Abstract

A key question in comparative law is why different legal systems provide different legal solutions for the same problem. To answer this question, we use novel comparative evidence on how the conflict between the dispossessed original owner and the bona fide purchaser of a stolen good is resolved in different countries. This is the most primitive manifestation of a fundamental legal choice: the balance between the protection of the owner’s property rights and the enhancement of the buyer’s reliance on contracts. We test four prominent theories: functional equivalence, legal origins, political economics, and cultural economics. We find that a culture of self-reliance is the key determinant of comparative variation in this area of law.

JEL classification: K11, K12, K40, Z10

Keywords: culture, comparative variation, legal origins, functional equivalence, good faith purchase.

The authors would like to thank the editor Anne Davies, two anonymous referees, Bruce Ackerman, Bart de Boer, Richard Brooks, Alon Cohen, Gerrit De Geest, Ulle Endriss, Raquel Fernández Rovira, Tom Ginsburg, Davide Grossi, Kees Hengeveld, Christine Jolls, Naomi Lamoreaux, Amnon Lehavi, Saul Levmore, Amir Licht, Katerina Linos, Yoram Margalioth, Ugo Mattei, Ariel Porat, Arthur Salomons, Mathias Siems, Jan Smits, Holger Spamann, Stefan Voigt and the participants in the 2012 ISLE conference at the University of Rome 3, the 2013 Ius Commune conference in Maastricht, the 2014 CLEF conference at Columbia Law School, and the seminars at Tel Aviv University and Hokkaido University for insightful comments. The authors would also like to thank Lauren Abbott, John O’Hara, Anghel Negriu, Sander Verrips for excellent research and editorial assistance.
1. INTRODUCTION

Why do different legal systems adopt different legal rules dealing with the same problem? This is a fundamental question in comparative law.¹ Yet, there is no consensus as to whether these differences are substantial or merely superficial, nor about their causes.² Among the theories that have been proposed, it is possible to identify four main clusters: functional equivalence, legal origins, political economics, and cultural economics. The first approach stresses the functional equivalence among different legal rules and ascribes residual divergence to idiosyncratic preferences of the lawmaker. In contrast, the other approaches view the differences among legal systems as substantial and attribute them to a transplantation process mainly due to colonization, to different features of the political system, or to different cultural backgrounds.

The present article informs this debate by empirically testing these four theories on a specific legal issue: the conflict between the dispossessed owner and the bona fide purchaser for value of stolen personal property, that is, movable goods in civil law parlance. While our empirical findings only apply to this specific context, the conflict between dispossessed owner and bona fide purchaser is the most primitive manifestation of a much more general and fundamental legal problem that every legal system, from the code of Hammurabi, the Talmud and ancient Greek and Roman law to modern civil and common law systems, has felt the need to address explicitly:³ the balance between protecting property rights and enhancing reliance on contracts, which we call the ‘property-contract balance’.⁴

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Before asking why there is comparative variation, we need to show that there is comparative variation. This issue is surprisingly unsettled. Using a novel and comprehensive cross-country dataset, we document and measure the extent to which legal systems diverge in the protection of the original owner versus the bona fide purchaser. Adding to the growing literature on quantitative comparative law, our measurement exercise is based on several indicators gauging the number of years after which the buyer is immune from the owner’s claims under a variety of circumstances. In the case of private sales, while in the United States the original owner of stolen personal property can virtually always reclaim it from the bona fide purchaser under the ‘theft rule’, he or she can only do so within thirty years in South Africa. This term is reduced to ten years in Germany, eight years in Russia, six years in Great Britain,
five years in Turkey,\textsuperscript{12} and three years in France,\textsuperscript{13} while in Italy the purchaser is immediately protected.\textsuperscript{14} Figure 1 provides a visual representation of the distribution of these terms of years (the variable named \textit{Property-Private}) around the World.

\textbf{FIGURE 1 HERE}

\textit{Figure 1. Owner Protection in Private Sales Around The World. (Sample Size: 126.)}

Because of this large amount of comparative variation, rules concerning the bona fide purchase of stolen goods are naturally suited to address empirically our primary question: why is there comparative variation? Following the lead of Amir Licht, Chanan Goldschmidt and Shalom Schwartz and building on a long legacy of cross-cultural psychology and economics,\textsuperscript{15} we document a relationship between law and prevalent cultural values. In particular, we find that jurisdictions in which individuals display a stronger culture of morality, as embodied by stronger norms of trust and respect for others self-reported to the World Value Study and the European Value Survey up to the 2008 (the variable named \textit{Culture}),\textsuperscript{16} exhibit stronger owner protection. In addition, jurisdictions in which there is stronger enforcement of the law, as measured by the number of police personnel and professional judges per 100,000 inhabitants over the 1973-2009 period (the variable named \textit{Enforcement}),\textsuperscript{17} exhibit weaker owner protection.

\textsuperscript{12} Turkish Civil Code, art 989.

\textsuperscript{13} French Civil Code, art 2276.

\textsuperscript{14} Italian Civil Code, art 1153.


\textsuperscript{17} See UNODC, \textit{The Tenth United Nations Survey of Crime Trends and Operations of Criminal Justice Systems}, (2006) <http://www.unodc.org/documents/data-and-analysis/statistics/data.html> accessed on 1 November 2012. Estimates do not substantially differ if one used instead the International Country Risk index or the efficiency measures collected by Simeon Djankov and others, ‘Courts’ (2003) 118 QJ Econ 453, concerning the length of procedures to collect a commercial debt or a bounced check. The total personnel of police has been shown to have an
While the left graph of Figure 2 depicts the positive relationship linking Property-Private and Culture once the role of Enforcement is considered, the right graph of Figure 2 displays the negative link existing between Property-Private and Enforcement once Culture is taken into account.

**FIGURE 2 HERE**

*Figure 2. Effects of Culture and Enforcement on Owner Protection in Private Sales.*

(Sample Size: 77.)

An explanation for these patterns is that in developed markets buyers tend to value goods more than their original owners and, thus, society faces a trade-off between the basic need of safeguarding the original owners’ property and leaving some stolen goods in the hands of those who value them the most, that is, the buyers. Since a culture of morality assures that most transactions are legal, condoning some non-consensual transfers is less useful. Similarly, stronger law enforcement raises the number of goods that are returned to low-valuing owners and hence needs to be counterbalanced by weaker owner protection. In a companion paper written with Zhenxing Huang, we develop a formal version of this value-based theory and explore its relation with the incentive theory.18

Although these correlations are suggestive, they could be due to reverse causation, that is, it could be the law that affects a culture of morality and the strength of enforcement rather than the other way around.19 Therefore, we need to focus on fundamental, yet measurable features of a country’s culture that affect the law but are unlikely to be affected by it. Basic features of languages, such as pronoun usages, have been shown to embed fundamental characteristics of the speaker’s culture and hence can be substituted to our two cultural dimensions in our empirical analysis. Amnon Lehavi and Amir Licht were the first to use this approach to study property law.20 The two features of language that we will use in the analysis are ‘pronoun drop’ and ‘pronoun difference’. Pronoun drop refers to the possibility to drop the first person’s pronoun, which is not allowed in English, where ‘I’ must accompany the verb. Pronoun difference refers instead to the use of formal and informal second-person pronouns, such as ‘ye’ and ‘thou’ in early English or ‘tu’ and ‘vous’ in French. These language features are statistically related to the cultural variables in which we are interested:

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18 See Giuseppe Dari-Mattiacci, Carmine Guerriero and Zhenxing Huang, ‘The Property-Contract Balance’ (manuscript on file with the authors, 2014).


20 Amnon Lehavi and Amir Licht, ‘BITs and Pieces of Property’ (2011) 36 Yale J Int’l L 115. Their study concerns the protection of property as such and not the property-contract balance. Our results on adverse possession (reported in the Appendix) confirm their results.
pronoun drop is typical of societies that emphasize less individual freedom and in which, therefore, trust and respect for others are more limited, whereas pronoun difference is typical of societies accommodating hierarchical control and, in turn, a stronger law enforcement.21

Therefore, instead of employing culture directly, we can rely on its exogenous determinants and so avoid reverse causality. To make the analysis easier to follow, it is useful to condense the two grammatical features in a single dimension that we call self-reliance. This is high if a language has no pronoun drop (high trust and respect) and no pronoun difference (weak enforcement) and low in the opposite case. Intermediate levels of self-reliance correspond to cases in which only one of the two language features is present. Figure 3 provides a snapshot of self-reliance around the world as measured by pronoun use.

FIGURE 3 HERE

Figure 3. Self-reliance Around The World. (Sample Size: 107.)

Essentially, our empirical investigation aims at statistically establishing a relationship between the data depicted in Figure 1 and the data depicted in Figure 3. Section 2 provides the building blocks of our empirical analysis. In Subsection A, we offer a detailed description both of the method of collecting the data and of their features. In Subsection B, we illustrate the theoretical background of the analysis and offer a rationale for the relationship between bona fide purchase rules and culture. In Subsection C we formulate our hypothesis. In Subsection D, we document the relationship between language and culture and substantiate our choice to use language as a proxy for culture. In Subsection E, we offer a historical argument to support our claim that differences in culture cause differences in law.

Section 3 contains our comparative exercise. In Subsections A through C, we compare the explanatory power of culture with that of the functional equivalence theory, the legal origins theory and two political economy theories, respectively. In Section D, we introduce a competing cultural trait based on religion and contrast it with our self-reliance explanation. Our empirical results document that countries with a higher degree of self-reliance tend to exhibit a higher degree of owner protection. For example, the United States has a higher degree of both self-reliance and owner protection than Italy.22 Furthermore, self-reliance consistently provides a better

21 We combine two well-know approaches: Geert H Hofstede, Culture’s Consequences: International Differences in Work-Related Values (Sage 1980) (classifying culture along the individualism/collectivism dimension); Shalom H Schwartz, ‘Beyond Individualism/Collectivism: New Cultural Dimensions of Values’ in Kim Uichol and others (ed), Individualism and Collectivism: Theory, Method, and Applications (Sage 1994) (classifying culture along the hierarchy/egalitarianism dimension). See also Jordan I Siegel, Amir N Licht and Shalom H Schwartz, ‘Egalitarianism and International Investment’ (2011) 102 J Fin Econ 621. We formally test the first stage relationship linking on the one hand culture to pronoun drop and on the other hand enforcement and pronoun difference in the Appendix.

22 See the Appendix.
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explanation than competing theories. In Section 4, we conclude with a brief description of an interdisciplinary research agenda on comparative variation and legal harmonization. The data, the codes and additional robustness results are available in an online Appendix.  

2. INNOCENT PURCHASE OF STOLEN GOODS

A. The Data

The conflict arising between the original owner and the bona fide purchaser of a stolen movable good is an ideal case to study because it is at the heart of private law in any legal system that recognizes private property. The problem can be easily defined in factual terms, given that the notions of ‘stolen movable good’ and ‘purchase for value’ are rather uniformly understood. There is a natural measure for the degree of protection that a legal system affords to owners versus buyers: the number of years after which an innocent purchaser acquires ownership of a stolen good. The longer this period, the more protected the original owner. We focus on cases in which the good is stolen and immediately resold, so as to avoid the problem of determining whether this term of years starts running from the moment of theft or from the purchase.

This information has been collected with the help of 148 teams of experts in 126 jurisdictions. These experts are renowned professors of private (mostly property) law in one of the leading universities of their respective jurisdictions, or practitioners in prominent international law firms. A large fraction of them have already participated in comparative projects. The experts were asked to provide a detailed answer to the following main question and a number of follow-up questions: “At what conditions does a good faith buyer acquire ownership of a stolen good?” From their answers, we distilled the relevant conditions and constructed indexes of owner protection concerning the bona fide purchase for value without notice of stolen personal property through a private sale, in a public market, from a professional seller, and in an auction.

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23 The Appendix is available on the journal website as well as at https://sites.google.com/site/carmineguerrieroshomepage/home/research-1.


25 We refer to jurisdictions since we differentiate among Great Britain, Northern Ireland, and Scotland. The data also contains Canada, which was excluded from the statistical analysis because we only have information on Quebec.

26 The questionnaire was drafted by Giuseppe Dari-Mattiacci, Carmine Guerriero and Arthur Salomons, while the data was collected by Giuseppe Dari-Mattiacci and Carmine Guerriero.

case, we also recorded information as to whether the party who has the right to retain the good is required to pay compensation to the other party. While none of the countries in our sample conditions a buyer’s ownership claim to the payment of compensation to the original owner, many countries have the opposite rule, requiring the owner to compensate the buyer if he or she reclaims the good.\(^\text{28}\) The amount of compensation is equal either to the purchase price or to the market price of the good. In addition, we collected information about the definition of good faith—subjective (‘did not know’) or objective (‘did not know and ought not to have known’) — and about whether good faith is presumed or must be proven by the buyer.

Finally, we also recorded background rules of adverse possession (also including acquisitive prescription) for personal property and statutes of limitation for the remedies available to the owner. These rules resolve the more general conflict between the original owner and a possessor of personal property. They are not always directly applicable to the innocent purchase of stolen goods, since adverse possession is often excluded for stolen goods. Moreover, statutes of limitations often run from the moment at which the owner has or could have reasonably located the good. Yet, in other cases, these rules are directly relevant because the general adverse possession term applies also to stolen goods or because the statute of limitations starts running from the moment of theft. In such cases, we have taken these rules into account while constructing our other indexes of owner protection.

<table>
<thead>
<tr>
<th>Country</th>
<th>Denmark</th>
<th>France</th>
<th>Italy</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Term of Adverse Possession in Good Faith (Years)</td>
<td>Never</td>
<td>3</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>General Term of Adverse Possession in Bad Faith (Years)</td>
<td>Never</td>
<td>Never</td>
<td>20</td>
<td>Never</td>
</tr>
<tr>
<td>Definition of Good Faith</td>
<td>Objective</td>
<td>Subjective</td>
<td>Subjective</td>
<td>Objective</td>
</tr>
<tr>
<td>Presumption of Good Faith</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>General Term of Prescription of the Owner’s Remedy (Years)</td>
<td>Never</td>
<td>3</td>
<td>Never</td>
<td>5</td>
</tr>
<tr>
<td>Owner Protection in Private Sales (Years)</td>
<td>Never</td>
<td>3</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Owner Protection in Public Markets, with Professional Sellers and in Auctions (Years)</td>
<td>Never</td>
<td>3</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Pro-buyer Liability Rule</td>
<td>No</td>
<td>Purchase price</td>
<td>No</td>
<td>Market price</td>
</tr>
</tbody>
</table>

Table 1. Measures of Relative Owner Protection in Four Countries.

Table 1 provides a snapshot of the indexes for owner protection for the four countries

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\(^{28}\) This rule amounts to an option for the owner to buy back his good and has a long history: it was included in the Code of Hammurabi, in Germonic law, in Burgundian and Visigothic law, while Hebraic laws gave the owner an option to buy back as long as he had not abandon hope to locate his property, see Murray (n 5) 29, 82-88; Boris Kozolchyk, ‘Transfer of Personal Property by a Nonowner: Its Future in Light of Its Past’ (1987) 61 Tul L Rev 1453, 1484-1485. Consequently, the buyer might be protected with a property rule (if the buyer can retain the good) or a liability rule (if the buyer receives compensation instead of the entitlement). The owner instead is always protected with a property rule (if protected at all): Guido Calabresi and A Douglas Melamed, ‘Property Rules, Liability Rules, and Inalienability: One View of the Cathedral’ (1972) 85 Harv L Rev 1089.
that we use as example to illustrate our analysis. As anticipated, a larger term of years indicates stronger owner protection (and hence weaker buyer protection). ‘Never’ implies pure owner protection, while a value equal to zero implies the complete protection of the bona fide purchaser who acquires ownership immediately at the moment of the purchase. Figure 4 offers an overview of our data. The first three indexes refer to general property law rules, while the last four indexes are specific to the case of innocent purchase of stolen goods. For each index, we report the shares of jurisdictions with pure owner protection (the buyer never acquires ownership or the remedy for the owner never expires), pure buyer protection (the buyer acquires ownership immediately), and intermediate protection (the buyer acquires ownership after a term of years), as measured on the left-hand axis. We also report the mean term of years for the jurisdictions belonging to the intermediate group, as measured on the right-hand axis. The figure shows substantial comparative variation in each of the indexes. The largest group of countries affords original owners intermediate protection. Adverse possession is more frequently available and requires fewer years if the possessor is in good faith. Finally, good faith buyers of stolen goods are protected more often and more strongly if they purchase in a market, from a professional seller or in an auction than if they purchase through a private sale (a generalization of the market overt rule).

**FIGURE 4 HERE**

*Figure 4. Share of Jurisdictions With Pure Owner, Intermediate or Pure Buyer Protection in Private Sales (Bars) and Mean Number of Years in Jurisdictions With Intermediate Protection (Dashes). (Sample size: 126.)*

Focusing on cases in which the owner can reclaim the good from a bona fide purchaser (even if there is a term of years; thus, excluding only cases in which there is complete protection of the good faith buyer), the data shows that a majority of the jurisdictions (82% of 110 jurisdictions in case of private sales and 61% of 103 jurisdictions in case of markets, with professional seller or through auctions) do not require compensation. Among those requiring compensation, the measure is in most cases the purchase price (14% in case of private sales and 31% in case of markets, with professional seller or through auctions) rather than the market price (5% in case of private sales and 8% in case of markets, with professional seller or through auctions). Note that compensation is less frequently required for private sales (19%) than in case of transactions occurring in markets, with professional sellers or through auctions (40%).

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29 It is necessary for the empirical analysis to assign a finite number of years to the case ‘never’. In the following sections, we report the results for the analysis with ‘never’ equal to thirty years (the highest term of years for the jurisdictions in the intermediate group). The message of our empirical exercise is not very different when we substitute either seventy years or the life expectancy at birth in the jurisdiction for ‘never’.

30 The standard deviation within the intermediate protection countries is: 7.4 (adverse possession in good faith), 9.2 (adverse possession in bad faith), 8.6 (prescription of the owner’s remedy), 6.5 (owner protection in private sales), 5.8 (owner protection in markets), 5.8 (owner protection with professional seller), 4.0 (owner protection in auctions).
The data also provides information on the definition of good faith and whether it is presumed, limitedly to those jurisdictions where the notion of good faith has a clear definition in the law or in judicial practice (120 jurisdictions). These jurisdictions are almost equally split between objective (46%) and subjective (54%) good faith, whereas in most cases (77%) good faith is presumed.

B. Competing Theoretical Approaches: Incentives Versus Value

The purchase of stolen goods is particularly interesting because the thief is commonly insolvent or not easy to find and hence a court typically needs to adjudicate the case between two equally innocent parties: the dispossessed original owner and the innocent buyer.\(^3\) Although our aim is primarily empirical, it is instructive to illustrate the theoretical background of our exercise. The literature has proposed two approaches to explain the allocation of the good ex post.\(^2\) One approach views the ex post allocation of the contested good as a way to provide incentives to owners and buyers.\(^3\) In a nutshell: owners should protect their property, while buyers should inquire about the title of the goods they buy. Legal protection is said to affect these incentives in a predictable way. If the law protects the buyer, owners will have incentives to protect their property while buyers will have no incentives to inquire about title. Conversely, if the law protects the original owner, buyers will have incentives to inquire about title, while owners will have no incentives to protect their property. This approach captures an important aspect of the problem: actions taken by owners and buyers can help reduce the incidence of theft by making either theft more difficult (private protection) or the


\(^{32}\) Some authors have argued that buyer protection is necessary for trade: William Blackstone, Commentaries on the Laws of England, vol 2 (Clarendon 1765-1769) 449; Sauveplanne (n 4) 652; Reuven Yaron, ‘Reflections on Usucapio’ (1967) 35 Tijdschrift voor Rechtsgeschiedenis 191, 223; Kozolchyk (n 28) 1481. Another strand of the literature stresses the importance of owner protection to discourage theft: Harold R Weinberg, ‘Sales Law, Economics, and the Negotiability of Goods’ (1980) 9 J Legal Stud 569; Karen Theresa Burke, ‘International Transfers of Stolen Cultural Property: Should Thieves Continue to Benefit from Domestic Laws Favoring Bona Fide Purchasers’ (1990) 13 Loy LA Int'l & Comp LJ 427; Steven F Grover, ‘The Need for Civil-Law Nations to Adopt Discovery Rules in Art Replevin Actions: A Comparative Study’ (1992) 70 Tex L Rev 1431; Steven A Bibas, ‘The Case Against Statutes of Limitations for Stolen Art’ (1994) 9 J Legal Stud 569; cf Merryman (n 5) 281. Other criteria have also been proposed: Levmore (n 3) 47 (considering risk allocation); Landes and Posner (n 5) 188, 206-209 (considering the incentives for the buyer to conceal stolen goods); Alan Schwartz and Robert E Scott, Commercial Transactions, Principles and Policies (Found P 1982) 510-512 (considering corrective justice along with discouraging of theft); Merrill and Smith (n 4) 840 (arguing that buyer protection means protecting the party with less information and inducing the party with more information to provide notice); Abraham Bell and Gideon Parchomovsky, ‘A Theory of Property’ (2005) 90 Cornell L Rev 531 (arguing that protecting the owner serves to protect the stability of ownership).

\(^{33}\) This can be considered the dominant approach; see Levmore (n 3) 46 and Anthony Ogus, ‘What Legal Scholars Can Learn From Law and Economics’ (2004) 79 Chi-Kent L Rev 383, 394-95. There are a number of contributions in the literature that have addressed this problem formally in a mathematical model. Landes and Posner (n 5); Omri Ben-Shahar, ‘Property Rights in Stolen Goods’ (1997) <http://home.uchicago.edu/omrtpdf/articles/Buyer_In_Good_Fa.pdf> accessed on 14 October 2014; Caspar Rose, ‘The Transfer of Property Rights by Theft: an Economic Analysis’ (2010) 30 Eur JL & Econ 247; Schwartz and Scott (n 4).
resale of stolen property less likely (inquiry about title), suggesting that the optimal level of legal protection should be set in order to provide the optimal mix of incentives. One important characteristic of the incentive approach is that it calls for a uniform treatment of the good faith purchase problem and does not provide elements for explaining comparative variation. Therefore, it cannot be used to inform an empirical analysis into the causes of comparative variation.

The alternative approach holds that ownership of a stolen good should be assigned ex post to the party that values it the most. Unlike the incentive approach, the value approach produces implications for comparative variation once one recognizes the importance of transaction costs and heterogeneous moral values. Due to the prevalence of transaction costs, most transactions occur through intermediaries. Moral norms are heterogeneous within jurisdictions and hence some intermediaries are honest, while others are willing to steal and resell the good. Honest intermediaries can only operate in markets in which buyers value goods more than their original owners and hence there is scope for trade. Dishonest intermediaries also prefer such markets because they are characterized by higher resale prices. It follows that, on average, buyers value goods more than their original owners do and, hence, the ownership of stolen goods should be in principle assigned to buyers. Yet, societies differ in their moral norms and the strength of their law enforcement and hence implement this criterion in different degrees: these differences immediately imply a sharp empirical prediction on the determinants of comparative variation.

C. How Self-Reliance Affects Law

On the one hand, in jurisdictions with stronger enforcement and efficient courts, protecting the buyer is more relevant than in other jurisdictions. This is because a stronger enforcement makes owner protection a relatively effective way to transfer goods back to their original owners. This is undesirable; hence, the higher the strength of enforcement in a jurisdiction, the greater the probability of observing buyer protection. On the other hand, in jurisdictions with a strong culture of morality, there is less propensity to steal; hence, relatively few goods on the market are stolen and it becomes less desirable to protect buyers. Thus, the lower the level of trust and respect, the greater the probability of observing buyer protection.

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35 A possible objection to this argument is that, in an efficient market, owners who have not sold their goods must value them more than buyers. Hence, dishonest intermediaries transfer goods from a high-valuing to a low-valuing party. Yet, this is only true if market transactions take place before theft. In reality, instead, both honest and dishonest intermediaries operate simultaneously in the market, so that it is not plausible that all dispossessed owners have a high valuation of the good.
Table 2. *Strength of Enforcement and a Culture of Morality in Four Countries (Left) and Their Respective Level of Owner Protection in Private Sales (Right).*

Table 2 illustrates these predictions building on the four representative jurisdictions we use as example: countries with a stronger culture of morality but weaker enforcement have stronger owner protection than countries with weaker norms of trust and respect but stronger law enforcement. Given the definition of self-reliance that we have given in the Introduction, the effects of a culture of morality and the strength of enforcement on law can be condensed into the following testable hypothesis:

**Hypothesis:** *A higher degree of self-reliance is associated with a higher level of owner protection.*

Looking again at Table 2, self-reliance is indeed high in the bottom-right box and low in the upper-left box, while it takes an intermediate value in the other two boxes. The quest for different optimal rules for different jurisdictions sets our approach apart from the vast literature on good faith purchase, which generally tries to identify the rule that is most desirable for all legal systems. In contrast, our inquiry is based on the idea that each jurisdiction selects a desired level of owner protection depending on its cultural characteristics.

Since each owner was at some point in the past a buyer and each buyer becomes an owner after the purchase, society (consisting of all potential owners and buyers) is likely to choose the legal rule behind a veil of ignorance, which is, not knowing which role an individual will have when the ownership of stolen goods will be assigned. Thus, society is most likely to advance social welfare by maximizing the ex post value of goods rather than to cater to the specific interests of either owners or buyers. In the following, we will show that the relationship between self-reliance and owner protection empirically holds in our large sample of countries and will contrast our hypothesis with four dominant theories of comparative variation. In the analysis, we focus on the most salient index of bona fide purchase through a private sale, yet, our results are similar for the general term of adverse possession in good faith and for other sale environments (see the Appendix). Before proceeding we address two preliminary

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36 Landes and Posner (n 5); Weinberg (n 32); Ben-Shahar (n 33); Schwartz and Scott (n 4). Exception are Levmore (n 3); Youngblood Reyhan (n 5) 955; Lehavi and Licht (n 20).

37 The index on statutes of limitations is largely irrelevant for the statistical analysis in that either its length exceeds the terms for adverse possession or acquisitive prescription or because it starts running only after the owner locates...
issues.

The fact that the owner might have to compensate the buyer upon reclaiming the good does not change our conclusions. In fact, to the extent that compensation perfectly matches the buyer’s valuation of the good, owners will rarely reclaim the good because, as we have explained, buyers typically value the good more than original owners and hence the owner compensation will typically exceed the owner’s willingness to pay. Compensation, however, will often be less than the buyer’s valuation; for instance, some jurisdictions in our sample require that the owner pay the purchase price, which will typically be lower than the buyer’s valuation. If this is the case, owner protection results in an undesirable transfer of the good to a lower-value user. In conclusion, compensation equal to the buyer’s valuation counters the effect of owner protection but, in reality, compensation is typically imperfect. In both cases, our results remain valid.

An additional factor that might be relevant is the effect of good-faith purchase rules on the value of goods for owners and buyers. Since buyer protection prevents disposessed owners from reclaiming their goods and might make thieves more aggressive, implementing buyer protection might reduce the security of ownership and hence the value owners attach to their goods. Yet, the same effect would occur for buyers, since they become owners after the purchase. Therefore, both the valuation of owners and that of buyers will simultaneously change due to a change in the rule. Since our analysis is based on a comparison between the owner’s and the buyer’s valuation, our results remain valid.

D. Culture, Language, and Law

More secure original owner’s property rights and, in turn, a lower incidence of theft might, on the one hand, reinforce norms of trust and respect and, on the other, relax the need of enforcing the law. Because of this plausible reverse causality issue, the results summarized in Figure 2 might appear weaker than they really are or, even worst, they might be spurious. To address this problem, we rely on basic features of languages, pronoun usage, to identify the impact of culture on the law. These grammatical features persist for centuries so that it is hard to envision any dependence on private law rules. Moreover, motivated by a theory known as the Sapir-Whorf Hypothesis on the connection between language and cognitive processes, a large literature in linguistics and anthropology has verified empirically that language modulates the way in which

38 Edward Sapir, Language (Harcourt 1921); Benjamin Lee Whorf, Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf (John B Carroll ed, MIT 1956). Skepticism toward the Sapir-Whorf Hypothesis derives from the idea that languages are manifestations of a uniform innate ‘universal grammar’ and hence cannot shape the speakers’ ways of thinking: Noam Chomsky, Syntactic Structures (de Gruyter 1957); Steven Pinker, The Language Instinct: How the Mind Creates Language (William Morrow 1994). On the cultural role of language see Mary Douglas, Natural Symbols (Barrie and Rockliff 1970) and Basil Bernstein, Class, Codes and Control (Routledge 1971).
individuals see and interpret the world and hence affects the prevailing culture.\textsuperscript{39} As a consequence,\textsuperscript{40} the features of the language spoken by the plurality group in a jurisdiction can be used to capture exogenous and long-lived components of culture.\textsuperscript{41} Two culturally relevant features of pronoun usage in different languages have been identified by Emiko Kashima and Yoshihisa Kashima:\textsuperscript{42} ‘pronoun drop’ and ‘pronoun difference’. Concerning the first feature, some languages, such as Italian and Turkish, allow the speaker to drop the first-person pronoun next to a verb—that is, one can say ‘go’ instead of ‘I go’—while other languages, such as Danish and French, do not allow such usage. The possibility of dropping the first-person pronoun attributes less prominence to the self in the discourse and prompts weaker norms of trust and respect for individuals outside the family circle.\textsuperscript{43} Kashima and Kashima explain this relationship very clearly:\textsuperscript{44}

> “the linguistic practice of pronoun drop, particularly the omission of the first-person singular pronoun (e.g., ‘I’ in English), is linked to the psychological differentiation between the speaker and the context of speech, including the conversational partner. An explicit use of ‘I’ (i.e., first-person singular deictic pronoun) signals that the person is highlighted as a figure against the speech context that constitutes the ground; its absence reduces the prominence of the speaker’s person, thus reducing the figure-ground differentiation.”

Therefore, “[I]languages licensing pronoun drop are associated with lower


\textsuperscript{40} See Chi-yue Chiu, ‘Language and Culture’(2011) 4 Online Readings in Psychology and Culture <http://scholarworks.gvsu.edu/orpc/vol4/iss2/2> accessed on 20 January 2013 for a recent review of studies documenting the effect of language on culture. In particular, studies on bilingual subjects have found that behavior is affected by the language used in the experiment (idem, 6-7).


\textsuperscript{43} See for this definition Jean-Philippe Platteau. \textit{Institutions, Social Norms, and Economic Development} (Routledge, 2000).

\textsuperscript{44} Kashima and Kashima, ‘Culture and Language’ (n 42) 465 and 477 (footnotes omitted).
levels of Individualism than those that require the obligatory use of personal pronouns such as ‘I’ or ‘you’ as a subject of the sentence”.

Kashima and Kashima show that jurisdictions where the plurality group speaks a language that does not license pronoun drop are associated with a culture of individualism. Indeed, “[s]ocieties whose cultures emphasize individual uniqueness and view individual persons as moral equals are likely to develop norms that promote societal transparency as a means for social coordination” and, hence, are characterized by high levels of trust and respect for others.45

Concerning the second feature, in some languages, such as Italian and French, there are two (or more) different second-person pronouns, one for formal and one for informal contexts, such as ‘ye’ and ‘thou’ in early English, suggesting social distance and regard for hierarchy. In other languages, such as Danish and Turkish, these differences do not occur. Kashima and Kashima explain this point as follows:46

“Earlier in history a higher status person called a lower status person by T, whereas the lower status person addressed the higher status person by V. More recently, however, equal status people call each other by T or V depending on their intimacy; the T of intimacy and the V of formality. In other words, the T-V differentiation was used to index power difference before, but more recently is used to index social distance.

To use the T-V distinction appropriately, the speakers must pay close attention to the type of their interpersonal relationships with their addressees. In contrast, the use of present-day English, which has only one 2PS[,second persons,] pronoun, you, does not require the speaker to hold or attend to such information. […] Thus, a language with multiple 2PS pronouns implies, relative to a language with only one 2PS pronoun, a conception of the self-other relationship that is structured by social distance, such as power differentiation (i.e., status hierarchy) and ingroup-outgroup differentiation (i.e., differentiation between insiders who are close and outsiders who are distant).”

Again, Kashima and Kashima demonstrate that jurisdictions where the plurality group speaks a language licensing pronoun difference are associated with a culture of regard for hierarchy. Indeed, societies that “view the individual as an embedded part of hierarchically organized groups […] are more likely to accommodate exercise of power from above” and hence condone a stronger centralized enforcement.47

The empirical results by Kashima and Kashima allow us to use features of pronoun usage to classify countries along two cultural dimensions. Countries whose

45 Licht, Goldschmidt and Schwartz (n 41) 663.
46 Kashima and Kashima, ‘Culture and Language’ (n 42) 467 (footnotes omitted). See also Peter Mühlhäusler and Rom Harré, Pronouns and People: The Linguistic Construction of Social and Personal Identity (Blackwell 1990) 139.
47 Licht, Goldschmidt and Schwartz (n 41) 663.
languages use both pronoun drop and pronoun difference (for instance, Italy), exhibit lower levels of trust and respect for the individual and higher regard for hierarchy than countries with no drop and no difference (such as Denmark). France and Turkey fall somewhere in between these two extremes, as they score high on one measure and low on the other: French allows for pronoun difference but not for pronoun drop, while Turkish allows for pronoun drop but not for pronoun difference. Table 3 illustrates this point and shows how language features are related to owner protection in the four countries that we use as examples.

<table>
<thead>
<tr>
<th>Drop</th>
<th>No drop</th>
<th></th>
<th>Drop</th>
<th>No drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference</td>
<td>Italy</td>
<td>France</td>
<td>Difference</td>
<td>0</td>
</tr>
<tr>
<td>No difference</td>
<td>Turkey</td>
<td>Denmark</td>
<td>No difference</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 3. Grammatical Rules (Left) and Owner Protection in Private Sales (Right).

Notably, Table 3 illustrates the correlations described at the outset: trust and respect, as measured by pronoun drop, is positively related with owner protection, while the strength of enforcement, as measured by pronoun difference, is negatively related with it. Most importantly, using pronoun usage to measure these two cultural features makes us confident that we are not picking up an effect of law on culture rather than the opposite.

As anticipated above, to simplify the interpretation of the results, we summarize the two language features in our self-reliance variable. This variable takes a value equal to 1 if both features are present, 2 if either of the two is present, and 3 if none of them is present. This definition implies that a language scoring lower on self-reliance more easily accommodates power from above and puts less focus on being trustworthy and respectful with strangers.48

E. Evaluating Causality: A Case Study

Guido Tabellini has argued that

“language evolves slowly over time, almost certainly more so than values. Moreover, the two grammatical rules on the use of pronouns capture deep and stable features of the language (this is particularly true of the rule forbidding pronoun drop). Hence, there is little doubt that they are correlated with distant cultural traditions, rather than with more recently acquired traits. Thus, using Language as an instrument for values, we have taken care of the problem of reverse causation.”49

48 In our data, the Spearman correlation coefficients between self-reliance and our measures of trust and respect are 0.27 and 0.28, respectively. On the contrary, the Spearman correlation coefficient between self-reliance and our metrics of enforcement is –0.11.
49 Tabellini (n 41) 278.
Yet, in the long run languages are also endogenous, since they adapt to the environment and the communication needs of its speakers. For instance, both English and Polish varied their use of pronoun difference over time, but in opposite ways. In the fourteenth century, Polish had no pronoun difference, but English did. In contrast, the current usage allows pronoun difference in Polish but not in English.50

The languages, cultures, and legal systems of nation states with long histories (for instance, England) developed simultaneously. Moreover, former colonies of European powers have often received both language and law from the colonizer. Therefore, although language is considered by many scholars a determinant of culture and law,51 it is crucial to establish that the relationship we find between language and law is causal. The history of Italy, Scandinavia, Eastern European countries (for instance, Poland), and some near Asian countries offers a nice case study for our claim of causality.

These countries did not have a history of independent nation states before 1815.52 To elaborate, they were part of the Russian, Austrian or Ottoman Empire or fared under the kingdoms of Prussia, Denmark or Sweden. These powers crumbled in the nineteenth century or were wiped out by the First World War, at the end of which national borders were drawn according to an ideal of ethnic homogeneity.53 A new wave of decomposition into smaller nation states followed the fall of the Soviet Union, Yugoslavia, and the Eastern Bloc. Italy followed a different path, acquiring independence by means of unification. Therefore, all of these newly independent nations chose their modern legal systems after 1815, and most of them at a much later date after the end of the First World War or the fall of the Berlin wall. At that time, the basic features of the language spoken by the majority of the population had most likely already crystallized in the form that we know today. For instance, accurate data are available for English and Polish. ‘Thou’ and ‘ye’ in written English had been displaced by ‘you’ already in the mid seventeenth century.54 Similarly, Polish had already acquired the current pronoun difference usage by the mid fifteenth century.55

Figure 5 shows the levels of self-reliance in the 22 countries that we consider

50 Peter Mühlhäusler and Rom Harré (n 46) 149.
51 Licht, Goldschmidt and Schwartz (n 15) 252; Tabellini (n 15) and (n 41).
52 We consider Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Finland, Georgia, Greece, Hungary, Italy, Kosovo, Latvia, Lithuania, Montenegro, Norway, Poland, Romania, Serbia, Slovakia, and Slovenia. For Albania, Armenia, Azerbaijan, Macedonia, Moldova, and Ukraine we do not have data on either languages or the law.
54 We have gathered this information from two comprehensive online databases. The Google Books Ngram Viewer <http://books.google.com/ngrams> tracks the frequency in use of words in a corpus of over 5 million digitalized books, corresponding to approximately 4% of all books ever published; see Jean-Baptiste Michel and others, ‘Quantitative Analysis of Culture Using Millions of Digitized Books’ (2011) 331 Science 176. The Corpus of Historical American English <http://corpus.byu.edu/coh/> contains 400 million words of text of American English from 1810 to 2009 and shows a further sharp decline in the use of ‘thou’ after 1810. Both databases were accessed on 26 November 2012. See also Andreas H Jucker and Irma Taavitsainen, ‘Introduction’ in Andreas H Jucker and Irma Taavitsainen (eds), Diachronic Perspectives on Address Term Systems (John Benjamins 2003) 1, 5 (arguing that ‘thou’ had virtually disappeared in Britain by 1700).
55 See Mühlhäusler and Harré (n 46) 149.
here and contrasts them with the level of protection afforded to owners versus good faith buyers in private sales. As the theory predicts, a higher level of self-reliance corresponds to a higher level of owner protection. This is particularly evident in Norway, Finland, Slovakia, Italy, Croatia, and Belarus. Most of the remaining countries have low levels of self-reliance but exhibit intermediate levels of protection. Yet, in all but two cases (Estonia and Greece), the buyer acquires ownership in three years (in Estonia in five years). Therefore, even if protection is classified as intermediate, in fact it is very close to buyer protection, which corresponds nicely with the low levels of self-reliance. Czech Republic and Hungary have intermediate levels of self-reliance but exhibit pure owner protection, confirming the trend even if not perfectly matching it. Cyprus, Serbia, Montenegro and Kosovo are not in line with these trends; however, other determinants of comparative variation could explain these differences. In over four-fifths of the cases considered here, countries with a predetermined endowment of culture as captured by their crystallized language moved toward their optimal level of owner protection after gaining independence. The evidence provided by this case study supports our claim that the correlations we find are not due to reverse causality.

FIGURE 5 HERE

Figure 5. Owner Protection in Private Sales (Left) and Self-reliance (Right) in 22 Young Legal Systems.

3. EMPIRICAL ANALYSIS

To test the explanatory power of self-reliance versus other theories of comparative variation we employ regression analysis. In each of the regressions reported in Table 4, we consider the effect of two explanatory variables on our index of owner protection in private sales. One explanatory variable is always self-reliance, while the other one changes across regressions, so that each regression considers a different factor borrowed from an alternative theory of comparative variation. Thus, each regression tests whether cross-country variation in owner protection is statistically related to variation in self-reliance or to variation in the alternative factor, that is, it tests whether self-reliance explains comparative variation better than an alternative theory.

For each of the two explanatory variables the regression analysis returns two crucial pieces of information that we will use in the following sections: a coefficient and a $p$-value. The coefficient measures the effect of the explanatory variable on owner protection. A large absolute value of the coefficient suggests that that variable explains a large part of the variation in bona fide purchase rules. The sign of the coefficient indicates whether an increase in the value of the explanatory variable is related to an increase (positive sign) or decrease (negative sign) in owner protection. However, in a
large dataset, variables could be related to each other by chance. The \( p \)-value is the probability of obtaining the observed distribution of data given that the coefficient is equal to zero. If lower than 1\% (three asterisks in the table), there is very low chance that a coefficient equal to zero has spurred the observed variation and we can reject at this confidence level that the coefficient is null and, consequently, that the results of the regression analysis are due to chance. We also consider two other less stringent confidence levels: 5\% (two asterisks) and 10\% (one asterisk). If a coefficient is not statistically significant (no asterisk), the corresponding explanatory variable fails to account for variation in owner protection.

In the Appendix we provide the definition, source, and summary statistics of each variable plus some additional statistical analysis, as well as additional robustness checks.\(^5\) In each of the following subsection, we will introduce a theory of comparative variation, illustrate its empirical implications, explain how we measure its relevance, and discuss the results of our test as reported in Table 4.

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reliance</td>
<td>7.422***</td>
<td>5.565***</td>
<td>6.682***</td>
</tr>
<tr>
<td>Common-Law</td>
<td>0.302 (5.047)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy</td>
<td>1.344* (0.685)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majoritarian</td>
<td></td>
<td>-7.051 (5.407)</td>
<td></td>
</tr>
<tr>
<td>Protestantism</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Estimation</td>
<td>OLS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Observations</td>
<td>88</td>
<td>102</td>
<td>77</td>
</tr>
<tr>
<td>Adjusted ( R^2 )</td>
<td>0.18</td>
<td>0.17</td>
<td>0.19</td>
</tr>
</tbody>
</table>

Notes: 1. Standard errors in parentheses; 2. *** denotes significant at the 1\% confidence level; **, 5\%; *, 10\%; 3. All specifications include a constant term.

Table 4. Endogenous Owner Protection in Private Sales — Reduced Form

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\(^5\) First, we document that our conclusions are similar when we regress our different measures of owner protection on the proxies for a culture of morality and the quality of law enforcement. Second, we show that these results remain stable when we use the full-form 2SLS, i.e., we first regress each of our proxies for culture and enforcement on each of the two components of our measure of self-reliance, then we save the fitted values, and next we regress our metrics of owner protection on these newly defined variables. Finally, we provide evidence suggesting that our instruments do not affect directly the property-contract balance and that the gist of our empirical exercise is not driven by other important observable features, like the pro-owner attitude of the jurisdiction, the settlement strategy of the colonizers, and the strength of the jurisdiction's enforcement capacity.
A. **Functional Equivalence Versus Self-Reliance**

Konrad Zweigert and Hein Kötz authoritatively propose that formally different legal rules often reach the same results in practice.\(^57\) Thus, comparative variation needs to be assessed not on the basis of the superficial differences among formal rules, but by looking at the deeper differences in the effects that those rules have on behaviour. Thus, a long tradition of comparative law studies seeks to understand how different legal systems deal with the same factual situations.\(^58\) In our case, the factual question is which party—the owner or the buyer—can recover or retain the good.

The main empirically testable implication of the functional equivalence theory as been put forward by Saul Levmore, who argues that most differences among legal systems can be rationalized as noise: the question is so subtle that most people would have different opinions as to which solution is best. Thus, while it is clear that theft should be punished and hence we observe uniformity in the punishment of theft across countries, it is less clear whether the owner or the buyer should recover or retain a stolen good, and hence we observe comparative variation.\(^59\) This claim is based on the underlying idea that legal systems tend to develop a single efficient rule to deal with similar problems;\(^60\) hence, there is a natural tendency toward convergence even absent

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\(^59\) Levmore (n 3) 44-45. Ugo Mattei, ‘Efficiency in Legal Transplants: An Essay in Comparative Law and Economics’ (1994) 14 Int’l Rev L & Econ 3 attributes comparative variation to legal parochialism, which could be viewed as a form of random disagreement on the best outcome. Note that culture could be viewed as opinions. Yet, this does not bring our approach to overlap with the functional equivalence approach since the question remains whether culture causes random noise or, as we claim, predictable effects on the law.

any direct reciprocal influence.61

This clear empirical implication does not necessitate the identification of the efficient outcome. Since different rules are accounted for as quasi-random variations around the efficient solution (whatever that may be), differences among legal systems should emerge as random noise in a large sample of countries and, in particular, should not be correlated with a country’s culture of morality. The functional equivalence theory predicts that differences should appear in the data as random noise with no particular pattern. In contrast with this prediction, we find that self-reliance enters the analysis with a positive and significant coefficient in each of the regressions in Table 4, which shows that comparative variation is not random noise and, to the contrary, is correlated with self-reliance.

B. Legal Origins Versus Self-Reliance

The transplants theory, most frequently associated with Alan Watson, rationalizes differences among legal systems as transplants from one system to another.62 The underlying idea is that rules spread through direct contact between legal systems. According to Zweigert and Kötz, since most differences are in fact functionally equivalent, formal differences tend to persist.63 This approach has also pervaded a long tradition of studies in political science and economics, although often under quite different guises. A taxonomy is best provided according to the channel through which transplants occur. The most fundamental manifestation of the transplants theory is the legal families theory in comparative law,64 also known as legal origins theory in comparative economics,65 according to which the primary channel for transplants was colonization.66 Thus, legal systems around the world are traditionally classified according to the family of origin, that is, whether they inherited common law or one of the varieties of civil law from the colonizer. This view tends to dichotomize a past in

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61 Murray (n 5) 24; Mattei (n 59) 16; Zweigert and Kötz (n 57) 39; Ugo Mattei, Basic Principles of Property Law (Greenwood 2000); Mitja Kovač, Comparative Contract Law and Economics (Elgar 2011).


63 Zweigert and Kötz (n 57). Cf Mattei (n 61) 19-21.

64 In a dynamic perspective, tradition has been added to the analysis to explain how legal notions persist through a country’s history. Jan M Smits, ‘Is Law a Parasite? An Evolutionary Explanation of Differences among Legal Traditions’ (2011) 7 Rev L & Econ 1.

65 Rafael La Porta and others, ‘Legal Determinants of External Finance’ (1997) 52 J Fin 1131.

which differences have somehow originated and a present in which differences are spread through transplants. Economists have derived from it a clear empirical prediction: current differences among different countries can be largely explained by the common-civil law divide.\textsuperscript{67}

Another strand of the transplants theory allows for transplants also in recent times and justifies them as borrowing from ‘prestigious’ systems.\textsuperscript{68} However, the notion of prestige can be carefully defined only when looking at specific cases of borrowing and does not easily lend itself to empirical testing in a large sample of countries.\textsuperscript{69} Yet another strand of the transplants theory views convergence as the result of competition among jurisdictions and has been pioneered by Roberta Romano.\textsuperscript{70} If law is seen as a ‘product’, then competition forces less valuable rules out of the market—or, more precisely, out of the law books—and in the long run only the most efficient rules will survive. However, this theory does not require the surviving rules to be efficient. In fact, it admits both a race to the top and a race to the bottom.\textsuperscript{71} In both cases, it predicts a large degree of uniformity and allows divergence only as the result of product differentiation, temporary disequilibrium due to experimentation or, more generally, random noise. Similar implications follow from diffusion studies, which view legal innovation as akin to technological and commercial innovations and hence look at the diffusion paths of novel doctrines.\textsuperscript{72}

The jurisdictional competition and diffusion theories do not provide appealing explanations for comparative variation in that they mostly predict convergence toward a uniform rule or a variation as a result of quasi-random factors, which we have discussed in Section A.\textsuperscript{73} The legal origin theory, as recently stated by Rafael La Porta, Florencio Lopez de Silanes and Andrei Shleifer,\textsuperscript{74} instead, predicts that comparative variation


\textsuperscript{69} Cf Katerina Linos, ‘Diffusion through Democracy’ (2011) 55 Am J Pol Sci 678, showing empirically that news about international models and foreign policies shapes voters’ preferences and hence affects domestic policies.


\textsuperscript{73} See for instance Bruce H Kobayashi and Larry E Ribstein, ‘Evolution and Spontaneous Uniformity: Evidence from the Evolution of the Limited Liability Company’ (1996) 34 Econ Inquiry 464 (studying the evolution of the limited liability company); Ogus (n 1) (distinguishing between situations in which preferences over the law are homogeneous and convergence is likely and situations in which preferences are heterogeneous and convergence is unlikely).

\textsuperscript{74} La Porta, Lopez de Silanes and Shleifer (n 66).
should be explained by the common law versus civil law origin of the system. Yet, looking at the legal family of a country at the moment of independence has two main drawbacks. First, it could capture whether the colonizer was Britain or another European power and hence confound information about legal institutions with other changes that the experience of colonization might have brought about—not the least, business culture, language, and religion. Second, recent evidence shows that many jurisdictions have reformed their legal systems after colonization. Accordingly, we classify jurisdictions along a civil-common law continuum by focusing on legal institutions in place today rather than at the time of colonization. These measures consist of whether appellate decisions have precedential value, whether appeal is purely on issues of law or also on facts, whether judgment can be based on equity, whether procedure is adversarial, and whether evidence is mostly submitted orally. If all these characteristics are present, the system can be classified as a pure common law system.

Hence, our continuous measure allows for a classification of countries based on their degree of proximity to a pure common law system. If the common-civil law divide has an effect on private law, we should be able to detect it in the data.

In order to contrast our cultural explanation with the legal origins explanation, we use a simple test. We are interested in verifying to what extent a common law origin can explain owner protection once we account for the effect of self-reliance. The first column Table 4 shows that the coefficient attached to common law is positive but insignificant, whereas the coefficient on self-reliance is positive and significant. This suggests that, once we account for the effect of self-reliance, common law is not a good predictor of comparative variation in owner protection.

C. Political Economics Versus Self-Reliance

A third very prominent approach to comparative variation not only in private but also in constitutional law views politics as a key determinant of the evolution of legal rules. Powerful elites or political majorities might design the law to their advantage and hence

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76 Guerriero (n 60), shows that the current law-making and adjudication institutions often differ from the transplanted ones and reflect the social effort to balance the volatility of the law induced by heterogeneous cultural biases and the bias produced by weak political institutions. Carmine Guerriero, ‘Endogenous Legal Traditions and Economic Outcomes’ J Comp Econ (forthcoming, 2014) evaluates the bias introduced by the lack of consideration of the endogeneity of legal traditions in the analysis of the economic effect of the law. See also Mariana Pargendler, ‘Politics in the Origins: The Making of Corporate Law in Nineteenth-Century Brazil’ (2012) 60 Am J Comp L 805; Mariana Pargendler, ‘The Rise and Decline of Legal Families’ (2012) 60 Am J Comp L 1043.

77 John H Merryman, The Civil Law Tradition (Stanford UP 1969); Zweigert and Kötz (n 57); Mary Ann Glendon, Paolo G Carozza and Colin B Picker, Comparative Legal Traditions in a Nutshell (Thomson 1999).

differences across countries can be traced back to political conflict.\textsuperscript{79} Rules that favour minorities only emerge as concessions due to the need to provide incentives to take part in economic activities or for fear of revolution.\textsuperscript{80} Exogenous shocks can unbalance power and prompt institutional discontinuities; for instance, Mark Roe has argued that politics, not legal origin, explains differences in corporate governance across the world.\textsuperscript{81} We consider two main political variables that could have an impact on the law: the strength of democracy and the nature of the electoral system (proportional versus majoritarian). In weaker democracies, powerful minorities can concentrate power and exploit the majority. In the context of our analysis this could imply that (at least initially) more politically powerful owners could obtain more legal protection of their property against theft.\textsuperscript{82} Thus, the level of owner protection should be inversely correlated with the level of democracy.

The nature of the political system could also affect the law. As shown by Marco Pagano and Paolo Volpin,\textsuperscript{83} politicians in proportional systems tend to cater to the preferences of large constituencies while in a majoritarian system they go after the votes of the pivotal groups. Hence, we would expect majoritarian systems to protect the concentrated interests of owners and proportional systems to be more open toward buyer protection.

An alternative hypothesis, which supports our cultural explanation, is that the roles of buyers and owners are normally interchangeable in a market setting, since owners were once buyers and buyers will become owners. Therefore, both owners and buyers should support rules that maximize total welfare or, stated otherwise, that cater to their interests behind the veil of ignorance, that is, before knowing whether they will be the good faith buyer or the dispossessed owner of a stolen good. From this perspective, both democracy and the electoral system should have no effect on owner protection.


\textsuperscript{81} Roe (n 67). Another strand of literature has argued that centralized systems emerge to counter private coercion by powerful elites, see Edward Glaeser and Andrei Shleifer, ‘The Rise of the Regulatory State’ (2003) 41 J Econ Lit 401. In our analysis, self-reliance is not connected to private coercion but rather to the propensity to enforce the law and a culture of morality. Moreover, our analysis considers private expropriation—the involuntary transfer of the owner’s property to an innocent buyer by a thief or another intermediary without legal power to do so—which is different from private coercion.

\textsuperscript{82} See Giuseppe Dari-Mattiacci and Carmine Guerriero, ‘Endogenous Property Rights’ (manuscript on file with the authors, 2014).

To test the political economics theories against our cultural explanation, we employ the same procedure as in the previous section. We first examine democracy as measured by the constraints on the executive as coded in the Polity IV dataset, averaged over all available years.\footnote{This measure ranges between 1 and 7 and takes higher values when the holder of executive powers is accountable to the citizenry and the government is constrained by checks and balances or by the rule of law. See Monty G. Marshall and Keith Jaggers, ‘Political Regime Characteristics and Transitions, 1800-2008’ <http://www.systemicpeace.org/polity/polity4.htm> accessed on 1 November 2012.} As the second column of Table 4 shows, democracy does not have a statistically significant impact on owner protection whereas self-reliance does.

We now turn to the electoral system as an explanatory variable. We use the data collected by Lorenz Blume, Jens Müller, Stefan Voigt, and Carsten Wolf on the electoral systems in force in a subset of our jurisdictions.\footnote{See Lorenz Blume and others, ‘The Economic Effects of Constitutions: Replicating—and Extending—Persson and Tabellini’ (2009) 139 Pub Choice 197.} The third column of Table 4 confirms the crucial role of self-reliance and shows that majoritarian electoral systems have a small and only marginally significant impact on owner protection. This effect goes in the expected direction.

D. \textit{Self-Reliance Versus Religious Beliefs} \\

The importance of culture for law and economic activities is the theme of a burgeoning literature.\footnote{René David and John EC Brielerly, \textit{Major Legal Systems in the World Today} (Stevens & Sons 1968) 14-20; Merryman (n 77) 13-14; James Boyd White, \textit{The Legal Imagination} (U Chi P 1973); Robert Cover, ‘The Supreme Court, 1982 Term—Foreword: Nomos and Narrative’ (1983) 97 Harv L Rev 4; Bernhard Grossfeld, \textit{The Strength and Weakness of Comparative Law} (OUP 1990) 103; Alan Watson, ‘From Legal Transplants to Legal Formats’ (1995) 43 Am J Comp L 469; Vivian Grosswald Curran, ‘Cultural Immersion, Difference and Categories in U.S. Comparative Law’ (1998) 46 Am J Comp L 43; Pierre Legrand, \textit{Fragments on Law-as-Culture} (WEJ Tjeenk Willink 1999); Lawrence Rosen, \textit{Law as Culture: An Invitation} (Princeton UP 2006); Jan Smits, ‘The Harmonization of Private Law in Europe: Some Insights from Evolutionary Theory’ (2002) 31 Ga J Int’l & Comp L 79, 80; Gerrit De Geest, ‘Understanding French, German, and Civil Law More Generally’ in Jef De Mot (ed), \textit{Liber amicorum Boudewijn Bouckaert. Vrank en vrij} (die Keure 2012); Fons Trompenaars and Charles Hampden-Turner, \textit{Riding the Waves of Culture} (Brealey 2012). See also n 15.} A powerful determinant of cultural traits and of their diffusion is religion. A very influential theory proposed by Max Weber points to Protestantism as the determinant of a capitalist attitude.\footnote{Max Weber, \textit{The Protestant Ethic and The Spirit of Capitalism} (1905, Stephen Kalberg trans, Roxbury 2001).} According to Weber, Protestantism removed the assurance of salvation, which had been guaranteed by the Roman Catholic Church to those who accepted sacraments and recognized the authority of the clergy, and submitted it to worldly success. At the same time, Protestantism discouraged luxury and seriously limited icons and decorations in churches and charity to the poor, which was seen as encouraging beggary. As a result, the Protestant ethics encouraged work and discouraged spending, channelling the proceeds of labour into reinvestment.\footnote{In contrast, Timur Kuran, \textit{The Long Divergence} (Princeton UP 2011) argues that the lack of legal institutions rather than religion has held back the development of capitalism in Islamic countries.}

The effect of religion on markets has been observed empirically; in particular, René Stulz and Rohan Williamson show that Protestant countries exhibit higher levels of creditors’ protection than Catholic countries.\footnote{Stulz and Williamson (n 15).} This is related to the Protestant view
that interest is a normal part of commerce. Accordingly, their data shows a higher level of creditor protection in Protestant countries. In relation to the good faith purchase of stolen goods, Protestantism should have important effects on how private property is regulated and in particular should induce more owner protection. More precisely, a larger share of Protestants in a country should be a good predictor for a higher level of owner protection.

Yet, culture is not a monolithic phenomenon. Lehavi and Licht have proposed individualism as a cultural feature that affects the protection of (both physical and intellectual) private property. In less individualistic countries, people are more strongly embedded in a social context and hence private property is more loosely protected. It is therefore natural to inquire into the effects of different cultural features on the property-contract balance. In particular, we will compare the explanatory power of religion and self-reliance, which encompasses individualism as one of its two subcomponents.

To test the effect of Protestantism on owner protection we employ again the same empirical strategy. We use data from a study by Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny reporting the share of the population belonging to the Protestant religion in 1980 in each country. As the fourth column of Table 4 shows, the effect of Protestantism on owner protection is not statistically significant whereas the coefficient attached to self-reliance is still positive and highly significant. This result supports the view that culture is a multidimensional phenomenon, so that a specific characteristic of a legal system might be explained by a particular cultural trait while being independent of another. In turn, this reinforces our approach, which is grounded in the notion of self-reliance, capturing the two different and rather independent cultural traits of individualism and regard for hierarchy.

4. CONCLUSION

Our analysis shows that comparative variation in good faith purchase rules can be traced back to deep cultural differences among countries and, in particular, different levels of self-reliance. We have shown that self-reliance fits the data better than alternative theories based on functional equivalence, legal origins, political economics, and religion, an alternative measure of culture. Our results should be appreciated within the limits of our empirical analysis. Our data concern a specific legal issue and hence do not imply that self-reliance should be embraced as the only determinant of comparative variation in all areas of the law. Quite the opposite, the evidence accumulated by the literature that we discuss suggests that comparative variation might be explained by

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91 Lehavi and Licht (n 20).
different factors in different areas of the law. Furthermore, we did not attempt to test all theories of comparative variation. The need to feed the analysis with reliable data limits the scope of any empirical analysis. Although we believe to have identified four widely representative approaches, as more data becomes available, more complete tests will be possible. Finally, our measure of cultural differences is limited to self-reliance, which was not meant to capture all cultural differences among countries. To the contrary, we have shown that different measures of culture—we used one measure based on self-reliance and another based on religion—have different effects on the law. Culture is a multifaceted phenomenon and there are many ways to quantify cultural differences. The approach we chose is not a superior description of culture in absolute terms but it fits the data on the good faith purchase of stolen goods better than the alternative we considered.

Going further, our results naturally produce a hypothesis on the diachronic evolution of good faith purchase rules. In western countries, the baseline rule was the pure owner protection inherited from the Roman law maxim stating—in its modern restatement—that *nemo dat quod non habet*. This principle was slowly abandoned during the Middle Ages to give more room for the protection of buyers especially for purchases effected in specified markets. This process raises the question of why and how the divergences that we now observe in modern law originated. Can they be rationalized as responses to changing cultural contexts? One view is that the development of impersonal markets brings with it a decrease in the levels of mutual trust and respect as it attracts foreigners who do not share the same values as the community hosting and regulating the markets. Moreover, market transactions are more transparent than private exchanges and should therefore ease law enforcement. These considerations suggest that divergence might have originated as a response to the certainly not homogeneous distribution of markets across Europe. Yet, these conjectures require further historical research. In particular, it would be interesting to be able to track the changes in good faith purchase rules and to link them to specific historical events.

Finally, our analysis has implications for the current process of legal harmonization. Understanding the causes of comparative variation is a fundamental precondition for discussing harmonization. It is a truism that to decide whether two countries should have the same rules, one should first understand why they have different rules. Different views of comparative variation suggest different harmonization policies. If comparative variation is due to random noise, getting rid of it

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93 Sauveplanne (n 4) 652-55; Kozolchyk (n 28) 1489.
has the advantage of sparing the cost of legal uncertainty. If instead comparative variation is an optimal response to different cultural backgrounds, pushing harmonization induces countries to deviate from their ideal rules and hence brings about large losses. Our analysis speaks against the unqualified elimination of legal differences and casts a vote for a central role of comparative legal scholarship even in a world of increasing legal harmonization.95

LIST OF CONTRIBUTORS

This study could not have been written without an army of national contributors who generously provided information on the law in force in the countries in our sample. We are deeply indebted to them for their effort and time.

Besa Tauzi, Boga & Associates (Albania); António Vicente Marques and Cláudia Veloso, AVM-Advogados (Angola); Martin Bensadon, Marval O’Farrell & Marval (Argentina); Armen Melkumyan, Prudence CJSC (Armenia); Michael Back, Freehills (Australia); Wolfgang Faber, University of Salzburg (Austria); Rashid Aliyev, Baker & McKenzie, Baku, CIS Limited (Azerbaijan); Saifuddin Mahmood, Hassan Radhi & Associates (Bahrain); Al Amin Rahman and Sabrina Zarin, FM Associates (Bangladesh); Amina Khatoon, Doulah & Doulah (Bangladesh); Aliaksandr Daniilevich, Belarusian State University (Belarus); Sergei Makarchuk, Law Firm CHSH Cerha Hempel Spiegelfeld Hlawati, Minsk Office (Belarus); Caroline Cauffman, Maastricht University and University of Antwerp (Belgium); Tania Moody, Barrow & Williams (Belize); Mario Kempf and Patricio Rojas, CR & F Rojas Abogados (Bolivia); Mélia Povlakic and Darja Sofić Kadenić, University of Sarajevo (Bosnia and Herzegovina); Rafael Gagliardi and Newton Marzagão, Demarest & Almeida Advogados (Brazil); Dimitar Stoimenov, Peterka & Partners Law Firm (Bulgaria); Camille Razalison and Adrien Rangira, John W Fooks & Co (Burkina Faso and Ivory Coast); Jehny Ramandrison and Adrien Rangira, John W Fooks & Co (Burundi); Nimrod E. Mkono, Gilbert L.P. Nyatanyi, Lambert Nigurata, and René-Claude Madebari, Mkono & Co. (Burundi); Eddy Ratianarivo and Adrien Rangira, John W Fooks & Co (Cameroon); Matías Ignacio De Marchena Viciñal, Claro y Cía (Chile); Elliott Youchun Chen, Beijing Jun Ze Jun Law Offices, Shenzhen (China); Jie Chen, Jun He Law Offices (China); Ernesto Rengifo García, Universidad Externa de Colombia and Garrido & Rengifo Abogados (Colombia); Adrián Álvarez Orellana, Consorcio Lacië & Gutiérrez (Costa Rica); Eduardo Calderon, Adriana Castro and Manuel Santos, BLP Abogados (Costa Rica); Hano Ernst, University of Zagreb (Croatia); Tatjana Josipovic, University of Zagreb (Croatia); Stéphanie Lailhé Shaelou, University of Central Lancashire (Cyprus); Michaela Zuklomová, Charles University (Czech Republic); Arnaud Kayembe Tabu, University of Kinshasa and Kayembe Tabu Law Office Kinshasa (DRC); Bukayatifwa Deo Gratia, MBM-Conseil SCA (Democratic Republic of Congo); Francois Butedi, SADC-CNGO (Democratic Republic of Congo); Phebe Mavungu Clément, University of the Witwatersrand (Democratic Republic of Congo); Ole Borch, Borch-Bruun (Denmark); Tobias Vieth, Danders & More (Denmark); Laura Bobea Escoto, Medina & Rizek, Abogados (Dominican Republic); Pablo Ortiz-Garcia and Luis Marin-Tobar, Perez Bustamante & Ponce (Ecuador); Roque Albuja, Quevedo & Ponce (Ecuador); Ahmed El-Gammal and Nihal Madkour, Shalakany Law Office (Egypt); Monica Machuca, ACZALAW (El Salvador); Kai Kullerkupp, University of Tartu (Estonia); Monika Tamm and Liina Linsi, Lawin (Estonia); Molla Mengistu, School of Law, Addis Ababa University (Ethiopia); Muradu A. Srur, Addis Ababa University, School of Law (Ethiopia); Jarmo Tuomisto, University of Turku (Finland); Sophie Tavergner and Philippe Xavier-Bender, Gide Loyrette Nouel (France); David Kakabdze, Georgian Legal Partnership (Georgia); Vanessa Pickenpack and Klaus Guenther, Oppenhoff & Partners (Germany); Ellen Bannerman, Bruce-Lyle, Bannerman & Associates (Ghana); Norma Dawson, Queen’s University Belfast (Great Britain and Northern Ireland); Ben McFarlane, University College London (Great Britain, Hong Kong and Malaysia); Alexandra Economou, Drakopoulos Law Firm (Greece); Cristóbal Fernández and María de la Concepción Villeda, Mayoría & Mayorca, S.C. (Guatemala); Juan José Alcerro Milla, Carolina Aguirre Larios and Melissa Amaya Pastrana, Aguilar Castillo Love (Honduras); Gabor Fejes, Oppenheim and Partners Freshfields Bruckhaus Deringer (Hungary); Ciccu Mukhopadhyaya and Surjendu Das, Amarchand Mangaldas and Suresh A. Shroff and Company, New Delhi (India); Nafis Adwani, Ali Budiardjo, 95 Larry E Ribstein and Bruce H Kobayashi, ‘An Economic Analysis of Uniform State Laws’ (1996) 25 J Legal Stud 131; Ugo Mattei, ‘The Issue of European Civil Codifications and Legal Scholarship: Biases, Strategies, and Developments’ (1998) 21 Hastings Int’l & Comp L Rev 883; Michael G Faure, ‘How Law and Economics May Contribute to the Harmonization of Tort Law in Europe’ in Reinhard Zimmerman (ed), Grundstrukturen des Europaeischen Deliktsrechts (Mohr Siebeck 2003) 31. Cf Mathias M Siems, ‘The End of Comparative Law’ (2007) 2 J Comp L 133.
FIGURES TO BE INCLUDED IN THE TEXT

FIGURE 1

FIGURE 2

FIGURE 3
**FIGURE 4**

<table>
<thead>
<tr>
<th>Category</th>
<th>Owner Protection</th>
<th>Intermediate Protection</th>
<th>Buyer Protection</th>
<th>Mean Terms of Years for Intermediate Protection</th>
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<td></td>
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<tr>
<td>Adverse possession in bad faith</td>
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**FIGURE 5**

[Map with various colors representing different legal protections and terms in Europe and Eastern Europe]