

STRATEGIES AND PUBLIC PROPOSITIONS
IN GAMES OF INSTITUTIONAL CHANGE,
Comparative Historical Cases * **

Masahiko Aoki
Stanford University

Abstract, This paper argues that game-theoretic approach is incomplete for institutional studies, because comparative institutions as well as institutional changes involve a possibility of multiple equilibria. In order to solve the common knowledge problem, this paper proposes to unify game theoretic thought with an analysis of public representations/propositions to summarize salient features of the recursive/emergent states of play. From this perspective the paper tries to reconcile differences in three accounts of institutions, endogenous outcome, exogenous rules and constitutive rules accounts. Then, the unified approach is applied to comparative and historical cases of the Tokugawa Japan and the Qing China. Specifically it sheds new light into the coalitional nature of Tokugawa Baku-Han regime nesting the fundamental Samurai-village pact as well as the tendency toward decentralization of political violence and fiscal competence to the provincial level toward the end of the Qing China. From these new historical interpretations, endogenous strategic forces and associated public propositions leading to institutional changes through the Meiji Restoration and the Xinhai Revolution are identified and compared.

Key words, comparative institutions, institutional change, unified approach to institutions, History of Chinese and Japanese political economies

JEL codes, B52, G70, N00,O53, P50

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I. INTRODUCTION

As well known, in economics there are two major accounts of institutions, endogenous-outcome-of-game account (Schotter 1981; Aoki 2001; Greif 2006) and exogenous-rules-of-the-game account (North 1990). In the latter account, the rules are of two kinds, formal and informal. Are these endogenous and exogenous views reconcilable? The authority on comparative Law, Harold Berman, regards law as “an institution in the sense of an integral pattern and process of social behavior and ideas” (Berman & Saliba 2009, pp. 4–5). He goes so far as to state that “it is foolish to approach law through a body of rules which is nothing but one of the devices that law employs.” This distinction between law as an “institution” and “rules” as its ‘device’ is an interesting suggestion.

This article adopts a framework for institutional study somewhat similar in its spirit to Berman’s. It does so by identifying “social behavior” with “strategic behavior” in the game-theoretic sense and “ideas” with those having linguistic/symbolic public representations including, but not limited to, formal and informal rules. Why are these two items indispensable for an understanding of institutions and how are they related to each other in the “process” of generating a stable “pattern” of strategic behavior as an institutional reality?

A game-theoretic approach to institutions is useful to account for institutions as endogenous outcomes of societal games that agents play recursively. But the approach has one inherent problem. From this perspective, comparisons of institutions, as well as explorations into institutional change, may involve a possibility of the existence of

multiple equilibria. But how is one particular institution selected in one place but not in another? How does one institution change into another at a particular time? Game theory can only tell us that history matters. However, by remaining at a theoretical level it is known that the societal choice of one particular equilibrium from many other possible equilibria must involve the formation of common knowledge among the players. This famous problem, first pointed out and solved by David Lewis (1969), lead to a recognition of the importance of external linguistic/symbolic devices mediating the state of strategic play and belief formation (Aoki 2011). These devices are referred to below as public representations of a recursive state of play, or as public propositions when they are competing for saliency as a public representation in a state of equilibrium search. Depending on the context, public representations may take the form of external artifacts, such as enforceable formal rules, norms, organizations, rituals, deontological values, religious symbols, and the like.

By supplementing it with explicit treatment of public presentations, game theoretic thought can be helpful to deal with the important question of whether it is the polity or the economy that is the causal factor for the other. My answer to this question is “neither.” They do correlate and thus they do co-evolve. A powerful conceptual and analytical device for such an exploration is the game-theoretic concept of strategic complementarities and their super-modular analysis, leading to the notion of institutional complementarities (Aoki 2001; Gagliardi 2013). This article essentially follows such a path.

Section II presents a schematic conceptual framework for our suggested approach. The proposed framework is then applied in Sections III and IV to historical

and comparative narratives on the institutional arrangements and their ultimate demises in Qing China (1644-1912) and Tokugawa Japan (1603-1868). Section III describes the stable formal rules and deontological values connecting the ruler and the peasantry during the height of Qing and Tokugawa rule and derives the respective forms of fundamental complementarities between the tax state and the peasant-based economy. Section IV focuses on the ways in which these fundamental complementarities were supported by strategic intermediation by gentry organizations in China, on one hand, whereas they were embodied as an all-inclusive coalitional structure of the Baku-Han regime nesting a fundamental pact between the samurai, inc. and the village in each Han. They were respectively summarized as the canonical states of play as conceptual devices. Section V goes on to describe the ways in which strategic plays of varied agents destabilized those states and finally led to their demise with the Xinhai Revolution and the Meiji Restoration respectively. In light of the analytical results derived from a formal game-theoretic model in a companion paper (Aoki 2014b), this article identifies the crucial role of a particular public proposition in selecting a specific pattern of institutional transition in each country. Section VI presents our conclusions.

II. Theoretical Premise

Although a historical narrative based on strategic interactions by agents potentially may be insightful, game theory on its own is incomplete as a theoretical tool for institutional studies. This is particularly the case when a comparison of various

institutional arrangements and/or an understanding of an institutional transition are at issue. Such cases involve the possibility of multiple strategic equilibria (based on the premise that it is a transition from one equilibrium to another). Thus we need to explicitly take into account the role of societal devices to align the strategic choices of agents in one direction or another. This is the role of the salient public proposition in the domain of the game. In other words, strategic and linguistic presentational considerations are mutually complementary for institutional studies. This section provides a simple preliminary framework for the historical and comparative narratives that will be presented in the following sections.

First, consult Figure 1 in the space spanned by the horizontal individual–collective dimension and the vertical action–cognition dimension.¹ In this space, the four cells, representing (B) individual beliefs and preferences (what philosophers refer to as the individual intentionality), (S) strategic choice actions, (R) recursive (stable) pattern of play, and (P) public representations (by formal and informal rules), are arranged and linked clockwise. Classical game theory presumes that all players somehow have complete knowledge of the structure of the game (in the form of common prior knowledge), from which they can infer the others' strategies, derive their own optimal strategies (S) based on their beliefs and preferences (I), and join together to implement a Nash equilibrium state of play (R). Some scholars have

¹ This figure is adapted from Figure 1 in Aoki (2001, 2011). Another revised version is used in a modern restatement and interpretation of Hegel's theory of *Recht* and institutions by Herrmann-Pillath and Boldryev (2014).

identified the institution as the regularity of social behavior, thus achieved as a Nash equilibrium (e.g., Schotter 1981).

However, there is a well-known logical gap in this approach. The philosopher David Lewis (1969) clarifies the logic by which the achievement of a Nash equilibrium may not be possible if multiple equilibria, as in a coordination game, are possible, even if all the players have complete knowledge of the game structure. To achieve an equilibrium there is a need for so-called “common knowledge,” which requires that all know, all know that all know, and so on *ad infinitum* about the others’ conjectures about the others’ intentions. Lewis’ solution to escape the trap of an infinite regression is an informational role analogous to the external-cognitive cell in Figure 1. That is, there must be a “public proposition” which each knows that all know (so that it remains just as mutual knowledge), and from this “background knowledge” all mutually infer that all infer that the same state of play will occur.

But what kind of public proposition can accomplish this? Lewis refers to a convention that evolves through shared experiences by all. More broadly, we posit that any linguistic or symbolic representation will do if it summarily represents the recursive state of play (R) and thereby its credibility is constantly tested and its relevancy is endorsed so that all come to believe in it (Aoki 2011). From such a P, all derive individual beliefs/preferences (B) consistent with the recursive state of play (R). Thus, such a P serves as a medium between R and B, when an institution is regarded as an equilibrium process.

As the recent externalist turn of cognitive science and philosophy posits, human cognition and volition do not only take place inside the individual brain and skin, but

with external-artifact devices as an integral element (e.g., Hutchins 1996; Clark 1998; Wilson 2004). Viewed from the side of B, P serves as an external cognitive resource that all share. By so doing, P enables all to predict the possible consequences of their social behavior and thereby to economize on the information- processing necessary for strategic choice S. Thus, some pattern of social behavior may appear to be merely routine but following routines can be regarded as a strategic choice made in the context of P, as people must either explicitly or implicitly be aware of the potential consequences of breaking the routine.

From this perspective, let us evaluate alternative institutional approaches. Economists supporting the New Institutional Economics (NIE), as represented by North (1990), identify institutions as the “formal rules of the game” as well as the informal rules of the game. Formal rules are regarded as a given in the economic transaction domain by “decrees of the government” and they exogenously constrain individual economic choice via the perceptions and incentives that they generate among individuals, yielding a certain state of play. But this may, or may not, be consistent with the outcome initially intended by the politicians. Alternatively, the formal rules of the game may actually be modified in practice. In the former case, the rules are in equilibrium; otherwise they are not enforceable. In the latter case, de facto rules of the game consistent with the stable state may emerge, even if only informally.

As public representations of institutional processes, we may think of external artifacts as constitutions, governments, national ceremonies, and so on, in the political domain; property ownership, contractual law, corporations, central banks, and so on, in the economic domain; norms, customs, statuses, stigmas, and parables in the social-

exchange domain; and parliaments, courts, the police, law schools, deontological values, and so on, in the legal domain. An important point is that they do not precede the play of the game as an autonomous entity; the legitimacy of state control, the enforceability of economic law, the sustainability of organizational conventions, the self-enforceability of norms, the fairness and justice of law, and the like, are scrutinized, ascertained, or rejected in the continuing play of the game.

The philosopher John Searle (2005, 2010) has proposed another influential interpretation of institutions that focuses on their role as a public representation. He argues that individual “desired-based choice” is grounded in the so-called “collective intentionality,” with the intentionality reckoned as the capacity of the mind directed to the external world, such as beliefs, preferences, intentions, emotions, and the like. The collective intentionality is something common across the individual intentionality and normally represents deontological values/power with regard to what are public/social duties, obligations, rights, and so on. It is assumed to be created by mutual recognition of collective assignments of a specific status (Y) to specific things or by persons (X) in a specific context (C). For example, the green pieces of papers printed by the U.S. government in such and such manner (X) counts as money (Y) in the U.S market (C). Searle calls such a public representation the constitutive rules.

Searle argues that the recursive application of the assignment of a linguistic status could generate an infinite variety of institutional realities. However, in order for this to be possible there must be mutual understanding and initial acceptance about what constitutes Y (e.g., what is money?). Such understanding and acceptance may originate in prior assignments, but this creates the problem of infinite regression. In his

recent writings, Searle is thus bound to accept the possibility of “free-standing Y terms” that can be made up of a simple declaration. In the first way, he posits, it can be created on an ad hoc basis as “brute fact” that “exists independently of any human institutions” (2012, p.10). In spite of due emphasis on linguistic power to constitute the complex institutional reality (P), what is lacking in his argument is the mechanism by which the declaration is made, mutually recognized and accepted. Or, as it is simply assumed not to be strategic (that is, it is “desire-independent”), deontological value/power ultimately appears to have an exogenous Kantian-like origin.

Thus, the three major accounts of institutions, the equilibrium account, the exogenous-rule account, and the constitutive-rule account are all incomplete if each of them were to stand alone. In terms of Figure 1, P is the missing ring in orthodox game theory; the route from R to P is not explicit in NIE; and Searle is ambiguous about how P is agreed upon and internalized as B. The three accounts may thus be regarded as focusing on different aspects of the institution process. In other words, if we regard an institution as “an integral pattern and process of social behavior and associated (added by the current author) ideas”, the strategic approach and the linguistic-representational approach need to be integrated to be mutually complementary. This is the approach we will adopt and illustrate in the following sections.

Thus, institutions are resilient. However, they are not robust forever. The cumulative consequences of past plays and exogenous shocks may induce agents to adjust, adapt, and experiment with their strategic choices in the hopes of improving their overall payoffs. In this process, the strategic relations among the agents may change from being complementary to substitutable or rivalrous, or vice versa, thus triggering an

adjustment in the pattern of the strategic choices among the agents. Nevertheless, let us recall that institutional stability must be mediated and sustained through public representations as collective cognitive resources. Thus, while agents are in search of strategic adjustments in response to endogenous and exogenous changes, various *public propositions* may compete for saliency in the public-discourse domain by suggesting, persuading, advocating, or summarizing possible desirable directions for strategic adjustments. This may be why a policy often appears as if it came prior to an institutional change. However, in order for a proposition to attain a position of saliency, it has to be proven in practice to be consistent with an emergent state of play in the economic, political, and social domains. Thus, economic organizations, the political state, and social norms are bound to co-evolve, supplemented by the crucial role of public propositions for selecting a path at a critical juncture in the institutional evolution. The importance of this view will be tested in the discussions in the following sections, hopefully shedding new insights into the path-dependent nature of institutions.

III. Fundamental Complementarities and Associated Deontological Values

This section describes the basic formal rules prevailing in the heyday (say, in the early to mid eighteenth century) of Qing China and Tokugawa Japan. It focuses on the rules of taxation (i.e., who collects the taxes from whom to finance what). This leads us to characterize the basic nature of their respective political states as a tax state composed of universal taxation on farmland, a bureaucratic apparatus, and a monopoly over

political violence by the government.² We will explore the extent to which these formal rules can be understood to represent a strategic pattern between the ruler and the ultimate taxpayers (i.e., the peasantry) in each country and how they were publicly represented by a corresponding deontological value.

(A) Complementarities between the Qing Tax State and the Peasant-based Economy

The Qing dynasty was of the victorious armed merchants origin from Manchuria. As conquerors, they adopted two major governance devices: the monopoly of legitimate political violence and the scholar-official-based administrative apparatus. The Qing army was composed of the “Eight Banners” and the “Green Standard”. The former was of Manchu origin and served as the imperial guard, while the latter was composed of the Han and other ethnic groups and engaged in local law and order, riparian work, besides military service. As is well known, civilian and military office holders were recruited through a rigorous, four-level imperial examination on basic classical literary proficiency that was generally offered two times every three years. Those who passed the provincial-level examination were qualified to enter the gentry group. There were also those who joined the group through the purchase of some types of degrees from the Board of Revenue. According to a classical estimate by Chang (1955), before the Taiping period (1850-1864) the gentry included approximately 700,000, accounting for about 0.18 percent of the population. Among those, however, only about 5.4 percent are estimated to have become office-holders. Top fliers occupied high court offices,

² The concept of a “tax state” was originally advanced by Schumpeter (1918/91), but for him it is a public-finance structure in a private ownership-based market economy.

while others rotated as governor-generals; governors; financial, judicial or educational commissioners; commander-in-chief, among others, across provinces that were not their own native places (the so-called “principle of avoidance” to prevent corruptive collusion among natives), or as magistrates of counties numbering some 1,300 in the case of less-qualified candidates.

If we turn to the economy side, its basic structure in the heartland was peasant-based, where male members of small conjugate families cultivated small plots of owned or leased land, and female members engaged in handicrafts for domestic use and for the local market.³ Inheritance practices consisted of equal division among sons. Accordingly, landownership by typical peasant families was relatively small, and some peasant families were apt to lose ownership due to some unfortunate, random events. However, even in the latter case, they tended to keep cultivating rights with a repurchase option, generating the separation of large ownership and peasant management. Both ownership and leasing-right transactions took place frequently. Due to cross-regional ownership variations and the lack of reliable data, a precise understanding of the distribution of land ownership during the Qing era is unavailable. However, based on detailed documentary study, Chang argues that a prevailing notion that the economic power of the gentry rested on their large landownership is an “erroneous” conception. Except for enormous landholdings by some high-level officials

³ This was normally the case in the most advanced Yangzi Delta region where wet farming was prevalent. In the north where less productive dry farming was customary because of the less favorable climatic condition, family-management farms with a few employed laborers were not exception.

and retired members of the gentry, “many gentry owned no land at all, or not a great amount”(Chang 1962, Chapter 5).⁴

Land taxation was imposed on all landowners, generating about 80 percent of the “official” fiscal revenue of the Qing government (the remaining revenue was from salt taxes and custom duties). Based on an estimate of commercial data by Wu Chengming (1985), Iwai estimates that the official land tax revenue of the imperial government in the early eighteenth century was about 3 percent of the aggregate rural GDP, comprised of landlords’ rent revenues and peasants’ incomes including from non-domestic handicrafts (Iwai 2002, p.488). According to an official record from 1766, public expenditures were approximately three-quarters of the land tax revenue: about a half of it on maintaining the armies which were composed of some 800,000 soldiers; 3 percent as imperial stipends; 14 percent as compensation for scholar-officials; 11 percent on riparian works; and so on, leaving the residual as silver reserves in the coffer of the Imperial Board of Revenue.⁵

By a reason to be spelled out shortly, the real burden of the peasant economy to feed the Qing governance structure could have been three times higher than the 3 percent figure, as Iwai himself suggests. However, even the highly stylized figures described above may be illuminating for discerning the bare skeleton of the Qing governance structure. By relying on fiscal management by non-hereditary scholar-

⁴ Chang estimates that the gentry received about 13 per cent of the agricultural product as landlords in 1880’s.

⁵ Quoted in Iwai (2004, p.32). At one point in the eighteenth century, the silver reserve accumulated as high as two-year public expenditure worth.

officials who were selected only on the basis of literary skills and removed from control over legitimate political violence, as well as on cultivation by the peasantry as the major sources of revenue, the Qing was able to secure the material basis for its rule. If the Qing, as a ruler with foreign origins, were to face indigenous armed landlords, their ability to rule and collect taxes would have been threatened by military conflicts with, and tax evasion by, them. For the same reason, the Qing feared potential threats from concentrated commercial wealth so they never allowed the pursuit of such wealth accumulation, with the exception of the tightly controlled salt monopoly. The early Qing never relied on commercial loans. Instead, wealthy merchants invested their wealth in farmland and were taxed as landlords. Thus the Qing was able to sustain itself as a unitary tax state if the peasantry was able to generate tax revenue either by themselves or via armless absentee landlords.

On the other hand, under the unified military control of the Qing, the peasantry was protected from possible deprivation of their products and mobile productive assets for domestic handcrafting by the aggression of irregular armies, hostile neighbors, bandits, and other adversaries. This is why peasant families were able to allocate time between agriculture and essentially tax-free domestic handicraft activities as a self-managed “family firm” (Zelin 1984). In contrast, manufacturing activities in medieval Europe had to be protected by city walls prior to the emergence of nation-states, although this provided an incentive to explore technological improvements that would save the relatively higher labor costs in urban environments (Rosenthal and Wong 2011).

Thus, there were fundamental complementarities between the Qing governance and the peasant-based economy: the productivity of the peasant-based economy provided the basis for the fiscal capability of the Qing rule, while the political stability afforded by the military and administrative devices of the Qing rule assured the relatively secure environment for a peasant-based economy. Indeed during the eighteenth century -- regarded as the hey day of the Qing rule -- the population grew three times, while the size of military force was sustained at the level of less than one-half of that in the preceding Ming period. Meanwhile, cognizant of fundamental reliance on the peasant-based economy for sustaining the household economy and troops, the Qing ruler adopted the pro-agrarian stance as a major official policy, as represented by the massive compilations of agricultural manuals (Wong 1997) and the cares of large scale irrigation and water-transportation systems. These may be interpreted as that there was a mutually beneficial exchanges at the deep level rather than a unilateral, militaristic oppression from the above . We will see in the following two sections how these fundamental complementarities were actually modified in practice and eventually became destabilized toward the end of the Qing rule. However, we need to make two immediate qualifications about the fundamental characterization.

First, the said complementarities were with regard to political exchanges between tax payments by the ruled and the provision of public goods in the form of the security of economic activities by the ruler, which was a determinant for the selection and sustenance of a particular political equilibrium, i.e., the political state (cf. Section 2). But this does not imply that small-scale management by conjugal families was

consistent even with the potentially available economic efficiency given the ecological/climatic environments at that time. For example, some evidence indicates that ploughing by husbandry might have been more productive, but it largely disappeared during the transition from the Ming to the Qing (Li Bozhong 1998). Perhaps the small-scale management unit of the conjugal peasant family established in the advanced Yang-zi delta in the transition could not make use of the scale economies of the technology that required costly investments. This indicates an instance where institutional complementarities might not necessarily be coherent with economic efficiency.⁶

Second, running the centralized local administrative apparatus with a relatively small number of scholar-officials necessarily involved various types of moral hazard behavior at the level where it met with the taxpayers. It is estimated that one officially appointed magistrate at the county level had to deal with approximately 200,000 to 300,000 people on average, or 40,000 to 60,000 households. Further, through extra-budgetary financing, the magistrates at the county level had to meet the costs of sustaining their own offices and paying specialized secretaries of gentry status (*muyou*) and hundreds of clerks (*xuli*) and runners (*yayi*). An authoritative study by Zelin (1984) estimates that magistrates at the county level were able to retain only a portion of collected official taxes that amounted to less than one-fifth of what they officially needed to run the office. This implies that magistrates needed to raise extra revenues

⁶ HOWEVER, Oshima (1987), Hayami and Otsuka (1993), and others argue that self-management of farming by peasant families without hierarchical monitoring better fits conditions for monsoon agriculture that require attentive human care to vegetation in response to the changing climatic conditions.

twice the amount of official taxes that they were sanctioned to collect. This is not the end of story, however. Needs for off-balance revenues repeated themselves at the higher provincial level as well, of which burden then ultimately fell on the county level, where formal and informal taxes were actually to be collected. To meet the needs, there was a custom of unofficial remittances to higher offices for their administrative and private benefits, some of which reached as high as the central office holders.

Officially, the land tax was to be collected at a rate fixed by the Imperial Board of Revenue according to the official registry of land ownership. However, the official registry, originally recorded during the Ming dynasty, was never accurately and systematically revised, while, as noted above, *de facto* land ownerships were frequently changed. Some magistrates and their clerks and runners were ready to take advantage of these confusing situation to extract various sorts of unofficial surcharges (*huohao*). The powerful emperor Yongzheng attempted to control the problem by officially allowing the magistrate to impose some tax surcharges on landowners in the early eighteenth century. This reform attempt failed (Zelin 1984), however, and the informal practices became ever more blatant and expanding, which sowed a seed of later-day dis-integration of the tax state.

The official administration of the tax state by the Board of Revenue was actually confined to ordering Provincial governments to remit a certain specified amount of taxes to them and to make subsidiary transfers across richer to poorer provincial governments as needed. Below this surface, the absence of enforcement of official rules for local public finance institutionalized the arbitrary tax collections by the county level officials and their staff. The peasants often raised complaints about clerks and

runners' abuses to judiciary officials and sometimes staged violent protests. Frequent occurrences of such incidents would threaten the integrity of the complementary order. An analysis of the imperial records by Hung (2011) shows that the imperial court selectively responded to peasant protests and punished wrongdoings of the local officials rather than unilaterally punishing protesters. The Confucian deontological value of filial piety from below and paternalistic benevolence from above was meant to serve as a salient public representation for sustaining the said complementary order. In order for this order to be sustained, the ruler needed to publicly represent themselves as behaving in compliance with the principle.

(B) The Fundamental Pact between the Samurai, Inc. and the Village in Tokugawa Japan

Complementarities between a tax state and a peasant-based economy prevailed during the period of the Tokugawa *Shogunate* as well. However, unlike the unitary state in China, the nature of the tax state in Japan was a kind of federalist in that the 3-tuple composed of the provision of local public goods, including military power, universal taxation, and the administrative bureaucracy, was institutionalized in the *Shogunate* territory as well as in each of some 300 *Han* territories ruled by respective incorporated bodies of samurai. In this section we focus on the stylized relations between the government and the peasant-based economy that were more or less alike across territories of varying size. A somewhat unconventional interpretation of the nature of the strategic relations between the *Shogunate* government (*Bakufu*) and the *Han* governments will be presented in the next section.

The land-ownership registry in Tokugawa Japan had its origins in the Land Survey initiated and enforced over other samurai leaders by Toyotomi Hideyoshi toward the end of the preceding Warrior period. This survey examined in detail the size and productivity of all farm plots and assigned tax obligations to the actual cultivator of each small plot. During the preceding Warrior period complex multi-layered land holdings of varying size and frequent famines generated violent conflicts among villages as well as among samurai armies seeking exclusive power of taxation. In this chaotic state there evolved a convention of exchange between the village, inhabited by members with differentiated rights and statuses, on the one hand and the militarily dominant samurai army in the area, on the other, the exchange of protection of the village economy from external aggression by the latter vis-à-vis de facto tax payments in the form of agricultural products and labor services by the former that are reminiscent of the emergence of a “localized political state” (Katsumata 1996).

Toyotomi attempted to uproot the rural roots of unstable military contests by assigning exclusive tax authority over a clearly defined territory to each of the emerging leaders of the allied samurai troops. The upper-status village members who had managed multi-family farming activities and had been actively engaged in a network of military actions across villages were made either to leave the own village and reside in a castle town as a member of the samurai troops led by the military leader, called the *Daimyo* (literally meaning the *Big Name*), or to stay in the village as unarmed cultivators. The separation of military power and the peasant-based rural economy was completed during the early Tokugawa era. But this did not mean a transition to a European-type feudal state.

The landownership register was kept in the village office and managed by the village officials, referred to as the *shoya*, who were relatively resourceful cultivators in the village. The register was revised as cultivating practices changed through inheritance, intra-village transactions, and so on. Potential ownership disputes were resolved within the village through arbitration by the village officials. When property rights disputes crossing village boundaries were brought before the magistrate's court, judgments were made, if possible, based on evidence from Toyotomi's original registers.

Collection of the land tax was contracted out to the village office by the Tokugawa and Han governments, a practice that had already emerged in some regions during the Warrior period and was known as the "village-undertaking" (*mura-uke*) of tax collection. The castle town did not intervene in village affairs anymore as long as obligations of the village-undertaking were met. The village held autonomous policing activities, as well as jurisdiction over within-village criminal and other matters. Even though there was no clear separation of contract law from civil law, the peasants became the *de facto* and *de jure* owners of their cultivated lands. They gradually became engaged in land transactions within the village and eventually with outside merchants, despite the initial prohibition of farmland leasing and sales by the Tokugawa government.

On the other hand, the Tokugawa and *Han* governments became bureaucratic corporate bodies of samurai who derived incomes denominated in terms of the quantity of rice as respective shares in land-tax revenue according to their rank and assigned tasks (similar to the Chinese scholar-officials), even though they remained

armed (unlike the Chinese scholar-officials). The amount of rice that was not consumed by them was shipped to the commercial center of Osaka. Securities for delivery of rice issued by the *Han* government were transacted in the Dojima Rice Exchange, eventually leading to the emergence of the first kind of futures market in world economic history (Ohtsuki 2012). Across the *Han*, it was common that incompetent or dissolute *Daimyo* were forced into retirement by an agreement among the corps of vassals or after fierce factional fighting among themselves (Kasaya 1988). The sustainability of the *Han* as a corporate body thus became a priority for the personal honor of the lords.

This institutional separation between the tax state run by the samurai corporate body and the village thus entailed unique complementarities mediated by the village-undertaking system. Initially and over time, there were variations in the determination of the tax rate across the *Bakufu* and the *Han*. In some places, from the early eighteenth to the mid-nineteenth centuries the tax rates tended to be basically fixed in terms of the quantity of rice (Smith 1988, ch. 2). In other places, the magistrate's office annually examined the potential crops in a village and accordingly adjusted the tax rate, but this determination was often subject to bribery by officials as well as too bureaucratic interference in farming activities timed near the harvest period. In 1722 the Tokugawa government changed to a fixed-rate tax method, subject to periodic revisions in its own territory and with an exception clause in cases of extraordinarily poor harvests (Oishi 1961, ch. 4). Negotiations over the rate became formalized between the regional magistrate and the body of representatives from the villages under his jurisdiction in Tokugawa territory (Kurushima 2002). In the *Han* as well, more

or less similar bargaining mechanisms between governments and villages were institutionalized.

Once the rate was agreed upon, the village peasants as a collective became the residual claimants. Therefore, the member households of the village were collectively interested in controlling free-riding on local public goods projects, such as construction and maintenance of irrigation systems that were essential for wet farming, as well as cross-village water rights disputes. Thus the norm of mutual compliance and cooperation among member households in the village evolved, entailing the system of household responsibility backed by primogeniture inheritance practices. This norm was strictly monitored by threats of social ostracism against deviant households, known as *mura hachibu* (expulsion from the village), except for instances of fires or deaths that could jeopardize the health and security of the village community. This norm may be referred to as a *membership-based norm* in that it was applied to all the members of the village and only to them.⁷

Thus complementarities between the quasi-tax state and the peasant-based economy were institutionalized in each of the Tokugawa and *Han* territories. Tax collection by samurai corporate bodies was facilitated by the village-undertaking system, which also provided collective incentives for farmers to make productivity

⁷ In China where farmland transactions across villages were frequent, it was relatively more difficult for cooperative norms, such as those binding on all members of the village, to evolve unless the security of both private property rights and lives was threatened by external aggression. In China, the formation, observance, and sustenance of cooperative norms thus appear to have been limited to within a network of selected members who mutually invested in their own reputational capital, that is, social practices known as *guanxi* (relations) (Herrmann-Pillath 2009).

gains. The ontology of the stable state of play between the samurai, inc. and the peasantry through the village may be thus characterized as a pact, or a bargaining equilibrium, regarding mutual recognitions of exclusive rights to taxation and cultivation. If an agreement were not possible, the villagers could have abandoned their fields (*chosan*) to evade onerous taxes as they had done in the formative days of bilateral relations, while the *Han's* ruling position may be threatened by interventions by the *Bakufu* and other *Han* as discussed in the next section. As a bargain outcome in the deep structure, it might have generated a sense of “fairness” (Binmore 2005) as well as a stable equilibrium state, although actual distributive share of each was certainly dependent on its changing relative bargaining power as discussed below. The village sometimes demanded and succeeded in gaining a lowering of the tax rate to its original rate in the early era of the Tokugawa era when the extreme action of *chōsan* was only effective threatening device for the village. It may suggest that they might have considered that the original rate represented a mutually binding fair share.

Traditionally, the setting of the tax rate was regarded, particularly by Marxian historians, as unilaterally dictated by the *Bakufu* or *Han* government that attempted to squeeze out as much as possible from the powerless peasantry, while the latter did not have any recourse against former's abusive power other than occasional desperate uprisings. However, the fundamental aspect of the bilateral relations as a 'pact' may also be supported by polysemic interpretations of the Japanese word, *kō-gi*, which refers to the power of *Shogunate*, or that of the *Daimyo* in the *Han*.

According to an authoritative Japanese dictionary the word “*gi*” can have three meanings, '1, matter; 2, model, rule, or etiquette; and 3, postposition indicating a

subject” (Niimura 1955). Thus, together with the adjective *kō* meaning “public,” the word *kō-ghi* can mean either “1, Public matter (as against private matter); 2, Public rules agreed on by and constraining everyone in the public domain; and 3, the *Shogunate*, the Imperial Court, and the government” (*ibid.*, with some modifications by the current author). This polysemy suggests what might have evolved in the minds of contemporaneous people. The government may have been regarded as the personification of the public domain through which public rules were to be agreed upon. The ontology of *kō-ghi* as a public agreement and its gradual personification in the emerging powers of the *Daimyo* in the Warrior Period and then those of the *Shogunate* is brilliantly analyzed in the post-Marxist works by the historians Asano (1994) and Fujii (2002).

The actual tax-rate determination then may be regarded as a collective agreement between the samurai inc., as the *kō-ghi*, and the village representing the peasantry within the framework of the fundamental pact. But this does not mean that their bargaining powers were equal or their strategic relations always remained stable. Although the village-undertaking system evolved from the Warrior period when bargaining partners could be fluid, the village in the Baku-Han system lacked alternative potential bargaining partners as a threatening device so that their relative bargaining power might have been relatively constrained. In any case, crop failures due to climate changes, attempts by the magistrate to unilaterally squeeze more tax revenues through the threat of political violence or detection of peasant farmland hidden from the authorities, and so on sometimes led to hard bargaining between the two. This often provoked concerted violent actions by villagers, known as the peasant-

ikki (literally meaning “mind-unifying”). According to an authoritative account by K. Aoki (1966) there were 2,809 such events between 1590 and 1867. At the beginning of the Tokugawa-era these riotous actions were led by village office-holders involving all the members of the village. As time went on, the scope of the peasant-*ikki* tended to enlarge from individual villages to *Bakufu* and *Han* territories as a whole, thus endowing villages with relatively stronger bargaining power in the fundamental pact.

IV. Canonical States of Play

The previous section describes the fundamental complementarities between the tax state and the peasant-based economy underlying the stylized formal rules and deontological values in Qing China and Tokugawa Japan respectively. Those rules and values evolved during the process of transition to the respective eras and were sustained more or less stably throughout the heyday of the Qing and the Tokugawa up to the last quarter of the eighteenth century. Thus the derived complementarities may be considered indicative of the ontological nature of their institutional arrangements. However, as Section II suggests, for the rules and values to be stable, they have to be supported by recursive strategic plays by the agents in the relevant domains. This section introduces a more concrete picture of the game played than the one only played by the ruler and the peasantry. We do so by introducing intermediate agents, the gentry, who strategically played between the ruler and the peasantry in the case of Qing China, while explicitly dealing with the strategic relations between the *Shogunate* and the *Han* in the case of Tokugawa Japan. We abstract the stable state of play among

them in each country and refer to it as the respective canonical state of play. Identifying and comparing the conditions for the stability of these states in these will prepare us for an examination in the next Section of the what endogenous forces destabilized these states and then ultimately finally terminated them.

(A) *Two Faces of the Gentry*

The (local) gentry (*xiangshen*) are roughly defined as those imperial degree-holders who were retired or exempt from their official duties and who normally resided in their native localities. The gentry had dual strategic relations vis-à-vis the governments (dynastic, central, or local), on the one hand, and vis-à-vis the peasantry, on the other. As said, because each magistrate at the county level had to deal with an average of 200,000 to 300,000 people, he had to rely on the local gentry for local administration of the tax state. The magistrates thus farmed out tax collection to the powerful gentry. This practice was known as *baolan*. In the Yangzi Delta region where commerce and agriculture were the most advanced, resourceful gentry formed formal organizations, known as landlord bursaries (*zuzhan*). They collected rents from (tens of) hundreds of lease-holding peasant families, out of the revenues they paid taxes to the magistrate, charged fees for themselves, and distributed the remainder to member landlords (Muramatsu 1966, 1970). They also sought the assistance of magistrates in the use of official violence whenever necessary to settle on arrears of rent by their tenants. For political correctness, these organizations were often disguised as clan organizations, but in fact they assumed corporate characteristics, such as voluntary participation, perpetual life, and specialized administrative organizations, even possessing coercive

force (Ruskola 2000). Thus the local officials and the gentry strategically complemented each other to mutually facilitate tax collection and rent collection.⁸

There were, however, also subtle elements of complementary relations between the gentry and the peasantry. Some peasant families disguised their land ownership as lease holdings to protect themselves from the abusive powers of taxation by local officials, while the gentry extracted rents from the peasantry as protection fees. Also, because the actual terms in office of the county magistrates were short—from one to five years at the most according to the principle of avoidance (Chang 1955)—a great deal of the practical management of local public goods, such as the repairing of roads, the building of bridges, the construction of dikes, and so forth, was in the hands of the local gentry. Further, in the early nineteenth century and thereafter when the security of property rights was increasingly threatened by bandits, secret societies, rebellious religious groups, and so on, the powerful and resourceful gentry became active in organizing village-level militia training groups called *tuanlian* in some tension with the official local security forces (Kuhn 1970).

Thus, the gentry possessed a Janus-like character. One face was directed to the dynastic ruler and the office-holders, facilitating the latter's governability while aided by the latter in sustaining its own political economic power in the locality. The other face was directed to the peasantry, providing local public goods and security for the peasants' property rights, thereby achieving economic gains, local political power, and

⁸ The complementary roles between local officials and the gentry to maintain local social order and their public representation through Neo-Confucian principles are articulated in Wong (1997), albeit in terms of the "interpenetration between the polity and the society."

social prestige. These pivotal positions of the local gentry were symbolized by their clan-disguised organizations that engaged in rituals of ancestral worship, consistent with the orthodox Confucius ideology in which a harmonious family order was extended to the order of the state.

Let us refer to these stable patterns of strategic play among the dynastic ruler, the scholar-officials, the gentry, and the peasantry that sustained the complementarities between the Qing tax state and the peasant-based economy as the *Q-canonical state of play* for convenience of references below. As the complementarities were essentially strategic-based, their sustainability could become problematic if the major agents deviated from the canonical state. Such indeed was the case when the Taiping Rebellion (1850-64), originating in Guangxi, one of the poorest provinces, threatened the security of the property rights of the gentry and the peasantry in the relatively advanced Yangzi Delta region, and even the military capability of the Qing rule. The Qing army was only able to destroy the Taiping Heavenly Kingdom with decisive reinforcements from the Xiang and Huai Armies organized by the elite scholar officials on leave, Zeng Guofan and Li Hongzhang respectively, on the basis of the networking of the village-based, self-defense training groups. The emergence of these quasi-public organizations of political violence, distinct from the dynastic military power, was epoch-making. These organizations revealed the essential role of the gentry in sustaining the Q-canonical state of play. However, they also raised the interesting issue of whether actions by elite degree-holders would remain as a strategic complement to the imperial court's political governance or whether they would become a substitute for the imperial court. During the conflict

with the Taiping, the leading gentry financed the heavy costs of supporting their armies through regional control over not only the traditional salt and land taxes but also by introducing regional commercial taxes (*lijin*). This was a major departure from the principle of avoidance that separated scholar-officials from indigenous sources of political-economic gains, the implications of which would gradually become more apparent in subsequent decades.

(B) *The Coalitional Nature of the Baku-Han Regime*

What was the nature of the relationship between the *Bakufu* (meaning the *Shogunate* government) and the *Han*, referred to the Baku-Han regime? This is often understood as a European-type of “feudal system” in which the nobility held lands of the Crown in exchange for military service, and vassals in turn became tenants of the nobles. We have already noted, however, relations between the *Daimyo* of the *Han* and their “salaried” samurai group should be understood as a kind of corporate body embodying a hierarchical, function-based bureaucratic structure, with the *kō-ghi* as its public representation. Based on this account, the *Bakufu* essentially had the same internal structure. But were the relations between the *Bakufu* and the *Han* simply a hierarchical exchange of land endowments by the *Bakufu* to the *Han* and military service by the *Han* to the *Bakufu*? I believe that this is misleading to understand the nature of the Baku-Han regime as a “political state” and its eventual transformation during the Meiji Restoration. This is why I continue to use the original Japanese *Han* rather than its conventional English translation of “domain,” remindful of the feudal system in Europe. We conceptualized a “political state” as a “stable state of play” in a political-exchange

game in which the ruler and the ruled interact (Aoki 2001, chapter 6). From this perspective, we have already noted that the relations between the samurai, inc. and the villages in each *Han* had already emerged as an aspect of a “political state” in their respective territories as a solution to the chaotic political-economic conditions prevailing during the Warrior period. However, this process did not lead to a centralized, unitary state in the sense that all the villages faced only one samurai, inc.

True, the initial territorial assignments to the Tokugawa and related families and the *Daimyo*—allied or not in the Tokugawa’s final military drive to accomplish a military equilibrium—was pronounced by Tokugawa Ieyasu to whom the title of *Shogunate* (meaning the “Barbarian Conquering Generalissimo”) was granted by the Emperor who did not command political violence of his own. This some four-hundred – year-old title was understood as legitimizing the centralized legal and executive functions backed up by commanding military power. As said, however, each *Han* also assumed characteristics of a tax state of its own, holding exclusive tax and legal authority regarding in-territorial affairs (as noted, local judicial power was delegated to the village). With the exception of the monopoly over foreign trade and mintage, a major privilege of the Tokugawa government over the *Han* was its formal ability to abolish *Han* or to transfer *Daimyo* from one *Han* to another, somewhat reminiscent of the relations between the Crown and the nobility. The *Shogunate* exercised its power with relatively more leeway vis-à-vis its own related families, particularly during its formative era, for the purpose of military security and to facilitate hereditary succession. It also exercised power without question in obvious cases, such as the termination of a family tree, shameful crimes by the *Daimyo*, and the like.

Yet the power of the *Bakufu* to alter or abolish territorial assignments as *kō-ghi* increasingly required a public cause other than a private loyalty issue. The *Bakufu* was apparently entitled to punish the *Han* for negligence in the sharing of collective responsibilities to sustain the Baku-Han regime. In one case, the *Daimyo* of the Matsumae *Han* in Hokkaido was temporarily transferred because of his alleged failure to make defense preparations against a possible Russian intrusion into the northern island. When serious political repression and heavy taxation by the Shimabara *Han* incited a bloody peasant rebellion led by Catholic militants, it had to be crushed with military intervention by the *Bakufu* and the neighboring *Han*. The Shimabara *Han* was then abolished and its *Daimyo* was executed (this is the only case where the honorable ritual of *hara-kiri*—self-execution—was not applied to samurai). The latter case represented an obvious deviation from the fundamental pact between the samurai, inc. and the village. However, when the *Bakufu* attempted to rotate territories among three *Han*, including the resourceful Shōnai *Han*, for its own fiscal advantage on the pretext of a defense measure against an imminent foreign threat, it was doomed to failure because of concerted resistance from the Shōnai *Han* including the peasants.⁹

These observations indicate that the *Bakufu's* power of reassignment was essentially constrained to cases of *Han* deviation from the shared responsibility over national collective goods, as well as from the fundamental pact between the *Han* and

⁹ Takatsuki's study of the Dojima Rice Exchange provides another interesting case suggesting constraints imposed on the power of the *Bakufu* by the *Han*. Facing an event that some *Han* defaulted on their securities, the *Bakufu* tried to strengthen its regulatory power by monitoring actual amounts of rice reserves of all the *Han*. But this attempt was not implemented because of objections raised by the *Han*. Yet the *Han* were forced to become much concerned about their market reputation after this incident (Takatsuki 2012).

the village. Further the *Bakufu's* ability to exercise power was constrained by the fundamental pact prevailing between the *Han* and the village. The above examples revealed to contemporaneous people the consequences if they were to deviate from the norms. Each *Han* thus refrained from deviating. However, other than as *kō-ghi* the *Shogunate* was prevented from arbitrarily intervening in the affairs of the *Han* for its own personal reasons. Thus the institutional nature of the *Baku–Han* regime can be understood as an all-inclusive coalition of the *Han*, with the *Shogunate* providing focal public representation of the order as *kō-ghi*. This coalitional structure then nested the fundamental pact between the samurai, inc. and the village across all the *Han*. We may refer to this overall institutional arrangement as a *T-canonical state of play* for convenience of references below.

C. Comparison

If we compare the Q-canonical state and the T-canonical state, we may note one subtle difference in their genesis, although both were basically built on the fundamental complementarities between a tax state and a peasant-based economy. The gentry who linked the two in the Q-canonical state of play were a derivative from the tax state in that they achieved their status through the framework of the imperial examinations. In contrast, the T-canonical state was formed as a coalition of the *Han*, each member of which had already internalized an emergent coalitional pact (in the sense of a bargaining equilibrium) between the samurai, inc. and the village. Thus, loosely speaking, the former may be said to have been established from top down, whereas the latter was established from bottom up. This difference may have had a differential

impact on the timing and outcome of the departure from the respective canonical states in each country.

V. Transitions from the Canonical States, Strategic Realignments and Salient Public Propositions

The Q-canonical state and the T-canonical state in the previous section are nothing but theoretical constructs derived from highly stylized historical observations. But they may be useful devices for understanding the endogenous causes of the institutional transition during the Xinhai Revolution and the Meiji Restoration. Namely, we may be able to explore what strategic readjustments across agents were crucial for the departure from the canonical state in each economy. During such readjustments, strategic relations among the agents may shift from mutually complementary relations to rivalries, or vice versa. However, for such readjustments to become possible from among many possible readjustments, including the status quo, the role of the salient public proposition to reinforce, as well as to amplify, a particular pattern of emergent strategies is also essential. This section observes the ways by which these dual aspects of institutional transitions were realized during the two respective events. With help from analytical insights obtained in a companion paper (Aoki 2014b, Section V), it then examine their comparative impacts on the nature of the realized institutional change.

(A) The Decentralization of Political Violence and Fiscal Competence

It is widely thought that aggression by the imperial powers was primarily responsible for the demise of Qing rule. However, the reality is not quite so simple. The Opium War (1839) and the Arrow War (1856-60) certainly revealed the serious mismatch between the inward-looking diplomatic orientation of Qing rule and the forceful market expansion of the Western powers that had undergone their industrial and military revolutions. But, as already suggested, the Taiping Rebellion and its aftermath imposed a far greater political, military, and economic challenge to the internal order of the Qing. Once the rebellion was quelled, independent assertions of elite-gentry power had the potential to threaten dynastic rule. Indeed, some army factions led by elite-gentry powers later attempted to stage revolts. However, Zeng Guofan, Li Hongzhang, and other major leaders chose to return as officials in the Qing administration.¹⁰ They worked together to reform the destabilizing Q-canonical state through the Self-Strengthening Movement in areas such as diplomacy, arsenals, education, armies, “bureaucracy-supervised, merchant-managed” enterprises, and so on. This coalition between the Qing court and the elite scholar-officials brought relative political stability and non-negligible economic development over the course of several decades. It fostered potential endogenous forces for realigning the strategic patterns of the Q-canonical state, however, which were to manifest themselves ever more overtly in the aftermath of the Sino-Japanese War (1894-95) and the Boxer Uprising (1900-1901). Below we specifically focus on the two major changes that had an important bearing on

¹⁰ Fifteen officers in the Xiang and Huai Armies became viceroys in provincial governments.

the ways by which Qing rule was finally dismantled, the decentralization of legitimate political violence and the trend to decentralize fiscal capabilities to the Provincial level.

First, the two disastrous events just referred to made even the imperial court aware of the need to strengthen its military capability through modern training and improved weaponry. It thus decided to replace the old fashioned Eight Banners armies by the New Armies to be established in each province. After the 1905 abolition of the centuries-long tradition of imperial examinations, many hundreds of aspirant youths entered the newly created military academies or were sent by the government to Japan for military education. Some of the latter were exposed to the anti-Manchu movements as led by Sun Yat-sen and Kang Youwei in Japan. These military trainees of a new generation were eventually appointed as commanders, councilors, or officers in the provincial New Armies. The New Armies were supposed to recruit sons of indigenous peasant families with records of three generations residing in a village and with no history of crime or opium consumption (Hatano 1973). Thus the new armies were intended to be more rural-based than the regular Qing army. But by capturing the opportunity afforded by the military reform, Li's disciple, Yuan Shikai, maneuvered to build the formidable Newly Created Army as a quasi-private force in Zhili (the capital district ruled directly by the court).

The costs of decentralization of military power to the provincial level were to be borne by the respective provinces. In addition, the provinces were made to share the rising costs of foreign loans and various indemnities by the Imperial Board of Revenue. In order to manage these and other public obligations and projects, the provincial governments relied on new sources of fiscal revenues to supplement their traditional

shares of land-tax revenue. After subduing the Taiping revolt, the provinces as governed by ex-generals of the Xiang and Huai armies continued to control revenues from the commercial taxes, *lijin*. In addition, the governments of the provinces embracing the treaty ports were able to tap into revenues from custom duties. Trading centers, such as Hankou, Guangdong, and Shanghai, thrived due to the intermediation of cash crops trade and handicraft products by “family firms” (Zelin 1984) in rural hinterlands that were connected by water and other means of transportation to the trading centers (Keller, Li, & Shiue 2013). According to the last official statistics in the nineteenth century, custom duties administered by Sir Robert Hart, who served as inspector-general of China’s Imperial Maritime Customs Service, generated about the same amount of revenue as that from the traditional land taxes. After deducting the indemnities and loan repayments to be paid to foreigners direct by the Service and handsome fees from the revenues, the residual was supposed to be handed over to the Imperial Board of Revenue via the provincial supervisors in charge of customs. But as these supervisors were not formal public officials, appointing governors were able to exercise much influence on ways how the revenues were to be spent (Iwai 2002).

Further, the powerful Viceroy of Huguan (Hunan-Hubei combined), Zhang Zhidong, succeeded to get a permission to mint copper coins denominated in yuan and to issue bills backed up by the coins. In Qing China, traditionally there had been two kinds of money, silver (ingots or coins including those of foreign mintage), used as a means of settlement for long-distance trade as well as for tax payments, and various localized copper coins used as a means of local exchange and as the peasants’ store of assets. But in the late nineteenth century there was a chronic shortage of copper coins

because of the fragmentation of commercialization in the peasant-based rural economy, which led to an approximately 25 percent appreciation in the value of copper currency against silver between the end of the Taiping Rebellion and the turn of the century. Hubei and other provincial governments could thus exploit a substantial amount of seigniorage in the difference between the purchasing cost of raw materials from Yunnan province and Japan on the one hand and the high exchange values of copper-based currency (Kuroda 1994). The fiscal capability of Qing Court and its Board of Revenue to control, or benefit from, provincial governments' capacity to collect taxes thus continued to erode. Now there was a trend toward a quasi-fiscal federalism, although it was limited only to provinces open to cross-regional and international trade.

In parallel to the increasingly autonomous fiscal capabilities of the provincial governments, the elite gentry in urban centers were able to develop stronger strategic alliance with them. Traditionally, the sales of academic degree without an examination-based qualification (*juan-guan*) was one important source of fiscal revenues for the Imperial Board of Revenue. The number of the gentry who acquired the position through this route after Taiping period was as large as some 500,000, more than half of the number of the regular graduates (Chang 1950, p.111). Obviously, those who were able to buy a degree were rich merchants and the like. They were made to bear costs for the provision of local public goods, such as education, local security, poverty relief, and the maintenance of dikes and irrigations in the form of arbitrary tax assignments and "voluntary" contributions through their occupational associations, the newly created chambers of commerce (*shehui*), traditional charity organizations, and so forth.

However, the development of an economic and social infrastructure facilitated the expansion of trade. It also secured their commercial and private property rights and monopolistic positions in markets, which was not entirely against their own interests. In return for bearing the rising costs, they demanded that their voices be heard through the provincial consultative assemblies. These assemblies were created in 1909 by the central government as a means for the government to relate directly to the local elites in preparation for the promised introduction of a constitutional system of governance in 1916.

In this way, the focal point of strategic complementarities between the gentry and the government now slanted to the province level, based on the commercial development of the peasant-based economy. If not yet open rivals to dynastic rule, the local elites were shifting their strategic positions from complementing dynastic rule to substituting for it. There has been debate among social historians about the nature of these developments. Some see such developments as an emerging civil society or a public domain à la Habermas (Rankin 1993), whereas others regard it merely as penetration of government control over private interests (Wakeman 1993), and still others propose a new China-specific category of a “third sphere” between state and society (Huang 1993). However, from our game-oriented perspective, the first two of the above views appear to be lacking explicit references to the emergent strategic complementarities between the provincial governments and the urban elite gentry, whereas the third view seems to introduce a redundant category.

Thus, within the surviving, degenerated framework of the Q-canonical state, potentials that would make a decisive departure from it were brewing during the first

decade of the twentieth century, the emergence of decentralized military powers that were directed by liberal or authoritarian generals; the shift of fiscal capability from the central to the provincial levels; the increasing assertion of political and economic interests by the elite gentry in urban centers; and the most importantly, commercial development of the peasant-based economy to create thriving economic zones around the treaty ports. These forces, interconnected but emerging in separate domains, only awaited a convergence into a pattern of complementary strategic moves to upset the Q-canonical state. This was triggered by a move of the fiscally weakened dynastic ruler.

While failing to make any substantive progress in the promised transition to a constitutional system, in 1911 the central government attempted to nationalize a railroad company originally established by Sichuan province and financed by land tax surcharges and investments by the gentry and merchants. The Railway Protest Movement mobilized a few hundreds of thousands of protesters. The Qing government ordered the New Army in neighboring Hubei province to crush the movement, which prompted the remaining soldiers and revolutionary activists in Hubei province to stage an uprising and declare independence from Manchu rule. This move was immediately followed by similar declarations by the New Armies and/or the consultative gentry councils in fourteen other provinces. Representatives of these provinces elected Sun Yat-sen, who had just returned from exile abroad, as president of the provisional republican government. The Xinhai Revolution was finally completed in February 1912 when Sun kept his promise to yield the presidency to Yuan Shikai, if Yuan could coax the imperial court into “voluntary” abdication. The young imperial ruler had no other

choice than to abdicate on the assurance that he could stay on with his family and staff in the Forbidden Palace before moving to the Summer Palace.

(B) *The Shifting Meanings of Public Propositions in the Game of Transition*

The divergence from the Q-canonical state required the formation of strategic complementarities against the Qing ruler among agents with various intentions, from the authoritarian military leader Yuan to liberal leaders of New Armies such as Cai E in Yunnan into the privileged elite gentry in urban centers, and to revolutionaries such as Sun and Huang Xing. Military capacities, fiscal capacities, and revolutionary/reform programs were dispersed among them. In contrast, the samurai bureaucrats of the *Han* co-aligned in the T-canonical state of play were much more homogenous agents in terms of decentralized possession of political violence and autonomous fiscal capacity as well as common bureaucratic traits. Thus, a challenge ultimately leading to a departure from the T-canonical state of play began as an attempt to realign the coalition structure facing the weakening leadership of the *Bakufu*.

A popular account of the downfall of Tokugawa rule usually highlights the 1853 “surprise” appearance of the armed black steamships commanded by Commodore Perry who demanded the opening of trading ports to the United States. It was indeed a dramatic event, but the *Bakufu* and some *Han* had already been aware of potential foreign threats, including threats from England and Russia. This awareness triggered quickly political disputes within the *Baku-Han* regime, centering on a prominent political proposition, *Jō-yi*, literally meaning the “Expulsion of the Barbarians.” However, this rhetoric used by the various agents had subtly different connotations

and even opposing intentions. From the perspective of a transition out of the T-canonical state of play, the essential point was the emergence of questions regarding the leadership role of the *Bakufu* in the coalitional structure.

While ordering the build-up of defense measures to all *Han* facing the coastline as a precaution against possible foreign military aggression, the *Bakufu* bureaucracy, after being informed of the situation in Qing China, regarded yielding to demands to open the trading ports as inevitable. However, the signing of such treaties with foreign powers by the *Bakufu* without official sanctioning by the imperial court agitated the imperial court, which possessed no military power but possessed moral authority to appoint the *Shogunate*. This situation provided an opportunity for some activist samurai and their ideologues to openly challenge the weakened leadership role of the *Bakufu* by making *Jō-yi* a salient proposition. Also, with varying political intentions, the *Daimyo* of some resourceful *Han* started to advocate programs to reform the *Baku-Han* regime. These *Han* included Satsuma, Chōshū, Tosa, and Hizen, each of which was unique in terms of the resources, both human and material, that they could command. But their capabilities were all based on the commercial and industrial development, in one way or another, of the peasant-based rural economy in their respective territories (Aoki 2014). As the instability of the T-canonical state became obvious, even within the *Bakufu's* territory, the quasi-official associations of village representatives started to question the *Bakufu's* fulfillment of its public duties as the *ko-ghi*. The number and militancy of coordinated cross-village peasant-*ikki* demanding lower taxes increased vis-à-vis the magistrate and commercial interests connected to foreign trade (Kurushima 2002)

In facing rising challenges by the *Han* and the discontent of the Imperial Court, the *Bakufu* shifted its stance to its own version of *Jō-yi* and sought an alliance with the Imperial Court. An anti-*Bakufu* faction in the Chōshū *Han* took over control of its samurai, inc. by a *de facto coup d'état*. They bombed European ships passing through the strait facing their territory on the day that the *Bakufu* had promised that the treaties would be nullified. Not surprisingly, they ended up paying large indemnities to the Europeans, but their strategic integrity earned them moral prestige. To clarify their position against the ruling position of the *Bakufu*, they then made “Reverence for the Emperor”—*Son-nō*—their focal proposition. Yoshida-Shōin, a charismatic ideologue who had strong influence over the activist samurai and was later executed by the *Bakufu* for an alleged terrorist conspiracy, had professed in his early days that “the opening of the country and trade should be the basis of a grand state design, which is the law that our ancestors left us. The closing of the country is nothing but a temporary evasion and very harmful for the next generation” (Yoshida 1859). His *Jō-yi* rhetoric thus can be interpreted as a proposal for the establishment of an integrated nation-state in lieu of the weakened coalitional *Baku-Han* state.

In contrast, the *Daimyo* of the relatively moderate Tosa *Han* proposed the establishment of a two-tiered parliamentary system so that the decision-making In facing rising challenges by the *Han* and the discontent of the Imperial Court, the *Bakufu* shifted its stance to its own version of *Jō-yi* and sought an alliance with the Imperial Court. An anti-*Bakufu* faction in the Chōshū *Han* took over control of its samurai, inc. by a *de facto coup d'état*. They bombed European ships passing through the strait facing their territory on the day that the *Bakufu* had promised that the treaties would be

nullified. Not surprisingly, they ended up paying large indemnities to the Europeans, but their strategic integrity earned them moral prestige. To clarify their position against the ruling position of the *Bakufu*, they then made “Reverence for the Emperor”—*Son-nō*—their focal proposition. Yoshida-Shōin, a charismatic ideologue who had strong influence over the activist samurai and was later executed by the *Bakufu* for an alleged terrorist conspiracy, had professed in his early days that “the opening of the country and trade should be the basis of a grand state design, which is the law that our ancestors left us. The closing of the country is nothing but a temporary evasion and very harmful for the next generation” (Yoshida 1859). His *Jō-yi* rhetoric thus can be interpreted as a proposal for the establishment of an integrated nation-state in lieu of the weakened coalitional *Baku-Han* state.

In contrast, the *Daimyo* of the relatively moderate Tosa *Han* proposed the establishment of a two-tiered parliamentary system so that the decision-making process in a coalitional structure would be more open and participatory, the system was to be made up of an upper house whose members were *Daimyo* of all the *Han* and a lower house with selected samurai bureaucrats as members. However, the crucial issue of who would take the position as the head of the system, the Emperor or the *Shogunate*, remained not clearly elucidated.

Although a variety of public propositions for possible reform continued to compete for saliency, Chōshū mobilized its military power in Kyoto where the Emperor resided. This premature uprising, known as the Forbidden Gate Incident (1864), was crushed by the united forces of *Bakufu*, Satsuma, and their allies. Chōshū was officially declared to be an enemy of the imperial court by Emperor Komei who was annoyed by

Chōshū's militancy. As the state of play became ever more unstable, the pace of open discourse as well as covert meetings among samurai bureaucrats across the powerful *Han* was accelerated, sometimes involving activist court nobles and reformist *Bakufu* staff. In spite of an initial divide in terms of their political agendas, enormously popular Saigo Takamori from Satsuma succeeded in forging a formidable alliance among the said four *Han*. They agreed to limit their common agenda to the *Son-nō* as a symbolic public proposition, while shelving other differences in their policy agendas. In 1867 the young Emperor who had just succeeded after the death of his predecessor issued an Imperial Order for the four *Han* to remove the Tokugawa family from the *Shogunate* by force.¹¹ The Tokugawa voluntarily surrendered the entitlement after relatively light military confrontations. Samurai-bureaucrats from the four *Han* took over the governing position in the guise of restoring the imperial rule, making their troops the Imperial Guards, that is, the de facto formation of a national army. In 1871, the *Baku-Han* regime was formally abolished.

(C) From Strategic Complement to Strategic Rivalry, How Historical Facts Relate to Equilibrium Theory

Both the Xinhai Revolution and the Meiji Restoration, that is, the final exits from their respective canonical states, were accomplished through the making of a broad coalition among the various agents opposed to the incumbent ruler. They were accomplished

¹¹ An authority on the history of the end of the *Bakufu* discusses the long-held speculation that Emperor Komei, who had insisted on maintaining the imperial alliance with the *Bakufu* and the *Jō-yi* policy, might have been poisoned by an activist nobleman (Fujita 2013, pp. 240-55).

without much bloodshed compared to, say, the French Revolution. In order to gain insights into the centrality of these phenomena for an understanding of the nature of the transitions and their path-dependent impacts on the subsequent institutional evolution in each country, some results of a game theoretic analysis in a companion paper may be suggestive and thus are briefly referred to below (Aoki 2014b, Section V).

Suppose a game played by three persons, the incumbent ruler R who wants to sustain his ruling position, the challenger C who seeks to transit to a new state for political-economic gains by revolting against the incumbent ruler, and the opportunist O who decides its position between the two depending on the parameters of the model and game situation that it faces. Each player can deploy a certain level of its own contest technology but at some cost. The patterns of their choices determine the corresponding probability of transition. C and O can expect post-transition payoffs if they win the contest, whereas R, C, and O will suffer payoff losses if they lose the contest in one way or the other. There can be multiple strategic equilibria in this model, depending on the functional forms and parametric values of the model. One possibility is a status quo in the canonical state of play (normalized as zero-levels in the deployment of the contest technology across the players). But the possibility of the following equilibrium is of particular interest to us.

Even though the challenger and the opportunist are rivals with respect to their respective expected post-transition gains, there can be an equilibrium in which the challenger and the opportunist cooperate in the transition to a new state, if there

*are substantive degrees of strategic complementarities between their contest technologies.*¹²

Also, the following comparative static of this equilibrium holds,

Suppose the efficiency of contest technology of C and/or O is high enough relative to that of R. Then, the less R's expected payoff-loss is due to its displacement from the ruling position, the lower the level of deployment of contest technology by R.

The strategic equilibrium in the proposition only determines the corresponding probability of transition and does not necessarily guarantee a transition to new state. But if the relative efficiency of C and/or O becomes higher relative to that of R, the probability of transition becomes greater. Under this situation, it is a better strategy for R to relinquish the ruling position, provided that avoidance of heavy punishment can be assured.

These theoretical propositions are reminiscent of the preceding observations in this section. Indeed, the Xinhai Revolution was made a reality only when a wide anti-Qing coalition was formed between determined challengers, e.g., New Army soldiers and clandestine revolutionary organizations, on the one hand, and opportunists, e.g.,

¹² Strategic complementarities between C and O are formulated in terms of externalities in post-transition payoffs as well as the transitional probability function. Thus, their equilibrium analysis and comparative static calls for super-modular analysis, which can specify exact parametric and functional form conditions for the proposition and the following comparative static to hold. See Aoki (2014b, Section V).

the urban elite gentry and conservative army generals such as Yuan Shikai, on the other. Their political positions and intentions were far apart, as their post-transition behavior would reveal. Yet, the former's radical actions were finally successful, after many failures during the previous decade, when the latter's formidable political and military powers were not mobilized against them. The latter's threat not to mobilize its own military power to defend the weakened ruler appeared to be legitimized when grassroots revolts began to flare. The Meiji Restoration was also accomplished when an agreement was forged between hardline challengers, such as Satsuma and Chōshū, on the one hand, and moderates, such as Tosa, on the other. Although the former was a strong military powerhouse, it needed complementary moral support from the latter, while the latter did not have sufficient political power to pursue its reform program on its own. Thus, in both countries, different actors mobilized their respective contest technologies, either hard or soft, that in effect became mutually complementary for realizing the transitions.

How were such patterns of complementary strategies among agents of different intentionality realized, especially when multiple equilibria were possible? Indeed, without condition there *always* exists another strategic equilibrium for the quoted model in which the opportunist cooperates with the ruler or remains neutral. Depending on the parametric values, especially those measuring the efficiency of the players' contest technologies, this equilibrium can be characterized either as the *status quo* at the canonical level, or the challenger's sole attempt to deviate from the

canonical state with a higher or lower probability of success.¹³ Suppose a case of the latter, reminiscent of the ruler-gentry cooperation during the Self-Strengthening Movement or the *Bakufu*-Satsuma alliance during the Forbidden Gate Incident. Then, how does the opportunist shift his strategy from one that strategically complements the ruler's survival strategy to another that is a rival strategy? Parametric changes in the players' contest technologies may be one possible factor. However, the existence of multiple equilibria suggests that even if all the conditions in the above proposition are satisfied, a ruler-opportunist alliance can remain as a strategic equilibrium. As noted in Section 2, game theory on its own cannot tell which equilibrium out of the many possible equilibria will be chosen. The observations in the preceding subsections suggest the important role of a public proposition as a focal point for aligning the strategies of the challenger and the opportunist from being mutually rival to complementary, or equivalently those of the ruler and the opportunist from being complementary to rival.

A unique aspect of the Meiji Restoration in this regard is that the rebels, both hard- and soft-liners, as well as the ruling *Bakufu* bureaucrats, had backgrounds and attributes similar as the samurai bureaucrats. Even prior to the final days of the *Baku-Han* regime, they shared a culture of mutual communications that was essential to forging complementary contest strategies. This culture had been nurtured as an unintended consequence of the institution of alternating the annual residence of the

¹³ The Taiping Rebellion may be considered to be an example of the failure of the challenger's sole revolt against the ruler and the opportunist (as represented by the elite gentry). The Russian Revolution may be reminiscent of the successful case in which the Bolsheviks solely challenged the ruler as well as against the Republicans, the Mensheviks, and the social revolutionaries.

Daimyo and their staff between Edo and their own territories. Then, toward the final days of the regime, Kyoto (where the Emperor resided) became a melting pot of ideas and information exchanges among activist *Daimyo* and their samurai bureaucrats, sometimes also accompanied by the use of violence. Gradually “Reverence for the Emperor” became a salient political proposition to unite the activist *Han*. Facing a formidable challenge, the Tokugawa family resigned under the pretext of “returning the grand governing position with humbleness.” By doing so, the Tokugawa family was assured by the Meiji government of a post-transition aristocratic position. The proximity of the bureaucratic backgrounds of both sides facilitated the relatively bloodless transition from the quasi-federalist tax state toward a unified nation-state.

In contrast, active participants in the Xinhai Revolution had different backgrounds and intentionality. The urban elite gentry and the generals in the Newly Created Army had more or less the same formal backgrounds as the scholar-officials/degree holders and maintained calculated partnerships with the dynasty.¹⁴ However, as the weakened governing capacity of the Qing ruler became ever more apparent, the Confucian fiction of governance as “the mandate of Heaven” began to lose its legitimizing power. In the late nineteenth century before Western nationalism idea was known, the most appealing revolutionary slogan in southern China was “Anti-Qing, Restore Ming”, meaning the restorations of governance by Han ethnic group and Ming-dynastic territory. Later, under the influence of Western nationalism, Sun Yat-

¹⁴ Recent work on the Empress Dowager Cixi by Jung Chang (2013), based on heretofore unused court documents, reveals some interesting aspects of the relations between the dynastic court and the scholar-officials.

sen's Revive China Society made as its membership oath the rhetoric of "Expel the Tartar Barbarians, Restore *Zhonghua* (mainland China), Establish a United Government"(1895).¹⁵ This ant-Manchu proposition gradually captured the minds of the people. Indeed, the direct target of the Wuchang Uprising and succeeding independence declarations by the fifteen provinces was the removal of Manchu rule as symbolized by the eighteen-star flag representing only those provinces of *Han* ethnic origin (Yang 2014). However, representatives of rebellious provinces proceeded to declare the establishment of a republic to be run by the people of five nationalities (Han, Manchu, Tibetans, Mongols, and Muslims) and the adoption of the five-collar flag after a heated debate. Even the conservative military general Yuan Shikai, who had been ordered to attack the republican armies by the Qing ruler, must have found this proposition less objectionable and potentially an effective leverage to promote his own ambitions.

It is interesting to note that notions of "restoration" thus played an essential role in realizing the transitions in both countries, particularly without a desperate resistance by the incumbent ruler or brutal oppression by the challenger. The proposition might have been widely acceptable and integrative as its connotation was to return to some right or normal state. However, ad hoc coalition-making for the transition under such a general proposition would make it inevitable that expected post-transition conflicts or rivalries, hidden or compromised ex ante, sooner or later

¹⁵ The *Tongmenhui*, a unified revolutionary group also led by Sun Yat-sen by then influenced by Western socialism, modified this oath by replacing the third item with "Establish a democratic state; Distribute land property rights equally"(1905). The concluding section referred to this idea.

would become overt ex post. In Japan, the constitutional design of the nation-state soon became a divisive issue. The hardline Chōshū clan sought to build a state led by a centralized bureaucracy under the guise of the imperial authority, while the ex-Tosa bureaucrats, together with the liberal ex-*Bakufu* samurai bureaucrat Fukuzawa Yukichi, advocated the introduction of a constitutional monarchy system that was somewhat reminiscent of the old Tosa proposal. The skillful bureaucratic maneuvering of the former won the day, when the constitution was promulgated by the Emperor prior to the establishment of parliament in 1889. In China, an ambitious attempt by Yuan to build his own empire was checked by the military rebellion initiated by the liberal general Cai E and others. After Yuan's death, conflicts flared between his subordinate generals and Sun Yat-sen, all seeking leadership of the national unification drive. Behind this battle, there was also the unresolved constitutional issue of how to reconcile the pre-transition federalist trends with a unitary state (Aoki 2014a, Section 4). In 1927 Chiang Kai-shek imposed a militaristic, centralized solution to this issue, which was however to face another challenge from both inside and outside.

VI. Summary and Concluding Remarks, Restoration versus Revolution

After the introductory Section I, Section II provided a conceptual and analytical framework for institutional analysis. It pointed out that, unless it is augmented by an analysis of public representations mediating a stable state and individual belief formations, orthodox game theory alone is incomplete to understand an institution as a stable state of play. This perspective integrates various conceptual and

methodological approaches to institutions as mutually supplementary. Based on this framework, the remainder of this article dealt with a historical comparative institutional analysis of Qing China and Tokugawa Japan and their ultimate downfalls. The discussions in Section III revealed a basic similarity in the institutional arrangements in the two countries in terms of fundamental complementarities between a tax state and a peasant-based economy. Thereafter, Section IV discussed the substantive differences between the two in terms of a stable state of play sustaining the fundamental complementarities. In the case of China, the fundamental complementarities were strategically mediated by the gentry's intermediate organizations, whereas in Japan they were embodied in the coalitional *Baku-Han* system, each nesting a pact between the samurai, inc. and the village. These basic characteristics were respectively referred to as the Q-canonical state of play and the T-canonical state of play. The deontological values of Confucian principles and the polysemic notion of *kō-ghi* were discussed as publicly representing those respective states.

Section V discussed and compared the paths out of the Q-canonical state and the T-canonical state. In each, the transition was facilitated when agents with different intentionality converged in the complementary deployment of the respective contest technologies. However, these moves were but one of a number of possible equilibrium patterns. Their selection was made possible after various trials and errors in each country as the public proposition of "restoration" became a salient focal point for the strategic choices of agents to converge in a complementary fashion. However, a representation of such a broad generality left (potential) differences in policy

orientation and intentions among the agents hidden or subdued *ex ante* and unresolved in the realized “restorations.” Thus it took about two more decades in each country, after fierce political disputes and even prolonged use of political violence in case of China, for the constitutional design of the polity to be concluded.

The above describes what has been narrated and analyzed in this article. But as one of the major foci in this article is the fundamental complementarities between a tax state and a peasant-based economy, it is appropriate to raise the following question, Did the constitutional design of the republican state in China and the bureaucracy-led monarchical system in Japan help alter the complementarities between the state and the economy in a fundamental way to specifically release the market-oriented energies of the people? Not really.

Prior to the Xinhai Revolution the so-called “egalitarian land property rights” (*pingjun diquan*), advanced as one of the four elements in Sun Yat-sen’s revolutionary program, was no more than a vague idealistic idea. In his speech at a reception held by the Shanghai Newspaper Guild in 1912, Sun Yat-sen announced his agricultural land policy, the parliament was to determine farmland prices and then the government was to charge a tax in a fixed proportion, say 10 percent, to the value of the land, and subsequently to nationalize a portion of the ownership equivalent to the future appreciation in value. He said that by this landlords would not have incentives to raise or lower the owning land price. This idea was an attempt to return to the ideal state of complementarities between the state and the agrarian economy. However, its implementation would not be realistic in practical terms of the administrative burdens, and theoretically it was inconsistent with the peasants’ and the landlords’ incentives

for economic development. Although Chiang Kai-shek yielded the right to collect traditional land taxes to provincial governments, the potential of the rural economy to be further connected to market development was seriously constrained by Japan's imperial aggression and China's internal political fragmentation. In Japan, immediately before and after the Meiji Restoration, peasants-*ikki* increased both in number and in militancy, particularly against commercial interests. The Meiji government introduced a national system of a land-ownership registry and required that any land dispute be settled by the court. However, pacts between the then-centralized nation-state and the village remained in force because of the former's fiscal needs to finance industrial development, on the one hand, and the resilience of the membership-based social norms, in spite of the rising class differentiation within the village, on the other. The pursuit of high growth dependent on the industrial potential realizable through massive migration of the peasantry out of the village did not begin in earnest until the 1950s in Japan and in the 1980s in China. These processes, beyond the scope of the current paper, are discussed elsewhere (see Aoki 2014a Section 4). Nevertheless, it is hoped that the current article provides historical and analytical background for understanding the path-dependent nature of these processes.

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Figure 1: Institutional Process

