Tenant, Landlord, and Risk

Revisiting the Debate on Japanese Capitalism*

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Abstract

Moritaro Yamada's *Analysis of Japanese Capitalism* (1934) characterized the Japanese economy in that time. First, it highlighted the duality of the modern sector, whose productivity was relatively high, and the traditional sector, whose productivity was relatively low. Second, it argued that the paternalistic risk-bearing mechanism worked in the traditional sector. Third, it discussed that while the stability of society and the continued stagnancy of productivity had been symbiotic conditions, this structure was disintegrating. The work provoked intense debate among Japanese Marxian economists to understand the Japanese economy. However, classical economics then did not have the analytical tools for a two-sector economy, duality, risk sharing, and dynamic transition in the growth path, which led to the ambiguity of Yamada's description and confusion in the debate. We place his argument on duality and risk sharing in an analytical framework, and rephrase its implications.

Keywords: Dual structure; risk sharing; peasant economy; tenancy contract; Japan.
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1 Introduction

Until the 1980s, the Marxian schools were a significant group of economic faculty at most major universities in Japan. Back in the 1950s and 1960s, they almost dominated academic economics. There were legendary "debates on Japanese capitalism" between Marxian social scientists from economics, history, and legal studies, in the 1930s (Bronfenbrenner (1956, 1984); Mawatari (1988); and Morris-Suzuki (1989), pp. 103–111). The debate was to pin down the development phase of the Japanese economy, particularly, whether Japan had become an advanced capitalist economy with a modernized transparent market mechanism or remained an emerging industrialized economy with a dual structure, in which the paternalistic, or, "semi-feudalistic" traditional sector was still significant. Yamada (1934a), who emphasized the paternalistic institutions in the traditional sector as the stabilizer of the Japanese economy, ignited the debate, and was its focal point.

Hindsight reveals that the emergence of the modern sector creates the dual structure in the sense of Lewis (1954). Furthermore, beyond Lewis (1954)'s perspective, the growth in the modern sector itself reinforced a more comprehensive and paternalistic configuration of tenancy contract in the traditional sector in Japan (Arimoto (2005)) or Italy (Luporini and Parigi (1996)).

In the 1930s, before Arrow (1951) established the modern concept of risk, and well before contract theory demonstrated a framework to analyze institutions and organizations to share agents' risk, economists inevitably had to grasp the risk sharing mechanism, and the distinction between uncertainty and risk was in fact vague, as shown in Knight (1921).

In the "debate," the Marxian economists camp, led by Yamada, considered that institutional arrangement bequeathed from shogunate Japan to imperial Japan was important in understanding the dual structure of the Japanese economy. Another camp of Marxian economists, represented by Kushida (1931) and Uno (1977, 2016), ruled out the significance of risk sharing, denied the relevance of history-dependent institutions, and purified Marxian theory, although purified Marxian economics was effectively indifferent to classical economics.

The debate raised some profound questions in understanding the Japanese economy, and was responsible for the continued influence of Marxian economics through the 1970s. In the 1980s, game theory and contract theory completed the analytical framework to describe risk-sharing mechanisms. Notably, the property right approach in economics of firm modernized Marx's intuition (Hart (1995)), and agricultural economics based on contract theory solved issues addressed by Marxian institutional economics, such as choice of tenancy contracts (Newbery (1977); Otsuka, Kikuchi and Hayami (1986); Otsuka and Hayami (1988); and Otsuka, Chuma and Hayami (1992)). Marxian institutional economics completed its historical mission, and Japanese economists who had focused on institutions and organizations, finally decided to embrace neoclassical economics. An iconic figure of the transition was the late Masahiko Aoki, whose works ranged from Marixan institutional economics in his early career under a pen name, Reiji Himeoka, to game-theoretic institutional economics later on (Himeoka (1960) and Aoki (1988, 2001)).

The most controversial issue was the tenancy contract, which was the focus of Yamada (1934a). In late nineteenth-century Japan, "semi-feudalistic," using Yamada (1934a)'s terminology, tenancy contracts were prevalent, although the modern sector was growing, similar to another marginally industrialized economy, that is, Italy (Luporini and Parigi (1996)).

First, Yamada (1934a) noted the dual structure of the Japanese economy. Yamada observed that there were two distinct sectors in the Japanese economy, a modern sector with relatively high productivity, and the traditional/informal sector with relatively low productivity. The perspective of emerging economies later prevailed from Lewis (1954) followed by Ranis and Fei (1961), Fei and Ranis (1963, 1964), and Harris and Todaro (1970) in mainstream economics. Yamada (1934a) preceded them. The intuition of the two-sector economy was also bequeathed to Japanese economic theorists; Uzawa (1961) was one representative study.

Second, Yamada (1934a) focused on risk-sharing mechanisms in the traditional/informal sector of the Japanese economy. Since the 1990s, risk sharing in the informal sector has been analytically discussed (Besley (1995) and Townsend (1995, 2016)); however, it was not widely acknowledged in the 1930s.

Third, Yamada (1934a) argued that based on the risk sharing mechanism in the traditional/informal sector, in Japan, social stability and productivity stagnancy had complemented each other from the 1870s to 1910s; however, social stability was challenged from the 1920s. Symptoms of structural changes in the growth trajectory of the Japanese economy became discernible.

At that time, mainstream economics did not provide analytical frameworks to describe the growth of a two-sector economy, the interaction between the formal and informal sectors, and the risk sharing mechanism, and neither did Yamada (1934a). Accordingly, his description of those essential concepts is sometimes evasive and ambiguous, particularly, regarding risk sharing in the informal sector.

This study aims to explain his argument, and place the duality and risk sharing mechanism in the informal sector he discussed in a clear analytical framework. Yamada (1934a) considered characteristics such as duality and risk sharing mechanism in the informal sector as specific to Japan and constituted the "Japanese type" of capitalism in comparison with the UK, France, and Germany (Yamada (1977[1934]b), pp. 57–59). In reality, the estimated weight of the informal sector in Japan around the 2000s is relatively low, even among advanced economies, and close to that of the US (Schneider (2005)). The duality and risk sharing in the informal sector were not Japan-specific but have been pervasive among emerging economies.

On the one hand, emerging economies have shown complementarity between the agricultural sector and the manufacturing sector in their economic growth (de Souza (2015)).

On the other hand, Loayza and Rigolini (2011) found that a greater proportion of the traditional/informal sector implies lower growth in the long term but provides a risk-sharing mechanism in the short term. Advanced economies including Japan, today share the same challenges of a century ago. Reexamining the observations by economists in the period and re-framing their arguments would help understand the challenges that emerging economies face today a little better.

As we demonstrate in the following sections Yamada (1934a) considered the essential role of tenancy contract in modern Japan after the shogunate regime which had born the risk of farmers, was abandoned. However, the intention was neither well understood nor explicitly discussed, by either opponents or proponents in the "debate on Japanese capitalism" that Yamada (1934a) ignited. Thus, we place his focus on the risk sharing mechanism into the context of the "debate."

By doing so, we can better present the conceptual framework of Japanese economists in the first half of the twentieth century, who were to embrace neoclassical economics at some point in the second half of the century. Notably, Japanese economics faculties fully accommodated neoclassical economics not in the 1950s but in the 1980s, when game theory and contract theory came to represent a substantial part of the subject. This was arguably because a critical concern in Japanese Marxian economics was the risk sharing mechanism, since Yamada (1934a). Ultimately, the risk sharing mechanism was explicitly analyzed by game theory and contract theory in the 1980s and neoclassical economics prevailed in Japanese academia.

Our scope is narrow; however, this focus helps us cover the transformation of Japanese economics spanning almost the entire twentieth century, and given the influence of Marxian economics on other social sciences then, that of Japanese social sciences. Out contribution is to establish this viewpoint.

We organize the rest of the paper as follows. Section 2 concisely retraces the concept of risk in the history of economic thought to understand theoretical tools available to Yamada's generation. Section 3 overviews the "debate on Japanese capitalism" and Marxian economics schools, which were derived forms of the "debate." Section 4 reflects on the historical contexts Yamada (1934a) addressed. Section 5 places Yamada (1934a)'s argument in the framework suggested by Lewis (1954), following Yasuba (1975), and extends the framework by introducing the risk attitude of agents. Section 6 attempts to match our framework with Yamada (1934a). Section 7 concludes.

2 The "risk" in the history of the economic thought

2.1 Finding the risk

Economists in the generation of Moritaro Yamada learned classical economics. While Marx (1988[1867]) affected many of them, Marx (1988[1867]) was in essence also within the logic of the classical economics. A reason why Yamada (1934a) had to struggle to grasp the concept of the risk is that the classical economics he learned did not give an analytical view on it.

For practical purposes, the merchants and investors have recognized the impact of the risk on their businesses, at latest since the fifteenth century (de Roover (1958)). In economics, William Petty accrued a source of profit to the risk-taking (Ullmer (2004)). Petty (1899)[1662] differentiated the opportunity cost and the default risk premium. On the opportunity cost, "Wherefore when a man giveth out his money out upon condition that he may not demand it back until a certain time to come, whatsoever his own necessities shall be in the meantime, he certainly may take a compensation for this inconvenience which he admits against himself" (Petty (1899)[1662], p .47). On the default risk, "As for Usury, the least that can be, is the Rent of so much Land as the money lent will buy, where the security is undoubted; but where the security is casual, then a kinde of ensurance must be enterwoven with the simple natural

Interest, which may advance the Usury very conscionably unto any height below the Principal it self" (Petty (1899)[1662], p. 48).

2.2 Interchangeable risk and uncertainty in Smith (1776)

Smith (1937[1776]) differentiated the opportunity cost as the "clear profit," or, the profit without risk "to compensate the occasional to which every employment of stock is exposed," and the default risk premium "for compensating extraordinary losses," with using the word "risk" and "uncertainty" explicitly.

> When the law does not enforce the performance of contracts, it puts all borrowers nearly upon the same footing with bankrupts or people of doubtful credit in better regulated countries. The *uncertainty* of recovering his money makes the lender exact the same usurious interest which is usually required from bankrupts (Smith (1937[1776]), p. 95).
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> The lowest ordinary rate of profit must always be something more than what is sufficient to compensate the occasional to which every employment of stock is exposed. It is this surplus only which neat or clear profit. What is called gross profit comprehends frequently, not only this surplus, but what is retained for compensating such extraordinary losses. The interest which the borrower can afford to pay is in proportion to the clear profit only.
>
> The lowest ordinary rate of interest must, in the same manner, be something more than sufficient to compensate the occasional losses to which lending, even with tolerable prudence, is exposed (Smith (1937[1776]), p. 96).
>
> In a country where the ordinary rate of clear profit is eight or ten per cent., it may be reasonable that one half of it should go to interest, wherever business is

> carried on with borrowed money. The stock is at the *risk* of the borrower, who, as it were, insures it to the lender; and four or five per cent. may in the greater part of trades, be both a sufficient profit upon the *risk* of this insurance, and a sufficient recompense for the trouble of employing the stock (Smith (1937[1776]), p. 97).
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> Emphasis added.

Thus, Smith (1937[1776]) treated the "risk" as the default risk of the borrower and used the "uncertainty" for a broader set of the possibilities of nonfulfillment of the contract. The "uncertainty" by Smith (1937[1776]) included the risk and also seemed to include the "uncertainty" we know, that is, the volatility whose variance is unknown. However, concepts of the risk and uncertainty were not inherited by Marx (1988[1867]). Marx (1988[1867]) focused on analysis of the convergence to the competitive equilibrium. Regarding the tenancy contract, Smith (1937[1776]) considered the strength of incentives but not the risk-sharing. Without counting the risk attitude of tenant farmers, it follows that the fixed rent contract was judged to be superior to the sharecropping (Smith (1937[1776]), pp. 367).

2.3 Behavioral distinction in Kinight (1921)

Then, Knight (1921) revisited the risk and the uncertainty and attempted to differentiate the measurable "risk" and the "unmeasurable" "uncertainty" (Knight (1921), p. 233). It was a deviation from the interchangeability between the risk and the uncertainty in Smith (1937[1776]). At the same time, Knight (1923, 1924) referred to the words logically indifferently. Furthermore, even Knight (1921) referred "uncertainty" to describe both insurable and uninsurable hazards (Brooke (2010)). The differentiation between the risk and the uncertainty in Knight (1921) was not based on logical elaboration but on observation of different behavioral attitudes to the uncertainty between the business elites, "a special social class, the business men" and the mass workers, "the great mass of the population." The former is less uncertainty-averse and, as a reward, is entitled to the "residual income or *profit*" because "[a]ny degree of effective exercise of judgment, or making decisions, is in a free society coupled with a corresponding degree of uncertainty-bearing, of taking the responsibility for those decisions" (Knight (1921), p. 271 and Eichberger, Kelsey and Schnipper (2009)).

Meanwhile, Arrow (1951) and Arrow (1971[1965]a) gave analytical interpretation of the uncertainty by Knight (1921). Meantime, Markowitz (1952) and Tobin (1958) associated the risk to the volatility measured by the variance, which became the definition of the risk today (Engle (2004)). Arrow (1971[1965]b) gave a tractable definition of the risk aversion. Specifically regarding the understanding of the tenancy contract, Newbery (1977) updated that of Smith (1937[1776]) by applying Stiglitz (1974).

Then, Savage (1954) presented a framework to define the uncertainty by the subjective expected probability to integrate the risk and the uncertainty under the expected utility model. As Smith (1937[1776]) indifferently treated the risk and the uncertainty, Savage (1954) recognized no theoretical difference between attitudes toward the risk as the objectively known probability and the uncertainty/ambiguity as the objectively unknown probability. Responding to Savage (1954), however, Ellsberg (1961) pointed out behavioral difference between attitudes to the risk and the uncertainty/ambiguity, followed by Sherman (1974). The direction inherited and updated behavioral differentiation between the risk and the uncertainty by Knight (1921). The risk and the uncertainty/ambiguity can be consistently presented by the subjective utility model but have been demonstrated to be different in the behavioral sense.

In sum, until the early 1950s, the distinction between the risk and the uncertainty had been yet to be deliberated. Accordingly, the risk was not a tractable concept when a rational agent was assumed. Economists could bypass the risk and uncertainty and build a clear argument with assumption of rational risk-neutral agents. Also, they could attempt to incorporate the risk and uncertainty together, but with making discussion less clear and assuming something behavioral for agents who bear the uncertainty. Yamada (1934a) as well as Knight (1921) took the latter way. Knight (1921) described the "business men" who take the risk and uncertainty and boast themselves as "a new class." Yamada (1934a) described the landlords who took risk and uncertainty as "semi-feudalistic."

Referring an institution in the modern times as being "semi-feudalistic" was not an appreciation but a critics. He judged that the modern Japanese agriculture and the modern Japanese society whose stability relied on it were not fully modernized. The view reminds us that of Friedrich August von Hayek on modern Germany. He scented a possible conflict between the security and the freedom and argued that a fatal problem of the modern German society was in its historically dense non-market mechanism for risk-sharing. He recognized it as a reason why Germany embraced a welfare state that might trade off the freedom against the security. His accusation against Germany, in comparison with the US and the UK, is almost behavioral attitude of Germans. The fatally behavioral fault of Germans is their risk attitude and risk-sharing mechanism (Hayek (2007[1944]), p. 155 and Hayek (1960), p. 60). In critically treating the non-market paternalistic mechanism for risk-sharing and its implication for behavioral attitude of the constituents of the society, Yamada (1934a) and Hayek (2007[1944]) present a significant resemblance.

3 Marxian schools in Japan

3.1 Debate on Japanese capitalism

A group of Marxian economists, historians, and legal scholars published volumes on the development phase of Japanese capitalism, titled *Nihon Shihonshugi Hattatsushi Koza (Lecture Series on History of Development of Japanese Capitalism)* (1932–1934). While the series contained substantial diversity in arguments, a shared view was that the paternalistic, or in their words, “semi-feudalistic” institutions, notably in tenancy contracts, in the traditional sector, were not negligible (Matsukata (1934)). Moritro Yamada was the leading Marxian economist of the group and his essays contributed to the series were edited as Yamada (1934a). While the expression “semi-feudalistic” sounds inflated, logically similar mentions are not rare. Francks (1983) described the tenancy relationship as an exchange between the “subservience” of poor households and the “more powerful obligations” to “protect” poorer households (Francks (1983), pp. 41–42).

The series, notably Yamada (1934a), ignited an intense debate on the issue. The debate attracted not only academic interests but also the interest of activists. If the Japanese economy was an emerging one, whose traditional sector had a significant role in resource allocation, the political agenda should be to reform the economy into a more transparent market economy, before a socialist revolution. However, if the economy was sufficiently modernized, the Marxists should immediately move forward to a socialist revolution. Thus, agreeing with Yamada (1934a) directly related to reform or revolutionary strategy of activists. This is why the debate attracted a wide range of readership. The debate was called the “debate on Japanese capitalism” and scholars gathered for the *Nihon Shihonshugi Hattatsushi Koza (Lecture Series on History of Development of Japanese Capitalism) (1932–1934)* called the *Koza (Lecture)* school (Nagaoka (1984); Morris-Suzuki (1989), pp. 81–85; Ando (1998); Walker (2011); Lange (2014); and Walker (2016), pp. 28–74).

Their political biases affected the development of Marxian economics in Japan in the following years. The *Lecture* school scholars focused on institutional characteristics rooted in Japan’s historical path, in particular, to find evidence of the paternalistic institutions of the traditional sector.

The other camp of scholars gathered at a journal for Marxian studies, the *Rono (Worker* *and Farmer)*, and were called the *Rono (Worker and Farmer)* school. A leading figure of this school was Tamizo Kushida. These scholars wanted to demonstrate that the Japanese economy was sufficiently industrialized, and hence, attempted to describe Japanese capitalism using the plain logic of classical economics. They explained the existing institutional arrangement of the Japanese economy using classical economics and justified its abstracted description without focusing on historical and institutional factors (Morris-Suzuki (1989), pp. 85–88).

3.2 Does risk sharing matter?

Marx (1988[1867]) did not present an alternative framework to replace classical economics. Instead, relying on the logic of classical economics, Marx (1988[1867]) attempted to list findings that classical economists had overlooked. Accordingly, Marx (1988[1867]) presented historical and institutional observations around the logical core based on classical economics.

In addition, to describe the dynamism of development, Marx (1988[1867]) applied the rhetoric of Georg W. Hegel. Notably, Marx applied the intuition of Hegel (1986) to describe the development of *Vernunft (reason)* from individual to family, the state, and the supra state, to the development stage of the real economy. The historical materialism of Marx was formed as a real economy version of the historical rationalism of Hegel. As economics did not have a dynamic theory then, it was also a practical choice.

At that time, Marxian economists knew economic theory as classical economics, which was their baseline. This allows us to differentiate Marxian economists by whether they upheld the logic of classical economics or added something else.

The *Rono (Worker and Farmer)* school tended to directly apply classical economics to understand Marx (1988[1867]) and apply their understanding to the Japanese economy. Thus, they unconsciously purified Marx's text through the screen of classical economics and removed the subtle implications regarding incentives and risk sharing, which classical economics did not support. A typical example was Tamizo Kushida, whose work we discuss in section 6.

Classical economics did not contain the economics of information and risk sharing. It made any focus on institutions for risk sharing appear beyond economics. Therefore, Kushida denied any significance of institutional arrangement to share the risk in the traditional/informal sector of the Japanese economy. This was the focal point in the debate between Yamada and Kushida.

3.3 Two currents

Therefore, essentially, the followers of Marx (1988[1867]) had two choices. One was to trim the detailed facts from Marx's text and abstract its logic in the context of classical and neoclassical economics. The *Worker and Farmer* school chose this path. Itsuro Sakisaka, on an opinion leader of this school was indifferent to the specific characteristics of the Japanese economy (Walker (2016), pp. 49–53).

Sakisaka's positioning was, in a sense, a practical choice to pursue the politically predetermined aim of the *Worker and Farmer* school, an immediate socialist revolution of Japan. However, probably ironically, the attitude enabled a divorce of research and practice for Marxian economists of the *Worker and Farmer* school in academia. The representative descendant, who furthered the academic study of Marxian economics was Kozo Uno, who rewrote Marx (1988[1867]) in a classical presentation. Uno's representative work, Uno (1977) removed historical and institutional descriptions from Marx (1988[1867]) and meticulously rephrased the logic of Marx (1988[1867]) with a cleaner one of classical economics. Accordingly, Uno (1977) is much thinner and more readable than Marx (1988[1867]) in describing the logic of Marx (1988[1867]). In describing the development stages, Uno allowed some institutional and historical elements to remain; however, simplified Marx's text significantly in Uno (2016)

(Sekine (1975, 1995); Mawatari (1985); Krätke (2007), pp. 120–121; Walker (2013); and Lange (2014)).

Similar to Kozo Uno, but a more sophisticated version of the purifying approach was applying neoclassical economics to interpret Marx (1988[1867]) (Morris-Suzuki (1989), pp 91, 111–114). Analytical Marxian economics after the Second Word War, led by Nobuo Okishio (Okishio (1966, 1977, 2001)) and followed by Romer (1981) and Yoshihara (1998a, 1998b, 2010) among others, placed Marxian perspectives in the context of neoclassical growth models (Yoshihara (2017) and Tavani and Zamparelli (2017)).

The other choice was to enrich the list of historical and institutional observations, on which classical economics failed to focus. *Nihon Shihonshugi Hattatsushi Koza (Lecture Series on History of Development of Japanese Capitalism) (1932–1934)*, led by Yamada (1934a) belonged to this camp. Yamada's interests were predominantly on "specificity" of the "structural character" of the Japanese economy formed by its historical path throughout Yamada (1934a) (Yamada (1934a), pp. 44–68). In hindsight, we could say this approach was an institutional and historical Marxian approach. Their works, notably Yamada (1934a) contained historical and institutional details, in contrast to Kozo Uno, who dropped any historical and institutional specificity in his primary works. This difference made Uno's works readable to non-Japanese scholars and vice versa. Valuable academic study on Yamada (1934a) written in English has been effectively limited to Yasuba (1975).

Furthermore, as we discuss below, even Yasuba (1975), which relied on classical economics, failed to capture the institutional essence of the Japanese economy that Yamada (1934a) struggled to grasp. A clear-cut institutional analysis of the Japanese economy, whose institutional arrangements are different from those of the West, particularly the US, was realized only by Aoki (1988), which replaced the Marxian description with game-theoretic analysis.

We also reconsider their understanding of the Japanese economy before the Second World War. To do so, we must first review the historical and institutional conditions of tenancy contract, surrounding Moritaro Yamada.

4 Historical contexts

4.1 The shogunate regime

From 1603 to 1868, Japan was under the shogunate federation. Under this regime, the shogunate assumed the diplomatic and supreme command, as the central government, and ruled over its own domains directly. Lords assumed sovereignty for domestic affairs in their domains, including taxation, as hereditary governors. While they carried exclusive power to levy tax in their domains, they were not entitled to the property rights of land. Instead, registered farming households were entitled to the property right of the parcel of farmland they cultivated. A registered household was obliged to pay land tax determined by the land surveillance of the shogunate or a lord, depending on jurisdiction of the village. As long as the stipulated land tax was paid, the shogunate court or the lord's court protected the household's property right.

The unit of property right protection was a stem family. An individual household, which provided manual labor to cultivate a parcel of farmland, was recognized as the property right holder of the parcel. This property right system was completed by the 1670s in the shogunate domain and was followed by lords in developed regions. While the village-level joint ownership remained in backward regions, where lower productivity implied that farmers were too vulnerable to take risk, individually and exclusively (Brwon (1993), pp. 39–112 and Brwon (2011), pp. 58–100). In particular, Brwon (2011) estimated that domains whose lords mandated joint ownership for risk sharing amounted to less than 30 percent of national output (Brwon (2011), p. 94). However, individual and exclusive ownership prevailed in the shogunate and advanced domains (Mandai and Nakabayashi (2018)).

Not only did the shogunate create massive populations of small owner-farmers and their property rights, but it also heavily regulated the agricultural financial markets and the farmland markets to check the concentration of land ownership. First, by the Ban of Perpetual Sell and Purchase of Farmland of 1643, the shogunate banned outright the "perpetual" sell and purchase of a parcel of farmland (Saito (2009)). While the transfer of property right between fellow farmers within a village was in practice possible, the ban denied, for instance, a possibility that a merchant or financier in a city accumulated land to emerge as a significant landlord.

A general restriction of transfer of property granted as settlement by the crown was not unique to Japan. For instance, in the age when farmers became property owners in Japan, ex-feudal lords became property owners in the UK. The British crown had banned the transfer of land other than inheritance in general, and every single transfer other than inheritance had to be approved by a special act with parliamentary consent (North and Weingast (1989); Bogart and Richardson (2011); and Bogart (2011)). The Premier Ordinance Number 50 of 1872 repealed Japan's restriction on land transfer, after the Meiji Restoration of 1868. In the UK, the Settled Land Acts of 1882–1925 led to its gradual removal. The restriction in the UK helped solidify an extremely unequal land ownership among early modern UK feudal lords, including the crown itself, which survive as the most significant landlords in the modern UK. By contrast, the shogunate of Japan attempted to solidify the egalitarian land ownership of the independent farmers it created.

Another regulatory instrument was regulation on foreclosure. There were two kinds of loans with farmland collateral. One was with a "pledge (*schiire*)" of a parcel of farmland. A "pledge (*shichiire*)" was a form of collateral under which the lender paid the land tax of the pledged parcel. The other was a loan "secured (*kakiire*)" by a parcel of farmland under which the owner (borrower) paid the land tax of the collateral parcel that secured the loan. The shogunate law categorized the former as a "legal case related to real right (*honkuji*)" and the latter as a "legal case related to financial claim (*kanekuji*)." The shogunate court only guaranteed the enforcement of the former category. For the latter, the shogunate court often encouraged private settlement (Mandai and Nakabayashi (2018)).

The shogunate appointed a farmer as the mayor of the village, who served as the local taxation authority and the court of first instance, under the shogunate judicial system. The mayor was the first to resolve a dispute. Then, in case of a "pledge (*shichiire*)" contract, either party would file a complaint at the court of the magistrate (*daikan*) in charge of the county, who was a shogunate bureaucrat samurai. If the case was hard to resolve based on existing laws and previous cases, the magistrate consulted the Conference Chamber (*Hyojosho*) at the Edo (Tokyo) castle of the shogunate, which was the final court of appeal, about handling the case. Meanwhile, in case of a loan contract "secured (*kakiire*)" by a parcel of farmland, the magistrate usually did not take a complaint and instead encouraged both parties to settle the dispute privately. In other words, the shogunate adopted the "judiciary foreclosure" system, and it was applied only to a loan contract "pledged (*shichiire*)" by a parcel of farmland. In addition, since the village office was in charge of collecting land tax from registered owners, a party that was not registered as a resident of the village could not pay the land tax levied on a parcel of farmland. Thus, a party that was not a registered resident of the village could not be a lender of a "pledged (*shiciire*)" loan contract, which was eligible for enforcement by the shogunate court (Mandai and Nakabayashi (2018)).

In short, the shogunate court protected the lender's claim by enforcing foreclosure and having the lender repossess the pledged parcel only if the contract was concluded between fellow farmers of the same village. The restriction of judicial service provision substantially hindered a geographic integration of agricultural financial markets. Furthermore, observing an increase in foreclosure and gradual concentration of land ownership, the shogunate tightened procedural requirements for enforcement of foreclosure in the early eighteenth century (Mandai and Nakabayashi (2018)).

In addition, the shogunate and lords allowed farmers to pay land tax in kind, and the village jointly took liability of land tax payment. That is, if the crops of a household fell short of the land tax payment, fellow households were allowed to temporarily assume the land tax payment, such that the liability transformed into a debt within the village and the failing household circumvented immediate default. Furthermore, if the whole village suffered from a poor crop, the mayor negotiated with the magistrate (*daikan*) in charge of the county for temporary land tax reduction, and often, such a request was approved (Nakabayashi and Moriguchi (2017)).

In addition, farming households were shielded from competition in the outside labor market to some extent. Under the shogunate regime, the household head would approve the movement of dependents. If a son wanted to leave his farming family and join the service sector in Edo, his father would send a letter of movement to his employer in Edo, which ensured his residence registration in Edo. However, if a son ran away to Edo seeking a more relaxed job in the service sector, without a letter of movement from his father, his stay without residence registration or a travel permission would be illegal, and such a person did not enjoy legal protection as a shogunate subject (Saito and Sato (2012)).

In summary, while the shogunate regime protected the property rights of individual farmers strictly, it also regulated and protected them from commodity market risk, financial market risk, and natural risk.

This institutional arrangement resulted in relatively small wealth inequality. Saito (2015) estimated income distribution in the State of Choshu (Yamaguchi prefecture) in the 1840s. The relative household income distribution ratio between the samurai class, merchant class, and farmer class in the 1840s was roughly $1.2 : 1.1 : 1.0$. As a comparative number, the relative household income distribution ratio between the aristocracy and gentry class, the middle class, and the lower class in England, as of 1688, was $7.3 : 2.4 : 0.8$ (Saito (2015), pp. 405–411).

The samurai class in Saito (2015)'s estimate includes all of the lords and the lowest public servants, and thus, income inequality within the class was substantial. Thus, let us cite another study. In 1886, less than 20 years since the Meiji Restoration of 1868, the Gini coefficient of income of Japan was estimated to be higher than that of Japan and Germany in the 2000s. However, it was almost the same as that of the US in the 2000s, and much lower than that of England from the seventeenth to eighteenth centuries (Milanovic, Lindert and Williamson (2011) and Moriguchi and Saez (2008)).

4.2 Meiji Restoration of 1868

In 1868, the imperial court backed by lords in West Japan toppled the shogunate and installed itself as the government, an event that is called the Meiji Restoration. Premier Ordinance, Number 50 of 1872, repealed the ban of "perpetual" sell and purchase of farmland, and the centralized registration of land ownership was implemented that year. Next year, the Land Tax Reform Act of 1873 reauthorized the property right of registered farmers. Furthermore, the Ordinance of Secured and Pledged Farmland (*Jisho Shichiire Kakiire Kisoku*) of 1873 stipulated that the state court should protect the claims of lenders for loans with a "pledge (*shichiire*) " of a parcel of farmland and loans "secured (*kakiire*)" by a parcel of farmland. Furthermore, the state court should enforce foreclosure in both types of loans. A loan with a "pledge (*kakiire*)" of a parcel of farmland, under which the lender paid the land tax, could be made only by a person whose registered address was the same as the borrower's. Thus, the ordinance technically meant the removal of geographical restriction of enforcement of foreclosure by the state court. The state court now enforced foreclosure of collateral farmland, regardless of whether the lender's address was in the same village as the borrower's, and boosted geographical expansion and integration of farmland-collateral loan markets (Mandai and Nakabayashi (2018)).

Meanwhile, the National Bank Act of 1872, modeled on the US national bank system, introduced a liberal modern banking system. Through the end of the 1870s, more than 150 local banks were established all over Japan by local landlords, especially, in rural regions. Farmers now had broader access to farmland-collateral loans.

In addition, the Land Tax Reform Act obliged taxpayers to pay land tax in money, not in kind, and did not permit temporary reductions in years of poor crop output. This resulted in a sharp rise in the commercialization of agricultural products. The ratio of market traded agricultural value-added rose from about 50 percent in the late 1880s to over 70 percent in the 1910s (Karshenas (1995), p. 132). The government abolished the joint tax liability at the village level also. By the mid-1880s, the government had also repealed the regulations on movement through residence registration and travel permission.

Therefore, owner farmers suddenly had the freedom to access the financial market and the risk sharing mechanism of the shogunate regime ended. The outcome was straightforward. In the early 1870s, just after the Meiji Restoration, the ratio of tenanted farmland in the entire farmland of Japan was estimated to be 27 percent. This ratio jumped to 45 percent in the 1900s (Furushima (1958), p. 332; Francks (1983), 148–150; Smethurst (1986), pp. 57–67; Hayami (1991), pp. 64–66; Sakane (2002), p. 410; and Francks (2006), pp. 44–47, 136–139).

The deregulation after the Meiji Restoration prompted small owner farmers to borrow more but removed the shogunate risk sharing mechanism. It converted a mass of independent owner farmers, who often borrowed from local banks owned by landlords, into tenant farmers.

Often, owner farmers who fell behind in payments remained in the foreclosed parcel of farmland and continued to cultivate it as tenant farmers. Thus, the concentration of ownership did not accompany the change in the scale of business, and small farming continued to be dominant, under the land-saving, fertilizer intensive, and labor intensive technologies (Francks (1983), pp. 19–46, 63–65 and Francks (2006), pp. 136–143). In other words, the change in the ownership did not lead to a change in agricultural techniques. If any, the change was in risk and incentives.

A typical example of more significant role of landlords was temporary rent reduction. While the government never conceded land tax in severe weather conditions, landlords often accepted temporary rent reduction when crop output was poor. Arimoto (2005) argued that this was efficient risk sharing between the landlord and tenant. It maximized the expected revenue of the landlord if the tenant was not extremely vulnerable to risk. Indeed, in most regions in Japan after the Meiji Restoration, the fixed rent contract with covenant for temporary rent reduction prevailed (Arimoto (2005)).

In some regions, where harvests were especially volatile, and hence, tenants were vulnerable to the weather risk, landlords offered sharecropping. Sharecropping transfers greater risk from the tenant to the landlord. Thus, a sharecropping contract could be more efficient than a fixed rent contract with temporary reduction, if the tenant was greatly risk-averse or the crop was vastly volatile (Arimoto, Okazaki and Nakabayashi (2010)).

4.3 Dual structure

While allowing landlords to take a greater role in the traditional sector, the government pursued Westernization and industrialization in the modern urban sector. Separation of the court from the administration in 1875, the Constitution of the Empire of Japan of 1889, modeled on Austria, the Civil Code of 1896 and 1898 modeled on France, and the Commercial Code of 1899 modeled on Germany, completed the judicial system for protecting property rights and freedom of contract through standardized measures. The government also introduced modern technologies of manufacturing and mining industries.

The first age of globalization (Mauro, Sussman and Yafeh (2002); Clemens and Williamson (2004); and Ferguson and Schularick (2006)), when leading economies sustained the free trade regime, brought significant opportunities to emerging Japan. Among new industries, the silk-reeling industry, followed by the cotton spinning industry, rose as competitive industries, with the former pushing out the Italian competitors in the US market and the latter the British and Indian competitors in the Asian markets. The rise of silk reeling was especially remarkable. The share of Japanese raw silk in the US market reached 50 percent in the 1890s and 80 percent in the 1920s (Nakabayashi (2006, 2014); Abe (2005); and Dong, Gong, Peng and Zhao (2015)).

The rise of the silk-reeling industry affected the peasant economy as well. While the cotton spinning industry imported raw cotton from India and China, silk reeling depended on domestically cropped cocoon as raw material. Cocoon raising, or sericulture, which was already prevalent in East Japan, drastically expanded from the 1880s and provided small farmers with a source of income. Heads of small owner and tenant farming households were able to protect their dependent family members against possible market shocks using the cocoon raising income (Smethurst (1986), pp. 184–231).

Both the silk reeling and cotton-spinning industries relied on young unmarried females of farming households as their labor force. It meant that females shuttled between traditional and modern sectors. In the traditional sector, small farming was dominant, with slow improvement in technology. Most women were born into farming households in the traditional sector. When young, they worked for a silk-reeling or cotton-spinning factory with increasing labor productivity, and consequently, rising real wages. When mature, they returned home to marry a farmer (Hunter (2003), pp. 89–143). Women in farming households often engaged in hand weaving at home in slack seasons, such as summer and winter (Hashino and Otsuka (2013) and Nakabayashi (2017)).

Therefore, while for males, the modern sector and the traditional sector did not interact, they had connections through female labor. The channel worked as a downward pressure on wages in the modern sector in the short term. In the long term, however, the growth in the modern textile industry, which employed a female workforce, raised the opportunity cost of female dependents of farming households in the traditional sector. The drying up of slack labor in the traditional sector was a primary reason for the vanishing of hand weaving in the 1920s (Abe (2005) and Hashino and Otsuka (2013)).

4.4 Possibility of structural changes in 1920–30s

The structure was challenged in the 1920s and the 1930s from different directions. The First World War was a big push for Japanese heavy industry and the prevalence of electric power resulted in further growth in modern manufacturing. This was because electric motors had much wider scope than did steam power units, not only in large establishments, but also in small factories and workshops. An increase in cheaper electric power also accelerated urbanization and expanded the service sector (Waley (2009)).

This development provided both females, who had been involved in the modern textile industry, and males, respectively, with more job opportunities in the urban secondary and tertiary sectors. It implied a rise in the reservation value of tenant farmers. Thus, tenant farmers grew more demanding, and tenancy disputes were very common the 1920s (Francks (1983), pp. 267–269; Smethurst (1986), pp. 78–95; Francks (2006), pp. 155–157, 236–243; and Arimoto and Sakane (2008)). If the existence of slack labor in the traditional/informal sector was a factor of social stability in the dual structure economy, further growth in the modern sector posed a significant challenge to it.

With the integration of the labor markets, the financial markets soon followed in the 1920s.

Until the 1920s, Local banks had no direct exposure to competition with major banks. The exposure of local banks to financial market integration was twofold. Regarding the short-term inter-bank markets, such as for the discount of commercial bills or overdraft, local banks were connected to the national market and borrowed short from major banks in Tokyo and Osaka cheaply (Mitchener and Ohnuki (2009)). Meanwhile, before the 1920s, the branch networks of major banks had not yet reached rural markets, and they did not have access to information about local businesses. Local businesses were embedded in dense personal networks within local communities, and relational banking from local banks was an essential source of corporate finance for them (Nakamura (2015)). Local banks borrowed short in the national market and lent long, at higher interest rates to local businesses, and earned the spread.

However, major banks rapidly extended their branch networks throughout the 1920s. This development squeezed the spread between the national market and local markets earned by local banks. Major banks could access cheaper money in the national market, implying increase in their shares, both in the savings account and lending. One outcome was the mass bankruptcy of local banks in the financial crisis of 1927 and their consolidation by major banks (Okazaki and Sawada (2007)). Local landlords were losing their wealth to bear external shocks for subordinate constituent members in local committees, such as tenant farmers.

Meanwhile, the great depression in the 1930s in the US resulted in the collapse of raw silk prices, and consequently, of the cocoon, which severely affected the peasant economy, especially in East Japan. Peasant households lost their ability to bear external shocks for dependent family members. Extreme measures, such as women sold into prostitution, became an alarmingly common occurrence. The devastating impact decimated trust in the democracy and the market economy. On the one hand, a socialist party, the Social Mass Party, which had gained seats in the Imperial Diet, the Japanese parliament, as the Universal Manhood Suffrage Act of 1925 came into force, increased its number of seats. On the other hand, imperial army officers who considered the state socialism of the USSR as a model attempted a coup in 1936, seeking the establishment of a command economy. Although suppressed, the coup changed the tide. Japan invaded China in 1937, and the cooperation between the Social Mass Party and the army brought about the National General Mobilization Act of 1938, which virtually suspended property rights and transformed Japan into a command economy. Ultimately, Japan attacked the US and the UK in 1941 (Okazaki and Okuno-Fujiwara (1999)).

With the war effort, the government launched legislation to build a welfare state. After the National Health Insurance Act of 1938 covered self-employed households in the primary sector, it had extended its reach to the public healthcare system. The National Health Insurance Act of 1958 established the universal healthcare system, which provides medicines at the same prices to any resident in Japan. This made the Japanese healthcare insurance the most egalitarian in the world and Japan's life expectancy the longest.

For the pension plan, the Mariners Insurance Act of 1938 was the first to provide a public pension program to workers in the private sector. The program extended its reach also, and the National Pension Plan Act of 1959 eventually covered all residents in Japan. Both the National Health Insurance Act of 1958 and the National Pension Plan Act of 1959 were submitted to the Diet by the administration of Prime Minister Nobusuke Kishi, who served the wartime administration as the minister of commerce and industry and led the command economy. Japan's welfare state has its origin in the disappointments of the market economy in the 1930s.

5 Reframing the argument

5.1 The classical duality model

Lewis (1954), Ranis and Fei (1961), and Fei and Ranis (1963, 1964) argued that an institutional minimum wage set in the traditional/informal sector, which is above the marginal labor productivity of dependents, fails to clear labor markets of modern and traditional sectors. Using a similar framework, Harris and Todaro (1970) discussed that the politically set minimum wage of the urban/formal sector fails to clear markets, and the metropolises of emerging economies tend to reserve slack labor. The origin of both strands of this literature is with Lewis (1954). Yasuba (1975) argued that Yamada (1934a) described the dual structure suggested by Lewis (1954) in a descriptive manner.

Let us briefly review the classical duality model by Lewis (1954). Consider an economy where labor is uniform, and production functions in both agricultural and industrial sectors are marginally decreasing in labor. Let L_e denote the endowment of labor in the entire economy, $Y_a = F_a(\cdot, L)$ the production function in the traditional sector, $Y_m = F_m(\cdot, L)$ the production function in the modern sector, $f_a(L)$ the marginal productivity in the agricultural sector, $L_a = (f_a)^{-1}$ the labor demand function in the agricultural sector, $f_m(L)$ the marginal productivity in the modern sector, $L_m = (f_m)^{-1}$ the labor demand function in the modern sector, $D_L = L_a + L_m$ the total labor demand function in the economy, and w^s the "subsistence" wage paid to subordinates in the traditional sector.

Suppose that the labor supply function is perfectly inelastic, such that $S_L = L_e$. We then have the equilibrium wage w^*, which satisfies $D_L = L_e$. Since we assume that labor is uniform in this economy, all populations are employed by either the traditional or industrial sector under w^* if any institutional or legal constraint does not bind. Then, the allocation of labor between both sectors is determined, such that $f_a = f_m = w^*$.

However, in a developing economy, where the productivity of the modern sector is quite low, the competitive equilibrium wage w^* satisfying $D_L = L_e$ might be lower than the level perceived, as "subsistence" level, w^s, in traditional society. In this case, paternalistic community superiors, such as household heads and landlords might keep paying w^s, and by doing so, offer some subsidy, such that their subordinates receive w^s greater than w^* for respect from subordinates. The labor supply is restricted up to the capacity of the subsidy provided by the paternalistic superiors, and the market wage in the modern sector $w^m = w^s$, shall be greater than w^*. With marginally decreasing technology, the modern sector's output becomes lower than the optimal allocation. Such labor reserve sustained in the traditional sector under $w^s > w^*$ is "slack." Minami (1968) argued that labor in the agricultural sector was obviously slack in that sense until the end of the 1950s.

Meanwhile, technological improvement in the modern sector might move f_m upward, and at some point, f_m might hit w^s. Then, even a marginal rise ϵ in $f_m = w^m$ implies a sudden jump in labor supply from the traditional sector, because subordinates' reservation wage $w_t^m = w_{t-1}^m + \epsilon$ in period t is greater than $w_t^s = w_{t-1}^s$ and subordinates choose the market rather than traditional paternalistic communities. Until slack labor has dried up, the price elasticity of labor supply appears infinite. This phenomenon was called the "unlimited supply of labor" by Lewis (1954). In addition, the point where slack labor dries up and the real wage in the entire economy begins to increase, was called the "turning point" by Lewis (1954).

5.2 Yasuba's (1975) interpretation

Lewis (1954) and Ranis and Fei (1961), Fei and Ranis (1963, 1964) assumed that a type of institutional minimum wage fed the slack labor reserve in the traditional sector. Slack labor is considered to receive benefits, as the institutional minimum wage in the traditional sector above the modern market wage, and to distort the labor markets (Lewis (1954), Fei and Ranis, and Fei and Ranis (1963, 1964)). Meanwhile, Harris and Todaro (1970) argued that the political minimum wage above the competitive market wage in the urban sector retained slack labor in the urban sector.

Yasuba (1975) argued that Yamada (1934a) considered a similar labor market distortion.

Simultaneously, Yamada (1934a) argued that high tenancy rent in the agricultural sector lowered wages in the modern sector, w^m. Yamada (1934a) thought that labor supply from the agricultural sector to the industrial sector kept wages low, which enabled the industrial sector to adopt labor intensive technologies (Yamada (1977[1934]b), pp. 33, 46, 88–91, 165, 197–201, 219). Thus, Yamada (1934a) does not seem to assume $\mathrm{E}[w^s] > \mathrm{E}[w^m]$, but instead, his description indicates $\mathrm{E}[w^s] \leq \mathrm{E}[w^m]$.

How then could the paternalistic traditional sector be sustained under $\mathrm{E}[w^s] \leq \mathrm{E}[w^m]$? An interpretation by Yasuba (1975) is that Yamada (1934a) assumed a strong institutional constraint in the traditional sector, which restricted labor mobility under a low w^s from w^m. Presenting such an interpretation, however, Yasuba (1975) rejected this observation of pre-war Japanese society as unrealistic.

5.3 Introduction of the risk attitude

The regulation on movement under the shogunate regime intended to help farming households retain workforce. In that sense, $\mathrm{E}[w^s] \leq \mathrm{E}[w^m]$ was within its scope. In reality, however, urbanization progressed through the early modern times and dependents of farming households went back and forth between the secondary and tertiary sectors in a city, and the primary sector at home. Instead of preventing their dependents from going to secondary/tertiary sectors, household heads arbitraged between the labor markets of the primary and secondary/tertiary sectors, such that $\mathrm{E}[w^s] = \mathrm{E}[w^m]$. As described, a formal approval from the household head was necessary to leave home and work in the secondary/tertiary sectors legally. This implies that bargaining between the household head and a dependent made part or all of any possible gain from arbitrage between both labor markets belong to the household as a whole. Their children brought back money earned in Edo rather than spending it themselves. Indeed, from the eighteenth century, along with urbanization, sectoral wage differentials decreased (Saito

(1978)).

Therefore, the shogunate regulation did not impede arbitrage between the primary and the secondary/tertiary sectors through the allocation of dependents' workforce by the farming household heads.

Furthermore, after the Meiji Restoration, the government repealed this restriction of movement, which meant individual family members gained greater freedom of movement without approval from their household heads. In time, the government also repealed the remaining institutional constraints of movement.

The effects of the deregulation of labor markets were substantial. Fukao and Settsu (2017) estimates that labor productivity rose 1.75 percent annually. Of this 1.75 annual growth, an increase in capital intensity contributed just 0.29 percent, while 1.49 percent came from improvements in total factor productivity. Furthermore, of the annual 1.75 total factor productivity growth, labor reallocation from the farm sector to the non-farm sector was 0.27 percent (Fukao and Settsu (2017), p. 9).

Thus, we should not assume immobility of labor between the farm and non-farm sectors because of institutional constraints on arbitrage between labor markets, particularly after the Meiji Restoration. However, a remaining question is why a paternalistic traditional sector is maintained even under $\mathrm{E}\left[w^s\right] \leq \mathrm{E}\left[w^m\right]$, while the mobility between the sectors was substantial.

One condition that Lewis (1954), Ranis and Fei (1961), Fei and Ranis (1963, 1964), Harris and Todaro (1970) and Yasuba (1975) overlooked was the role of risk sharing. They implicitly assumed a utility function $u(w)$ linearly increasing in w, such as $u(w) = a + bw$.

However, the traditional/informal sector often provides a risk sharing mechanism to constituent members (Besley (1995)). Here, for simplicity, based on Holmstrom and Milgrom (1987), let us suppose that subordinate agents in the traditional sector and workers in the modern sector have an absolutely risk-averse utility function, approximated by $u(w) = 1 - \exp[-rw]$, where r is a constant, while the paternalistic principal is risk-neutral. Then, the expected utility of subordinate agents is defined as $E[u(w)] = -\exp\left[-r\left(E[w] - rV[w]/2\right)\right]$, and the certainty equivalent is $E[w] - rV[w]/2$.

Assume that $E[w^m] = w^m$, $V[w^m] = \sigma_m^2$, $E[w^s] = w^s$, and $V[w^s] = \sigma_s^2$. Then, the incentive compatibility constraint for the subordinate agents to stay within the paternalistic traditional sector, rather than go to the modern sector market is,

$$w^s - r\frac{\sigma_s^2}{2} \geq w^m - r\frac{\sigma_m^2}{2} \quad \Leftrightarrow \quad w^m - w^s \leq r\frac{\sigma_m^2 - \sigma_s^2}{2} \tag{1}$$

Thus, as long as the paternalistic principal can somehow bear the risk from market volatility, such that $\sigma_s^2 \leq \sigma_m^2$, the risk-neutral principal can earn the risk premium $E[w^m] - E[w^s]$ $(\leq r\left[\sigma_m^2 - \sigma_s^2\right]/2)$ by offering $\mathrm{E}[w^s]$ $(\leq \mathrm{E}[w^m])$, with the agents willingly accepting the offer.

In other words, the traditional sector leaders' opportunity to earn risk premium depends on their ability to bear the market risk. Once the market volatility goes beyond the ability, the regime would lose legitimacy to be obeyed by the agents, and a structural crisis faces the regime.

6 Paternalistic tenancy contract in Yamada's (1934) text

6.1 Peasant economy under the tenancy contract

We can now track Yamada (1934a)'s thoughts by examining his text. Yamada (1934a) characterized the relationship between the modern sector and the traditional sector by particular rhetoric. Regarding the symbiosis of high rents in the traditional sector and low wages in the modern sector, he noted, "as the process of re-organizing semi-villain peasants and semi-servant wage workers under the capitalism, that is as the process of creating the relationship of dual structure between the high semi-serf rent and the low semi-servant wage" (Yamada (1977[1934]b), p. 32.); "[because] it is able to wearingly use vast semi-servant wage workers flowing out from the semi-serf peasantry, technological progress has been prevented" (Yamada (1977[1934]b), p. 165); "[t]he baseline. Determined by the interaction between the semi-serf peasantry and the capitalism. Determined by the semi-villain rent paid in kind and the semi-servant labor wages" (Yamada (1977[1934]b), p. 197); "interaction between the semi-serf rent collection and the semi-servant labor" (Yamada (1977[1934]b), p. 200); "[A]s the process about the late 1890s and the 1900s, that is, organizing the duality of the high semi-serfdom rent and the low semi-servant" (Yamada (1977[1934]b), p. 219).

Furthermore, regarding the level of rent on rice production, he depicted it as "the category of the rent that never enables generation of profit [of tenants]" (Yamada (1977[1934]b), p. 233). These statements logically mean that $\mathrm{E}\left[w^{s}\right] \leq \mathrm{E}\left[w^{m}\right]$ between the modern sector and the traditional sector.

Beyond the logic, this exaggerative rhetoric misled Yasuba (1975) to interpret that Yamada (1934a) assumed coercive relationships between the landlords and tenants. However, coercive relationships contradict with the above text, stating "Determined by the interaction between the semi-serf peasantry and the capitalism. Determined by the semi-villain rent paid in kind and the semi-servant labor wages" (Yamada (1977[1934]b), p. 197), which assumed that labor markets of the modern and traditional sectors were cleared such that the payoffs of subordinate agents match each other.

Instead, Minami and Makino (2017) argued that the Lewis model is directly applicable to the symbiosis of high rent and low wage Yamada (1934a) mentioned (Yamada (1977[1934]b), pp. 89, 197 and Minami and Makino (2017), p. 48). However, the original Lewis model does not explain $\mathrm{E}[w^s] \leq \mathrm{E}[w^m]$ Yamada (1934a) described, although it does, $\mathrm{E}[w^s] = \mathrm{E}[w^m]$.

Yamada (1934a) conceived that the stable structure of the Japanese economy was challenged in the 1920s and 1930s. In other words, he understood that the structure had been stable before the 1920s. The basis of this stability was the "two-story arch of the 'Napoleonic idea' and the 'patriarchal family"' (Yamada (1977[1934]b), p. 170). The "Napoleonic idea" is the loyalty of the "middle independent owner farmers" to serve the nation, such as French infantrymen served their nation during the Napoleonic Wars (Yamada (1977[1934]b), pp. 55–56).[1]

Notably, Japanese intellectuals after the Meiji Restoration considered the willing service for the nation in modern France as a model of the relationship between the state and individual citizens. When Yukichi Fukuzawa, the most influential enlightenment thinker during the Meiji Restoration and one of the earliest scholars who introduced Western economics (Bronfenbrenner (1984), p. 10), claimed that the basis of a modern nation state is the spirit of "as individual become independent, the nation attains independence" in 1872, he exemplified the French army spirit (Fukuzawa (2008[1872]), pp. 21, 31).

Therefore, the upper layer of the two-story architecture of the Japanese society, the relationship between the state and the citizens described as the "Napoleonic spirit" was not considered as Japan-specific by Yamada (1934a). If there was any "specificity," it was about the lower layer, the "patriarchal family" and the institutional arrangement surrounding this. In addition, a willing, not coerced, service for the nation meant that either small independent owner farmers or tenant farmers benefited from the regime. They were patriotic citizens

[1]The words "Napoleonic idea" (idées napoléoniennes")) are quotation within quotation of title of a book by Napoleon III (Bonaparte (1839)) by Marx (Marx (1982[1852]), p. 151), and Marx himself was considered to have quoted them as an innuendo (Marx (1982[1852]), p. 621). However, Yamada (1977[1934]b) used the expression to describe "the basis of the mighty army of Napoleon [I] during the French Revolution," and mentioned the army of Oliver Cromwell during the English Civil War in 1645 and the Prussian army during the Franco-Prussian from 1870 to 1871 as their counterparts in other countries (Yamada (1977[1934]b), pp. 57–58). In short, Yamada (1977[1934]b) used the expression to describe the spirit of soldiers who pledge allegiance to the flag, without no intention to be cynical.

in the upper modern story of the "Napoleonic spirit" and protective household heads of the "patriarchal family" in the lower traditional story. Yasuba (1975) missed the point.

Thus, Yamada (1934a) meant that even if the expected payoff from tenancy contract was equivalent to or less than the market wage in the growing modern sector ($\mathrm{E}[w^s] \leq \mathrm{E}[w^m]$), farmer household heads were satisfied with the regime, having obtained protection for their families against the vagaries of the weather and the market. Income from sericulture, in addition to that from rice, bolstered the lower-story of the arch. This enabled household heads of the "patriarchal family," to reallocate resources to bear the risk facing dependents (Nakabayashi (2019)). "It is evident that by the reorganization of production (modernization of the silk industry) and the industrial policy by the government, sericulture has become the essential means of life for semi-villein[A12] peasants" (Yamada (1977[1934]b), p. 56).

A more institutional condition was risk bearing by landlords. Why did small independent owner farmers with bequeathed family farmland for generations under the shogunate regime, fell into tenant status after the Meiji Restoration? With an example of typical peasant management, Yamada (1934a) stated, "on the one hand, the fixed amount of money, 1.632 yen of the land tax (public dues), on the other hand, rice crop in general inevitably affected by the good and bad harvests (288.6 liters of rice in this case) and always fluctuating rice prices (3 yen per 180.4 liters in this case), being captured in this pincer attack, the revenue of independent owner farmers uninterruptedly gyrates. Through the process, ordinary owner farmers chronically drop" (Yamada (1977[1934]b), p. 252). "Note that the impact of fall in the rice price is (in general) further greater to independent owner farmers than to landlords" (Yamada (1977[1934]b), p. 253). The Land Tax Reform Act of 1873 obliged owner farmers to pay land tax in money, while the shogunate allowed them to pay land tax in kind (Francks (1983), p. 68). The reform exposed small owner farmers directly to commodity market risk, which was the primary driver that turned independent owner farmers into tenant farmers after the Meiji

Restoration. This was emphasized by Yamada (1934a). “Rent paid in rice (rent paid in kind) inevitably re-emerges in backward Japanese agriculture” (Yamada (1977[1934]b), p. 260).

If tenant households were risk-averse, the regime in the traditional sector does not need to leave any strictly positive quasi-rent to tenant households in the terms of expected revenue. By transferring the risk from the rice market to risk-neutral landlords, risk-averse tenant households improved their expected utility. For landlords, as long as the incentive compatibility constraint (1) is satisfied, they were allowed to earn risk premium $E\left[w^m - w^s\right]$ under accordance with tenants, not coercion.

The informal risk sharing mechanism in the traditional sector had peasants willingly support the regime of landlordism in the traditional sector and serve the nation in the modern military sector and provided them some flexibility in shouldering the risk their family members faced. They maintained the stability of society as patriotic citizens and protective household heads. Traditional landlordism provided tenant farmers with security to protect their dependents against the weather and market risks.

Protection of owner peasants by the shogunate had been bequeathed partly to landlords for farmers who fell into tenancy after the Meiji Restoration and to the imperial government for surviving owner peasants. Their service to the nation over time stepped further into full commitment to the nation by the Universal Manhood Suffrage Act of 1925. Now, all male adults were involved in decision making as constituents and enforced decisions as soldiers.

Nihon Shihonshugi Hattatsushi Koza (Lecture Series on History of Development of Japanese Capitalism) (1932–1934), led by Moritaro Yamada, began a debate with the other camp of Marxian economists, *Worker and Farmer* school. The most heated issue was understanding the peasant economy. The leading scholar, Tamizo Kushida of the *Worker and Farmer* school argued that whether the rent was paid in money or in kind should be irrelevant. High rent simply indicated the market equilibrium price, where the supply of tenants was abundant, and hence, there was no reason to focus on the Japanese peasant economy specifically (Kushida (1931), pp. 71–76). Given the best knowledge filtered by classical economics, which implicitly assumed that both parties were risk-neutral, Kushida's argument was consistent.

6.2 Risk bearing by landlords

However, once the risk attitude of the poorer party is counted, the difference between rent paid in kind and that in cash is not trivial. When the shogunate allowed owner farmers to pay land tax in kind, the former shielded the latter from commodity market risk. After the Meiji Restoration, the government obliged owner farmers to pay land tax in cash, and by doing so, exposed them to commodity market volatility.

The new owners who repossessed a parcel of collateral farmland became landlords and ex-owners became tenant farmers of the parcel they once owned. While the landlord paid land tax in cash, the tenant farmer was allowed to pay rent in kind to the landlord (Yamada (1977[1934]b), p. 197). Now the landlord took the risk of the commodity market volatility. The landlordism that rapidly expanded only after the Meiji Restoration was a new institutional arrangement of risk sharing that replaced the village-level joint liability of land tax payment, land tax payment in kind, and temporary reduction in the land tax during poor harvests, under the shogunate regime.

6.3 Upward and downward pressures

Yamada (1934a) argued that the stable structure of the Japanese economy faced a crisis in the 1920s and 1930s. However, the characteristics of the "crisis" he conceived are not very clear.

When defining the stability of the Japanese economy before the 1920s, Yamada (1934a) also discussed the significance of the intermediary bodies in the modern sector. They were informal in the shipping and mining industry. In shipping, "between officers and crew," there existed “the ‘relationship between the boss and the henchman” (Yamada (1977[1934]b), p. 183). In the metal mining industry, workers “joined the ‘relationship of the boss and the henchman’ with senior workers, vowing that he should ‘strive diligently and devotedly”’ (Yamada (1977[1934]b), p. 190). In the machinery[A13] industry, Yamada (1934a) emphasized that middle-level managers modeled on the army and the navy disciplined and controlled workers (Yamada (1977[1934]b), pp. 171–182).

In one sense, Yamada (1934a) stressed that middle-level managers were being removed, as strikes increased and as part of reform to improve productivity, which he called “rationalization of the Japanese type” (Yamada (1977[1934]b), pp. 209–211). He predicted “objectively inevitability of the progress of the rationalization of the Japanese type and the [formation of the] proletariat” (Yamada (1977[1934]b), p. 213). He seems to have hoped that with tightening labor markets, the now segregated workforce was uniting as a proletariat and might finally trigger a revolution toward a socialist state. This story should be based on an increase in w^m. There was upward pressure toward instability, and the observation seems to be justified for the 1920s.

The Japanese economy was severely affected by the Great Depression in the 1930s. The effect on the peasant economy was devastating, eliminating the ability of patriarchal household heads to bear the risk of their dependents. It was not rare for peasants to sell their daughters into prostitution in the 1930s in East Japan. Naturally, fathers who sold their daughters lost their dignity. These downward pressures destabilized the Japanese socio-economy.

7 Conclusion

Regardless of opinion, Yamada (1934a) was hardly tractable. We have shown that this was mainly because he struggled with the informal risk-sharing mechanism in the informal sector. Once we count the risk attitudes of subordinate agents in the traditional sector in modern

Japan, picture becomes clear. Provided with the risk sharing mechanism, the subordinates willingly committed to the paternalistic social regime. Furthermore, under the protection of the risk bearing ability of their fathers, Japanese women were obedient to the patriarchal family system. It was the symbiosis between social stability and productivity stagnancy of the Japanese economy before the 1920s.

Simultaneously, although he was a pioneer in attempting to grasp the risk sharing mechanism in the informal sector, his understanding of its significance might be insufficient. The upward pressure in the 1920s and the downward pressure in the 1930s threatened the stable regime. At the publication of Yamada (1934a), Yamada was optimistic over the future as a Marxian revolutionist, maybe for a revolution from below. The outcome was different. People lost their confidence in the capitalist market economy, which might bode well for him, a Marxist. However, they then sought the social security provided by the state socialist administration; the healthcare system from 1938 and the pension system from 1939, and pushed the nation towards destruction.

However, Japan's defeat and the US occupation, did not change the deeply rooted trend. A draft amendment of the Constitution of the Empire of Japan lacked article 25, an essential article that defines entitlement to the benefit of social welfare as social "right," a human right, not a "privilege," as in the US. The US officers did not suggest the concept. When the last Imperial Diet discussed the amendment plan suggested by the US, the House of Representatives of the Imperial Diet added the article modeled on the Constitution of the German Reich of 1919. The House of Peers and the Privy Council consented to it and the Emperor approved it. Building Japan's welfare state to replace the "patriarchal family," which was decimated amid the Great Depression and to take on its risk-sharing function was completed in 1958 and 1959 by the administration of Nobusuke Kishi, a leading minister of the wartime administration.

Japan adopted isolationist and assertive policies in the 1930s when the country was affected by the Great Depression, and its insurance mechanism fell apart. After its defeat in World War II, the country was reconstructed in the free trade camp led by the US. However, Japan continued to build an extensive welfare state from 1938 to 1959, led by the right camp of policymakers.

The historical development of a large welfare state in Japan and Germany might look coincidental. However, the risk-sharing mechanism is under the two-story of the arch from the state to the family, which Yamada (1934a) considered the core of Japanese society, reminds us of the vertical mechanism of risk sharing from Preussen to the German Reich that Friedrich August von Hayek denounced (Hayek (2007[1944]), p. 155 and Hayek (1960), p. 234). A deeper risk sharing mechanism in the traditional sector might tend to be replaced by a larger welfare state (Nakabayashi (2019)). If so, the similarity between Germany and Japan analyzed by Hayek and Yamada was not accidental.

Yamada (1934a) himself failed to predict the outcome. This is partly because economics lacked the theory of risk sharing and dynamic growth models. This also might be because desire for a socialist revolution as a Marxist hindered him from finding the real needs of the people for a welfare state. For the former, it was not his fault and the institutional and historical descriptions of a nation had remained an issue that mainstream economics did not address until the 1970s. Marxian institutional economics completed its historical mission, when in the 1980s, game-theoretic institutional and organizational economics began to analyze it.

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