Efficiency of the Legal Institutions Governing the Repurchase Right vis-à-vis the Eminent Domain Power[*]

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<ABSTRACT>

The purpose of this paper is to probe into the *post-taking procedure*, which is one area not yet explored in the existing research on eminent domain. Specifically, it discusses the economic implications underlying the *landowner's* 'repurchase right (RR),' which is invoked upon occurrence of the so-called 'change in use after taking.' We compare RR vis-à-vis the government's discretionary power regarding such changes. Interestingly enough, a survey of four countries' legal institutions reveals substantially differing degrees in protecting RR. We submit the premise that upholding RR (i.e., the 'property rule') is superior in warranting overall efficiency, *given* the 'liability rule' (i.e., compulsory purchase with compensation) inevitably adopted at the time of initial taking. From the law and economics perspective, this result might be extended to a more general proposition that, when we inquire into one optimal allocation of conflicting property rights, it is imperative to take into account the other 'seemingly unrelated but critically interrelated' allocations. Finally, a two-stage estimation utilizing post-taking data in Korea proves that, under the completely nullified RR regime, there exists government's *systematic* opportunism to change the original public project into more *inappropriate* ones.

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Ⅰ. Introduction

In many countries one can find an eminent domain clause quite similar to that ("*[N]or shall private property be taken for public use, without just compensation*") declared in the Fifth Amendment to the US Constitution. Nevertheless, it is widely accepted that the eminent domain power should be exercised cautiously to minimize the infringement of private property. Taking is 'compulsory purchase' after all. It is in this very spirit that many countries have also formally institutionalized, among other devices, the repurchase right (or redeemable rights, RR *hereafter*) into their land taking laws.

RR allows landowners to buy back part or all of the land taken if the initial public project to be undertaken on that land is cancelled, or if some contingency has made it necessary to change its use. Particularly, even though this latter contingency of 'change in use (CIU *hereafter*)' frequently takes place in most countries, the existing literature on eminent domain overwhelmingly assumes that the original construction will be completed as intended, thus focusing on the procedure *only up to* the initial taking stage.

As a major contribution, this paper deals in depth with the *post-taking procedure*, which is one area to be explored in order to consummate existing research. The paper will probe into economic implications behind RR set to be invoked upon occurrence of CIU. In other words, we will seek an optimal allocation of property rights between the government and landowners under such contingency. As another potential contribution, we will furthermore underscore a general proposition that, when inquiring into one optimal allocation of rights, one should take into

account the other 'seemingly unrelated but critically interrelated' allocations. In the current paper's context, the allocation in favor of landowners, RR (i.e., the 'property rule'), will be shown to be superior in warranting efficiency, *conditional upon* the 'liability rule' à la Calabresi and Melamed (1972)[1] inevitably institutionalized in favor of government at initial taking.

For this purpose, the order of the other four sections is as follows: In Section II, after briefly examining the existing literature, we undertake an illustrative survey to compare four countries (Germany, Japan, Korea, and the US) regarding legal institutions governing CIU, in turn confirming meaningful differences in the degree of protection of landowners' RR. Section III takes on a simple theoretic account of RR. Under the environment characterized by prohibitively high transaction costs, the issue of who should prevail for the right to the condemned land will certainly have efficiency implications as clearly set out by Coase (1960).

Legislation in Korea has provided us with an intriguing opportunity for empirically assessing Sections II and III. RR in Korea was nullified in 1981 by newly introducing a clause (§91.6) into the Land Taking and Compensation Law, by which to generously *allow change in use* at government agency's discretion. Its legislative purpose was declared to 'enhance promptness (and to save the costs) of undertaking public projects.' Although this allowing-CIU clause had two eligibility conditions (i.e., 'public entity' and 'public-interest'), as will be seen below, their enforcement is far from easy due to broadness and nontrivial ambiguity.[2]

[1] According to the classic article by Calabresi and Melamed, a property right can be protected in three different ways: by a 'property rule,' a 'liability rule,' or 'inalienability.' A right (e.g., land ownership) is protected by the property rule to the extent that someone (e.g., the government agency) who wishes to take the right from its holder (e.g., landowner) must obtain the right holder's permission before the transfer (e.g., re-taking under CIU). Hence, giving the repurchase right is equivalent to protecting landowner's right by the property rule, increasing the landowner's bargaining power. In contrast, when a right can be taken without prior permission merely by paying objectively determined compensation or damages, the right is protected by the liability rule. The usual government's power of eminent domain is its typical example. Moreover, an institution nullifying the landowner's RR also belongs to the liability rule, since it means that the government agency can automatically re-take the land with the same compensation as that already paid at the time of initial taking. Refer to Kim (2002, 519-520) for more literature on relative advantages of these two.

[2] §91.6 of the Law stipulates that *i) the main runner of a changed project should belong to the government, institutes of the local governments, or government-invested companies, and ii) the new project should be included in the four categories listed in §4.1 to §4.4 of the Law*. The interpretation of the word 'main' has in practice been never clear. Also, the four extensive categories from §4.1 to §4.4 include around 50 still broad sub-categories of public-interest projects. (In fact, in this Law there are three much more broad categories listed from §4.5 to §4.7 as the additional bases eligible for initial government takings.) Even from the early 1980s,

Prior to 1981, a government agency wishing to pursue other projects after initial taking, being tightly constrained by agency's legal obligations associated with landowners' RR (i.e., §91.1 and §91.2 to be elaborated in Section IV.1), had been forced to go through a negotiation with landowners, or to initiate the whole taking procedure again. Owing to this new overriding clause, however, the agency is now allowed to freely exercise CIU. Although a group of landowners later challenged this 1981 clause, the Constitutional Court in Korea held in 1996 (96_C.C._BA94, 631) that it is constitutional considering the legislative purpose and the two accompanying eligibility conditions mentioned above.

Utilizing some post-taking data after the 1981 legislation, therefore, Section IV empirically investigates the existence of government's opportunism, defined as "its *systematic* intention to change the public project into a more *inappropriate* one under the completely overridden RR regime." In particular, we will endeavor, through a two-stage estimation method, to highlight this *systematicness*. Otherwise, the government would downplay such an inappropriate change merely as accidental or anecdotal at the most, since the specific (policy) change itself is usually "unprecedented or only sporadic" (Kim and Kim 2005, 340).

Our estimation is not designed to offer a direct proof of the efficiency implications of RR discussed in Section III. Given the unavailability of such an ideal and comprehensive empirical data, however, the result in Section IV substantiating the anecdotal evidence is believed to shed critical insights to a host of countries concerned with creating an efficient institutional organization of eminent domain. Section V concludes the discussion.

Ⅱ. Taking and the Repurchase Right: Literature and Institutional Survey

1. Existing Literature on Eminent Domain

such wide-ranging scopes of 'public entity' and 'public-interest' naturally were expected by several critics to provide much leeway for an abuse of government's discretionary power.

Taking procedures in the law and economic literature follow <Figure 1>. The vast majority of the taking literature in the literature is concerned with Procedure [1], from (formal or informal) 'provisional taking announcement (τ_0)' to 'final taking and compensation (τ_1).' Researchers, starting from the issue of what constitutes 'a property taking,' have highlighted the main necessary conditions for the taking power, as constraints on the part of government, such as 'public (interest) use'[3] and 'prohibitive transaction costs (or the holdout problem).'[4] The literature also discusses with rigor the economic meaning of just compensation as another constraint to government's 'fiscal illusion.'[5] On the other hand, the literature, usually with the assumption of an exogenous taking probability P, critically takes on another efficiency feature of just compensation to deter overinvestment during Procedure [1] (i.e., as a deterrent to landowner's opportunism).[6]

Procedure [2] indicates the final decision at τ_1 to withdraw the preliminarily announced taking plan. The literature usually assumes that the announced plan can be cancelled due to some random force.[7] Since this withdrawal-triggering factor is explicitly or implicitly assumed to be random, no further academic attention has been paid to Procedure [2]. However, Kanner (1973) quite persuasively illuminates that analyzing this procedure has important implications for fairness and efficiency.[8] Cho and Kim (2002) also take on an

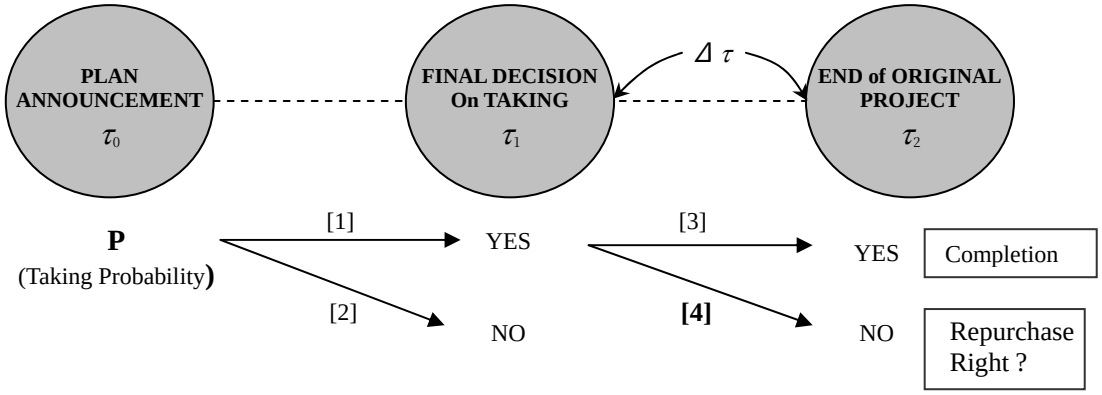
[3] Their representative examples among numerous others include Michelman (1967), Paul (1988), Munch (1976), Epstein (1985; 1993), Fischel (1995), Jones (2000), Ponser (2003).
[4] See, for example, Munch (1976), Burrows (1991), Cohen (1991), Ulen (2002), Ponser (2003), Benson (2005).
[5] The fiscal illusion hypothesis maintains that an under-compensation (including zero-compensation) scheme is allocatively inefficient because it causes a fiscal illusion to the government, resulting in excessive takings. This claim was early raised by Michelman (1967) and De Alessi (1969). Since one paper by Blume, Rubinfeld, and Shapiro released in 1984 (especially their proposition on the efficiency of a zero-compensation scheme in p. 78), several academics, including Epstein (1985), Fischel and Shapiro (1988), and Esposto (1996) to name a few, have joined one another in continuously bringing this fiscal-illusion claim anew.
[6] Their representative examples include Blume and Rubinfeld (1984), Cooter (1985), Miceli and Segerson (1994), Ghosh (1997), Innes (1997).
[7] For example, a provisional announcement to condemn, within certain designated years, a huge area for constructing a hydroelectric power dam can be later replaced by a nuclear power plant at a different location with the sudden advent of new technologies.
[8] Kanner (1973, 765) identifies the goal of his study as analyzing the "*legal problems that arise from such condemnation or planning blight resulting from the government activities which precede the actual acquisition of the affected land, or herald an acquisition which does not materialize [at τ_1].*" *[]* added. In fact, he termed Procedure [2] in our <Figure 1> as the "*muddled area of eminent domain law*" in the US.

implication associated with Procedure [2]. In highlighting an endogenous nature of the taking probability (P in <Figure 1>) and pervasive announcement effects of a taking plan, Cho and Kim (2002, 344) find that "*[V]arying categories of government regulations after a taking announcement [at* τ_0*] make the residents burden uncompensated costs, even after the cancellation of the announced taking [at* τ_1*].*" *[]* added.

To the authors' knowledge, Procedure [3] in <Figure 1> has simply been taken for granted: the literature just assumes that a construction project specified at the time of final taking, τ_1, will be automatically completed with the passage of some required time (at τ_2). Thus, extant research stops at τ_1, without examining any ensuing period. Nevertheless, we highly suspect that this does not hold in many taking cases as a matter of fact, thus making the assumption underlying [3] rather sophomoric.

This paper deals with Procedure [4], which we believe is another murky but significantly important area of the eminent domain law not yet fully explored. Various contingencies take place after τ_1 other than completion of the intended construction project. As one example, the original construction may be cancelled outright. As another example, an alternative public construction project might be launched (i.e., CIU). Under both contingencies at τ_2, therefore, landowners are supposed in principle to exercise RR. However, as will be seen later, things will be much more complicated in CIU cases. Perhaps this paper will be the first exploratory attempt to probe into economic issues at τ_2 concerning CIU and RR.

<Figure 1> The Traditional Sequence of Taking Procedure



2. International Comparison of Laws Regarding 'Change in Use' after Taking

This subsection briefly surveys, for four countries, the legal institutions governing 'change in use (CIU)' after τ_1 in <Figure 1>, thus necessarily associated with the degree by which to protect landowner's RR. The respective basic statute of each country is as follows: Land Taking Law in Japan, Baugesetzbuch (or BauGB meaning Federal Building Code) in Germany, General Condemnation Procedure Act in the State of Oregon of the US,[9] and Land Taking and Compensation Law for Korea (KLTC *hereafter*). There are a few noticeable differences among these countries.

The first difference observed is the timespan during which landowners can invoke their RR. In cases of cancellation of the original public project after τ_1, in Japan (§106) and Korea (§91.1) RR can be invoked for 20 and 10 years maximum, respectively. In Oregon, the duration is usually specified within the taking agreement or judgement made at τ_1; otherwise, it is 10 years (§35.385(1)(a) and §35.385(2)(a)). The duration for invoking RR is specified in the 'enteignungsantrag statt (meaning application for expropriation)' also in Germany (§102.1.1 and §113.2.3). (Also, despite some very minor differences, the repurchase price is approximately equal to the initial compensation paid before by the condemner in the four countries.)

[9] For the US, we have intentionally chosen the State of Oregon just for illustrative purposes; it appears to be located somehow in the middle of the spectrum indicating the degree of protecting RR in <Figure 2> to be explained later. Please refer to <Referee's Appendix A> for a graphic illustration of the discussions in this subsection.

More importantly, there exist substantial differences in the degree to which CIU can be allowed. First of all, (upon deleting the old §66.3) Japan does not permit it at all, protecting RR of landowners unconditionally. Normally, RR is upheld in Germany, but with an exceptional situation for permitting change in use.[10] In Japan and Germany, therefore in principle, the government agency is forced to negotiate with landowners to keep the land, or to re-take it for CIU. In this context, as explained in the Introduction, RR belongs to the 'property rule' for landowners à la Calabresi and Melamed (1972).

The State of Oregon in the United States potentially allows CIU, but only through a fairly active scrutiny of a third party, the court. According to §35.395 and §35.410 of the Act, the government agency wishing to launch a different project is bound to negotiate closely with landowners, basically reflecting the spirit underlying RR. If the negotiation does not come out well, both parties go through hearings in either the circuit court or the court previously responsible for the taking at τ_1. The court makes the final decision; if the new project is found to be inappropriate, the court orders the land to be returned to landowners.

On the contrary, as explained in the Introduction, the 1981 allowing-CIU clause gave the Korean government agencies huge discretionary power in changing projects within 10 years after τ_1.[11] The legislation effectively invalidates RR as far as CIU is concerned. Although §91.6 of KLTC stipulated the two eligibility restrictions as explained in the Introduction, their legal languages are hardly clear, and as will be seen later, their enforcement is consequently far from easy. Furthermore, the forementioned 1996 majority opinion at the Korean Constitutional Court upheld the constitutionality of the 1981 legislation as it would help to 'enhance promptness of undertaking public projects.' The decision was absolutely based on

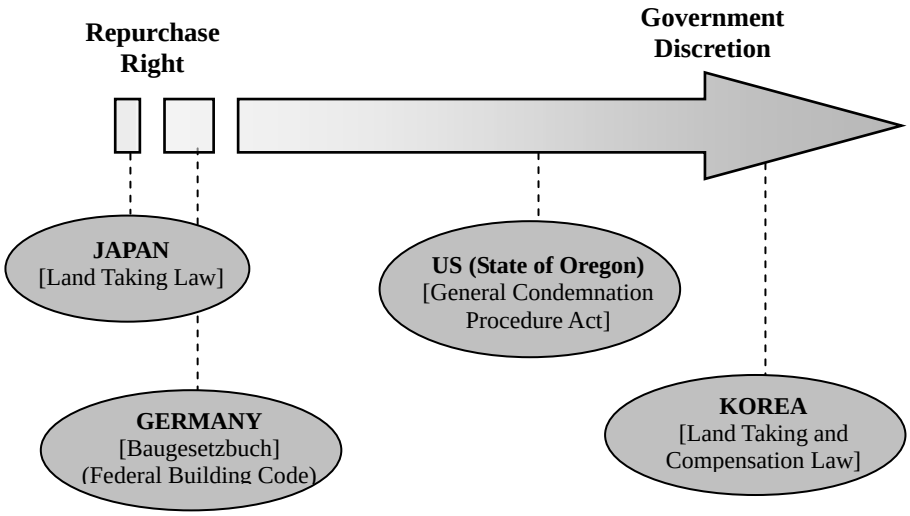
[10] In Germany there is a possibility of overriding RR only if a 'different' agency is on the way for taking to start a new project on the same land taken at τ_1. But, even in this case, the landowner can still obtain his RR if it is proven that he can perform a reasonable use of the repurchased land within some time period (§102.2.2). These decisions are made by Enteignungsbehörde (meaning the Expropriation Agency) and, upon appeal, at the court in jurisdiction.

[11] Although the agency was required to inform the landowners of CIU, unlike Oregon and Germany, there were no immediate appeal process built into the system. Thus, seeking legal remedies only in a separate way (i.e., by newly filing civil or administrative suits sometimes even after completion of CIU) in Korea would most probably mean a decrease in landowner's expected net benefit of filing a lawsuit. Hence, inferring from the economics of litigation literature, the incentive to file suits must have been greatly discouraged on the part of landowners.

the presumption that the allowing-CIU policy would save a great deal of various administrative costs, including the time cost, by avoiding a whole re-taking procedure for a new project at τ_2. (The legitimacy of this presumption will be discussed later.)

In summary, the distribution of the degree with respect to protecting landowners' RR (or equally to allowing government discretion) turns out to be significantly diverse. To demonstrate, in <Figure 2> we have placed the four countries along the single spectrum indicating the degree, based on our brief qualitative judgements so far. This diversity naturally would offer a superb research opportunity. We now turn to a simple theoretic account of efficiency implications underlying these differing institutions.

<Figure 2> Change in Use: Repurchase Right vs. Government Discretion



Ⅲ. Change in Use after Taking and Efficiency of the Repurchase Right

1. Deterring Inefficient Incentives to Gain from Land Price Increases

Let $\mathbb{C}$ indicate a contingency at τ_2 under which the original public construction project on the land taken is '**c**hanged' somehow into some other utilization. Also, let $\mathbb{R}$ indicate another contingency under which there has been a '**r**ise' in the price of the land up to τ_2. If contingencies $\mathbb{C}$ and $\mathbb{R}$ then take place simultaneously, to whom should the benefit from the

land price increase belong, the initial landowner or the government agency? Note that RR allows the former to possess the benefit, while the opposite institution the latter.

Considering the nature of 'coerced sale' upon government's taking at τ_1, one might readily argue that the benefit should go to the landowner, as long as the original project for the taking has been officially vitiated. This argument can be reinforced by the allegation underlying Burrows (1991) that, in practice, the so called just compensation for taking frequently falls short of the landowner's reservation price.[12] This is an argument virtually from the fairness ground.[13] However, we can further probe into (dynamic) efficiency implications of this institutional choice.

A Coasian scrutiny (1960) seems to be penetrating here again. Without transaction costs, law governing matters at τ_2 would not matter in terms of efficiency. As will be seen below, the 'high transaction cost' at τ_2 associated with $\mathbb{C}$ and $\mathbb{R}$, which violates the critical condition in the Coase Theorem, stems inherently from the eminent domain power (or prerogative) already institutionalized to the government at τ_1. Below we will submit: Any allocation of rights to disproportionately favor the government at τ_2 (such as the allowing-CIU clause in Korea) is likely to cause severe inefficiency, which is due mainly to the 'highly interrelated nature' of the government's right at τ_1 *and* that at τ_2. Therefore, as the famous Coase proposition dictates, the law at τ_2 will "*control the economy.*"[14] Obviously, we will also claim that the forementioned 'highly interrelated nature' is a pivotal source of high transaction costs at τ_2.

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[12] This is called 'under-valuation bias' in calculating compensation for taking at τ_1. See Benson (2005, 181-185) for details regarding the systematic under-valuation bias under eminent domain.

[13] After all, "*The man confronted with the loss of the economic end product of a lifetime will more often than not become quite tractable vis-à-vis the government that wields such power over him*" (Kanner, 1973, 806). Also, this argument in the text must be consistent with the dissenting opinion for the forementioned 1996 case at the Korean Constitutional Court: "*The 1981 legislation is unconstitutional because, by applying the clause repeatedly, the government will effectively infringe upon the constitutional principle of protecting private property through depluming the repurchase right of landowners permanently*." (Justice S. Cho, Dissenting, 96_C.C._BA94)

[14] "*Law came into the [1960] article because, in a regime of positive transaction costs, the character of the law becomes one of the main factors determining the performance of the economy. .... As a consequence the rights which individuals possess will commonly those established by the law, which in these circumstances can be said to* ***control the economy***." (Coase 1993, 250-251) *[ ]* and bold added.

In this regard, it appears to be efficiency-enhancing to institutionalize RR at τ_2 so that the government agency should not be allowed to capture freely the benefit from the land price increase. On the contrary, legal institutions bestowing such benefit on the government agencies will cause inefficiency of at least two types.

The first type is the possibility of excessive taking *around* τ_1 in <Figure 1>. If RR is completely set aside by law, agencies might rush in land taking (*not* market transaction) in seeking foreseeable profits from land price rises. With this speculative expectation for land systematically added on, the net social benefit from the government's particular land-dependent project itself could well be lower than those from its other-type projects *at the margin*. It is in this sense that socially inefficient taking takes place, somewhat similar to what has been implied by the fiscal illusion hypothesis introduced in Section II.1.

The second type of inefficiency can take place *after* τ_1, too. Note first that the government agency occasionally possesses a nontrivial level of discretionary power to affect the contingency $\mathbb{C}$ defined above. If the land price has risen significantly ($\mathbb{R}$), in the absence of RR, the agency would have an incentive to switch from the original public-interest project to others merely to realize better the land price profits, including sale of the land to a third party. This possibility will hold stronger for certain local governments under budget constraints or many government-invested companies with the profit-seeking motive.

The upshot here again is that concerns with land values would dominate those with the efficiency of the public project *per se*. For example, the land, on which a facility of public-good nature was announced to be built, could be used at τ_2 instead for a less public-good type office complex to be leased to private enterprises as well with lucrative rents. This being the case, the overall 'efficiency spirit' underlying the eminent domain power (Posner 2003, 54-59) is totally undermined. Note that these inefficiencies can be significantly contained through institutionalizing RR because, in the presence of $\mathbb{C}$ and $\mathbb{R}$, the landowner

will then certainly repurchase the land. Being unable to realize windfall profits through CIU, the government will be faithful to the original public-interest project.

In summary, RR can play an efficiency-enhancing role for the entire taking procedure; it deters the incentive of excessive taking at τ_1 and opportunistic project changes *ex post* at τ_2. From a dynamic point of view, furthermore, we posit that there exist more perverse incentives naturally built in *ex ante*. In the complete absence of RR, other inefficiencies will certainly arise due to 'rent-seeking' and 'rent-avoiding' costs representatively à la Tullock (1967) associated with such land speculation and windfall profits.[15] In fact, the discussion thus far might be critical for the countries such as Korea where nation-wide land prices 'on average' have been continuously soaring. Michelman detected four decades ago that there exists a peculiarity in the 'takings risk' in contrast to natural disasters such as flood or drought; it can sometimes be nothing more than the "*majoritarian exploitation*" in the political arena (Michelman 1967, 1217). The more capable government's ability to speculate on land price soaring ($\mathbb{R}$), the more pervasive these inefficient incentives will become. Accordingly, the 'majoritarian exploitation' will also become more intense.

An important insight derived from this scrutiny is that this efficiency distortion is due mainly to the 'highly interrelated nature' of government's rights between τ_1 and τ_2. Thus, when we probe into optimal right allocation at τ_2 following the Coasian insight, it is imperative to simultaneously take into account the predetermined right allocation (i.e., the prerogative of the government) at τ_1 as an 'inseparable bundle.' We now turn to another perhaps more essential efficiency-warranting function of RR.

2. Warranting the 'Public Interest' Condition for Changed Projects

It is well established in the literature in <Figure 1>, representatively Epstein (1985,

[15] For the representative literature regarding rent-seeking in the context of eminent domain, refer to Cho and Kim (2002, 335).

161-181), that the main objective underlying the 'public use' condition is to prohibit 'private transfer of wealth.' The most serious problem with private transfer through eminent domain is inefficiency in resource allocation (Cooter and Ulen 2004, 175): that is, without the public use condition a land would frequently be allocated to a lower valued use by government coercion. In a more dynamic sense, if private transfer were allowed in taking, there would be tremendous costs (or inefficiency), ranging widely from 'rent-seeking activities' by special interest groups to the 'exit option' by landowners, the potential condemnees. The ability to keep such abuses of taking in check, therefore, is the cornerstone in carrying out successful functioning of the eminent domain clause.[16]

Nevertheless, practically it is not easy to warrant public use at τ_1. Yet, it appears to be an even harder task at τ_2, including verifications regarding how authentic or random the contingency ($\mathbb{C}$) has been, and how socially efficient the alternative project will be. As an extreme example, the government agency may announce a perfectly public-good type project at τ_1, and subsequently at τ_2, with a substantial discretionary power to affect the contingency $\mathbb{C}$, may change it into an unscrupulous one characterized as nothing but private transfer. Thus, a filtering function at τ_2 is essential.

Which institution will perform such a function? For example, in Korea by the 1981 legislation, the same taking agency is virtually in charge of such a task. Is it going to be an appropriate institution? We suspect not. In the worst case it might be like setting the wolf to

[16] As a matter of fact, eminent domain abuses characterized by mere private transfer seem superfluous in many countries. Epstein (1993, 4) describes it concisely: "*[I]t is little better than the thief who attempts to convey good title to a third person.*" For instance, the recent *Kelo vs. City of New London* case of the US Supreme Court (125 S. Ct. 2655 [2005]) has come to the fore of public attention. In the dissenting opinion in the *Kelo* case, Justice Sandra Day O'Connor criticized that the majority decision eliminates "*any distinction between private and public use of property—and thereby effectively [deletes] the words 'for public use' from the Takings Clause of the Fifth Amendment.*" Judge Richard Posner was also highly suspicious of the majority decision, pointing out among other aspects that "*[T]he Court, however, did not discuss whether there was a holdout problem*" ("The *Kelo* Case, Public Use, and Eminent Domain," The Becker-Posner Blog, June 26, 2005, http://www.becker-posner-blog.com). Kenneth Harney in a Washington Post article (July 2, 2005, http://www.washingtonpost.com) plainly lamented: "*The majority of justices on the current Court appear to be saying that 'public purposes' may be discernible in a wide variety of private projects.*" For other similar controversial cases in the US, see also Berliner (2002; 2003).

guard the sheep especially because a perfect monitoring of the two eligibility conditions in §91.6 of KLTC is in reality barely plausible. On the other hand, it might be prohibitively costly to hire competent and neutral watchdogs to expose government's deviant activities at such innumerable taking locations throughout the nation annually. We contend instead that institutionalizing RR at τ_2 is in all likelihood a very cost-effective device to warrant the public interest condition for the changed project.

In Section III.1, RR, by forcing the profit from land price increases *not* to be possessed by government agencies, was portrayed to deter the incentive of excessive taking at τ_1 and opportunistic project changes *ex post* at τ_2. On second thought, however, there exist other methods to perform this same function such as legally obliging the government agency to pay windfall profits to the Treasury, for example. Interesting enough, RR has another efficiency implication in addition to those discussed in the previous subsection.

Under RR, the landowners after taking (τ_1) have a strong incentive to monitor what will happen. This incentive is natural because, if the land price has risen with the occurrence of $\mathbb{C}$, they can capture the surplus.[17] Indeed, their incentive to monitor will be fairly strong. This is because, under the RR regime, the agency with CIU must start the taking procedure all over again as in Japan, or under court's active guidance go through immediate bargaining with the previous landowners as in the State of Oregon. In either case, the less sufficiently the public use criterion is met, the more bargaining leverage will be vested in landowners with respect to the re-taking possibility and the compensation level. Knowing this, the agency must be more prudent in pursuing the new project *ceteris paribus*.

[17] Upon reading an earlier version of this paper, a commentator posited that "*the government and the landowner will bargain about the appropriate division of this surplus*," with which we completely agree. Even in a country like Japan where RR is absolutely protected, they will certainly bargain in reality. Of course, the actual average of the division ratio can be obtained only from empirical investigation. Nevertheless, to the extent that RR does play efficiency-warranting roles asserted in the text, we cautiously submit that the law itself needs to be generous to the landowners at least in terms of division of the surplus. For example, a large-scale land taking coupled with a very high rate of land price increase can still involve a huge sum of windfall profits to the government even with the division ratio equal to 0.5 (i.e., the Nash solution). That being the case, various sorts of perverse

If the new project is justified by the public use criteria, even under RR the agency has to pay only the difference in the land values in the market, which is not supposed to affect efficiency. The process will have to be governed by the existing literature already introduced concerning Procedure [1] in <Figure 1> from τ_0 to τ_1. Therefore, RR should be an effective device to warrant the legitimacy of CIU by providing the landowners with incentive compatibility to voluntarily become civilian watchdogs.[18]

As mentioned earlier, implementing RR at τ_2 is equivalent to the 'property rule (injunction)' among the three popular methods to protect an entitlement in Calabresi and Melamed (1972). Shavell (1993, 283-284), particularly focusing on injunction and damages, establishes a proposition regarding the relative advantage of the injunction in terms of law enforcement efficiency: "*Why is the injunction a privately employed device to prevent undesirable behavior .... [T]he injunction is used where* ***private parties*** *themselves become aware of* ***dangers****. .... And giving private parties* ***the legal right*** *to prevent the harm that they themselves would suffer provides them with an incentive to* ***supply information****.*" (bold added). Matching the 'private parties' above with 'landowners,' 'dangers' with 'inappropriate project changes at τ_2,' 'the legal right' with 'RR,' and 'supply information' with 'active monitoring and appealing,' respectively, our portraying RR as a cost-effective watchdog against inappropriate CIU should be fairly consistent with Shavell's proposition.

In summary, earlier we claimed that, for an efficient right allocation at τ_2, it is necessary to bear in mind 'as a bundle' the given right allocation at τ_1. We now come to the proposition in completing Section III that, given the ineluctable use of the liability rule at τ_1 due to the holdout problem, employing the property rule (at least to a certain extent) at τ_2 is certainly to have unequivocal efficiency implications.

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incentives laid out in Section III.1 can still occur, such as excessive takings and rent-seeking.

[18] Perhaps under RR, there might exist a possibility of collusion at τ_2 between the government seeking an inappropriate project and the landowners knowing this through active monitoring. However, since the former would then have to offer enough premium (bribe) to induce the latter to voluntarily give up their RR, the bargaining process would actually become very similar to a market transaction rather than an inefficient collusion. Apparently, this possibility of collusion will decline as the number of landowners increases, however.

One last remark is in order. It is the 1996 majority opinion of the Korean Constitutional Court that, with some proper requirements, the allowing-CIU clause nullifying landowners' RR would save greatly administrative costs. We agree with this opinion, assuming a static and myopic perspective focusing only on specific incidents at τ_2. However, this presumption of the Constitutional Court does not necessarily hold, if one deliberates on the true administrative cost in a broader and dynamic sense; it occurs through the entire procedure of taking from τ_0 to τ_2 in <Figure 1>.

In the absence of RR, government agencies might put less precautionary effort on evaluating a prospective public project around τ_0, subsequently causing more projects cancelations and changes at τ_2: initial projects can be altered virtually anytime under the 1981 legislation. If the agency already built something after τ_1, it usually becomes nonsalvageable when the original project is altered. This sunk cost certainly constitutes the administrative cost. Although the relevant numbers are unavailable at this moment,[19] we expect this part of the administrative cost to be nontrivial, too. Hence, we contend that the cost-saving merit of nullifying RR merely in terms of the administrative cost clearly should not be so significant as claimed, let alone the forementioned sources of inefficiency pointed out in this section, that is, excessive takings, value-decreasing changes in use, rent-seeking for private transfers, etc.

[19] Our very early endeavors to attain the statistics regarding the frequencies of CIU 'before and after' the 1981 legislation were doomed to failure, since no government agency kept such records. Yet, we took note of that fact that every public project, whether through initial taking or through the allowing-CIU clause, is required to be officially announced on the *Administrative Gazettes* (of the central government, provinces, cities, etc.). However, there was no indication in the *Gazettes*, regarding whether a specific project is due to the allowing-CIU clause or not. We thus developed a computer program to construct a complete database. Starting from recent years backward, we attempted, for every taking incident, to trace back the ownership history of the associated land to see if the taking was in fact a CIU based on the 1981 clause: For example, if the land for the current project was already being owned by the government, *and* if it had been condemned from civilians less than 10 years ago, the current project on the *Gazette* would belong to the set of CIU based on the 1981 clause. Unfortunately, we later encountered several unexpected and insurmountable obstacles. An example was that the administrative codes of basic land units in Korea had frequently been changed especially after a large-scale land development through taking, which made it infeasible to track back its history. Accordingly, as an alternative, we were steered but into turning to court cases data to be explained in the next section.

Ⅳ. A Preliminary Empirical Examination

1. Existence of Government's Opportunism after Taking

1) The Testable Hypothesis by a Two-Stage Method

It would certainly be ideal in presenting the discussion of Section III completely, if we could design an empirical method by which to directly prove the various efficiency (or social cost) implications of the repurchase right (RR). However, such ideal testing appears to be infeasible in the foreseeable future due to severe data restrictions. Hence, this section deals instead with an empirical verification of *government's opportunism* after τ_1 'upon nullification' of RR, since the 1981 legislation of Korea allows such a task. Consequently, the estimation result in this section should be understood as partial, not complete, confirmation of Section III.

Following the major tenet of Section III, "government's opportunism after τ_1" is defined as "its *systematic* intention to change the public project into a more *inappropriate* one." The word *systematic* has a connotation that occurrence of contingency $\mathbb{C}$ at τ_2 can be somewhat endogenous. Note, however, that actually finding a specific change of obvious *inappropriateness*, no matter how one might define it, does not necessarily prove the *systematicness*. The government would either claim that the case was completely 'accidental,' or disregard it as mere 'anecdotal evidence.' After all, it is due to the inherent difficulty of "*disentangling economic [i.e., public interest] and political [i.e., opportunistic] influences usually concerning an unprecedented policy change [i.e., a specific inappropriate CIU at* τ_2*]*" (Crone and Tschirhart 1988, 406, *[]* added).

We attempt to overcome this inherent difficulty using a simple two-stage method. In the first stage, following the existing literature, we will identify multi-dimensional proxies, representing 'inappropriateness' of project changes occurring after τ_1. Given that there is scarcely any relevant empirical research, the task in this first stage will necessarily suffer from our subjectivity. As such, we willingly regard our work as *experimental*.

Again, identifying some very unscrupulous cases alone would not suffice to prove a government's 'opportunism.' During our long scrutiny to prove its *existence*, however, two skeleton clauses in the forementioned KLTC, which have stipulated RR in Korea for long time, caught our attention. They are §91.2 and §91.1, stating that RR comes into force if the land taken has not been used at all for 5 years, or if it has been only partly used for the originally intended project for 10 years, respectively. Prior to 1981, therefore, by law there *were* other possibilities when RR could be exercised: RR was available if the government began (or completed) the original project and subsequently tore down the structures built so far so as to do something else within 10 years from τ_1.

However, with the introduction of the legislation in 1981, the government is now able to start a new project over the first 5 years without even starting the original project after τ_1, and over the next 5 years with only part of the original project launched or with the original project completed.

Define $\Delta\tau$ to be the difference between τ_2 and τ_1 as in <Figure 1>. In the second stage of our empirical work, we attempt to test the main hypothesis: If 'government's opportunism after τ_1' *exists*, "$\Delta\tau$ will be shorter the more inappropriate the changed project is *ceteris paribus*." Our intuitive reasoning underlying this hypothesis of "*inappropriateness* $\Uparrow \rightarrow \Delta\tau \Downarrow$" (i.e., our empirical substantiation regarding 'existence of the government's opportunism') is three-fold:

[1] The final beneficiaries of the inappropriate project (e.g., agency, bureaucrats, politicians, private interest groups) will have incentives to rush into the new project due to (+) discount rates: the longer $\Delta\tau$, the smaller their present values of benefits.

[2] If there is government's *systematic* intention already at τ_1 to change the project into an

inappropriate one later, it will try to carry out CIU within first 5 years. Otherwise, it has to start the original construction according to §91.2 above to prevent RR from being invoked. This investment will become obviously sunk to the government at τ_2.

[3] An additional disadvantage arises from launching the original construction to postpone the change to the post-fifth year period. Actual construction tends to draw more visible attention of potential beneficiaries of the original public-interest project such as public schools or parks. The agency will face a higher level of resistance from them. Just as the taking probability P in <Figure 1> has a political feature 'up to' τ_1 (Cho and Kim 2002, 338-340), so might the probability of $\mathbb{C}$ 'after' τ_1.

To the extent that the above three conjectures ([1], [2], and [3]) hold, we suspect that there is s*ystematically* (-) relationship between inappropriateness and $\Delta\tau$.[20] Now we turn to the first stage where we will construct proxies reflecting inappropriateness of project changes.

2) Proxies for *Inappropriateness* of Projects Changed at τ_2

(1) Deterioration in Public Interest (*PI*)

A dummy, *PI*, is defined to be one if public interest of the changed project is thought to be declined vis-à-vis the original project. It is well known, however, that substantiating public interest is hardly an easy task. We explore two options. The first option (PI_{LAW}) relies both on the allowing-CIU clause (§91.6 of KLTC) and the Constitutional Court's decision (96_C.C._BA94, 631), implying that PI_{LAW} = 1 if the new project does not belong to the categories from §4.1 to §4.4, but belongs to those of lower public interest stipulated in §4.5

[20] Nevertheless, we expect $\Delta\tau$ not to be too short. Landowners, who think they have been under-compensated, will most probably watch out the government's behavior. Even though the initial taking was intentionally made to mask its later change, the agency will wait for some time. Of course, one can observe the exact 'how long' only through actual data *ex post*.

to §4.7, or to none of those.[21] Following the main theme underlying Epstein (1985), the second option (PI_{PUB}) is to compare a public good nature before and after. Since land is involved, nonexclusivity (say, the number of beneficiaries) rather than nonrivalry would be the major criterion. PI_{PUB} = 1 if the changed project deteriorates in nonexclusivity (i.e., the common good).[22]

(2) Decline in the Transaction Costs Justification (*TC*)

High transaction costs are one necessary condition for eminent domain at τ_1. Thus, other things being constant, lower transaction costs surrounding the changed project at τ_2 can be interpreted as increased inappropriateness. Again, substantiating empirically this criterion has yet to be explored in the literature. We have chosen two experimental proxies.

The first is to simply compare the relative size of land required for the new construction project at τ_2. TC_{SMALL} = 1 if the land size has decreased.[23] Even when land size is relatively small, holdout problems sometimes break out, resulting in high transaction costs. In the literature, this phenomenon is explained by concepts such as 'bilateral monopoly' (Posner 2003, 55) or 'lack of land substitutability due to contiguousness' (Burrows 1991, 58). We design TC_{SUBST} to capture this concept; TC_{SUBST} = 1, if agencies appear to have had substitutable spots for the new project like building a local postal office, which is likely to indicate inappropriateness of CIU.[24]

[21] A typical example was the case of the Supreme Court (91_S.C._DA29927) where the original project to construct a large public park (belonging to §4.3) was changed to land development for an apartment complex (belonging to §4.5).

[22] For example, a Supreme Court case (92_S.C._DA50652) involved a new project to build a training facility for selected teachers from the original plan to construct public middle and high schools.

[23] Although there were all six different possibilities of land use at τ_2, a decrease in land size occurred in the following two: i) the small residual from the land taken at τ_1 is used after completion of the original project, ii) the small residual from the land taken at τ_1 is used additionally with another small piece(s) of neighboring land. For example, in a Supreme Court case (91_S.C._DA18306), the land was taken to build two public schools. However, only one school was built, and at τ_2 about 40% of the land taken was used for a changed project.

[24] However, when the level of contiguousness is considered high, TC_{SUBST} = 0. A typical example was the case of the Supreme Court (97_S.C._DA36835) where about one third of the land taken was used later for a short road construction which was an essential interval for another major road under construction.

(3) Switch in Agency Actually Running the Changed Project (*SWITCH*)

We speculate that the likelihood of inappropriateness increases when the actual runner of the new project is changed. For instance, as elaborated in Section III, if the land price has risen significantly, local government agencies under severe budget constraints may well be induced to make various switches in order to materialize earlier the land price profits, including outright sale of the land to a third party. Not all switches of actual runners of the new project would be necessarily inappropriate *a priori*. We thus set *SWITCH* = 1 if the switched project runner is private rather than a public entity.[25]

(4) Annual Rate of Land Price Increase (*RLPI*)

As another proxy, we include land price changes in order to take into account the government's likely inefficient incentives, upon nullification of RR, associated with windfall profits as discussed in Section III.1. Since price information for the exact piece of land taken in our data is publically unavailable, we calculate alternatively the average rate of annual price change from τ_1 to τ_2 in the elementary precinct to which the land piece in question belongs (*RLPI*).

To summarize, in the second stage of our empirics, the following equation <1> will be estimated to test the main hypothesis, based on our three conjectures (1, 2, and 3), that "*if government's opportunism after* τ_1 *'systematically' exists,* $\Delta\tau$ *will be shorter the more inappropriate the changed project is*." Without opportunism, $\Delta\tau$ would be distributed *randomly*, independently of proxies of inappropriateness.

[25] The agency switch in charge of public projects has in general been permitted since the Supreme Court's too generous an interpretation of the 1981 clause, expressed in one of its decision (93_S.C._DA11760). This is one of the examples representing our earlier claim in the text that "*legal languages in the allowing-CIU clause are barely clear-cut to enforce.*" As an example of *SWITCH*=1, a Supreme Court case (94_S.C._DA61441) involved a local government's taking to build a residential complex for those forced to leave their hometown to be submerged by a dam. About 3 years later, the local government permitted a private company to build a hotel

$$\Delta\tau_i = f\underset{(-)}{(PI_i,}\ \underset{(-)}{TC_i,}\ \underset{(-)}{SWITCH_i,}\ \underset{(-)}{RLPI_i,}\ \underset{(-)}{TREND_i}) + \varepsilon_i \qquad \text{<1>}$$

One more variable in <1>, *TREND*, is a linear line using the earliest τ_1 in the sample as a basis to see if there has been any trend effect on $\Delta\tau$ of the nullification of RR. The predicted sign of each proxy is indicated in parentheses. To the extent that estimation results show equation <1> with statistical significance, one will be able to repudiate government's casual excuses of 'accidental happenings' or 'being no more than anecdotal evidence.'[26]

2. The Data and Estimation Results

1) The Court Cases Data and Its Basic Descriptions

Although initially we planned to collect all CIU cases, as explained earlier in the last footnote of Section III, we faced several critical obstacles. As such, we were forced to turn alternatively to court cases. An extensive searching effort was made to collect CIU-related cases not only through privately provided CDs and various databases,[27] but also later through the Intra-Net Database of the Korean Court System.

The total number of observations turned out to be 25, which was slightly disappointing for the robustness of estimation. This resulted from the fact that these databases are built basically around the Supreme Court cases which traditionally the Korean judiciary has only willingly made publically available. Our sample was without exception: 18 were the Supreme Court cases. Nonetheless, considering an extremely small proportion of cases filed is adjudicated at the Supreme Court, we suspect that there must have been at least more than hundreds of CIU cases filed since the introduction

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instead under the public-interest pretext of boosting tourism in the region.

[26] A few commentators of earlier versions of this paper kindly suggested inclusion of additional control variables (e.g., region, government agency type, or type of the τ_1 project) to raise the overall predictability of equation <1>. Our preliminary estimation did not reveal statistical significance. Although we drop these control variables in the next section due mainly to the degree of freedom consideration, it seems worthwhile to try others again in the future with a dataset with the sufficient number of observations.

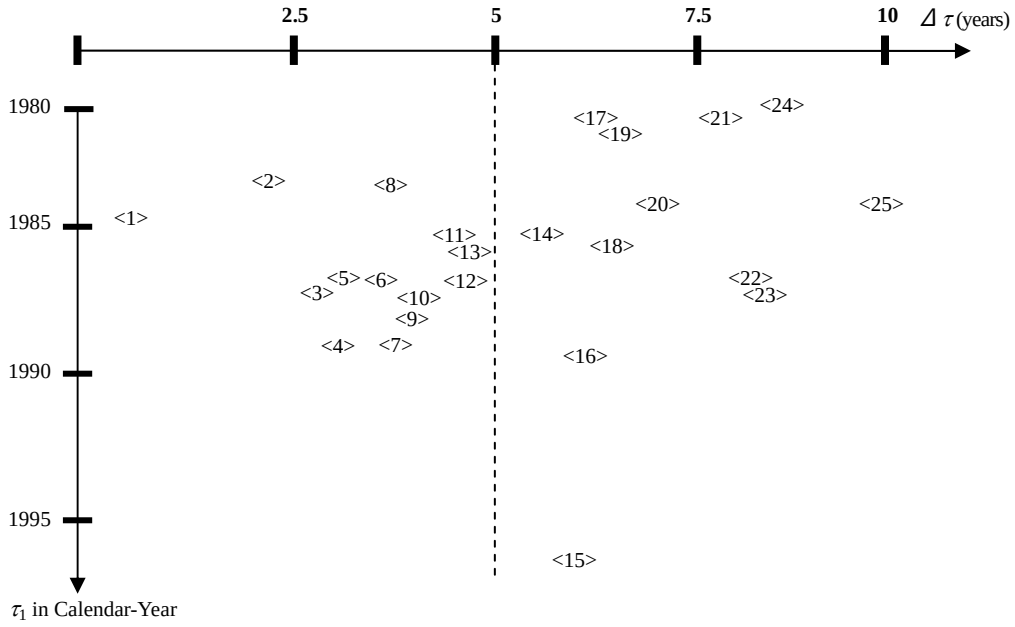
[27] These databases include the *Kingsfield*, http://glaw.scourt.go.kr, http://www.netlaw.co.kr, http://www. moleg.go.kr, and http://www.sol-law.net.

of the 1981 legislation, not to mention the numerous non-filed cases for various reasons.

As proxies of deterioration in public interest, PI_{LAW} = 1 for 12 cases, while PI_{PUB} = 1 for 13. Indicating a potential decline in the transaction costs justification, TC_{SMALL}= 1 in 14 cases and TC_{SUBST} = 1 for 12. The actual runner of the new project was switched to a private entity at τ_2 (*SWITCH* = 1) in 2 observations. The average of *RLPI* was fairly high, 18.4% per annum, with a maximum of 30.9%.

Finally, <Figure 3> displays the distribution of $\Delta\tau$, which has the mean of 62 months. A visual inspection reveals that CIU took place within 5 years (but mostly after 2 years) in about half of the sample. The median of $\Delta\tau$, indicated as observation <13> (56 months), is thus smaller than its mean. In addition, $\Delta\tau$ seems to be getting shorter in relatively recent years. One might be able to draw a linear fitting line clearly with a (+) slope among observations, despite observation <15> suspected somewhat as an outlier.

<Figure 3> Distributions of $\Delta\tau$ and Calendar-Year of τ_1



note) Number in < > indicates the ranking of $\Delta\tau$ in an ascending order.

2) Estimation Results

OLS estimation results of equation <1> are displayed from *EQ*1 to *EQ*4 in <Table 1>. Overall we recognize them to be preliminary mainly because of insufficient degrees of freedom. The $Adj.R^2$ arranges between 0.57 and 0.65, higher than expected, and no sigh of multicollinearity has been detected. As shown below, the results support our hypothesis of "*inappropriateness* $\Uparrow \rightarrow \Delta\tau \Downarrow$" constructed in Section IV.1.1).

PI_{LAW} has expected signs at the 5% significance level in *EQ*1 and *EQ*2, while PI_{PUB} only in *EQ*3 with a 10% p-value. Deterioration in public interest of the changed project at τ_2 compared with that at τ_1 seems to be correlated with shorter $\Delta\tau$. Both proxies representing a decline in the holdout justification for eminent domain, TC_{SMALL} and TC_{SUBST}, have (-) estimates, the former having slightly stronger significance. Hopefully, other ideal proxies of these variables will be designed by researchers before long in order to trigger in full force empirical work concerning eminent domain in general.[28]

SWITCH has expected (-) signs with the 5% significance levels in all four equations, apparently demonstrating that $\Delta\tau$ was shorter as the actual runner of the new project τ_2 was switched to a civilian entity. Moreover, estimates of *RLPI* very significantly show that faster increases in the price of the lands taken are shortening $\Delta\tau$. The discussion spelled out in Section III.1 could offer an explanation bearing on these statistical findings. Finally, *TREND* was highly significant with (-) estimates. According to *EQ*1, for instance, it can be 'roughly' said that *ceteris paribus* $\Delta\tau$ has been shortened by 5.8 months every year. Note that if CIU had been purely inevitable and unexpected as usually claimed by the government, the

[28] It was kindly suggested by a commentator that the transaction cost could be proxied by the number of landowners. Following the suggestion, we tried to collect the numbers at τ_1 and τ_2, respectively, since we believed that the ratio of the two might be used to indicate the 'inappropriateness' of the CIU in question. Although we were able to find the number for τ_1 for 21 cases through the related *Administrative Gazettes*, it was unavailable in most cases for τ_2, consequently preventing us from a further exploration.

distribution of $\Delta\tau$ would have been random across calendar year.[29]

<Table 1> Estimation Results: Government Opportunism

Variables		*EQ*1	*EQ*2	*EQ*3	*EQ*4
Constant		179.257*** (9.495)	170.330*** (9.074)	166.204*** (8.869)	160.764*** (8.683)
PI	PI_{LAW}	-22.448** (-2.702)	-16.892** (-2.133)		
	PI_{PUB}			-16.058* (-1.899)	-11.892 (-1.489)
TC	TC_{SMALL}	-23.544** (-2.597)		-18.572* (-1.994)	
	TC_{SUBST}		-18.034* (-2.063)		-14.771 (-1.660)
SWITCH		-32.505** (-2.480)	-33.252** (-2.389)	-35.452** (-2.527)	-35.542** (-2.437)
RLPI		-2.567*** (-4.785)	-2.604*** (-4.619)	-2.354*** (-4.045)	-2.433*** (-4.101)
TREND		-5.723*** (-4.885)	-5.396*** (-4.459)	-5.173*** (-4.247)	-4.984*** (-4.022)
$Adj.R^2$		0.654	0.617	0.597	0.574

note) t-values in parentless. *, **, and *** represent the 10%, 5%, and 1% significant level, respectively.

Ⅴ. Conclusions

This paper started with the recognition that although the procedure after taking is highly important for completing the efficient law of eminent domain, it has hardly been analyzed in the existing literature. Specifically, we have focused on an essential institution, the repurchase

[29] Apart from the insufficient number of observations, the overall empirical results in the text again should be understood as an interim finding, additionally because of the court cases data used. Not being the random sampling of the ℂ population, we are aware that court cases can have embedded sources of selection bias. For example, one commentator on an earlier version of this paper keenly raised such a possibility; "if project changes with 'less public interest' and with 'shorter $\Delta\tau$' tend to be more frequently 'litigated,' the coefficient estimate of *PI* can be (-) without in fact any systematic relationship between $\Delta\tau$ and *PI*." Even though we were able to overcome this particular suspicion about a spurious correlation by pointing out to him that in our data the mean of $\Delta\tau$ was longer than 5 years with the maximum of almost 10 years, we confess that empirical work with more random sampling in the future will be necessary to minimize potential selection bias from other sources.

right (RR), associated with the post-taking contingency in which alternative public construction project should be launched, i.e., 'change in land use.' By RR, landowners are entitled to the option to buy back part or all of the land taken.

We first verified varying degrees in protecting RR across four countries. A simple theoretic account was thus taken regarding its efficiency implications, with the firm belief that in the non-Coasian world due to high transaction costs there exists an "*institutional ordering in efficiency increase*" (Kim 2002, 525). It is in this context that, we found, one should inquire into optimal allocation of rights 'after' taking, *conditional upon* other critically interrelated right allocations (i.e., the liability rule inevitably institutionalized due to the holdout problem 'upon' taking). Following these propositions, we came to a conclusion that employing RR (i.e., the property rule) for change in use would in general enhance both substantive and procedural efficiency through, for example, deterring government's inefficient private transfers.

Subsequently, an empirical attempt was made in order to reflect the above conjecture to a certain extent. Owing to the unavailability of a method proving the overall efficiency of RR, we instead sought an empirical verification of "government's opportunism after taking without RR," which is defined as "its *systematic* intention to change the public project into a more *inappropriate* one"; the 1981 RR-nullifying clause of Korea provided an intriguing research opportunity to perform such a task. Our own two-stage method, in spite of its experimental nature, allowed us to confirm the *existence* of such opportunism.

Optimal designing of institutions requires that each law consist of contents designed to deal with the targeted problem most effectively. In the case of the law governing the post-taking procedure, institutionalizing landowners' RR appears to be the driving vehicle. It could be very effective in containing in proper check the government's substantial discretion originating from the huge eminent domain power. Consequently, it will most probably

warrant dynamic efficiency over the entire procedure of taking. A good answer concerning how (much) a neutral third party (e.g., the court) should intervene to lubricate bargaining in these repurchasing/re-taking processes "*has to come from a detailed investigation of the actual results of handling the problem in different ways*" (Coase 1960, 19). A representative example of the 'different ways' would be more rigorous and extensive international comparisons than has been carried out in this paper.

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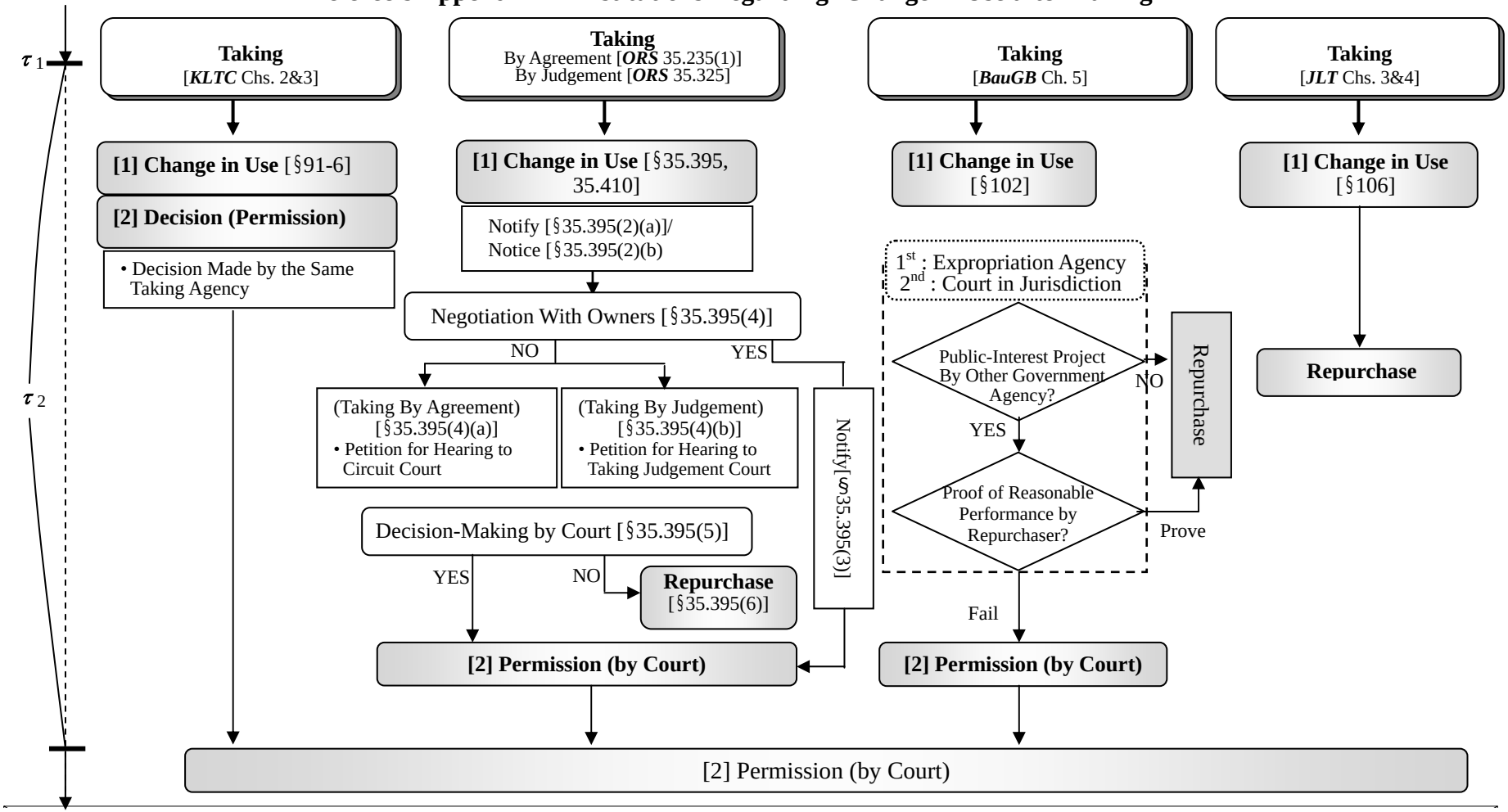
<Referee's Appendix A> Institutions Regarding 'Change in Use after Taking'



<Relevant Laws> **Korea:** Land Taking and Compensation Law (***KLTC***), **US (State of Oregon)**: General Condemnation Procedure Act (***ORS***),
Germany: Baugesetzbuch (***BauGB***), **Japan:** Land Taking Law (***JLT***).