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COLLUSION BETWEEN PUBLIC PROCURERS AND SUPPLIERS IN THE CONTEXT OF JAPAN'S PUBLIC PROCUREMENT: THE ROLE OF THE RISKS OF "UNSUCCESSFUL PROCUREMENT"

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ABSTRACT. This paper examines the economic forces which may lead to government-assisted or -facilitated bid-rigging (*kansei-dango*) in public procurement in Japan, and considers their implications. A public official may often worry about situations where his/her procurement project will not be successfully implemented. Based on a simplified theoretical treatment and on case studies of *kansei-dango*, it is argued that the desire to avert the risk of unsuccessful procurement resulting from the "experience goods" status of procured goods and/or services may be one reason for bid-rigging. Based on this understanding of *kansei-dango*, we discuss some implications for policies to restrain this type of corruption.

INTRODUCTION

Generally, in Japan, project tenders are submitted by national, local, and regional government bodies as well as other public organizations to determine contractors and contract prices through free and fair competition. Voluntary restriction of competition by prearrangement among bidders, or so-called bid-rigging, erodes the integrity of the entire bidding system and violates the Japanese *Anti-Monopoly Act* (hereinafter AMA).[1]

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National and local government officials have sometimes been found to be involved as participants in bid-rigging.[2] For example, a government official in charge of the bidding process may call a meeting with representatives from the business sector in order to provide yearly targets of order volume allocated to each enterprise. This officer may instruct business entities to coordinate in achieving such targets. In addition, in response to requests from businesses entrepreneurs, the official may designate the winner of the bidding by suggesting a prospective name or even leaking the planned ceiling price, which is generally considered confidential and not to be disclosed. In Japan, such bid-rigging is generally called *kansei-dango* (government-assisted or -facilitated bid-rigging). Other interventions seen in cases of *kansei-dango* include explicit directions for rigging from officials to bidders, expression of intention regarding bid winners, and others.

In order to design an efficient public procurement system that promotes market competition among suppliers and does not rely on *kansei-dango*, it is essential to understand the reasons why Japanese bureaucrats collude with suppliers. On the basis of an examination of the testimony of corrupt officials in some cases of *kansei-dango*, the Japan Fair Trade Commission (JFTC) suggests that public officials who commit illegal actions may be motivated to do so for the following reasons (JFTC, 2015, p. 68):

1. Bureaucrats are often interested in the growth of a regional economy. In order to attain this goal, it may be necessary to improve the ability of the suppliers located within the region. Thus, bureaucrats may need to be in favor of them.
2. In order to maintain the quality of procured goods, bureaucrats may wish to delegate their procurement to the suppliers with good reputation.
3. In actual procurement, public officials may request the successful bidder to conduct extra operations, for example, in the case of the occurrence of an unexpected phenomenon or emergency. Bureaucrats may favor the firm which has met their request satisfactorily in the past.
4. Corrupt officials may respond positively to the potential supplier's approach in order to make collusion easier.
5. In practice, the details of public procurement rules are frequently revised. In order to avoid the confusion from revised rules,

6. Bureaucrats may favor the supplier with outstanding experience in public procurement activities.
7. Bureaucrats may be in favor of specific firms to be sure they are offered a new job after their retirement.

Among these six motivations, (4) and (6) involve officials nakedly pursuing their own gain; these are rather simple forms of corruption. In addition, however, we see in (1), (3) and (5) bureaucratic favoritism leading to corruption, in which officials may prefer suppliers with outstanding experience or firms located in the same region.

In contrast to these others, factor (2) seems to focus more on public officials' "negative" motivation to avoid the risk of unsuccessful procurement. This factor plays a very important role in public procurement. Taking this into account, the *Law on the Promotion of Quality Assurance in Public Works* was enacted in Japan in 2005.[3] According to this law, scoring auctions should be properly implemented in specific auctions of public works. In a scoring auction, it is necessary that public procurers know the quality of procured goods and/or services involved in the auctioned work; that is quality of public procurement needs to be verified. Although some studies discuss other economic forces that produce corruption between bureaucrats and suppliers, as we will mention in the following section, to the best of our knowledge, there is no study that links factor (2) to this type of corruption.

The purpose of this paper is to examine the idea that this motivation—avoiding unsuccessful procurement—constitutes one of the main reasons for corruption in Japanese public procurement. By focusing on *kansei-dango*, we clarify that the risk of unsuccessful procurement resulting from the nature of the procured goods may facilitate corruption in the Japanese context. "Unsuccessful procurement" here is used to mean procurement of which the quality of work cannot be verified until the procurement object is put into use, because its quality largely depends on the technical capabilities of the contractors.

In this article, we will first review some related literature, concentrating on the theoretical discussion of corruption between an auctioneer and bidders in accordance with auction theory. Second, we will explain Japanese laws regulating *kansei-dango*, and will summarize recent cases of it. On the basis of this discussion, we will

derive general characteristics of *kansei-dango*. Third, we will elaborate this emergent framework and apply and confirm it using a recent *kansei-dango* case.

LITERATURE REVIEW

Goods and/or services procured by a government are normally produced by the winner of an auction. Thus, public procurement crucially depends on the design and procedures of the auction, which are determined by government in accordance with the nature of the goods and/or services being procured. Numerous studies have tried to establish what type of auction, under what type of situation, should be used in a public procurement situation. The most famous proposition in this regard is that a simple price auction produces desirable outcomes (Vickley, 1961; Riley & Samuelson, 1981, McAfee & McMillan, 1987). In such a model, auctioning is expected not only to award the contract to the bidder who can produce the offered item at minimum cost but also to minimize the payment to be made by the procurer.

However, this desirable outcome may be impaired by collusion among private firms. Many researchers have examined collusion among firms in public procurement; for example, Graham & Marshall (1987) and McAfee & McMillan (1992) showed that partners in collusion may devise some mechanism for dividing their joint profit in order to support their illegal collusion, and tried to determine what the optimal mechanism would be under the framework of auction theory. They demonstrated that the optimal mechanism is to hold its bid-rigging. Although they examined this mechanism concentrating on one-shot auctions, it also basically holds for repeated auctions, as shown by Athey, Bagwell, and Sanchirico (2004). Because many goods and/or services such as public works are repeatedly procured by government, bid-rigging among private firms constitutes a major problem for a public procurer.

On the other hand, the government (acting of course as representative of the public) is in practice forced to delegate procurement activities to specific individual officials. Since this delegation of authority enlarges the opportunity for discretion on the part of the official in charge, which is based on informational asymmetry between public and government officials, corruption at the arena of the auction may occur. Although many economic analyses of

corruption exist (for a comprehensive treatment of them, see Rose-Ackerman, 2006), relatively few studies analyze corruption in the specific context of public procurement.

Recently, some papers have discussed the effects of corruption between bureaucrat and bidder arising in the auction process in terms of economic forces. For example, Compte, Lambert-Mogiliansky, and Verdier (2005) considered the situation in which a public official overseeing a simple price auction is able to give a corrupt bidder an opportunity to rebid in exchange for a bribe after all bidders have submitted their bids. When the amount of a bribe provided by a corrupted bidder is restricted, so that bribe competition among bidders is imperfect, they found, this may facilitate corrupt collusion on prices between firms. Burguet and Perry (2007), Arozamena and Weinschelbaum (2009) analyzed the effects of favoritism by a corrupt official in a price auction; focusing on the environment in which an auctioneer gives a favored bidder "the right to first refusal," which permits the latter to match the minimum bid, they found that this sort of favoritism leads to an inefficient result by inducing a change in the bidding behaviors of honest and corrupt bidders. On the other hand, Auriol (2006) examined corruption by a government official who has confidential information about the competitiveness of the market in the procured goods. In such a case, the bureaucrat may receive bribery from a favored firm in exchange for adopting non-competitive forms of auction. With the supposition that the implementation of a competitive price auction entails fixed costs, Auriol shows that there is an equilibrium with capture or extortion when the market in the procured goods is of intermediate size. However, the equilibrium with extortion has extremely different implications to that with capture: the former produces negative effects on social welfare, while the latter does not.

Although these works treat the various possibilities for corruption and their effects in price auctions, the authors do not explicitly take the quality of procured goods and/or services into account. When we recall that ex ante assessment of quality is very difficult in many corruption cases over procured goods, these prior studies may be unsatisfactory in terms of helping us understand the reasons for corruption in Japanese public procurement. Based on the view that the estimation of the quality of procured goods plays an important role in corruption in public procurement, Laffont and Tirole (1991) constructed an optimal mechanism model consisting of principal (public), supervisor

(official), and agent (firm), and analyzed how the principal should design auctions taking into account the possibility of collusion between a supervisor and a favored firm for procuring goods whose quality is important to the principal. They showed that if the supervisor's information on quality is not verifiable, the principal should instead adopt a symmetric auction in which quality differentials among the bidders are ignored. In contrast, Celentani and Ganuza (2002) and Burguet and Che (2004) consider the effects of corruption in the framework of scoring auctions (also see Lengwiler & Wolfstetter (2006) for the effect of a scoring auction in the presence of bureaucratic corruption). They considered the situation in which a corrupt bureaucrat can manipulate quality components of a bidder's score in exchange for a bribe from the bidder, and that such corruption leads to inefficient results in the scoring auction.

These studies all assumed that a public official has sufficient ability to evaluate the quality of procured goods. However, as mentioned in the next subsection, in the case of Japanese public procurement, this assumption may be inadequate for understanding the economic forces facilitating corruption between a government official and a bidder.

REGULATION AND CHARACTERISTICS OF *KANSEI-DANGO*

Regulatory framework for *kansei-dango* in public procurement

The first attempt to revise the laws regarding *kansei-dango* was prompted by the JFTC's issue of a cease and desist order in May 2000 to combat a case of bid-rigging case on a local government project.[4] In that case, evidence was found that the project owner had an intention to nominate one bidder as winner, and the JFTC therefore issued a request to the local government in question to provide a remedy. Partly as a result of this incident, government officials' involvement in such bids, known as *kansei-dango*, began to draw strong criticism from society. While a penalty may be imposed on business enterprises involved in bid-rigging, no such sanction is applicable to officials who induce bid-rigging. This imbalance gave rise to a sense of unfairness among service contractors.

For this reason, as a means of preventing government officials from engaging in bid-rigging, the *Act Concerning Elimination and Prevention of Involvement in Bid-Rigging* was promulgated in January 2003.

Based on this law, which aims to prevent government officials from becoming involved in bid-rigging schemes, the JFTC may require heads of organizations offering bids to take corrective measures to eliminate the involvement of government officials. After receiving a request from the JFTC, the heads of relevant ministries and other government organizations have to investigate whether there is evidence substantiating disciplinary action against officials involving in bid-rigging. Cooperation and coordination among relevant administrative organizations are also required by law.

This *Act* essentially provides more rigid measures to eliminate and prevent bid-rigging in public procurement on the part of government personnel, under the criteria of the Fair Trade Commission. The newly-imposed measures were (i) a measure to eliminate involvement in bid-rigging by state officials, (ii) a measure to claim damages over bid-rigging cases involving officials, (iii) an investigation process to allow action to be taken against government officials involved in collusion, (iv) a measure for coordinating among administrative institutions, and (v) a measure to punish state officials engaging in collusion, which harmfully distorts the fairness of public tendering process. In accordance with this *Act*, the term "bid-rigging" in this paper means any act by which local governments or specified agencies (hereinafter referred to as "government") unlawfully agree with a counterparty on a sale/purchase, lease, or contract via an auction or other competitive means (hereinafter referred to as "bidding"). Nomination of the winner (either by agreement among the potential bidders or as assigned by the Trade Association) and collusive agreement on bid price are prohibited under Article 3 and Article 8, Paragraph 1, of the AMA (*Act* No. 54; 1947). The term "involvement in bid-rigging" in this *Act* means involvement by local or national officials, as well as directors or employees of specified corporations (hereafter, "the employees"). This involvement may include activities such as the following.

(i) Involvement in bid-rigging activities by entrepreneurs or the Trade Association.
(ii) Nomination of one bidder as winner of the contract.
(iii) Disclosure of confidential information by the official that may lead to bid-rigging.
(iv) Any involvement by officials solely for the purpose of facilitating collusive bidding.

Given the negative effects of bid-rigging for the fairness of the tendering process, the Japanese National *Penal Code* (*Act* No. 45; as of April 24, 1907) sets out a provision in article 96-3(1) stipulating that any person using fraudulent means or committing an act which distorts the fairness of public auction or bid shall be imprisoned up to 2 years or shall be subjected to punitive fine up to 2,500,000 yen (approximately US$22,750). When collusion is detected, the JFTC may officially ask the chief of the ministry or agency in question to find measures to deter or prevent bid-rigging in the public tender process. After the investigation stage, police or a public prosecutor may prosecute criminal charge against person engaging in *kansei-dango* at any time.

These amendments took effect on January 4, 2016 with an increase in the rate of surcharge imposed on violators of the Act and the application of the higher rate to entrepreneurs with a repeated history of violations, as well as introducing the criminal investigation powers. Those amendments aim to regulate AMA violations in a more active in the stricter manner. On the other hand, the amendments provide a motivation for terminating violations at the earliest opportunity. For example, a leniency program was introduced, taking into account the models of the United States, the European Union, and other developed countries. Under this program, businesses reporting their own violations to the JFTC are able to enjoy full statutory immunity or reduction of imposed surcharges. Hopefully, the new systems that have been introduced by these amendments will effectively and adequately deter AMA violations. In order to revitalize the economy and further the interests of consumers by fostering free and fair competition, the Japanese government has emphasized its competition policy, including the AMA, as well as addressing state-imposed or -facilitated constraints.[5]

Characteristics of *Kansei-Dango*

As described in the previous subsection, the *Act Concerning Elimination and Prevention of Involvement in Bid-Rigging* gives the JFTC the ability to expose *kansei-dango* and requires the public procurer (the head of the organization whose official is involved in the corruption) to take adequate corrective measures to eliminate this sort of corruption. There have been 13 corruption cases since the implementation of this law that the JFTC has exposed, and required the

procurer to take reform measures. On the basis of the JFTC's reports (JFTC, 2015, p.34), details of these cases are presented in Table 1, including exposure date, the public procurer involved, the procured goods or services, and the type of illegal action.

TABLE 1
Kansei-Dango Cases Prosecuted by JFTC

	Action			
Goods and/or Services procured	1	2	3	4
Public Works (Construction works)	y	y	y	--
Public Works (Construction works)			y	--
Public Works (Bridge Superstructure Construction)	y		y	--
Public Works (Equipment Installation)		y		--
Public Works (Construction and Engineering Works)	y	y		y
Investigation, Measuring and Design for Forestry Road	y	y		
Public Works (Equipment Installation)	y	y		
Rolling Stock Management			y	
Office Supplies	y	y		
Public Works (Engineering Works)				y
Public Works (Engineering and Pavement Construction Works)	y	y		y
Public Works (Engineering Works)			y	
Public Works (Equipment Installation)			y	

Source: JFTC (2015, p.34).

Notes: "Action" in the table shows the type of illegal action as per Article 2(5) of the *Act Concerning Elimination and Prevention of Involvement in Bid-Rigging*. Each of the "actions" defined above is as follows:
Action 1: Instruction to engage in bid-rigging;
Action 2: Indication of bureaucrats' wish for a result of tender to a specified firm;
Action 3: Leakage of confidential information about the tender; and
Action 4: Actions supporting bid-rigging.

At the same time, police can also prosecute corruption between a public official and a supplier based on the *Penal Code*. The JFTC collects data on corruption cases prosecuted by police, and has published a summary thereof, JFTC (2015, pp.53-54). Table 2 provides some information (exposure year, public procurer, procured goods, and presence or absence of bribe) about the cases from 2008. Police pay attention to illegal actions over the implementation of public tendering, while the JFTC concentrates more on cases related to collusion

between tendering firms. Because of their respective focuses, the number of cases prosecuted by police is relatively large compared to that by the JFTC.

TABLE 2
Kansei-Dango Cases Prosecuted by Police

Year	Public Procurer	Goods and/or Services Procured	Acceptance of a Bribe
2008	Urayasu City, Chiba	Lease of PC	
2008	Kasukabe City, Saitama	Management of Public Facilities	
2009	Tenkawa Village, Nara	Public Works (Construction works)	y
2010	National Institute of Infectious Diseases	Public Works (Repair Works of Building)	y
2010	Saitama/Saitama	Public Works (Repair Works of Play Equipment)	y
2010	Japan Pension Service	Inspection of Pension Documents	
2010	Otsu/Shiga	Cleaning Service for Hospital	
2011	Ministry of Land Infrastructure and Transport	Public Works (Equipment Installation)	y
2011	Ikeda/Hokkaido	Public Works (Construction works)	
2011	Forestry Agency	Public Works (Engineering Works)	y
2011	Takamatsu/Kagawa	Public Works (Pavement Construction Works)	
2012	Nikko/Tochigi	Public Works (Engineering Works)	y
2012	Itoshima/Hiroshima	Public Works (Drainage Works)	
2012	Meiwa/Gunma	Public Works (Drainage Works)	Y
2012	Kagoshima/Kagoshima	Management of Roadside Trees	
2012	Shizuoka Prefecture	Inspection of Public Facilities	y
2013	Ministry of Defense	Design of Next-Generation Helicopter	
2013	Chiba Prefecture	Public Works (Equipment Installation)	
2013	Shimonoseki City University	Public Works (Repair Works of Toilet)	
2013	Hirado/Nagasaki	Public Works (Equipment Installation)	y
2013	Kamiita/Tokushima	Public Works (Construction works)	
2014	Asahikawa/Hokkaido	Public Works (Engineering Works)	Y
2014	Masuda/Shimane	Collection and Transportation of Garbage	

TABLE 2 (Continued)

Year	Public Procurer	Goods and/or Services Procured	Acceptance of a Bribe
2014	Masuda/Shimane	Collection and Transportation of Garbage	
2014	Forestry Agency	Public Works (Engineering Works)	
2014	Sohja/Okayama	Public Works (Construction works)	
2014	Sapporo/Hokkaido	Maintenance of Intranet	
2014	Utsunomiya/Tochigi	Inspection of Electric Equipment	
2015	Yamaguchi/Yamaguchi	Public Works (Drainage Works)	y
2015	Nagahama/Shiga	Public Works (Engineering Works)	

Source: JFTC (2015, pp. 53-54).

Notes. Some information in the table is supplementary to the main data, and taken from articles in the *Nihon Keizai Shimbun*.

Tables 1 and 2 show the number of cases prosecuted and illustrate the major characteristics of cases of corruption between bureaucrat(s) and firm(s) in Japanese public procurement. First, corruption cases are frequent in public works; of the total of 42 cases represented in Tables 1 and 2, 29 (69%) occurred in public works. As Soreide (2002) points out, the degree of complexity of the product being procured by government is an important factor in corruption. In public works, this complexity can be interpreted as a disadvantage for government, which has to confirm the quality of procured products before implementation of procurement. Below, we will discuss how such an interpretation plays an important role in explaining corruption in Japanese public procurement.

Second, the illegal action that occurs in many Japanese bid-rigging cases is a leakage of secret tendering information. In fact, in almost all of the cases prosecuted by police, government official(s) leaked a secret (e.g., the reserve price) to a bidder upon the latter's request. Moreover, we observe from Table 1 that similar leaks have also occurred in half of the cases exposed by the JFTC. This implies that this sort of illegal action contributes to unlawful gains for both parties (bureaucrat and bidder).

Third, in many Japanese cases, an illegal action is carried out without pecuniary bribe provided to a government official. Table 2 shows whether a bribe was verified in cases prosecuted by police. Interestingly, in 18 cases (accounting for 62%), a corrupt official did not receive any bribe.

Among these three characteristics, we shall concentrate on the first, because it functions as an incentive for the Japanese bureaucrat to be corrupt. Next, we shall consider why this is the case by looking some analyses of numerical examples.

THE UNSUCCESSFUL PROCUREMENT OF "EXPERIENCE GOODS"

Economic Forces Facilitating Corruption in Japanese Public Procurement

As observed above, corruption by bureaucrats in auction processes often exposed in relation to the goods and/or services whose quality is not ex ante confirmable by government officials, especially in the case where we can only identify the performance of public works after the completion of the project. As Nelson (1970) pointed out, these types of goods are called "experience goods." In this section we focus on incentive for government officials to collude that emerges from the specific nature of the procured goods; to do so, it is necessary to take the following factors into account.

First, by definition, a bureaucrat does not have ex ante information about the quality of procured experience goods. Second, if the quality of the procured goods is poor, the benefit for the bureaucrat of procuring them may be drastically reduced. Although this second point is obvious for the benevolent bureaucrat, it may not be obvious to the opportunistic official. Nevertheless, we can easily imagine that the bureaucrat procuring goods whose quality is poor faces the possibility of being held responsible for the failure of the procurement, and may get behind his/her colleagues in terms of promotion as a result.

The Japanese construction industry constitutes a prototypical case of an "experience goods" industry, leading to situations in which the procuring official has less information about the quality of procured goods than bidders (generally construction firms). More concretely, while the construction firms know the quality of procured goods from the contractor, a bureaucrat can predict only the quality of the goods

produced by the favored firm (that is, he or she can predict the quality of other firms' goods only probabilistically).

Based on these assumptions, consider the following situation. Suppose that a bureaucrat is planning to procure an experience good. Although the quality of this good can only be confirmed after the completion of procurement, the official is concerned to procure goods whose quality meets the prescribed level, q^*. When he/she procures goods with q^*, his/her benefit is expected to be large (e.g., 250), but if the quality of the goods is below this level, his/her benefit is drastically reduced (e.g., 120). Two firms of two types—an honest firm (firm 1) and an opportunistic firm (firm 2)—can potentially supply the goods. Firm 1 always produces high-quality goods, but firm 2 supplies goods that are not always meet quality level q^* if he/she is a dishonest supplier. Facing the risk of procuring poor goods, the official favors firm 1. We assume that the probability that firm 2 is an honest supplier is 1/2, and that while firm 1's cost of supplying the goods is 100, firm 2's cost if it is an honest (dishonest) supplier is $100+\varepsilon$ (80).

Let us consider the following game-theory framework under this environment. At the first stage, the official selects an auction type: simple price or non-competitive. It is assumed that the official is normally required to adopt the former but can choose the latter in exchange for a bribe from a favored firm. In addition, the official will adopt the auction type that yields a larger net benefit (including bribe). At the second stage, the (selected type of) auction is conducted. When the official adopts a price auction, the winning bidder is awarded the contract. Due to the nature of experience goods, if firm 2 is a dishonest supplier it can win the auction by saying that its product will meet the prescribed quality level. On the other hand, when the non-competitive auction is selected, the contract will be awarded to firm 1 (in exchange for a bribe). After the contractor is determined, the goods are produced and are delivered to the government. When the goods are produced by a dishonest firm 2, their quality will be poor. We assume that if this situation occurs, the official is forced to accept them without protest, perhaps due to the difficulties of verifying their quality.

Some readers may argue that this assumption is problematic because the government can recover the loss resulting from poor quality of procured goods by suing the dishonest firm in court. Thus, this assumption implies imperfect enforcement of the compensation system for damages. However, we believe that actual public

procurement itself faces this type of imperfection. Theoretically, one may thus express the nature of procured goods not as "experience goods" but as "credence goods," whose quality is not confirmable even ex post.[6]

Now, consider the result of a price auction at the second stage. When firm 2 is honest, firm 1 can win the auction by setting its bidding price to 100. In this case, while the official obtains a net benefit of 150 (=250-100), the profit of firm 1 is 0. On the other hand, if a dishonest firm 2 participates in the auction, it can win by setting its bid to 100-ε. Because firm 2 supplies poor goods at lower cost (80), its profit is 20; but the official gets a net benefit of only 20 (=120-100) in this case. Thus, the expected net benefit of adopting a price auction is 85 (=150×1/2+20×1/2).

Next, let us examine the result of a non-competitive auction. Since this auction lacks competition among bidders, the contractor (firm 1) can raise his bid to the maximum (250). So in this case, while the official obtains no benefit, the profit of firm 1 is 150 (=250-100). However, firm 1 knows that the price auction will be adopted if it gives no bribe to the government, and that its expected profit will be 0. Thus, there is a motivation for it to give the official a bribe and ask him or her to select a non-competitive auction at the first stage. On the other hand, the government official has an incentive to receive the firm's bribe and still choose a non-competitive auction if the official obtains a net benefit including a bribe larger than 85. Since the joint profit from conducting a non-competitive auction is larger than 85, it is of a level that supports corruption between the government official and the favored firm.

This numerical analysis tells us the reason why Japanese bureaucrats sometimes collude with suppliers: the risk of unsuccessful completion of a project creates an incentive for collusion. In fact, as the numerical example suggests, when a public official procures poor quality goods, the benefit to the official is drastically decreased. Note that this risk is created by two elements: the first is that the procured goods are experience goods, and so the official cannot exclude the possibility of procuring poor goods, while the second is the asymmetry of information on quality of goods among official and suppliers—while each firm can predict the quality of procured goods it will supply, the official does not know. As a result, an opportunistic firm (a dishonest

firm 2) can pretend that it is honest and is ready to supply quality goods at a reasonable price. This obviously means that the risk is revealed.

We should note that the favored firm (firm 1) has a monopolistic position in the numerical example. In fact, the high profits that the favored firm acquires if prepared to engage in bribery support collusion—further, to support corruption, it is necessary for the favored firm to obtain high profit, which suggests that collusion among suppliers or market imperfection may be a prerequisite for corruption.

Case Study in the Application of the *Act Concerning Elimination and Prevention of Involvement in Bid-Rigging*

Here is an example of the application of *the Act Concerning Elimination and Prevention of Involvement in Bid-Rigging*. This is a recent case regarding bidding for snow-melting equipment for the Hokuriku Shinkansen bullet train, operated by the Japan Railway Construction, Transportation and Technology Agency (JRTT), an institution wholly financed by the government.[7]

Outline of the Case

The JFTC issued cease-and-desist orders and surcharge payment orders to the 11 companies that had participated in bidding for snow-melting equipment ordered by JRTT finding that on September 14, 2011, the 11 companies had substantially restrained competition in the field of snow-melting equipment works for Hokuriku Shinkansen by designating successful bidders and managing to have those bidders win the bidding. In this case, the 11 companies were in violation of article 3 of the AMA (prohibiting unreasonable restraint of trade). The total amount of the surcharge was approximately 1.03 billion yen (approximately US$11,793,500). At the hearing, the JFTC notified the 11 companies of the content of the proposed orders in writing, and provided them with opportunities to view and copy the evidence that had become a basis for the orders and to submit their opinions and their own evidence to the JFTC; the orders had been finalized and issued only after the JFTC took into consideration the opinions and evidence submitted by the companies. One recipient, dissatisfied with the orders, appealed to the Tokyo District Court.[8]

Essence of the Case

These allegations over bid-rigging on Shinkansen-related engineering work meant that competitive bidding on infrastructure improvement projects essential for the safety of bullet train services was derailed through a collusive relationship between entities in the public and private sectors. The cost of the projects was to be covered by such resources as national government subsidies and contributions from involved local governments. If prices tendered for construction projects in cases like this are exorbitant due to bid-rigging, the corporations involved in the scheme will reap unlawful profits that require unjustified public expenditure.

It will be particularly disconcerting if a case like this one is found to involve collusive bidding at the initiative of a government-affiliated institution such as JRTT. However, this seems likely to have been the situation here, as bidding on the projects included more than one case in which the price of a successful bid on a construction project was equivalent to 99% or more of the price anticipated by JRTT. It is apparent that the prices must have been leaked to potential contractors to achieve this outcome.

Another probable factor behind this case is that JRTT wanted to avoid unsuccessful procurement (unsmooth progress on the bidding process) so that it could complete the construction projects in time for the opening of the Nagano–Kanazawa route. If no bidder had won a contract for a given project, it would have taken about two months for another bidding session to be organized; this would have led to delays in the JRTT projects. If JRTT were to put its own convenience ahead of everything else by becoming involved in bid-rigging and accommodating bidders' interests, it would undermine the competitiveness of the bidding process and would lessen people's trust in public works projects.

In December 2006, the *Public Sector Bid-Rigging Prevention Law* was revised to impose criminal penalties on public service employees and others engaged in bid-rigging. The law would apply to employees at JRTT, whose undertakings include construction work on new Shinkansen lines in Hokkaido and Kyushu in addition to the Hokuriku Shinkansen. Under the law, timely measures need to be taken to determine whether there is any suspicion about the bidding for projects on these lines. The latest case, described just above, has highlighted

the depth of industry-wide collusion, including by at least one major player in the snow-melting equipment industry; however, this case is not an isolated one in bidding on engineering projects. In 2006, action was taken in a case involving an order placed by the (now-defunct) Defense Facilities Administration Agency for air-conditioning equipment installation work.[9] This 2006 case of bid collusion is said to have been inspired by a desire to obtain private-sector posts for retired senior bureaucrats (a practice called *amakudari*). It is necessary to strengthen the measures recently taken by ministries to address conflicts of interest created by the *amakudari* system, which include prohibiting senior officials from accepting job offers at firms receiving contracts from the ministry for five years after retirement—by extending this prohibition or a similar one to all officials of ministries and related organizations.

CONCLUDING REMARKS

This paper has suggested that the risk of unsuccessful procurement resulting from the "experience goods" nature of procured goods in public works projects may facilitate *kansei-dango* in Japanese public procurement. In particular, the quality of the goods procured through public works cannot be predicted ex ante by the procurer, as we discussed above. Therefore, as the above discussion shows us, procuring this type of goods tends to promote *kansei-dango* in order to avoid the risk of unsuccessful procurement.

Thus, in short, inability to confirm the quality of goods ex ante causes this type of kansei-dango. This being the case, in order to eliminate corruption between a public official and a supplier it is necessary to take measures to overcome this disability. One approach may be stricter inspection of the quality of goods by a third party, which may reduce the risk of unsuccessful procurement by the public procurer and as a result also reduce *kansei-dango*.

However, if this hindrance cannot be overcome by strict inspection, we should implement auction types that correspond to the nature of the procured goods. In a situation like the one described in the above numerical example, a simple price auction may lead to unsuccessful procurement and decrease social benefit; to address this issue, a non-competitive procurement method may be useful. However, in Japan, because many collusion and corruption cases have been uncovered since the 1990s, non-competitive auctions are rarely adopted in

practice. The investigation presented here may urge us to reconsider the possibility of adopting non-competitive auction in such cases.

On the other hand, it should be remembered that *kansei-dango* is supported by collusion among suppliers or market imperfection. In order to increase awareness of this issue among businesses, it is very important for government officials and the public to take measures to eliminate government-assisted bid-rigging and restore the fairness of public auctions. It is also very important to enhance the transparency of demands issued by the JFTC to central government agencies, public corporations, or local governments as measures aiming to reduce and prevent the recurrence of government-assisted bid-rigging.

From the perspective of competition/competitiveness policy, the JFTC has been implementing competition law with an emphasis on the active creation of a competitive business environment, in order to promote the vitalization of an economy based on free and fair competition, as well as to further the public interest. In order to create a competitive business environment, it is becoming increasingly important to remove and replace anti-competitive regulations and other state-imposed or -facilitated restraints.

Although we have clarified the role of the risk of unsuccessful procurement on corruption between a public procurer and a supplier, the precise nature of the complex interrelation among *kansei-dango*, collusion among suppliers, and the nature of the procured goods is not necessarily fully understood yet. Further research is required to clarify this interrelationship.

NOTES

1. *Act on Prohibition of Private Monopolization and Maintenance of Fair Trade* (*Act* No. 54 of April 14, 1947).

2. A case against bidders for construction work in Iwamizawa City. On January 30, 2003, the JFTC issued a recommendation for elimination of the conduct for violation of Section 3 (on the prohibition of unreasonable restraint of trade) of the *Antimonopoly Act*. (Decision issued on March 11, 2003.) In this case, the JFTC found that before putting a contract to tender, some city officials, with consent or complicity from support staff, had fixed the target amount for annual order placements allotted to each company and had designated potential bid-winners for each construction

contract, almost ensuring the target amount for annual order placements, and communicated the name of the expected bidder as well as the rough amount of the contract to the board members of relevant trade associations, who then transferred the tip-off to each expected bidder.

3. *The Law on Promoting Quality Assurance in Public Works* (*Act* No. 18 of March 31, 2005) states that the quality of public works must be secured by selecting tendering and contracting methods appropriate to the nature of the works and the conditions in the area, while also reflecting the capabilities and purpose of the commissioning entity. This covers, for example, excluding construction business operators that are not qualified as contractors; securing the transparency of the tendering and contracting process and the content of the contract, and fairness in tender; thoroughly abolishing official involvement or other improper actions, such as bid-rigging or tendering bid-rigging; preventing the conclusion of contracts for public works whose proper implementation cannot be expected given the contract fee; and implementing contracted public works in an effective way.
4. *JFTC Recommendation Against Suppliers of Agricultural Construction Works Procured by Hokkaido Prefecture*, May 15, 2000.
5. For a comparative study of the EU and Japan, including discussion of *kansei-dango* regulation, see Kameoka (2014).
6. See Dulleck and Kerschbamer (2006) for the economic implications of credence goods.
7. The JFTC-Issued Cease-and-Desist Orders and Surcharge Payment Orders to the Participants in Bidding for Snow-Melting Equipment Works for Hokuriku Shinkansen Ordered by the Japan Railway Construction, Transportation and Technology Agency. October 9, 2015.
8. "JFTC Files Criminal Accusation on Bid-Rigging Concerning Snow-Melting Equipment Engineering Works for Hokuriku Shinkansen Ordered by Japan Railway Construction, Transport and Technology Agency." March 4, 2014. ([Online] Available at www.jftc.go.jp/en/pressreleases/yearly-2014/March/140304.html).

9. JFTC Bridge Construction Bid-Rigging Case to Public Prosecutors Office for Criminal Indictment, 23th May 2005, JFTC Criminal Indictment.

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REFERENCES

Arozamena, L., & Weinschelbaum, F. (2009). "The Effect of Corruption on Bidding Behavior in First-Price Auctions." *European Economic Review*, *53* (6): 645-657.

Athey, S., Bagwell, K., & Sanchirico, C. (2004). "Collusion and Price Rigidity." *Review of Economic Studies*, *71*: 317-349.

Auriol, E. (2006). "Corruption in Procurement and Public Purchase." *International Journal of Industrial Organization*, *24*: 867-885.

Burguet, R., & Che, Y-K. (2004). "Competitive Procurement with Corruption." *Rand Journal of Economics*, *35* (1): pp.50-68.

Burguet, R., & Perry, M.K. (2007). "Bribery and Favoritism by Auctioneers in Sealed-Bid Auctions," *B.E. Journal of Theoretical Economics*, 7 (1). ISSN (Online) 1935-1704, DOI: 10.2202/1935-1704.1219.

Celentani, M., & Ganuza, J-J. (2002). "Corruption and Competition in Procurement." *European Economic Review*, *46*: 1273-1303.

Compte, O., Lambert-Mogiliansky, A. & Verdier, T. (2005). "Corruption and Competition in Procurement Auctions." *RAND Journal of Economics*, *36*: 1-15.

Dulleck, U., & Kerschbamer, R. (2006). "On Doctors, Mechanics, and Computer Specialists: The Economics of Credence Goods." *Journal of Economic Literature*, *44*: 5-42.

Graham, D.A. & Marshall, R.C. (1987). "Collusive Bidder Behavior at Single-Object Second-Price and English Auction." *Journal of Political Economy*, *95*: 1217-1239.

JFTC (2015). *Towards the Prevention of Bid-Rigging* (in Japanese). Tokyo, Japan: General Secretariat, Japan Fair Trade Commisiion.

Kameoka, E. (2014). *Competition Law and Policy in Japan and the EU*. Cheltenham, UK: Edgar Elgar.

Laffont, J-J., & Tirole, J. (1991). "Auction Design and Favoritism." *International Journal of Industrial Organization*, *9*: 9-42.

Lengwiler, Y., & Wolfstetter, E. (2006). "Corruption in Procurement Auctions." In N. Dimitri, G. Piga, & G. Spagnolo (Eds.), *Handbook of Procuremen*t (pp. 412-429). Cambridge, UK: Cambridge University Press.

McAfee, R. P., & McMillan, J. (1987). "Auctions and Bidding." *Journal of Economic Literature*, *25*: 699-738.

McAfee, R. P. & McMillan, J. (1992). "Bidding Rings." *American Economic Review*, vol.82: pp.579-599.

Nelson, P. (1970). "Information and Consumer Behavior." *Journal of Political Economy*, *78*: 311-329.

Riley, J. G., & Samuelson, W. F. (1981), "Optimal Auctions." *American Economic Review*, *71:* 381-392.

Rose-Ackerman, S. (Ed.) (2006). *International Handbook of the Economics of Corruption.* Cheltenham, UK: Edgar Elgar.

Soreide, T. (2002). *Corruption in Public Procurement: Causes, Consequences and Cures* (CMI Report), Bergen, Norway: Chr. Michelsen Institure.

Vickley, W. (1961), "Counterspeculation, Auctions and Competitive Sealed Tenders," *Journal of Finance*, *16* (1): 8-37.