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# Property Rights and Financial Development

## The Legacy of Japanese Colonial Institutions

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When and why developed nations became rich are central questions in economics and history. The process was undoubtedly complex, involving many factors such as government policies, investments in infrastructure, terms of trade, legacies of colonialism, natural resources, climate, and luck. Differential economic progress around the globe over the past half century has stimulated a search for fundamental conditions that trigger and sustain the process of development and modernization.

Many researchers now recognize the importance of institutions that protect property rights for economic development: economic agents are less willing to invest if others can seize the returns of their investments. Research on the institutional roots of economic development often pays homage to the work of Douglass North and collaborators, who were trying to understand the onset and geographic spread of industrialization within Europe. They linked England's head start, for example, to the Glorious Revolution of 1688, which limited the confiscatory power of the Crown and strengthened rights in private property. In their view, the commitment to property rights lowered interest rates on public and private investments that became the building blocks of industrialization. While the pathway is plausible, the historical data available to confirm the linkage to British industrialization is modest.

Our research contributes to this literature by clarifying the pathways between property-defining institutions and growth, and by incorporating work on a neglected continent, Asia. We divide property rights into two categories: institutions that define property rights, such as a land survey system and a land registration system; and those that protect property rights, such as land expropriation laws or constitutional safeguards against property takings. We assess the economic legacy of institutional change imposed by Japan on its Asian colonies, which were acquired through an opportunistic process of territorial expansion. We argue that decisions to colonize were exogenous to late 20th-century growth, a point substantiated by results from a quasi experiment in Micronesia. Prior to colonization these countries had complex systems of land tenure that impeded transactions, including multiple ownership, clan or lineage ownership, poorly defined boundaries, and lack of official titles. In an effort to generate tax revenue, Japanese colonial administrators abolished these complex systems in favor of single ownership, official titles, updated land registers, and boundaries established by clear survey maps. A new system made plain who was responsible to pay taxes.

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Our inquiry is inspired by rates of economic growth that were vastly different across Asia, where Japan was the only Asian country to successfully begin industrialization in the late 19th century. Asian tigers (South Korea, Taiwan, Hong Kong, and Singapore) successfully industrialized in the second half of the 20th century, while other countries in the region are currently underway or have yet to begin. The ratio of per capita GDP between the most developed country and the least developed country in Asia is over 25:1. We ask to what extent might contrasting systems of property rights account for differential growth?

The case of Palau—an island country in Micronesia—provides a quasi-experimental setting, which shows that secure private-property-defining institutions provided a foundation for economic development. Japan controlled Micronesia from 1914 to 1945, and in Palau surveyed and registered private ownership from 1939 to 1941, classifying land into four categories: public, clan, lineage, and individual. In 1941 Japan began to survey other Micronesian countries, but the process was interrupted by World War II. After the war the United States controlled Micronesia, and in Palau, American judges upheld land titles originating from the Japanese land registers. The American judges consistently concluded that clans or lineages did not have any authority over private land. In other Micronesian countries, the American judges lacked legal proof of private ownership and, following the tradition of common law, upheld customary ownership rights that allowed a village or clan leaders to confiscate or deny land-use rights if a resident neglected customary obligations to the village. As a result foreigners only invested in private lands that were protected in an absolute way, as in Palau. In 2007 Palau was three times richer than other Micronesian countries.

The Asian experience suggests that the Japanese land survey was initially motivated by public finance. Land has two special characteristics that distinguish it from other assets: it is "immovable" and "everlasting." Generally it is easier for the government to tax land as opposed to other assets that can be readily hidden. Effective land taxation, however, requires registers and maps to identify parcels, as well as a system linking taxpayers to the registers. In many countries, land taxes are evaded because the government cannot link registers, maps, and taxpayers. The Japanese land survey and registration system secured land taxation and thus promoted public finance.

The solution of a public finance problem eventually was important for private finance. The characteristics of land make it attractive to banks as collateral for loans. Our analysis shows, however, that banks accept land as collateral only if secure title and well-defined boundaries are part of a central- ownership verification system. The Japanese land registration system was designed to preempt ownership and boundary disputes and was well integrated into the ownership updating system and the citizen identity system. Thus, it promoted private capital markets. Because land was the most abundant and important asset in these agricultural economies, its collateralization provided a major boost for economic development. Especially when farmers obtained access to credit, they invested in irrigation systems that increased agricultural productivity.

A review of the history of land reforms shows that establishing a good land tenure system was more difficult than one might expect. First, reforms had to contend with rough boundaries used in the past. Landowners tended to exaggerate the size of their land parcels in private land transactions, thus most plots carried a history of boundary disputes. Second, the core of secure land transactions and collateralization is a centralized ownership verification system, which required not only land registration, but also a citizen identity system and an ownership updating system. Most governments, however, did not fully understand the importance of these components. Finally, land reforms usually change the whole structure of a society, and thus governments potentially face huge costs from socioeconomic and political destabilization.

In order to understand the conditions under which governments undertake effective land reforms that can promote long-run growth, we construct a simple model. The analytical model based on the stylized facts of land reforms shows that a short-sighted government surveys only a portion of land and does not create a citizen identity system or an ownership updating system. In sharp contrast, a far-sighted government adopts all the major components of well-defined property rights.

The model shows that the main difference between the short-sighted reform and the far-sighted reform is future tax revenue. The real tax revenue from the short-sighted approach decreases over time because state land registers gradually become obsolete. Conversely, the real tax revenue from a far-sighted approach is stable because the updated land registers and the citizen identity system maintain current information for tax collection. The model also shows that stable tax revenue enables the government to reduce tax rates, to be less arbitrary, and to engage in long-range planning. Moreover, the creation of the updating system and the citizen identity system provides the institutional foundation for land collateralization.

Finally, the paper estimates the impact of institutions on economic growth. Japan acquired its colonies though wars from the 1890s to the early 1940s, including Taiwan and South Korea. Japan lost all of these colonies after World War II, and its land survey was interrupted in some places by the war. We argue that whether Japan conducted and completed a formal land survey is a key determinant of property defining institutions (i. e., land tenure system). Our estimates show that property-defining institutions stimulated financial markets that contributed to economic development. Our results are confirmed when using a similar approach with British Colonies in Asia.

## NOTE

This research brief is based on Dongwoo Yoo and Richard H. Steckel, "Property Rights and Financial Development: The Legacy of Japanese Colonial Institutions," *Journal of Institutional Economics* (forthcoming).