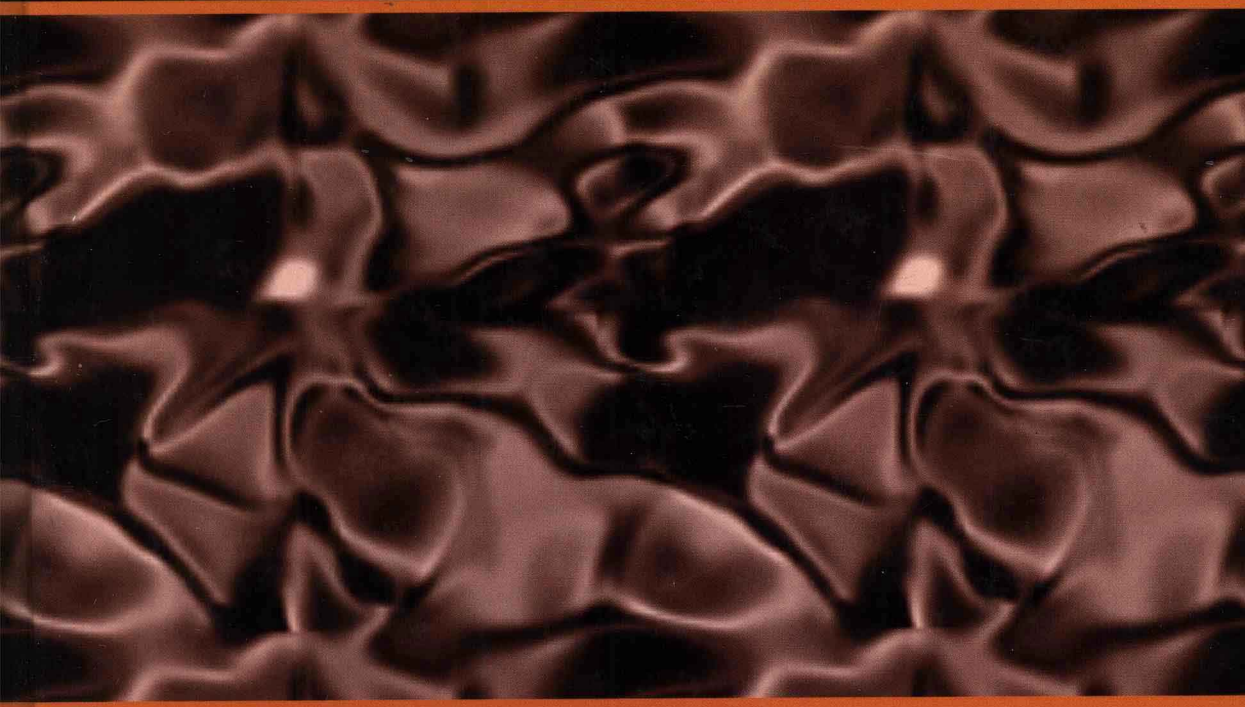
Economics of Ancient Law

Edited by **Geoffrey P. Miller**



ECONOMIC APPROACHES TO LAW 27

Economics of Ancient Law

Edited by

Geoffrey P. Miller

Stuyvesant Comfort Professor of Law
New York University Law School, USA

ECONOMIC APPROACHES TO LAW

An Elgar Research Collection
Cheltenham, UK • Northampton, MA, USA

Published by
Edward Elgar Publishing Limited
The Lypiatts
15 Lansdown Road
Cheltenham
Glos GL50 2JA
UK

Edward Elgar Publishing, Inc.
William Pratt House
9 Dewey Court
Northampton
Massachusetts 01060
USA

A catalogue record for this book is available from the British Library

Library of Congress Control Number: 2009941157

ISBN 978 1 84844 433 1

Printed and bound by MPG Books Group, UK

Acknowledgements

The editor and publishers wish to thank the authors and the following publishers who have kindly given permission for the use of copyright material.

Academy of Political Science for article: M.I. Finley (1953), 'Land, Debt, and the Man of Property in Classical Athens', *Political Science Quarterly*, **LXVIII** (2), June, 249–68.

American Economic Association for article: Maristella Botticini and Aloysius Siow (2003), 'Why Dowries?', *American Economic Review*, **93** (4), September, 1385–98.

Böhlau Verlag Ges.m.b.H & Co. KG for article: David Daube (1979), 'Money and Justiciability', *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte*, **96**, 1–16.

Chicago-Kent Law Review for articles: Geoffrey P. Miller (1995), 'J as Constitutionalist: A Political Interpretation of Exodus 17:8–16 and Related Texts', *Chicago-Kent Law Review*, **70**, 1829–47; Saul Levmore (1995), 'Rethinking Group Responsibility and Strategic Threats in Biblical Texts and Modern Law', *Chicago-Kent Law Review*, **71**, 85–121; Robert C. Ellickson and Charles DiA. Thorland (1995), 'Ancient Land Law: Mesopotamia, Egypt, Israel', *Chicago-Kent Law Review*, **71**, 321–411.

Elsevier for articles: Robert J. Aumann and Michael Maschler (1985), 'Game Theoretic Analysis of a Bankruptcy Problem from the Talmud', *Journal of Economic Theory*, **36** (2), August, 195–213; Francesco Parisi and Giuseppe Dari-Mattiacci (2004), 'The Rise and Fall of Communal Liability in Ancient Law', *International Review of Law and Economics*, **24**, 489–505.

Harvard Law Review Association via Copyright Clearance Center for article: Henry Hansmann, Reinier Kraakman and Richard Squire (2006), 'Law and the Rise of the Firm', *Harvard Law Review*, **119** (5), March, 1333–403.

Journal of Law and Religion and Adam Chodorow for article: Adam S. Chodorow (2007), 'Biblical Tax Systems and the Case for Progressive Taxation', *Journal of Law and Religion*, **XXIII**, 51–96.

James Lindgren for his own article: (1996), 'Why the Ancients May Not Have Needed a System of Criminal Law', *Boston University Law Review*, **76**, 29–57.

Loyola University of Chicago School of Law via Copyright Clearance Center for article: Keith Sharfman (2007), 'The Law and Economics of Hoarding', *Loyola Consumer Law Review*, **19** (2), 179–93.

Oxford University Press for article: Francesco Parisi (2001), 'The Genesis of Liability in Ancient Law', *American Law and Economics Review*, **3** (1), Spring, 82–124.

Francesco Parisi and Enrico Columbatto for excerpt: Francesco Parisi (2004), 'The Origins and Evolution of Property Rights Systems', in Enrico Colombatto (ed.), *The Elgar Companion to the Economics of Property Rights*, Chapter 3, 64–84.

Society for the Promotion of Roman Studies for article: Peter Temin (2001), 'A Market Economy in the Early Roman Empire', *Journal of Roman Studies*, **91** (2), 169–81.

South Carolina Law Review for article: Richard A. Epstein (1997), 'The Modern Uses of Ancient Law', *South Carolina Law Review*, **48** (2), Winter, 243–65.

Springer Science and Business Media for article: Robert J. Aumann (2003), 'Risk Aversion in the Talmud', *Economic Theory*, **21**, 233–9.

Tulane Law Review Association via Copyright Clearance Center for article: Saul Levmore (1986), 'Rethinking Comparative Law: Variety and Uniformity in Ancient and Modern Tort Law', *Tulane Law Review*, **61** (2), December, 235–87.

University of Chicago Press for articles: Geoffrey P. Miller (1993), 'Contracts of Genesis', *Journal of Legal Studies*, **XXII** (1), January, 15–45; Geoffrey P. Miller (1993), 'Ritual and Regulation: A Legal-Economic Interpretation of Selected Biblical Texts', *Journal of Legal Studies*, **XXII** (2), June, 477–501.

University of Chicago Press via the Copyright Clearance Center's Rightslink service for articles: Richard A. Posner (1983), 'A Theory of Primitive Society, with Special Reference to Law', *Journal of Law and Economics*, **23** (1), 1–53; Rick Geddes and Paul J. Zak (2002), 'The Rule of One-Third', *Journal of Legal Studies*, **XXXI** (1, Part 1), January, 119–37; Robert K. Fleck and F. Andrew Hanssen (2006), 'The Origins of Democracy: A Model with Application to Ancient Greece', *Journal of Law and Economics*, **XLIX** (1), April, 115–46; Thomas J. Miceli and Kathleen Segerson (2007), 'Punishing the Innocent along with the Guilty: The Economics of Individual versus Group Punishment', *Journal of Legal Studies*, **36** (1), January, 81–106.

Every effort has been made to trace all the copyright holders but if any have been inadvertently overlooked the publishers will be pleased to make the necessary arrangement at the first opportunity.

In addition the publishers wish to thank the Library at the University of Warwick, UK, and the Library of Indiana University at Bloomington, USA, for their assistance in obtaining these articles.

Introduction

Geoffrey P. Miller

Societies of ancient times faced conditions that differed in many respects from those that confront the modern world, but the essential challenge of social organization has not changed. Every society, ancient or modern, must cope with the problems of organizing production among self-interested agents and distributing the fruits of production in a way that serves social needs while providing adequate incentives for agents to invest in socially useful activities. In pursuit of those goals, every society must develop systems of rules – rules that define and enforce property rights, deter harmful actions, encourage beneficial ones, administer cultural institutions such as marriage and family, facilitate trade and commerce, allocate the risks and rewards of economic behaviour, and distribute and limit the powers of the government. Among the most important of these rules are those we recognize as 'legal' in nature.

The economic analysis of ancient law recognizes the fundamental similarity of the economic problems facing ancient and modern societies. It also recognizes – or accepts as given – the premise that human nature has not changed much over the past seven or eight millennia. People in ancient times, as today, tended to behave in ways that rationally enhanced their welfare. They wanted the same things people always want: security, prestige, prosperity, pleasure, and opportunities for their children to have an even better life. Because the fundamental problem of social organization has not changed – even if surface manifestations may differ – economic analysis can investigate, and often illuminate, many features of ancient law that resist analysis by traditional doctrinal or cultural methods.

The systematic application of economic principles to the study of ancient law is a relatively recent development, but one with important antecedents. Four thinkers – each of them professionally trained in the law – may be considered forefathers of the economic analysis of ancient law. The earliest was Jeremy Bentham (1748–1832), the English jurist and social reformer. His contribution was not based on a detailed and careful examination of ancient legal systems. Bentham had no particular interest in ancient law and said nothing particularly enlightening on the topic. However, Bentham's principle of utilitarianism was of such an abstract and universal character as to be applicable to ancient as well as modern societies – indeed, to all conceivable human societies. As he expressed it in *A Fragment on Government* (1776), 'the consequences of any law, or any act which is made the object of a law, the only consequences that men are at all interested in, what are they but pain and pleasure?' The doctrine of utility does not respect time or place, and thus offers a universal measure to evaluate the virtues or defects of any system of law – an avenue that theorists would exploit, in modified form, in the modern economic analysis of ancient law.

Despite many differences from Bentham, the German philosopher and political theorist Karl Marx (1818–1883) contributed to the topic of this volume by historicizing the economic analysis of human societies (e.g., *Das Kapital* (1867)). Marx's concept of history as an evolving process driven by material forces, his emphasis on the importance of property in organizing

human institutions and relationships, and his privileging of economic interests as drivers of human behaviour continue to resonate with contemporary work in economic history, even while his belief in historical determinism and the inevitable evolution of industrial society towards a proletarian revolution have been discarded.

Henry Sumner Maine (1822–1888), the English classical scholar and comparative jurist, contributed to the economic analysis of ancient law through detailed investigations of particular laws and legal institutions. His *Ancient Law* (1861) was a milestone; the thesis that law had developed from 'status to contract' was a precursor to the sociological study of ancient law, and one that has resonated, implicitly or explicitly, in all subsequent treatments of the topic. Maine's attention to the economic features of ancient law – especially the importance of contract in the development of legal principles – was a fundamental insight. But in other respects Maine was too much a creature of his time to carry the analysis through into a genuine economic approach: he failed to provide a convincing functional explanation for why the law might have evolved towards privileging contractual ordering over status arrangements, and despite impressive familiarity with non-Western legal systems, maintained a Victorian triumphalism about the virtues of his own culture: the law of the Hindus, he maintained, while reflecting common roots with Roman law, had deviated into 'an immense apparatus of cruel absurdities.'

Like Maine but unlike Bentham, the German sociologist and political theorist Max Weber (1864–1920) contributed to the economic analysis of ancient law through detailed studies of particular societies and institutions (see, e.g., *Ancient Judaism*, [1917–1919] 1952). Beginning with his earliest work on the historical development of enterprise liability in communities in the Italian cities (1889), Weber used an economically sophisticated approach to understanding developments in legal and cultural history.[1] Weber's methodology, more than his conclusions on discrete topics, forms a backdrop to contemporary economic analysis of ancient law. His emphasis on path dependency and contingency, on the importance of interests as opposed to ideas as the driving force behind historical evolution, and on the relationship between social and legal institutions and economic behaviour are familiar themes in the articles reproduced in this volume.

The respective contributions of Bentham, Marx, Maine and Weber might have led directly to the development of a genuine economic analysis of ancient law, but they did not. The topic remained largely fallow for many years. There were, however, important contributors in particular fields whose research touched on economic topics, even though they doubted the value of economic analysis as a tool for understanding ancient institutions. Karl Polanyi's *The Great Transformation* (1944) argued that prior to the birth of the modern market society, basic human needs were not met through market transactions but rather through other forms of social organization such as reciprocity and redistribution – a proposition which, if true, would constitute a fundamental challenge to the ability of economic theory to shed light on the study of ancient law. In a similar vein, Moses Finley's *The Ancient Economy* (1973) displays an impressive depth of knowledge and research into the economic institutions of the ancient world and in particular those of ancient Greece. But Finley's instincts, like Polanyi's, were at odds with the application of modern economic theory to ancient subjects. He believed that the principal determinants of ancient legal organization were social (e.g., striving for status and prestige) rather than economic. Yet both Finley and Polanyi, despite their objections to economic analysis, displayed an energy and enthusiasm for the topic of economic conditions in the ancient world that provided a stimulus for further research.

Countering the market scepticism of Finley and Polanyi is the work Morris Silver, perhaps the leading economic historian of the ancient world (e.g., *Economic Structures of the Ancient Near East* (1985)). Silver is not nearly as sceptical as Polanyi or Finley about the value of economic theory in describing economic behaviour in the ancient world. He argued, for example, that prices in the Ancient Near East were determined by supply and demand, that reasonably well-developed markets for capital, labour, and goods existed in ancient times, that money was widely used to facilitate trade, and that people in those times, as today, were diligent at promoting and protecting their own self-interest. Silver's step-by-step refutation of Polanyi's work, which has gone virtually unanswered in subsequent years, may be considered a breakthrough that opened the field of ancient law to modern economic analysis. This volume harvests some of the fruits of the research that Silver's critique made possible.

General Approaches to Ancient Law

Why should an economically trained scholar look to ancient law as a field of study? Four answers seem most pertinent. First, economic analysis can *provide insight into ancient legal institutions*, and thus can further our understanding of the past. Second, the study of ancient legal institutions can *enhance our understanding of economics itself*, by presenting examples of unusual forms of economic organization that stimulate original economic theorizing to explain them. Third, economic analysis can aid in tracing the path of *legal history* – in understanding the patterns of influence and change and in indentifying precursors to modern legal rules. Fourth, the study of ancient legal institutions can *contribute to the analysis of public policy*, by providing a menu of potential approaches to problems of economic organization or by facilitating normative judgments about contemporary institutions or proposals for reform. The articles in this collection use all four of these approaches to one degree or another.

General Approaches

The exploration of these questions begins with papers that offer an overview on the relationship between economics and ancient law. Richard Epstein's 'The Modern Uses of Ancient Law' (Chapter 1) explores the Roman rules on the origins of property and traces the ways in which those rules, and the underlying legal problems which they addressed, played out over the centuries. The basic structure of Epstein's analysis is economic: he asks what rule, if consistently applied, would leave both sides of the transaction better off than if nothing had been done (or if a different rule had been applied). In this respect Epstein finds much to praise in the Roman concept of quasi-contract, which requires payment to a person who has conferred a benefit in circumstances where consent to the contract was impossible.

Saul Levmore's 'Rethinking Comparative Law: Variety and Uniformity in Ancient and Modern Tort Law' (Chapter 2) offers insight into when one is likely to find uniformity and when one is likely to find variety in legal systems. He argues that uniformity is likely to be found when the rule in question is central to the welfare of the society and there is a dominant strategy for accomplishing its purposes. For example, few societies would long endure if they did not impose a punishment for theft sufficient to provide reasonable protections to owners

of resources. In other cases, one expects greater variety. For example, substantial differences might be expected in rules governing procedures in courts or other technical matters. The approach is explicitly economic in that Levmore examines how different legal rules affect agents' incentives to engage in socially desirable or undesirable behaviours. His analysis of tort liability rules in Mesopotamian, Biblical, Hittite, Talmudic and Mongolian sources provides impressive insights both into the specific rules being analysed and in the question why some rules – such as pockets of strict liability – appear with surprising regularity in legal codes so widely separated in time and space.

Richard Posner offers an ambitious, indeed, comprehensive economic theory in his 'A Theory of Primitive Society, with Special Reference to Law' (Chapter 3). Although Posner's focus is on primitive rather than ancient law, and assumes the absence of an effective state, many of the points made in this insightful article carry over the latter context. Posner draws on a few basic assumptions about what is different in primitive societies as compared with modern ones – high information costs, lack of an established state, slow pace of technological and social change, limited wealth, extended kinship ties, high costs of enforcement, and thin markets. Drawing on this menu of assumptions, Posner explains many features of primitive societies: the paucity of criminal and contract law; the reliance on custom; the rule of *caveat venditor*; the existence of brideprice; the regulation of marriage and divorce; principles of collective responsibility for harm; levels of punishment for wrongdoing; and in general the apparent economic efficiency of many primitive legal arrangements (as demonstrated by the fact that they are susceptible to explanation as value-maximizing strategies under the posited conditions). While Posner's approach might be challenged on the ground that it attempts too much – a critique sure to be endorsed by some contemporary anthropologists, who generally eschew cross-cultural theory – the insights offered in this piece are invariably thought-provoking and often truly enlightening.

Liability Systems

Several contributions extend the analysis of liability systems found in the introductory chapters. Francesco Parisi and Giuseppe Dari-Mattiacci's 'The Rise and Fall of Communal Liability in Ancient Law' (Chapter 4) considers one of the great puzzles for the economic analysis of ancient law: the thesis that the law has evolved from group responsibility to individual responsibility. Parisi and Dari-Mattiacci nicely explain the development as due to the exacerbation of common pool and free rider problems that accompanied increases in group size and wealth. Under communal responsibility, increases in the size of the group reduce incentives to contribute to the group's security but increase incentives to aggress against other groups – hence reducing security and increasing inter-group aggression. Similarly, under communal responsibility an increase in social wealth reduces the marginal utility of wealth, thus reducing the marginal benefit of reducing crime, and also reduces the marginal productivity of individual efforts to provide security – hence bolstering crime and reducing security. Eventually, as the costs and benefits shift, it becomes optimal for the group to switch from communal to individual responsibility.

Parisi's 'The Genesis of Liability in Ancient Law' (Chapter 5) analyses the development of punitive and compensatory remedies in ancient law, with special reference to the *lex talionis*

(the familiar principle of 'an eye for an eye'). Although the *talion* law is sometimes perceived today as unacceptably primitive, it represented an advance in ancient law by limiting the scope of retaliation which a person could inflict on an injurer. Parisi argues that the one-to-one ratio imposed by the *lex talionis* dealt with a dynamic instability problem under older systems with talionic multipliers greater than one, which tended to lead to destructive feud behaviours. He then demonstrates that once the *lex talionis* was in place, the parties to a dispute had the opportunity to engage in private bargaining around the rule. Since aside from obtaining a feeling of revenge, the victim achieves nothing by inflicting the same harm on the injurer, and the injurer incurs a considerable cost, the parties can make themselves jointly better off by agreeing on some type of monetary compensation – a bargaining process that Parisi conjectures was a precursor to systems of monetary compensation and, eventually, to schedules of fixed pecuniary penalties.

Levmore's 'Rethinking Group Responsibility and Strategic Threats in Biblical Texts and Modern Law' (Chapter 6) addresses the concern of Parisi and Dari-Mattiacci about communal liability, but does so principally with an interest in assessing whether and to what extent group responsibility can function as a device for smoking out confessions by guilty parties when guilt or innocence cannot be proven by other means. Levmore is particularly interested in the strategy of 'over-extraction' in which the enforcer imposes a penalty on each member of the group severe enough that the guilty party is individually better off confessing than denying responsibility. When the guilty party confesses, in this scheme, the threatened group penalty is rescinded and the guilty party is subjected to the lower penalty assessed for the crime rather than the higher penalty threatened against the group. In theory over-extraction can be an effective way for inducing confessions when guilt or innocence cannot be established by other means. However, as Levmore points out, the conditions in which over-extraction will work are restrictive: the targeted group must contain the wrongdoer, the wrongdoer must be confident that he will receive no greater punishment than what is promised if he confesses, only the wrongdoer must be capable of making a convincing confession, and the wrongdoer must not be able to pass the incriminating evidence to another member of the group. We might add that the wrongdoer must behave rationally by confessing; if he does not, the social costs of over-extraction can be large because each member of the group must receive a penalty higher than what the wrongdoer would receive by confessing. Levmore looks to biblical texts for evidence of over-extractive threats but finds very few – leading him to the interesting, and somewhat controversial, conjecture that ancient attitudes towards the imposition of group responsibility may not, in fact, have been much different from the approach found in contemporary legal systems, where group liability is only rarely observed.

Family Law

Family law was an important part of ancient law – probably even more central than it is in modern legal systems. Two contributions in this book deal specifically with family law questions. Maristrella Botticini and Aloysius Siow's 'Why Dowries' (Chapter 7) seeks to provide an economic analysis for an important institution in ancient and some modern legal systems: the dowry, or payment to the bride by her family at the time of marriage. The conventional economic account of dowry and brideprice (payment by the groom's family to

the bride at the time of marriage) views these as reflecting the relative price of brides in the marriage market: when grooms are scarce, brides (or, more realistically, their families) pay dowries to grooms; when brides are scarce, grooms pay brideprices to brides.

Botticini and Siow point to defects in the conventional account and then offer their own theory. Observing that dowries occur primarily in virilocal societies where married daughters leave their parents' home to live with their husbands' families, but married grooms stay at home, they propose that dowries serve the purpose of inducing efficient efforts by sons who expect to be rewarded for their efforts by receiving bequests of family assets. If sons realized that a portion of the surplus generated by their labour would go to their married sisters, they would have a reduced incentive to work hard. The dowry is an advance bequest to daughters that leaves the sons with good incentives for efficient effort.

The theory predicts that dowries are likely to disappear when virilocality ceases to be a dominant cultural practice. As in the case of many economic analyses of cross-cultural phenomena, the theory could be critiqued on the ground that it is over-general: as the authors note, many African cultures are virilocal but employ brideprices rather than dowries; and the theory does not explain why dowries would be used for families that had only daughters (perhaps because cultural institutions require uniform application even when their purpose is not served in a given case). Despite these quibbles, Botticini and Siow have provided an interesting and provocative theory that does appear to explain much about an important institution in ancient and customary societies.

Rick Geddes and Paul Zak's contribution, 'The Rule of One-Third' (Chapter 8), examines the rule that guaranteed wives a life interest in one-third of their husbands' estates upon divorce. This rule is conventionally explained as a way of protecting divorced wives against exploitation and poverty. Geddes and Zak probe more deeply by considering the rule as a solution to a contracting problem pertinent to the welfare of children. Without the security provided by the rule of one-third, wives would likely expropriate resources that would otherwise go to the children. The result could be a dilution both in the wealth of the extended family, because the children would not be as productive, and also the wealth of the overall society. But why would husbands agree to such a rule, or comply with it after the fact? The authors argue that even if the father is not incentivized to agree to a one-third rule, the husband's father typically will have the right incentives, as well as the authority, to impose and enforce such a rule.

Land Law

Among all the legal institutions of ancient societies, only land law arguably exceeds family law in importance. Much social capital even today is tied up in real property; in ancient times, with limited supplies of specie and imperfect capital markets, land was the principal repository of wealth as well as one of the most important contributors to economic production. Not surprisingly, many ancient legal systems had well-developed rules on the rights of landowners, the uses to which land could be put, and the methods by which ownership interests in land could be transferred to third parties.

A sceptical attitude towards the value of economic analysis of ancient institutions is found in Moses Finley's contribution, 'Land, Debt, and the Man of Property in Classical Athens' (Chapter 9). Finley argues that real property was not an instrument of market organization in

the classical Greek *polis*. Loans were made on the security of land, of course, but not for market purposes – not to develop the land for productive purposes, or to fund its purchase price, or to raise funds for other commercial ventures such as merchant voyages. Instead, Finley argues, loans secured by land were typically made from the wealthy and the elite to others in their class, and for reasons having to do with the production of status and prestige rather than acquisition: raising a suitable dowry for a daughter; purchasing luxury items for conspicuous consumption; payment of ransom, and so on. The general tenor of Finley's analysis, consistent with that of his other work on the ancient economy, is to argue that much activity that can be broadly designated as 'economic' did not in fact reflect market transactions in the modern sense. Thus, in his view, economic analysis cannot offer much insight into the functioning of these essentially non-economic institutions.

Robert C. Ellickson and Charles DiA. Thorland's 'Ancient Land Law: Mesopotamia, Egypt, Israel' (Chapter 10) provides a notable contrast to Finley's paper. This impressive survey of ancient land law explicitly adopts the 'rational actor' model of human behaviour, which predicts that economic agents will, in general, organize institutions so as to minimize the sum of transaction and coordination costs. Ellickson and Thorland's approach is not logically inconsistent with that of Finley – if Ancient Greeks cared deeply about not borrowing on the security of real property, as Finley argued, this would alter their utility function. If so, it could be rational to eschew commercial loans even if borrowing could be made on favourable terms. But the tenor of these contributions is dramatically different. The historical evidence adduced by Ellickson and Thorland is consistent with a view of ancient societies in which, *contra* Finley, market institutions functioned with reasonable efficiency as mechanisms to advance human welfare.

Like Ellickson and Thorland, Francesco Paresi's 'The Origin and Evolution of Property Rights Systems' (Chapter 11) employs an implicit rational actor model as the analytical structure underlying his survey of the origins and evolution of property rights systems throughout history. Harold Demsetz argued in 1967 that ownership rights in property tend to develop when the social benefits of recognizing and enforcing property rights exceed the costs of doing so.[2] Demsetz observed that Indians in Quebec established property rights over beavers after the value of beavers increased, but Indians of the Southwest did not establish property rights over grazing animals which had low value and which moved from place to place, making the creation of property rights excessively costly. Working within Demsetz's cost–benefit methodology, Parisi traces property rights through successive technological conditions: the age of hunters, the age of agriculture, the emergence of absolute ownership rights under Roman law, the feudal system, the shift to modern markets characterized by free alienability of land, and the present day when courts are more willing to recognize and enforce atypical arrangements and partitions of rights in real property.

Criminal Law

One notable feature of ancient law is the paucity of rules we would today characterize as falling in the realm of 'criminal' law. Legal systems did not usually imprison malefactors or impose other penalties unrelated to the principle of compensation. James Lindgren's 'Why the Ancients May Not Have Needed a System of Criminal Law' (Chapter 12) investigates this pattern. The

apparent lack of a criminal law system in ancient societies poses a challenge for economic analysis: if criminal law backed by sanctions of imprisonment is a rational approach to the problem of socially undesirable conduct by judgment-proof actors, why was it largely absent in ancient cultures? If the reason is that ancient cultures did not behave as rationality would predict, then the fundamental assumptions of economic analysis would be threatened.

Lindgren offers an explanation for the puzzling absence of criminal sanctions in ancient law. Prisons did exist in ancient times, but these were rare (probably because they were expensive to build and operate). But ancient societies employed a variety of strategies for social control that substituted for the expensive remedy of imprisonment: debt-slavery, execution, exile, mutilation, public disgrace, corporal punishment, group punishment, and blood feud all served the goals of criminal law at deterring bad acts and (in some cases) removing offenders from contact with other members of the society. While Lindgren may not have fully 'solved' the puzzle of the absence of developed criminal law, his catalogue of alternative sanctions provides a convincing explanation, within a cost–benefit framework, for why systems of criminal law of the sort we are familiar with today did not exist in ancient times.

Thomas J. Miceli and Kathleen Segerson's 'Punishing the Innocent Along with the Guilty: The Economics of Individual versus Group Punishment' (Chapter 13), explores one of the alternative sanctions identified in Lindgren's article: group punishment. Miceli and Segerson consider the conditions in which it may be efficient to sanction all members of a group for a harm committed by only one or some of them. The interest of this topic is suggested by ancient legal rules, where group remedies are said to be common in contrast with modern legal systems, where group punishments, while not unknown, are an exception to the norm of individual responsibility. Using formal modelling techniques, the authors explore the ways in which group punishment may (or may not) serve the policy goals of deterrence (discouraging wrongdoing) and retribution (making the punishment fit the crime). In cases where the enforcer has no information as to the identity of the wrongdoer, it turns out that group punishment is preferable to random punishment of group members when retribution is the goal, but the two punishment schemes are equally desirable as a means for accomplishing deterrence. When the enforcer can invest in costly detection technology, individual punishment is preferred as a means for achieving deterrence, while the accuracy of the detection technology is crucial for assessing the relative virtues of the two approaches as a means for achieving optimal retribution.

Commercial Law

Ancient societies were arenas of robust commercial activity. Indeed, it is probably not an exaggeration to say that trade, and the gains to be achieved therefrom, was the *sine qua non* of any of the successful ancient societies whose records have survived through the centuries. Several contributions in this volume explore issues of commercial law.

David Daube's 'Money and Justiciability' (Chapter 14) considers how the introduction of money affects the character of commercial transactions. Although not an economist, and not inspired by the cost–benefit approach characteristic of the economic analysis of law, Daube insightfully catalogues biblical examples of gifts, barter, and sale. Daube documents the apparent resistance on the part of economic actors to describe their dealings in commercial

terms: they pretend that they are making a gift, or else disguise purely commercial motives as some type of a swap transaction. Yet barter transactions appear to have enjoyed less protection under the law: an executory contract for cash sale was enforceable in Rome from at least 200 BCE, but barter transactions apparently never received legal enforcement. Daube explains that barter, being not a commercial transaction, was remitted to the private sphere and excluded from the formal processes of the law (although, as Daube notes, it was subject to potentially effective enforcement by means of social sanctions such as gossip). Daube does not offer an economic analysis of his observation, but one could be imagined. Perhaps there are social benefits to be obtained when parties engage in ostensibly non-economic, legally unenforceable trades. What, if any, those benefits might be could be a topic of future research.

Geoffrey Miller's 'Contracts of Genesis' (Chapter 15) uses an economic analysis of information to derive interpretations of biblical texts dealing with contracts and contract-like behaviours. Because information is costly in an oral culture – especially one without an established state or an official records office – a society is likely to code information in the form of easy-to-remember narratives. For the same reason, the narratives that convey legal information are likely to take the form of 'hard cases': a hard case resolves all the easy ones, whereas an easy case leaves the hard cases unresolved. This analysis helps explain why the bible sometimes records the Patriarchs as behaving so badly. For example, Jacob's extraction of Esau's birthright can be analysed as a hard case standing for the proposition that a contract for the sale of intangible personal property is valid and enforceable even in the presence of gross disparity in bargaining power. Miller further argues that there are significant benefits from 'bright-line' legal rules in societies where enforcement is principally accomplished by private action, given the costs of blood feud that can accompany a dispute over ambiguous legal rights. Miller argues that the need for bright-line rules can help explain several biblical texts, such as the blessing of Isaac in which a father is defrauded as to the object of his bequest but is unable to rescind the act once the critical words have been said.

Miller's 'Ritual and Regulation: A Legal-Economic Interpretation of Selected Biblical Texts' (Chapter 16) argues, again based on an economic analysis of information costs, that several well-known biblical texts served the purpose of regulating the cult of animal sacrifice in Ancient Israel. Proprietors of shrines provided religious services in exchange for payment in the form of a share of the sacrificial animal. This transaction created opportunities for sharp practice on both sides: the customer had an incentive to provide a low-quality animal or to conduct a self-help ritual while the priest had an incentive to take more than the allotted share. Miller argues that the society of Ancient Israel needed rules to regulate the ritual in order to prevent opportunism of this sort, and identifies such rules as implicit in the narratives of the Garden of Eden, Cain and Abel, and the Binding of Isaac.

Economic Markets and Institutions

Commercial law could not exist if it were not backed by a reasonably robust framework of markets and related institutions. Earlier writers on the ancient economy, such as Polanyi and Finley, questioned whether vibrant economic markets actually exercised a strong influence in ancient societies. The three contributions to this volume on markets and institutions offer different responses to the market scepticism of these earlier authors.

Peter Temin's 'A Market Economy in the Early Roman Empire' (Chapter 17) takes explicit issue with the Polanyi/Finley approach. Temin argues that the early Roman Empire was primarily a market system – an economy where most resources are allocated by prices that are free to move in response to changes in underlying conditions. This market was not as efficient as markets today, but still easily recognizable as part of a comprehensive Mediterranean market for goods. Temin adduces a variety of evidence in support of this thesis: the abundant use of coinage, plentiful records of loan transactions, interest rates that fluctuated over time, data indicating that Roman farms were profitable, vast shipments of produce and other foodstuffs to Rome, the use of tenders for the hiring of ships, the widespread use of maritime insurance, the reasonable equivalence of prices across distance (suggesting the operation of price arbitrage) – even the susceptibility of the Roman economy to financial crises. None of these phenomena, Temin argues, is consistent with the idea that economic activity was primarily organized by non-market mechanisms such as government fiat or reciprocal or redistributive organization. Even though markets operated subject to the inevitable constraints imposed by technological conditions, Temin argues that they were ubiquitous in the early empire: 'ancient Rome had an economic system that was an enormous conglomeration of interdependent markets.'

Keith Sharfman's 'The Law and Economics of Hoarding' (Chapter 18) moves from the broad sweep of Temin's analysis to the detailed investigation of a particular market phenomenon: hoarding in communities governed by Talmudic law. Sharfman, a Professor at Marquette University Law School and a Visiting Professor at St. John's University School of Law, considers the Talmudic ban on hoarding fruit and other necessities. The Talmud disapproves of the purchase of such goods with the view to reselling them later when prices rise. Mysteriously, it also prefers the practice of selling at the early market price over a strategy of withholding goods from the market and then selling them to the poor at the early price, on the ground that 'prices that have eased, remain so.'

Sharfman explains the passage in light of the theory of rational hoarding proposed by Martin Weitzman.[3] When prices are controlled or otherwise sticky on the upside, consumers might be inclined to purchase more than they need for current consumption in order to avoid the hassle of repeatedly waiting in queues. But these purchases further lengthen the queue and provide even greater incentives to hoard. The result can be a market breakdown in which queues lengthen and storage costs increase. Sharfman suggests that the Talmud's preference for the early seller represents an attempt to control rational hoarding by consumers in the face of other Talmudic rules which impose limits on price increases. Sharfman's theory requires acceptance of the idea that the Talmudic rule is directed at consumers rather than speculators, a potential drawback, but it does provide an intriguing insight into an otherwise mysterious regulation while also recognizing the impressive economic sophistication of the Talmudic sages.

Henry Hansmann, Reinier Kraakman, and Richard Squire's 'Law and the Rise of the Firm' (Chapter 19) is one of the most significant contributions to business law and economics of the past generation. The central insight is that two different types of asset-shielding rules are associated with the rise of business firms. One is familiar to all business lawyers: the principle of limited liability which exempts shareholders of corporations (in most cases) from responsibility for the corporation's debts. The other asset-shielding rule – less familiar although ubiquitous in fact – is what the authors call 'entity shielding'. Entity shielding protects the *firm* from creditors of its *owners* – for example, immunizing corporations from having to make good on the obligations of shareholders who have entered personal bankruptcy.

The existence and value of such rules may seem self-evident, but they are not: entity-shielding rules are not always available to protect firm assets from the demands of the owner's creditors, nor are such rules always desirable in terms of economic efficiency. Ancient law enters the picture because the authors turn to the past to document their argument that the presence of entity shielding is a function of the relationship between its benefits – lowering cost of credit, reducing bankruptcy administration costs, enhancing stability, and facilitating the development of tradeable ownership shares – and its costs – requiring the creation of specialized institutions and inviting opportunism vis-à-vis creditors. The authors' analysis of business entity law in ancient Rome, the Italian Middle Ages, England of the early industrial period, and the modern United States not only supports their analysis of entity shielding, but also offers deep insights into the structure of business law in a wide variety of historical and economic conditions.

Bankruptcy and Risk

The concept of asset-shielding found in Hansmann, Kraakman and Squire segues to the next topic of this book, on bankruptcy and risk. The two selections here both concern Talmudic law, and both are authored or co-authored by Robert Aumann, recipient of the 2005 Nobel Prize in Economics.

'Risk Aversion in the Talmud' (Chapter 20), by Aumann alone, addresses a puzzling Talmudic rule. The Book of Exodus pronounces that the penalty for perjurers is to 'do unto him as he plotted to do unto his brother'. Thus perjurers should pay to their intended victims an amount equal to the harm they would have caused had the perjury not been ferreted out. But further refinements are introduced in the story of a marital dispute in which two perjurers falsely swear that a man had divorced his wife and did not pay the amount stipulated in the marriage contract; here the Talmud advises that amount of damages should account for the possibility that the conditions in the contract – termination of the marriage prior to the wife's death – would come to pass in any event. Aumann demonstrates that the authors of the Talmud here display remarkable sophistication in understanding and applying the modern economic concept of expected value.

But all this is a precursor to the central point of the paper, which concerns a debate over the application of this rule: Rabbi Khisda said the amount of damages should be estimated 'in accordance with the husband' while Rabbi Nathan said it should be 'in accordance with the wife'. This debate poses two puzzles: first, why should the penalty differ as to whether the husband's or the wife's perspective is used; and second, why does Rabbi Nathan privilege the wife's perspective when the obvious purpose of the biblical rule and its Talmudic interpretation is to reimburse the victim (here, the husband) for the projected costs of the perjury?

Aumann's solution to the first question is that the debate between Rabbi Nathan and Rabbi Khisda concerns risk aversion. Suppose that the husband had set aside 200 zuz to cover his obligation under the marriage contract and the chance he will have to pay is 50 per cent. The expected value to the husband of the opportunity to recover the full 200 zuz is therefore 100 zuz. But if the husband is risk averse the value of that investment is less than 100 zuz – perhaps 80 zuz. Thus the perjury would arguably have deprived the husband only of 80 zuz in value, and that figure should be the measure of damages – 'according to the husband', as Rabbi Khisda

put it. On the other hand, the wife is also likely to be risk averse – she would pay 120 zuz in order to avoid a 50 per cent chance of losing 200 zuz. So if the relevant perspective is that of the wife, the measure of damages should be 120 rather than 80 zuz – 'according to the wife', as Rabbi Nathan put it.

This leaves open the question of which of these measures is preferable. Aumann speculates that the answer might have to do with moral hazard. Although his argument here is somewhat elliptical, it appears to be based on the undesirability of creating incentives for divorce. If the husband sells his interest, he no longer stands to lose any money if he divorces (the buyer will incur that cost). Rabbi Nathan's position, which values the husband's position at a higher amount, would tend to discourage buyers from coming forward and thus could correct to some extent for the moral hazard inherent in the sale. Aumann, however, is not very satisfied with this explanation (for good reason, since it is subject to many difficulties) and winds up concluding that the arguments for preferring one position over the other are philosophical rather than economic in nature.

This enormously interesting article illustrates the potential of economic analysis for unlocking meaning in ancient legal rules – as well as validating the sophistication and subtlety of the Rabbis who developed those rules in the first place. A careful reading of Aumann's argument might suggest, however, the possibility of obtaining even further information through application of economic method. First, if concepts of expected value are to be applied to the evaluation of the husband's costs, then similar expected value concepts ought to be employed to evaluate the amount of the wrongdoer's penalty. This suggests that the analysis should take account of the possibility that the perjurers would get away with their scheme and never have to pay the husband anything. To make the penalty fit the crime, then, the amount of the husband's harm (however calculated) ought to be divided by the probability that the perjury will be discovered. The Talmud doesn't appear to consider this obvious point. One might conjecture, however, that Rabbi Nathan's position, which would enhance the amount that the perjurers would have to pay, is directed at this problem – that is, the term 'according to the wife' instructs the judge of the case to take into account the expected costs of the penalty to the wife's witnesses.

Another consideration deserves mention here. The marital litigation described in the Talmud has the feel, at least to this observer, of condoning a fiction. Possibly the situation was as follows. Talmudic law gave husbands broad discretion to divorce their wives, but allowed wives to divorce their husbands only in limited circumstances. To protect wives against the consequences of divorce, marriage contracts provided wives with the right to a payment upon divorce. But since divorce was in the husband's discretion, husbands could abandon their wives and, by not obtaining a divorce, avoid making the contractual payment. The lawsuit described in the Talmud could have been a mechanism for allowing wives to force the payment and obtain a divorce: with the help of two witnesses willing to testify falsely on her behalf, the wife could obtain a ruling recognizing the termination of the marriage and ordering the husband to pay up. Why, then, the remedy against the perjurers? Arguably, this yielded the correct incentives. If the husband had in fact abandoned the wife, divorce was – or should have been – inevitable, and since the conditions under the marriage contract were going to be present in any event the perjurers would pay no damages and the wife would receive both her divorce and the contractually promised payment. If on the other hand there was uncertainty on that score, the perjurers would be required to pay an amount reflecting the probability of divorce. Since the