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PROPERTY RIGHTS
AND LAND POLICIES

Edited by Gregory K. Ingram and Yu-Hung Hong

Property Rights and Land Policies

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Gregory K. Ingram and Yu-Hung Hong

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PREFACE

Property rights are fundamental to the conceptualization and implementation of land policies. In the United States, the debate over public rights in private land was heightened by the Supreme Court's 2005 decision on the case of *Kelo v. City of New London*, 545 U.S. 469, affirming the legitimacy of government taking of private property for economic development. Not only did the ruling put the dispute on the front page of the newspapers, but it also motivated 39 states to pass laws restricting government exercise of eminent domain.¹ In developing countries, land titling has been viewed by some policy makers as a means to alleviate poverty. The idea, recently popularized by de Soto (2000), is that land tenure could unlock the entrepreneurship of poor people by allowing them to use their real estate assets as collateral to borrow investment capital.

To assess the impacts of these changing perceptions of private property on land use planning, property taxation, and urban development, the Lincoln Institute held a property rights workshop in February 2007 and a journalist conference in April to discuss the outlook of eminent domain in the United States. Building on these two events, the Institute's 2008 land policy conference brought together international scholars from different disciplines including economics, law, political science, and planning to exchange views and present papers on the relationships between property rights and land policies. The chapters and commentaries in this book summarize the conference participants' perspectives on the subject.

The essays discuss three issues. First, they explore the evolution of property rights institutions. A long-standing design principle for property rights institutions holds that unbundling the different elements of property rights and repackaging them according to varied circumstances allows property relations to be structured in many ways. In the implementation and enforcement of a design, rules are constantly challenged and revised by interested parties as new economic, political, and social situations unfold.

Second, several essays examine the delicate balance between public and private rights in land. In addition to analyzing eminent domain in Brazil, Colombia, Mexico, and the United States, the essays investigate issues related to regulatory takings in selected Western countries. The discussion reveals the importance of empirical research on the actual use of eminent domain and the influence that different judicial systems have on the effectiveness of this government power. Transferable development rights and the symmetry between public takings and givings are also introduced as potential means to mediate controversies involved in takings compensation.

1. See the Web site of National Conference of State Legislatures at www.ncsl.org/programs/natres/EMINDOMAIN.htm.

Third, applications of the property rights approaches to poverty alleviation, land conservation, and provision of affordable housing are reviewed. Current experiences of land titling in developing countries seem to have positive impacts on property investments, but inconclusive effects on credit access by the poor. The pros and cons of using conservation easements to conserve natural resources and a comparison of inclusionary housing policy and the voucher program are presented in detail.

The volume contains a wealth of innovative ideas and cross-border studies. The contributors' willingness to share their research and comments and their efforts in revising their papers have made the publication of the book possible. The planning and production of the land policy conference and this publication have been facilitated by many people. We thank Diana Brubaker for her assistance in identifying the speakers and discussants for the conference and Brooke Digges, Mary Hanley, and Rie Sugihara for their careful attention to the logistical details of the meeting. Finally, we are indebted to our editorial and design team, including Nancy Benjamin, Sybil Sosin, Emily McKeigue, and Vern Associates for their expertise and professional help.

Gregory K. Ingram
Yu-Hung Hong

REFERENCE

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INTRODUCTION

1

Examining Land Policies from a Property Rights Perspective

Gregory K. Ingram and Yu-Hung Hong

A good understanding of how public and private property rights are conceptualized, applied, and balanced in different institutional environments is essential for making and analyzing sound land policy. To take stock of current research on this subject, the Lincoln Institute of Land Policy convened a group of international scholars in June to present and discuss their research on the nexus between property rights and land policies. Three themes emerged from the meeting. First, the linkages between the design principles for property rights institutions and the political and cultural history of a country were examined in China, Estonia, Russia, the United States, and Vietnam.¹ Second, participants discussed private property rights, the public interest, and compensation for eminent domain and regulatory takings in Brazil, Colombia, Mexico, the United States, and selected Western European countries. Third, participants debated the effectiveness and fairness of using varied property rights approaches to poverty reduction, environmental conservation, and the provision of affordable housing. Ideas exchanged at the conference are grouped within the three topics and presented in the chapters and commentaries in this book. This introductory chapter discusses the three themes. The next section highlights the connections between private property and institutions, which is the primary perspective of the book.²

1. *Institution* is defined as a set of rules that guides members of a society to select actions that are socially acceptable and that prohibits them from making undesirable decisions (North 1990).

2. See Eggertsson (1990) and Furubotn and Richter (2005) for detailed discussions of the literature on property rights institutions.

Each of the following three sections summarizes key messages of the chapters and commentaries related to each theme. The conclusion discusses ideas and findings drawn from these contributions.

Private Property Rights and Institutions ---

Private property is perceived as an essential institution for economic development and wealth generation in developed and developing economies. Private property rights guarantee an owner the exclusive right to use, develop, consume, sell, mortgage, transfer, and exchange possessions with other entities (Bentham 1978). This bundle of rights serves three key social and economic functions. First, private property prevents aggression. Clearly delineated and rigorously enforced private property rights protect owners from forced dispossession by the state or other parties (Blackstone 1979). Hence, they assure the individual liberty and security necessary to maintain peace within a community. Second, private property mediates the problem of intertemporal investment. It assures an investor that returns on today's investment in land or production can be retained in the future. Without the right to exclude others from reaping the potential rewards, there will be no incentive for a holder of resources to invest in long-term improvements. Third, private property facilitates division of labor. In a complex society where economic activities require coordination and cooperation among individuals with different talents and skills, private property allows wealth created by a person to be an exchangeable asset. Individuals can pool their assets and labor to take advantage of the efficiency gained from specialization, thereby generating greater riches than a single person could achieve alone (Smith 1776). With the assurance of peace on one hand and the promotion of mutual gains through voluntary exchanges on the other hand, private property has transformed primitive societies into highly sophisticated agricultural and industrial economies (North 1981, 1990; North and Thomas 1973).

These benefits of private property notwithstanding, the maintenance of this ownership system can be conflict-ridden. The key assumption of the above arguments for private ownership is that externalities generated from the individual ownership of property can be internalized at no cost. This assumption is often challenged in the case of land. Take a typical example of conflict associated with real property ownership. A factory owner wants to maximize profit by operating the facility at its full capacity. The increase in production will raise noise, congestion, and pollution levels, affecting neighboring property owners. If the factory owner can identify all appropriate negotiating parties, determine the amount of compensation, negotiate an agreement, and enforce the settlement at minimum transaction costs, the assignment of the responsibility to internalize the externality will have no welfare effect on the community (Coase 1960, 1988). For example, suppose the factory owner is liable for the damages and needs to compensate the residents for the harm that by-products of the manufacturing activity inflict on them. If negotiation costs are negligible, the parties will haggle until the total amount of

compensation equals the welfare loss of the residents. Alternatively, the property owners can pay the factory owner to curtail production to the level at which the marginal revenue forgone is equal to the marginal benefit of having less pollution in the neighborhood. However, where the transaction costs of bargaining are high, both scenarios seldom actualize (Coase 1960; Wallis and North 1986).

When negotiation in property rights disputes is costly, the scope of the bundle of rights and duties of private ownership matter. The control over the varied rights by different entities will shape the bargaining outcomes, thereby creating distributional and efficiency effects on the economy that are likely to be suboptimal (Samuelson 1966). In the design of property rights allocation, there are some key questions:

- Which of the full bundle of rights does an owner need in order to secure private property rights?
- How does the assignment of property rights differ in varied institutional settings? Are there any design principles?
- What are the wealth effects of different allocations of property rights?
- After rights are assigned, how do the conceptualization and enforcement of the assigned rights evolve in varying circumstances?
- How can the allocation of property rights help government achieve economic and land policy goals?

Although theoretical and empirical contributions to these subjects are accumulating, they remain open questions.

The Design and Evolution of Property Rights Institutions —————

Initial theories of private property development suggested by economists are mainly based on cost-benefit analysis (Anderson and Hill 1975; Barzel 1989; Eggertsson 1990). In his classic explanation of the establishment of private land ownership in eastern Canada, Demsetz (1967) argues that increases in the value of beaver furs due to the opening of trade created the incentive for the Indians to establish exclusive rights to their territories. These private property rights prevented the overharvesting of beavers in an individual (or communal) territory and thus ensured the owners exclusive access to a continuous supply of furs. North and Thomas (1973) also apply a similar rationale to explain the changes in property rights institutions that led to the prehistoric shift from nomadic hunting to settled agriculture. As the size of the population increased, open access to natural resources led to diminishing returns from hunting. To alleviate problems associated with the tragedy of the commons (Hardin 1968), the benefits of settled agriculture with the exclusive right to cultivate land outweighed the enforcement costs of private or communal property.

This approach is adequate in explaining the evolution of private property rights and the emergence of rudimentary legal and political institutions. In today's

economies, however, the influences of legal, social, and political institutions are paramount. In the United States, for example, when disagreements over public infringement on private property arise, courts play a critical role in deciding whether compensation should be paid. Because juridical decisions must be enforced to be effective, governance structure and bureaucratic capacity for upholding laws and orders are important. In other countries where the legal system plays a less prominent role in conflict resolution, social norms or reciprocity can be the key mechanisms for resolving property rights disputes. Hence many researchers have examined the roles of law, politics, and cooperation in designing institutions that support the functioning of varied property rights regimes (see Alston, Eggertsson, and North 1996; Buchanan 1984, 1991; Coase 1960; Commons 1934; Ellickson 1989, 1991; Libecap 1989; North 1990; Ostrom 1990, 2005, 2007; Williamson 1985).

Elinor Ostrom, one of the pioneers in developing the theory of property rights, challenged the then-conventional wisdom that common-pool resources will be overharvested if clearly delineated private property rights or state interventions do not exist. In her research Ostrom (1990) found that parties jointly using a common-pool resource often create workable formal and informal rules for resource allocation. A governance structure that is based on private property rights enforced by external authorities is not always necessary or optimal. Users are often capable of nurturing trust and reciprocity to solve their collective action problems.

How do involved parties design and implement robust self-organizing common-property institutions? In her 1990 study Ostrom proposed eight design principles (see chapter 2, table 2.1, for a list of these principles). In chapter 2 of this book, she examines the validity of the principles by reviewing their application to 33 empirical cases published in research papers written by other scholars. Three-quarters of these cases show strong or moderate support for the usefulness of Ostrom's design principles. Scholars who reviewed the applications of the design principles suggest more precise specifications for some principles. Some argue that the principle of delineating boundaries for commons should be divided into two parts, one for defining the boundaries of the resource, and the other for stipulating who should be included as authorized users. Also, the principle of balancing rights and responsibilities of appropriating a common-pool resource should be separated into three types: (1) harmony with the local ecology; (2) congruence with the local culture; and (3) equitable distribution of rewards to participants according to their contributions. Ostrom also translates all eight design principles into questions to assist in the diagnosis of institutional deficiencies. This approach, she argues, would enhance their application.

Ostrom's research highlights the importance of high transaction costs of defining resource boundaries and determining who is authorized to use the resource. Determining the size of future expenditures for sustaining the resource and assigning them to users in proportion to the benefits received is also costly. Minimizing these costs requires a set of carefully crafted institutions, including (1) a

participatory decision-making process; (2) an effective monitoring system that provides inspectors with proper incentives; (3) gradual and adjustable sanctions according to the seriousness and circumstances of the offenses; (4) low-cost conflict resolution mechanisms at both regional and local levels; (5) recognition of the importance of self-governance by users and outsiders; and (6) a multiple-layer, polycentric governance structure to connect smaller subgroups nested in a larger commons. Ostrom's approach illustrates that the establishment and modification of property rights systems necessitate heavy and prudent long-term investment in institutional building.

In chapter 3 Harvey M. Jacobs examines the conceptualization of private property rights in U.S. history and argues that the current private property rights system is unique and is constantly evolving. Current legal and political interpretations of individual property rights vis-à-vis the government's ability to control these rights for the public good are shaped by specific historical and cultural experiences.

Starting in the colonial era, private land ownership was a major attraction to European migrants who tried to escape feudalism in Europe and sought freehold ownership in North America. Private property was viewed as a means to secure political and economic freedom. Therefore, private property symbolizes the political and ideological beliefs upon which the United States is founded, and strong constitutional protection of private property was deemed necessary.

When population, urbanization, and industrialization expanded in the twentieth century, the government began to limit individuals' right to use and develop their lands. Conflicts over public rights in private land emerged. The courts were called upon to define and reinterpret the takings clause of the Fifth Amendment to the Constitution. Several Supreme Court cases found that the government has the legal right to expropriate private property for "public purposes" with "just compensation." The courts also found that the government could constrain the use of private property without compensating the affected owners so long as its regulations did not amount to a taking. These legal decisions have been continuously challenged through political and social channels by private property rights advocates. As Jacobs asserts, disagreements over the meaning of private property rights allow the system to evolve and adapt to changing social, economic, and technological environments.

Given the unique process of private property evolution in the United States, to what extent is its experience transferable to other countries? Jacobs argues that the legal and social status of private property in the United States is converging with that in some Western European countries. Although the Western European countries started with a greater allocation of property rights to governments, recent changes in planning laws to accommodate a more market-oriented land management system and to uphold individual property rights have brought them closer to the U.S. system. As to the lessons for developing nations, Jacobs speculates that, like the United States, many countries may also experience ongoing challenges to and renegotiation of private property rights. The tension between

the public right to manage scarce urban resources and individual entitlement to newly created wealth intensifies when the pace of urbanization and economic development accelerates.

Jacobs's suggestion provides good insight into the development of private property in China. As discussed by Dwight H. Perkins in chapter 4, the development of Chinese real estate markets has generated tensions between different segments of the population and between the government and private property owners. In some coastal cities where residential housing markets are well developed, affluent residents can purchase their homes in the private market. City dwellers whose incomes are low typically purchase apartments from their work units and receive large subsidies. According to Perkins, both groups have experienced significant improvements in living space from the recent housing reform. However, private property ownership is not available to rural-to-urban migrants who cannot register as city residents under the current household registration (or *hukou*) system and are not entitled to government services and subsidies. Perkins estimates that about 400 million people will migrate to cities over the next two decades, and their exclusion from home ownership needs to be addressed.

In addition, Perkins is concerned about the lack of legal and political support for enforcing private property rights in China. Although the Chinese legal system has been gradually professionalized, court decisions are still influenced by the Communist Party and the government. More importantly, court rulings must be enforced by the central and local governments. Given the heavy reliance of local public finance on land revenues, enforcement of private leasehold rights, such as paying adequate compensation to leaseholders when their land is taken for public use, might face strong bureaucratic resistance.

Echoing Perkins's concern, Scott Rozelle believes that weak enforcement of the Rural Land Contracting Law by local governments could be the main reason for insecure land tenure in rural China. Efforts to encourage farmers to register their leasehold rights are absent. This leads to reliance on informal arrangements for subleasing land when farmers leave their villages for urban employment. Rozelle argues that informal rental agreements are of short duration (one year) and are subject to considerable ambiguity. These institutional deficiencies hinder the pooling of smaller plots into a sizable farm for long-term investment, thereby creating inefficiency and slowing income growth in rural China.

Like China, Russia has attempted to develop property rights institutions to facilitate the development of private real estate markets since 1991. As of 2008 only one city (Veliky Novgorod) of 171 medium and large municipalities has adopted a fully integrated real estate registration system. Legal rules established for land reforms are unclear and incoherent. What explains Russia's failure to establish private land ownership? In chapter 5 Bertrand Renaud, Joseph K. Eckert, and R. Jerome Anderson argue that the absence of a tradition of secure private property in Russian history is paramount. The government has never been perceived as an impartial guarantor or protector of private property, and the concept of reciprocal obligation between ruler and citizens also did not exist. This legacy

creates mistrust of the polity as an effective institution to enforce private property rights. Other, nonhistorical disabling factors include the lack of incentive for property owners to register their land, local fiscal dependency on land rents, an underdeveloped real estate financing system, and high property taxes.

Renaud, Eckert, and Anderson also compare the Russian experience with the process of private property reforms in Estonia. Unlike Russians, Estonians experienced a short period of private land ownership between the two world wars. The authors argue that this history, albeit brief, allowed Estonia to develop a coherent legal system for land privatization immediately after independence. Real estate market development was also carefully organized to support the larger strategy of enabling Estonia to achieve full independence from Russia, reenact a modern Estonian constitution, develop an open market economy, and become a member of the European Union. These linked objectives motivated the government to ensure the success of land privatization. The comparison of Russia and Estonia illustrates the importance of past institutions in shaping the development of new property rights regimes in transitional economies. This finding accords with the experiences of the United States and China. History matters in contriving property rights institutions.

In his commentary Robert M. Buckley proposes an additional explanation for Russia's slow land market reform: heavily subsidized utility prices. He argues that Russian housing stock is mostly energy inefficient. If utility costs were not set below market prices, there would have been strong incentive for owners to retrofit their houses or to shift to more energy-efficient homes. Both investments can, *ceteris paribus*, increase housing value and therefore raise the benefit of establishing private property rights. Thus, the lack of price reform in the energy sector might have thwarted land market development.

Vietnam is another case that has attracted much attention. In chapter 6 Stephen B. Butler discusses some institutional deficiencies of land market reform in Vietnam based on a survey conducted in 12 provinces. Six hundred sixty-five small and medium enterprises, 65 land market intermediaries, and 12 state land officials were interviewed for their opinions on land tenure security, land use planning effectiveness, ease of market transactions, and public administration capacity. Public officials and land market intermediaries believe the current land allocation method in Vietnam to be inefficient. To obtain land use rights for a development project, an investor must apply to local officials detailing the proposed land investment and technical plan for construction and provide evidence of sufficient capital to undertake the project. Upon the receipt of a license from the government, the developer can select a land site and sign a land contract with the government.

Butler asserts that this system has three problems. First, the procedure imposes tremendous burdens on local government capacity. In places where there is not enough staff or trained personnel to handle the applications, review standards become arbitrary. Second, the approval procedure distorts land prices and thus the supply of land. The survey reveals that inadequate land availability is the

major complaint from business land users. Third, involving local governments in land rights allocation encourages rent-seeking behavior. The state confiscates land from holders with little compensation and leases the site to developers for high leasehold charges. This practice can lead to social conflict and jeopardize public confidence in the state as the protector of private property.

In her commentary Annette M. Kim agrees with Butler that the Vietnamese government ought to pay more attention to its method of assembling land, especially to issues related to compensation, but she disagrees about the role of the state in the assignment of land rights. While Butler sees government intervention in the land market as an impediment to its development, Kim thinks that the bureaucracy has been instrumental in mediating property rights disputes and administering land transactions during the transitional period. She suggests that since 77 percent of interviewed firms in Butler's survey have invested in land improvements, the government has given many landholders a sense of tenure security.

Public Compensations for Takings —————

The debate over government functions during the evolution of private property rights provides a nice transition to the second theme of this book: public compensations for takings. The right to use land is seldom absolute under any private property rights regime. Government, as a representative of the public, can control the type and intensity of land development through regulation. It can even confiscate private property with compensation to advance public purposes. The critical matter is to balance public and private rights in land. The determination of when public acts diminish private property rights to the extent that compensation should be paid to owners has generated contentious legal and political debates in many countries.

In chapter 7 Antonio Azuela examines the conditions under which eminent domain is used in São Paulo, Bogotá, and Mexico City. Brazil, Colombia, and Mexico all went through democratic transitions that changed the legal and political treatment of private property, and all three countries are experiencing increasing judicial activism. Despite these similarities, outcomes of the use of eminent domain differ. Azuela suggests four reasons for the diverse outcomes that shed important light on the design of eminent domain institutions.

First, the placement of eminent domain power at different levels of government matters. When local officials have the power of eminent domain, they are prone to utilize the legal authority to acquire private property for infrastructure development to satisfy the demands of the constituents who elect them. The experience of Bogotá seems to support this argument.

Second, the role of the judiciary in determining the validity of the use of eminent domain and the amount of compensation is important. In Brazil and Colombia, local governments must seek court approval before they can expropriate private property. Although judges in these two countries have typically

set compensation at high levels, they normally defer to the expertise and motives of local governments in exercising their eminent domain power. In Mexico, although the constitution gives eminent domain power to the president and the state governors, judges often grant affected owners injunctions to stop the process. They also modify the amount of compensation and scrutinize the motive of an expropriation, which seems constitutionally dubious in Mexico. While judges in Brazil and Colombia play enabling roles in the use of eminent domain, the judiciary in Mexico complicates land expropriation.

Third, the fiscal implications of compensation also affect the use of eminent domain in these countries. In all three cities examined by Azuela, exorbitant compensations granted by the courts either have put local governments under financial stress or have led to the abandonment of public projects. The determination of just compensation is the thorniest issue. Azuela suggests that better approaches to selecting and educating judges and to constraining them from overstepping their constitutional duties are needed.

Stimulated by Azuela's study, Vicki Been proposes a research agenda that focuses on identifying the actual users of eminent domain, the difference between the total amount of compensation paid for expropriation and the total market value of involved assets, the frequency of the actual use of eminent domain, and the number of successful transfers of property under the threat of eminent domain. Been also emphasizes that knowing the distributional consequences of the use of eminent domain under varying legal regimes is important.

In chapter 8 Jerold S. Kayden examines one of Been's questions: how often do local governments in the United States exercise their eminent domain power to condemn private property for economic development purposes? In view of the controversy generated by the U.S. Supreme Court's decision on *Kelo v. City of New London*, 545 U.S. 469 (2005), Kayden asked whether the public outcry reflected a legitimate concern over government abuse of eminent domain power or was simply a strategy used by private property rights advocates to challenge planning. A survey of officials in 153 municipalities with population of greater than 100,000 residents sought to determine the frequency of the actual use of eminent domain for economic development purposes between January 2000 and December 2004. Pending eminent domain cases and the threat of expropriation were not counted in the survey. The measurement unit was the number of properties taken by local governments. The results showed that about one-quarter of the cities in the sample reported takings during the study period. A total of 207 properties were taken, an average of less than two properties per city in five years. Kayden concludes that state condemnation of private property for promoting economic growth is uncommon in the United States.

John Echeverria praises Kayden's effort in filling an important information gap in the research on eminent domain. He thinks, however, that this survey was limited by its focus on large cities and exclusion of cases where local officials threatened to exercise eminent domain power. He is also concerned about reporting errors due to the sensitivity of the survey questions and the ambiguity

in defining “economic development purposes.” Echeverria suggests a case study approach to investigating why some cities rely heavily on eminent domain to assemble land as a supplement to nationwide surveys.

Confiscation of an owner’s property is not the only form of taking. If government regulations limit all viable uses of a property and cause a substantial decrease in its value, this in most cases is considered a taking, and the owner will need to be compensated for the financial loss. This is a controversial issue that strikes at the core of the debate over planning versus private property protection. In chapter 9 Vincent Renard describes the diversity in the ways Western European countries deal with this matter. Legislation in both Denmark and The Netherlands entitles property owners to be compensated for regulatory takings. There are no such legal provisions in France and Italy. Yet Renard cautions that practices do not always follow the legislation. For instance, French and Italian officials may negotiate with property owners about some form of compensation even though they are not legally required to do so. Although Denmark has explicit rules for compensation, they apply to very restrictive cases only. In general, compensation for economic damages caused by land use planning is rarely paid.

In extreme cases in which the burden of planning falls disproportionately on selected property owners or when land use planning eliminates all reasonable uses of an asset, compensation is required under the jurisprudence of the first protocol of the European Treaty on Human Rights. Renard proposes compensating affected owners with transferable development rights (TDRs). This approach requires redefining property rights and dividing the right to develop land into two types. One type is the development right that an owner paid at the time of purchase. The contents of this right are specified in the zoning law. The other type is the development right that goes beyond what the land use regulation allows. Because the original purchase price of the property did not reflect the owner’s expectation of obtaining this extra development right, the owner needs to buy it from the government or from other owners who have surplus development rights for sale. The government will provide owners whose property is restricted by regulation with transferable rights as compensation for their loss of the first type of development right. The owners can then sell the development rights to another entity that needs them for high-density development.

Although this approach seems tenable in theory, Renard identifies several obstacles to its implementation. These include political and social resistance to redefining property rights, the complexity of valuing TDRs, and the possibility of disputes arising from identification of the “sending” and “receiving” zones of development rights across jurisdictions.

In his commentary, Barrie Needham disagrees with redefining property rights as a solution to compensation for regulatory takings. He thinks that TDRs have limited applications based on the British experience in nationalizing development rights in 1947. If one analyzes the compensation issue of regulatory takings from the perspective of government’s equal treatment of citizens rather than private property protection, Needham asserts, it would be hard to argue against

compensating owners who are disadvantaged by land use planning and not requesting payments from those who benefit.

Needham's argument raises a concern about the symmetry between takings and givings. Ideally, government could recoup the benefits of land use planning and redistribute them to those who bear the costs. In this case takings compensation is justified. Given the reciprocal nature of the matter, would it be sensible to argue against compensation for takings when there is no recapture of the benefits of givings? Abraham Bell analyzes this subject in chapter 10. He concludes that arguments for paying compensation for regulatory takings are compelling.

Bell first examines the economic justification for expropriation compensation to draw parallel lessons for the analysis of regulatory takings. Three arguments in favor of eminent domain compensation are (1) to keep government from underestimating the costs of takings; (2) to negate potential opposition from propertied interest groups; and (3) to minimize the risk of corruption. Bell claims that these arguments can also support paying compensation for regulatory takings.

Second, it is hard to argue against compensation for regulatory takings when there is consensus on the compensation requirement for eminent domain. For instance, if compensation were required for the use of eminent domain but not for regulatory takings, local governments would rely more on regulation than on property expropriation to manage land use, even when expropriation is more efficient. This fiscal incentive can generate distortions. In addition, when real estate owners are not charged for public givings, paying compensation to owners of condemned property but not to those whose assets lose significant economic value due to government regulation raises issues of unequal treatment.

Third, Bell suggests that property taxes can be treated as both a taking compensation and a giving charge if the effects of land use regulation are fully capitalized in property value. The positive effect of regulation (givings) will increase property value and thus result in higher tax payments (giving charge). Similarly, a taking reduces asset value, which in turn lowers property tax liability. Yet property taxes are generally a small percentage of asset value, and tax reductions compensate only a small percentage of takings. If capitalization is weak or absent, property taxes will become even less compensatory. Bell therefore argues that property taxation cannot provide a strong reason for not compensating owners for regulatory takings.

Perry Shapiro, the commentator for chapter 10, adds two points to Bell's discussion of the symmetry of takings and givings. First, even if there were effective charges for public givings, the transaction costs of determining compensation for regulatory takings would be high. Litigation might be the only way, and the potential legal and political costs could induce local governments to lower land use planning standards. Second, Shapiro questions giving special attention to compensating landowners because any government intervention unavoidably creates winners and losers. For example, if a government policy hampers the profitability and employment opportunities of an industry, should the affected manufacturers and workers demand compensation from the state for their losses?

Property Rights Approaches to Achieving Land Policy Goals ———

The use of property rights approaches to accomplish government goals has become increasingly popular. We focus on poverty reduction, air and land conservation, and affordable housing.

POVERTY REDUCTION

One common objective of establishing secure private property rights in land, particularly in developing countries, is to reduce poverty. The World Bank and other international aid agencies have provided tremendous resources to improve land registration systems in many developing countries. As suggested by de Soto (2000), secure land tenure reduces unproductive spending on protection of land rights and lowers the risks of expropriation by the government. Both factors encourage investment in land improvements, thereby increasing the net worth of the property. Property owners can use land as collateral for credit. Reliable information on ownership provided by the registration system reduces the risks of lending, thus expanding the scope of bank loans to facilitate property owners' entrepreneurial activities and create new wealth. In chapter 11 Klaus Deininger and Gershon Feder review the existing evidence on the validity of this logic.

The authors argue that strong tenure security appears to be connected with positive investment effects when other favorable conditions are also present. They cite such examples as the doubling of likelihood of soil conservation in Uganda, increased house renovations in urban Peru and Argentina, and higher investment in Ethiopia shortly after the issuance of land certifications. Land registration also seems to facilitate the development of land rental markets, although its impacts on off-farm employment remain uncertain. In Guatemala, for example, it is estimated that improving tenure security would increase total rental areas by 63 percent. In Vietnam, holders of registered long-term use rights have a higher tendency to rent their land to unrelated people than do land users who possess other tenure forms.

In terms of the impact on credit access, Deininger and Feder found that the expected benefits of increased tenure security are limited, especially among the poor. In Paraguay observable effects in the supply of credit were limited to medium and large landowners. Land registration in Peru increased the possibility of obtaining loans from state banks only. No effect of land registration on credit access was found in Buenos Aires.

Why did credit-related benefits of titling fail to live up to expectations? Deininger and Feder suggest deficient institutional designs for private property protection and credit markets as one reason. In some developing countries, government institutions for enforcing registered land rights are weak or even absent. Credible commitment from the state to desist from expropriation does not exist. Even if there is such commitment, it can be displaced overnight due to changes in political regime. Corruption and bad governance of the land registry also lead to

asymmetric access to information, thus facilitating land grabs by elites and undermining the credibility of the entire system.

In terms of credit markets, imperfections and lack of liquidity are prevalent. In rural areas where farmers are subject to such risks as weather, flooding, and other natural phenomena, collateral does not protect lenders from default by many borrowers at once. Farmers mostly need short-term loans, which are often provided by informal credit markets in most developing countries. Because collateral is normally not required for short-term credit, the benefits of registration do not justify its costs. In some cases high registration costs due to inefficiency or inappropriate standards have led to the expansion of semiformal credit systems or reversion to informality. Risk rationing and fear of losing real assets also dampen the willingness of potential borrowers to use titles as collateral.

Commenting on the comprehensive review of research on land titling by Deininger and Feder, Alain Durand-Lasserve suggests that a social dimension should be added to the discussion, especially on conflicts associated with the programs. The assessment of the effectiveness of land registration reform in securing land tenure and diminishing poverty should be conducted by comparing the costs and benefits of land titling to the effectiveness of alternative options that could achieve the same objectives.

In chapter 12 Edésio Fernandes cites similar arguments about the effects of titling programs on credit access in Latin America. He argues that the designs of large-scale titling programs have been based on erroneous assumptions about the formation of informal settlements. This error, Fernandes argues, has created a legal environment that fosters informal land market development.

In addition to the reasons provided by Deininger and Feder for the disappointing titling effects on credit access, Fernandes believes that income and social networks are more prominent factors than formal titles for obtaining bank loans in Latin America. He asserts that establishing secure private property rights alone cannot solve the problem of poverty. The poor need to be integrated into the market economy. Public investments in infrastructure, affordable housing, and social services are required to upgrade urban living conditions. The key solution for informal land development is to understand factors that affect informality, including the definition of property rights, planning law, conditions of urban management, and the judicial system.

Fernandes also suggests an integrated approach for land regularization programs that contains both remedial and preventive policies. These include the promotion of socio-spatial integration and democratization of access to land and housing. He emphasizes that policy makers should pay special attention to different tenure arrangements for varied urban settlement settings, the objectives and scale of the plans, technical criteria for implementation, and institutional and financial capacity to support the projects.

Although Ernesto Schargrotsky, the commentator for chapter 12, agrees with Fernandes on the credit access impact of land registration, he disagrees that titling

has no effect on poverty. Based on studies that he conducted with other scholars on a titling program in suburban areas of Buenos Aires, they found positive influences of secure property rights on investment in housing, children's education and health, and labor participation in the market economy. He hypothesizes that land titling helps eradicate poverty through increased physical and human capital investment, but not through access to formal credit markets.

ENVIRONMENTAL CONSERVATION

Property rights approaches are also employed to achieve environmental conservation. Two specific topics are examined here: tradable emission permits and conservation easements. The implementation of the tradable emission permits program (also referred to as the federal cap and trade program) for carbon dioxide (CO₂) departs from past U.S. environmental policy, which has devolved most regulatory powers over point sources to the states. The cap and trade program formalizes emission permission as a new form of property right. The federal government will assign a CO₂ emission budget to each state, and the state will allot the assigned permits to industries by public auction. The permits could then be bought and sold in a federally managed trading program. Dallas Burtraw and Rich Sweeney, the authors of chapter 13, estimate that the total value of the CO₂ program in the United States could amount to \$130–\$370 billion annually by 2015. Thus, the design of the system for allocating tradable emission permits will have significant distributional and efficiency effects on the U.S. economy.

The value created by the CO₂ program reflects the cost of reducing greenhouse gas emissions. This cost will eventually be passed along to consumers in the form of higher prices for direct and indirect energy consumption. Burtraw and Sweeney estimate the distributional impacts of these price increases and suggest that CO₂ policy could have heterogeneous effects across regions and populations in the United States. For example, low-income households spend a higher proportion of their income on energy consumption than do high-income households. The authors propose various options to mediate the regressive incidence of the policy, including transferring 65 percent of the revenue generated from auctioning the permits to households on a per capita basis, excluding some basic necessity industries such as the transportation sector from the CO₂ program, and providing free allocation to electricity consumers (retail utilities) based on consumption.

The authors also project the efficiency and distributional impacts of these options based on simulation models. Their estimates indicate that a nationwide auction program with revenue returned on a per capita basis would be one of the two most efficient approaches among the options reviewed. It will however impose a higher cost of electricity consumption on consumers in the Southeast and the Midwest, which have a relatively large number of coal-fire-generated electricity facilities. If the states allocate the permits to retail electricity consumers without charge, there are smaller deviations among the regions on their net CO₂ expenditures; but the estimated price for CO₂ increases by 17 percent (from \$41 to \$48 per mtCO₂), indicating an efficiency loss. Based on the results, Burtraw

and Sweeney argue that the most likely scenario would be for the federal government to apportion emission allowances to the states with special consideration to the electricity sector. Each state would then auction the allowances and return a portion of the revenue to households.

In response to Burtraw and Sweeney's proposal, Wallace E. Oates agrees that the federal government ought to retain some control over the program, especially the aggregate number of tradable permits. He cites the experience of the European Union (EU) program that allowed individual countries to decide on the number of tradable permits to be allocated to industries. Because some countries set their cap too high, resulting in a large supply of permits in the EU trading system, the program was unable to achieve its environmental objective. Oates also proposes a price ceiling on permits and a banking system to allow unused emission allowances to be carried over to future periods.

Another commonly used property rights approach to conserving the environment is private conservation easements. In chapter 14 Gerald Korngold discusses the benefits of this policy and proposes methods to mediate some of his concerns about the program. In essence, a conservation easement gives a nonprofit entity or government a perpetual right to restrict changing the present use of the land. If the easement is donated to a nonprofit, the landowner receives tax benefits at the federal, state, and local levels.

Korngold argues that conservation easements have added tremendous value to land preservation in the United States. The method alleviates the government's need to spend scarce public resources on land conservation. It reduces the cost of acquiring land for conservation, because a nonprofit needs only to purchase the right to develop land, and the other attributes of the bundle of rights remain privately owned. An easement will not remove the property from the tax roll, thus allowing the municipality to collect taxes from the owner. The easement program is based on voluntary changes that could help government avoid controversy generated by land use regulation.

Despite the benefits of conservation easements, there are concerns. A tax subsidy is involved in donated conservation easements, and abuses of the tax code have been reported. According to Korngold, nonprofits do not always consider public benefits when they establish easements, making it hard to know whether forgoing the tax revenue is justified. Because the establishment of private conservation easements is based largely on the initiatives of landowners and nonprofits, the location of easements may not be in accord with the community-wide preservation plan. Although the creation of easements involves public subsidy and land use planning, nonprofits are not subject to special regulatory processes to ensure that their actions are in conformity with the public interest. Korngold notes that monitoring of easement stewardship by nonprofits is modest (and sometimes absent). Conservation easements are sometimes perceived as a program designed for high-income households, because large land sites owned by individuals are normally involved. Comprehensive data about the total number, location, ownership, and acreage of conservation easements are lacking. Finally, perpetual easements

may add rigidity to land use. When economic and social conditions of a neighborhood change, more land may be needed for development. The control over the modification and termination of restriction on large tracts of land by nonprofits could create legal difficulty and uncertainty to land use planning.

Korngold suggests the following solutions. The tax code should be amended to allow federal tax deductions only if an easement has received prior federal, state, or local certification as having a significant public preservation benefit. States should legally require counties to establish separate records for conservation easements. To ensure the stewardship of nonprofits, a voluntary accreditation program can be established. Alternatively, state attorneys general could supervise the nonprofits. To increase the flexibility of conservation easements to adjust to future land use needs, legal changes are required, including clarifying nonprofit law, applying the rule that prohibits enforcement of covenants violating public policy to the case of conservation easement reversal, relying on a *cy pres* proceeding to permit easement modification and termination, and exercising the power of eminent domain to condemn easements.

Nancy A. McLaughlin disagrees with some of Korngold's concerns. She argues that conservation easements are essentially public land rights acquired by government or public nonprofit entities and enforced by state attorneys general and the Internal Revenue Service. Thus, the objectives of easements should not be in conflict with the public interest. Land trusts are more accountable to the public than is the government because their survival depends on public confidence and donations. Because most conservation easements have no improvements on land, they can easily be converted to other uses without removal of physical structures if a *cy pres* proceeding determines that the continuous protection of the land is no longer possible or practical. Because most jurisdictions do not engage in effective planning for land preservation, the argument that conservation easements do not conform to community-wide plans cannot be established. Moderate modifications of conservation easements are not difficult because many deeds contain an amendment provision that grants the holder the right to alter the restriction so long as changes are consistent with the purpose of the easement.

AFFORDABLE HOUSING

Increasingly, states are employing a property rights approach to confront exclusionary zoning at the local level. This approach relies on providing private developers with a density bonus or other zoning-related benefit as an incentive to challenge localities that do not comply with state mandates on affordable housing. Viewing this from a property rights perspective, extra development rights are transferred to private developers as payments for actions to enforce state housing objectives or actually build affordable units. In chapter 15 Keri-Nicole Dillman and Lynn M. Fisher call these systems "housing appeal regimes" and use a game theory framework to analyze the behaviors of developers and municipalities so as to understand the diverse bargaining outcomes of the programs.

From the developer's perspective, Dillman and Fisher suggest that the decision to challenge a noncompliant municipality depends on four preconditions: (1) a favorable market environment; (2) a high likelihood of winning the lawsuit; (3) a sufficient density bonus; and (4) a high possibility of recovering litigation costs. Based on their model, they predict three possible outcomes. If none of the four conditions is present, the developer does not confront the municipality, rendering the antiexclusionary zoning program ineffective. If the developer is uncertain about winning the lawsuit, she may be willing to accept the municipality's settlement offer of an impact-fee waiver or a permit that allows a higher-density development. If similar lawsuits have a sufficiently high success rate with adequate density bonuses to cover the costs of litigation and other inclusionary requirements, such as providing affordable housing units, the developer will not settle the case out of court.

How would these outcomes affect the behavior of the municipality? If enough lawsuits create a credible threat to local exclusionary planning practices, the municipality could either amend its land use plan or remain reactive to developers' legal challenges. The decision will depend largely on whether the expected benefits of changing zoning regulations are higher than the gains from bargaining with developers minus the costs of compliance. Developers can be seen as enforcers of state policy if their challenges alter the municipality's exclusionary zoning practice. They will be implementers if they adopt the role of providing affordable housing for low- and moderate-income households.

Alexander von Hoffman suggests that one way to enrich the model is to consider the differential bargaining power of large and small developers. In modeling the behavior of the municipality, he argues, other interest groups such as conservation and historical commissions, town engineers, the zoning board of appeals, and existing homeowners should be considered. The municipality's decision-making process is therefore more complex than the current model depicts. Without knowing interested parties' motives, strategies, and actions at local and state levels, assessing antiexclusionary zoning programs will be difficult.

While the authors of chapter 15 study the strategic interplay between developers and towns in making inclusionary housing decisions, in chapter 16 Robert C. Ellickson compares this affordable housing approach with the voucher program. He asserts that giving portable housing vouchers to needy households is superior to encouraging private mixed-income housing projects through the use of density bonuses or impact-fee waivers. Ellickson reviews several efficiency and equity arguments. Mixed-income housing units are less efficient because the transaction costs of applying for government subsidies increase production costs. Moreover, public subsidies reduce incentives for developers to be cost-effective. Mismatches between household preferences and housing units allotted emerge when units are assigned by lottery. The lock-in effect prevents tenants from modifying their housing consumption when economic and family conditions change. Lock-ins also lead to the deterioration of the landlord-tenant relationship. In

terms of fairness, vouchers are more equitable than mixed-income projects because they target the most impoverished families. Ellickson states that many suburban mixed-income housing programs make some inclusionary units available to households with moderate incomes.

Ellickson also challenges the often-cited benefit of mixed-income housing projects, that is, the promotion of neighborhood social and economic integration. He argues that low-income households might not be able to fit in with neighbors of higher social and economic status. Vouchers are more discreet and allow holders to blend into the community. More fundamentally, he states that evidence on the benefits of social and economic integration is inconclusive. Given these doubts, the expected gains from mixed-income projects do not seem to offset the potential loss of efficiency and equity.

Ingrid Gould Ellen is more skeptical about the advantages of vouchers over mixed-income housing. She states that mixed-income housing projects could generate positive externalities for revitalizing economically depressed neighborhoods. Physical improvements and population growth due to increases in mixed-income housing projects may spur private investment, which in turn creates jobs and improves the fiscal condition of local governments.

Ellen also provides different interpretations of the evidence mentioned in Ellickson's chapter. For example, she argues that vouchers may increase rents for unsubsidized poor households. Roughly one-third of voucher holders were not able to use their vouchers in 2001 because of landlord discrimination, bureaucratic barriers to interjurisdictional transfer of vouchers, and lack of information about the availability of suitable rental units. As is the case with housing appeal regimes, additional systematic comparisons of the voucher program and mixed-income projects are deemed necessary.

Conclusions

Ideas discussed by the chapter authors and commentators contribute to three important areas of property rights research: (1) the design of property rights institutions; (2) property rights enforcement; and (3) policy applications. As illustrated, identifying a set of design principles for crafting property rights institutions is possible. Elements of the bundle of rights can be assigned to different parties depending on the purpose of delineating the private property rights. For instance, if the goal is to manage the use of a commons where the mobility of participants is low, the definition and allocation of the use right are most critical, and the right of alienation is secondary. By contrast, if the purpose is to encourage owners to invest in property improvements, the right to sell and transfer the asset must be included explicitly in the assignment, as indicated by the experiences of land titling. For conservation easements to exist, the right to develop land must be separated from land ownership. Different definitions and ownership of property rights may be required to meet varying needs and conditions. Building property rights institutions requires consistent and predictable outcomes.

Property rights security depends on enforcement. When the conceptualization of different claims to property is in flux, enforcing property rights arrangements is difficult and controversial. The ongoing debates over government authority to regulate private property and to set compensation for takings in Europe, Latin America, and the United States illustrate the legal and political intricacy involved in maintaining balance between the property rights of public and private entities. This constant renegotiation between the public and private landowners is the essence of the evolution of private property whose meaning is shaped by changing social, political, and economic conditions.

In countries where private ownership is emerging, credible commitment from government as the guarantor and protector of individual property rights is essential. History matters. If there is no track record of state protection of private property, it will take a long time for citizens to trust the judiciary system and the polity to safeguarding of assets. Current land reform experiences in China, Estonia, Russia, and Vietnam seem to support this argument.

Altering the assignment of property rights to accomplish policy objectives also seems feasible, if the approach is accompanied with the development of other supporting institutions. Land titling appears to have positive impacts on property investment, but its credit access effect remains inconclusive. Tradable emission permits systems and conservation easements require heavy investments in legal and administrative capacity to achieve their desired goals. More needs to be known about how the net benefit of these property rights approaches measures up with other options. The improved understanding of the institutional issues related to private property in general and property rights approaches as a policy tool in particular is invaluable to land policy making and research.

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