

VIRTUAL WORLDS, REAL RULES

Caroline Bradley* & A. Michael Froomkin**

In Virtual Worlds such as Ultima Online and Everquest, the Internet may accidentally provide an environment that lends itself well to the testing of legal rules.

A growing literature suggests that there is a relationship between certain legal rules and economic well-being. Data about the economic consequences of rules would enormously enrich debates over economic regulation. Unfortunately, in the real world experimenting with legal rules can be costly and risky. Some scholars of comparative law attempt to draw lessons by comparing the diverse experiences of different countries, but these efforts too often fall prey to errors of cultural, not to mention legal, translation.

Virtual worlds could permit experiments without the real-world costs of bad rules or regulatory competition. Existing role playing games tend to include internal market regulations that resemble those seen in Western capitalist economies. These rules could be changed, or different versions of the game might use different variants. Online role playing games would provide better data than economic models because it should be possible to design the games to reduce the number of assumptions involved. Moreover, game participants are likely to care about outcomes more than participants in laboratory-based experiments, if only because resource constraints force these to be conducted for low stakes.

This article considers the extent to which massively multi-player online role playing games (MMORPGs) might be designed to allow the testing of legal rules. The increasing popularity of online role-playing games such as Virtual Worlds and Ultima Online has prompted a wave of articles discussing legal relationships among players and player-characters within the games, between gamers and game owners, and the extent to which relationships within games might interact in legally significant ways with relationships in 'meat space'. This article takes a different tack from this burgeoning literature. Rather than examine legal relationships within or arising from existing games, we discuss whether this dynamic new ludic phenomenon might be harnessed to solve a long-running, and (we argue) worsening problem in the design of legal rules -- the barriers to experimentation.

* Professor of Law, University of Miami School of Law. We would both like to acknowledge the University of Miami School of Law's support for the writing of this article. Comments welcome to cbradley@law.miami.edu and froomkin@law.miami.edu.

**Professor of Law, University of Miami School of Law.

Legal rules are extraordinarily difficult and expensive to test in the field.² There is no such thing as controlled conditions. Despite the saying that the states are little laboratories of democracy,³ the reality is that any real-life experiment happens slowly, in real time, and runs the risk of real costs that may fall entirely on the innocent if it goes wrong. Despite these risks, countries experiment with new rules all the time, and the development of legal institutions over time involves significant expenditures. Legislatures, Law Reform Commissions, agencies, committees and consultants must be provided with the resources to carry out their functions. Bad choices involve further expense if the new rules fail to achieve its objectives or imposes excessive costs on the regulated or on bystanders. Better information about the economic consequences of rules would enormously enrich debates over economic regulation.

In this very preliminary effort we do not seek to define the precise conditions for a suitably controlled online experiment, nor even to identify specific legal rules that are ideally suited for testing. Rather, we have three more modest objectives: First to make the case that a testbed for legal rules would be useful at any time, and is increasingly necessary as legal harmonization marches on. Second, to suggest that online games might serve as a superior platform on which to test legal rules. We conclude with some schematic thoughts as to what types of rules might lend themselves to this sort of testing and which do not.

I. Introduction: The Search for Better Rules

There is little debate that legal rules affect the quality of life, and that many rules affect economic success.⁴ Bad rules can contribute to inefficiency, very bad rules enable or enforce waste or even tyranny. Good rules promote economic and social well-being, although too much of a good thing may have its own costs. The creation of good rules, and the improvement of existing ones, is agreed to be an important objective for policy makers, academics, and indeed for anyone subject to them. Of course, when people disagree about fundamentals of social policy, the debate as to what is a good rule is primarily a debate between competing objectives. But even when people agree as to the basic objective that a law should serve, there can be great uncertainty, and fierce debate, as to what type of rule works best to achieve that aim.

²See generally *Symposium: Empirical and Experimental Methods in Law*, ILL. L. REV. 791 (2002).

³Justice Brandeis actually said, "It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country." *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932). As Justice Brandeis well understood, even if the rest of the nation was insulated from risk, the experimenters were not.

⁴See, e.g., HERNANDO DE SOTO, *THE MYSTERY OF CAPITAL* (2000); Richard A. Posner, *Creating a Legal Framework for Economic Development*, 13 (No. 1) *World Bank Research Observer*, 1 (1998) available at <http://www.worldbank.org/research/journals/wbro/obsfeb98/pdf/article1.pdf>

For example, a growing literature suggests that, for any particular country, economic growth depends on the availability of capital.⁵ Sophisticated financial systems underpinned by particular legal rules generate capital by attracting investment.⁶ Financial systems are constituted by a range of different types of rules from property⁷ and contract law, through corporate law and financial regulation. These constitutive rules which facilitate transactions and promote investor confidence have evolved differently in different countries over centuries.⁸ However, some economies are more successful than others, raising the possibility that some rules work better than others, and, further, that transplanting those rules to less successful economies might promote economic success.

In the absence of reliable information as to what works best, national regulators face a bewildering set of conflicting pressures. For example, globalization and technological development encourage trans-national transactions. Conversely, foreign (and even domestic) national regulatory schemes may impede them. Meanwhile, global or regional agreements to promote free trade in goods and services undermine the ability of nations to impose their own rules. International institutions argue that harmonization of standards protects economic stability. Academics offer

⁵ See, e.g., HERNANDO DE SOTO, *supra* note 4, at 5 (“[T]he major stumbling block that keeps the rest of the world from benefitting from capitalism is its inability to produce capital. Capital is ... the lifeblood of the capitalist system, the foundation of progress, and the one thing that the poor countries of the world cannot seem to produce for themselves.”).

⁶ See, e.g., Russian Corporate Governance Roundtable, White Paper on Corporate Governance in Russia, (April 2002) available at <http://www.oecd.org/dataoecd/10/3/2789982.pdf> (“During the last decade, policy makers, regulators and market participants around the world have increasingly come to emphasize the need to develop good corporate governance practices. The reason for this is an increasing amount of empirical evidence showing that good corporate governance facilitates corporate access to capital markets, improves investor’s confidence and contributes to corporate competitiveness. From this perspective, considerable effort at the national and international level has been invested to promote and assist efforts to improve corporate governance.”)

⁷ De Soto argues that western capitalism depends on the “representational process” which allows assets to “lead an invisible, parallel life alongside their material existence”. De Soto, *supra* note 4, at 6. See also, e.g., Gerald P. O’Driscoll Jr. & Lee Hoskins, *Property Rights. The Key to Economic Development*, POLICY ANALYSIS No. 482, (Aug. 7, 2003) available at <http://www.cato.org/pubs/pas/pa482.pdf>

⁸ See, e.g., Anthony Ogus, *Comparing Regulatory Systems: Institutions, Processes and Legal Forms in Industrialised Countries*, Centre on Regulation and Competition Working Paper Series, Paper No. 35, (December 2002) available at <http://idpm.man.ac.uk/crc/wpdl149/wp35.pdf>. De Soto suggests that one difficulty in achieving the transition to capitalism is that Western capitalist nations which have achieved this transition do not have a clear recipe for transition. De Soto, *supra* note 4, at 164 (“as successful as those nations have been, they were not always conscious of what they were doing and left behind no clear blueprint.”)

policymakers equally conflicting advice. Some advocates of free trade in goods and services argue for harmonization of legal rules in order to facilitate free trade and reduce regulatory arbitrage. Others argue that markets, rather than bureaucrats, can produce the most efficient legal rules.⁹ Unfortunately, in the real world experimenting with legal rules can be costly and risky.

Similar conflicts occur on a smaller scale for many purely or primarily domestic rules. Traditional approaches to the design of legal rules include what one might call the Experimental method, the Social-scientific method and the Comparativist method. In theory at least, these approaches are broadly complementary rather than exclusive. Consider how each approach might deal with the design of a rule to prevent littering. The *Experimental* method consists of writing a rule, perhaps one based on existing formal or informal rules for similar problems,¹⁰ trying it for some time, and then altering it in light of experience. Thus, for example, a rule to control littering might draw from the law of nuisances, and impose fines for improper trash disposal. The *Social-scientific* method begins by designing a rule in conformity with one or more theories of human behavior. An anti-pollution statute informed by economic thinking might seek to internalize externalities by creating a market for trash, or for the cleanup of trash; one informed primarily by psychological theories might regulate the design of public wastebaskets to make them pleasing to use, or would create a public anti-littering campaign to shame litterers into compliance with a social norm. A *Comparativist* approach seeks to learn how other jurisdictions address the littering problem, with an eye to adapting, or adopting, a rule that has worked elsewhere.¹¹

While each of these approaches has virtues, they also have vices. The experimental process takes time, and for serious problems a flawed rule is potentially costly in both lives and treasure. In addition, there is the danger of path-dependence, and especially entrenchment. In a democratic system the implementation of a flawed rule (Version 1.0) may create winners as well as losers, and those winners (or rent-seekers) may be loath to give up their personal advantage for the sake of the commonweal. If the benefit of an improved rule (Version 2.0) is widely dispersed, but the advantages of the Version 1.0 are more closely held, the initial beneficiaries may have both the incentives and the means to lobby against what might be a Kaldor-Hicks improvement but not Pareto-superior move, even if Version 2.0 would have been Pareto-superior to the status quo ante.

⁹E.g., Stephen Choi, *Promoting Issuer Choice in Securities Regulation*, 41 VA. J. INT'L L. 815 (2001).

¹⁰ For example, the UCC was based in part on existing customs of merchants. See, e.g., Posner, *supra* note 4, at 6.

¹¹ Cf. Frederick Schauer, *The Politics and Incentives of Legal Transplantation*, 3 CID Working Paper No. 44 (April 2000) available at <http://www2.cid.harvard.edu/cidwp/044.pdf> (“nations, especially new and transforming nations, may believe that indigenous law-making is an important marker of a successful transformation, and as a consequence may choose to reject extra-national influence, even under circumstances in which the extra-national influence is perceived to be valuable and well-meaning, in favour of “doing it themselves,” even if that means doing it less well.”)

The social scientific method suffers from the clashes between disciplines (is littering an economic, a psychological, a health, or a moral problem?) and within them (for example, economists disagree about how should one value the freedom to litter or the aesthetic value of litter-free streets, parks and vistas).

It would seem that comparative method has much to recommend it, at least as a complement to other approaches. Why not free ride on the experience of others?¹² Ideally one might learn what works, or at least learn what to avoid.¹³

One of the apparent advantages of borrowing foreign legal rules is that there are data about the effects of the rules in the country of origin. However, there may be many difficulties in finding and interpreting the relevant data. In particular, those seeking to transplant the rule may lack information about crucial characteristics of the rules' context, information which would affect how the rule would function in a new context. For example, legal rules that require people to comply with standards of good faith and fair dealing or due care assume that it is possible to identify relevant community standards, and these standards may vary from place to place. For this reason some commentators suggest that definite rules may be easier to transplant than vague standards because bright line rules are easier to administer, and will work whether or not there are appropriate community standards.¹⁴

Institutions matter,¹⁵ and the institutional context for rules affects how they operate in the world.¹⁶ Rules which have evolved in developed economies with highly developed institutions may not transplant well to developing economies with a substantial informal public sector.¹⁷ Many comparative lawyers argue that different countries have different legal cultures which affect the way law works, and that these variations in legal culture make the transplantation of legal rules

¹² See, e.g., Alan Watson, *LEGAL TRANSPLANTS*, 7 (1974) (“in the Western world borrowing (with adaptation) has been the usual way of legal development.”)

¹³ Although Watson, *supra* note 12, at 17 suggests that a rule which works badly in its original home may work well elsewhere.

¹⁴ See, e.g., Posner, *supra* note 4, at 4-5.

¹⁵ See, e.g., Douglass C. North, *INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE*, 10 (1990).

¹⁶ See, e.g., Pierre Legrand, *European Legal Systems are not Converging*, 45 *Int'l & Comp. L. Quarterly* 52, 56 (1996) (“rules are pernicious to the extent that they present but a surface image of a legal system.”)

¹⁷ See, e.g., Allen Schick, *Why Most Developing Countries Should Not Try New Zealand reforms*, 13 (No. 1) *World Bank Research Observer*, 123 (1998) available at <http://www.worldbank.org/research/journals/wbro/obsfeb98/pdf/article7.pdf>

problematic. A strong statement of this view would be that legal transplants are impossible.¹⁸

The effects of a rule requiring people to comply with standards of good faith and fair dealing will be different depending on variables such as the extent to which informal social mechanisms¹⁹ or the discipline of the market²⁰ constrain behavior. In some circumstances social networks or markets may enforce higher standards of behavior than legal rules.²¹ Focusing on a single legal rule, isolated from a broader context which includes social and market constraints on behavior, risks simplistic conclusions.

Nevertheless, sometimes it is necessary to simplify to make a problem manageable. Even if one were to focus on legal rules without trying to model the greater social and economic context in which they operate, the means by which a law is enforced will affect the actual operation of a rule. Returning to our example, the effect of requiring compliance with standards of good faith and fair dealing will differ depending on the legal mechanisms for enforcing compliance with the standards. The risk of litigation will only act as a deterrent if people who are harmed by bad faith and unfair dealing have effective access to the courts to obtain a remedy. Effective access to the courts depends on factors such as the jurisdictional rules controlling when courts accept cases, arrangements for the funding of litigation, judicial attitudes about the desirability of hearing particular types of cases (are the judges concerned about opening flood-gates or not), the ways in which judges are appointed,²² the extent of judicial corruption, and the training of lawyers. As an example, there is a substantial degree of similarity between the substantive rules of corporate law

¹⁸ See, e.g., Legrand, *supra* note 16; Pierre Legrand, *What “Legal Transplants”?*, in ADAPTING LEGAL CULTURES 55 (David Nelken & Johannes Feest, eds., 2001).

¹⁹ See, e.g., Barak D. Richman, *Community Enforcement of Informal Contracts: Jewish Diamond Merchants in New York*, Harvard John M. Olin Discussion Paper No. 384 (September 2002) available at http://www.law.harvard.edu/programs/olin_center/papers/pdf/384.pdf

²⁰ See, e.g., Douglas W. Diamond, *Reputation Acquisition in Debt Markets*, 97 J. POL. ECON. 828 (1989).

²¹ This is a common justification for self-regulation. See, e.g. SRO Consultative Comm., Int’l Org. of Secs. Comm’ns, *Model for Effective Regulation 5* (May 2000) available at http://www.iosco.org/download/pdf/2000-effective_self-regulation.pdf (“Incorporating self-regulation into the regulatory framework will result in better regulation because the statutory regulator’s statute and rules are supplemented and enforced by those entities directly involved in the regulated activity, which will have more detailed knowledge of the operational or technical aspects of the activity. Additionally, self-regulation may result in better compliance with rules because it may be more easily accepted by the regulated parties.”)

²² See, e.g., Department for Constitutional Affairs, *Constitutional Reform: a New Way of Appointing Judges*, Consultation Paper, (July 2003) available at <http://www.lcd.gov.uk/consult/jacommission/index.htm>.

in Britain and many states in the US, yet there is much less litigation about corporate law in Britain than in the US.²³ Standards of behavior for corporate directors are less likely to be enforced through private litigation in Britain than in the US. On the other hand, governmental authorities play an important role in disciplining corporate directors in Britain.²⁴ Different systems may allocate enforcement functions to private or to public entities.

Identifying optimal rules for economic success remains problematic. Individual rules exist in a particular institutional and cultural context which is bound to affect how they operate.²⁵ Rules of contract law may work differently in different social contexts and with different enforcement mechanisms.²⁶ There may not be an optimal rule for any particular issue as different rules might work better in different contexts.²⁷ This insight that the context of rules matters has two sets of implications: first, scholars may attribute success to a particular rule when it is something outside the rule which has beneficial effects; and second, even if the rule is successful in a particular context

²³ See, e.g., Geoffrey Miller, *Political Structure and Corporate Governance: Some Points of Contrast Between the United States and England* 1998 COLUM. BUS. L. REV. 51. On comparisons between corporate law in the US and Britain, see, e.g., Caroline Bradley, *Transatlantic Misunderstandings: Corporate Law and Societies*, 53 U. MIAMI L. REV. 269 (1999).

²⁴ See, e.g., Caroline Bradley, *Enterprise and Entrepreneurship: The Impact of Director Disqualification*, 1 J. OF CORP. L. STUDIES 53 (2001) (suggesting that the US relies on private monitoring of corporate directors whereas public authorities in the UK are more actively involved in disciplining directors through the director disqualification statute). Since Enron the SEC has discovered a new interest in barring people from acting as directors of public corporations.

²⁵ Cf. W.S. Holdsworth, "Case Law", 50 L. QUARTERLY REV. 180 (1934) p 195: "the imitation of foreign examples...may result in changing the inconveniences which they know of for the greater inconveniences from which the virtues of our own laws and institutions have saved us"; Percy H. Winfield, "Law Reform", 44 LQR 289, 303 (1928) ("it does not follow that, because the law about cheques works well in England, Germany should instantly adopt the same rules. Each legal rule must be considered in relation to its national surroundings.")

²⁶ See, e.g., Paul Collier & Jan Willem Gunning, *Why has Africa Grown Slowly?* 13 J. ECON. PERSPECTIVES (NO. 3) 3, 11 (1999) ("The problem of contract enforcement thus makes markets less competitive and reduces the potential gains from trade, while tending to perpetuate the dominant position of minorities in business.")

²⁷ See, e.g., Ugo Mattei & Alberto Monti, *Comparative Law and Economics: Borrowing and Resistance*, 1 GLOBAL JURIST FRONTIERS, Issue 2, Article 5 (2001) at 5 ("Different legal traditions may develop alternative solutions for the same legal problem that are neutral from the standpoint of efficiency. In other words, the same legal rule may be efficient or inefficient depending on the institutional background it refers to and different legal rules may all turn out to be efficient when located in different institutional frameworks.")

it might have different effects if transplanted to a different context.²⁸

If policy makers are going to change rules based on some idea that new rules will promote economic success it would be useful to be able to identify how and why rules work, and explore how to carry out successful transplantation of rules.²⁹

Governments and international organizations now³⁰ accept that good governance is essential for economic success³¹ and stability.³² Good governance includes a range of different legal rules.³³

²⁸ Watson recognises that transplanted rules may work differently in different places. A. Watson, *Legal Transplants and European Private Law*, vol 4.4, ELECTRONIC JOURNAL OF COMPARATIVE LAW (December 2000), <http://www.ejcl.org/ejcl/44/44-2.html> (“from early days I have argued that a rule once transplanted is different in its new home.”); Watson, *supra* note 12, at 5 (“except where the systems are closely related the differences in legal values may be so extreme as to render virtually meaningless the discovery that systems have the same or a different rule.”).

²⁹ See, e.g., Hideki Kanda & Curtis J. Milhaupt, *Re-examining Legal Transplants: The Director’s Fiduciary Duty in Japanese Corporate Law*, 5, Columbia Law School Center for Law and Economic Studies, Working Paper No. 219 (March 2003) available at <http://www2.law.columbia.edu/law-economicstudies/papers/WP219.pdf> (“there is little agreement among scholars on transplant feasibility and the conditions for successful transplants, or even how to define “success.” Moreover, there is little analysis of how the success or failure of legal transplants relates to the achievement of larger goals, such as economic development.”)

³⁰ See, e.g., Daniel Kaufmann, *Rethinking Governance. Empirical Lessons Challenge Orthodoxy*, (March 2003) available at http://www.worldbank.org/wbi/governance/pdf/rethink_gov_stanford.pdf (“Less than a decade ago, governance issues did not figure prominently in the agenda of international financial and development institutions.”)

³¹ See, e.g., United Nations Development Programme, *Human Development Report 2003*, 16 available at http://www.undp.org/hdr2003/pdf/hdr03_complete.pdf (“There are many reasons economic development continues to bypass many of the world’s poorest people and places. One common reason is poor governance. When governments are corrupt, incompetent or unaccountable to their citizens, national economies falter. When income inequality is very high, rich people often control the political system and simply neglect poor people, forestalling broadly based development. Similarly, if governments fail to invest adequately in the health and education of their people, economic growth will eventually peter out because of an insufficient number of healthy, skilled workers. Without sound governance—in terms of economic policies, human rights, well-functioning institutions and democratic political participation —no country with low human development can expect long-term success in its development efforts or expanded support from donor countries.”); The Hon. Alexander Downer, MP, Minister for Foreign Affairs, Australia, Speech at the launch of the Economic Analytical Unit report *Changing Corporate Asia: What Business Needs to Know*, Sydney, (Mar. 7, 2002) available at <http://www.foreignminister.gov.au/speeches/2002/>
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Some studies examine governance broadly at the macro level across a wide range of countries. Kaufmann, Kraay and Mastruzzi establish six different "governance indicators",³⁴ focusing on "Voice and Accountability", "Political Stability and Absence of Violence", "Government Effectiveness", "Regulatory Quality", "Rule of Law", and "Control of Corruption".³⁵ The definitions of these indicators are rather vague and rely on subjective assessments rather than on objective data. For example, "Rule of Law" is "the extent to which agents have confidence in and abide by the rules of society."³⁶ A large number of entities now participate in producing governance

³¹(...continued)

[020307 fa chnge corp asia.html](http://www.imf.org/external/pubs/ft/exrp/govern/govern.pdf) ("A rules-based business environment is essential for market economies to develop and grow. Shareholders, creditors, investors, input suppliers and consumers need to feel safe doing business with people they don't know. The markets they create will ensure savings go to the best investments, maximising growth and living standards.").

³² See, e.g., Kaufmann, *supra* note 30, at 4 ("The concern has ceased to be merely one of an economic nature, or one of altruism: failure to address such acute forms of misgovernance within a broad developmental framework is likely to further increase the likelihood of cross-national security threats in the future.")

³³ See, e.g., IMF, Good Governance. The IMF's Role, (July, 1997) available at <http://www.imf.org/external/pubs/ft/exrp/govern/govern.pdf> . For the IMF, "reforms of market mechanisms would focus primarily on the exchange, trade, and price systems, and aspects of the financial system. In the regulatory and legal areas, IMF advice would focus on taxation, banking sector laws and regulations, and the establishment of free and fair market entry (e.g., tax codes and commercial and central bank laws). In other areas, however, where the IMF does not have a comparative advantage (e.g., public enterprise reform, civil service reform, property rights, contract enforcement, and procurement practices), the IMF would continue to rely on the expertise of other institutions, especially the World Bank. But, consistent with past practice, policies and reforms in these areas could, as appropriate, be part of the IMF staff's policy discussions and conditionality for the IMF's financial support where those measures were necessary for the achievement of program objectives." The Role of the IMF in Governance Issues: Guidance Note, approved by the IMF Executive Board, July 25, 1997, Id. at 4.

³⁴ They define governance as "the traditions and institutions by which authority in a country is exercised." Daniel Kaufmann, Aart Kraay & Massimo Mastruzzi, *Governance Matters III: Governance Indicators for 1996-2002*, 6 (June 30, 2003), available at <http://www.worldbank.org/wbi/governance/pdf/govmatters3.pdf> .

³⁵ Id. at 3-4.

³⁶ Id. at 4. The paper states that: "These include perceptions of the incidence of crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts. Together, these indicators measure the success of a society in developing an environment in which fair and
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ratings which are used in such studies of governance,³⁷ and these ratings may also be used to implement lending policies.³⁸ Countries which want to attract loans and other investment therefore have an incentive to change their rules to improve their governance ratings, although they may not in fact find it easy to implement rule changes, or to persuade observers that changes are real,³⁹ or that they will persist over time.⁴⁰

A growing academic literature examines differences between the rules in force in different countries, and seeks to identify which are the rules most conducive to economic growth. Rather than looking at governance indicators, some studies focus more narrowly on regulation,⁴¹ or on particular areas of law such as corporate law and governance or property rights. Scholars have suggested that rules of corporate law may have a significant impact on the success of a country's financial system, and that common law legal systems tend to produce stronger securities markets than civil law

³⁶(...continued)

predictable rules form the basis for economic and social interactions, and importantly, the extent to which property rights are protected.” *Id.* The paper does note the subjectivity of the assessments but states that in many cases it would be impossible to obtain objective data. *Id.* at 19-23.

³⁷ *See, e.g., id.* at 4-7 describing use of sources.

³⁸ The US proposal for a Millennium Challenge Account would involve channeling funds to countries that “govern justly, invest in their people and encourage economic freedom”. *See, e.g.,* Colin L Powell, *Aid for the Enterprising*, WASHINGTON POST, A21 (June 10, 2003); Steve Radelet, *Will the Millennium Challenge Account be Different?*, 26 WASHINGTON QUARTERLY 171 (2003). Kaufmann, Kraay & Mastruzzi, *supra* note 34, say that “the substantial margins of error associated with governance estimates mean that it is difficult to assign many countries to a definitive performance category according to their estimated level of governance.” *Id.* at 25.

³⁹ *See, e.g.,* Collier & Gunning, *supra* note 26, at 20 (“even widespread policy reforms...might not be sufficient to induce a recovery in private investment, since recent economic reforms are never fully credible. Investment rating services list Africa as the riskiest region in the world. Indeed, there is some evidence that Africa suffers from being perceived by investors as a “bad neighborhood.”)

⁴⁰ *See, e.g.,* Timothy Frye, *The Perils of Polarization. Economic Performance in the Postcommunist World*, 54 WORLD POLITICS 308, 309 (2002) (“political polarization has made it difficult for governments to make credible commitments to respect existing and future property rights.”)

⁴¹ *See, e.g.,* Hossein Jalilian, Colin Kirkpatrick & David Parker, *Creating the Conditions for International Business Expansion: the Impact of Regulation on Economic Growth in Developing Countries - a Cross-country Analysis*, Centre on Regulation and Competition Working Paper Series, Paper No. 54, (July 2003) available at <http://idpm.man.ac.uk/crc/wpdl5099/wp54.pdf>

countries because of the strength of their investor protection rules.⁴²

This story -- that some legal rules are more conducive to economic success and stability than others -- is one of the factors that tends to encourage legal systems to converge. The United Nations, the IMF, regional development banks, the OECD, and the developed nations which belong to these organizations, all increasingly emphasize that the countries they help should work at developing good governance.⁴³ Global harmonization may have a certain value in itself, as all other things being equal harmonization limits opportunities for regulatory arbitrage. Even so, if we are going to have a substantial degree of convergence in governance around the world, it would be preferable to converge on the best rules possible.

As currently practiced, however, the comparativist approach and the harmonization it tends to engender may be self-limiting. The growth of legal harmonization is likely to pre-empt potentially useful experimentation with alternative rules. If harmonization precludes real-world experimentation with rules, the argument for experimentation in virtual worlds is even stronger than in a world without significant harmonization, if only because of the lack of alternatives.

Legal harmonization happens in many different ways. Conquerors impose their rules on the conquered.⁴⁴ Law reform organizations research rules in other places to inform their work. Businesses lobby for rules which exist in other places.⁴⁵ Some businesses may be able to relocate to

⁴² See, e.g., Rafael La Porta, Florencio López-de-Silanes, Andrei Shleifer and Robert Vishny, *Law and Finance*, 106 J. POL. ECON. 1113 (1998.)

⁴³ See, e.g., IMF, *Good Governance*, *supra* note 33; UNDP Human Development Report, *supra* note 31; OECD, *Best Practices for the Development of Stock Exchanges in Transition Economies*, (March 2002) available at <http://www.oecd.org/dataoecd/31/19/2078603.pdf>; Arthur Mitchell, *Fostering Legal Reform in Central Asia*, in European Bank for Reconstruction and Development, *LAW IN TRANSITION*, 1 (Spring 2003) available at <http://www.ebrd.com/pubs/law/lit/sp03/litspr03e.pdf> (“the Asian Development Bank (ADB) and the European Bank for Reconstruction and Development (EBRD) have been development partners in Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan for the past decade. Together they have helped improve the lives of the region’s people by strengthening governance, economic management and transformation and introducing market orientation and competition.”)

⁴⁴ See, e.g., Watson, *supra* note 12, at 89.

⁴⁵ For example, the spread of the limited liability partnership. See, e.g., The Law Commission Consultation Paper No 159, The Scottish Law Commission Discussion Paper No 111, Partnership Law. A Joint Consultation Paper, ¶ 1.13 (July 2000), available at <http://www.lawcom.gov.uk/library/lccp159/cp159.pdf> (“The Act is a response to pressure from large professional firms, which are concerned about the unlimited liability of partners for very large legal claims, particularly for professional negligence. In large partnerships one partner may have no opportunity to assist another
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jurisdictions with more desirable rules, and the threat of relocation may persuade governments to adjust their rules. Bureaucrats from different countries get together in working groups to agree on common rules or standards.⁴⁶ International or regional organizations produce harmonized rules. Three related sets of phenomena have intensified the tendency towards legal harmonization in recent years: developing regional integration, the increasing focus on issues of development, and peoples' fear that bad things that happen elsewhere will have negative effects at home.

The European Union (EU) has spent many years working towards the harmonization of rules which support markets as part of its agenda of creating a single market. In recent years the EU has endorsed the idea that it should work to improve the competitiveness of European firms. The EU has generally focused on eliminating national rules which operate as barriers to the movement of goods, services and capital across borders, but persuading the Member States to go along with the elimination of these barriers often requires the adoption of common standards. The EU has adopted numerous Directives to harmonize rules of company law, and banking, securities and insurance regulation. But the harmonization process is sometimes controversial. Member States may argue that particular harmonization measures are unnecessary,⁴⁷ or undesirable. Over the years the harmonization process has stalled at times and the Member States have agreed to relaunch harmonization efforts in the Single Market initiative,⁴⁸ and again in 1999 when the Commission

⁴⁵(...continued)

partner to avoid such claims. Partners may not know each other and one partner may have no knowledge of another partner's specialism. The result which is proposed is an entity giving limited liability to the partners other than the negligent partner"); Trade and Industry Select Committee, Draft Limited Liability Partnership Bill, Fourth Report HC 59 (999), para 16 (referring to the idea that competition from other jurisdictions meant that "real problems...cannot wait for much longer"); Caroline Bradley, *Twenty-First Century Anglo-American Partnership Law?* 30 COMMON LAW WORLD REVIEW 330 (2001).

⁴⁶ E.g. the Basle Committee on Banking Supervision.

⁴⁷ The doctrine of subsidiarity limits the EU's competence to circumstances where the objectives in question cannot be achieved at the level of the Member States. See, e.g., George A. Bermann, *Taking Subsidiarity Seriously: Federalism in the European Community and the United States*, 94 COLUM. L. REV. 332 (1994). Member States invoke this doctrine to challenge EU measures to prevent their adoption or to challenge measures after they are adopted. Post-adoption challenges tend not to succeed. See, e.g., *Germany v European Parliament* Case C-233/94 [1997] ECR I-2405.

⁴⁸ See, e.g., Mathias Reimann, *The Progress and Failure of Comparative Law in the Second Half of the Twentieth Century*, 50 AM. J. COMP. L., 671, 691 (2002) ("the political integration of Western Europe gained new momentum with the Single European Act of 1987 and accelerated shortly thereafter with the Maastricht Treaty of 1992. Then a few legal scholars revitalized an idea that had been floated a decade or so earlier but had so far been largely ignored: if Europe was going
(continued...)

published an Action Plan for achieving a single market in financial services.⁴⁹ The Commission's agenda for harmonizing legal rules within the EU has recently expanded beyond company law and financial regulation to harmonizing rules of contract law.⁵⁰ Within the Member States commentators have diverging views about whether the harmonization of private law is a good idea or not.⁵¹ But although Europeans have different views about how much harmonization is necessary, and others wonder how effective attempts at convergence are, a significant amount of legal harmonization is happening in the EU.

The harmonization trend is not limited to the EU, or to OECD countries. The nations of the former Soviet Bloc have been working on developing legal systems which would serve as the basis for developed financial markets and economic growth as part of their transitions to capitalism, and this too has encouraged harmonization. International financial institutions have encouraged these transitions through the provision of technical assistance in policy-making.⁵² Other international organizations have also set up programs to encourage economic development throughout the

⁴⁸(...continued)

to be a single market and a Community without borders, it probably needed a common private law as well") (footnote omitted. See also e.g. Caroline Bradley, *1992: The Case of Financial Services* 12 N. W. J. OF INT'L L. & BUS. 124 (1991)

⁴⁹ EU Commission, *Financial Services, Implementing the Framework for Financial Markets: Action Plan*, 3, COM (1999) 232, (May 11, 1999), available at http://europa.eu.int/comm/internal_market/en/finances/general/actionen.pdf. See also e.g. EU Commission, *Financial Services, Nine Months Left to Deliver the FSAP* (3 June 2003) available at http://europa.eu.int/comm/internal_market/en/finances/actionplan/progress8_en.pdf

⁵⁰ EU Commission, *Communication from the Commission to the Council and the European Parliament : European Contract Law*, OJ. No C 255/1, (Sept. 13, 2001) available at http://europa.eu.int/eur-lex/pri/en/oj/dat/2001/c_255/c_25520010913en00010044.pdf EU Commission, *Communication from the Commission to the European Parliament and the Council : A More Coherent European Contract Law - An Action Plan*, OJ No. 63/1, (Mar. 15, 2003) available at http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/c_063/c_06320030315en00010044.pdf

⁵¹ E.g. Legrand, *Against a European Civil Code*, 60 MLR (1997), 321 Contrast e.g., Study Group on a European Civil Code, *The Contribution of the Study Group on a European Civil Code to the European Convention*, (April 4, 2002) available at http://europa.eu.int/futurum/forum_convention/documents/contrib/acad/0022_r_en.pdf ("A uniform body of rules in those areas of private law which underpin business activity in the EU is essential to convert the quilt of separate national markets into a genuinely common market and ensure enterprises compete on a level playing field.")

⁵² See, e.g., IMF, *IMF Technical Assistance. Transferring Knowledge and Best Practice*, (May 2003) available at <http://www.imf.org/external/pubs/ft/exrp/techass/techass.htm>

world,⁵³ and work on governance is an element of these programs.⁵⁴ This advice invariably involves suggestions that these newly capitalist economies adopt rules already used in more established market economies. Many commentators have criticized these activities from different perspectives. For example, critics of the IMF write that its recipes for economic success have left people who live in developing countries without access to clean water because they cannot afford to pay the price. An increasing body of literature focuses on how transitions in different countries have produced different results.⁵⁵ In particular central European countries and Russia initially made slow progress in developing a “market-oriented legal structure.”⁵⁶ It is at least possible that the advice to duplicate existing rules was not ideal given the circumstances.

During the 1990s problems in the Asian financial markets and in Latin America led policy makers to worry about financial stability.⁵⁷ Countries that had attracted large amounts of foreign investment found that the foreign investors’ views could change suddenly, resulting in sudden

⁵³ See, e.g., United Nations Development Programme Press Release, Secretary-General Kofi Annan launches Commission on Private Sector and Development, (July 25, 2003) available at <http://www.undp.org/dpa/pressrelease/releases/2003/july/25jul03.html>

⁵⁴ See, e.g., UN Press Release, In Message to Fourth Global Forum on Reinventing Government, Secretary-General Stresses Vital Role of Dialogue, Partnerships, Dec 11, 2002, available at <http://www.un.org/News/Press/docs/2002/SGSM8553.doc.htm> (“The United Nations is deeply engaged in the global effort to “reinvent government”, particularly in developing countries and countries with economies in transition. Activities include policy research and analysis, training programmes and advisory services. The United Nations Online Network in Public Administration and Finance, known as UNPAN, facilitates access to information, disseminates knowledge about “good practices” and provides an international forum for the exchange of experiences.”)

⁵⁵ See, e.g., Frye, *supra* note 40; János Kornai, *What the Chance of System From Socialism to Capitalism Does and Does Not Mean*, 14 JOURNAL OF ECONOMIC PERSPECTIVES (NO. 1) 27, 33 (2000) (identifying three types of political transition from socialism to capitalism).

⁵⁶ See, e.g., Jan Svejnar, *Transition Economies: Performance and Challenge*, 16 J. ECON. PERSPECTIVES, (No. 1) 3, 7 (2002) (“This lack of a market-oriented legal structure appears to have been the Achilles’ heel of the first dozen years of transition. Many policymakers underestimated the importance of a well-functioning legal system or believed too readily that free markets would take care of any major problems.”)

⁵⁷ See, e.g., Lawrence H. Summers, *Reflections on Managing Global Integration*, 13 J. ECON. PERSPECTIVES (NO. 2) 3, 12 (1999) (“Financial disturbances have propagated nationally and internationally with a virulence perhaps greater than at any time in the past 50 years. Even nations thought to be managing their economies well, such as those in east Asia, have seen financial disturbances wipe away years of economic progress and create massive economic insecurity among their citizens.”)

capital outflows.⁵⁸ Financial authorities in the G7 developed economies established the Financial Stability Forum⁵⁹ (FSF) to think about issues of international financial stability. The FSF concluded that international standards for rules, including corporate governance standards and accounting standards, would make a significant contribution to financial stability.⁶⁰

Harmonization is happening. The participants in the legal transplants debate may disagree about how effective transplantation of legal rules is, but many factors combine to promote attempts at harmonization. At the same time, the various decision processes for agreeing harmonized rules, which are often political or bureaucratic processes, may or may not take account of whether the harmonized rules are efficient.

Some commentators argue against harmonized rules for this very reason, and suggest that competition in rule-making is more likely to produce efficient rules than top-down imposition of a single ruleset. Many US commentators who write about corporate law argue that competition between the states to attract incorporations may create a "struggle to the top".⁶¹ Others argue in favor of extending this competition to securities regulation, for example by devolving greater regulatory power to non-state entities,⁶² or by allowing issuers of securities to choose the securities laws that

⁵⁸ See, e.g., Michel Camdessus, Managing Director, IMF, *Challenges Facing the Transition Economies of Central Asia*, Speech at a conference on Challenges to Economies in Transition, Bishkek, Kyrgyz Republic (May 27, 1998) available at <http://www.imf.org/external/np/speeches/1998/052798.htm> ("But if globalization offers many opportunities, it also holds two major risks. The first can be seen in the recent experience of Thailand, Korea, and Indonesia, all of which have suffered major financial crises during the last year, when investors lost confidence in their economies and large capital inflows turned into massive capital outflows. Countries that attract large volumes of private capital are more vulnerable to sudden shifts in investor confidence, which can be very destabilizing to their own economies and have negative effects on other countries, as well.")

⁵⁹ <http://www.fsforum.org>

⁶⁰ See, e.g., Statement by Caio Koch-Weser, Interim Chairman of the Financial Stability Forum, International Monetary and Financial Committee Meeting, Washington DC, (12 April 2003) available at <http://www.fsforum.org/press/IMFCstatement10.04.03.pdf> ("Members concurred that high-level international principles in the areas of corporate governance, auditing, accounting and disclosure are invaluable to restoring confidence in financial markets and to achieving a level of convergence in regulatory approaches that could eventually form the basis for mutual recognition across jurisdictions.")

⁶¹ See, e.g., Roberta Romano *The Genius of American Corporate Law*. Although cf. Marcel Kahan & Ehud Kamar, *The Myth of State Competition in Corporate Law*, 55 STAN. L. REV. 679 (2002)

⁶² See, e.g., Paul Mahoney, *The Exchange as Regulator*, 83 VA. L. REV. 1453, 1455 (1997)
(continued...)

will apply to them,⁶³ so that investors would in theory have to take account of differences in securities regulation regimes in making their investment decisions. Self-Regulatory Organizations (SROs) suggest that they would like to compete for the business of providing “market regulation services.”⁶⁴

Competition between rule systems is limited in the real world by concerns about the costs of error and the costs of success, notably the danger of setting off a harmful 'race to the bottom'. But eliminating competition between rule systems, particularly in a world with increasing levels of legal harmonization, risks entrenching inefficiency. The following section describes the virtual worlds we suggest could be used to test alternate rules.

II. MMORPGs

Before explaining how massively multi-player online role-playing games (MMORPGs) may serve as useful testbeds for legal experimentation, it is useful to outline briefly some of the most salient features of the leading games. We do not attempt here to describe the experience of playing online, which is already addressed in a growing literature.⁶⁵ Here, we seek first to persuade the perhaps skeptical reader that these games are an important and growing phenomenon, that many people already play these games with seriousness and intensity,⁶⁶ that while existing games are of course very simplified representations of reality, they nonetheless involve substantial in-game economic activity.

MMORPGs are, as the name suggested, widely shared games. The first “Multi-User

⁶²(...continued)

(“I will argue... that the benefits of regulatory competition would be most effectively achieved by devolving more regulatory authority to the bodies that were the first regulators - the securities exchanges themselves. In particular, exchanges should be the primary writers and enforcers of rules relating to disclosure by listed companies, standards of conduct for member broker-dealers, and market structure.”)

⁶³ See, e.g., Choi, *supra* note 9.

⁶⁴ See, e.g., Robert R. Glauber, NASD Chairman and CEO, Remarks To The Bond Market Association Legal and Compliance Conference, New York (Jan. 9, 2002) available at http://www.nasd.com/news/sp/pp1_27.html (“NASD will seek these new exchanges as customers for our market regulation services. And building on our international reputation, we will offer these same market regulation services to exchanges and regulators in other countries.”) Canada has an organization called Market regulation Services, Inc., which provides regulatory services to the Canadian markets. See <http://www.regulationservices.com/default.asp?location=home>

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⁶⁶We address the question of representativeness of the players below in section -.

Dungeon,” or MUD, was written in 1979 by Richard Bartle and Roy Trubshaw.⁶⁷ Most of the original MMORPGs involved imaginary worlds populated by elves, dwarves, and many types of monsters. MMORPG players can take on roles as various types of people, many games also allow players to choose non-human "avatars". While MMORPGs vary, the most popular ones give the player either a rich, three-dimensional, virtual reality image as if seen from the avatar's perspective or -- especially in older games -- a flatter, two-dimensional perspective akin to what one gets when looking at a board game, with the avatars represented by little graphical characters known as "sprites". The greater the graphical artistry, the greater the demands on the player's hardware. Fancier graphics do not, however, necessarily result in a proportionate increase in the load on a server, since part of the work of drawing the images can offloaded to the user's computer.

Ultima Online went live on February 12, 1998.⁶⁸ Its graphics are the most limited of the major English-language games, using a fixed camera view showing two-dimensional sprites with isometric perspective.⁶⁹ (The graphics in the Asian *Lineage* game are also limited.) From the first, however, *Ultima Online* featured a relatively complex economy based on players developing craft skills, such as building houses, making goods, mining and smelting minerals. and generally engaging in trade.⁷⁰ *Everquest*, developed by Verant for Sony Station, was the second MMO game to go online, in February 1999. *Everquest* verges on a virtual reality experience, using "3D first-person perspective graphics comparable to those in the game *Quake*."⁷¹

By 1999, there were more than 350 MMORPGs in use or development.⁷² Not all MMORPGs rely on a fantasy world. The *Sims Online*, an outgrowth of the highly popular stand-alone game, invites people to replicate features of real life, albeit potentially glamorized ("Build a home and a livelihood. Build your dream home, the trendiest boutique, or the hottest neighborhood hangout around....Be roommates and colleagues. Develop a network of friends, go into business with your housemates, or improve the neighborhood."⁷³). Even without monsters, the *Sims* online garnered

⁶⁷See Alexander P. Macris, *Imaginary Worlds, Real Communities: Understanding the Future Architecture of Cyberspace Through the Study of Massively Multiplayer Games*, unpubl. MS Feb. 1999 (citing Lauren P. Berka, *The MUDex*, <http://www.apocalypse.org/pub/u/lpb/muddex/>).

⁶⁸Macris, *supra* note [67](#), at 8.

⁶⁹Macris, *supra* note [67](#), at 9 (1999 data).

⁷⁰Macris, *supra* note [67](#), at 12.

⁷¹Macris, *supra* note [67](#), at 9 (Stating *Everquest* had over 200,000 in 1999).

⁷²Macris, *supra* note [67](#), at 6.

⁷³http://www.eagames.com/official/thesimsonline/features/features_index.jsp?ncc=1
The *Sims Online* is an online world where the *Sims* are real. You get to be yourself

(continued...)

80,000 subscribers.⁷⁴

MMORPGs have evolved far beyond their origins as 'sword and sorcery' games and now employ complex rule-based economies in which hundreds of thousands of (sometimes fanatical) players engage in production, investment, and asset accumulation. Millions of people play them, sometimes obsessively. They are an important revenue source for game companies. More importantly for our purposes, the larger games involve a world or fantasy trade and production which, if it were valued at the rate of exchange suggested by online auction prices for virtual assets suggests the existence of a substantial economic. Indeed, the GNP of one Virtual World for 2001 is estimated at US\$135 million -- \$2,266 per capita, making it richer per capita than China or India, neither of which is inhabited only part-time.⁷⁵

MMORPGs differ from stand-alone computer games in several ways. Like some computer games, players begin by selecting their avatar -- a game character whose movements through the

⁷³(...continued)

or whoever you want to be. In this world you have your own piece of land to do with as you please. So, you can create a house, coffee bar, dance club, museum or whatever else you can imagine. You can explore the neighborhoods around you and meet other real Sims along the way. You'll also be able to develop a network of real Sim friends to enhance your power, wealth, reputation and social standing.

...

The Sims placed you in control of an entire neighborhood of Sims. In The Sims Online, players create up to three Sims but only control one at a time, meaning that the relationship between a player and their Sim is much closer. The game not only makes it possible for Sims to leave their house but there is a whole user-created world to explore. Not only can each player build a house for their Sim and have friends over to visit, they can also invite friends to move in. The economic and social interaction system is built to take advantage of having thousands of real people playing. The game incorporates text chat, instant messaging and a wide variety of new gestures for your Sim to use when communicating with other Sims.

http://www.eagames.com/official/thesimsonline/features/top_april02.jsp?ncc=1

⁷⁴Brad King, Online Games Go Multicultural, WIRED, Jan. 30, 2002, available online at <http://www.wired.com/news/games/0,2101,50000,00.html>

⁷⁵Edward Castronova, Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier 33 (CESifo Working Paper No. 618, Dec. 2001), <http://papers.ssrn.com/abstract=294828>.

games space the player will control.⁷⁶ The MMORPG game designers define a continuously running (“persistent”) shared play space -- the world -- which consists of one or more shared spaces for avatars to explore and use. Like stand-alone games players typically have to complete some set of tasks, perhaps killing monsters or finding treasure, in order to win game-based rewards (more powers for their character, game funds). Unlike stand-alone games, however, thousands of players use the world simultaneously. While they are online they can, and do, interact with each other -- they converse, they cooperate, they fight, and they transact. And, unlike stand-alone games, when a player logs off, the world does not stand still -- it continues to change under the influence of other players who remain active in the game space.⁷⁷

Like stand-alone games, most MMORPGs depend on a complex client program that runs on the user's computer. Each instance of the program communicates with a server, which sends it information about changes in the game area that the avatar can perceive. Most of the popular MMORPGs allow players considerable scope to build homes (or, in the case of the sword-and-sorcery games) castles, to amass economic resources, and to train their avatars in various skills. These skills are not limited to fighting, or healing wounded fighters, but include a range of productive skills such as mining, building, and making useful objects such as clothing. Most games follow the convention that as avatars gain experience from completing certain tasks, they get promoted to higher 'levels' and gain power and abilities.

As Edward Castronova has documented, large numbers of people spend very large amounts of time immersed in virtual worlds.⁷⁸ As the structure of many MMORPGs makes it difficult, time-consuming -- and even boring -- to "level up" avatars to the point where they have substantial skills and resources, some people reach for shortcuts. Valuing time over money they go outside the game to purchase game-based resources or high-level avatars. The volume of transactions in Everquest coinage and characters allowed Castronova to estimate the exchange rate for Norrath's platinum coins against the US dollar at 1.07 cents per platinum coin.⁷⁹ Based on his estimates of the amount of time it takes to create virtual value, and the trading prices of avatars on dollar-denominated outside-of-game markets, Castronova also estimated the gross national product of Norrath to be as high as \$135 million. In per capita terms, *Everquest's* world had a GNP of as much as \$2,266 per head. Using a range of estimating techniques gave Norrath a GNP per capita somewhere between

⁷⁶For a thorough discussion of the economics of avatar selection see Edward Castronova, *Theory Of The Avatar* (Cesifo Working Paper No. 863, 2003), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=385103.

⁷⁷Games do differ on what happens to avatars when their owner is not playing. Many have some convention that protects the absent player's avatar from coming to (fatal) harm when its owner isn't looking.

⁷⁸See Castronova, *supra* note [75](#).

⁷⁹Castronova, *supra* note [75](#), at 32.

Russia and Bulgaria.⁸⁰ Using survey data, Castronova estimated an average hourly wage for Norrath avatars at 319 platinum pieces per hour, which at the market rate of exchange worked out to \$3.42 per hour.⁸¹

MMORPGs are a substantial and rapidly-growing segment of the gaming market. MMORPGs aimed at North American clients generate revenue by monthly subscription billed on a per-user basis, and the more successful ones have very large numbers of subscribers. *Everquest* is the largest English-language game, with more than 200,000 participants.⁸² *Lineage*, popular in South Korean and neighboring Asian states, claims more than 4 million users.⁸³ *Lineage*, however, charges by the IP number, not by the user, reflecting a usage pattern in which players log in from cybercafes.⁸⁴

According to the Themis Report on Online games, MMORPGs earned revenues in 2001 of about \$275 million, of which about three quarters was from monthly or annual subscription fees. A small number of popular games earned the lion's share of this income. Themis projected MMORPG revenue to nearly triple in 2002, with much of the sector's growth due to the entry of new games, and to triple again by 2006, by which point it could reach \$1.84 billion worldwide.⁸⁵ Of the circa 100 million worldwide who play some form of online game regularly, about half are in the US.⁸⁶ Of these, as many as 7.5 million people may be "hard-core" players of MMORPGs -- playing twenty or more hours per week (and sometimes 40 or even 80 hours per week⁸⁷) -- with between 2-3.5 million hard-core players in the US.⁸⁸ Indeed, in 2001, Edward Castronova estimated that up to a third of EverQuest players spend more time playing the game than they spent in paid real-world

⁸⁰Castronova, *supra* note [75](#), at 32-33.

⁸¹Castronova, *supra* note [75](#), at 35. He also noted that, "The average Earth wage ... among the self-identified residents of Norrath ... is \$17.57. If we treat the conditions of life in Norrath as a compensating differential, this suggests that for the average Norrath resident, an hour in Norrath produces utility worth \$14.15. This figure is more than the fee of \$10 per month that users pay to access Norrath. Norrathians gain a substantial consumer surplus from the world's existence." *Id.*

⁸²Macris, *supra* note [67](#), at 8.

⁸³<http://www.lineage.com/nci/nci.html>

⁸⁴ THEMIS GROUP, THE THEMIS REPORT 2002 at 14 (hereinafter cited as THEMIS REPORT).

⁸⁵THEMIS REPORT, *supra* note [84](#), at 2.

⁸⁶THEMIS REPORT, *supra* note [84](#), at 3.

⁸⁷THEMIS REPORT, *supra* note [84](#), at 7.

⁸⁸THEMIS REPORT, *supra* note [84](#), at 3.

employment.⁸⁹ These hard-core players also account for the bulk of the sector's revenue.⁹⁰ Another estimated 15-22.5 million persons, a third of whom are in the US, are "moderate" players, who play fewer different games per person, and spend fewer hours on MMORPGs per week.

Whatever their intensity of use, players in North America pay on the order of \$10-13 per month for subscriptions;⁹¹ players elsewhere, notably in South Korea, a hotbed of MMORPG activity, ordinarily pay considerably less. In addition, most games require that users acquire a copy of the client that runs the game; if acquired at retail in North America this usually can cost between \$10-\$40.⁹²

If nothing else, these figures demonstrate that current players will pay to play; it also suggests that there is a substantial number of people who might be willing to participate in online legal experiments in exchange for a discount on their gaming bills. The value of this army of potential experimental subjects depends, of course, on the extent to which they are representative of the population at large.

In the US, MMORPG players are a subset of computer gaming enthusiasts, themselves a subset of computer and Internet users. By contrast, in parts of Asia MMORPG penetration has reached epidemic proportions. Ncsoft's *Lineage* claims one out of four teenagers in South Korea.⁹³ Of its four million players, perhaps three quarters are in South Korea, with another million or so in other nations, primarily Taiwan. Ncsoft also recently began marketing the game in China,⁹⁴ and hopes for tens of millions of subscribers there as well,⁹⁵ although data on actual takeup does not seem to be publicly available.

With the notable exception of the *Sims Online*, the MMORPGs most popular in North America involve fantasy, magic, and violence. It seems therefore that they may attract an unbalanced sample of the population unless, of course, the taste for fantasy, magic, and violence is in fact very widespread. This suspicion can only be intensified when one learns of the greatest

⁸⁹Castronova, *supra* note [75](#).

⁹⁰THEMIS REPORT, *supra* note [84](#), at 5.

⁹¹THEMIS REPORT, *supra* note [84](#), at 9.

⁹²THEMIS REPORT, *supra* note [84](#), at 9-10.

⁹³See Soo-Jeong Lee, AP, Online game craze sweeps South Korea (May 12, 2003), http://www.bizreport.com/article.php?art_id=4394.

⁹⁴See <http://www.lineagechina.com/about/customer.html>

⁹⁵SINA and NCsoft Enter Definitive Agreement to Form Online Game Joint Venture in China, <http://wwwus.sina.com/news/press/2002/1122/press.html>

excesses in the most violent of the virtual reality MMORPGs. For example, a leading game industry expert once described *Ultima Online*'s community as "a Hobbesian war of all against all, a chastening reminder of anarchy and lawlessness," marked by "a palpable feeling of terror in the streets... [that] makes you appreciate cops, or at least, makes you realize the value of living in a society that is policed."⁹⁶ This does not sound like a good basis on which to base tests of the Uniform Commercial Code (UCC), although it might have some use if one were seeking to model police strategies for the most dangerous neighborhoods in the US -- which might actually be a good idea, as current policing policies seem unable to make them safe.

Ultima Online is the extreme case; other games either do not allow players' avatars to kill each other, or limit the gankage⁹⁷ to well-demarcated kill zones. Many other games, such as *Everquest* for example, do not allow characters to kill one another. Only those players who have explicitly and mutually assumed the risk may attack each other, or those who choose to play on predefined "player killer" servers.⁹⁸ It may be that people with violent tendencies gravitate to games like *Ultima Online*, where player-killing is allowed.⁹⁹ In other games, where players have a choice as to whether they venture into "kill zones" where players are allowed to kill each other, only a small fraction choose this option.¹⁰⁰ Indeed, many players avoid the games with rampant player-killing.¹⁰¹

⁹⁶Macris, *supra* note [67](#), at 15 (quoting GREG COSTIKYAN, FUTURE OF ONLINE GAMES (1999) at 57.)

⁹⁷To gank is kill another player's avatar. Gankage is the noun meaning the process of ganking.

⁹⁸Macris, *supra* note [67](#), at 9.

⁹⁹See Macris, *supra* note [67](#), at 22-23.

¹⁰⁰E.g. 10% of the players in *Everquest*. See *id* at 23. On the other hand, the relative unwillingness of players in *Everquest* to risk kill zones may be an economically rational calculation based on the chance of being killed as a function of population density:

... the number of violent encounters between players will go up as roughly the square of the increase in population. And it's not hard to accept the assumption that being killed in PvP is a more frustrating experience than having to wait in line to kill a popular item-dropping mob. ... [T]his theory ... would predict that if the amount of territory available on a "Zek" server [an *Everquest* server with a ruleset that allowed players to attack each other at any time] was increased, then so would the population.

...
[When the *Everquest* Scars of Velious expansion pack] came out, and the populations of the Zek servers rose significantly, then stabilized at a higher level. The theory that all of the players in EQ who wanted to play PvP, already were, was disproven, and the theory that the lower populations of "hardcore" servers were lower due to different parameters of population pressure was strengthened.

(continued...)

In fact Hobbsean violence is not a characteristic of any but a small subset of the MMORPG population.¹⁰² One game development pioneer suggests there are four types of people attracted to online shared environments, which he dubbed "achievers, explorers, socialisers and killers" -- those attracted respectively to: "Achievement within the game context"; "Exploration of the game"; "Socialising with others"; "Imposition upon others".¹⁰³ Others have emphasized the social nature of online gaming.¹⁰⁴ This suggests that what goes on when people play games is much more complicated than venting murderous urges.¹⁰⁵

In addition, Castronova's work, noted above, documents the extent to which virtual behavior

¹⁰⁰(...continued)

Dave Rickey, If you can't say anything nice..., Engines of Creation #6, (August 12, 2003), <http://www.skotos.net/articles/engines06.shtml>.

¹⁰¹For example, Macris quotes Tessa, described as a high-level *Everquest* player" as writing: I don't think I'm overgeneralizing to say that 90% of those who've moved to EQ from UO did so because of a cowardly refusal on the game designers' part to "protect players from aggression before the fact" (to use Koster's phrase), i.e., to deal with the PK problem straightforwardly, as EQ has done. I came to absolutely detest, loathe, hate, abominate UO for that reason.

Macris, *supra* note 67, at 17 (quoting Tessa, *Gamers General Forum* <http://eq.stratics.com>).

¹⁰²Macris finds evidence for all three of the following hypotheses: (1) human nature becomes more violent in *Ultima Online* than it is in realspace (virtual sociopathy), (2) a disproportionately large number of humans who are violent in realspace play *Ultima Online* (killer players), or (3) the level of violence in *Ultima Online* would occur in real space but for some non-architectural factor (laws and norms.) Macris, *supra* note 67, at 20.

¹⁰³Richard Bartle, Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs, <http://www.brandeis.edu/pubs/jove/HTML/v1/bartle.html> The author suggests that each ludic type approaches the game differently: Achievers see them as games like chess or tennis; explorers see them as hobbies akin to gardening and cooking; killers treat them as sports like hunting or fishing; and socializers see them as entertainment. Unfortunately, these categories don't seem sharp enough to be useful.

¹⁰⁴E.g. Mikael Jakobsson & T.L. Taylor, *the Sopranos Meets EverQuest: Social Networking in Massively Multiplayer Online Games*, <http://hypertext.rmit.edu.au/dac/papers/Jakobsson.pdf> ("social networks form a powerful component of the gameplay and the gaming experience").

¹⁰⁵Arguably the *virtuality* of the killing in the more violent MMPORGs such as *Ultima Online* liberates or encourages antisocial behaviors that people would not engage in in real life: "Killing an *Ultima* character does not kill the *Ultima* player, just his avatar. The result is a guilt-free opportunity to commit mayhem which *Ultima Online* players seem to revel in at least part of the time." Macris, *supra* note 67, at 21.

mimics the real-life experience of labor, even labor at repetitive and boring tasks. Furthermore, there is evidence suggesting that whatever the demographics of MMPORG players, the population of online game-players of all sorts more closely reflects the population at large.¹⁰⁶ The earliest adopters of the Internet were predominantly a certain type of white male, but now Internet users more closely the US population as a whole. It may be only a matter of time before the MMPORG population undergoes a similar transformation, although this is certainly an issue that requires careful monitoring and study.¹⁰⁷

It seems clear from the above that game designers can influence which sort of behaviors MMORPGs encourage by making architectural choices in the design of the game environment.¹⁰⁸ This fact bodes well for the design of more realistic environments in which participants act ever more normally, and also tends to support the claim that rules affect outcomes.

The similarities and differences to reality are particularly noticeable in the economic realm. In most of the sword and sorcery games, players seek to raise their characters' experience scores, which makes them more powerful, and to amass game currency (e.g. gold, platinum), which allows them to acquire useful items. Especially in the initial phases of the game, this can involve performing a very, very lengthy series of fairly boring and repetitive tasks, eg slaying hundreds of small vermin, or mining for metals. The games are often designed in a way that encourages some players to choose to have their characters specialize in some form of craft, e.g. baking or smithing;¹⁰⁹ here again, practice makes more perfect. If trade is only a part of the sword-and-sorcery experience, it is an even larger component of the Sims, as players seeking the revenue they need to improve their

¹⁰⁶E.g. Reuters, Adult Women Like to Play Games (Aug. 27 2003), <http://www.wired.com/news/games/0,2101,60204,00.html>

¹⁰⁷Note that in the Asian *Lineage* game, the social and economic setup is basically feudal, with most players voluntarily choosing to be commoners a role that excludes any possibility that character becoming royalty and leading a faction in the game. See J. C. Herz, *The Bandwidth Capital of the World*, WIRED 10.08 (Aug. 2002).

¹⁰⁸See Bartle, *supra* note [103](#). E.g. "To appeal to achievers, for example, one approach might be to introduce an extensive level/class system (so as to provide plenty of opportunity to reward investment of time) and to maximise the size of the world (so there is more for them to achieve)." Id.

"So game design can influence social order, although not always in predictable ways. Social dynamics seem to be inherently emergent, with effects many stages removed from their causes, and the line of causality is rarely clear. Nonetheless, influence is being exerted, and sometimes in quite dramatic ways. The question becomes how much our control of this influence can be refined?" Dave Rickey, If you can't say anything nice..., Engines of Creation #6, (August 12, 2003), <http://www.skotos.net/articles/engines06.shtml>.

¹⁰⁹See Julian Dibbell, The Unreal Estate Boom, WIRED, Jan. 2003, available online at <http://www.wired.com/wired/archive/11.01/gaming.html>.

virtual real estate compete with each other to provide interesting accommodations and diversions for other players, as each temporary 'houseguest' earns the host players revenue (measured in Simoleans).¹¹⁰

Some observers focus on the differences from reality. Castronova, for example, observes that economic life in MMORPGs is "different in important ways from life on Earth".¹¹¹ Castronova offers the example of price controls. In real life, price controls are difficult to enforce, and tend to have perverse effects. In a virtual world, price controls are trivially easy to enforce (within the game at any rate). Furthermore, quantities are easy to manipulate, since the game controllers can create or destroy any amount of virtual goods at near-zero cost by entering the right commands into the game engine. Castronova concludes that given the ease of administration, "price controls may actually be good policy" in MMORPGs¹¹², but this of course does not tell us much about their utility in meatspace. On the other hand, Castronova also acknowledges areas in which the internal economic behavior of MMORPGs mimics reality. For example "in Britannia, the world of the game Ultima Online, avatars can make shirts and sell them. Once upon a time, a certain agent decided to collect and hoard 10,000 shirts." As a result, the price of shirts rose.¹¹³

Other observers find substantial similarities between aspects of current games and real-life social practices. Within the games, sales of virtual chattels and virtual real property mimic real world markets. Goods are alienable, and many games offer intermediating institutions designed to facilitate exchange, such as market places or auction houses, although market places seem to go in and out of fashion rather quickly.¹¹⁴ Consider also Lastowka & Hunter's observation that, "[p]erhaps the most striking feature of the property systems of the virtual worlds is how closely they mirror the real world, or at least the subset of the real world known as Western capitalist economies. No virtual world, not even a community-conscious, social MUD like LambdaMOO, has an entirely communal property system. Private property is the default. Capitalists feel right at home here: virtual worlds assume the timeworn metaphor of property being a bundle of rights, the fundamental rights usually rendered as the rights to use, exclude, and transfer."¹¹⁵ There are a number of reasons for this. One may be, as Lastowka & Hunter suggest, that player/customers object to unfamiliar, or unpopular, economic systems. They note that the *Sims Online* "began as an exception to the free market rule

¹¹⁰See F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, Cal. L. Rev. TAN 146-48 (forthcoming 2003),.

¹¹¹Edward Castronova, On Virtual Economies (CEFifo Working Paper No. 752, July 2002) at 3, <http://ssrn.com/abstract=338500>.

¹¹²Castronova, On Virtual Economies, *supra* note [111](#), at 4.

¹¹³Castronova, Theory of The Avatar, *supra* note [76](#), at 14.

¹¹⁴See Lastowka & Hunter, *supra* note [110](#), at TAN 157.

¹¹⁵Lastowka & Hunter, *supra* note [110](#).

and people generally found it unpleasant for this reason. One purchased chattels from something like a central government agency that refused to negotiate on price." When players rebelled, the *Sims Online* introduced a freer market.¹¹⁶

Another set of reasons for the similarity of most virtual markets to Western capitalism may have to do with the identity of the game designers. When forced by the needs of a game to find a way to facilitate transactions, designers brought up in the US may naturally have mimicked what they knew. In *Ultima Online*, for example, the designers have replicated the registered bond,¹¹⁷ the promissory note,¹¹⁸ and the commission agent.¹¹⁹

Thus, while MMORPGs might be an opportunity to test alternate property systems -- maybe market socialism?¹²⁰ -- the players' openness to alternate forms of economic organization imposes some attitudinal constraints. These constraints, however, strongly resemble the constraints that would confront any real-life attempt to adopt similar rules.

The replicability of MMPORGs makes them particularly suited for experimentation. Popular MMORPGs have more players than can comfortably be accommodated in one virtual world. The game operators' solution has been clone the world -- in the case of *Everquest* more than forty times. Multiple copies of the world (called 'shards' in *Ultima Online*) may be identical, or they may have different rules.¹²¹ Thus, for example, the rules in one shard may allow anti-social behavior such as robbery and murder, while others with the same maps and environment, may not.

III. Using MMORPGs to Test Rules

Given that the adoption of less-than-optimal rules involves costs it would be desirable to be able to test rules before adoption to examine their likely effects. As noted, real world empirical studies of the effects of actual rules suffer from the risk that the study will not identify crucial factors affecting the operation of the rules in practice, in particular specific institutional and cultural factors

¹¹⁶See Lastowka & Hunter, *supra* note [110](#), TAN 164.

¹¹⁷See Commodity Deeds, http://guide.uo.com/trade_1.html.

¹¹⁸See Scam Prevention, <http://support.uo.com/scam.html> (describing bank checks).

¹¹⁹See Vendors, http://guide.uo.com/trade_4.html.

¹²⁰See Lastowka & Hunter, *supra* note [110](#), TAN 149. Cf. OSKAR LANGE, ON THE ECONOMIC THEORY OF SOCIALISM (Benjamin E. Lippincott, ed. 1938).

¹²¹See Castronova, *supra* note [18](#), at 29 ("The other four servers are player-killer servers, where, because of the frequency of murder and robbery, property rights are feeble. Predictably, markets on these servers are poorly developed.").

not included in the study. Some studies on the effects of social programs do seek to experiment with and compare different policy interventions, but these studies tend to focus on disadvantaged groups.¹²² Economic models can give some indications about how rules may work, but are always subject to the risk that their assumptions are inaccurate and that any inaccuracies in the assumptions undermine the reliability of the results.

Behavioral economists have begun to try to examine the behavior of economic actors empirically using relatively simple studies where “real subjects make decisions with real monetary consequences in carefully controlled laboratory settings.”¹²³ These studies suggest, for example, that people may in fact not always behave in the self-interested way that traditional economic theory would suggest, and that people are concerned about fairness.¹²⁴ In the “Ultimatum Game”, involving two participants, one player (the proposer) must suggest to the other player how s(he) proposes to divide a sum of money between them. The other player decides whether to accept the proposed allocation when both would receive shares in accordance with the proposal or not, when neither player would receive anything.¹²⁵ Players tend to propose an arrangement more favorable to respondents than economic theory would suggest. Other games test other ideas, such as how trusting people are,¹²⁶ and researchers also test whether players from different cultural backgrounds behave differently.¹²⁷ Results of some experiments suggest that people in some countries are more trusting than others.¹²⁸

¹²² See, e.g., David Greenberg, Mark Shroder & Matthew Onstott, *The Social Experiment Market*, 13 J. ECON. PERSPECTIVES (No. 3) 157, 159 (1999) (“The scarcity of experiments involving the middle and upper class is extraordinary”).

¹²³ Ernst Fehr & Klaus Schmidt, *Theories of Fairness and Reciprocity – Evidence and Economic Applications*, 4, Institute for Empirical Research in Economics, University of Zurich, Working Paper No. 75, (Feb. 2001) available at <http://www.iew.unizh.ch/wp/iewwp075.pdf>.

¹²⁴ See, e.g., id.

¹²⁵ See, e.g., Marc J. Knez & Colin F. Camerer, *Outside Options and Social Comparison in Three-Player Ultimatum Game Experiments*, 10 GAMES AND ECONOMIC BEHAVIOR 65, 67 (1995).

¹²⁶ Joyce Berg, John Dickhaut, & Kevin McCabe, *Trust, reciprocity and social history*, 10 GAMES AND ECONOMIC BEHAVIOR, 122 (1995).

¹²⁷ See, e.g., Hessel Oosterbeek, Randolph Sloof, & Gijs van de Kuilen, *Cultural differences in ultimatum game experiments: Evidence from a meta-analysis*, 1 (March 2003) available at <http://www1.fee.uva.nl/scholar/mdw/sloof/UltimatumMetaMarch03.pdf>; Rachel Croson & Nancy Buchanan, *Gender and Culture: International Experimental Evidence from Trust Games*, 89 AMERICAN ECONOMIC REVIEW 386 (1999).

¹²⁸ See, e.g., Marc Willinger, Claudia Keser, Christopher Lohmann & Jean-Claude Usunier, (continued...)

These experiments focus on people's behavior, rather than on the effect of legal rules, and are oriented to the testing of economic assumptions about behavior. They are thus important for academic lawyers who are interested in the economic effects of legal rules. In particular, academic lawyers are interested in how people value assets differently in different contexts. A person may be willing to pay much less for a thing than the amount he or she would expect to receive to give it up.¹²⁹ This difference has implications for ideas of property rights and for a range of rules of business organization law.

The design of these behavioral experiments may affect the results--which raises some questions about how much they tell us about the real world. Game experiments often use students as the participants in the games rather than a range of people with different characteristics.¹³⁰ The students may be people who volunteer for the experiment,¹³¹ and they may receive small payments for participating.¹³² Experiments to test endowment effects may involve testing how students value the mugs the researchers give them¹³³ But the context makes a difference.¹³⁴ Students may respond differently to ownership of a mug depending on whether they "feel their status as owners has an

¹²⁸(...continued)

A comparison of trust and reciprocity between France and Germany: Experimental investigation based on the investment game, 24 J. of Econ. Psych. 447 (2003) (suggesting that Germans are more trusting than the French)

¹²⁹ See, e.g., Jennifer Arlen, Matthew Spitzer & Eric Talley, *Endowment Effects Within Corporate Agency Relationships*, 31 J. LEGAL STUD. 1, 2 (2002) ("the maximum amount a nonowner would be willing to pay for an entitlement is often significantly less than the minimum amount she would demand to part with it if she initially owned it."); Russell Korobkin, *Empirical Legal Realism: a New Social Scientific Assessment of Law and Human Behavior: the Endowment Effect and Legal Analysis*, 97 NW. U.L. REV. 1227, 1228 (2003).

¹³⁰ See, e.g., Willinger, Keser, Lohmann & Usunier, *supra* note [128](#), at 456-7; Berg, Dickhaut & McCabe, *supra* note [126](#), at 129.

¹³¹ See, e.g., Willinger, Keser, Lohmann & Usunier, *supra* note [128](#), at 456-7.

¹³² See, e.g., Berg, Dickhaut & McCabe, *supra* note [126](#), at 129. Research suggests that even small payments may have an effect on participants in the experiments.

¹³³ See, e.g., Daniel Kahneman, Jack Knetsch, & Richard Thaler, *Experimental Tests of the Endowment Effect and the Coase Theorem*, 98 J. POL. ECON. 1325 (1990)

¹³⁴ See, e.g., Korobkin, *supra* note [129](#), at 1242 ("legal scholars need to take care to ensure the closeness of their contextual analogies and not to lose sight of the fact that their conclusions will often be contingent on the soundness of such analogies.")

independent moral justification".¹³⁵ The use of students may affect the results: if one wanted to test levels of trust, age and life experience might make a difference. The controlled settings for the experiments necessarily means that they are artificial.¹³⁶

MMORPGs could be a better venue for testing legal rules and persons' responses to those rules.¹³⁷ Behavioral experiments tend to rely on a pool of available students who are willing to participate rather than being enthusiastic about the experiments. Any experiment which used MMORPGs could attract a large number of enthusiastic - even fanatical - players who would have a real investment in the game. Their investment in the game would be closer to an investment in real life than the types of investments students tend to have in simple games. Some MMORPG participants prefer to live in the online world than in the real world.¹³⁸ Some players become 'immersed' in the games and begin to take their virtual life so seriously that they forget that it is a game.¹³⁹ Of course, any attempt to harness an MMORPG as an experimental tool would require the informed consent of the experimental subjects -- a somewhat ironic problem for any experiment that might be designed to test consumer comprehension of rules.

Although they are artificial, MMORPGs are artificial in different ways from experiments such as ultimatum games, trust games and mug studies. Yet they are similar to these games in that they are more controllable and modifiable than the real world. MMORPGs are both more complex than simple experimental games (making them more like the real world) and simpler than the real world (making them more manageable). MMORPGs are also more manipulable than the real world: the game's designers can choose which variables to modify while leaving the others constant. Different versions of the game, or "shards" can run at the same time allowing for testing how the

¹³⁵ Arlen, Spitzer & Talley, *supra* note [129](#), at 9.

¹³⁶ See, e.g., Arlen, Spitzer & Talley, *supra* note [129](#), at 33 ("experimental research is necessarily constrained within a specific, controlled environment, purposely isolated from other aspects of the real world. This isolation is both its great strength and its profound weakness. Observing a predictable behavioral pattern within a controlled experimental setting enables researchers to make causal claims with minimal fear that unobserved phenomena or reverse causality are driving their results. Yet this very controlled setting makes it difficult to generalize to real-world settings that are the focus of policy reform proposals.")

¹³⁷The idea that virtual worlds might have something to teach us about reality has not escaped other commentators. See, e.g. Lastowka & Hunter, *supra* note [110](#), at 33 ("A third reason for exploring the laws of virtual worlds is that they represent an amazing experiment in law-making, and provide a serious challenge for real life legal systems.") Our aim in this paper is to make the case, and to discuss where it is most, and least, likely to work.

¹³⁸See *supra* text at notes -.

¹³⁹See Jane McGonigal, *This is Not a Game': Immersive Aesthetics and collective Play*, <http://hypertext.rmit.edu.au/dac/papers/McGonigal.pdf>

variations affect players' behavior.¹⁴⁰ One can imagine different ways of structuring the experiment: in one version the operator of the game might allocate players to different shards at random; in another players could choose which rule set they preferred *ex ante*; in another players could participate in the development of the rules by expressing their views about what proposed changes to the rules they would like to see. In this version, the game would not merely test different rules identified by the experimenters but would also harness player creativity to *design* better rules.

At the same time as MMORPGs have characteristics which make them look like useful test-beds for legal rules, existing games have characteristics which may limit their usefulness. MMORPGs seem like the real world in that they are interactive, social environments.¹⁴¹ But in a number of ways the assumptions built into the games may not track reality. Games may assume scarcity, whereas in the real world some things are scarce and others are not. Games may assume that it is better to cooperate than to work alone.¹⁴²

We think we could use MMORPGs to test a wide variety of questions about how law works¹⁴³--but not all of them. In this section we suggest which types of rule we think are most likely to lend themselves to testing in virtual worlds, and which types of rules we think are less easy to test in this manner. In general we suggest that MMORPGs would seem to be more useful for testing relatively simple rules and rules in relatively simple contexts. Even with this substantial limitation, however, we suggest that virtual worlds provide a fertile testing ground for a number of existing legal beliefs and potential innovations.

¹⁴⁰Unless the purpose of the experiment was to see which rule system players preferred, players would have to be randomly assigned to different rule systems.

¹⁴¹ “since the VWs are inherently social, the achievements are relative: it is not having powerful weapons that really makes a difference in prestige, but in having the most powerful weapons in the world. In a postindustrial society, it is social status, more than anything else, that drives people to work so diligently all their lives. In this respect, VWs are truly a simulacrum of Earth society.” text cited in fn 48 at p 18

¹⁴²See Castronova, *supra* note [75](#).

¹⁴³ MMORPGs could also shed light on some economic issues, such as how to identify people who would be likely to be successful entrepreneurs. People who showed entrepreneurial approaches to playing online games by developing new strategies which took advantage of particular characteristics of the games might also be successful entrepreneurs in meat-space. Venture capitalists could decide to allocate capital to people who showed success in making simoleans. Note that this would only work if you could guarantee that the person who owned the simoleans had made them herself rather than buying them on e-bay.

A. What Should Work?

Virtual worlds generate a range of different transactions, and participants in these worlds inflict harm on other participants in various ways. Virtual worlds therefore inherently invoke ideas of property, contract, and tort. A player in *Ultima Online* or *Everquest* owns weapons, may buy and sell those weapons, and may use them to hurt other players. The game needs to have rules regulating the types of property rights a player can have in weapons, the ways in which transactions in weapons may be accomplished, and the consequences of inflicting harm on another player.

Real and Chattel Property Regimes. De Soto and others who focus on development emphasize the significance of property rights to economic success. Participants in virtual worlds own property, and some items of the property they own are more valuable than others. But perhaps the property rights thesis could be tested -- or sharpened -- by having parallel virtual worlds with different types of property rights. One version of a game might be designed to see how players would react to a wide range of different rights that could exist in respect of a particular item of property. Players might be able to lease their property to others for a number of days or weeks or for certain hours in the day. Lease contracts might allow sub-leases, or they might not. A player with many swords might get into the business of leasing swords to other players. A player might sell swords on credit and expect to have a security interest in the transferred, but not yet paid-for sword, allowing for investigation of different arrangements for security interests and for rules about the transfer of risks. Different versions of a game might require compliance with formal requirements for the transfer of property, or could allow recognition of informal transfers. A virtual world could experiment with socialism and dispense with individual ownership of property, or provide for redistribution of property.

Tax Policy. In the same way that virtual worlds might allow for testing of different allocations of property rights, they might also allow for testing of some basic general ideas of tax policy. Clearly it would be difficult, if not impossible, to test detailed technical rules in a virtual world, but different shards of a game could have different tax regimes: one shard could impose taxes at a flat rate, another could have a progressive tax system, and one could compare the results. One could also experiment with players' attitudes to different trade-offs between tax regimes and social expenditures, so that in a game with higher tax levels healers would be more effective.

Transactional law. Characters in virtual worlds enter into simple transactions with each other. They meet to buy and sell items in the game, or agree that they will journey together to a new place in order to find a needed item. Games may be structured so that achieving a particular task requires a number of different skills that one character alone is unlikely to have. Therefore players need to negotiate how to obtain the benefit of another character's skills. Such agreements may look like agency or employment relationships or even partnership if the players agree to share the profits of the expedition. Thus, in the virtual worlds one could expect to see simple transactions involving buying and leasing of property, and perhaps loans of money, but also simple business relationships. It would be possible to run different versions of the virtual world where some had limited liability business forms and others did not, although these different arrangements would clearly be sensitive

to tort rules in the game. One could explore the relationships between tort and contract rules, for example testing the effects of allowing tort damages for breaches of contract (which seems to match the expectations of many non-lawyers). Different versions of a game could implement different arrangements for the enforcement of contractual obligations.

Tort. Characters in virtual worlds can suffer (virtual) physical harm and economic losses, although the implications of physical harm are different. Virtual worlds would not be useful test-beds for rules about the measure of damages - characters may have to pay for the services of healers, but this is unlikely to be as expensive or complicated, and certainly not as physically painful, as acquiring the services of doctors and hospitals in the real world. On the other hand, it should be possible to test some of the effects of having or not having an economic loss rule precluding damages for economic loss except where there is physical damage. Virtual worlds could also be used to supplement the results of simpler experiments investigating endowment effects, or status quo effects, which would be interesting for many areas of law which rely on the Coase theorem, including environmental law.

Insurance. Players in virtual worlds might want to insure against the risks of harm or economic loss, so the games could be used to test different rules about what risks are insurable, and different arrangements for dealing with moral hazard.

Dispute Resolution. Virtual worlds may also provide a test-bed for some features of dispute resolution mechanisms. In the real world, judges may tailor the rules they develop in order to limit the number of disputes that may come to court in the future. In virtual worlds, one could experiment with costless access to courts. In this model, players would experience the costs of dispute-resolution primarily as costs in time, rather than money. Comparing the litigiousness of participants to a different shard in which litigation was expensive (or even to similarly situated real life litigation) might provide valuable information about the sensitivity of quantity of litigation to financial cost.

Jurisprudence. Virtual worlds might also allow testing of various moral intuitions that underpin important strands of modern political philosophy, although some obstacles would need to be overcome. A major theoretical move in John Rawl's *Theory of Justice* presupposes an imaginary 'veil of ignorance' that prevents rational actors in a hypothetical 'original position' from knowing what their physical, cognitive, familial, racial, national, and economic endowments will be in society, and then asks what rules they would choose if ignorant of their actual role and abilities. Rawls -- implicitly taking people to be risk-averse rather than risk-loving -- argues from this premise that rational people behind the veil of ignorance would agree on two principles of justice. Their first principle would affirm an equality of basic rights. Their second principle, known as the difference principle, would hold that all inequalities are unjust unless removing them would worsen the situations of the worst-off members of society. It is of course trivially easy to design an MMORPG in which players were unaware of their future avatar's characteristics and endowments. Faced with the prospect of participating in such a game, players could be polled, or even asked to come to an agreement, as to their preferences for how abilities and endowments should be handed out, and what social policies should dominate the game. Since players would be making these choices before the

game started, however, it might be difficult to get them to take it as seriously as they would take rules that affected an avatar in which they had expended substantial effort. In particular, in order for the experiment to be meaningful, players would need to believe that they could not simply quit the game and start another one if they got stuck with a lousy avatar.

B. What Might Not Work?

We can identify a number of different factors that would get in the way of using MMORPGs to test real-world rules. In essence these factors are all consequences of the ways in which virtual worlds (inevitably?) differ from the real world. Virtual worlds are less complex than the real world and relationships in virtual worlds are different from relationships in meat-space. Virtual worlds do not (currently) have elected governments, and they do not have nations, although they do have tribes, factions, guilds, clans, and racial (or species) groupings.

Complex Rules. Virtual worlds are less factually complex than the real world. Any area of law which deals with highly complex factual situations in real life would be difficult to translate to the virtual world. In a virtual world a player might seek a remedy for misrepresentation about the characteristics of an item for which they believe after the transaction that they overpaid. But business enterprises in online games do not issue securities to other players, and even if players did offer people the opportunity to invest in their business activities in return for a share of the profits, the legal issues involved would look much more like those involving simple fraud than like complex securities regulation.

One set of implications of this lower level of complexity in virtual worlds is that they do not (so far) include lawyers.¹⁴⁴ While it is possible to conceive of the development of *Everquest* lawyers in response to a development of *Everquest* law, until that time it would be advisable to avoid using legal rules in the virtual worlds that would be so complex that players would need to consult a lawyer to understand them. In fact, this idea of using the games to examine the extent to which people can use legal rules without the involvement of lawyers could be interesting,¹⁴⁵ but a range

¹⁴⁴We would argue that this shows that game developers lack imagination when it comes to creating seriously aggressive monster classes.

¹⁴⁵The Canadian province of British Columbia recently proposed introducing a new simpler system of securities regulation. See, e.g., British Columbia Securities Commission, *New Concepts for Securities Regulation, A New Way to Regulate*, 5, Feb. 18, 2002, available at [http://www.bsc.bc.ca:8080/Historycomdoc.nsf/0/ffb85755a68dce2e88256b64005970f8/\\$FILE/New_Concepts.pdf](http://www.bsc.bc.ca:8080/Historycomdoc.nsf/0/ffb85755a68dce2e88256b64005970f8/$FILE/New_Concepts.pdf); British Columbia Securities Commission, *Securities Regulation That Works. The BC Model, Commentary on Draft Legislation*, 3, April 15, 2003, available at http://www.bsc.bc.ca/Publications/BC_Model/Commentary.pdf. Issuers suggested that they would be more likely to interpret simpler, “plain language” rules themselves rather than consulting a lawyer. Christina Wolf, *Better Disclosure, Lower Costs. A Cost-Benefit Analysis of the Continuous* (continued...)

of complex rules--such as tax rules, and detailed rules of civil and criminal procedure--would fall outside the scope of testing through the games.

Family Law. Many rules of law deal with relationships. We suspect that rules of family law and inheritance would not translate well to virtual worlds. Characters in virtual world games may “marry” other characters but these marriages are very different from real world marriages (players can select the gender of their avatars much more easily than people currently can), and are insulated from the stresses and strains of everyday life. Even if characters in the virtual worlds have children, those children are never related to them biologically. Your real-life kids may not play the same game, and if they do they are unlikely to want to play as your virtual kids (although they might want to be your parents!).

Administrative Law & the Legislative Process. Virtual worlds currently do not have elected governments--most seem either anarchic, feudal, or mysteriously governed by 'gods' ie the game operators. Some have authorities which exercise police powers, and different games could include different rules limiting the freedom of action of policing authorities. It might be possible to imagine a virtual world in which players elected representatives who would act as legislators within the world, but they would do so within a system run by designer/gods/experimenters who set the fundamental rules, and are not term-limited, so there would inevitably be a limit to what the player/legislators could decide. Legislators in the real world are often limited by a constitution, but designer/gods/experimenters of virtual worlds are unlikely to want to allow the players to amend the worlds' constitutions. In the real world constitutional change may be arduous or bloody but it can happen. On the other hand, the operators of virtual worlds may change their worlds in response to market pressures. If players dislike particular constitutional features in one world they may migrate to another. To the extent that we could examine constitutional and administrative law issues in virtual worlds we would again run into the fact that the virtual worlds are less complex than the real world.

Transnational and International Law. The absence of anything resembling modern governments in the major MMORPGs means that even when separate nations exist in current virtual worlds their relationships are unlikely to be meaningful representations of international law. Thus a range of issues in transnational and international law that arise in the real world cannot be reproduced in the existing virtual worlds. There is no international trade, so no scope for international trade law other than perhaps tariff law. There is no need for rules of public or private international law.¹⁴⁶ One could imagine a need for admiralty law only in games with substantial sea-based trade.

¹⁴⁵(...continued)

Market Access System, 16, Oct. 31, 2002, available at http://www.bpsc.bc.ca/Publications/CBA_Report.pdf

¹⁴⁶Immigration migration between different shards is very different from immigration in the real world.

Zoning. Some real world property problems may be too complicated to model. In games like the Sims online where players try to make Simoleans by attracting customers/renters to the properties they develop, it might be possible to experiment with different zoning regimes. Two shards of the same game could have different zoning arrangements: one unregulated and the other with zoning controls. One could then study the patterns of development under the different systems, and perhaps test which outcome players preferred.¹⁴⁷ Clearly, however, zoning in the real world is very different from zoning in a MMORPG, and the implications of having a toxic waste dump next to your apartment building in the real world are likely to feel very different from the same experience in a game.

Intellectual Property. Like zoning, intellectual property involves complex technical issues in the real world that a game could not test. However, arguments about IP law often center on arguments about whether strong IP rights are necessary to encourage entrepreneurial activity. We think it is possible that one could test such claims in virtual worlds, although it would be necessary to run the games for a long time in order to obtain useful data.

IV. Conclusion

In a world where real-world experimentation with legal rules is arguably useful, but difficult and expensive, experimentation with legal rules in virtual worlds may be a valuable substitute. Large numbers of enthusiastic players in virtual worlds could test legal rules in an environment closer to the real world than many of the experiments that behavioral economists run to test economic behavior. The cost of running these experiments would involve the expense of developing the games, but one could free-ride on the existing market for games. One would, however, want to sell the games, because giving them away would risk undermining the market for existing games. Experimenting with rules in virtual worlds also avoids the real-world economic and psychic costs of experimenting with interesting but ultimately harmful rules.

¹⁴⁷One could run the test either by seeing which system players preferred to enter initially, or by allowing players to move from one shard to the other.