or distribution except as indicated by the author. For that reason Discussion Papers may not be reproduced or distributed without the written consent of the author.

# The Role of the Courts in Economic Development: The Case of Prewar Japan\*

Masaki Nakabayashi (The University of Tokyo)  
Tetsuji Okazaki (The University of Toyko)

## Abstract

In this paper, we explore the role of the legal system in economic development, focusing on its relationship to the role of private mechanisms in contract enforcement. We use long-term prefecture-level panel data that cover the early stages of industrialization and urbanization in Japan. We found that industrialization increased the demand for civil lawsuits, but that this was conditional on urbanization. In other words, increased demand for civil suits occurred only where industrialization and urbanization simultaneously progressed. At the same time, the inefficiency of the legal system impeded industrial growth, but only conditional on urbanization. That is, the inefficiency of the legal system impeded industrialization only in urban areas. These findings suggest that community-based contract enforcement mechanisms worked in rural areas and that these mechanisms were replaced by the formal legal system as urbanization progressed and community ties declined.

Key Words: Court, Law, Contract Enforcement, Economic Development, Japan  
JEL Classification Numbers: K10, O12, N45

---

\* This paper was presented at the workshop on “Law and Economic Development: A Historical Perspective” at Utrecht University, at a seminar at the Virtual Center for Advanced Studies in Institution, and at a seminar at Osaka University. We thank Masahiko Aoki, John Owen Haley, Devin Ma, Takashi Shimizu, Katsuya Takii, Hirokazu Takizawa, and other participants of the workshop and seminars for their helpful comments and discussions. All remaining errors are the authors’ responsibility.

## 1. Introduction

Since the seminal work of North and Thomas (North and Thomas 1973), most economists and economic historians have agreed that the protection of property rights is the key to the development of a market economy. Specifically, North and Thomas (1973) focused on the protection of property rights by the state. Many empirical studies in law and finance confirm that the quality of the legal system, especially the protection of creditors' rights, is positively associated with financial development (Djankov et al. 2007; Jappelli et al. 2005; LaPorta et al. 1997, 1998; Levine 1998, 1999; Haselsman et al. 2009).

On the other hand, in recent years, theoretical studies have established that contracts can also be enforced by private mechanisms based on collective punishment, and that a market economy can work even if society lacks a reliable state court or if a standardized judicial system is not suited to the relevant transactions (Aoki 2001; Dixit 2004; Greif 2006; Milgrom et al. 1990; Kandori 1992). Moreover, this view has empirical support from historical studies (Clay 1997; Ellickson 1991; Greif 2006; Okazaki 2005), as well as from research on developing and transition economies (Allen et al. 2005; Fafchamps 2004; Greif and Kandori 1995; McMillan and Woodruff 1999a, 1999b).

Given the diversity of contract enforcement systems, Greif (1997) argued that the relative efficiency of those systems depends upon economic and social conditions. These conditions include the extent of exchanges and the reservation utility of the relevant agents. A private contract enforcement system based on collective punishment can be more efficient than the legal system if the market is not too large. This is because the former has a lower initial fixed cost. In addition, a collective system can enforce contracts that are observable but not verifiable by the legal system. On the other hand, for a collective system to be effective, exchanges must be limited to a certain group whose members repeatedly trade with each other. Hence, if potential gains from intergroup exchanges are large enough and if the market is large enough to compensate the initial fixed cost, the legal system can be more efficient than collective systems. Further, collective punishment is not effective if agents' reservation utility is high; for instance, this may arise if market expansion and/or integration facilitates finding a new match outside the current trading group. In other words, private governance is intrinsically restricted to take place within personal trades and cannot embrace an impersonal market economy (North 2005).

Based on the above literature, in this paper we intend to explore empirically the relative importance of the legal system in fostering economic development. Specifically, we focus on such questions as how the legal system contributed to industrialization and how that function depended upon economic and social conditions. For this purpose, we use prefecture-level data from Japan from 1885–1925, which was a period of rapid industrialization, urbanization and market integration. The basic data source is the *Annual Report on Civil Case Statistics (Minji Tokei Nenpo)* published by the Ministry of Justice, which includes detailed court-level judicial data. Using this source, we constructed prefecture-level panel data on judicial variables and combined them with other relevant economic and social variables. The extent of industrialization and urbanization substantially varied across prefectures during that period. By exploiting this variation, we intend to examine econometrically the above questions. To our knowledge, this is the first systematic empirical attempt to address the above questions using long-term panel data that cover the early stages of industrialization and urbanization.

This paper is organized as follows. In Section 2, we provide an overview of the history of the legal system in Japan. In Section 3, we describe the basic features of civil lawsuits. In Section 4, we explore quantitatively the relationship between the legal system and economic development. Section 5 concludes the paper.

## 2. A brief history of the legal system in Japan

### 2.1. The manorial system in medieval times

The legal system in Japan dates back to the early eighth century. The imperial government formed around the Emperor completed the introduction of the Chinese administrative system during that period. Under the regime of the Imperial Legal Codes (*Ritsuryo*), the manorial system emerged. According to the Imperial Legal Codes, property rights to, and rule over, every piece of land formally belonged to the Emperor. In practice, however, because the central government did not have sufficient resources to directly rule distant local societies, the manorial system was formed as a decentralized governance organization. At the same time, the manorial system played a role in promoting agricultural growth by providing incentives for reclamation.

Suppose a local leader developed a new paddy field. Initially, his property rights to the paddy field were not secure. Thus, he “donated” the paddy field to a local noble. Then the local noble “donated” the paddy field to a noble in the capital Kyoto. Then, the metropolitan noble “donated” the paddy field to the imperial family, *Fujiwara*, the premier family, or to a major temple embraced by the Emperor. Then, the imperial family, *Fujiwara*, or the temple, requested the Emperor to authorize the paddy field as a “manor.” The authorization of a manor implied delegation of rule over, and claim to, the paddy field. From the local leader to the highest noble, each agent was delegated a specific obligation of rule and was guaranteed claim to a specific portion of rent in association with his obligation. If the local leader was a warrior, *samurai*, he was usually delegated the duty of keeping peace and order in the local society on behalf of the Emperor, and was guaranteed claim over a small portion of the rent from the paddy field. The highest nobles and temples were usually obliged to supply judicial services on behalf of the Emperor. The bundle of obligations and claims of each agent was called “*shiki*,” which means job. The manorial system expanded from the 11<sup>th</sup> century to the 14<sup>th</sup> century (Nagahara 1973, pp. 28-53).

### 2.2. Transition to the early modern times

The manorial system was gradually dismantled from the mid-14<sup>th</sup> century. As technological progress in agriculture increased the importance of farmers’ investment and effort, greater claims accrued to farmers. On the other hand, since the establishment in the late 12<sup>th</sup> century of the *Kamakura Shogunate* (the *samurais’* own headquarters-cum-government), the role of farmers in governance increased, while the roles of nobles and the Emperor correspondingly declined. After a long period of civil warfare, Japan was reunited under the *Edo* (later Tokyo) *Shogunate*, established in 1603 (Nishitani 2006, pp. 443-476; Araki 1986, pp. 17-63).

After the demise of the manorial system, property, and sovereignty were drastically simplified. While the *Shogunate*, as the central government, held sovereignty over diplomacy and national security against foreign countries, in domestic affairs, the *Shogunate* and feudal lords (*daimyo*) ruled their own domains and maintained independence. On any paddy field, only one government, the *Shogunate* or a feudal lord, held the exclusive power to levy tax. In addition, on any paddy field, only one farmer was registered by the *Shogunate* or by a feudal lord as its owner. The farmer was obliged to pay tax in kind to the *Shogunate* or to the feudal lord. In return, he was guaranteed an exclusive claim over the residual crop after the payment of tax, which was defined *ex ante* and amounted to an average of 40% of the crop value.

### 2.3. The judicial system in early modern Japan

Although feudal lords formally maintained independent sovereignty for domestic affairs, in practice, they followed the *Shogunate*. The largest cities directly ruled by the

*Shogunate*, such as Edo, Kyoto, and Osaka, held the courts of the city governors, appointed by the *Shogunate*. Until the early 18<sup>th</sup> century, the *Shogunate* prohibited guilds and encouraged free trade. The provision of judicial services by the city courts supplanted this policy, and city courts dealt increasingly with lawsuits, as market trades expanded.

Whereas the supply of judicial services for civil cases differentiates the early modern *Shogunate* from both the medieval *Shogunate* and the medieval imperial government, it was still deficient given early modern Japan's rapid urbanization: for example, Edo's population had reached one million by the early 18<sup>th</sup> century. Thus, a considerable share of commercial trades was still governed by private guilds, termed *nakama* (meaning fellows).

At the same time, effective judicial services accelerated market expansion and, thereby, the number of civil cases. In the early 18<sup>th</sup> century, when the *Shogunate* city court had finally reached the limit of its capabilities, the *Shogunate* made a decisive policy change. Breaking with the tradition of one-and-one-half centuries, the *Shogunate* chartered guilds dealing with important monopolistically produced commodities and had them govern trades. Chartered guilds were termed *kabu nakama*, which means chartered fellows (Miyamoto 1938; Okazaki 2005).

Because the *Shogunate* considered that having judicial services was not the rights of the people but a favor to them, the granting of judicial services could be suspended when it became burdensome for the government. Indeed, the *Shogunate* sometimes enacted orders to encourage private settlement instead of lawsuits for cases over unsecured claims in Edo from the early 18<sup>th</sup> century, with chartered guilds being expected to take more responsibility for trade governance.

In rural areas, a different scheme was applied. Each farmer registered his property rights to the paddy field he cultivated at the office of the village in which he lived. The village office kept the property registration book, and made a tax payment contract based on the book with the *Shogunate*. Under this village contractor system under which the village took responsibility for tax payment, in practice the village office protected farmers' properties and recorded any trades related to their land. The village office, unsurprisingly, governed land and finance sales secured by land. Thus, the village office was recognized as a trial court, and parties could appeal a ruling to the office of the magistrate in the region (Shirakawabe 2004, pp. 273-274).

A serious problem with this regime was that the village office could govern trades only between residents of the same village whose property was registered at the office. Property rights were linked to land-tax payments, and land tax was collected by the village office based on the property registration book. Hence, both sellers and buyers of village land had to be village residents. This meant that any land and finance sales secured by land beyond the village border could not rely on the *Shogunate* judicial system and had to be self-governed.

It followed that having more judicial services supplied in cities and having intervillage land and financial markets governed by the state court gave the market economy of Japan the potential to expand. Nationwide standardization of the judicial system would thus prompt economic development. Such drastic reform came with the westernization of the judicial system following the Meiji Restoration.

#### **2.4. The introduction of the Western legal system**

After a period of isolation of over 200 years, in 1854, under military pressure, the *Shogunate* established diplomatic relations with the US. Then, in 1859, it joined a free trade regime according to the treaties in 1858. This sudden immersion in the free trade environment greatly affected the Japanese economy's relative prices, which were perceived as chaotic by the general populace (Shinbo 1978; Bernhofen and Brown 2004).

Moreover, Japan had to approve consulate jurisdiction to the Western countries under the 1854 treaties, and had to give up tariff autonomy under the 1858 treaties. Although national security was supposed to be the duty of the *samurai* class, the *Shogunate* evidently failed to achieve it.

In this situation, powerful feudal lords supporting the Emperor defeated the *Shogunate* in 1868, and immediately reestablished a new government around the Emperor. This initiated the radical political institutional reform known as the “Meiji Restoration.” An important goal of the New Imperial Government was to revise “partial treaties” with the Western countries. However, the Western powers used the lack of a modern legal system, and thus the lack of human rights, including property rights, as an excuse to refuse revision of the treaties. This attitude of the Western powers compelled the New Imperial Government to introduce a Western-style legal system.

In 1872, the New Imperial Government officially allowed land to be bought and sold beyond village borders. This led to intervillage trades of land being governed by the state court. Furthermore, in 1873, the New Imperial Government implemented the “Land Tax Reform” by which any holder of land was registered directly by the central government, not through the village office, as the exclusive owner in the modern sense, who thus had to pay taxes in money to the central government. While the property rights of farmers were authorized by the New Imperial Government, any claims to the ex-territories of the feudal lords were not approved, except for the government bonds that capitalized their tax revenues.

In 1873, the New Imperial Government invited Gustave Emile Boissonade de Fontarabie, a law professor at the University of Paris, to help formulate the Civil Codes, the Commercial Codes, and the Criminal Law. In 1880, the Criminal Law, the first Western-style law in Japanese legal history, was proclaimed, and it came into effect in 1882. The Civil Codes and the Commercial Codes based on French law were proclaimed in 1890, and were then modified by the introduction of German elements before being enacted. The Amended Civil Codes, proclaimed in two halves in 1896 and 1898, were enacted in 1898. The Amended Civil Codes were proclaimed and enacted in 1899.

Facing a determined civil rights movement led by *ex-samurais* and rich farmers following the Meiji Restoration, the New Imperial Government issued an ordinance that the state would “gradually move to a constitutional state.” In 1875, Hermann Rösler, a Prussian scholar, was invited to advise on formulating the Constitution. In 1889, the New Imperial Government proclaimed the Constitution of the Empire of Japan that in many respects, followed the Prussian constitution. Under the Imperial Constitution, which remained in effect from 1890 to 1947, the protection of property rights and freedom of contract were guaranteed as fundamental civil rights. The Constitution, along with the Civil Codes and Commercial Codes, constituted a fully detailed rule book for the market economy.

## **2.5. The development of legal organizations and the formation of human capital**

While the modern legal system was fully established in the 1890s, ordinances and laws that could be regarded as fragments of a modern legal system had been introduced since the early 1870s. For instance, the 1872 National Bank Act, a copy of its American counterpart, provided a model for the joint-stock company and, indeed, the stock exchange played a significant role in Japan’s industrial revolution from the 1880s. The 1890s was the period in which the institutions of the modern legal system were consolidated.

The court system was no exception. The Court Organization Law, the Civil Lawsuit Process Law, and the Criminal Lawsuit Process Law were proclaimed and enacted in 1890. However, the formation of the legal system began in the early 1870s. In 1872, the New Imperial Government established the Ministry of Justice, which represented the

first attempt to make the judiciary relatively independent within the administration, and judicial officers were separated from the other bureaucrats. In 1875, when the government declared its intention to achieve a gradual transition to a constitutional state, the Supreme Court (*Daishin In*) was established as an organization fully independent of the administration. In 1886, the Court Organization Ordinance was proclaimed, marking the completion of the introduction of the basic structure of a Western court system.

Once the Criminal Law, the Constitution, the Civil Codes, and the Commercial Codes had been proclaimed, legal studies on how to apply them in Japan flourished. The fundamental studies were published in the 1890s, and some remain relevant to this day. The Department of Law of the Imperial University of Tokyo was at the center of this study, and it supplied the government with a new generation of judges, prosecutors, and bureaucrats. In this period, many private law schools were established, which became a source of lawyers for the private sector. By the late 1890s, a consistent rule book on the market economy and the associated requisite human resources were in place to promote the market economy.

### 3. Industrialization, urbanization, and the role of the courts: Descriptive analysis

In this section, we survey the basic features of civil lawsuits in prewar Japan, using data from the *Annual Report on Civil Case Statistics (Minji Tokei Nenpo)* published by the Ministry of Justice. The Japanese court system comprised four tiers, namely, the Supreme Court, high courts, district courts, and ward courts. With respect to civil cases, the ward courts held the first trial for suits in which no more than 100 yen was at stake and for those involving compromises. As shown in Table 1, most of the first trials were accepted at ward courts.

In 1895, there were 301 ward courts under 49 district courts (Table 1). In 1913, because of cuts in government expenditures, 128 ward courts were abolished, but 46 of these courts were revived in 1917 and another 31 reopened in 1919 (Secretariat of the Supreme Court 1990, pp. 113–114). In addition, it is notable that the total number of courts including branches did not decrease after 1913.

Table 1

Figure 1 illustrates the number of civil cases judged at ward courts from 1891, the year following the introduction of the Code of Civil Procedure. The total number of suits shows a clear upward trend. It increased from 155,913 in 1891 to 285,707 in 1929. At the same time, the number of suits changed cyclically, which suggests that this number was associated with the business cycle. To illustrate the relationship between the cyclical changes in the number of suits and the business cycle, Figure 2 shows the annual percentage change in the number of newly accepted suits and that the diffusion index of Fujino and Igarashi (1973).<sup>1</sup> It is apparent that the percentage change in the number of suits was negatively associated with the business cycle. For the period from 1892 to 1929, the correlation coefficient between the percentage change in newly accepted suits and the diffusion index is  $-0.40$ .

Figure 1, 2

---

<sup>1</sup> Fujino and Igarashi (1975) developed several diffusion indexes. The series in Panel B is “the diffusion index based on the normalized percentage change from the same month of the previous year” (pp. 128–129). In Panel B of Figure 2, the index in each December is plotted.

Figure 1 shows that the growth rate of civil suits was positive in most years, but there were three distinct periods in which the growth rate for the number of suits was continuously negative, namely 1893–1896, 1904–1907, and 1916–1920. The first period includes the periods of the Sino–Japanese War and of the ensuing boom deriving from increased government expenditures based on reparations from China. The second period includes the period of the Russo–Japanese War and of the subsequent boom. Although Japan did not get reparations on this occasion, the effect of the war was to stimulate growth in the heavy and chemical industries. The period 1916–1920 is the boom period during the First World War. Because the production capacity of the Western countries was taken up by munitions, the Japanese economy enjoyed huge export-led prosperity. At the same time, the heavy and chemical industries expanded substantially substituting for Western imports. These three boom periods were followed by recessions. During the periods of recession, the growth rate of lawsuits increased and the level remained high.<sup>2</sup> The countercyclical pattern of lawsuits arguably reflects the pattern of defaults in the business cycle. This conjecture is consistent with the composition of the suits outlined below.

Figure 1 also illustrates the composition of civil suits by issue. The proportion of suits on monetary issues stayed at around 40% from the 1890s to the 1910s, and it increased to around 50% in the 1920s. The trend and cycle in the total number of civil suits were primarily the result of changes in the number of suits dealing with monetary issues. Monetary issues were further divided into subcategories. Although the classifications adopted in the *Annual Report on Civil Case Statistics* change over time, they are sufficiently stable for a general picture to emerge. Table 2 reports the subcategories for monetary issues for which the number of cases was at least 1,000 in 1895, 1910, and 1925. For all years, the largest subcategory is the one for loans, followed by sales credit including “bills.”<sup>3</sup> It is reasonable to assume that a large proportion of the suits on monetary issues were broadly related to credit, including loans and sales credit. In other words, credit was a major source of the disputes brought before the courts in prewar Japan. On the other hand, clearly, in general, the exchange in which *QUID* is separated from *QUO* is essential to the expansion of a market economy, and to bring this about, contracts must be enforced (North 1990, 2005; Greif 2006). Table 2 indicates that the courts played a substantial role in contract enforcement in Japan from the late 19<sup>th</sup> century.

Table 2

A useful feature of the *Annual Report on Civil Case Statistics* is that it contains lawsuit data by area. The areas were divided according to the jurisdictions of district courts and ward courts. The jurisdictional area of each district court corresponded to the prefecture in which the court was located, except for Hokkaido, and that of each ward court corresponded to a city or a county within a prefecture. Although cases heard by ward courts are the focus of this paper, we have aggregated the prefectural-level data so that the suit data are consistent with the relevant economic and social data. Table 3 shows the number of lawsuits further aggregated to the district level to save space. To

---

<sup>2</sup> What seems to be an exception is the early 1910s. In this period, the diffusion index indicates that business had entered a prosperous phase, but the growth rate in lawsuits remained at a high level. This may be because the prosperous phase was weak, as reflected in the relatively low level of the diffusion index (Panel B). Indeed, this prosperous phase was referred to as “interim prosperity” at the time.

<sup>3</sup> It is notable that the suits concerning sales credit became substantially larger from 1895 to 1925. This may reflect the growing use of credit in transactions in this period.



control for differences in population across provinces, the per capita number of suits is also reported. It is notable that there was substantial cross-sectional as well as time-series variation in the per capita number of civil suits. For example, in 1895, there were 2.82 times more lawsuits per capita in Hokkaido than in Chubu province. While lawsuits increased by 2.45 times in Chugoku province from 1895 to 1925, they declined by 0.89 times in Tohoku province during the same period. The cross-sectional and time-series variation allow us to analyze the role of the legal system quantitatively.

Table 3

#### 4. Industrialization, urbanization, and the role of the courts: Quantitative analysis

As explained above, there was large cross-sectional and time-series variation in the per capita number of civil suits. First, we examined the determinants of the demand for legal services using this variation. Haley (1978) and Ginsburg and Hoetaker (2006) examined the determinants of the number of civil suits using data from the *Annual Report on Civil Case Statistics* and its postwar counterpart, the *Annual Report of Judicial Case Statistics (Shiho Tokei Nenpo)*.<sup>4</sup> Using prewar time-series data, Haley (1978) found that the number of lawsuits was positively correlated with the number of lawyers per capita, the speed of judgment in the previous year and the share of the population working in agriculture.

Ginsburg and Hoetaker (2006) analyzed prefecture-level panel data from 1986 to 2001. They found that the number of civil suits per capita was positively affected by the number of lawyers per capita, the number of judges per capita, the civil procedure reform in 1998, and per capita income. They also found that civil suits per capita were negatively affected by the annual change in per capita income. At the same time, they found no evidence that urban prefectures (Tokyo, Osaka, and Kyoto) are more litigious than are other prefectures. They interpreted this result as evidence against cultural and sociological theories of litigation. Because Ginsburg and Hoetaker (2006) corrected for the possible endogeneity of the numbers of lawyers and judges by using instruments, their estimation results can be interpreted as a demand function for civil suits.

Following the basic approach of Ginsburg and Hoetaker (2006), we estimated a demand function for civil suits for the prewar period, but using different variables and methodology. The dependent variable is the number of civil suits per capita newly accepted by ward courts (SUIT), as used by Haley (1978) and by Ginsburg and Hoetaker (2006). We assume that the demand for civil suits depends on the frequency with which disputes occur in impersonal trades, the availability of alternative mechanisms of dispute resolution, and litigation costs. The frequency of disputes is represented by the degree of industrialization, measured as the share of factory workers in the total population (WORKER). The availability of alternative mechanisms of dispute resolution is represented by the degree of urbanization. In other words, we hypothesize that existing community based dispute resolution mechanisms became less effective in urban areas. The urban population (URBAN) is defined as the population of a city, town, or village of at least 50,000 people. We hypothesize that the effects of industrialization and urbanization complemented each other. To capture this complementarity, we add the interaction term, WORKER\*URBAN. These are the key variables for addressing the issues raised in the introduction to this paper. For the litigation cost variable, we use delay of judgment, measured as the proportion of suits not judged within one month (OVER1M) or within three months (OVER3M). Thus, the equation to be estimated is as follows:

---

<sup>4</sup> The *Annual Report on Civil Case Statistics* and the *Annual Report on Criminal Case Statistics* were merged into the *Annual Report of Judicial Statistics*.

$$\text{SUIT}_{it} = \beta_0 + \beta_1 \text{WORKER}_{it} + \beta_2 \text{URBAN}_{it} + \beta_3 \text{WORKER}_{it} * \text{URBAN}_{it} + \beta_4 \text{OVER1(or 3)M}_{it} + \text{YEAR}_t + e_{it}, \quad (1)$$

where  $i$  indexes the prefecture and  $t$  indexes the year. YEAR represents a set of year dummies and  $e$  is the error term. In equation (1), both endogeneity and omitted variables bias are possible. To deal with these problems, we use the system GMM estimation developed by Blundel and Bond (1998).

We have observations from 47 prefectures for the seven years 1895, 1900, 1905, 1910, 1915, 1920, and 1925. SUIT, OVER1M, and OVER3M are taken from the *Annual Report on Civil Case Statistics*.<sup>5</sup> WORKER is taken from various issues of the *Statistical Yearbook of the Ministry of Agriculture and Commerce (Noshomu Tokeihyo)* and from the Manufacturing Census (*Kojo Tokeihyo*). For WORKER, because of data limitations, we use 1896 data for 1895, and we use 1919 data for 1920. URBAN is taken from the Bureau of Statistics of the Ministry of General Affairs (2006). For the urbanization variables, we use data from 1898, 1903, 1908, 1913, and 1918 for the years 1895, 1900, 1905, 1910, and 1915, respectively. Because the worker data for Okinawa Prefecture in 1895 are not available, the number of total observations is 328.

Basic statistics and estimation results are reported in Tables 4 and 5. In each of columns (1) to (4), the overidentification restrictions are satisfied (Hansen) and there is no second-order serial correlation (AR(2)). When we exclude the interaction term, the coefficients of the industrialization and urbanization variables are not significant except for URBAN in column (2). When we include the interaction term, its coefficients are positive and statistically significant, whereas the coefficients of the (separate) industrialization and urbanization variables are not significant (columns (3) and (4)). These results imply that industrialization itself did not increase the demand for civil suits, but when industrialization accompanied urbanization, there was a significant increase in the demand for civil suits. This suggests that, in rural areas, mechanisms other than those provided by the legal system worked to resolve disputes associated with industrialization.

#### Tables 4 and 5

Given that simultaneous industrialization and urbanization raised the demand for civil suits, one can hypothesize that the appropriate provision of legal services and the satisfaction of demand in urban areas would have combined to accelerate industrialization. Alternatively, high litigation costs in urban areas would have impeded industrialization. To test this hypothesis, we estimate the following growth equation:

$$\text{GWORKER}_{it} = \beta_0 + \beta_1 \text{OVER1M}_{it-1} + \beta_2 \text{URBAN}_{it-1} + \beta_3 \text{OVER1(or 3)M}_{it-1} * \text{URBAN}_{it-1} + \beta_4 \text{INVESTMENT}_{it-1} + \beta_5 \text{EDUCATION}_{it-1} + \text{YEAR}_t + e_{it}, \quad (2)$$

where GWORKER is the average annual growth rate in the number of factory workers and OVER1M (or OVER3M) represents the litigation cost. The interaction term OVER1M\*URBAN is used to represent the effect of litigation costs specific to urban areas. A negative coefficient of the interaction term supports our hypothesis that the negative effect of litigation costs was especially large in urban areas. In addition, we include two standard variables for growth regressions, INVESTMENT and EDUCATION (Barro and Sala-i-Martin 2004). INVESTMENT is the per capita increase

<sup>5</sup> Population, the denominator of SUIT, is taken from the Bureau of Statistics of the Ministry of General Affairs (2006).

in the paid-in capital of companies, which is obtained from data taken from various issues of the *Statistical Yearbook of Japan Empire*. EDUCATION is the per capita number of secondary school students, which is also calculated from data taken from various issues of the *Statistical Yearbook of Japan Empire*. We use system GMM to estimate equation (2), taking into account the possible endogeneity of the independent variables and the possibility of omitted variables bias.

Basic statistics and estimation results are reported in Tables 6 and 7. In each of columns (1) to (4), the overidentification restrictions are satisfied (Hansen) and there is no second-order serial correlation (AR(2)). When we exclude the interaction term, the coefficients of the litigation cost variables are not significant (columns (1) and (2)). When we include the interaction term, its coefficient is negative and statistically significant in column (3). Whereas the coefficient of the interaction term is not statistically significant in column (4), its p-value is 0.111. The coefficients of the noninteracted litigation cost variables are not significant. These results imply that litigation costs only impeded industrialization conditional on urbanization. This finding is consistent with those from equation (1).

#### Tables 6 and 7

### 5. Concluding remarks

The role of the legal system in the market economy has attracted the interest of scholars in various fields of economics, including law and economics, finance, development economics, and economic history. One of the focuses in the literature is the relationship between the role of the legal system and that of other private mechanisms in contract enforcement. In this paper, we addressed this issue using long-term prefecture-level panel data that cover the early stages of industrialization and urbanization in Japan.

We found that industrialization increased the demand for civil suits, but only conditional on urbanization. That is, the demand for civil suits increased only where industrialization and urbanization progressed simultaneously. At the same time, the inefficiency of the legal system impeded industrial growth, but this was also conditional on urbanization. That is, the inefficiency of the legal system impeded industrialization only in urban areas. As we explained in Section 1, there are alternative mechanisms of contract enforcement besides the legal system, and these are principally based on personal relationships. In this context, our finding that the role of the legal system in promoting industrialization was significant only in urban areas is useful. In prewar Japan, there were tightly knit communities, especially in rural areas. Our findings suggest that community-based contract enforcement mechanisms worked well in rural areas until they were superseded by the formal legal system as urbanization progressed and community ties weakened.

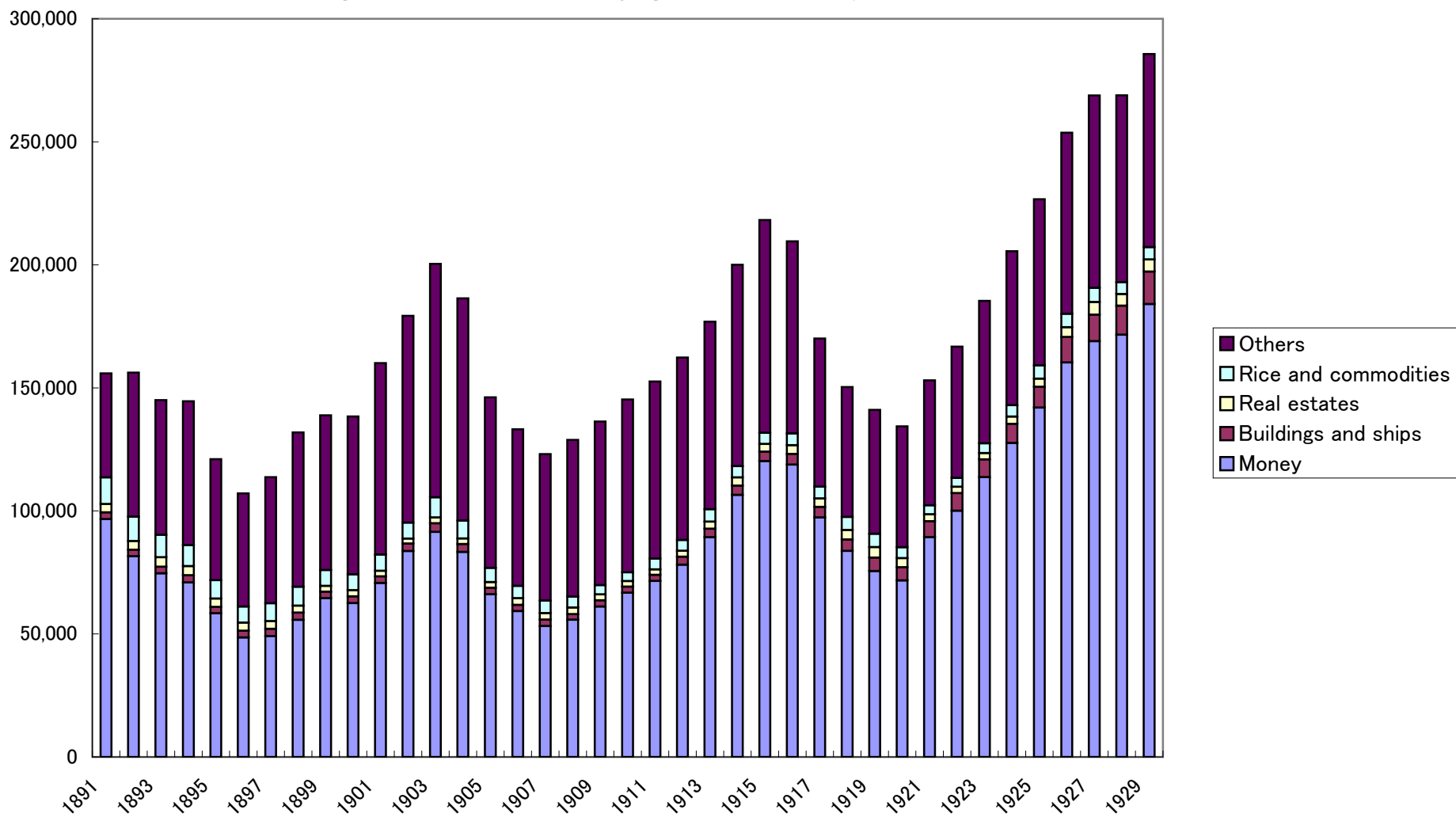
### References

- Allen, F., J. Qian and M Qian 2005. "Law, finance, and economic growth in China," *Journal of Financial Economics* 77: 57-116
- Aoki, M. 2001. *Toward a Comparative Institutional Analysis*, Cambridge, MA: MIT Press
- Araki, Moriaki, 1986, *Bakuhansai Shakai no Seiritsu to Kozo, 4th ed. (Formation and structure of the Shogunate society, 4th ed.)*, Tokyo: Yuhikaku.,
- Barro, R. J. and X. Sala-i-Martin 2004. *Economic Growth*, Cambridge, MA: MIT Press
- Bernhofen, D. and J. Brown. 2004. "A Direct test of the theory of comparative advantage: The case of Japan," *The Journal of Political Economy* 112(1), 48-67

- Blundell, R. and S. Bond, "Initial conditions and moment restrictions in dynamic panel data models," *Journal of Econometrics* 87: 115-143.
- Bureau of Statistics of the Cabinet. 1907. *Dofuken Genju Jinko (De facto Population by Prefecture)*, Tokyo: Statistics Bureau of the Cabinet
- Bureau of Statistics of the Ministry of General Affairs. 2006. *Nihon Choki Tokei Soran (Historical Statistics of Japan)* vol.1, Tokyo: Japan Statistics Association
- Clay, K. 1997. "Trade without law: Self-enforcing institutions in Mexican California," *Journal of Law, Economics and Organization* 13(1): 202-231
- Dixit, A. 2004. *Lawlessness and Economics: Alternative Modes of Governance*, Princeton, NJ: Princeton University Press
- Djankov, S, R. LaPorta, F. Lopez-de-Silanes and A. Shleifer, "Courts," *Quarterly Journal of Economics* 118: 145-517
- Ellickson, R.C. 1991. *Order without Law: How Neighbors Settle Disputes*, Cambridge, MA: Harvard University Press
- Fafchamps, M. 2004. *Market Institutions in Sub-Saharan Africa: Theory and evidence*, Cambridge, MA: MIT Press
- Fujino, S. and F. Igarashi. 1973. *Keiki Shisu: 1888-1940 (Diffusion indexes: 1888-1940)*, Tokyo: Center of Japanese Statistics and Literatures, Hitotsubashi University
- General Secretariat of the Supreme Court 1990. *Saibansho 100 Nen Shi (100 Years History of Courts)*, Tokyo: Printing Office of the Ministry of Finance
- Ginsburg, T. and G. Hoetker 2006. "The unreluctant litigant ? : An empirical analysis of Japan's turn to litigation," *Journal of Legal Studies* 35(1): 31-59
- Greif, A. 1997. "Contracting, enforcement, and efficiency: Economics beyond the Law," M. Bruno and B. Pleskovic eds. *Annual World Bank Conference on Development Economics* 1996: 239-265, Washington, D.C.: World Bank
- Greif, A. 2006. *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*, Cambridge: Cambridge University Press
- Greif, A. and E. Kandell 1995. "Contract enforcement institutions: Historical Perspective and Current Status in Russia," in E. P. Lazear ed. *Economic Transition in Eastern Europe and Russia: Realities of Reform*, Stanford, CA: Hoover Institution Press
- Haley, J.O. 1978. "The myth of the reluctant litigant," *Journal of Japanese Studies* 4: 359-390
- Haselsman, R., K. Pistor and V. Vig, 2010. "How law affect lending," *Review of Financial Studies* 23(2): 549-580
- Henderson, D. F. 1975. *Village "Contracts" in Tokugawa Japan: Fifty Specimens with English Translations and Comments*, Seattle: University of Washington Press
- Jappelli, T., M. Pagano and M. Bianco 2005. "Courts and banks: Effects of judicial enforcement on credit markets," *Journal of Money Credit and Banking* 37(2): 223-244
- Kandori, M. 1992. "Social norms and community enforcement," *The Review of Economic Studies* 59: 63-80
- LaPorta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny 1997. "Legal determinants of external finance," *Journal of Finance* 52: 1131-1150
- LaPorta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny 1998. "Law and Finance," *Journal of Political Economy* 106: 1113-1155
- Levine, R. 1998. "The legal environment, banks and long-run economic growth," *Journal of Money, Credit and Banking* 30: 596-613
- Levine, R. 1999. "Law, finance and economic growth," *Journal of Financial Intermediation* 8: 36-67
- McMillan, J. and C. Woodruff 1999a. "Interfirm relationships and informal credit in Vietnam," *Quarterly Journal of Economics* 114: 1285-1320
- McMillan, J. and C. Woodruff 1999b. "Dispute resolution without courts in Vietnam,"

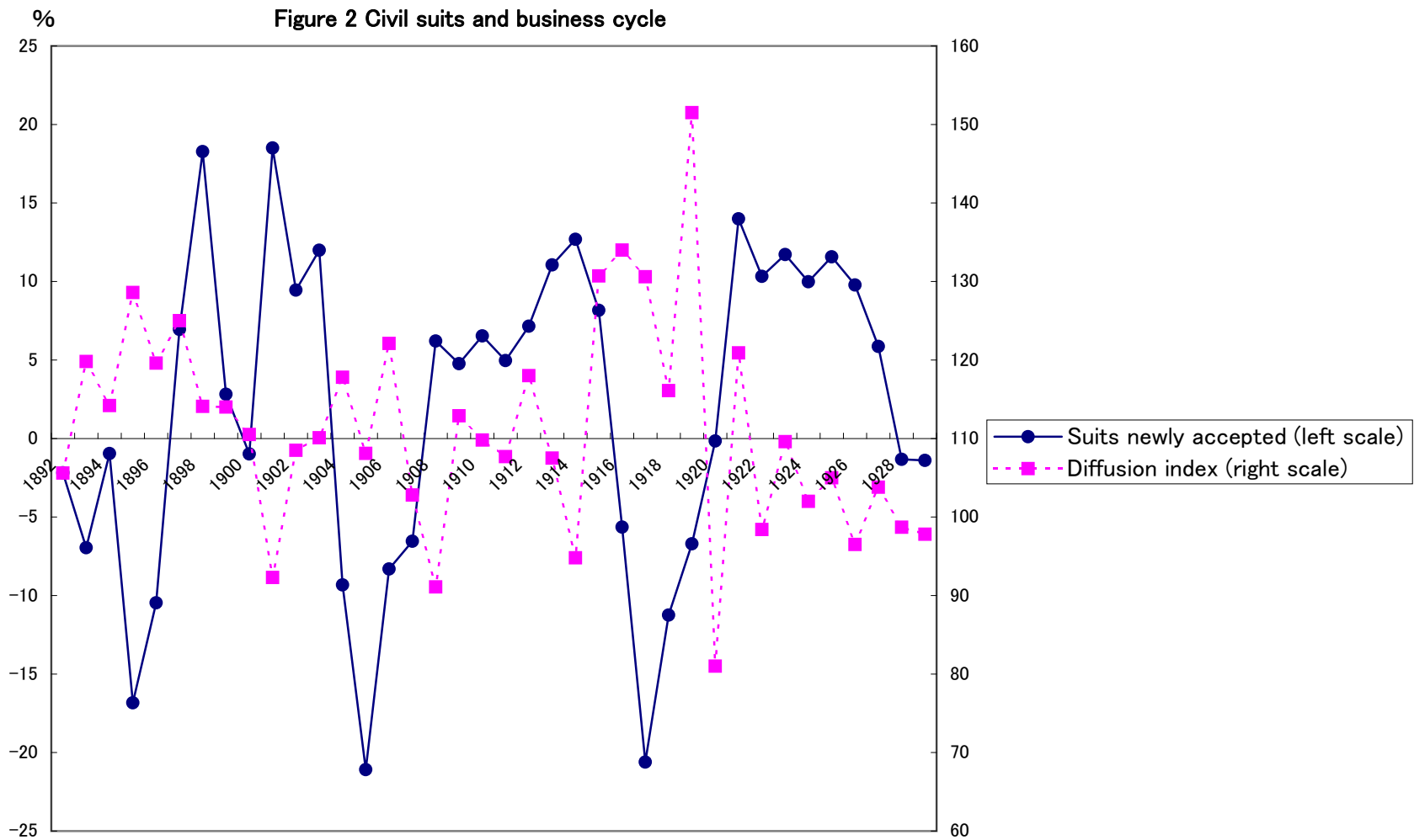
- Journal of Law, Economics and Organization* 15(3): 637-658
- Milgrom, P., D.C. North and B. Weingast 1990. "The role of institutions in the revival of trade: The law merchant, private judgsm and the Champagne Fairs," *Economics and Politics* 2: 1-23
- Miyamoto, Mataji 1938, *Kabu Nakama no Kenkyu (Research on Kabu Nakama)*, Tokyo: Yuhikaku
- Nagahara, Keiji. 1973, *Nihon Chusei Shakai Kozo no Kenkyu (Research on the Social Structure of Medieval Japan)*, Tokyo: Iwanami Shoten.
- Nishitani, Masahiro, 2006, *Nihon Chusei no Shoyu Kozo (The Structure of Land Property in Medieval Japan)*, Tokyo: Hanawa Shobo.
- North, D. C. 1990. *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press
- North, D. C. 2005. *Understanding the Process of Institutional Change*, Princeton, NJ, Princeton University Press
- North, D. C. and R. Thomas. 1973. *The Rise of the Western World*, Cambridge: Cambridge University Press
- Okazaki, T. 2005. "The role of the merchant coalition in pre-modern Japanese economic development: An historical institutional analysis, *Explorations in Economic History* 42(2): 184-201
- The Secretariat of the Supreme Court. 1990. *Saibansho hyaku-nen shi (100 Years History of the Courts)*, Tokyo: Printing Bureau of the Ministry of Finance
- Shinbo, H. and A. Hasegawa .1988. "Shohon seisan Ryutsu no Dainamikkusu," (Dynamics of commodity production and distribution) in A. Hayami and M. Miyamoto eds. *Keizai shakai no Seiritsu (Formation of a Market-based Society)*, Tokyo: Iwanami Shoten
- Shinbo, H. 1978. *Kinsei no Bukka to Keizai Hatten: Zenkindai Shakai heno Suryototeki Sekkin (Prices and Economic Development in Tokugawa Japan: A Quantitative Approach to the pre-modern society)*, Tokyo: Toyo Keizai Shinposha
- Shirakawabe, Tatsuo, 2004, "Kinsei zenki no kenchi nauke to kobyakusho (Peasants under the land tax registration system in the first half of early modern era)" in Takashi Watanabe and Yuko Hasegawa, eds., *Chusei Kinsei Tochi Shoyushi no Saikochiku (Revisit to the History of Land Ownership in the Medieval and Early modern times)*, Tokyo: Aoki Shoten, pp. 273-297.

Figure 1 Number of civil cases judged at ward courts by issue



Source: Ministry of Justice, Annual Report on Civil Case Statistics, various issues.

Figure 2 Civil suits and business cycle



Source: Ministry of Justice, *Annual Report on Civil Case Statistics*, various issues.

Table 1 Basic features of the Japanese court system

|   |                 | 1895    | 1900    | 1905    | 1910    | 1915    | 1920    | 1925    |
|---|-----------------|---------|---------|---------|---------|---------|---------|---------|
| Number of courts  | Total           | 1,531   | 1,814   | 1,760   | 1,857   | 1,839   | 1,966   | 2,130   |
|   | Supreme Court   | 1       | 1       | 1       | 1       | 1       | 1       | 1       |
|   | High courts     | 7       | 7       | 7       | 7       | 7       | 7       | 7       |
|   | District courts | 49      | 49      | 49      | 50      | 50      | 51      | 51      |
|   | Branches        | 72      | 79      | 71      | 74      | 64      | 84      | 87      |
|   | Ward courts     | 301     | 310     | 310     | 312     | 184     | 270     | 281     |
|   | Branches        | 1,101   | 1,368   | 1,322   | 1,413   | 1,533   | 1,553   | 1,703   |
| Number of newly accepted cases<br>(civil litigation, first trial) | Total           | 136,087 | 167,066 | 164,307 | 166,436 | 246,060 | 177,787 | 288,909 |
|   | District courts | 15,941  | 28,556  | 20,332  | 20,183  | 23,402  | 39,885  | 51,178  |
|   | Ward courts     | 120,146 | 138,510 | 143,975 | 146,253 | 222,658 | 137,902 | 237,731 |

Source: Ministry of Justice, *Annual Report on Civil Case Statistics*, various issues.

Note: The numbers of District courts and Ward courts include those of their branches.



Table 2 Major subcategories of monetary issues judged at ward courts

| 1895                                   | 1910            | 1925                      |                 |
|--|-----------------|---------------------------|-----------------|
| Issues                                 | Number of cases | Issues                    | Number of cases |
| Loans without collaterals              | 29,919          | Loans without collaterals | 33,956          |
| Sales prices                           | 4,948           | Sales credits             | 9,361           |
| Loans with real estates as collaterals | 3,339           | Bills                     | 3,038           |
| Deposits                               | 3,335           | Sales prices              | 2,174           |
| Damages                                | 2,102           | Damages                   | 2,131           |
| Reserve funds                          | 1,455           | Deposits                  | 1,813           |
| Advances                               | 1,236           | House rents               | 1,581           |
| Contracted payments                    | 1,194           | Amusement expenses        | 1,070           |
| Reparations                            | 1,123           | Others                    | 11,636          |
| House rents                            | 1,069           |                           |                 |
| Others                                 | 71,295          |                           |                 |
|  |                 | Maney paid in stocks      | 1,762           |
|  |                 | Guaranteed                | 1,704           |
|  |                 | Advances                  | 1,645           |
|  |                 | Wages                     | 1,333           |
|  |                 | Rents                     | 1,160           |
|  |                 | Others                    | 96,011          |
| <b>Total</b>                           | <b>121,015</b>  | <b>Total</b>              | <b>66,760</b>   |
|  |                 |                           | <b>226,677</b>  |

Notes: Subcategories which included more than 1000 cases.

Source: Ministry of Justice, *Annual Report on Civil Case Statistics*, 1895, 1910 and 1925 issues.

Table 3 Regional distribution of law suits

|                                   |          | 1895    | 1905    | 1915    | 1925    |
|-----------------------------------|----------|---------|---------|---------|---------|
| Number of suits<br>newly accepted | Total    | 120,146 | 143,975 | 222,391 | 237,025 |
|                                   | Hokkaido | 3,453   | 5,574   | 9,250   | 13,823  |
|                                   | Tohoku   | 16,690  | 20,225  | 22,356  | 19,759  |
|                                   | Kanto    | 21,981  | 25,469  | 33,723  | 35,668  |
|                                   | Tokyo    | 7,715   | 7,456   | 14,683  | 18,997  |
|                                   | Chubu    | 19,871  | 28,870  | 34,746  | 34,142  |
|                                   | Kinki    | 21,894  | 21,552  | 45,434  | 46,940  |
|                                   | Osaka    | 8,315   | 5,687   | 17,342  | 19,235  |
|                                   | Chugoku  | 10,236  | 14,786  | 29,505  | 28,688  |
|                                   | Shikoku  | 7,807   | 7,239   | 13,585  | 13,907  |
|                                   | Kyushu   | 18,214  | 20,260  | 33,792  | 44,098  |
| Per 1000 persons                  | Total    | 2.85    | 3.01    | 4.09    | 3.97    |
|                                   | Hokkaido | 6.14    | 5.04    | 5.13    | 5.53    |
|                                   | Tohoku   | 3.60    | 3.88    | 3.88    | 3.21    |
|                                   | Kanto    | 2.99    | 2.84    | 3.33    | 2.90    |
|                                   | Tokyo    | 4.64    | 3.06    | 5.13    | 4.24    |
|                                   | Chubu    | 2.17    | 2.96    | 3.19    | 3.02    |
|                                   | Kinki    | 3.30    | 2.85    | 5.15    | 4.67    |
|                                   | Osaka    | 6.17    | 3.22    | 7.63    | 6.29    |
|                                   | Chugoku  | 2.28    | 3.08    | 5.64    | 5.58    |
|                                   | Shikoku  | 2.70    | 2.38    | 4.08    | 4.38    |
|                                   | Kyushu   | 2.80    | 2.73    | 3.99    | 4.86    |

Source: Ministry of Justice, Annual Report on Civil Case Statistics, various issues; Bureau of Statistics of the Cabinet(1907); Bureau of Statistics of the Ministry of General Affairs (2006).

Table 4 Basic statistics of the variables for litigation demand regression

| Variable    | Obs | Mean  | Std. Dev. | Min   | Max   |
|-------------|-----|-------|-----------|-------|-------|
| SUIT        | 328 | 3.156 | 1.261     | 0.581 | 7.866 |
| WORKER      | 328 | 0.014 | 0.013     | 0.000 | 0.079 |
| URBAN       | 328 | 0.091 | 0.154     | 0.000 | 0.815 |
| WORKER*URBA | 328 | 0.002 | 0.006     | 0.000 | 0.052 |
| OVER1M      | 328 | 0.219 | 0.129     | 0.017 | 0.750 |
| OVER3M      | 328 | 0.075 | 0.058     | 0.001 | 0.319 |

Table 5 Determinants of litigation demand

| Dependent variable: SUIT | (1)                | (2)               | (3)               | (4)                |
|--------------------------|--------------------|-------------------|-------------------|--------------------|
| WORKER                   | 14.135 (1.19)      | 7.408 (0.69)      | 2.85 (0.27)       | -0.51 (-0.05)      |
| URBAN                    | 1.000 (0.98)       | 1.681 (1.90) *    | -0.203 (-0.20)    | -0.553 (-0.05)     |
| WORKER*URBAN             |                    | (0.68)            | 47.784 (2.44) **  | 49.661 (2.41) **   |
| OVER1M                   | 0.979 (1.41)       |                   | 0.786 (0.61)      |                    |
| OVER3M                   |                    | -2.065 (-1.08)    |                   | -2.154 (-1.25)     |
| 1900                     | 0.333 (2.55) **    | 0.320 (2.41) **   | 0.292 (2.16) **   | 0.283 (2.01) **    |
| 1905                     | 0.256 (1.08)       | 0.075 (0.31)      | 0.246 (1.01)      | 0.116 (0.48)       |
| 1910                     | -0.359 (-0.17)     | -0.190 (-0.82)    | -0.298 (-0.14)    | -0.153 (-0.69)     |
| 1915                     | 0.903 (4.58) ***   | 0.903 (4.18) ***  | 0.906 (4.51) ***  | 0.918 (4.10) ***   |
| 1920                     | -0.842 (-3.68) *** | -0.618 (-3.02)    | -0.81 (-3.82) *** | -0.632 (-3.31) *** |
| 1925                     | 0.455 (1.30)       | 0.764 (2.86) ***  | 0.547 (1.66)      | 0.816 (3.20) ***   |
| Cons.                    | 2.5 (9.25) ***     | 2.876 (12.81) *** | 2.691 (8.90) ***  | 3.027 (11.89) ***  |
| Obs.                     | 328                | 328               | 328               | 328                |
| Hansen                   | 0.505              | 0.427             | 0.513             | 0.378              |
| AR(2)                    | 0.618              | 0.480             | 0.584             | 0.438              |

Note: Heteroskedasticity robust t-values are in parentheses. P-values are reported for Hansen test of overidentification and Arellano-Bond test for AR(2) in first differences.

\*\*\* statistically significant at 1% level.

\*\* statistically significant at 5% level.

Table 6 Basic statistics of the variables for growth regression

| Variable                                  | Obs | Mean  | Std. Dev. | Min    | Max   |
|---|-----|-------|-----------|--------|-------|
| GWORKER                                   | 280 | 0.046 | 0.089     | -0.427 | 0.305 |
| OVER1M <sub>-1</sub>                      | 280 | 0.188 | 0.099     | 0.017  | 0.457 |
| OVER3M <sub>-1</sub>                      | 280 | 0.064 | 0.049     | 0.001  | 0.276 |
| URBAN <sub>-1</sub>                       | 280 | 0.085 | 0.155     | 0.000  | 0.815 |
| OVER1M <sub>-1</sub> *URBAN <sub>-1</sub> | 280 | 0.015 | 0.034     | 0.000  | 0.288 |
| OVER3M <sub>-1</sub> *URBAN <sub>-1</sub> | 280 | 0.005 | 0.013     | 0.000  | 0.094 |
| INVESTMENT <sub>-1</sub>                  | 280 | 0.012 | 0.078     | -0.011 | 1.175 |
| EDUCATION <sub>-1</sub>                   | 280 | 0.009 | 0.013     | 0.000  | 0.122 |

Table 7 Legal efficiency and industrial growth

| Dependent variable: GWORKER               | (1)              | (2)              | (3)              | (4)              |
|---|------------------|------------------|------------------|------------------|
| OVER1M <sub>-1</sub>                      | 0.110 (0.80)     |                  | 0.206 (1.59)     |                  |
| OVER3M <sub>-1</sub>                      |                  | 0.095 (0.52)     |                  | 0.156 (0.84)     |
| URBAN <sub>-1</sub>                       | 0.346 (1.56)     | 0.115 (0.442)    | 0.161 (1.99) *   | 0.169 (1.71) *   |
| OVER1M <sub>-1</sub> *URBAN <sub>-1</sub> |                  |                  | -0.704 (-1.90) * |                  |
| OVER3M <sub>-1</sub> *URBAN <sub>-1</sub> |                  |                  |                  | -0.169 (-1.62)   |
| INVESTMENT <sub>-1</sub>                  | 0.050 (1.25)     | 0.048 (1.75) *   | 0.045 (1.48)     | 0.044 (1.65)     |
| EDUCATION <sub>-1</sub>                   | 0.402 (0.63)     | 0.249 (0.44)     | 0.508 (0.95)     | 0.271 (0.48)     |
| 1905                                      | 0.055 (3.00) *** | 0.057 (2.96) **  | 0.058 (3.28) *** | 0.067 (3.27) *** |
| 1910                                      | 0.027 (1.30)     | 0.024 (1.26)     | 0.041 (2.05) **  | 0.028 (1.43)     |
| 1915                                      | -0.115 (-0.52)   | -0.007 (-0.32)   | 0.008 (0.36)     | 0 (-0.01)        |
| 1920                                      | 0.105 (5.67) *** | 0.121 (6.51) *** | 0.128 (6.95) *** | 0.13 (6.90) ***  |
| 1925                                      | -0.032 (-1.41)   | -0.015 (-0.72)   | -0.016 (-0.71)   | -0.007 (-0.34)   |
| Cons.                                     | -0.319 (-1.01)   | -0.002 (-0.11)   | -0.037 (-1.27)   | -0.007 (-0.37)   |
| Obs.                                      | 280              | 280              | 280              | 280              |
| Hansen                                    | 0.192            | 0.133            | 0.454            | 0.342            |
| AR(2)                                     | 0.333            | 0.365            | 0.321            | 0.312            |

Note: Heteroskedasticity robust t-values are in parentheses. P-values are reported for Hansen test of overidentification and Arellano-Bond test of AR(2) in first differences.

\*\*\* statistically significant at 1% level.

\*\* statistically significant at 5% level.