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Efficiency & Diversity: A Comment on Yun-chien Chang, *Property Law: Comparative, Empirical, and Economic Analyses*

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Yun-chien Chang's book is a major achievement and a landmark in comparative law scholarship. The scope of its research is breathtaking, and the economic analysis is sophisticated. The book significantly advances comparative law scholarship and is without parallel in any substantive domain.

In part because of the book's ambition and successful execution, it raises a number of issues that would benefit from further attention and discussion. This essay will focus on five of those issues:

(1) Is there one most efficient rule for all countries? Or might different rules be more efficient depending on the institutional context?
(2) Does efficient private law matter? Or do most private law rules deal with such rare problems and/or are existing laws sufficiently similar that adoption of one or another rule makes no measurable difference on a country's overall economic performance?
(3) Can auctions be used to improve the efficiency of property rules? Or do auctions, at least in the contexts proposed in the book, provide little or no advantage over existing rules?
(4) Should there be different rules for commercial and non-commercial property? The book generally assumes a single efficient rule regardless of the use of the property, but, given the importance of subjective value and liquidity constraints in the analysis and the limited importance of those factors for commercial property, perhaps different, simpler rules might sometimes be appropriate for commercial property.
(5) Does the hierarchical clustering analysis undermine the use of legal origin in empirical scholarship? Or does the fact that legal origin is (largely) exogenous mean that it retains utility in spite of the fact that the

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"common versus civil divide is not the most salient dichotomy in property law." (p. 29).

Before exploring these issues, this article will first highlight two of the strengths of the book:

(1) The large number of countries studied and the care with which each country's rules are analyzed. These are a major advance of prior comparative law scholarship.
(2) The sophistication of the economic analysis, including attention to subjective value, liquidity constraints, and auction theory. Even if the book had no comparative or empirical component, the theory set out in the book would be a contribution.

I. One most efficient rule?

The book's economic analysis is generally nuanced and careful. For some issues, the book notes that it is impossible to be confident that one rule is more efficient than others, either because economic theory is not yet sufficiently well developed or because efficiency depends on transactions costs that have not been measured and cannot even be estimated or guessed.

Nevertheless, for most issues, the book identifies a single most efficient rule. But perhaps the efficient rule is context specific. In particular, countries vary in the quality of their courts and the extent to which they allow discovery. The efficient rule might therefore vary depending on the quality of courts and the information courts are likely to have.

Some courts, especially in the developing world, are of low quality. Their caseloads are too high to allow thorough analysis of the law or facts. The judges and lawyers are not well trained, and the judges may be corrupt or subject to political pressure. If a rule is complex or requires careful analysis of the facts, such a court is more likely to apply the law incorrectly. Furthermore, the discretion inherent in complex rules involving the evaluation of multiple facts is likely to increase opportunities for bribery and other improper influences because it will be more difficult for parties or others to monitor the judges, to detect improprieties, and to persuade others when wrongdoing has occurred.

As a result, when court quality is low, simpler rules may be superior to the complex rules that Chang generally favors and which are efficient in countries with high-quality courts. Consider, for example, the problem of landlocked property. Chang's favored rule requires the court (i) to set the right of way in the place where it causes the least damage to neighbors and (ii) to calculate an appropriate compensation payment to the neighbor (p. 256). This rule has many advantages. It overcomes the asymmetric bargaining power problem, minimizes the social cost of the right of way, and assures that rights of way are not created for low-value landlocked parcels where the cost of the right of way exceeds the benefits. Nevertheless, this rule is complex and requires a court to know a lot

about the neighbor's land in order to properly choose the least-damaging right of way and to calculate the appropriate compensation.

Consider 2 simpler rules: (i) the court will not force neighbors to give rights of way to landlocked owners, so landlocked owners must bargain with neighbors for rights of way, and (ii) courts will give landlocked owners rights of way of the shortest distance and will not require compensation to the neighbor. Compared to Chang's preferred rule, these alternatives look inefficient and perhaps unfair as well. The first solution does not ensure that the landlocked owner gets a right of way as bargaining may break down, and, under the second solution, the shortest right of way may cause more harm to the neighbor than an easement located elsewhere (unless, of course, the parties bargain to a more efficiently located easement). In addition, under the second solution, the lack of a compensation requirement means that landlocked owners of low-value parcels maybe be tempted to force an inefficient easement, or at least threaten to do so in order to extract a payment.

Nevertheless, when courts are of low quality, either of these simple rules may be better. The inefficiency of the first rule–requiring bargaining—depends on how many neighbors have land over which a right of way might be constructed. If there are many such owners, the asymmetry in bargaining power is low and a right of way is likely to be negotiated without court intervention.[1] Even if no right of way is negotiated, that does not mean that inefficiency will result because the landlocked owner might sell the property to one of the neighbors, and the neighbor might create a right of way and use or sell the formerly landlocked parcel. If the landlocked owner's subjective value is low, selling the parcel to one of the neighbors will cause little or no reduction in efficiency. I'm not arguing that the simpler rule—the one that requires little or no judicial intervention—is perfect, but just that the inefficiencies it causes may not be large. On the other hand, when courts apply a complex rule, they may reach similarly inefficient results, but with greater litigation costs. For example, if, through incompetence or bribery by the neighbor, compensation is set too high under the "most efficient" rule, the landlocked owner will be in the same position as if the simpler rule were in place; it will need to bargain for the right of way. Nevertheless, the transactions cost of getting there will have been much higher. There will have court proceedings, lawyers, bribes, and perhaps experts, just to get into the same result.

Similar arguments may explain why the second simpler rule—choose shortest right of way—is efficient when courts are of low quality. The fact that four counties—Burundi, Guatemala, Laos, and Paraguay—none known for their outstanding courts,[2] choose this simpler rule (p. 236), may reflect a context-specific institutional choice of a simpler rule appropriate for the quality of their courts.

[1] This assumes that access requires a right of way that crosses only a single parcel. If the right of way must cross several parcels, there is a danger of a hold-out problem.

[2] For example, the World Justice Project ranks Guatemala 135 out of 142 and Ecuador 108th on "Civil Justice." Burundi and Laos were unranked. The "Civil Justice" rankings were based on "whether ordinary people can resolve their grievances peacefully and effectively through the civil justice system" and include measures of whether the

In a similar vein, consider high-quality courts in legal systems that do not allow extensive discovery. Will courts be able to identify the least-damaging place for the right of way? Suppose, for example, that the neighbor claims that he is a light sleeper and that the right of way needs to be placed in a particular location to avoid disturbing his sleep. If the landlocked owner is skeptical that the neighbor is actually a light sleeper, how will she prove that without the ability to require a medical exam, the disclosure of smart watch sleep data, or similarly sensitive information not ordinarily accessible in litigation without discovery. Without the ability to gather the information necessary for complex rules, simpler, less informationally demanding rules might be preferable.[3]

II. Does efficient private law matter?

A large body of theory and empirical evidence shows that property rights are important for economic development and growth. Nevertheless, that does not mean that property law doctrine is economically significant. Chang's analysis provides tools that can shed light on the economic importance of private law rules.

For most property law issues, Chang identifies a most efficient rule and notes the jurisdictions with that rule. Using that information, one can develop a simple measure for the efficiency of each jurisdiction's property law: the number of most efficient rules each jurisdiction has. No jurisdiction has more than three of the most efficient rules, and many have zero or one, so the differences among jurisdictions are not large.

It is notable that the five jurisdictions with most efficient property laws are Argentina, Bolivia, Czech Republic, Macau, and Venezuela. This list should immediately induce skepticism about the economic importance of private law as only one of these jurisdictions, Macau, has a notably high standard of living or growth rate, and Macau is a small, semi-autonomous Chinese territory with an economy largely built on gambling, not productive use of land or other resources.

Simple statistics also show that there is little or no relationship between the efficiency of a jurisdiction's property law and the strength of its economy. The correlation coefficient between efficiency and GDP per capita is 0.018, and the correlation between efficiency and GDP growth is 0.021. This means that the efficiency of property rules explains less than one-thousandth of the variance in GDP or GDP growth. Even that small degree of explanatory power is driven by a single observation, Macau. Without Macau, both correlations are negative (−0.069 and −0.002).[4]

system is "free of discrimination, corruption, and improper influence." https://worldjusticeproject.org/rule-of-law-index/.

[3] For a similar argument in the context of corporate law, see Érica Gorga & Michael Halberstam, *Litigation Discovery and Corporate Governance: The Missing Story about the "Genius of American Corporate Law,"* 63 Emory L. J. 1383 (2014).

[4] Chang reached a similar conclusion by a somewhat different method in Yun-chien Chang, *Property and Empirical Comparative Legal Studies, in* A Research Agenda for Property Law 5, 13–15 (Bram Akkermans ed., 2024).

There are a number of possible explanations for the lack of a clear relationship between efficient property rules and economic performance. First, this analysis may not measure the efficiency of property law doctrine properly. It would obviously be better to have a measure that reflected the relative efficiency of each country's doctrine in each area rather than a binary measure (most efficient rule or not) that misses distinctions between rules that are almost as good as the most efficient rule and rules that are truly bad. A more sophisticated measure of efficiency might also include other aspects of property law and/or weight them unequally. A more sophisticated measure would also take into account the law in action as well as the law on the books.

Second, GDP and GDP per capita may not be the best way of measuring economic performance. As is well known, these measures do not capture many aspects of economic well-being. In particular, they do not capture subjective value, which, as Chang's analysis points out, is a major factor in the efficiency of property law.

Third, and most fundamentally, perhaps what is important in property law is not the intricacies of doctrine, but protection from expropriation and the ability of buyers and sellers to transfer property with low transactions costs. Protection from expropriation provides a key incentive for investment, and low transactions costs help ensure that property goes to those who value it most. Some ability for the state and private parties to rearrange property rights, as through eminent domain and removal of outdated restraints on alienation or use, may also be essential for economic growth.[5] Beyond that, most property law doctrine probably doesn't matter that much. Landlocked parcels are pretty rare, as are situations where *bona fide* purchasers purchase property to which the seller did not have proper title. Doctrines relating to landlocked parcels and good faith purchasers certainly matter to those with the misfortune of owning landlocked parcels or stolen property, but they probably don't matter much for the economy overall.

III. Can auctions make property law better?

One of the most innovative aspects of the book is its proposal to use auctions to improve property law doctrine. Auctions are, of course, an established part of property law. For example, in the United States, if a mortgagee forecloses on a property, an auction is used to determine the property's value and thus whether there is a surplus to be returned to the mortgagor or a deficit the mortgagor must pay. The book also notes that Portugal and its former colonies use an internal auction in some situations involving accession (pp. 340–41).[6] Chang, however, proposes auctions in two new contexts: (i) disputes between prior owners and good faith purchasers, and (ii) partition of co-owned property.

[5] Dan Bogart & Gary Richardson, *Property Rights and Parliament in Industrializing Britain*, 54 J. L. & Econ. 241 (2011).

[6] Also, auctions are used in some situations involving finders (p. 291).

A. Internal auctions involving good faith purchasers

The proper rules involving good faith purchasers of goods that the seller does not own have bedeviled generations of judges, legislators, and scholars. Chang's book proposes a novel solution. If the purchaser has taken due care to ensure that the buyer had title, and if the original owner has taken due care to prevent the theft, the book proposes an internal auction. Both the good faith purchaser and the original owner are treated as half owners of the good, and they place bids on the disputed object. The one with the higher bid gets the object and pays the loser half of the average of the two parties' bids.[7] That is, if the original owner bids $100 and the purchaser bids $80, the original owner gets the good at the price of $90 and pays the purchaser $45, half of the price. As Cramton, Gibbons, and Klemperer show, under certain assumptions, this mechanism ensures that the object goes to the party who values it most.[8] It thus achieves ex post efficiency, unlike existing rules that allocate the good wholly to either the original owner or the good faith purchaser. While this solution is elegant, there are three reasons to question whether it is an improvement over existing rules.

First, consider one of the most important and most high-stakes contexts in which good faith purchaser rules are applied: art confiscated by the Nazis in World War II and later sold to good faith purchasers.[9] Such disputes frequently make headlines and can involve objects worth millions of dollars. Will the auction proposed by the book yield results superior to existing rules? I doubt it. In most of these situations, the original owner (or, more likely, her heirs) no longer want to own the art. They are very likely to put it up for a public auction if they win the internal auction.[10] This, however, produces problems for the internal auction. First, the original owner may have difficulty securing financing for the auction and thus is likely to lose to the good faith purchaser, often a well-financed museum or wealthy individual.[11] In fact, because of financing

[7] Chang on p. 284 asserts that "the one who places the higher bid gets ownership, and this party pays the other party the difference of the two bids." Whether the winning party pays the difference in bids or the depends on whether one adopts a "bidding game" or "commonly observed auction," both described in Peter Cramton, Robert Gibbons & Paul Klemperer, *Dissolving a Partnership Efficiently*, 55 Econometrica 615 (1987). The bidding game assumed by Chang has the advantage of working even when shares are unequal, but, given that Chang assumes that shares will be equal, the "commonly observed auction" solution is simpler and more intuitive. So, while the book assumes the bidding game (and thus that the winner pays the difference in the bids), this discussion assumes that the winner pays half the average (as in a common auction). The common auction is assumed in most of the legal literature. See Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing Legal Entitlements to Facilitate Coasean Trade*, 104 Yale L. J. 1027, 1075 (1995); Eric A. Posner & E. Glen Weyl, *Property is Only Another Name for Monopoly*, 9 J. Legal. Analysis 51, 65 (2017).

[8] Cramton, Gibbons & Klemperer, *supra* note 7.

[9] Daniel Klerman & Anja Shortland, *The Transformation of the Art Market: Law, Norms and Institutions*, 23 Theoretical Enquiries in Law 219 (2022). Of course, issues of good-faith purchase come up in other contexts as well, such as stolen automobiles. *See* Eyal Zamir, *Market Overt in the Sale of Goods: Israeli Law in a Comparative Perspective*, 24 Israel L. Rev. 82, 103–04 (1990); 2 Eyal Zamir, *Sale Law*, 1968 (2nd ed.), *in* Commentary on Laws Relating to Contract, founded by G. Tedeschi 358–61 (Eyal Zamir ed., 2023).

[10] Anja Shortland, *Lost Art* (2021) (case studies showing that a successful individual claimant of high-value art almost never retains the art).

[11] The book acknowledges that there will be a problem "if there are huge wealth gaps between the parties, and liquidity is a problem." (p. 288 n. 45).

difficulties, the original owner may not be able to place a credible bid and the purchaser may be able to win the internal auction at a bid that is a fraction of the true value of the art. In addition, even if both parties have access to financing, the party (or parties) who plan to resell if they win the internal auction must do extensive research in order to figure out the likely resale value of the painting. This unnecessarily increases transactions costs; in situations in which one or both parties will resell, it would be better to hold an open auction in which anyone, not just the disputing parties, can bid. Alternatively, it would be better to allocate full ownership to one of the parties, as current law does, and let that party decide to sell or auction the good. Governments are often not good auctioneers, so letting a party decide how to structure the sale or auction is more likely to result in efficient transfer of the good to its highest valued owner.

So, at the very least, the internal auction should be used only when there is good reason to believe that both parties have access to financing and have valuations higher than (or at least as high as) outsiders so resale is not likely. If either of those conditions is violated, holding a public auction or allocating full rights to one party is superior.

Second, even when both of those conditions—the disputing parties have financing and valuations at least as high as non-parties—the internal auction is not clearly superior to current rules that allocate the property to one of the owners. Its superiority depends on the comparison of costs. On the one hand, there are the costs of the internal auction. On the other hand, if full ownership is allocated to one party, there is the danger that the party with lower subjective valuation will get it and thus that there will be transactions costs in transferring the object to the other party or that those transactions costs will prevent the transfer. While costs under the full-ownership solution are plausibly higher, it is important to remember that they are incurred only about half of the time; that is, those costs are incurred only when the object is allocated to the party with the lower subjective valuation. Note also that the transactions costs of the internal auction are higher than they might initially seem. While an auction might seem easy to administer—the court asks parties to submit bids, the parties submit bids, and the court announces the winner—there are two additional costs to consider. First, under the Cramton, Gibbons, Klemperer auction mechanism,[12] the parties do not bid their true subjective valuations. Instead, they must perform complex calculations to determine the optimal bid, and those calculations require knowledge of the distribution of subjective valuations, knowledge that may be costly or impossible to acquire. Parties are likely to need experts to perform the calculations, thus driving up the social cost of the internal action. Second, if the prior paragraphs are correct that the internal auction should be used only when the disputing parties have access to financing and subjective values higher than outsiders, then there are additional costs to the internal auction because the

[12] See above note 7.

court must determine if those conditions are met, which could be difficult and the subject of dispute among the parties. Third, the internal auction is not guaranteed to result in an efficient allocation unless the parties know the distribution of possible subjective valuations held by the other party. Such knowledge seems implausible. Without this information, parties may make bids that result in the party with lower subjective valuation getting the property.

The internal auction solution does, however, have one cost-reducing advantage not discussed by the book. If each disputant is likely to get a fifty-percent share, their incentives to litigate are lower and they are likely to spend less on litigation and/or settle, thus potentially saving the parties and the court litigation costs.[13]

B. Internal auctions involving partial partition

The book, following an earlier article with Lee Anne Fennell,[14] also proposes a novel internal auction mechanism for partial partition of co-owned properties. In order to induce all parties to bid their true subjective values, the auction (like many auctions in the literature) decouples the amount paid by the winning bidder from the amount received by other auction participants. In the example in the book, a property is to be allocated among three co-owner, Ann, Burt, and Casper. Applying the mechanism proposed by Chang and Fennel, the winning bidder (Casper) pays 53.33K, but the losing bidders (Ann and Burt) receive only 33.33K (25K to Ann and 8.33K to Casper). The remaining 20K "goes into a fund earmarked for co-owner mediation efforts or for administering the system." (p. 201). A problem, however, with this solution is that it gives all parties incentives to bargain among themselves before the auction to avoid the payment of the 20K to third parties. For example, all three would be better off if Casper paid 30K to Ann and 10K to Casper. While private bargaining is often more efficient than litigation, if the cost of bargaining to that solution is more than 5K (e.g. more than 1.67K each), the bargaining would dissipate all the surplus created by partial partition. In the example in the book, partition by sale with Ann as the highest bidder produces total payoffs of 300K. Partial partition produces a total surplus only 5K higher, of 305K. (p. 194). So even modest bargaining costs would make partial partition with the proposed auction inferior to partition by sale.

IV. Different rules for commercial property

Much of the complexity of the rules discussed in the book comes from two things: (i) the fact that subjective value may diverge from market value, and (ii)

[13] Like the analysis in the book, the discussion here assumes that both parties acted reasonably, so the rules will not have ex ante effects on behavior. If that assumption is relaxed, potential effects on primary behavior would, of course, have to be taken into account.

[14] Yun-chien Chang & Lee Anne Fennell, *Partition and Revelation*, 81 U. Chi. L. Rev. 27 (2014).

the fact that parties may have limited access to financing. These factors, for example, are what motivate the complex internal auction in the context of partial partition discussed in the prior subsection. As Chang points out, without these factors, partition by sale, as proposed by Bell and Parchomovsky,[15] would be the superior solution. Similarly, if the good faith purchaser is using the good for commercial purposes and the original owner does not face financing constraints, one would not need an internal auction in the good faith purchaser context to achieve allocative efficiency (See above, Section III.A). Instead, one could allocate the disputed property to the purchaser, confident that the original owner could pay to acquire it if her subjective value were higher.

This suggests that property rules should by different when the claimants are both well-financed and plan to use the property for commercial purposes.

V. Legal origins and property law classification

Chapter 1 of the book also uses a novel method, hierarchical clustering analysis, to illustrate the relationship between countries' legal systems. This method uses an algorithm to group countries based on the similarity of their property rules. Chang draws a number of conclusions from this analysis, but the main point is that legal origins analysis, like that used by Shleifer and his co-authors in a very influential set of articles,[16] is not a good way of classifying legal systems.

While I share Chang's skepticism about the importance of legal origin,[17] I do not think that the hierarchical clustering analysis significantly undermines economists' use of legal origin. First, it should be noted that the hierarchical clustering analysis largely confirms the importance of legal origins. For example, the common law countries cluster together near the top of Figure 1.1 (pp. 26-27), suggesting that they are genuinely similar to each other. French civil law countries also cluster together, although they break down into three subclusters based on colonial origins—former French and Belgian colonies together (Senegal, Morocco, Burundi), former Portuguese colonies together (Macau, Timor-Leste, etc), and former Spanish colonies together (Mexico, Guatemala, Puerto Rico etc).

Second, one of the key (supposed) advantages of legal origins analysis is that legal origin is exogenous.[18] Although it might not be as accurate a classification system as that produced by hierarchical clustering analysis, legal origin's

[15] Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 Cornell L. Rev. 531, 601 (2005).

[16] Raphael La Porta, Florencio Lopez-de-Silanes & Andrei Shleifer, *The Economic Consequences of Legal Origins*, 46 J. Econ. Lit. 285 (2008) (literature review of dozens of articles on legal origin).

[17] Daniel Klerman, Paul Mahoney, Holger Spamann & Mark Weinstein, *Legal Origin or Colonial History?*, 3 J. Legal Analysis 379 (2011); Daniel Klerman & Paul Mahoney, *Legal Origin?*, 35 J. Compar. Econ. 278 (2007); Miguel de Figuereido et al., *Legal Origin from Outer Space (and on Foot): A Geographic Regression Discontinuity Approach* (working paper).

[18] La Porta, Lopez-de-Silanes & Shliefer, *supra* note 16, pp. 287–290 (2008).

exogeneity makes it better suited to identify the consequences of legal differences because one need not be as concerned about reverse causality and similar problems. One need not be concerned, for example, that countries with successful stock markets adopted the common law because of their large stock markets. Rather, because the common law was imposed involuntarily and before stock markets were established in most countries, correlations between legal origin and stock market size can be more reliably interpreted as causal. As with any instrumental variable, legal origin trades off precision in classification for superior identification (inference of causation from correlation). The fact that the legal origin classification is imprecise is therefore not a large problem. As long as it has some explanatory power (as even the hierarchical clustering analysis confirms), legal origin can serve as a valid instrument.

It should be noted that the hierarchical clustering analysis points out that legal origins produce classifications that are most accurate when legal origin is, in fact, most plausibly exogenous, and conversely that legal origin classifications are most inaccurate when legal origin is not exogenous. As pointed out above, the law found in common law countries is very similar, as is that in French legal origin countries which are former French and Portuguese colonies. These are the instances when laws were most clearly imposed by colonization. Other countries, including those which adopted versions of the German civil code and South American countries that reformed their legal institutions substantially after independence, did not have legal systems imposed exogenously[19] and show lower levels of similarity among themselves. Legal origin is thus most reliably used for analysis restricted to common law countries and civil law countries that were formerly French of Portuguese colonies.[20] In addition, as discussed by Klerman, Mahoney, Spamann, and Weinstein,[21] it is better to consider colonial origin rather than legal origin, and thus to distinguish between former French and former Portuguese colonies, rather than lumping them together in a French civil law category. The wisdom of separating those two branches of civil law is confirmed by Chang's hierarchical clustering analysis.[22]

VI. Conclusion

Chang's book is a major achievement. It makes substantial contributions to the economics of property law and to comparative law. Further research would benefit from taking into account the fact that different rules may be efficient in different institutional contexts, that private law rules may not be that important

[19] *Id.* at p. 290.
[20] It might also be reliable for former Belgian colonies.
[21] *Supra* note 17.
[22] It is also confirmed by Yun-chien Chang, Adam Chilton, Nuno Garoupa & Mila Versteeg, *Colonial Experiences and Contemporary Laws* (working paper).

economically, that it might be harder than anticipated to use auctions in private law, that efficient property law for commercial parties may be different than efficient law for individuals, and that legal origin, when exogenous, may be a more valuable empirical instrument than groupings based on the analysis of contemporary law.

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Comment