

## **Property Rights and Economic Development:**

### **Taking Stock, Looking Ahead.**

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#### *Abstract:*

*Although property rights are crucial to economic development, our understanding of their origins remains limited. A recent strand of research, however, has made a major advance by documenting that the ex post misallocation—driven by the mix of strongly protected property rights and large transaction costs—explains the distribution of property rights significantly better than does the disincentive effect of predation by the state and powerful elites. This conclusion leads to several key questions on the impact of the protection of property rights on the extent of private expropriation, the scope of firms, the size of markets and, ultimately, economic development. In this essay, I illustrate the challenges involved in answering these questions, and I highlight potential policy implications.*

*Keywords: Property Rights; Transaction Costs; Contracts; Markets; Economic Development.*

*JEL classification: D23; D40; D82; K11; L11; P14; Z10.*

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*“The New Institutional Economics [NIE] is the little engine that could. Its best days lie ahead”* [Williamson 2001, p. 611].

## 1. Introduction

The Coase theorem, the cornerstone of the New Institutional Economics [Williamson 2001, p. 598], claims that alternative property rights assignments internalize conflicts and externalities in equivalently efficient manners when the obstacles to bargaining are limited.<sup>1</sup> Poorly defined property rights and large transaction costs, however, prevent contracting,<sup>2</sup> and thus the initial legal entitlements shape the efficiency of the final allocation (Coase, 1960). Society should then embrace institutional arrangements reducing the most transaction costs, and should even weaken the protection of property if consensual transfers are impractical (Calabresi and Melamed, 1972).<sup>3</sup> Despite the clarity of this statement, a vast body of research interpreted the Coase theorem as suggesting instead that the tendency of markets to be efficient, together with the disincentive effect of predation by the state and powerful elites, implies that property rights should be fully protected (Besley and Ghatak, 2010).

The Great Depression, nevertheless, persuaded even the most liberal observer that market failures and frictions are ubiquitous (Krugman, 2009), whereas even the most energetic supporters of property rights protection acknowledge that predation is a particularly tight constraint only in developing countries at times of conflicts [Besley and Ghatak 2010, p. 4560-4562]. Instead, challenges to private property in developing, as well as developed, jurisdictions come mainly and, most surprisingly, legally from private parties (Bouckaert and De Geest, 1995).<sup>4</sup> To illustrate this point, property rights are incomplete whenever a good faith buyer acquires, as a result of the passage of time, ownership of a good stolen from its original owner by an intermediary or embezzled from a principal by her/his agent,<sup>5</sup> when a state expropriates private property for private for-profit use, whenever the legal system issues

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<sup>1</sup> I follow Calabresi and Melamed (1972), and I consider transaction costs as “any impediments or costs of negotiating.” This definition is regarded by a broad literature as inconsistent with the Coasian logic of organization, viewing transaction costs as those of “establishing and maintaining property rights” (Allen, 1999). Yet, if both expropriation and trade are endogenous, it is misallocation, and not protection of property, that is the key driver of property rights (Dari-Mattiacci and Guerriero, 2015).

<sup>2</sup> Incomplete information, endowment and income effects, competitors’ entry, holdout and behavioral failures, and multilateral contracting may also impair Coasian bargaining (Hahnel and Sheeran, 2009).

<sup>3</sup> Calabresi and Melamed (1972) propose liability rules, allowing the taker to keep the asset by paying the original owner weakly positive damages, set by law beforehand (Bar-Gill and Persico, 2016).

<sup>4</sup> Of course, all legal systems punish theft and provide remedies for dispossessed owners.

<sup>5</sup> This is known as adverse possession (acquisitive prescription) in common (civil) law jurisdictions.

the compulsory licensing of an excessively expensive upstream firm's intellectual property in favor of a downstream firm, and when majority shareholders legally appropriate resources of either creditors or minority shareholders through a complaisant management (Arruñada et al., 2017). In all such cases,<sup>6</sup> the legal system decides that, because of large transaction costs, one private party can retain another private party's property, after having directly or indirectly—i.e., through the state—expropriated it (Bouckaert and De Geest, 1995). Building on these observations, a recent strand of research has documented that the ex post misallocation—driven by the mix of strongly protected property rights and large transaction costs—explains the distribution of property rights much better than the disincentive effect of predation does. This conclusion leads to several pressing questions on the impact of the protection of property rights on the extent of private expropriation, the scope of firms, the size of markets and, ultimately, economic development. Before discussing each of these research themes in section 3, I review the misallocation-based theories of endogenous property rights in section 2. Finally, I conclude by highlighting the potential policy implications of this line of research.

## **2. Property Rights and Economic Outcomes: Ex Post Misallocations vs. Disincentives**

Despite many studies built on Calabresi and Melamed (1972) to expand the list of bargaining frictions making incomplete property rights efficient,<sup>7</sup> it is only recently that a lively literature has identified the basic trade-off between inefficient exclusion from trade or innovation and inefficient private expropriation, underlying the selection of property rights (Dari-Mattiacci and Guerriero, 2015; Dari-Mattiacci et al., 2016; Guerriero, 2016; 2017).

To see how this trade-off works, consider first the exchange of assets between a group of original owners and a population of potential buyers. If the original owners' property is fully protected, some high-valuation potential buyers are inefficiently excluded from trade because of the wasteful transaction costs they need to pay, in addition to the original owners' valuation, to acquire the asset. When instead the original owners' property rights are weak, and thus the probability of an expropriated asset being returned to its original owner is less than one, then inefficient exclusion from trade is partly solved, but low-valuation potential buyers may inefficiently expropriate the original owners. Hence, a rise in transaction costs has the marginal effect of inefficiently pushing some high-valuation potential buyers to

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<sup>6</sup> Similar cases are a double sale, squatting in a house, unauthorized agency, a breach of contract, intellectual property rights exhaustion, double pledging of collateral, and market segmentation.

<sup>7</sup> The most significant contributions are those of Ayres and Talley (1995), Kaplow and Shavell (1995, 1996), Bar-Gill and Persico (2016), Segal and Whinston (2016), and Arruñada et al. (2017).

expropriate the asset, and the infra-marginal effect of decreasing the social gain from the transfers that continue to be consensual. Thus, rising transaction costs must also reduce the protection of property rights and, in turn, the size of the market (Guerriero, 2016). This pattern holds true regardless of whether contracting costs are driven by frictions outside of the traders' control or are endogenously determined by either the original owners' market power or their private information on the valuation of the asset, i.e., a lemons-type failure. In both cases, transaction costs will be larger, the greater the dispersion in the traders' valuation is.

Next, consider a downstream firm's choice of whether to produce in-house through an old technology, or to adopt a new one necessitating an upstream firm's input. The cost of providing the input may be either high or low, and it is realized after the downstream firm has exerted a costly effort to specify the good to be produced. If both costs and payoffs are unverifiable and ex ante noncontractible, and the only input cost is ex post contractible, the upstream firm will attempt to hold-up the downstream firm by always asking to be reimbursed for the high cost. In response, the downstream firm can either accept the request, use the old technology, or turn to the legal system. Guerriero (2017) assumes that in the last case, each firm's payoff is determined by the upstream firms' property rights, which now capture the odds with which the high cost must be reimbursed. When the upstream firms' property rights are strong, the risk of being held-up discourages innovation. When the upstream firms are only weakly protected, less productive downstream firms inefficiently exploit the input. Balancing these misallocations of the upstream firms' input entails that property rights will be weaker, and innovation more intense, the larger asset specificities are, i.e., whenever the likelihood of a more productive technology is larger (Guerriero, 2017). Then indeed,<sup>8</sup> the upstream firms will obtain a larger expected rent from holding-up the downstream firms, and therefore, they will require a lower legal protection to provide the input.

These predictions stand if the disincentive effect of predation is considered,<sup>9</sup> and they are consistent with the observed negative effects of proxies for market frictions and failures on measures of the protection of original owners' and upstream firms' personal, intellectual, and financial property for a panel of 135 countries spanning the 2006-2015 period.<sup>10</sup>

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<sup>8</sup> The downstream firm will innovate only if allowed to reimburse for the high cost less often.

<sup>9</sup> These implications remain also unchanged, if some traders or firms have a larger political influence on the institutional design, if potential buyers pay damages to keep the expropriated goods, if the original owners are heterogeneous, if traders can bargain over the price, and if expropriation is costly.

<sup>10</sup> The proxies for market frictions (failures) gauge excessive regulation and financial inefficiencies (lack of competitiveness of the corporate activity, lemons-type distortions, and asset specificities). The

Guerriero (2016) further supports the primacy of ex post misallocation as a driver of property rights selection by showing that the protection of property should also increase with the extent of preference heterogeneity. The latter indeed makes inefficient expropriation weigh more heavily on social welfare than inefficient exclusion from trade or innovation.<sup>11</sup> This idea contradicts the incentive-based view that a larger heterogeneity in preferences should lead to weaker property rights, because of its adverse effect on the ability of the citizenry to agree on political institutions reducing predation (Cervellati et al., 2008). Contrary to this slant, a cross-section of 126 jurisdictions showed a positive link between ethnolinguistic, genetic, and religious diversity and both the protection of the original owners' property from adverse possession by potential buyers and the government's ability to take real private property for private for-profit use (Guerriero, 2016).<sup>12</sup> The last two proxies measure the protection of property from private takings and thus the strength of horizontal property rights, whereas proxies for predation gauge the strength of vertical property rights.

A final series of results has confirmed the explanatory power of misallocation-based theories by examining how intermediaries' incentives affect bargaining. Since dishonesty and poor law enforcement push intermediaries to steal goods from original owners and resell them to good faith buyers, society must decide whether to return goods with defective title to their original owners. The tendency of original owners, compared to potential buyers, to display lower valuations of the goods implies two central predictions (Dari-Mattiacci and Guerriero, 2015; Dari-Mattiacci et al., 2016).<sup>13</sup> On the one hand, stronger law enforcement decreases the efficiency of the original owner's protection, as it raises the share of inefficiently returned stolen goods. On the other hand, a strong culture of morality reduces stealing and makes it relatively more desirable to safeguard the original owner's property rights, since there are fewer private takings. These predictions are consistent with data for 77 jurisdictions on adverse possession rules and both a culture of morality and the quality of law enforcement.<sup>14</sup>

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resulting estimates remain similar, conditional on country and year fixed effects, as well as on income, inclusiveness of political institutions, the state capacity, internal conflicts, and human capital.

<sup>11</sup> This implication survives if the disincentive effect is considered, if transaction costs are determined by market power or asymmetric information and under all scenarios listed in footnote 9.

<sup>12</sup> These estimates remain stable, conditional on the colonizers' settlement strategy, development level, inclusiveness of political institutions, the incidence of conflicts, legal origins, and geography.

<sup>13</sup> Honest intermediaries can only operate in markets in which potential buyers have the highest valuation, while dishonest ones prefer such markets due to the higher resale prices.

<sup>14</sup> The former (latter) is the first principal component extracted from self-reported norms of respect and trust (the number of police officers and the number of professional judges).

### 3. Open Avenues for Future Research

Misallocation-based theories raise several key questions on the role of property rights. The delay with which economists have realized the primacy of ex post misallocation as a driver of the design of property rights does not hamper the relevance of these questions.

1. *Is the negative relationship between incomplete property rights and economic outcomes partly driven by transaction costs?*

As weak property rights are society's response to large transaction costs, their negative correlation with economic outcomes might be partly spurious. To evaluate this possibility, NIE scholars should analyze at the same time transaction costs, property rights, and the functioning of market economies. There are two crucial empirical and conceptual challenges such a study must overcome. First, the evidence discussed above reveals that property rights are driven by the severity of transaction costs, the extent of preference heterogeneity, and the incentives of intermediaries. Thus, regressions designed to explain economic development with the strength of the protection of property rights should always control for all such observable factors. Second, since transaction costs are, as mentioned above, endogenously determined by the dispersion in the traders' valuations and the likelihood of a more productive technology becoming available, their endogeneity needs to be addressed.

2. *What is the overall impact of asset specificities on the downstream firms' choice of which activities to outsource and which to perform in-house?*

Misallocation-based theories have key ramifications for the theory of the firm. To illustrate, asset specificities not only shape the extent of vertical integration by raising the risk of hold-up (Grossman and Hart, 1986; Hart and Moore, 1990; Williamson, 2001), but they also affect it by reducing the upstream firms' property rights. Hence, any consistent analysis of the firm's boundaries should assess both effects. Guerriero (2018) provides the first of such inquiries by showing that firms vertically integrate when faced with relatively more severe asset specificities and weaker upstream firms' property rights. These initial results still call for more research on the interplay among transaction costs, property rights, and vertical integration. Of course, such inquiries would have to overcome obstacles similar in scope to those faced by the first subproject above, but they will also help assess correctly whether the foreclosure view, maintaining that firms integrate with their suppliers to reduce competition from rivals, has more merits than the efficiency view, contending instead that vertical and lateral integration increase productivity (Alfaro et al., 2016).

3. *How is the market design and, in turn, economic development affected by the ability of special interests to manipulate the choice of property rights?*

Special interests can distort the design of property rights away from optimality when the political process can be influenced. To evaluate the positive side of the design of property rights, Guerriero (2016, 2017) characterizes the case of a special interest group being able to exclude the others from the social welfare maximization. It seems natural to think of such “insiders” as the original owners (upstream firms) and the potential buyers (downstream firms) with intermediate valuation (productivity), since they are the agents most affected by policymaking. Then, equilibrium property rights will be too strong, as both potential buyers and downstream firms, the only excluded agents, always prefer the least possible extent of protection of property.<sup>15</sup> However, regressing measures of property rights on proxies for the inclusiveness of political institutions does not suffice to evaluate such testable predictions, as political institutions might, in turn, depend on heterogeneity, a culture of morality, the quality of law enforcement, and exogenous and endogenous transaction costs (Cervellati et al., 2008).

4. *How can we construct better measures of horizontal property rights?*

Measures of horizontal property rights, gauging the protection of property from private takings, correlate weakly and possibly negatively with the most widely used predation-based proxies for vertical property rights (Guerriero, 2016). The latter capture instead the perceived protection of private property and foreign investment from a grabbing state (Acemoglu and Johnson, 2005). As predation is merely an indirect form of private expropriation—i.e., a private taking mediated by the state, there is no profound theoretical reason for such a lack of correlation. Therefore, a key avenue for future research is to develop more meaningful measures of vertical property rights, which do not simply reflect related but different concepts as democracy, and then to analyze them through the lens of misallocation-based theories.

#### **4. Concluding Remarks on Policy Evaluation**

Rather than summarizing this brief essay, I highlight the main policy implications of the research projects sketched above and, in general, of the idea that ex post misallocation—driven by the mix of strongly protected property rights and large transaction costs—explains the distribution of property rights significantly better than does the disincentive effect of

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<sup>15</sup> An example of this failure is the Zamindari system of taxation that allowed Indian landowners to expropriate evading tenants, who were often more productive (Besley and Ghatak, 2010).

predation. First, if the negative relationship between incomplete property rights and economic outcomes is mostly spurious, then any attempt to strengthen the protection of property in jurisdictions characterized by sizable transaction costs should be accompanied by reforms aimed at eliminating wasteful impediments to bargaining. The race to apply the blockchain technology beyond Bitcoin confirms the soundness of this recommendation. Especially following the recent financial crises, stronger property rights on financial assets have been granted to private investors to enhance liquidity. Such reforms, however, can penalize third parties that previously acquired rights through hidden contracts (Arruñada et al., 2017). The ability of new technologies to record transactions verifiably and permanently is specifically aimed at curbing such inefficiencies (Iansiti and Lakhani, 2017). Second, while selecting regulations that shape asset specificities, policy makers should consider both their direct and indirect effects on vertical integration. The former arises from the larger risk of a hold-up, whereas the latter emerges from the weaker upstream firms' property rights. This exercise is key to inform competition policy. Finally, each party should have a voice in designing institutions, if society wishes to prevent powerful original owners from impeding the efficient transfer of their assets to potential buyers with higher valuation and, similarly, upstream firms from blocking the efficient use of their inputs by high productivity downstream firms.

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