

Stabilize the Peasant Economy

Governance of Foreclosure by the Shogunate*

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Abstract

Regulation of foreclosure in a financial crisis has been centuries long, often politicized conundrum to authorities. Japan in the fifteenth and sixteenth centuries had free financial, land and coercive labor markets. They were complementary institutions of the Japan's first age of the laissez-faire financial capitalism. It raised the growth but resulted in recurrent financial crises. Therefore, the Edo (Tokugawa) shogunate, 1600–1868, banded coercive labor, protected peasants' property right and regulated the farmland-collateral loans. The key was an optimal degree of regulation. The shogunate first banned foreclosure and invited a credit shrink. In the first half of the eighteenth century, the shogunate introduced legislation to legalize foreclosure of pledged farmland as clarifying the rights of borrowers. The regulation asymmetrically lowered interest rates for timely repayment.

Keywords: farmland-collateral loans; farmland foreclosure; free labor; peasant ownership; early modern Japan.

JEL: G18; K11; K12; O12; Q15.

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Introduction

Introduction

To regulate foreclosure or not. The decision depends on how to measure the benefit of stabilizing the society and the cost of congealing the financial market. This was the challenge facing state governments in the US after the financial crisis, for instance, because a rush of foreclosure could have a substantial negative spillover through the rise in crime rate and the fall in property prices (Schuetz, Been and Ellen (2008); Alm, Buschman and Sjoquist (2014); Hartley (2014); Zhang and Leonard (2014); Gerardi, Rosenblatt, Willen and Yao (2015); Ihlantfeldt and Mayock (2015); and Cui and Walsh (2015)). Furthermore, a foreclosure tends to be costly, regarding the transaction cost, to both the lender and the borrower (Posner and Zingales (2009) and White (2014)). With the justification, regulation of and intervention in foreclosures are often politicized (Agarwal, Amromin, Ben-David and Dinc (forthcoming)).

The challenge is a conundrum to authorities. In the first place, a more borrower-friendly foreclosure law might not decrease the number of default (Demiroglu, Dudley and James (2014)). Furthermore, regulations of foreclosure increase the loan losses of lenders (Clauret and Herzog (1990)). Thus, protection of borrowers by the regulations on foreclosure, being internalized by lenders, might raise borrowing costs of riskier borrowers in particular (Goodman and Levitin (2014)) or check the supply of derivative finance (Milonas (forthcoming)). Furthermore, the lenders' loss due to regulations of foreclosure might contain the credit supply and involve the welfare reduction (Gerardi, Lambie-Hanson and S. (2013); Xu (2014); Cordell and Lambie-Hanson (2016); Jou and Lee (2016); Dagher and Sun (2016); and Li and Oswald (2017)). A foreclosure regulation is thus inevitably accompanied by a trade-off between the economic growth and the social stability. Due to these entangled elements, the foreclosure process has evolved being often driven by case laws rather than statute laws (Ghent (2014)),

except for emergencies like the 1930s or the late 2000s.

If possibly foreclosed assets are production inputs, i.e., farmland, the trade-off could be even more complicated. Foreclosures largely depend on the gap between farmers' optimistic expectation of business cycles and the realized ones (Alston (1983)). While a possibility of foreclosure gives a discipline to farmers, it might trigger an unrest in a contagion (Stock (1984)). A longer tenure or a better legally protected tenure tends to provide cultivators with greater incentives for investment (Place and Otsuka (2001); Smith (2004); and Fenske (2011)). The longest tenure is the infinite one, secured property right (Toumanoff (1984)). These visions often prompt authorities to intervene in the private agricultural financial markets (Alston (1984)).

Institutional arrangements of farmland-collateral loans directly affect significance of cultivators' claim (Johnson (2001)). Peasants' property right without access to the farmland-collateral loans would diminish the significance of the property right itself. Meanwhile, thoroughly deregulated farmland-collateral loans might hurt the long-term growth and the social stability (Guinnane and Miller (1997)). A practical and endogenously formed solution is co-existence of formal and informal financial sectors. The existence of informal sector that tends to avoid collateral foreclosure lowers the rate of foreclosure of the formal sector through the competition (Guirking (2008)). Another common way is the intervention in the formal financial market as mentioned above. The shogunate of Japan in the eighteenth century was faced with the challenge when it sought the optimal regulation of agricultural financial markets to balance the economic growth with the financial stability.

In the last millennium, Japan saw three distinctive phases of growth in per capita gross domestic product. The first was from the late fourteenth century when Japan began to catch up with China. The second one was from the eighteenth century when Japan surpassed China and caught up peripheral Europe (Figure 1). After outperforming Eastern Europe, it saw the

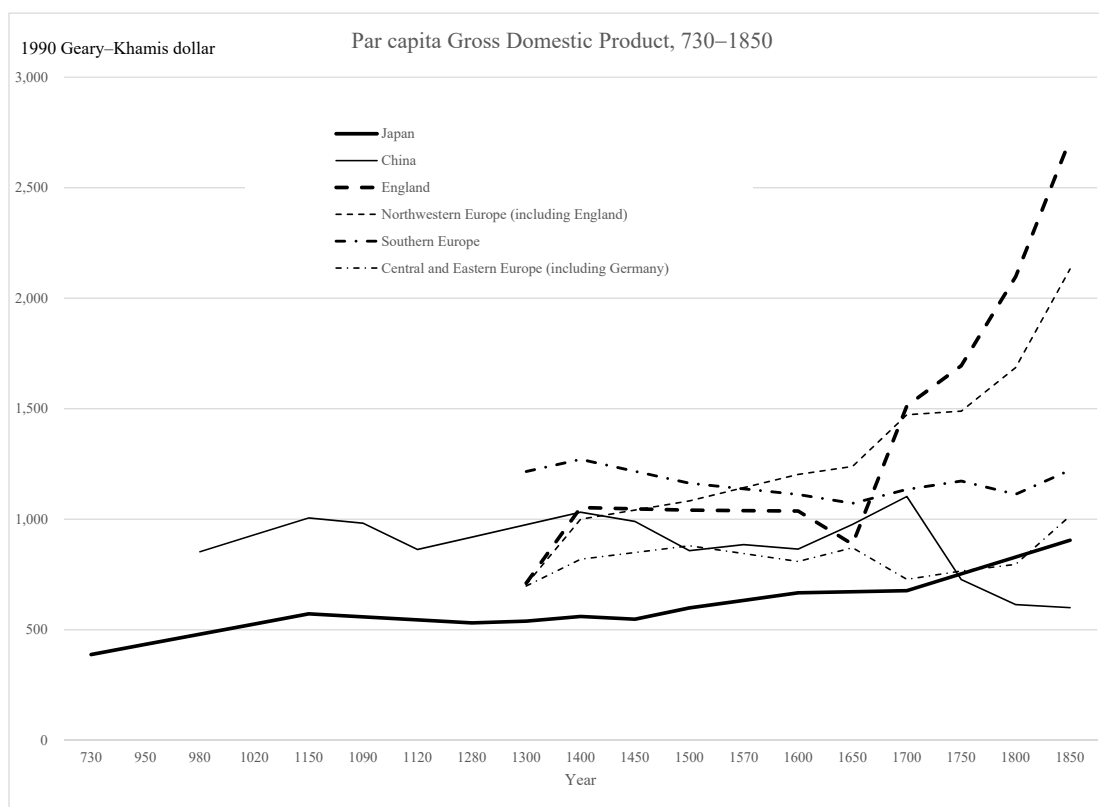
third phase from the late nineteenth century, which continued to the 1970s when Japan caught up with ordinary advanced economies such as the UK, though the US and Nordic countries are still far ahead. We focus on the institutional arrangement of property right protection by the shogunate in the eighteenth century, a critical moment for Japan to rise beyond China and to catch peripheral Europe.

Several transformations of the state regime and institutions of property right protection until the seventeenth century prepared the growth in the eighteenth century. Until the fourteenth century, Japan's soil was under the manorial system where several agents were entitled to fixed income from a parcel of farmland. Agents who claimed fixed income included the manorial lords at the top such as the Emperor, the imperial family members, large Buddhist temples and Shinto shrines, nobles, the intermediary rulers such as vassal samurais of the shogunate and samurais under the Emperor, and the local managers such as landlord farmers. On the farmland, landlord farmers subcontracted cultivation to landless families. Subcontracting cultivators were residual claimant after paying all tax and rent to the upper stakeholders.

Under this institutional arrangement, multiple agents shared the risk of harvest volatility, and hence it was suitable to medieval Japan whose agricultural productivity was so low that its per capita output was roughly half China's (Figure 1). However, under this regime, any agent had neither the resource nor incentive to make a substantial investment in irrigation or to make long-term effort to improve the fertility of a parcel of farmland. Manorial lords were hesitant to invest in the irrigation. Subcontracting cultivators did not settle in a specific place and moved seeking a better annual contract (Nishitani, Hayashima and Nakabayashi (2017)).

Financial markets were not regulated, and coercive labor, either indefinite or definite, was legal. Recurrent financial crises accompanied the laissez-faire financial and coercive labor markets, and when impoverishment by a crisis went beyond the socially acceptable threshold, cultivators rioted demanding for writing-off of their debts. The Muromachi (Ashikaga) shogu-

Figure 1: Par capita Gross Domestic Product, 730–1850.



Sources: Japan: Fukao, Saito, Takashima and Kida (2017a) and Fukao, Saito, Takashima and Imamura (2017b). China: Broadberry, Guan and Li (2017). England, Northwestern Europe, and Southern Europe: Broadberry (2016).

Notes: Point years of estimate for Japan: 730, 586, 1150, 1280, 1300, 1400, 1450, 1500, 1600, 1650, 1700, 1750, 1800, 1850. For China: 863, 878, 980, 982, 1020, 1300, 1400, 1450, 1500, 1570, 1600, 1650, 1700, 1750, 1800, 1850. For England, Northwestern Europe, and Southern Europe: 1300, 1400, 1500, 1600, 1650, 1700, 1750, 1800, 1850. The other years are filled by the linear trends between the estimate point years.

nate several times promulgated the Ordinance for the Virtuous Governance, which in practice forced financiers to write off the outstanding debts, responding to a riot, to keep the order of the society (Nishitani and Nakabayashi (2017)).

Technological conditions evolved in the fourteenth century. Rice is initially from South-eastern Asia and paddy cultivation in the subtropical zone was extensive. However, incremental technical improvements to make rice cultivation resilient against the cold weather created a labor and skill intensive rice cultivation. It augmented the contribution of more significant and continuous effort by cultivators. In the fifteenth century, cultivators came to settle in a specific place and to form a village community with landlord farmers. While landlord farmers had been responsible for investment in the improvement of paddy fields and drain networks within a village, the village community as a whole took over the responsibility (Nagahara and Yamamura (1988); Nishitani (2017); and Nishitani et al. (2017)).

Furthermore, from the fifteenth century to the sixteenth century, leading samurais emerged as feudal lords excluding the manorial lords. A lord, now the exclusive state power, often concluded a contract with a village community in own domain such that as long as the village paid the stipulated land tax, the lord recognized the autonomy of the village. Now, the village protected the collective property right of villagers against the lord.

Among lords, Hideyoshi Toyotomi (1561–1598) established the administration of the effective central government first since the Onin war, 1467–1477, and his administration commenced a large-scale land surveillance. The surveillance project intended to specify individual cultivating peasant family of a specific parcel of farmland, to register the family's name on the Land Surveillance Book (*Kenchi Cho*), and to protect the individual peasant family's property right of the parcel the family cultivated. Thus, the plan was to transform ex-cultivators into small owner peasants. The Edo shogunate, 1600–1868, succeeded and completed the within own “crown domain” in the 1670s (Nagahara and with Kozo Yamamura (1981); Aoki

(2001), pp. 257–258; Nishitani et al. (2017); and Nakabayashi and Moriguchi (2017)), lords in the backward regions did not necessarily introduce the property right protection of peasants because provision of property right meant imposition of the risk of harvest volatility on peasants and hence not desirable if productivity was low and farmers were vulnerable to the risk.¹ However, most lords in advanced regions followed the shogunate institution of property right protection.

Early modern Japan was a federation where the shogunate and lords assumed exclusive sovereignty for domestic affairs within own domains. Exerting the exclusive taxation authority, now the shogunate and lords had both the motivation and the resource for investment in mass reclamation. Reclamation of alluvial plains was conducted across the country in the seventeenth century (Yamamura (1981)). From 1600 to 1721, rice output is estimated to have risen from 31 million *koku*² to 49 million *koku* and the population from 17 million to 31 million.³

The combination of the mass investment in infrastructure and the protection of peasants' property right provided a technological environment for intensive rice cultivation and incentives for peasants to improve techniques and to make more significant and continuous effort for generations. The combination resulted in a jump of the size of the Japanese economy in the seventeenth century. The achievement, however, presented another challenge to the shogunate. The property right, composed of the residual control right and residual claim (Hart (1988)), provides the property holder with incentives to use the property better. To enhance efforts of cultivating peasants, the shogunate and lords recognized the property right of them. Furthermore, to improve the productivity of the intensive rice cultivation by peasants, agricultural finance for fertilizers was essential. Thus, the shogunate needed to allow peasants

¹A typical example is the Lord of Kaga, which is now Ishikawa prefecture. See Brwon (1993), pp. 39–112.

²1 *koku* = 1.81 liters.

³See Fukao et al. (2017b), pp. 284–285.

to borrow to realize the potential gain from the protection of property right. However, if the financial market were not regulated at all, the outcome would be the polarization of farmland ownership again as with the medieval times, and the social instability of medieval Japan would be provoked. Therefore, the shogunate needed to regulate the markets of farmland-collateral loans in some measure.

Meanwhile, case studies related to foreclosure regulations indicate that the regulation on foreclosures is likely to lower the supply credit (Xu (2014); Cordell and Lambie-Hanson (2016); Jou and Lee (2016); Dagher and Sun (2016); Li and Oswald (2017); and Chaudhary and Swamy (2017)). Regulating foreclosure meant to balance the economic growth and the financial stability. This was the challenge that faced the shogunate from the late seventeenth century. In the mid-seventeenth century, the shogunate banned farmland trades in principle (Saito (2009)). From the late seventeenth century to the early eighteenth century, the shogunate attempted to go further to ban foreclosure due to loans pledged by farmland but repealed it because the ban tightened the credit.

We focus on this maneuver by the shogunate to balance the economic growth and the financial stability and analyze legislation toward legalization of foreclosure of farmland while clarifying the right of borrowers in the early eighteenth century. The previous works, such as Oishi (1975) and Otsuka (2002), commonly judged the shogunate's trial and error from the seventeenth to the early eighteenth centuries as merely inconsistent. They concluded the shogunate finally had to follow and tolerate the expansion of agricultural financial markets despite its idealism to protect peasant economy against the forces of the market economy. We have an entirely different view. With counting the shogunate objective function, peasants' risk attitude, and the harvest volatility risk, we can consistently understand the apparently contradictory policies tried by the shogunate from the seventeenth to the eighteenth centuries. From our viewpoint, the shogunate's on-off regulation and deregulation depended on its measure-

ment error of peasants' risk attitude, in despite of holding the consistent vision for policymaking. Then, completion of the legislation in the 1740s to balance the market dynamism and the financial stability prepared a further growth from the late eighteenth century.

The rest of the paper is organized as follows. In section 1, we show our analytical framework to depict and evaluate the shogunate's legislation. Section 2 describes the legislation from the late seventeenth century to the early eighteenth century with an emphasis on the details of the process from the 1720s to the 1740s. Section 3 examines the outcome of the legislation in the agricultural financial market, citing a case of a village near in the suburban region of greater Osaka.

1 Analytical road map of the shogunate history

1.1 Laissez-faire medieval times as the first best

Consider a risk-neutral financier and a risk-averse peasant. The latter borrows principal P in the spring and repays it back in the fall with interest r . Between the spring and the fall, the borrower finances own life by the loan and might work or not. The shogunate court enforces the contract, and hence in the fall, the peasant is forced to pay $P + r$ regardless of crop. The outcome in the fall is assumed to be observable and verifiable while it is assumed to be unobservable whether the borrower has worked between the spring and the fall. Following Holmstrom and Milgrom (1987), we assume that peasant's payoff u is approximated by

$$(1) \quad u(e) = 1 - \exp\{-\alpha [y(e) - (c(e) + r)]\},$$

where α is the constant risk averse coefficient, $y(e)$ is the outcome in the fall, $c(e)$ is the cost of life and effort and e is the level of effort such that $e = 1$ if the borrower works and $e = 0$ otherwise. For simplicity, we assume that $y(1) = Y + \epsilon > 0$, $y(0) = 0$, $c(1) = C > 0$, $c(0) = c > 0$, $C > c$, and $Y > C$. Here ϵ is a random variable such that $E[\epsilon] = 0$ and $V[\epsilon] = \sigma^2$ and captures natural shocks on crop. We consider c as the subsistence level of life.

Let us standardize the reservation utility is 0. Then, the individual rationality constraint of the peasant is

$$Y - (C + r) - \alpha \frac{\sigma^2}{2} \geq 0,$$

or,

$$(2) \quad r \leq Y - C - \alpha \frac{\sigma^2}{2}.$$

We also standardize the reservation utility of the financier is 0, and hence the financier provides agricultural finance if $r \geq 0$.

The incentive compatibility constraint of the peasant, $E[u(1)] \geq E[u(0)]$, is,

$$Y - (C + r) - \alpha \frac{\sigma^2}{2} \geq 0 - (c + r),$$

or,

$$(3) \quad Y \geq C - c + \alpha \frac{\sigma^2}{2}.$$

Condition (3) just means that the effort by the peasant is technically productive given own risk attitude, α . That is, as long as the effort is technically desirable, the peasant works and interest rate r is set such that all surplus belongs to the financier where condition (2) is satisfied by equality, $r^* = Y - C - \alpha \sigma^2/2$. An increase in productivity is earned by the financier and

wealth inequality between the financier, and the peasant grows year by year.

1.2 Liberalization of labor

Incentive compatibility constraint (3) assumes that in case of a bad crop, $y(e) = 0$, the payoff of the peasant is $-(c + r)$ or $-(c + r) - \alpha\sigma^2/2$, depending on whether he has worked. This amount should be somehow financed. It is feasible if he sells himself as a coercive laborer and receives the cost of his subsistence level of life, c and the return on his effort in a season, r . Now suppose that the shogunate decides that coercive labor be inhuman and bans it. Then, in case of a bad crop, the financier has to disclaim interest r and to transfer the cost of a subsistence level of life c from the principal P . Now, the incentive compatibility constraint with abolition of slavery and indentured labor is,

$$Y - (C + r) - \alpha\frac{\sigma^2}{2} \geq c,$$

or,

$$(4) \quad r \leq Y - \left(C + c + \alpha\frac{\sigma^2}{2} \right).$$

Condition (4) implies the optimal interest rate is,

$$(5) \quad r^\dagger = Y - (C + c + \alpha\sigma^2/2).$$

Thus, if agriculture is reasonably productive in labor input such that $Y \geq C + c + \alpha\sigma^2/2$, agricultural finance would be offered, but it would not otherwise. In other words, the free labor is socially affordable only in a productive economy but not otherwise. It is not occasional that coercive labor like slavery and indentured labor has been experienced in many economies in

their early stages of development (Steinfeld (1991, 2001)).

1.3 Regulation of foreclosure

Now assume that the shogunate is the maximizer of the utility of peasant such that peasants are enthusiastic political supporters of the shogunate and assume that it regulates foreclosure somehow. We characterize the regulation such that in case of a bad crop, the financier has to disclaim interest r and some portion of the principal, sP , where $s \in [0, 1]$. Incentive constraint of this case is,

$$Y - (C + r) - \alpha \frac{\sigma^2}{2} \geq sP + c,$$

or,

$$(6) \quad r \leq Y - \left(C + c + sP + \alpha \frac{\sigma^2}{2} \right).$$

Condition (6) and $r \geq 0$ imply

$$(7) \quad s \leq \frac{2(Y - C - c) - \alpha\sigma^2}{2P} \equiv s^*$$

For $s > s^*$, agricultural finance is not offered and hence peasants instead suffer from the regulation. Thus, provided that now Japanese economy is productive enough to prohibit coercive labor such that $Y \geq C + c + \alpha\sigma^2/2$, the shogunate must pin down s^* . If $s > s^*$, peasants would find themselves in difficulty raising fund for fertilizers. If $s < s^*$, wealth inequality would rise year after year and finally peasants might riot against the shogunate. Here is a conundrum facing the shogunate.

Proposition 1. *The more volatile the harvest is, or, the more risk-averse the peasants are, the*

less should be stringent the regulation of foreclosure of farmland.

Proof. s^* is decreasing in α and σ^2 . □

Furthermore, given s , the optimal interest rate is given by

$$(8) \quad r^\ddagger = Y - \left(C + c + sP + \alpha \frac{\sigma^2}{2} \right),$$

from condition (6). From (5) and (8), we define the transfer by the foreclosure regulation as

$$(9) \quad T \equiv r^\dagger - r^\ddagger = sP.$$

An immediate result is,

Proposition 2. *Given that condition (7) is satisfied, the transfer from the financier to the peasant is increasing in the degree of foreclosure regulation, s .*

Note that optimal degree of intervention is not increasing but decreasing in the degree of risk-averseness of peasants or the magnitude of crop volatility. The upper bound of s by (7), s^* , where $r = 0$, decreases in the degree of risk-averseness α and the variance of crop σ^2 . Thus, if α or σ^2 increases but the shogunate does not lower s , agricultural finance would not be offered, and the peasant would suffer from the credit crunch. The greater risk or greater risk-averseness implies a greater risk premium to satisfy incentive compatibility constraint (6) and hence, implies a smaller degree of regulation of foreclosure s^* . A greater regulation of foreclosure, s , corresponds not more but less risk-averse peasants in a not more but less volatile environment.

2 Trade off between the growth and the stability

2.1 Creation of mass property owners

The village contractor system, under which a village and the lord who governed the village concluded a contract that as long as the village paid the stipulated land tax, the lord respected the autonomy of the village, prevailed in the advanced regions in the sixteenth century. Hideyoshi Toyotomi reunified Japan and implemented a land surveillance project. Regarding the land tax collection, the Toyotomi administration recognized the village contractor system. An institutional development was on property right protection. Under the pre-existing village contractor system, lords in practice admitted the joint property right of the villagers as a whole. By contrast, the land surveillance by the Toyotomi administration intended to specify a cultivator of each parcel of farmland and to recognize the cultivator's family as the owner of the parcel as long as the family paid the stipulated land tax. The Toyotomi administration requested other lords to follow the policy (Araki (1986) and Hall (1981)).

Ieyasu Tokugawa (1543–1616), who established the third shogunate in Edo in 1600, inherited the policy. The Edo shogunate completed the land surveillance project in the 1670s in its “crown domain” it directly ruled. The results of the surveillance were recorded in the Land Surveillance Book (*Kenchi Cho*) that specified each parcel of farmland and the name of the household head of the family that cultivated the parcel. Two copies of the Land Surveillance Book (*Kenchi Cho*) were created. One copy was held by the magistrate who governed the region, and the other was held by the mayor (*nanushi*) of the village. The mayor was selected from farmers of the village by the shogunate. The land surveillance was not often conducted, and changes of owner due to transfer and inheritance were recorded in the Name Collection Book (*Nayose Cho*) by the mayor.

Under the shogunate judiciary system, the village mayor (*nanushi*) was the judge for the

first instance. The mayor (*nanushi*) was also responsible for land tax collection from families registered in the Land Surveillance Book (*Kenchi Cho*) or the Name Collection Book (*Nayose Cho*). Thus, the village handled daily administrative and legal procedures related to the transfer of the property right and land tax collection. However, whenever a party had a complaint against a judgment by the mayor in dispute, the party was allowed to file the complaint at the court of the magistrate who governed the region. Different from mayors, magistrates were shogunate officials of the samurai class. If the issue was considered to be hard to judge based on precedents, the magistrate sent the case to the Conference Chamber (*Hyojo Sho*) of the Edo Castle. The Conference Chamber consisted of the Governor of Temples and Shrines (*Jisha Bugyo*), the Secretary of Treasury (*Kanjo Bugyo*), and the Governor of Edo (*Machi Bugyo*) and was the last court of appeal. Thus, registration of the name of the household head with specifying the parcel of farmland the family cultivated on the Land Surveillance Book or the Name Collection Book satisfied the requirement of perfection for the family's property right of the parcel. The shogunate court protected the family's property right against any bystander with its enforcement ability (Mandai and Nakabayashi (2017)).

Along with its effort to specify cultivating peasant families as small property owners and to legally protect their claim, the shogunate also banned "perpetual" sale and purchase of farmland in 1643. While the ban aimed to keep owner peasants from falling into landless tenant farmers, the ban made owner peasants face a difficulty in borrowing. Loan contracts pledged by a parcel of farmland (*shichiire*) were strictly enforced by the shogunate court and hence was the least risky if foreclosure of a pledged parcel of farmland was legal. However, foreclosure of farmland implies a "perpetual" transfer of land ownership and hence, with the ban of "perpetual" sale and purchase of farmland, enforcement of foreclosure by the shogunate court could be tricky. Because the shogunate delegated daily administrative tasks to villages, it was technically difficult for the shogunate to monitor trades of farmland directly. However, any

transfer of property right had to be signed and sealed by the mayor (*nanushi*) of the village in which the parties dwelt for the transferred property right to be legally protected by the shogunate court. Then, if a mayor signed and sealed a contract to sell and purchase “perpetually” a parcel of farmland, the mayor was removed by the shogunate.⁴ The removal of the mayor could be the case if one party filed a complaint at the court of the magistrate. Trades between two parties who dwelt in different villages were technically impossible because neither mayor had jurisdiction and a legal authorization had to be given by the magistrate. Therefore, although it was technically possible to perpetually “sell” a parcel of farmland if the both parties were residents of the same village and neither party had a complaint, most mayors would want to avoid it.

A circumvention was a sale contract with a finite duration or a pledge contract with a clause that allowed the borrower to redeem the pledged parcel of farmland after it was foreclosed (Otsuka (2002) and Saito (2009)). A similar tendency of informal deferring or exemption of foreclosure is observed among US small community banks. The more banks depended on a small local mortgage market, the less likely was the foreclosed the collateral in the US in the 2000s (Fogel, Kali and Yeager (2011)).

Meanwhile, a letter by the Secretary of Treasury (*Kanjo Bugyo*) of the shogunate in 1666 required seals from the mayor (*nanushi*) and the five fellow villagers, adding to those of the lender and borrower, in the contract of pledging (*shichiire*) contract, while it reconfirmed the ban of “perpetual” sale and purchase of farmland. The requirement was for the obligation and claim of pledging (*shichiire*) contract to be protected by the shogunate court, thus to make it clear that pledging was legal.⁵ By this law, pledging (*shichiire*) was formally protected by the

⁴“Decision in 1744, in case of perpetually selling a parcel of farmland, the mayor who sealed the contract should be removed,” decision by the Conference Chamber (*Hyojo Sho*) in 1744, “Kujikata Osadame Gaki (Judiciary Rules)” in the Legal History Society and Ryosuke Ishii, eds., *Tokugawa Kinreiko, Bekkan (Bans by Tokugawa, Supplementary Volume)*, Tokyo: Sobunsha, 1961, p. 72.

⁵It was in the reign of the fifth shogun, Tsunayoshi Tokugawa (1646–1709), in office from 1680 to 1709.

shogunate court without exception as “cases related to real right (*honkuji*).” The shogunate understood that the legal protection of pledge was the essential benefit of peasants because it lowered interest rates when they borrowed (Oishi (1975), p. 95).

With the legal protection, the lenders’ loss was expected to be smaller for a pledge contract without a special clause on redemption after foreclosure than that with such a special clause and would offer lower interest rates due to the smaller expected loss. Accordingly, more borrowers chose pledge contracts without a special clause of redemption after foreclosure. Then foreclosure emerged as a sensitive issue. If the foreclosure were permitted and legally protected, it would obscure the ban of “perpetual” sale and purchase of farmland. Handling this was a new challenge facing the shogunate in the late sixteenth century.

2.2 To regulate foreclosure or not

In 1687, the shogunate banned foreclosure. Observing that the ordinance tightened credit, in 1695, the shogunate introduced legislation toward legalization of foreclosure. The new legislation required that a loan contract specified the condition under which the borrower could redeem the pledged parcel of farmland before the due of repayment and that the lender and the borrower concluded a tenancy contract under which the latter performed cultivation as a tenant farmer, adding to the loan contract. Provided that these conditions be met, foreclosure was enforced by the shogunate court (Oishi (1975), pp. 98–118).

The shogunate once suspended this legalization in the reign of the eighth shogun, Yoshimune Tokugawa (1684–1751), in office from 1716 to 1745. In 1722, the shogunate banned foreclosure again, intending to stabilize the peasant economy. The outcome was only a turmoil in agricultural finance, and the shogun repealed the ban in 1723. However, the repeal was not a simple resumption of legislation before 1722. The shogunate attempted to develop legislation to protect borrower’s claims securely.

First, in case of nonfulfillment of obligation of a loan pledged by a parcel of farmland (*shichiire*), the magistrate in charge of the county set a new time limit for repayment, depending on the borrowed amount, after the lender filed a suit. Then, only if the borrower did not repay the loan by the new limit, foreclosure was enforced.⁶ The new limit, or the extension was 30 days if the amount was less than 5 *ryo* in cash or 5 *koku* in rice, 60 days if 5–10 *ryo* or 5–10 *koku*, 100 days if 10–50 *ryo* or 10–50 *koku*, and 250 days if 50–100 *ryo* or 50–100 *koku*.⁷

Three types of tenancy contract were considered. The first was “direct tenancy (*jiki kosaku*)” contract, by which the borrower of a loan contract pledged by a parcel of farmland utilized the pledged parcel of farmland as the tenant farmer. The second was “different tenancy (*betsu kosaku*)” contract, by which the pledged parcel of farmland was utilized by another farmer than the borrower of a pledged loan contract. The last one was “registered paddy field tenancy (*myoden kosaku*)” contract, by which a farmer utilized a parcel of farmland that was not pledged. In the first case, if the stipulated rent was not paid by the due date, the magistrate in charge of the county set a new limit after the lender filed a complaint and allowed foreclosure of the pledged parcel when the rent was not paid during the extension. In the second and the third cases, if the rent was not paid by the due date, the magistrate in charge of the county set a new limit. If the rent was not paid during the extension, the magistrate forced the tenant farmer to back the parcel he utilized to the owner, seized the tenant’s home

⁶September 2, 1723, decision by the Conference Chamber (*Hyojo Sho*);

As was until 1721, the new limit shall be ordered if the contract period expires, and if it is not cleared (during the extension), regardless of whether the contract specifies foreclosure, either transfer or foreclosure shall be allowed, and in this regard, the procedure shall be applied to a contract with call provisions (that allows the borrower to repay before the due).

“Kyoho Senyo Ruishu, Shi no Ge, Kuji Saikyo no Bu Sanju Hachi (Selected Acts from Kyoho (Japanese calendar, 1716–1736), Second Half of Volume 4, Section of Judiciary, 38), included in the Digital Collection of the Library of the Diet (<http://doi.org/10.11501/2572769>).

⁷October 2, 1723, decision by the Conference Chamber (*Hyojo Sho*), “Kyoho Senyo Ruishu, Shi no Ge Kuji Saikyo no Bu, Sanju Hachi (Selected Acts from Kyoho (Japanese calendar, 1716–1736), Second Half of Volume 4, Section of Judiciary, 38).”

and contents, and forced the tenant to pay the rent by the seized home and contents.⁸

A point was in procedures of the foreclosure in case “direct tenancy (*jiki kosaku*)” contract, which was a typical setting of finance for owner peasants. When the borrower continued to utilize the pledged parcel of farmland, the lender and the borrower were required to conclude a “direct tenancy (*jikikosaku*)” contract. If the borrower was not the mayor (*nanushi*), both contracts should be sealed by the mayor, and if the borrower was mayor, the contracts should be sealed by the vice mayor (*kumigashira*). If these procedural requirements were not met, a complaint filed by the lender should be rejected by the act of 1723.⁹ Then the act of 1729 allowed such a complaint to be filed, but stipulated that it should be handled as a secured loan contract (*kakiire*), which was a “legal case of financial claim (*kane kuji*),” not as a pledged

⁸September 2, 1723, decision by the Conference Chamber (*Hyojo Sho*);

If (the rent payment of) the direct tenancy (*jiki kosaku*) is overdue, then the new limit shall be ordered depending on the amount (for which the tenant is responsible), and if it is not cleared (during the extension), then the pledged parcel of farmland shall be seized within the duration (of the pledged loan contract) and shall be transferred to the lender.

If (the rent payment of) a different tenancy (*betsu kosaku*) is overdue, then the new limit shall be ordered depending on the amount (for which the tenant is responsible), and if it is not cleared (during the extension), then the tenanted parcel of farmland shall be restored to the owner and the all possessions of the tenant shall be seized.

If (the rent payment of) tenancy of the registered paddy field (*myoden kosaku*) that is not pledged is overdue, then the new limit shall be ordered following the preceding item, and if it is not cleared (during the extension), the parcel of farmland shall be restored to the owner and all possessions of the tenant shall be seized.

“Kyoho Senyo Ruishu, Shi no Ge Kuji Saikyo no Bu, Sanju Hachi (Selected Acts from Kyoho (Japanese calendar, 1716–1736), Second Half of Volume 4, Section of Judiciary, 38).”

⁹This procedure was reconfirmation of the decision in 1718.

August 11, 1718, decision by the Conference Chamber (*Hyojo Sho*);

If a pledged loan contract is not sealed by the mayor, the case shall be rejected, and in case (the borrower) is the mayor, if it is not sealed by the fellow mayor (*ai nanushi*) or by the vice mayor (*kumigashira*), then the case shall be rejected.

September 2, 1723, decision of the Conference Chamber (*Hyojo Sho*);

Without being sealed by the mayor (*nanushi*), the case shall be rejected, but even if the seal is (not official but) for (private) contract, shall be taken as long as it is sealed, in this regard, however, if the mayor is the overdue borrower, the case shall be rejected if it is not sealed by the fellow mayor (*ai nanushi*) or the vice mayor (*kumigashira*).

In case a village was composed by benefices of more than one vassal samurais, more than one mayor could be appointed, and they were called fellow mayors (*ai nanushi*).

loan contract (*shichiire*), which was a “legal case of real right (*hon kuji*).”¹⁰ The legal protection of a “legal case of financial claim (*kane kuji*)” was so weak that enforcement by the shogunate was not warranted, but a private settlement was encouraged. Furthermore, in case the claim of a pledged loan contract should be rejected because the contract did not meet the requirements, the claim for rent from the tenancy contract with the borrower was dismissed, too.¹¹ In addition, in case of foreclosure of the pledged parcel of farmland with the “direct tenancy (*jiki kosaku*)” contract, foreclosure of the pledged parcel of farmland was enforced, but the lender was forced to renounce the claim for unpaid rent by the act of 1738.¹²

The shogunate also elaborated conditions for redemption after foreclosure by the act of 1737. The shogunate allowed redemption after foreclosure for ten years from the due date of the original loan contract if the original contract did not mention the due of redemption and ten years from the date of borrowing if the contract indicated call provisions. Beyond the duration of redemption, the “perpetual” that allowed redemption, transfer of property right to the lender was confirmed.¹³

The delay of foreclosure process and possible redemption after foreclosure are the mea-

¹⁰September 21, 1736, decision by the Conference Chamber (*Hyojo Sho*);

Since 1729, if a loan contract pledged by a parcel of farmland shall not be considered a loan contract pledged by a parcel of farmland because it lacks the seal of the mayor (*nanushi*) or the signature and the address (of the mayor), it shall be handled as a secured loan contract (*kaki ire*).

¹¹August 4, 1725, decision by the Conference Chamber (*Hyojo Sho*);

In case (a suit of) the primary contract of a loan pledged by a parcel of farmland is entirely rejected, the overdue of rent payment shall be rejected, too.

¹²February 25, 1738, decision by the Conference Chamber (*Hyojo Sho*);

In case an overdue of the direct tenancy (*jiki kosaku*) of a loan contract pledged by a parcel of farmland is filed, the pledged parcel shall be foreclosed to the lender, and the lender shall be ordered to renounce the claim for overdue of the rent.

The Legal History Society and Ryosuke Ishii, eds., *Tokugawa Kinreiko, Koshu Daini (Bans by Tokugawa, Second Series, Volume 2)*, Tokyo: Sobunsha, 1960, p.161

¹³“Ordinance of loans pledged by a parcel of farmland,” from the magistrate to villages in Kanto and the State of Izu, February 1737, in the Legal History Society and Ryosuke Ishii, eds., *Tokugawa Kinreiko, Koshu Daini (Bans by Tokugawa, Second Series, Volume 2)*, p. 158.

asures taken by some states in the US, in particular, in the mortgage crisis from 2008 (Gerardi et al. (2013); Demiroglu et al. (2014); Goodman and Levitin (2014); Xu (2014); Cordell and Lambie-Hanson (2016); Jou and Lee (2016); Dagher and Sun (2016); and Li and Oswald (2017)). The shogunate shared the aim and measure to protect borrowers with such states.

2.3 Measurement error of risk tolerance with a consistent viewpoint

The ban of foreclosure of 1722 and the repeal of it in 1723 have been primarily considered an unrealistic nostalgic policy and its failure. Previous works such as Oishi (1975) or Otsuka (2002) argued that the failure showed the shogunate's incompetence to resist the forces of the market and to protect owner peasants by its legislation. Thus they held that the shogunate made a fundamental shift in its land policy between 1722 and 1723, from an idealist anti-market approach to a reluctant acceptance of ongoing market expansion, assuming that the shift was driven by contrasting and contradictory aims. In particular, Oishi (1975) attributed the ban of foreclosure of 1722 to the leadership of a minister in the cabinet (*Roju*), Masamine Inoue, who was more progressive or idealist than the other ministers. He was one of the leading ministers who agreed with the appointment of Yoshimune Tokugawa as the eighth shogun, and so the other ministers and even the shogun himself hesitated to oppose to his leadership when he suggested the ban, Oishi (1975) argued (Oishi (1975), pp. 119–133).

However, the policies for free-entry markets whose pillars were the abolition of guilds (*za*) and legal enforcement of contracts were adopted by the leading lords in the late sixteenth century, like Nobunaga Oda (1534–1582) and his successor, Hideyoshi Toyotomi (Wakita and with James L. McClain (1981)). The shogunate purposefully implemented the policy in its “crown domain,” which included the financial, commercial and political centers Osaka, Kyoto, and Edo (Sakurai (2002)). For instance, when the Magistrate of Kyoto (*Kyoto Shoshidai*), Shigemune Itakura promulgated an act that reconfirmed the free entry market policy, he re-

assured that “the promotion of free trades of merchants from various states (within Japan) is compelling to the utility of the people.”¹⁴ The shogunate officials had pursued market-enhancing policies by intention, and it is unlikely that they did not understand the virtue of the market economy as of the early seventeenth century.

At the same time, the *laissez-faire* policy of the Muromachi shogunate led to recurrent financial crises and resulted in riots of peasants who demanded the authority to force financiers to write off their debts. Responding to the riots, the Muromachi shogunate and lords frequently promulgated the Ordinance for Virtuous Governance that forced financiers to write off debts. Lords had learned the experiences. They are likely to have understood that to avoid the turmoil of the financial markets due to forced renunciation of financial claims and to promote the expansion of free-entry markets, both the capable judicial system and the contained financial instability were necessary. A reasonable inference would be that they attempted to balance the legal protection of financial claims and the financial stability to be bolsters by regulation.

Indeed, our detailed inquiry on legislation during the reign of Yoshimune Tokugawa depicts a facet consistent with the inference. From 1723 to the 1730s, the shogunate designed specific terms that should be met for a pledged loan contract to be legally protected as a “legal case of real right (*honkuji*)” by the shogunate court. Clarifying the conditions reduced expected lenders’ loss due to ambiguity and hence the policy was likely to lower the interest rates. At the same time, the procedural requirements established under the reign of Yoshimune Tokugawa raised transaction costs as it required the lender to file the first lawsuit at the time of overdue and to file the second complaint at the time of non-fulfillment of the repayment during the extension set by the magistrate. The intention of the acts was likely to raise transaction costs of foreclosure of a pledged parcel of farmland of owner peasants. Although effects of

¹⁴“Machi ju furegaki (Ordinance to the City),” Shigemune Itakura, Governor of Kyoto, August 20, 1622 (http://www.wul.waseda.ac.jp/kotenseki/html/bunko12/bunko12_00109_0001/index.html).

the policy might have conflicted one another, the policy came about from one aim to protect interests of owner peasants and stabilize the peasant economy.

Furthermore, our analytical framework captures intrinsically consistent rationale of both the ban of foreclosure and the approval of foreclosure with building procedural requirements of foreclosure. The ban of foreclosure of 1722 was, in short, the maximum regulation of foreclosure, $s = 1$, and allowing foreclosure with additional procedural requirements was $s \in (0, 1)$.

To evaluate the land policy of the reign of Yoshimune Tokugawa, we may also focus on the tax reform under the administration. Under the Yshimune administration, the land tax was transformed from the fixed rate of the crop, roughly 30 percent of agricultural output and 20 percent of total output, to the fixed amount (Nakabayashi (forthcoming)). With the fixed amount taxation, the residual entirely belonged to owner peasants while peasants incurred all the risk of crop volatility. Therefore, if the peasant was sufficiently risk-tolerant or the crop volatility was sufficiently small, the peasants would be more strongly motivated to make efforts under the same expected land tax. Therefore, the fixed amount taxation was introduced by lords in advanced Kinki regions surrounding Osaka and Kyoto. The Yoshimune administration followed suit in the shogunate “crown domain,” which dispersed across the country while it concentrated in Kanto surrounding Edo and Kinki. The policy was successful and economic growth picked up. In other words, the Yoshimune administration considered that owner peasants were highly risk-tolerant when implementing the reforms. (Araki (1986) and Nakabayashi (2012, ?)). The shogunate decision of transformation to the fixed amount taxation means that the shogunate evaluated σ^2 became sufficiently small or α became sufficiently small.

The most optimistic evaluation of σ^2 and α implies $s = 1$, that is, the ban of foreclosure of 1722. If it was an error, however, a credit crunch should occur as predicted by Proposition

2, and it did. Then the shogunate attempted to pin down optimal s^* by building the procedural requirements for foreclosure. Next, we examine the outcome of the policy from 1723.

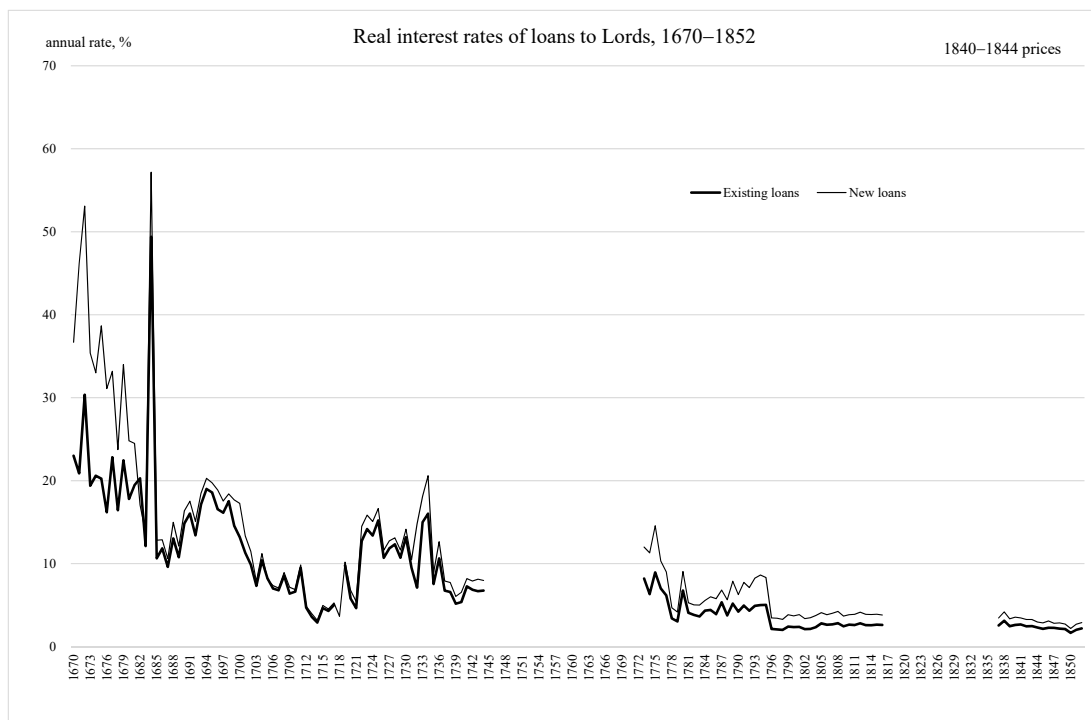
3 Outcome of the policy

3.1 Trend of the real interest rates

First, let us review the general trend of the interest rates in early modern Japan. Figure 1 draws real interest rates by a significant financier, Konoike of Osaka, to lords. A tendency was that interest rates of new loans were higher than those of existing loans, reflecting relational finance then. If a lord defaulted, a case between Konoike, a shogunate subject, and the lord was the inter-domain one whose jurisdiction was technically assumed by the shogunate. However, a charge to a lord had to be drafted by the Conference Chamber (*Hyojoshō*) composed of the Governor of Temples and Shrines (*Jisha Bugyō*), the Secretary of Treasury (*Kanjo Bugyō*), and the Governor of Edo (*Edo Machi Bugyō*), approved by the Cabinet (*Rōju*), and given by the shogun. In short, in early modern federal Japan, an intervention in lords by the shogunate was complicated and troublesome. Thus, the shogunate in principle did not intervene in lending from a financier in a shogunate city to a lord. In transactions with lords, financier needed to rely on relational finance that motivated the client lords to repay the debt by a long-term relationship. Thus we see a gap between the new loans and the existing loans, but a definite trend was that interest rates of both were decreasing throughout the early modern times. The reputation mechanism in the financial market disciplined lords well, and the risk premium declined over time. Also, the age of mass reclamation ended by the early eighteenth century. The decrease in interest rates seemed to reflect the matured economy, too.

The same trend was observed in loans to farmers. Figure 3 takes a case of lending by a wealthy farmer, Kondo, in the Village of Tarotayu, Kato County, State of Harima, near Osaka.

Figure 2: Real interest rates of loans to lords, 1670–1852.



Sources: Interest rates: Yasuoka (1998), pp. 50–53. Price index: Fukao et al. (2017a), pp. 288–291.

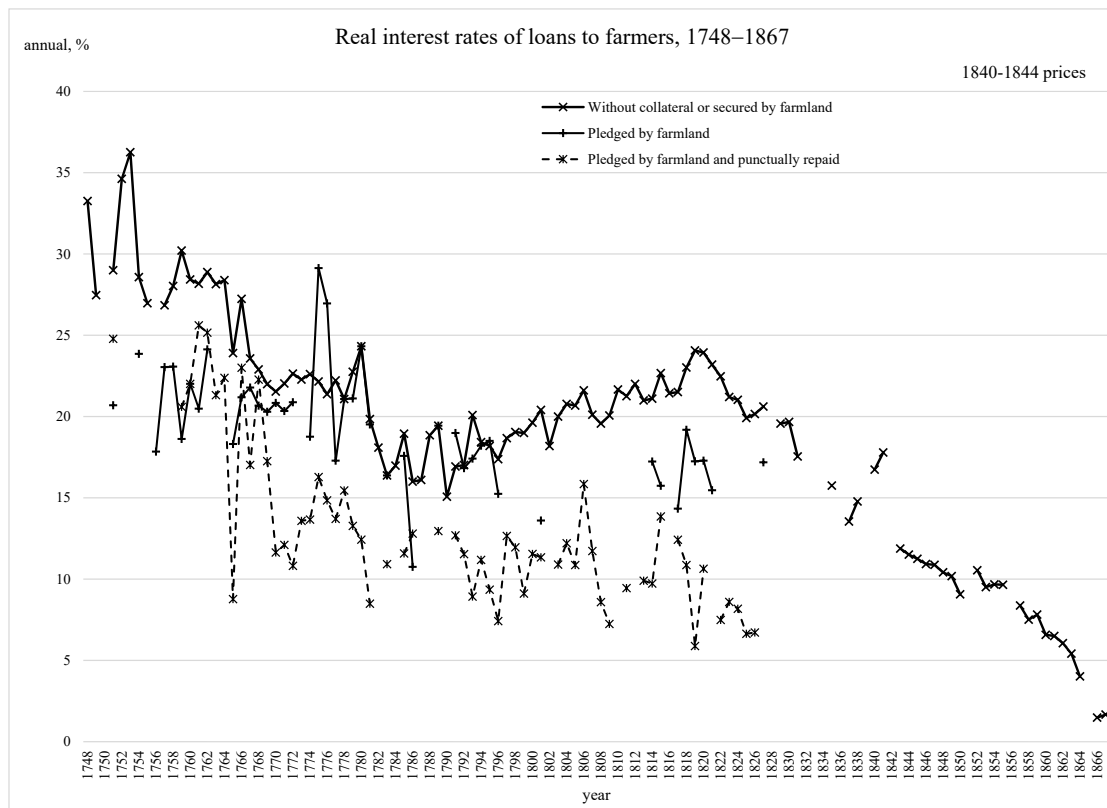
Notes: Interest rates of loans by the financier, Konoike of Osaka, to lords. The price index until 1724 is the rice price in Hiroshima, and that from 1725 is the commodity price index of Kyoto and Osaka.

The village was under the jurisdiction of the shogunate or partially by the shogunate and partially by a lord. In such a village, the shogunate law was enforced. Documents that had been preserved by Kondo family included two kinds of the loan contract. One was of loans without collateral or secured (*kakiire*) by a parcel of farmland, and the other was of loans pledged (*shichiire*) by a parcel of farmland. Under the shogunate law, a “pledge (*shichiire*)” contract required land tax payment by the lender during the duration, while under a “secure (*kakiire*)” contract, the owner of the collateral-farmland, that is, the borrower, paid land tax. The difference in legal protection between these contract was substantial. A lawsuit related to “secure (*kakiire*)” contract was considered as a “legal case of financial claim (*kanekuji*)” and a lawsuit related to “pledge (*shichiire*)” contract was considered as a “legal case of real right (*honkuji*).” The latter could have a recourse to the shogunate court without exception while the shogunate in principle recommended a private settlement to the former, as described above. In short, legal protection of a “pledge (*shichiire*)” contract was much stronger than that of “secure (*kakiire*)” contract.

In a “pledge (*shichiire*)” contract, often the owner of the pledged parcel of farmland continued to cultivate his parcel of farmland. In such a case, the lender and borrower were required to make another contract of “direct tenancy (*jiki kosaku*)” under the act of 1723. Otherwise, the lender’s claim was not protected by the shogunate court, as described above. Regarding such contracts, Figure 3 counts tenancy rent from the pledged parcel of farmland over the borrowed value as the interest rate.

An evident trend was that interest rates were declining over time, keeping a gap between the interest rates of loans without collateral or “secured (*kakiire*)” and those “pledged (*shichiire*). Thus, although the difference in legal protection left the difference in interest rates, both rates continuously declined through the eighteenth and nineteenth century. The trend seems to reflect improved law enforcement and matured economy.

Figure 3: Real interest rates of loans to farmers, 1748–1867.



Sources: Interest rates: Uemura (1979), pp. 648–649, and the original source is the Archive of the Kondo Family, housed by the Library of Economic History Group, Graduate School of Economics., Osaka University. Price index: Fukao et al. (2017b), pp. 288–291.

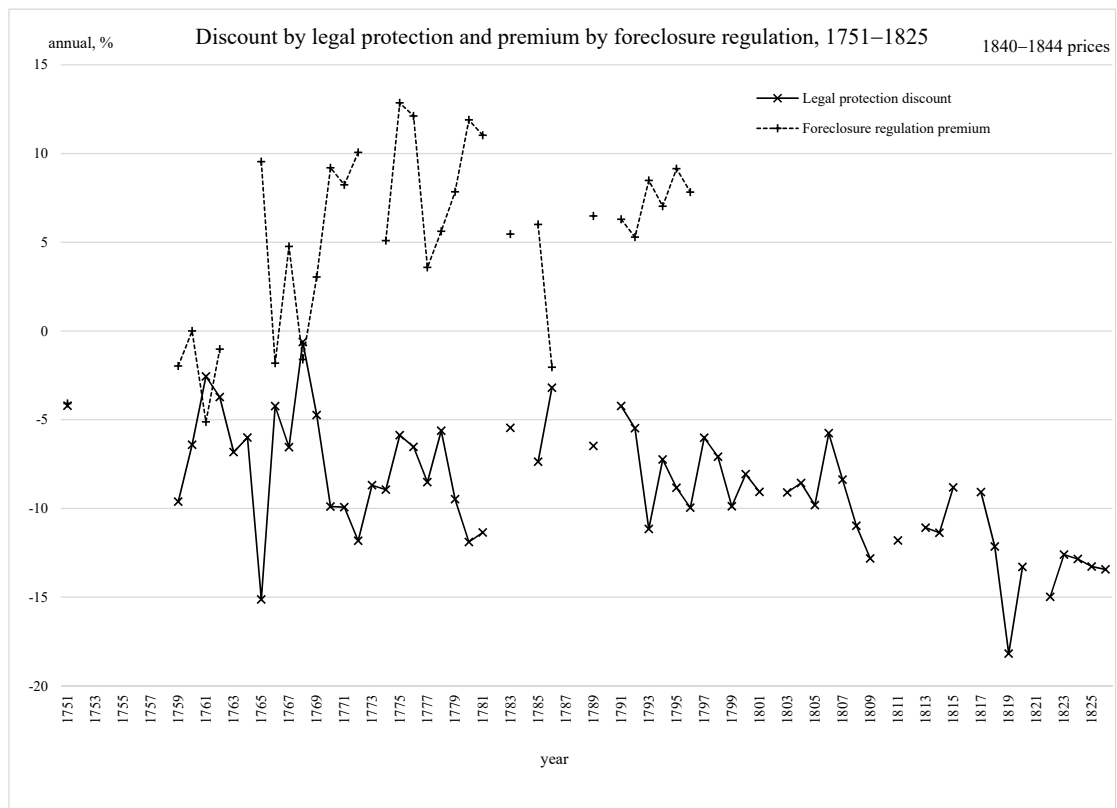
Notes: Interest rates of loans by a farmer, Kondo of the Village of Tarotayu, Kato County, State of Harima, to other farmers. The price index is the commodity price index of Kyoto and Osaka.

3.2 Discount by legal protection and transfer by foreclosure regulation

Contracts preserved at the Kondo family often included a special clause to discount interest rates/rents if the borrower timely repaid the debt and a foreclosure of the pledged parcel of farmland was unnecessary. Figure 3 draws this series too. If the shogunate' legislation did not incur additional transaction costs on lenders in case of foreclosure ($s = 0$), there should not exist a difference in interest rates of loans that were “pledged (*shichiire*)” and timely repaid and those that were “pledged (*shichiire*)” and foreclosed. In reality, there did exist a certain difference between them, as shown in Figure 3. Figure 4 draws the difference [(real interest rates of loans without collateral or “secured (*kakiire*)”)-(real interest rates of loans “pledged (*shichiire*)” and timely repaid)] as the legal protection discount. The value of the discount is expected to be positive if the shogunate law enforcement was effective. Figure 4 also draws the difference [(real interest rates of loans “pledged (*shichiire*)”)-real interest rates of loans “pledged (*shichiire*) and foreclosed] as the foreclosure regulation premium. If procedural requirements of foreclosure were trivial or additional transaction costs due to the requirements were not internalized by the lender, the value should be zero. Otherwise, it will take a positive value.

Figure 4 shows that the effect of the shogunate legal enforcement was augmented through the eighteenth and nineteenth century as shown by the legal enforcement discount. Since the effective litigation reduces expected loss of financial claim, an improved legal enforcement lowered interest rates. To our interest, intriguing is the foreclosure regulation premium incurred by delinquent borrowers. When the shogunate completed its legislation toward legalization of foreclosure, it carefully defined the borrowers' rights. The legislation provided the borrowers with the gracious period after being filed at the shogunate court, and also, even redemption after the foreclosure for ten years from the original due date was stipulated by the act of 1737, as described above.

Figure 4: Discount by legal protection and premium by foreclosure regulation, 1751–1825.



Sources: Interest rates: Uemura (1979), pp. 648–649. Price index: Fukao et al. (2017b), pp. 288–291.

Notes Interest rates of loans by a farmer, Kondo of the Village of Tarotayu, Kato County, State of Harima, to other farmers. The price index is the commodity price index of Kyoto and Osaka.

The deliberated regulations raised the transaction costs for foreclosure and the costs were internalized by the lender, Kondo, in the form of the foreclosure regulation premium imposed on delinquent borrowers, as shown in Figure 3 and Figure 4. As seen in the US (Clauret and Herzog (1990); Gerardi et al. (2013); Goodman and Levitin (2014); Dagher and Sun (2016); Cordell and Lambie-Hanson (2016); and Milonas (forthcoming)), the regulation on foreclosure was internalized by the lender.

Then, what occurred in shogunate Japan was that setting the subprime interest rate as the benchmark interest rate and discounted the rate after timely repayment, probably through waving the last period repayment and so on. Thus, the difference between the interest rate of the “pledged” and foreclosed loans and that of the “pledged” and timely repaid loans captures the transfer T of (9) from the lender to the borrower under regulations by the acts of 1723 and 1737. Lenders internalized the procedural requirements of foreclosure in the way prudential owner peasants obtained substantial discount of interest rates while delinquent borrowers paid higher interest rates than otherwise.

3.3 Trial and error in the reign of Yoshimune Tokugawa

We admit that the ban of foreclosure of 1722 was an error, but we do not consider the policy as inconsistent with the following legislation for the formal legalization of foreclosure regarding principle. If peasants were sufficiently risk-tolerant (α is sufficiently small) or the risk is sufficiently small (σ^2 is sufficiently small), the optimal regulation of foreclosure, s^* , would be high and vice versa. It is likely that the shogunate miscalculated the risk attitude of peasants.

If owner peasants were sufficiently risk-tolerant or the risk is sufficiently small, Proposition 2 predicts that the ban of foreclosure might have worked instead. In reality, owner peasants were not so risk-tolerant as the shogunate expected. The ban of foreclosure ($s = 1$) was a glaring error. Then the legislation that technically allowed foreclosure of pledged farmland

with procedural requirements that took time ($0 < s < 1$) allowed the owner peasants who punctually repaid to earn transfer T . Now did work the consistent policy to benefit owner peasants who reasonably used the financial markets.

Conclusion

The ban of foreclosure in 1722 was an error that choked off the credit for agriculture. Then, the legalization of foreclosure with deliberate protection of borrowers from 1723 allowed the borrowers of “pledged” loans (*shichiire*) to earn a substantial transfer as the form of discounted interest rates to borrowers who punctually repaid the loans, while the regulation punished the delinquent borrowers. At least, the regulation prompted transfer from the lender to sustainable owner peasants. However, related regulations were repealed after the Meiji Restoration in 1868.

The ban on “perpetual” sale and purchase of farmland was repealed in 1872. The Land Tax Reform Act (*Chiso Kaisei Jorei*) of 1873 re-confirmed the property right of owner peasants through direct handling the property right registration by the central government. The Ordinance of Secured and Pledged Farmland (*Jisho Shichiire Kakiire Kisoku*) of 1873 equally protected the claims of lenders in both of a loan “pledged” by a parcel of farmland (*shichiire*) under which the land tax was paid by the lender and a loan “secured” by a parcel of farmland (*kakiire*) under which the land tax was paid by the borrower who was the owner of the parcel before foreclosure. It meant that not only a parcel of farmland that “pledged” a loan (*shichiire*) but also a secured parcel of farmland that “secured” a loan (*kakiire*) was now foreclosed by the state court if the repayment was overdue. Any regulation on the trades and foreclosures of farmland were abandoned in the early 1870s.

As of the early 1870s, the ratio of tenanted farmland over farmland across the country is estimated to be 27 percent (Furushima (1958), p. 332). The ratio rose to 45 percent in

the 1900s (Sakane (2002), p. 410). The rise indicates that the shogunate regulations on the trades and foreclosures of farmland contained the growth in concentration of land ownership. Other quantitative evidence supports the conjecture. Saito (2015) showed that in the mid-nineteenth century, income distribution in the state of Choshu, renamed Yamaguchi prefecture after the Meiji Restoration, was, Samurai class: Merchant class: Farmer class=1.2:1.1:1.0, on average. Overall, samurais and merchants were wealthier than farmers just 10 to 20 percent. Income inequality within the same class was undoubtedly substantial. However, as of the 1880s, income inequality of Japan was smaller than the contemporary US and UK although it was higher than that of contemporary Japan and Germany (Moriguchi and Saez (2008) and Milanovic, Lindert and Williamson (2021)). Early modern Japan was less egalitarian than contemporary heavy-weight welfare states like Japan and Germany, but much more egalitarian than the contemporary laissez-faire states like the US and the UK. A less unequal society was the long-term result of the regulations of the trades and foreclosures of farmland by the shogunate.

Although full liberalization of land market accelerated economic growth from the 1880s (Fukao, Settsu and Nakabayashi (2017c)), the cost was social instability. On the one hand, the land ownership concentrated. On the other hand, as the modern sector grew, reservation wages of landless farmers rose. They became more demanding concerning the tenancy rent and requested its reduction in the 1920s, which resulted in tenancy disputes (Arimoto and Sakane (2008)). Government officials recognized it necessary to roll off the concentration of land ownership. The Ordinance for Creation and Preservation of Owner Farmers (*Jisakuno Sosetsu Iji Kisoku*) of 1926 introduced a mechanism to help tenant farmers to buy out parcels of farmland they cultivated. It financed from the postal life insurance run by the Ministry of Finance tenant farmers who wanted to buy the parcel of farmland from landlords. The ordinance was drastically strengthened in 1946 under the US occupation. The landlordism was

dissolved, and the farmland trades were heavily regulated again, which created the contemporary Japanese agriculture dominated by small family farms.

The regulations of the farmland markets by the shogunate contributed to the social stability. Meanwhile, regulated factor markets appear to have led to less efficient resource allocation of the entire economy, as the regulations were likely to lower the credit supply. Evaluation of welfare implication of the benefit and cost of the regulation is beyond our scope. However, at least we can conclude that the shogunate regulations consistently attempted to balance the financial stability and economic growth by searching the optimal extent of the regulations.

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