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Property Insecurity

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INTRODUCTION

> I haven't time to tell you what emotions we experience in traversing this half-wild, half-civilized country, in which fifty years ago were to be found numerous and powerful nations who have disappeared from the earth, or who have been pushed back into still more distant forests; a country where are to be seen, rising with prodigious rapidity, new peoples and brilliant cities which pitilessly take the place of the un-

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> happy Indians too feeble to resist them. Half a century ago the name of the Iroquois, of the Mohawks, their tribes, their power filled these regions, and now hardly the memory of them remains. Their majestic forests are falling everyday; civilized nations are established on the ruins . . . .[1]

A vast and significant body of scholarship, dating back at least to Adam Smith, has long held secure private property rights to be a fundamental prerequisite for trade, labor specialization, efficient investments, credit access, liberty, government accountability, growth-promoting economic policies, functioning markets, and a myriad of other engines of economic development.[2] Yet, historically, economic development has often involved the expropriation of land and resources from groups that are marginalized culturally, racially, ethnically, or socio-

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1. Letter from Gustave de Beaumont to his brother (July 6, 1831), *in* GEORGE WILSON PIERSON, TOCQUEVILLE IN AMERICA 191 (Oxford Univ. Press 1938) (1830).

2. *See generally* FRIEDRICH A. VON HAYEK, THE ROAD TO SERFDOM (1976); KARL MARX, 1 CAPITAL (Eden Paul & Cedar Paul trans., 4th German ed. 1978) (1867) [hereinafter MARX, CAPITAL]; DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE, AND ECONOMIC PERFORMANCE (1990) [hereinafter INSTITUTIONS]; JEAN-JACQUES ROUSSEAU, DISCOURSE ON THE ORIGIN OF INEQUALITY AMONG MEN (Franklin Philip trans., 1994) (1754); ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS (1776); OLIVER E. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM (1985); Ronald H. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1 (1960); Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347 (1967); Douglass C. North & Barry R. Weingast, *Constitutions and Commitment: Evolution of Institutions Governing Public Choice in Seventeenth Century England*, 49 J. ECON. HIST. 803 (1989); Timothy Besley, *Property Rights and Investment Incentives: Theory and Evidence from Ghana*, 103 J. POL. ECON. 903 (1995); Lee J. Alston, Gary D. Libecap & Robert Schneider, *The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier*, 12 J.L. ECON. & ORG. 25 (1996); Richard A. Posner, *Creating a Legal Framework for Economic Development*, 13 THE WORLD BANK RES. OBSERVER 1 (1998); HERNANDO DE SOTO, THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE (2000); Daron Acemoglu, Simon Johnson & James A. Robinson, *The Colonial Origins of Comparative Development: An Empirical Investigation*, 91 AM. ECON. REV. 1369 (2001) [hereinafter *Colonial Origins*]; Erica Field, *Property Rights and Investment in Urban Slums*, 3 J. EUR. ECON. ASS'N 279 (2005); Markus Goldstein & Christopher Udry, *The Profits of Power: Land Rights and Agricultural Investment in Ghana*, 116 J. POL. ECON. 981 (2008); Timothy Besley & Maitreesh Ghatak, *Property Rights and Economic Development* (London Sch. Econ., STICERD Research, Working Paper No. EOPP 006, 2009), *available at* http://sticerd.lse.ac.uk/dps/eopp/eopp06.pdf.

economically, and the reallocation of these resources into the hands of more politically powerful constituencies with access to the knowledge and capital necessary for efficient investment.[3] Reconciling this apparent contradiction requires recognizing that *whose property rights are secure* matters fundamentally for the political and economic implications of secure property rights.

Protecting the property rights entitlements of some inherently requires preventing others from claiming and controlling those same resources.[4] "Before 'property rights' can be strong or weak, they must be allocated and defined"[5]—and the allocation and enforcement of resource entitlements through legal institutions reflects the distribution of political power.[6] But recent cross-country and comparative research regarding property

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3. *See generally* World Comm'n on Dams, *People and Large Dam—Social Performance*, DAMS AND DEVELOPMENT: A NEW FRAMEWORK FOR DECISION MAKING (2000), http://www.dams.org//docs/report/wcdch4.pdf; JAMES A. YELLING, COMMON FIELD AND ENCLOSURE IN ENGLAND 1450–1850 (1977); *see also* PIERSON, *supra* note 1, 189–96; *The Damned: Five Controversial Dams: Brazil*, PBS (Sept. 18, 2003), http://www.pbs.org/wnet/wideangle/episodes/the-damned/five-controversial-dams/brazil/3107 [hereinafter PBS].

4. *See* Guido Calabresi & Douglas A. Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1090 (1972); Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 YALE L.J. 710, 743, 747 (1917).

5. David W. Kennedy, *Some Caution About Property Rights as a Recipe for Economic Development* 8 (Harv. Law Sch. Pub. Law & Legal Theory, Working Paper No. 09–59, 2010), *available at* http://www.law.harvard.edu/faculty/dkennedy/publications/PropertyRightsDevelopmentOct17Draft.pdf.

6. S*ee* JEAN ENSMINGER, MAKING A MARKET: THE INSTITUTIONAL TRANSFORMATION OF AN AFRICAN SOCIETY 126–28, 142, 148 (1992); GARY D. LIBECAP, CONTRACTING FOR PROPERTY RIGHTS 16–17, 24–27(1989); ITAI SENED, THE POLITICAL INSTITUTION OF PRIVATE PROPERTY 50, 149– 54 (1997); KATHRYN FIRMIN-SELLERS, THE TRANSFORMATION OF PROPERTY RIGHTS IN THE GOLD COAST: AN EMPIRICAL ANALYSIS APPLYING RATIONAL CHOICE THEORY 154 (1996); Lee J. Alston, Edwyna Harris & Bernardo Mueller, *De Facto and de Jure Property Rights: Land Settlement and Land Conflict on the Australian, Brazilian and U.S. Frontiers* 2, 11–14 (Nat'l Bureau of Econ. Research, Working Paper No. 15264, 2009), *available at* http://www.nber.org/papers/w15264; Lee J. Alston et al., *Toward an Understanding of Property Rights, in* EMPIRICAL STUDIES IN INSTITUTIONAL CHANGE 31–33 (Lee J. Alston et al. eds., 1996); Sumner J. La Croix & James Roumasset, *The Evolution of Private Property in Nineteenth-Century Hawaii*, 50 J. ECON. HIST. 829, 845–47 (1999); Katrina M. Wyman, *From Fur to Fish: Reconsidering the Evolution of Private Property*, 80 N.Y.U. L. REV. 117, 129, 141 (2005).

rights and economic development employs a black-box conception of property rights that effaces the heterogeneity in property rights enjoyment within countries.[7] In other words, in this research, property rights are considered as a one-dimensional concept, in which rights are assumed to apply uniformly (homogeneously) to all people and entities that are subject to those laws. No recognition is given to the possibility that different constituencies may experience the application of the rule of law differently. Yet as legal scholars have long recognized, law is not divorced from politics and power, nor is it completely impartial and objective in its application.[8] A one-dimensional conception of property rights or "institutional quality"[9] more broadly ignores significant variation in the risk of expropriation faced by different ethnic, cultural, and religious groups in the same country.

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7. *See Colonial Origins*, *supra* note 2, at 1369–70; Daron Acemoglu, Simon Johnson & James A. Robinson, *Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution*, 117 Q.J. ECON. 1231, 1262–63 (2002) [hereinafter *Geography and Institutions*]; Daron Acemoglu & Simon Johnson, *Unbundling Institutions*, 113 J. POL. ECON. 949, 957 (2005) [hereinafter *Unbundling Institutions*]; Valerie Bockstette, Areendum Chanda & Louis Putterman, *States and Markets: The Advantage of an Early Start*, 7 J. ECON. GROWTH 347, 352 (2002); Christopher Clague et. al., *Contract-Intensive Money: Contract Enforcement, Property Rights, and Economic Performance*, 4 J. ECON. GROWTH 185, 188 (1999); Robert E. Hall & Charles I. Jones, *Why Do Some Countries Produce So Much More Output per Worker than Others?*, 114 Q.J. ECON. 83, 84–85 (1999); Daniel Kaufmann, Aart Kraay & Pablo Zoido-Lobaton, *Governance Matters* 1–6 (World Bank Pol'y Res., Working Paper No. 2196, 1999) [hereinafter *Governance Matters*]; Stephen Knack & Philip Keefer, *Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures*, 7 ECON. POL. 207, 208 (1995); Danni Rodrik, Arvind Subramanian & Francesco Trebbi, *Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development*, 9 J. ECON. GROWTH 131, 135 (2004).

8. OLIVER WENDELL HOLMES, THE COMMON LAW (1881); *see also* WILLIAM W. FISHER, III, MORTON J. HORWITZ, & THOMAS REED, AMERICAN LEGAL REALISM (1993).

9. "Institutions" is a term of art broadly used in the economics, political science, and political economy literature to refer to "the rules of the game" that structure and constrain "human interaction." *See* INSTITUTIONS, *supra* note 2, at 3. "Institutional quality" is a broad term used to indicate how "good" or "bad" these institutions are. *See generally* Kevin E. Davis, *Institutions and Economic Development: A Introduction to the Literature* (NYU Sch. Law Working Papers, Paper No. 202, 2009), *available at* http://lsr.nellco.org/cgi/viewcontent.cgi?article=1206&context=nyu_lewp.

Using a new set of indicators that measures the *property insecurity* of ethnocultural minorities, this Article demonstrates empirically that severe property insecurity for some groups often exists alongside very secure property rights for others. Heterogeneity in property rights enjoyment means that property rights can simultaneously be strong and secure for some groups and weak and insecure for other groups. In many countries, members of marginalized groups face significantly higher property insecurity than the majority, foreign investors, or domestic elites. The cross-national indices of institutional quality widely used in the research literature—initially designed to assess the property security of foreign investors—fail to adequately account for the legal institutions encountered by marginalized minority groups.

Moreover, this Article demonstrates empirically that the property rights security or insecurity experienced by marginalized groups is not related to long-run economic development. Economic growth can still occur when the property rights of the majority are secure but marginalized minorities face a high risk of expropriation. In such instances, land is reallocated into the hands of investors with better access to know-how, capital, and other complementary production inputs. At the same time, secure property rights for marginalized minorities are not required for the government accountability that facilitates aggregate growth-enhancing economic policies: security of property rights for elites can increase accountability of the governing elites towards other elites with divergent interests, while broad but not universal property rights security can generate accountability of public officials to the majority while still excluding the minority. Both mechanisms can incentivize the adoption of broadly growth-enhancing economic policies that benefit the majority but harm some other groups.

These findings have serious implications, opening up questions regarding potential trade-offs between property rights security for marginalized groups, property rights security for more politically powerful constituencies, socioeconomic inclusion, and economic growth. On the one hand, if aggregate economic growth is the objective, then policymakers may wish to ignore (or encourage) the expropriation of land and resources from marginalized groups, and the reallocation of these resources into the hands of more productive investors or political constituencies who will advocate for growth enhancing policies.

On the other hand, if broadly inclusive economic development that reduces poverty and socioeconomic exclusion in the short-term is the central goal, then attention must be paid *ex ante* to distributional issues in terms of both outcomes and processes. This is a real and pressing issue today on almost every continent, and in countries as diverse as China, Indonesia, Brazil, Ecuador, Kenya, and Nigeria. Emerging economies, in particular, may seek to encourage capital inflows by improving the investment climate for foreign direct investment, and to develop hydropower, oil, arable land, and other natural resources often located in rural regions to power new industry and feed a growing urban population. The challenge from a policy perspective arises if there are trade-offs between property rights security for marginalized groups and aggregate economic growth. Ethnocultural groups with the least power and voice may be left out by growth-enhancing policies that strengthen the property rights of those with access to capital and political influence by weakening the property rights of marginalized groups. This suggests that a narrow focus on aggregate economic growth—without specific attention also to political and economic inclusion and the equitable application of the law—may hurt the most vulnerable.

I. LAW, POWER, AND HETEROGENEITY IN RIGHTS ENJOYMENT

A. The Scope, Allocation, and Enforcement of Property Rights

Some may disagree, but in reality, law is not impartial. In fact, it reflects the distribution and operation of political power. Yet recent legal and economics research on the relationship between property rights and economic development implicitly assumes that the laws of a country are applied uniformly to all without distinction.[10] In the cross-national literature in particular, if a state is considered to have a high level of property rights security and strong protections for property rights, everyone's rights are taken as equally secure and the country is categorized as having "good institutions".[11] Likewise, if a state is considered to have a low level of property rights security and weak protection for property rights, everyone's property rights are viewed as equally insecure and the country is classified as

10. *See supra* note 7 and accompanying text; *infra* Section II.B.
11. *Id.*

having "bad institutions."[12] However, heterogeneity in the rule of law and disparities in property rights enjoyment between different groups within the same country have been largely ignored.

Work within institutional economics certainly recognizes that the "rules of the game" depend on relations of power.[13] In the dialogic between institutional rules and organizational actors, individuals and organizations operate to maximize their own interests within a given set of incentives determined by the existing institutional constraints, but then also work to change these rules to their own benefit. This is the theoretical heart of the vast body of research that foregrounds the role played by institutions in long-run economic development.[14]

However, insufficient attention has been paid to the fact that not only the form of institutions, but also the scope and application of the rules depend on politics and the distribution of power. A one-dimensional lens is particularly apt to distort reality in the case of the right to property, which is a zero-sum game. Protecting the resource claims of some parties requires preventing others from using those same resources; therefore, property rights must be defined and allocated before their protection can be strong or weak.[15] Given the zero-sum nature of

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12. *Id.*

13. *See, e.g.*, ROBERT H. BATES, MARKETS AND STATES IN TROPICAL AFRICA: THE POLITICAL BASIS OF AGRICULTURAL POLICIES 2–3 (1981); North & Weingast, *supra* note 2, at 803; INSTITUTIONS, *supra* note 2, at 3–10, 107–118; DOUGLASS C. NORTH, UNDERSTANDING THE PROCESS OF ECONOMIC CHANGE 2–4 (2005); Stanley L. Engerman & Kenneth L. Sokoloff, *Factor Endowments, Institutions, and Differential Paths of Growth Among New World Economies: A View from Economic Historians of the United States*, *in* HOW LATIN AMERICA FELL BEHIND 260 (Stephan Haber ed., 1997) [hereinafter *Institutions*]; Stanley L. Engerman & Kenneth L. Sokoloff, *Factor Endowments, Inequality, and Paths of Development among New World Economies*, 3 ECONOMIA 41, 44, 57, 60, 64, 82–83 (2002) [hereinafter *Inequality*]; Daniel Kaufmann, Aart Kraay & Pablo Zoido-Lobaton, *Governance Matters II: Updated Indicators for 2000-2001* (World Bank Pol'y Res., Working Paper No. 2772, 2002); DARON ACEMOGLU & JAMES A. ROBINSON, ECONOMIC ORIGINS OF DICTATORSHIP AND DEMOCRACY (2006); Daron Acemoglu & James A. Robinson, *Persistence of Power, Elites and Institutions*, 98 AM. ECON. REV. 267, 268, 287 (2008).

14. *See*, *e.g.*, KEVIN DAVIS, INSTITUTIONS AND ECONOMIC PERFORMANCE (2010); Justin Yifu Lin & Jeffrey B. Nugent, *Institutions and Economic Development*, *in* HANDBOOK OF DEVELOPMENT ECONOMICS (J. Behrman & T.N. Srinivasan eds., 1995).

15. Kennedy, *supra* note 5, at 8.

property rights, alongside the role of political power in determining *de facto* institutional environments, the allocation and enforcement of resource entitlements is particularly prone to heterogeneous treatment of groups and claimants.

A property right is relational—it gives the possessor superior claims to a specific resource against the rest of the world, or some subset thereof.[16] The possessor of a property right asserts and exercises her rights in relation to other potential claimants; she can simultaneously have superior rights against some, but inferior rights against others. For example, imagine a home owner who takes out three mortgages, using his home as collateral. If he defaults on all three loans, the holder of the first priority mortgage lien has the right to the value of the property up until the amount of the lien is satisfied, then the holder of the second priority lien—who has an inferior right compared to that of the first lender, but a superior claim to that of the third lender—has a right to the value of the property used as collateral until the debt is cleared, and so on.[17] The common law rule of "finders keepers" likewise exemplifies the relational nature of property rights—the "finder" has superior rights to a found object against everyone except the original owner who lost the item.[18] Clearly, therefore, the allocation and protection of a secure resource entitlement for one party inherently requires denying an alternative claimant the ability to control the use of that resource.

Classical political economists recognized the relational nature of property rights and the role played by political power in defining, allocating, and enforcing claims to resource entitlements. Although Jean-Jacques Rousseau lauded secure private property rights as a prerequisite for market exchange and a functioning modern economy,[19] he also argued that the enshrinement of property rights in a social contract was, in essence, a grand theft perpetrated by the rich, clever, and strong

16. *See* Hohfeld, *supra* note 4, at 743–45, 747; Calabresi & Melamed, *supra* note 4, at 1089–93.

17. RESTATEMENT (THIRD) OF PROP.: MORTGAGES § 7.1 cmt. a (1997).

18. *See* Armory v. Delamirie, (1722) 93 Eng. Rep. 664 (K.B); J.G. SPRANKLING, UNDERSTANDING PROPERTY LAW §§ 4.04–.05 (2d ed. 2007).

19. Yoav Peled, *Rousseau's Inhibited Radicalism: An Analysis of His Political Thought in Light of His Economic Ideas*, 74 AM. POL. SCI. REV. 1034, 1036–37, 1043 (1980).

on the less well-off.[20] Having obtained *de facto* control over land and resources, Rousseau contended that the *de jure* protection of these property rights claims protected and perpetuated the tenuous and previously contested position of elites.[21] Additionally, Karl Marx argued that the private property relations that form the legal superstructure of capitalism entrench the already powerful:[22] in this view, private property enables capital accumulation, leading to ever increasing inequality and putting the owners of the means of production in an advantaged bargaining position vis-à-vis wage laborers, which allows the owners of capital to capture all surplus value.

Moreover, the role of political power in determining the scope, allocation, and enforcement of property rights is readily apparent both historically and in the modern administrative state.[23] The multiplicity of potential property rights that may or may not be recognized and protected by *de jure* and *de facto* legal institutions also contributes to heterogeneity in the enjoyment of secure property rights. Property rights are widely understood by legal scholars as a "bundle of sticks", with each stick in the bundle representing a right or a privilege.[24] For example, the English case of *Sturges v. Bridgman*—upon which Ronald Coase based his famous *The Problem of Social Cost*[25]—addressed whether a physician had the right to stop his next-door neighbor, a confectioner, from operating his mortars to grind sugar.[26] The question is whether, in the bundle of sticks that constituted property ownership, the doctor had the right to enjoy silence so that he could see his patients undisturbed, or whether the confectioner had the right to produce sugar in his factory. Coase argued that inefficiency results when neither right is clearly defined, thereby preventing bargaining;[27] here

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20. ROUSSEAU, *supra* note 2, at 55–67.

21. *Id.* at 55–84.

22. *See* MARX, CAPITAL, *supra* note 2, at 831–58; Karl Marx, *Economic & Philosophic Manuscripts*, *in* THE MARX-ENGELS READER (R. Tucker ed., 1978) (1844).

23. *See supra* note 6 and accompanying text.

24. Gerald Korngold & Andrew P. Morriss, *Introduction* to PROPERTY STORIES 1 (Gerald Korngold & Andrew P. Morriss eds., 2d ed. 2009); Kennedy, *supra* note 5, at 26.

25. Coase, *supra* note 2, at 8–10.

26. Sturges v. Bridgman [1879] 11 Ch.D. 852 (Eng.).

27. *See generally* Coase, *supra* note 2.

the first-order problem is clearly not in making the property right secure, but in defining and allocating it in the first place.

The wide diversity of rights that may be enjoyed as part of a bundle of property rights is evident in many low and middle income countries. Throughout Africa, for example, "one user might have the right to sow and harvest, another to collect fruit from trees on the land, and a third to bring in livestock to feed on crop residues after the harvest."[28] In southeast Nigeria and southern Mali, the village leaders allocate farming land to family heads based on need but retain reversionary rights to the land as trustees on behalf of the group, while individuals have enduring rights to any physical structures they build and to any trees they plant. This means that one family could have temporary use rights to the soil while the son of the person who planted nut trees on the land the generation prior has the right to gather the nuts.[29] In the north-central flood plains of the Niger Delta, where herding, farming, and fishing coexist and are practiced by different ethnic groups, herders have the right to use given land for pasture during the off-season, while farmers use this same land to grow crops during a different part of the year.[30] When some kinds of rights—some of the "sticks in the bundle"—are protected by property rights institutions, but others are not, the groups whose members enjoy the protected kinds of rights benefit, while those with unprotected rights lose out.

If private freehold titles are protected, but various usufruct rights such as hunting, fishing, grazing cattle, and gathering berries are not, then the parties best positioned to claim private freehold ownership benefit while others lose access to formerly shared resources. Because property rights can be understood as a bundle of sticks, when different groups lay claim to

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28. Tor A. Benjaminsen, *Formalising Land Tenure in Rural Africa*, 2 NORWEGIAN INST. OF INT'L AFF. 362 (2002); JOHN W. BRUCE, COUNTRY PROFILES OF LAND TENURE: AFRICA 266–70 (1996); Rohini Pande & Christopher Udry, *Institutions and Development: A View From Below*, *in* ADVANCES IN ECONOMICS AND ECONOMETRICS: THEORY AND APPLICATIONS 345, 377 (Richard Blundell et al. eds., 2006).

29. *See* Benjaminsen, *supra* note 40, at 362; Karol C. Boudreaux, *The Human Face of Resource Conflict: Property and Power in Nigeria,* 7 SAN DIEGO INT'L L.J. 61, 71–76 (2005).

30. *See generally id*. *See also* Peter A. Dewees, *Trees and Farm Boundaries: Farm Forestry, Land Tenure and Reform in Kenya, Africa*, 65 AFR: J. INT'L AFR. INST. 217, 220–21 (1995).

different kinds of sticks, the recognition and protection of some rights, but not others, in the bundle creates heterogeneity in property rights security. Therefore, the scope of application of property rights protection can engender heterogeneity in the security of property rights enjoyment.

Due to the relational, zero-sum nature of property rights, as well as the complexity and multidimensionality of the bundle of rights that constitute property interests, we should expect that the role played by political power in determining the institutional rules of the game will often lead to heterogeneity between groups within countries in the enjoyment of property rights security—yet this is not the baseline assumption of much of the "institutions and economic development" research literature.[31]

B. Measuring Property Rights Security: One-Dimensional Indices in the Research Literature

Cross-country comparative research—which aims to explain aggregate growth or other development outcomes with reference to institutional conditions for an entire country-unit—is particularly susceptible to the eliding of property rights' inherent complexity. Recent "institutions and development" research has often unwittingly adopted a legal positivist approach, in which law is seen as inherently impartial in its application.[32] Heterogeneity in the scope and application of *de facto* institutions is effaced by this simplistic, legal positivist framework. [33]

This section examines the cross-country indices of institutional quality most widely used in the research literature, revealing that due to vantage point bias and methodology of construction, scores on these indices fail to adequately reflect the legal institutions encountered by marginalized minority groups. The focus is on indicators which have been widely influential: the International Country Risk Guide ("ICRG"), the Heritage Foundation's property rights index, and the World

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31. *See supra* note 7 and accompanying text; *see also infra* Section II.B.

32. HANS KELSEN, PURE THEORY OF LAW 1 (2007).

33. In contrast, legal realists have long sought to penetrate beyond stated rules and norms to understand how the law operates in action, highlighting the difference between the "law on the books" and "law in action". *See, e.g.*, Karl N. Llewellyn, *Some Realism About Realism—Responding to Dean Pound*, 44 HARV. L. REV. 1222 (1931); Thomas J. Miles & Cass R. Sunstein, *The New Legal Realism*, 75 U. CHI. L. REV. 831 (2008).

Bank's Worldwide Governance Indicators. The ICRG, a component of Political Risk Services ("PRS"), was first created in 1980 by the editors of a weekly newsletter on international finance and economics called *International Reports*.[34] The ICRG risk ratings system has twenty-two components grouped into three major categories of risk: political, financial, and economic. Each component is assigned a numerical value, with the highest number of points indicating the lowest risk. ICRG scores are based on a subjective assessment by experts employed by PRS. The property rights index evaluates the risk of "outright confiscation and forced nationalization of property;" lower ratings are assigned to "countries where expropriation of private foreign investment is a likely event."[35]

The initial purpose of the ICRG was to "meet the needs of clients for an in-depth and exhaustively researched analysis of the potential risks to international business operations."[36] According to PRS, the primary users and consumers of the ICRG ratings data are "institutional investors, banks, multinational corporations, importers, exporters, and foreign exchange traders," who use the ICRG model to "determine how financial, economic, and political risk might affect their business and investments now and in the future."[37]

Given that the intended customers of the ICRG are investors, multinational corporations, importers, and exporters, it is only logical that the ranking system would be targeted to reflect the investment risks posed to these kinds of customers. In other words, the information on expropriation risk, by its very design, is meant to reflect the risk posed to the enterprises of the large and often multinational businesses that are purchasing the ICRG data, not the average citizen of a country—and even less the property rights of marginalized ethnocultural minority groups, who are clearly not purchasing the ICRG data. This intentional evaluation of risk from the standpoint of foreign investors and domestic elites is reinforced by the source of the data—expert evaluations—as financial and business experts

34. *International Country Risk Guide Methodology*, POLITICAL RISK SERV. GRP., http://www.prsgroup.com/ICRG_Methodology.aspx (last visited Nov. 9, 2012).

35. *IRIS-3 File of International Country Risk Guide (ICRG) Data*, IRIS CTR., http://weber.ucsd.edu/~tkousser/IRIS_doc.pdf (last visited Nov. 9, 2012).

36. *International Country Risk Guide Methodology*, *supra* note 51.

37. *Id.*

are likely to be more familiar with threats posed to international capital than to poor local resource users.[38]

This property rights index from ICRG has been widely used in cross-country research as a proxy for "institutional quality" in a general sense, and for the security of property rights more specifically. For example, in their well-known and widely-cited article examining the relationship between institutions and long-run growth, Stephen Knack and Philip Keefer used a rescaled version of the ICRG index score to measure "institutional quality."[39] The frequently cited work of Daron Acemoglu, Simon Johnson, and James A. Robinson, in which settler mortality is used as an instrumental variable for institutions, also relies upon the ICRG risk of expropriation index as a proxy for institutional quality.[40] The ICRG index is pervasive as well in the cross-country research on the relationship among natural resource abundance, institutions, growth, and conflict.[41]

A number of other indices also attempt to quantitatively measure property rights across countries. Most prominently, the Heritage Foundation scores "the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws."[42] The Heritage Foundation's property rights indicator is expansive, addressing: "the likelihood that private property will be expropriated[,] . . . the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts."[43] Like the ICRG index, the less certain the legal protection of property, the lower a country's score. For example, a country receives 100% if "private property is guaranteed by the government[,] [t]he court system

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38. Kevin E. Davis, *What Can the Rule of Law Variable Tell Us About Rule of Law Reforms?*, 26 MICH. J. INT'L L. 141, 148–49, 150–51 (2004).

39. Knack & Keefer, *supra* note 7, at 210, 212.

40. *See Colonial Origins*, *supra* note 2, at 1370–71; *Geography and Institutions*, *supra* note 7, at 1266; *see also infra* Part I.C.

41. *See* Anne D. Boschini, Jan Pettersson & Jesper Roine, *Resource Curse or Not: A Question of Appropriability*, 109 SCANDINAVIAN J. ECON. 593, 601, 612 (2007); Simeon Djankov and Marta Reynal-Querol, *Poverty and Civil Wars: Revisiting the Evidence*, 92 REV. ECON. STAT. 1035, 1037–1041 (2010); Halvor Mehlum, Karl Moene & Ragnar Torvik, *Institutions and the Resource Curse*, 116 ECON. J. 1, 13–14 (2006).

42. HERITAGE FOUNDATION, 2012 INDEX OF ECONOMIC FREEDOM 455 (2012), *available at* http://www.heritage.org/index/pdf/Index09_Methodology.pdf.

43. *Id.*

enforces contracts efficiently and quickly[, and] [t]he justice system punishes those who unlawfully confiscate private property."[44] At the other extreme, a country receives a score of 0% when "private property is outlawed, and all property belongs to the state."[45] The index is a subjective score, based on information gleaned from the following sources, in order of the following priority: Economist Intelligence Unit, *Country Commerce*; U.S. Department of Commerce, *Country Commercial Guide*; U.S. Department of State, *Country Reports on Human Rights Practices*; and U.S. Department of State, *Investment Climate Statements*.[46] Once again, all these sources except for the U.S. State Department Reports have as their primary audience large commercial investors interested in assessing the investment risks posed to their business ventures. Moreover, countries receive high scores only for securely protecting private property rights. Secure protection of the communal property rights of ethnocultural minorities is not considered by the index. This is a significant shortcoming, given that throughout Africa, Latin America, Asia, North America, and Europe, over 300 million members of indigenous groups hold land communally in accordance with customary law.[47]

The World Bank's widely used Worldwide Governance Indicators ("WGI"), initially developed by Daniel Kaufmann, Aart Kraay, and Pablo Zoido-Lobaton,[48] incorporate the Heritage Foundation's property security measure as well as the property rights measure from ICRG. The WGI consists of aggregate indices corresponding to six basic governance concepts: (1) Voice & Accountability; (2) Political Instability & Violence; (3) Government Effectiveness; (4) Regulatory Burden; (5) Rule of Law; and (6) Graft. These aggregate indices are based on governance indicators taken from thirty-five data sources—including both

44. *Id.*

45. *Id.*

46. *Id.*

47. U.N. DEV. PROGRAMME [UNDP], INDIGENOUS PEOPLES IN COMPARATIVE PERSPECTIVE–PROBLEMS AND POLICIES 1, 3–5 (2004) (by Rodolfo Stavenhagen), http://hdr.undp.org/en/reports/global/hdr2004/papers/HDR2004_Rodolfo_Stavenhagen.pdf; Secretariat of the Permanent Forum on Indigenous Issues, Dep't of Econ. and Soc. Affairs, *State of the World's Indigenous Peoples*, at 1, 51–57, U.N. Doc. ST/ESA/328 (Dec. 2009).

48. *Governance Matters*, *supra* note 7, at 21.

the ICRG and the Heritage Foundation Index.[49] It would be difficult to overstate the reach and influence of the WGI as a research tool in cross-country analysis. The most recent *Governance Matters* publication[50] ranks as one of the top fifty downloads on the Social Science Research Network ("SSRN").[51]

C. A New Index: Measuring the Property Insecurity of Marginalized Groups

This Article presents an alternative *Property Insecurity Index*, specifically designed to evaluate the security of property rights enjoyed or not enjoyed by marginalized groups, rather than foreign investors and domestic elites. The *Property Insecurity Index* is a composite measure of the property insecurity experienced by each minority group in every country included in the *Minorities at Risk* ("MAR") database.[52] The MAR database assesses the political and economic exclusion of ethnocultural minorities in every country with a population of at least 500,000.[53] Experts assign a numerical score indicating the severity of exclusion to each group along an array of political, economic, social, and cultural dimensions. A "minority at risk" is defined as "an ethnopolitical group (non-state communal group) that collectively suffers, or benefits from, systematic discriminatory treatment vis-à-vis other groups in a society; and/or collectively mobilizes in defense or promotion of its self-defined interests."[54] The following four variables identify the factors present in the group which make it a minority at risk: (1) the group is subject to discrimination at present; (2) the group is disadvantaged due to past discrimination; (3) the group is an advantaged minority; and (4) the group supports

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49. Daniel Kaufmann, Aart Kraay & Massimo Mastruzzi, *Governance Matters VIII: Aggregate and Individual Governance Indicators 1996–2008* 7, 29 (World Bank Pol'y Res., Working Paper No. 4978, 2009).

50. *Id.*

51. *SSRN Top 10,000 Papers*, SOCIAL SCIENCE RESEARCH NETWORK, http://hq.ssrn.com/rankings/Ranking_display.cfm?TRN_gID=10&requesttimeout=900 (last visited Nov. 9, 2012).

52. The MAR database was developed and is maintained by the University of Maryland's Center for International Development and Conflict Management. CTR. FOR INT'L DEV. AND CONFLICT MGMT., MINORITIES AT RISK (MAR) CODEBOOK VERSION 2/2009 at 1 (2009), *available at* http://www.cidcm.umd.edu/mar/data/mar_codebook_Feb09.pdf.

53. *Id.*

54. *Id.*

political organizations advocating greater group rights. Groups are included in the MAR database if the group has a population larger than 100,000 or greater than 1% of a country's population.[55]

The property insecurity score for the *Property Insecurity Index* for each group is based on MAR scores in three dimensions: dispossession from land, forced internal resettlement, and internal resettlement by policy. Like the ICRG and Heritage Foundation indices, the *Property Insecurity Index* measures the *de facto*, rather than *de jure*, protection from expropriation experienced by ethnocultural minority groups. The index detects state failure to protect the property rights of minority groups from incursions by other (possibly more powerful and influential) private actors, as well as direct state acts of expropriation. Country *Property Insecurity* scores are generated by aggregating the property insecurity scores of all minority groups within each country.

There are three versions of the *Property Insecurity Index*. The first, *Property Insecurity (Weighted)*, is a sum of group property insecurities weighted by the group's proportional representation within a country's population. The second, *Property Insecurity (Max)*, reflects the property insecurity of the worst-off group in a country. The third, *Property Insecurity (Mean)* reflects the average property insecurity score of minority groups within a country. All three versions are compared to the ICRG and Heritage Foundation Indices in Part I.D below. *Property Insecurity (Max)* is then used in Part II to examine the relation between property insecurity for marginalized groups and long-run economic development, because *Property Insecurity (Max)* best captures the most severe property insecurity faced by any group in a country.

55. *Id*. at 1-2.

Property Insecurity for Group G = P_g = (eviction_g + forced_resettle_g + resettle_policy_g)/3

Property Insecurity for Country I (Weighted) = $\Sigma(\text{gpro}_g)P_g$

Property Insecurity for Country I (Max) = P_{worst}

Property Insecurity for Country I (Mean) = Average(P_g)

Where gpro_g = group's proportion of the population, eviction_g = dispossession from land, forced_resettle_g = forced internal resettlement, and resettle_policy_g = internal resettlement by policy.

This *Property Insecurity Index* departs fundamentally from other measures of property rights security and institutional quality in two ways. First, it relies on data sources that assess the experience of the worst-off populations in a country—precisely those groups that are supposedly the intended targets of economic development initiatives. Second, it explicitly aims to capture and aggregate the experience of many groups within a single country, rather than attempting to present an overall country measure of the average level of institutional quality supposedly experienced by everyone. In this sense, the conceptual starting point of the *Property Insecurity* measure is that a single indicator of property rights (or "institutional quality" more broadly) may potentially efface heterogeneity in rights enjoyment; an index that measures only averages, or the situation of elites, or both, inherently cannot detect variations in the experiences of different groups.

D. Empirical Evidence of Heterogeneity in Property Rights Security

The basic question of whether or not aggregate cross-country indices of property rights security reflect the property rights enjoyed by marginalized minorities can be answered empirically by examining the degree to which widely used measures of property rights institutions correlate with the level of property insecurity faced by ethnocultural minority groups. If property rights are homogeneous within countries, as implicitly assumed in much of the cross-country institutions and economic development research, then all measures of property rights security would be highly correlated—with any correlation less than one reflecting only the measurement error generated by the assignation of scores through subjective evaluation. The

ICRG index and the Heritage Foundation index would therefore be highly and positively correlated with each other, and both would be inversely related to the *Property Insecurity Index*. If instead property rights are indeed enjoyed heterogeneously by different groups within the same country, but the aggregate property rights indices are still reflecting the rights enjoyed by ethnocultural minorities—as opposed to simply measuring the rights enjoyment of foreign investors and domestic elites—then the ICRG and the Heritage Foundation Property Rights indices should be highly and inversely related to the *Property Insecurity Index (Weighted)*, and weakly and inversely related to the *Property Insecurity Index (Mean)*.

The empirical evidence reveals both that (a) property rights enjoyment is indeed heterogeneous between groups within countries, and (b) existing widely used cross-country indices of property rights fail to adequately consider the property rights security enjoyed by marginalized minorities. Although the Heritage Foundation and the ICRG measures indeed correspond highly with each other, neither is related to our new indicators that measure the property insecurity experienced by marginalized groups. Results are below in Tables 2 and 3, which show Kendall's rank correlation coefficients for the different property rights measures. The data availability for the Heritage Foundation and the ICRG measure differ, so Table 2 takes the years available for the ICRG Index as the baseline dataset, while Table 3 takes the years available for the Heritage Foundation Index as the baseline dataset. Descriptive statistics are displayed in Table 1.

Kendall's coefficient is the appropriate measure of correlation because the data is not normally distributed—the Heritage Foundation and ICRG measures are left-skewed, while the *Property Insecurity Index* has a large number of zero value observations and is therefore right-skewed. Unlike Pearson's correlation coefficient, the Kendall coefficient does not assume normality.[56] And unlike Spearman's coefficient, Kendall's coef-

56. Correlation measures the relationship between variables. The widely used Pearson product moment correlation reflects the degree of linear relationship between two variables, and is calculated assuming that the variables are continuous and normally distributed, there are few or no outliers, and any relationship is linear. The Spearman's correlation is the nonparametric version of the Pearson correlation, and can be used when the assumptions required for the Pearson test are violated, such as for ordinal and rank-

ficient is robust to "ties", i.e., identical values for different observations, which are prevalent in this data set.

The correlation between the two aggregate measures of property rights security—the ICRG and Heritage Foundation Indices—is very high, regardless of the time period. Yet there is no statistical relationship whatsoever between the property insecurity of marginalized minorities and the ICRG or Heritage Foundation measures. The scatter plot graphs following the correlation tables further illustrate that the lack of any significant correlation between standard property rights measures and the new *Property Insecurity* indices is not an artifact of some nonlinear relation; there simply is no relation.

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ordered variables, and when the underlying data is not normally distributed or there is a monotonic but non-linear relationship between variables. The Kendall correlation coefficient is a different non-parametric test that measures rank correlations, which is robust to ties and penalizes lack of correspondence by distance of dislocation rather than square of the distance.

Table 1. Descriptive Statistics

	Whole World	High Income	Low Income	Oceania	Asia	Africa	Latin America and Caribbean	North America	Europe	AJR Sample
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Log GDP per capita (PPP) in 1995	8.37	9.45	7.30	8.35	8.45	7.24	8.62	10.33	9.47	8.07
	(1.27)	(0.07)	(0.07)	(0.29)	(0.20)	(0.14)	(0.10)	(0.10)	(0.14)	(0.15)
Log GDP per capita (PPP) in 2005	8.64	9.74	7.54	8.42	8.78	7.48	8.84	10.55	9.80	8.26
	(1.30)	(0.07)	(0.08)	(0.32)	(0.19)	(0.15)	(0.11)	(0.09)	(0.11)	(0.15)
HDI Score, 1995-2000	0.69	0.84	0.55	0.75	0.71	0.50	0.74	0.94	0.86	0.64
	(0.18)	(0.01)	(0.02)	(0.07)	(0.02)	(0.02)	(0.02)	(0.00)	(0.01)	(0.02)
HDI Score, 2005	0.73	0.86	0.59	0.75	0.75	0.53	0.80	0.96	0.89	0.67
	(0.18)	(0.01)	(0.02)	(0.05)	(0.02)	(0.02)	(0.01)	(0.00)	(0.01)	(0.02)
ICRG Property Rights, 1985-1995	7.06	8.18	6.00	7.32	7.06	5.77	6.39	9.87	9.14	6.54
	(1.85)	(0.18)	(0.17)	(1.57)	(0.28)	(0.21)	(0.22)	(0.13)	(0.18)	(0.18)
Heritage Foundation Property Rights, 1995-2004	50.76	63.23	39.50	64.40	47.09	40.56	50.13	90	63.20	49.70
	(22.69)	(2.47)	(1.53)	(10.55)	(3.62)	(2.21)	(3.73)	(0.00)	(3.77)	(2.46)
Property Insecurity Weighted, 1985-1995	1.22	1.19	1.26	1.05	1.26	1.17	1.46	1.02	1.01	1.30
	(0.55)	(0.06)	(0.10)	(0.05)	(0.08)	(0.11)	(0.20)	(0.02)	(0.01)	(0.09)
Property Insecurity Mean, 1985-1995	2.01	1.88	2.14	1.60	2.24	1.49	3.10	1.25	1.72	2.20
	(1.50)	(0.19)	(0.21)	(0.56)	(0.29)	(0.16)	(0.44)	(0.25)	(0.23)	(0.21)
Property Insecurity Max, 1985-1995	2.64	2.47	2.79	1.56	3.16	1.92	3.38	1.75	2.59	2.89
	(2.10)	(0.25)	(0.30)	(0.56)	(0.41)	(0.27)	(0.44)	(0.75)	(0.49)	(0.29)
Property Insecurity Weighted, 1995-2003	1.18	1.11	1.17	1.00	1.28	1.23	1.10	1.03	1.10	1.10
	(0.59)	(0.05)	(0.08)	(0.00)	(0.12)	(0.14)	(0.04)	(0.03)	(0.04)	(0.03)
Property Insecurity Mean, 1995-2003	1.79	1.81	1.66	1.29	1.97	1.70	2.37	1.40	1.30	1.81
	(1.26)	(0.21)	(0.13)	(0.15)	(0.26)	(0.25)	(0.26)	(0.40)	(0.09)	(0.15)
Property Insecurity Max, 1995-2003	2.35	2.31	2.17	1.31	2.76	2.12	3.01	2.19	1.70	2.40
	(1.79)	(0.25)	(0.20)	(0.15)	(0.38)	(0.32)	(0.34)	(1.19)	(0.22)	(0.22)
Countries	198	87	87	14	49	53	37	2	42	64

Values are averages during sample period, with standard deviations in parentheses. Columns 2 and 3 split the sample in column 1 by the median income during the relevant period (from the World Bank's World Development Indicators 2008) in the sample of column 1. The ICRG property rights index is the 0 to 10 scaled ICRG/IRIS version used by Acemoglu, Johnson, and Robinson (2001, 2002).

Table 2. Correlations: 1985-1995

		ICRG Property Rights, 1985-1995	Heritage Foundation Property Rights, 1995-2004	Property Insecurity Weighted, 1985-1995	Property Insecurity Mean, 1985-1995	Property Insecurity Max, 1985-1995
ICRG Property Rights, 1985-1995	Correlation	1				
	N	83				
Heritage Foundation Property Rights, 1995-2004	Correlation	0.517*	1			
	N	83	83			
Property Insecurity Weighted, 1985-1995	Correlation	-0.142	-0.043	1		
	N	83	83	83		
Property Insecurity Mean, 1985-1995	Correlation	-0.108	-0.083	0.582*	1	
	N	83	83	83	83	
Property Insecurity Max, 1985-1995	Correlation	-0.116	-0.132	0.566*	0.801*	1
	N	83	83	83	83	83

*Notes: 'Property Insecurity Weighted' is the sum of group property insecurity scores, weighted by their proportion of the population; 'Property Insecurity Maximum' is the property insecurity score of the worst off group; 'Property Insecurity Mean' is the unweighted average of group property insecurity scores. * represents significance at the 5% level.*

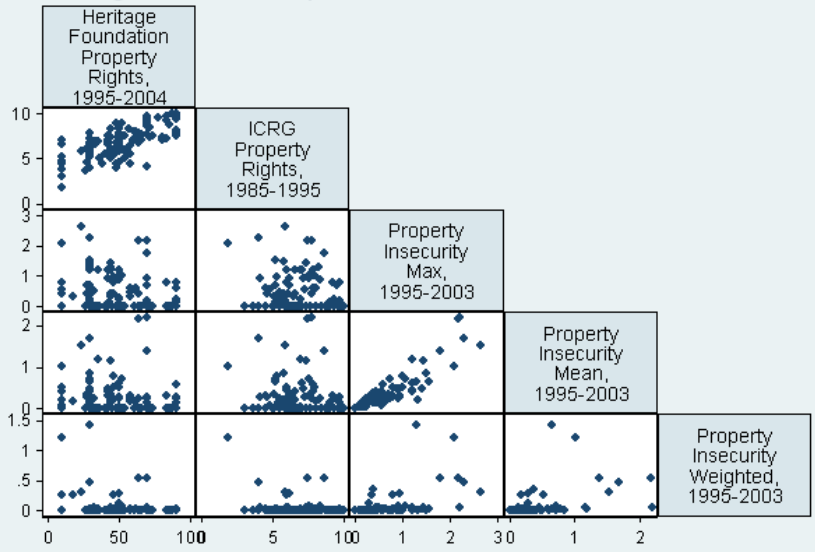
Table 3. Correlations: 1995-2004

		Heritage Foundation Property Rights, 1995-2004	ICRG Property Rights, 1985-1995	Property Insecurity Weighted, 1995-2003	Property Insecurity Mean, 1995-2003	Property Insecurity Max, 1995-2003
Heritage Foundation Property Rights, 1995-2004	Correlation	1				
	N	89				
ICRG Property Rights, 1985-1995	Correlation	0.526*	1			
	N	89	89			
Property Insecurity Weighted, 1995-2003	Correlation	-0.023	-0.068	1		
	N	89	89	89		
Property Insecurity Mean, 1995-2003	Correlation	-0.143	-0.098	0.662*	1	
	N	89	89	89	89	
Property Insecurity Max, 1995-2003	Correlation	-0.161*	-0.087	0.680*	0.880*	1
	N	89	89	89	89	89

*Notes: 'Property Insecurity Weighted' is the sum of group property insecurity scores, weighted by their proportion of the population; 'Property Insecurity Maximum' is the property insecurity score of the worst off group; 'Property Insecurity Mean' is the unweighted average of group property insecurity scores. * represents significance at the 5% level. Phase IV release of the MAR dataset includes data from 1945-2003.*

Figure 1. Scatterplot of Correlations: 1985-1995

Figure 2. Scatterplot of Correlations: 1995-2004



II. PROPERTY RIGHTS & ECONOMIC DEVELOPMENT

A. Micro and Macro Theories: Why It Matters Whose Property Rights Are Secure

There is an extraordinarily large and diverse body of research regarding the relationship between property rights and economic development. Most social scientists—from classical political economists to contemporary legal scholars and new institutional economists—argue that secure property rights are a necessary prerequisite for economic development.[57] However, implicit and unstated in most of these theories is that it fundamentally matters *whose property rights are secure*. From a neoclassical and new institutional "micro" perspective, only secure property rights for those with skills, knowledge, and capital lead to economic growth. From a political economy and new institutional "macro" viewpoint, only secure property rights for those who will use their political voice to agitate for growth enhancing economic policies are related to long-run development.

At a micro level, secure property rights are thought to generate economic growth for three reasons. First, secure property rights internalize externalities, thereby incentivizing efficient levels of investment and ensuring that a resource is neither over- nor under-utilized.[58] Second, clear allocation and enforcement of resource entitlements can generate efficiency gains by reducing transaction costs in exchanges between parties and allowing reallocation to more efficient users.[59] Third, secure private property rights may facilitate access to credit and the conversion of dead assets into investment capital because the underlying asset can serve as collateral, making re-

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57. *See* VON HAYEK, *supra* note 2, at 112–16; MARX, CAPITAL, *supra* note 2, at 59–69; INSTITUTIONS, *supra* note 2, at 33–35, 51–52, 110, 121; WILLIAMSON, *supra* note 2, at 26–29; *Colonial Origins*, *supra* note 2, at 1369, 1373; Alston, Libecap, & Schneider, *supra* note 2, at 58, 59; Besley & Ghatak, *supra* note 2, at 5, 10, 26; North & Weingast, *supra* note 2; Posner, *supra* note 2, at 3–5; ROUSSEAU, *supra* note 2, at 55–84; SMITH, *supra* note 2; Rodrik, Subramanian, & Trebbi *supra* note 7, at 132.

58. *See* Demsetz, *supra* note 2, at 348; Besley, *supra* note 2, at 905–07, 916; Field, *supra* note 2, at 286–89; Goldstein & Udry, *supra* note 2, at 981–84.

59. *See* Coase, *supra* note 2, at 19; Besley & Ghatak, *supra* note 2, at 17–18.

payment commitments more enforceable.[60] Markets, credit access, and efficient resource use drive economic growth by enabling specialization and gains from trade, providing capital for reinvestment, and increasing productivity.

At the core of these micro-theories of property rights and economic development is an implicit assumption that what actually matters is property rights security for those with access to complementary production inputs, i.e., skills, knowledge, or capital. Appropriate know-how or access to capital is obviously implicit in the internalization of costs and benefits, which is the basis for secure private property rights. Efficient levels of investment and resource utilization can only occur when the owner has the necessary complementary production inputs.[61] Likewise, a growth-enhancing reallocation of resource entitlements into the hands of more efficient users will not occur—even and especially with secure private property rights—when the existence of multiple owners creates a hold-out problem,[62] or when owners place an idiosyncratic, non-economic value on a property.[63] And when property rights are *secure* but non-alienable, as is the case with forests, pastures, and fisheries held collectively according to indigenous customary tenure law,[64] greater property rights security for customary resource holders will actually prevent reallocation through voluntary market exchange. Therefore, secure property rights for owners who lack the skills or capital to invest efficiently in a resource but who also will not or cannot bargain for some reason[65] may actually prevent a more economically efficient allocation of resources and impede growth. The credit access theory explicitly recognizes the relationship between property rights, access to capital, and growth; if the poor are credit constrained for exog-

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60. *See* DE SOTO, *supra* note 2, at 63–65; Eric Field & Maximo Torero, *Do Property Titles Increase Credit Access Among the Urban Poor? Evidence from a Nationwide Titling Program* 1, 24–25 (March 2006) (unpublished manuscript), *available at* http://www.economics.harvard.edu/faculty/field/files/FieldTorerocs.pdf.

61. Besley & Ghatak, *supra* note 2, at 26–34.

62. Michael A. Heller, *The Tragedy of the Anti-Commons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 674 (1998).

63. Margaret Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 986 (1982).

64. BRUCE, *supra* note 40.

65. *Id.*; Heller, *supra* note 107, at 673–74; Radin, *supra* note 108, at 987; SENED, *supra* note 6, at 76.

enous reasons such as ethnic discrimination,[66] or actually face savings rather than credit constraints,[67] then making property rights more secure will not "unlock" hidden capital.

At a macro level, a number of Western political theorists have argued that secure private property rights engender political accountability, which in turn leads to economic policies that are broadly growth-enhancing, rather than narrowly beneficial to only powerful, rent-seeking elites.[68] According to this view, private property is an essential pillar in the protection of individual liberty. The individual economic security that private property provides is thought to act as a safeguard against the potentially totalitarian power of the state, and individuals are much more likely to actively oppose government policies when they know their livelihoods are not at risk.[69] The resulting political accountability to a broad cross-section of the population encourages governments to implement economic policies that benefit society as a whole, such as investments in education, roads, and other public goods.[70]

Relatedly, some contend that the failure of political interest groups to implement the most effective growth promoting policies and then use political power to bargain over distribution results from a commitment problem, which stems from weak property rights.[71] Since political power is in part a result of

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66. John V. Duca & Stuart S. Rosenthal, *Borrowing Constraints, Household Debt, and Racial Discrimination in Loan Markets* 15–16 (Fed. Reserve Bank of Dall., Research Paper No. 9312, 1993), *available at* http://dallasfed.org/assets/documents/research/papers/1993/wp9312.pdf.

67. Pascaline Dupas & Jonathan Robinson, *Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya* 16 (Nat'l Bureau of Econ. Research, Working Paper No. 14693, 2009), *available at* http://www.nber.org/papers/w14693; Jonathan M. Morduch, *The Microfinance Promise*, 37 J. ECON. LITERATURE 1569, 1609 (1999).

68. DARON ACEMOGLU & JAMES A. ROBINSON, WHY NATIONS FAIL (2012); *see generally Colonial Origins*, *supra* note 2; *Institutions*, *supra* note 13; *Inequality*, *supra* note 13.

69. VON HAYEK, *supra* note 2, at 115.

70. ACEMOGLU & ROBINSON, *supra* note 71, at 456–57; Stanley L. Engerman & Kenneth L. Sokoloff, *Colonialism, Inequality, and Long-Run Paths of Development* 15–17 (Nat'l Bureau of Econ. Research, Working Paper No. 11057, 2005), *available at* http://www.nber.org/papers/w11057.pdf; *Inequality*, *supra* note 21, at 75–76; *Institutions*, *supra* note 21.

71. *See generally* Daron Acemoglu, Simon Johnson & James A. Robinson, *Institutions as a Fundamental Cause of Long-Run Growth*, *in* 1A HANDBOOK OF ECONOMIC GROWTH VOLUME 385, 387 (Philippe Aghion & Steven N.

economic power, political groups who benefit relatively less from growth enhancing economic policies and foresee that their relative economic position will decline and thus their relative political strength as well, will resist pie-maximizing economic policies that hurt their relative economic positions—in fear that newly ascendant political-economic elites will change the rules of the game.[72] Strong protections against government expropriation theoretically allow the commitment problem to be overcome by ensuring that those who gain in relative economic strength will not use their new political power to seize the assets of those who gain less from pie-maximizing growth policies. Other researchers and theorists strongly disagree, contending that private property reinforces, rather than constrains, the power of elites, because it is precisely the institution of private property that puts the owners of capital inputs in an advantaged bargaining position vis-à-vis labor. In this view, private property relations facilitate the increasing concentration of economic capital and corresponding political power, rather than serving as a check on government authority.[73]

A far more nuanced understanding of the role played by secure property rights in generating government accountability and constraining the power of elites is required. Elites are not a single monolithic group—different groups of elites have different interests and compete amongst themselves for power.[74] Security of property rights for elites can therefore increase accountability of the governing elites towards other elites with divergent interests,[75] incentivizing the adoption of broadly beneficial economic policies. Likewise, accountability of public officials to the majority, facilitated by broad but not universal property rights security, may incentivize growth-enhancing

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Durlauf eds., 2005); *see also* Daron Acemoglu, *Why Not a Political Coase Theorem? Social Conflict, Commitment, and Politics*, 31 J. COMP. ECON. 620, 620 (2003), *available at* http://economics.mit.edu/files/4461.

72. *Id.* at 621, 623.

73. *See* VIVEK CHIBBER, LOCKED IN PLACE 59–61 (2003); Douglas Hay, *Property, Authority and the Criminal Law*, *in* ALBION'S FATAL TREE: CRIME AND SOCIETY IN EIGHTEENTH-CENTURY ENGLAND 17, 18–19 (Douglas Hay et al. eds., 1975); MARX, CAPITAL *supra* note 2; Marx, *supra* note 33.

74. YVES DEZALAY & BRYANT G. GARTH, THE INTERNATIONALIZATION OF PALACE WARS: LAWYERS, ECONOMISTS, AND THE CONTEST TO TRANSFORM LATIN AMERICAN STATES 22–23, 25–26 (2002).

75. JAMES M. BUCHANAN & GORDON TULLOCK, THE CALCULUS OF CONSENT: LOGICAL FOUNDATIONS OF CONSTITUTIONAL DEMOCRACY 82, 196 (1962).

economic policies that benefit the majority even while hurting some groups. Seen in this light, secure property rights for marginalized minorities are not required for the kind of government accountability that leads to aggregate, growth-enhancing economic policies. Once again, whose property rights are secure matters.

B. Empirical Econometric Findings

This section empirically tests whether the political and economic implications of secure property rights indeed do depend on whose property rights are secure, demonstrating that security of property rights for marginalized minorities is irrelevant for long-run economic development. First, the core empirical strategy is explained. Second, the results and findings are presented and discussed. Third, two alternative econometric models are employed as a robustness check to confirm the validity of the results.

A generalized least squares ("GLS") model with bootstrapped standard errors is used to regress log per capita income on the indices of property rights from ICRG, Heritage Foundation, and the new measures of *Property Insecurity*. Results are reported in Table 4. Bootstrapping entails estimating the sampling distribution by sampling with replacement from the original data, and allows hypothesis testing based on the empirical population distribution even when data is nonparametric and violates common assumptions regarding continuity or parametric families.[76] The nonparametric approach of bootstrapped standard errors was adopted because the empirical distribution of the primary variable of interest—*Property Insecurity*—does not meet parametric assumptions, and there is no *a priori* theoretical reason to assume any particular asymptotic population distribution. Therefore, in order to accurately assess statistical significance, a technique that is applicable regardless of the form of the data's probability density function had to be utilized. The results in Table 4 are based on resampling with replacement 1000 times.

The linear regressions are for the GLS equation:

$$\log y_i = \alpha + \beta P_i + \mu X_i + \epsilon_i \qquad (1)$$

76. BRADLEY EFRON & ROBERT J. TIBSHIRANI, AN INTRODUCTION TO THE BOOTSTRAP 5, 47 (1993).

where y_i is GDP per capita in country *i,* P_i is the property rights measure, X_i is a vector of covariates, and e_i is the random error term. The coefficient of interest is β, which measures the effect of property security and insecurity on per capita income. An alternative specification, where the outcome of interest is the composite Human Development Index ("HDI") from the UNDP Human Development Reports Office, is also examined. The HDI is an average of life expectancy, literacy rates plus gross school enrollment, and log per capita income.[77]

The *Property Insecurity* scores are the average from 1985 to 2003, the most recent time period for which MAR data was available for group dispossession from land, forced internal resettlement, and internal resettlement by policy. The ICRG Property Rights index is the average for 1985 to 1995, the most recent time period available and the data widely used in previous studies.[78] Heritage Foundation Property Rights scores are the average for the ten year period beginning in 1995, the first year for which data became available.[79] All dependent variables are for 2005 to mitigate the possibility of reverse causality. Regional dummies are based on classifications from the United Nations Development Programme ("UNDP").[80] This approach was adopted because "[t]he conventional choice for regional dummies—the World Bank's regional classifications—is endogenous" as the World Bank "regions themselves are defined on the basis of per capita income."[81]

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77. *Human Development Index (HDI)*, HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/statistics/hdi/ (last visited Nov. 9, 2012).

78. *See, e.g.*, *Colonial Origins*, *supra* note 2, at 1378; *Geography and Institutions*, *supra* note 7, at 1266; Boschini, Pettersson & Roine, *supra* note 63, at 600; Djankov & Reynal-Querol, *supra* note 63; Knack & Keefer, *supra*, note 7, at 217; Mehlum, Moene & Torvik, *supra* note 63, at 13.

79. *See* 2012 Index of Economic Freedom, THE HERITAGE FOUNDATION, http://www.heritage.org/index/explore?view=by-region-country-year (last visited Nov. 18, 2012) (showing that there is no data pre-1995).

80. *See* United Nations Dev. Programme, http://www.undp.org/content/undp/en/home.html (last visited Nov. 18, 2012) (The list of countries within each regional bureau is available after accessing the link of that bureau office.).

81. William Easterly, *Inequality Does Cause Underdevelopment: Insights From a New Instrument*, 84 J. DEV. ECON. 755, 765 (2007).

Table 4. Large Sample: Cross-Sectional GLS Regressions of Long-Run Development

Dependent Variable: Log per capita GDP, 2005											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Property Rights (ICRG), 1985-1995		0.603*** (0.04)	0.446*** (0.07)								
Property Rights (Heritage Foundation), 1995-2004				0.041*** (0)	0.031*** (0)						
Ln Property Insecurity Mean, 1985-2003						0.03 (0.22)	-0.037 (0.25)				
Ln Property Insecurity Max, 1985-2003								0.01 (0.01)	-0.074 (-0.17)		
Ln Property Insecurity Weighted, 1985-2003										-0.632 (0.52)	-0.25 (0.38)
Latin America and the Caribbean dummy	-1.717* (0.68)		-0.252 (0.39)		-0.573 (0.58)		-1.815** (0.62)		-1.802** (0.61)		-1.795*** (0.61)
Asia dummy	-1.769* (0.71)		-0.252 (0.39)		-0.54 (0.57)		-1.934** (0.62)		-1.930** (0.62)		-1.917** (0.62)
Africa dummy	-3.073*** (0.69)		-1.334** (0.44)		-1.567** (0.57)		-3.272*** (0.61)		-3.280*** (0.61)		-3.202*** (0.6)
Europe dummy	-0.754 (0.68)		-0.132 (0.32)		0.065 (0.56)		-1.017 (0.61)		-1.023 (0.61)		-1.012 (0.6)
Oceania dummy	-2.134** (0.74)		-0.734 (0.63)		-0.836 (0.65)		-1.459 (0.91)		-1.478 (0.86)		-1.463 (0.85)
R^2	0.435	0.581	0.683	0.471	0.667	0	0.507	0	0.508	0.016	0.497
Number of observations	178	120	120	157	157	112	112	112	112	110	110
Dependent Variable: HDI Score, 2005											
Property Rights (ICRG), 1985-1995		0.079*** (0.01)	0.047*** (0.01)								
Property Rights (Heritage Foundation), 1995-2004				0.005*** (0)	0.003*** (0)						
Property Insecurity Mean, 1985-2003						0.012 (0.03)	-0.017 (0.02)				
Property Insecurity Max, 1985-2003								0.008 (0.02)	-0.016 (0.02)		
Property Insecurity Weighted, 1985-2003										-0.088 (0.07)	-0.041 (0.04)
Latin America and the Caribbean dummy	-0.164* (0.07)		-0.011 (0.07)		-0.054 (0.07)		-0.168* (0.07)		-0.171** (0.06)		-0.172** (0.06)
Asia dummy	-0.208** (0.07)		-0.051 (0.07)		-0.079 (0.07)		-0.211** (0.07)		-0.212** (0.07)		-0.211*** (0.06)
Africa dummy	-0.426*** (0.07)		-0.247*** (0.07)		-0.289*** (0.07)		-0.454*** (0.07)		-0.456*** (0.06)		-0.448*** (0.06)
Europe dummy	-0.069 (0.07)		-0.007 (0.06)		0.01 (0.07)		-0.093 (0.06)		-0.095 (0.06)		-0.093 (0.06)
Oceania dummy	-0.209* (0.09)		-0.094 (0.094)		-0.093 (0.08)		-0.161 (0.11)		-0.166 (0.11)		-0.162 (0.12)
R^2	0.613	0.53	0.752	0.362	0.748	0.001	0.684	0.001	0.685	0.016	0.674
Number of observations	173	120	120	156	156	110	110	110	110	108	108

*Notes: Dependent variables are log GDP per capita (PPP) and the Human Development Index score; Property Rights (ICRG)is the 0 to 10 scaled version from IRIS where a higher score means more protection against expropriation; Property Insecurity Weighted is the sum of minority group insecurity weighted by the group's proportion of the population; Property Insecurity Max is the property insecurity score for the worst-off group in a country; Property Insecurity Mean is the unweighted average of group property insecurity scores; higher property insecurity scores indicate higher levels of property insecurity (the inverse of the property rights indicator); the omitted continent dummy is for North America; all property insecurity scores are logged to base e. Standard errors in parentheses. ***, **, and * represent significance at the 1%,, 5%, and 10% levels, respectively.*

The large sample of cross-country GLS regression results displayed in Table 4 indicates that there is no relationship between the property insecurity of marginalized minority groups and either GDP per capita or HDI. The findings here also reaffirm robust previous findings from other studies of a strong correlation between long-run development and security of property rights for foreign investors and domestic elites. Countries in which marginalized segments of the population suffer from severe property insecurity often have relatively high levels of per capita income and high achievement in terms of human development outcomes, reflecting steady economic growth rates since 1500 C.E. In other words, countries where marginalized groups experience significant property insecurity—as measured by the risk of forced displacement and resettlement—often still experience high growth. The property insecurity of marginalized minorities does not undermine economic development as measured by either per capita income or HDI. However, property rights security for elites and foreign investors—and other segments of the population whose experience with legal enforcement is adequately captured by the ICRG and Heritage Foundation indices—does improve long-run growth. In the relationship between property rights and long-run economic development, it fundamentally matters whose property rights are secure. Based on the new bottom-up measure of *Property Insecurity* presented here, this Article finds that although secure property rights for elites and foreign investors are positively correlated with long-run economic development, property rights for marginalized groups are not. Aggregate long-run growth is not affected by property insecurity for marginalized minorities.

From an econometric standpoint, the failure to find a significant statistical relationship between *Property Insecurity* and the dependent variables GDP per capita, and also between *Property Insecurity* and HDI means that the standard for rejecting the null hypothesis—that there is no relationship between property insecurity and economic development—was not met. Therefore, to avoid erroneous reliance on a "false negative," we must assess the likelihood of a Type II error. A Type II error occurs when the null hypothesis is not correct, but a statistical test fails to reject it regardless. The probability of a Type II error under the various model specifications and assumptions employed here can be evaluated according to given

hypothesized effect size, number of variables, and sample size. As detailed in Appendix 1, for all the empirical specifications presented in this Article, the likelihood of a Type II error is less than 5–10% (depending on parameter assumptions).[82] Therefore, the finding of no relationship between property insecurity and long-run growth is reliably robust.

However, as an additional robustness check on these empirical findings, this analysis utilizes the limited sample[83] and reproduces the ordinary least squares specification presented by Acemoglu, Johnson, and Robinson ("AJR")[84] in their well-known paper, which argues that institutional quality, specifically property rights security, is a fundamental determinant of economic development.[85] Findings can be directly compared by examining the impact of *Property Insecurity* within the same universe of observations and using the same regression strategy. For the AJR specification, the *Property Insecurity Index* covers the period 1985 to 1995—the same time frame as the ICRG Property Rights measure initially used by AJR—and the continent dummies, latitude control, and year for the per capita GDP dependent variable are also the same as those used by AJR. [86] Results in Table 5 once again indicate that there is no relationship between property insecurity of marginalized minorities and long-run economic development.

82. The likelihood of a Type II error is less than 10% in models with a small hypothesized effect (0.05), while for a slightly larger hypothesized effect (0.1), the likelihood falls to 5% or less.

83. The AJR base sample is limited to sixty-four ex-colonies for which data is available on settler mortality. *Colonial Origins*, *supra* note 2, at 1377.

84. *Id.* at 1378; *Geography and Institutions, supra* note 7, at 1252, 1253.

85. *Colonial Origins*, *supra* note 2.

86. *Colonial Origins*, *supra* note 2, at 1378–80; *Geography and Institutions, supra* note 7, at 1248–49.

Table 5. AJR Sample: OLS Regressions of Long-Run Development

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Dependent Variable: Log per capita GDP, 1995																
Property Rights (ICRG), 1985-1995	0.52*** (0.06)	0.46*** (0.07)	0.42*** (0.06)	0.40*** (0.06)												
Property Insecurity Weighted, 1985-1995					0.17 (0.68)	0.18 (0.61)	0.40 (0.50)	0.37 (0.47)								
Property Insecurity Max, 1985-1995									-0.08 (0.32)	-0.06 (0.29)	-0.22 (0.25)	-0.23 (0.24)				
Property Insecurity Mean, 1985-1995													0.18 (0.46)	0.15 (0.41)	-0.60 (0.38)	-0.59 (0.36)
Latitude		1.71** (0.72)		0.98 (0.64)		3.55*** (0.97)		2.00** (0.81)		3.55*** (0.97)		2.02** (0.80)		3.55*** (0.97)		2.00** (0.79)
Asia dummy			-0.71*** (0.24)	-.65*** (0.24)			-0.75** (0.32)	-.64** (0.31)			-0.71** (0.32)	-.60* (0.31)			-0.78** (0.31)	-.68** (0.30)
Africa dummy			-0.92*** (0.17)	-0.88*** (0.17)			-1.39*** (0.23)	-1.27*** (0.23)			-1.43*** (0.24)	-1.31*** (0.23)			-1.56*** (0.26)	-1.44*** (0.25)
"Other" continent dummy			0.22 (0.39)	0.10 (0.39)			1.24** (0.57)	0.88 (0.56)			1.09* (0.58)	0.72 (0.57)			0.93 (0.58)	0.58 (0.57)
R^2	0.52	0.56	0.69	0.71	0.001	0.21	0.50	0.56	0.001	0.21	0.50	0.56	0.003	0.21	0.52	0.58
Number of observations	64	64	64	64	53	53	53	53	53	53	53	53	53	53	53	53
Dependent Variable: HDI Score, 1995-2000																
Property Rights (ICRG), 1985-1995	0.09*** (0.12)	0.08*** (0.01)	0.06*** (0.01)	0.06*** (0.01)												
Property Insecurity Weighted, 1985-1995					0.0005 (0.12)	0.002 (0.11)	0.05 (0.71)	0.04 (0.070)								
Property Insecurity Max, 1985-1995									0.005 (0.06)	0.01 (0.05)	-0.04 (0.04)	-0.04 (.04)				
Property Insecurity Mean, 1985-1995													0.08 (0.08)	0.08 (0.07)	-0.08 (0.05)	-0.08 (0.05)
Latitude		0.21 (0.14)		0.05 (0.10)		0.51*** (0.17)		0.20* (0.12)		0.51*** (0.17)		0.21* (0.12)		0.51*** (0.17)		0.20* (0.12)
Asia dummy			-0.12*** (0.04)	-0.11*** (.04)			-0.12** (0.05)	-0.11** (0.05)			-0.11** (0.05)	-0.10** (0.05)			-0.13*** (0.04)	-0.12** (0.04)
Africa dummy			-0.22*** (0.03)	-0.22*** (0.03)			-0.29*** (0.03)	-0.28*** (0.03)			-0.30*** (0.03)	-0.28*** (0.03)			-0.31*** (0.04)	-0.30*** (0.04)
"Other" continent dummy			0.02 (0.06)	0.02 (0.06)			0.17** (0.08)	0.14 (0.08)			0.15* (0.08)	0.11 (0.08)			0.13 (0.08)	0.09 (0.08)
R^2	0.47	0.49	0.76	0.76	0.00	0.15	0.66	0.68	0.0002	0.15	0.66	0.68	0.02	0.17	0.67	0.69
Number of observations	64	64	64	64	53	53	53	53	53	53	53	53	53	53	53	53

*Notes: Dependent variables are log GDP per capita (PPP) in 1995 and the Human Development Index score from 1995 to 2000; property rights (ICRG) is the 0 to 10 scaled version used by Acemoglu, Johnson, and Robinson (2001, 2002) where a higher score means more protection against expropriation; property insecurity weighted is the sum of minority group insecurity weighted by the group's proportion of the population; property insecurity max is the property insecurity score for the worst-off group in a country; property insecurity mean is the unweighted average of group property insecurity scores; higher property insecurity scores indicate higher levels of property insecurity (the inverse of the ICRG Property Rights indicator); the omitted continent dummy is for America; base sample includes countries with data for settler mortality and all variables; all property insecurity scores are logged to base e. Standard errors in parentheses. ***, **, and * represent significance at the 1%,, 5%, and 10% levels, respectively.*

The AJR[87] article is well-known not for its finding of a simple correlation between expropriation risk and per capita income, as such a correlation could be explained by reverse causality and omitted variables, but for its creative use of settler mortality as an instrumental variable to predict institutional quality in an attempt to avoid endogeneity problems.[88] Arguing that low settler mortality rates and sparse pre-colonial populations encouraged settlers to replicate European institutions with strong private property rights and checks against government power—while colonial disease environments and factor endowments favoring the establishment of extractive industries generated higher degrees of inequality, less accountable political institutions, and ultimately less secure property rights for the majority of the population—AJR[89] found a strong and significant relationship between settler mortality and the ICRG Property Rights indicator.[90]

As another additional robustness check on the new empirical findings presented here, this Article also re-estimates AJR's instrumental variable model, substituting *Property Insecurity* as the property rights measure. Again, the results confirm our findings. For almost all specifications, the first-stage relationship between settler mortality and property rights disappears when any measure of *Property Insecurity* is used, and in the models where the relationship is statistically significant, the sign is the opposite of what the expectation would be if low set-

87. *Colonial Origins*, *supra* note 2.

88. *See id.* at 1373. For critiques of this instrumental variable strategy, see generally David Albouy, *The Colonial Origins of Comparative Development: An Investigation of Settler Mortality Data* (Nat'l Bureau of Econ. Research, Working Paper No. 14130, 2008), *available at* http://www.nber.org/papers/w14130.pdf (disputing the validity of the settler mortality data); John McArthur & Jeffrey Sachs, *Institutions and Geography: Comment on Acemoglu, Johnson and Robinson (2000)* 10 (Nat'l Bureau of Econ. Research, Working Paper No. 8114, 2001), *available at* http://www.nber.org/papers/w8114.pdf (arguing that settler mortality fails to meet the exclusion restriction because disease environment impacts development directly); Edward L. Glaeser et al., *Do Institutions Cause Growth?* 26 (Nat'l Bureau of Econ. Research, Working Paper No. 10568, 2004), *available at* http://www.nber.org/papers/w10568.pdf (contending that education and culture drive development rather than institutions and the density of European settlement is correlated with these factors).

89. *Colonial Origins*, *supra* note 2, at 1370–71.

90. *See generally Colonial Origins*, *supra* note 2.

tler mortality rates indeed facilitated the widespread enjoyment of property rights. Results are shown in Appendix 2 (Table 6, Panels C–E). Stated succinctly, there is no relationship between *Property Insecurity* and settler mortality. This finding reaffirms our previous findings that the indices commonly used to measure property rights security do not reflect the property rights enjoyed or not enjoyed by marginalized groups: if they did, then settler mortality would also predict *Property Insecurity* (with the opposite sign). This finding also calls into question the validity of settler mortality as an instrumental variable for secure property rights, as utilized by AJR, since theoretically if settler mortality is operating through the mechanism AJR posits, then it should also predict *Property Insecurity*.

Taken together, these empirical results confirm that the relationship between property rights and economic development depends on whose property rights are secure, and that the security of property rights for marginalized minorities is irrelevant for long-run economic growth. Growth can occur when the property rights of elites and foreign investors are secure but vulnerable minorities face a high risk of expropriation.

This can be understood given the dual theoretical framework discussed above in Part II.A, which identifies both the micro and macro mechanisms through which secure property rights facilitate economic development. From a micro perspective, long-run growth may be possible in a country despite property insecurity for marginalized groups because resources are being reallocated into the hands of investors with better access to complementary production inputs. From a macro perspective, if one pathway through which secure private property rights leads to economic growth is by increasing government accountability, then the findings presented here indicate that a more nuanced understanding of the role played by private property rights in constraining the power of elites is required. Since the ICRG index measures the security of property of elites and large investors, while the *Property Insecurity Index* is sensitive to the risk of expropriation faced by less powerful ethnocultural minorities, one might predict that *Property Insecurity* would be a more appropriate proxy for constraints on elites than the ICRG measure. However, the absence of a relationship between *Property Insecurity* and long-run economic growth indicates that secure property rights for ethnocultural minorities are not

necessary for the kind of government accountability that incentivizes the adoption of growth-enhancing economic policies.

C. Historical and Contemporary Case Studies

Heterogeneity in property rights security, as well as the complex relationship between secure property rights and economic development, is also evident historically. The enclosure of the commons in seventeenth century Britain—broadly acknowledged to have reduced overgrazing and increased agricultural investments on newly enclosed land—improved the property rights security of landed elites but eroded the property rights of small and medium cottagers who previously had rights to the newly enclosed commons.[91] Increasing the security of private property rights for the gentry required expropriating the property of small-hold farmers and pastoralists. The criminal law of eighteenth century Britain operated explicitly to strengthen the property rights claims of landed elites and to erode customary use rights traditionally enjoyed by yeomen. The Black Act of 1723 created fifty new capital offenses punishable by hanging, directed at "crimes" that had previously been understood as customary use, such as deer stealing, breaking the heads of fishponds, and cutting down young trees.[92] The complex web of usufruct rights in the forest—in which the rights to harvest trees and berries, hunt deer, and clear land for agriculture were shared among many parties and determined by season and status[93]—was crystallized into clear-cut freehold titles that vested in the landed gentry.[94] By redefining crimes as an offense against property, rather than against another person, the Black Act allowed law to cloak itself in impartiality—masking the power relations underlying the allocation and enforcement of property rights entitlements.[95] Here, greater property rights

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91. *See* YELLING, *supra* note 3, 46–70.

92. E.P. THOMPSON, WHIGS AND HUNTERS: THE ORIGINS OF THE BLACK ACT 270–77 (1975).

93. For the canonical description of the progression of Western law from status to contract, see HENRY JAMES SUMNER MAINE, ANCIENT LAW: ITS CONNECTION TO THE HISTORY OF EARLY SOCIETY 319 (10th ed. 1861) ("Not many of us are so unobservant as not to perceive that in innumerable cases where old law fixed a man's social position irreversibly at his birth, modern law allows him to create it for himself by convention . . . .").

94. THOMPSON, *supra* note 97, at 270–77.

95. *Id*.

security for some actors entailed greater property *insecurity* for others.

Likewise, the dispossession of Native Americans from their land was a necessary prerequisite for the expansion of large plantations and the widespread establishment of small freehold farms for white settlers throughout the United States in the first two centuries of the nation's history. Approximately 100,000 Native Americans had their eastern homelands seized during the nineteenth century.[96] The Cherokee, Chickasaw, Choctaw, Creek, and Seminole suffered wholesale legal expropriation and were forcibly removed to marginal land by the Indian Removal Act of 1830.[97] Congress passed the Indian Removal Act in 1830; by 1840, over 50,000 Native Americans had been forcibly relocated from the American Southwest, opening twenty-five million acres for settlement.[98] Later, fourteen thousand Cherokee men, women, and children were marched overland, at gunpoint, by the U.S. Army in the summer of 1938. Four thousand died from inclement weather, mistreatment by soldiers, inadequate food, and disease.[99] The widely lauded secure private property rights enjoyed by yeoman American farmers in the nineteenth century[100] were made possible by the property insecurity of Native Americans.

Brazil is a contemporary example of a dynamic, rapidly growing upper middle income country with a high level of property insecurity for marginalized groups. But Brazil also has strong property rights protections for a broad cross-section of citizens, particularly elites and foreign investors. Brazil's GDP per capita in 2005 was $8,505 and its growth rate reached 7.5% in 2010.[101] Its most recent ICRG Property Rights Security score

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96. Russell Thornton, *Cherokee Population Losses during the Trail of Tears: A New Perspective and a New Estimate*, 31 ETHNOHISTORY 289, 289 (1984).

97. Indian Removal Act of 1830, 25 U.S.C. 1988 § 174 (1830).

98. Thornton, *supra* note 101, at 289; Leonard A. Carlson & Mark A. Roberts, *Indian Lands, "Squatterism," and Slavery: Economic Interests and the Passage of the Indian Removal Act of 1830*, 43 EXPLORATIONS ECON. HIST. 486 (2006).

99. Thornton, *supra* note 101, at 291–92, 297.

100. *Institutions*, *supra* note 21; *Inequality*, *supra* note 21, at 52–53, 59–60.

101. International Human Development Indicators, United Nations Development Programme, http://hdrstats.undp.org/en/indicators/display_cf_xls_indicator.cfm?indicator_id=20206&lang=en (last visited Nov. 19, 2012).

was in the top half globally at 7.9—higher than the world mean of 7.06—while its *Property Insecurity* scores for the same period were also both in the upper fiftieth percentile. Brazil currently gathers approximately 90% of its energy from hydroelectric power—a production structure that requires the construction and operation of hydroelectric dams for continued growth.[102] Since 1985, 50,000 indigenous and local residents have been displaced and resettled due to dam construction, with a majority of resettled households left worse-off than they had been prior to dam construction.[103] In 2010, the Brazilian government approved construction of the world's third largest hydroelectric power plant on the Xingu River, a large tributary of the Amazon. Projected to generate 11,000 megawatts, the Belo Monte dam will provide power for Brazil's fast-growing economy while displacing approximately 20,000–40,000 indigenous Amazonian Indians.[104]

CONCLUSION

The history of economic development on every continent is rife with examples of the role played by power in determining whose property rights are made secure and insecure under *de facto* legal institutions, and the considerable heterogeneity of property rights security enjoyed by different groups in the same country. Economic growth has often involved the expropriation of property from marginalized groups and the reallocation of these valuable resources into the hands of more politically powerful constituencies with access to the knowledge and capital necessary for efficient use and investment.

Property rights are complex in both legal content and political and economic meaning; they are not a traffic light along a one-dimensional continuum of "strong" to "weak." The heterogeneity of property rights enjoyment—widely recognized by contemporary legal scholars working in the domestic context—has been inadequately considered in recent cross-country international and comparative property rights research. Property rights have instead often been conceptualized in a formal rather than a realist framework, based on the implicit assump-

102. PBS, *supra* note 3.

103. THAYER SCUDDER, THE FUTURE OF LARGE DAMS: DEALING WITH SOCIAL, ENVIRONMENTAL, INSTITUTIONAL, AND POLITICAL COSTS 58–62 (2005).

104. PBS*, supra* note 3.

tion that rights enjoyment is uniform across a society. The cross-national indices of property rights widely used in the cross-country research literature—initially designed to assess the risk of expropriation faced by international businesses—fail to adequately account for the institutional framework encountered by marginalized minority groups. In fact, as this Article shows, members of marginalized groups often face significantly higher property insecurity than foreign investors and domestic elites. In many countries, strongly secure property rights for some coexist alongside insecure property rights for others.

Understanding the role played by property rights in economic development requires nuanced attention to this complex heterogeneity in property rights enjoyment. Although it has been widely argued that secure private property rights are a prerequisite for economic development, it actually matters *whose property rights are secure*. When heterogeneity in property rights enjoyment is considered, the findings presented here demonstrate that property insecurity of marginalized minorities does not necessarily reduce long-run economic development.

These findings are thought-provoking as they challenge widely held assumptions regarding the relationship between property rights and economic development. At a micro level, growth can occur when property rights are broadly secure but marginalized minorities face a high risk of expropriation, because resources may be reallocated into the hands of investors with access to knowledge, capital, and other complementary production inputs. And at a macro-level, secure property rights for marginalized minorities are not required to incentivize governments to adopt broadly growth-enhancing economic policies, as security of property rights for elites can increase accountability of governing elites towards other elites with divergent interests, while broad but not universal property rights security can generate accountability of public officials to the majority.

The practical implications of these findings push in two directions. On the one hand, if aggregate economic growth is the objective, then policymakers may wish to ignore (or encourage) the expropriation of land and resources from marginalized groups, and the reallocation of these resources into the hands of more productive investors. On the other hand, if broadly inclusive economic development that reduces poverty and socioeconomic exclusion is the central policy objective, then atten-

tion must be paid to distributional consequences—meaning that summary country-level measures such as growth, income per capita, and HDI are incomplete and sometimes inappropriate indicators.

The relationship between distributional issues and poverty reduction has generally been examined with reference to "vertical" income inequality, which represents the distribution of income among households and individuals. The links between growth, inequality, and poverty reduction have been extensively explored over the past two decades.[105] As a result of this research, there is a broad consensus on two stylized facts.[106] First, aggregate economic growth is critically important for poverty reduction. Historically, countries that have experienced the longest and most consistent periods of economic growth have likewise seen the greatest reduction in poverty; and richer countries generally have substantially lower poverty rates than do poor countries. Second, all other factors held constant, lower initial levels of inequality and more progressive changes in income distributions promote poverty reduction. In two countries that experience the same growth rates, the country that began with a more equal distribution of income will see a greater reduction in poverty, and poverty will fall faster in countries where the rate of growth for the poor is faster than the rate of growth for the non-poor.[107] Stated succinctly, changes in poverty can be related to changes in mean income, and changes in relative incomes.

The challenge from a policy perspective arises if there are trade-offs between pro-growth and pro-redistributive polices. When should a government pursue a set of policies that would promote high growth rates, but at the cost of increasing inequality or eroding the incomes of some of the poor while raising the incomes of others? When might a government want to pursue pro-redistributive policies that hurt aggregate growth? Answering these questions requires a clear normative framework regarding policy objectives: is the goal a reduction in the pov-

105. *See* J. Humberto López, *Chapter 4: The Relative Roles of Growth and Inequality for Poverty Reduction*, *in* POVERTY REDUCTION AND GROWTH: VIRTUOUS AND VICIOUS CIRCLES 57 (Guillermo E. Perry et al. eds., 2006).

106. *Id*. at 70–71.

107. *See generally*, *id*.

erty headcount,[108] a reduction in the severity of poverty for the poorest, higher incomes for the majority, or improvement in some other measure of well-being, and over what time horizon? Answering this question also requires contextually specific data and empirical analysis that would allow reliable predictions regarding the growth elasticity of poverty[109] and likely distributional and growth effects of a given basket of policies.

This line of research on inequality, growth, and poverty provides an analogous framework to the challenge presented here by a similarly complex dynamic between property rights security for marginalized groups, property rights security for more politically powerful constituencies, and economic growth. Given the possibility of trade-offs between property rights security for marginalized groups and aggregate economic growth, when would a government prioritize one over the other? Again, answering this question requires a clear normative framework. Are secure property rights an end-in-themselves, regardless of any effects on economic outcomes, as a rights-based framework would suggest?[110] Or are secure property rights justified and justifiable only on social welfare grounds?[111] If the latter, what are the objectives the government is seeking to maximize (reducing the absolute number of poor, reducing the severity of poverty for the poorest, improving social and economic inclusion of marginalized groups, raising the incomes of the majority, increasing aggregate economic growth, etc.)? And, in a given country context, what is the empirically projected relationship between policies and these outcomes?

One implication is clear, however: aggregate economic growth does not necessarily mean inclusive economic development. Those with the least power and voice may be left out and left behind by growth-enhancing policies that strengthen the property rights of those with access to capital and political influence by weakening the property rights of marginalized groups. This

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108. The number of people below a given poverty line, defined as $1.25 or $2 a day.

109. The growth elasticity of poverty is the percentage reduction in poverty rates associated with a percentage change in per capita income.

110. *See generally* JOHN LOCKE, TWO TREATISES OF GOVERNMENT (Peter Laslett ed., Cambridge University Press 1988) (1690); ROBERT NOZICK, ANARCHY, STATE, AND UTOPIA (1974).

111. *See generally* Demsetz, *supra* note 2; Coase, *supra* note 2; *see also* DE SOTO, *supra* note 2, at 224.

suggests that a narrow focus on aggregate economic growth—without specific attention also to political and economic inclusion and the equitable application of the law—can exacerbate poverty and socioeconomic exclusion and hurt the most vulnerable.

APPENDICES

Appendix 1: Probability of Type II Error

A Type II error occurs when a null hypothesis is false but a statistical test incorrectly fails to reject it. The probability of a Type II error is symbolized by β. β depends on the hypothesized effect size (E), the number of observations (N), the number of variables in the full model (V), the number of test variables (T), and the α-level chosen as the cut-off of statistical significance. Hypothesized effect size (E) is derived by comparing the hypothesized R^2 of the model including the *Property Insecurity* indicator with the R^2 of the model including only the control variables.

$$E = R^2_f - R^2_r \quad (2)$$

$$P(\text{Type II Error}) = \beta \quad (3)$$

$$\beta\ (E, N, V, T, \alpha) \quad (4)$$

Figure 3 illustrates the very small likelihood of a Type II error in our regression models. The figure shows the cut-off number of observations required for Type II error likelihoods of less than or equal to 5% (β = .05) and 10% (β = .1), for hypothesized effects of 0.05 and 0.10, across the ranges of R^2 values encountered in the large sample GLS regressions shown in Table 4, at a significance level of α = 0.10, given our model with six variables. Because lower values of α increase the likelihood that an econometric model will fail to reject a null hypothesis even if false, a 10% significance level is used—the highest α-value commonly used in the literature. Since the smaller the hypothesized effect, the larger the number of observations required to reduce the likelihood of a false negative, small hypothesized effects are used.

For a hypothesized effect of $E = R^2_f - R^2_r = 0.1$, β is less than .05 (β < .05) at all relevant R^2 values. For a hypothesized effect of $E = R^2_f - R^2_r = 0.05$, β is less than .05 (β < .05) at all but the lowest bounds of the R^2 range. In other words, for all models the likelihood of a Type II error is less than 10% at even a small hypothesized effect, while the likelihood falls to 5% or less for a slightly larger hypothesized effect.

Figure 3

V = 6; α = 0.10	**Hypothesized change in R^2 = 0.05**		**Hypothesized change in R^2 = 0.10**	
$E = R^2_f - R^2_r$	**β = .05**	**β = .1**	**β = .05**	**β = .1**
0.400 - 0.350	N=132	N=104		
0.400 - 0.300			N=68	N=52
0.500 - 0.450	N=112	N=88		
0.500 - 0.400			N=56	N=44
0.600 - 0.550	N=88	N=70		
0.600 - 0.500			N=44	N=36
0.700 - 0.650	N=68	N=52		
0.700 - 0.600			N=34	N=28

Appendix 2: Instrumental Variable Approach

The two-staged least squares estimates used by Acemoglu, Johnson, and Robinson ("AJR") treat property rights security, P_i, as endogenous, and are modeled as

$$1^{st} \text{ Stage:} \qquad P_i = \alpha + \beta \log M_i + \mu X_i + \epsilon_i \qquad (5)$$

$$2^{nd} \text{ Stage:} \qquad \log y_i = \alpha + \beta P_i + \mu X_i + \epsilon_i \qquad (6)$$

where M is the settler mortality rate and X_i is a vector of covariates.[112]

AJR argue that settler mortality rates affect institutions only through the structure of production, where high settler mortality rates favored the establishment of extensive extraction economies that relied on concentrated capital and the employment of low-skilled workers—ultimately producing property rights institutions that favored elites—while low settler mortality led to broadly egalitarian land distribution and small scale self-employment, which ultimately engendered the widespread enjoyment of secure property rights.[113] The theoretical relationship underlying this instrumental variable strategy suggests that if property security and property insecurity are simply two sides of the same coin, settler mortality rates should also predict the *Property Insecurity* of ethnocultural minorities.

However, as shown in Table 6 (Panels C–E), the first-stage relationship between settler mortality and property rights disappears when we substitute in any measure of *Property Insecurity*. There is no statistically significant relationship for virtually any of the specifications, and for the two that show statistical significance of the relationship, the significance is *de minimis* and the sign is the opposite of what we would expect if low settler mortality rates indeed facilitated the widespread enjoyment of property rights. Stated succinctly, there is no relationship between *Property Insecurity* and settler mortality. This finding has three implications. First, it means that the second stage relationship (Table 6, Panel A)—for *Property Insecurity* and log per capita GDP—is not valid, because the settler mortality instrumental variable is not valid. Second, this find-

112. *See generally Colonial Origins*, *supra* note 2; *Geography and Institutions*, *supra* note 7.

113. *Id.*

ing reaffirms our previous findings that the commonly used indices of the strength of property rights security do not reflect the property rights enjoyed or not enjoyed by marginalized groups; if they did, then settler mortality would also predict *Property Insecurity* (with the opposite sign). Third, this finding calls into question the validity of settler mortality as an IV for secure property rights, as utilized by AJR, since theoretically, if settler mortality is operating through the mechanism AJR posits then it should also predict *Property Insecurity*.

Table 6. AJR Sample: IV Regressions of Log GDP per Capita

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Panel A: Two-Stage Least Squares																
Expropriation Risk (ICRG)	0.93***	0.96***	0.97***	1.07***												
	(1.54)	(0.21)	(0.28)	(0.42)												
Property Insecurity Weighted					16.61	11.70	4.80**	3.82**								
					(11.85)	(7.60)	(2.15)	(1.77)								
Property Insecurity Max									7.93	5.38	5.27	4.24				
									(5.80)	(3.48)	(4.76)	(3.84)				
Property Insecurity Mean													14.00	10.42	1230.25	283.45
													(12.11)	(8.59)	(156134.8)	(10106.02)
Latitude		-0.42		-0.99		3.65		1.85*		3.97		1.78		3.16		6.96
		(1.27)		(1.60)		2.70		(1.11)		(2.70)		(2.19)		(3.45)		(195.98)
Asia dummy			-1.00***	-1.10**			-0.58	-0.52			-2.09	-1.73			40.44	9.10
			(0.38)	(0.48)			(0.50)	(0.43)			(1.55)	(1.28)			(5230.66)	(349.26)
Africa dummy			-0.47	-0.45			-1.44***	-1.32***			(-0.35)	-0.44			365.39	83.54
			(0.34)	(0.39)			(0.36)	(0.31)			1.18	(0.96)			(46548.08)	(3023.70)
"Other" continent dummy			-0.92	-0.95			1.69*	1.26			4.00	3.13			553.84	127.29
			(0.81)	(0.91)			(0.90)	(0.79)			(3.08)	(2.56)			(70137.99)	(4508.67)
R^2	0.19	0.14	0.23	0.06	..	..	..	0.06	..	..	..	..	..	..	..	..
Number of observations	64	64	64	64	53	53	53	53	53	53	53	53	53	53	53	53
Panel B: First Stage for Average Protection Against Expropriation Risk, 1985-1995																
Log European Settler Mortality	-0.61***	-0.52***	-0.44**	-0.35*												
	(0.13)	(0.14)	(0.17)	(0.18)												
Latitude		2.01		2.00												
		(1.33)		(1.38)												
Asia dummy			0.33	0.47												
			(0.50)	(0.50)												
Africa dummy			-0.27	-0.26												
			(0.41)	(0.41)												
"Other" continent dummy			1.23	1.05												
			(0.84)	(0.84)												
R^2	0.27	0.30	0.31	0.33												
Number of observations	64	64	64	64												

Continued on next page

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Panel C: First Stage for Property Insecurity Weighted, 1985-1995																
Log European Settler Mortality					-0.03	-0.04	-0.08**	-0.09***								
					(0.02)	(0.03)	(0.03)	(0.03)								
Latitude						-0.18		-0.17								
						(0.24)		(0.25)								
Asia dummy							-0.06	-0.07								
							(0.09)	(0.09)								
Africa dummy							0.11	0.11								
							(0.07)	(0.07)								
"Other" continent dummy							-0.27	-0.25								
							0.17	(0.17)								
R^2					0.04	0.05	0.14	0.15								
Number of observations					53	53	53	53								
Panel D: First Stage for Property Insecurity Max, 1985-1995																
Log European Settler Mortality									-0.07	-0.09	-0.07	-0.08				
									(0.05)	(0.05)	(0.06)	(0.07)				
Latitude										-0.44		-0.14				
										(0.51)		(0.51)				
Asia dummy											0.23	0.23				
											(0.18)	(0.18)				
Africa dummy											-0.10	-0.10				
											(0.15)	(0.15)				
"Other" continent dummy											-0.68*	-0.67*				
											(0.34)	(0.35)				
R^2									0.04	0.05	0.18	0.19				
Number of observations									53	53	53	53				
Panel E: First Stage for Property Insecurity Mean, 1985-1995																
Log European Settler Mortality													-0.04	-0.05	-0.0003	-0.001
													(0.03)	(0.04)	(0.04)	(0.04)
Latitude														-0.15		-0.02
														(0.36)		(0.34)
Asia dummy															-0.03	-0.03
															0.12	(0.12)
Africa dummy															-0.30***	-0.30***
															(0.10)	(0.10)
"Other" continent dummy															-0.45*	-0.45*
															(0.23)	(0.23)
R^2													0.01	0.03	0.24	0.24
Number of observations													53	53	53	53

*Notes: All Property Insecurity scores are logged to base e. ***, ** and * represent significance at the 1%, 5% and 10% levels respectively. Instrumental variable is settler mortality from AJR (2001).*