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THE GLOBAL DIMENSIONS OF VIRTUAL WORK

MIRIAM A. CHERRY*

INTRODUCTION

Recently, unusual “factories” have appeared in Third World countries; these factories do not manufacture goods, but instead feature computer workers, typing and clicking away, playing video games, collecting coins and swords, and fighting monsters.¹ Known as “gold farmers,” these workers are paid to harvest virtual treasures for online gamers in the developed world.² First World gamers want to advance quickly within their online role-playing games of choice and, tired of the repetitive tasks necessary to build a high-level character, would prefer to pay others to do the work.³ As a result, gold

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1. David Barboza, *Ogre to Slay? Outsource It to Chinese*, N.Y. TIMES, Dec. 9, 2005, at A1. For a descriptive article that details many news articles and online sources about gold farming, see, e.g., Richard B. Heeks, *Current Analysis and Future Research Agenda on “Gold Farming”:* *Real-World Production in Developing Countries for the Virtual Economies of Online Games* (Univ. of Manchester, U.K. Dev. Informatics Working Paper No. 32, 2008), available at http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/di_wp32.htm.

2. Barboza, *supra* note 1, at A1.

3. According to another recent article on Chinese gold farmers, there are now three models for reaping the bounty of the virtual world. Julian Dibbell, *The Life of the Chinese Gold Farmer*, N.Y. TIMES MAG., June 17, 2007, § 6, at 36 [hereinafter Dibbell, *Gold Farmer*]. In the traditional, more typical model, as described above, the gold farmers use their experienced characters to perform repetitious tasks, garner valuables, and then, through intermediaries, sell the virtual property in exchange for cash. In the second model, called “power leveling,” a wealthy player will pay the gold farmers to play his character twenty-four hours a day, allowing the character to become vastly powerful in a short period. Finally, the third model involves assembling a team of Chinese players, who guide the first-world player to the highest levels, and then let the first-world player receive the most valuable objects (which cannot be sold).

farming operations have appeared in many countries where labor costs are comparatively low.⁴ For example, several years ago, a company named Blacksnow opened operations in Tijuana, Mexico, paying Mexican nationals dollars a day to kill dragons and obtain objects in Mythic Entertainment's online Camelot game.⁵ Acting as an intermediary, Blacksnow later resold these virtual objects on eBay and other online exchange sites to high bidders in First World countries.⁶ A second method using relative differences in wages is to have Third World computer workers "play" the characters of First World gamers while they sleep.⁷ Because in-game objects have a "real world" monetary value, workers in Third World countries are often playing online games not as entertainment, but to make a living.⁸

Gold farming, however, is only one part of a larger phenomenon. A growing number of people worldwide entertain themselves or supplement their incomes—or both—by working within virtual worlds such as Second Life or casually "clicking" to make a few dollars for simple tasks on websites like Amazon.com's Mechanical Turk.⁹ One economist, Edward Castronova, has estimated that the economy of Sony's game EverQuest and its world, Norrath,

4. *See id.* (explaining that gold farming has "mushroomed across China to feed the desires of the Western consumer").

5. When Mythic Entertainment attempted to shut down Blacksnow's trading site, Blacksnow brought suit in the Central District of California. The suit was settled before trial. Complaint at 1–2, *Blacksnow Interactive v. Mythic Ent. Inc.*, No. 02-00112 (C.D. Cal. Feb. 5, 2002). *See also* Richard Raysman & Peter Brown, *Novel Legal Issues in Virtual Property*, N.Y.L.J., Aug. 9, 2005, at 3 (describing the *Blacksnow* complaint and legal issues surrounding complaint).

6. *See* Class Action Complaint at 1–2, *Hernandez v. Internet Gaming Entm't, Ltd.*, No. 07-21403-Civ, 2007 WL 1799038 (S.D. Fla. May 31, 2007) (alleging that Internet Gaming Entertainment, Ltd. received millions of dollars "by selling World of Warcraft virtual property or currency . . . generated by cheap labor in third world countries"). In this pending lawsuit, users who played the game World of Warcraft sued an online auction website that employed gold farmers, alleging that the monetization and sale of virtual property devalued the currency in the world and removed scarce resources. *Id.* at 9–10. The complaint alleged that "IGE gold farmers are often citizens of developing third world countries who spend up to 14 hours per day, or more, logged into World of Warcraft collecting resources and World of Warcraft gold." *Id.* at 8. *See also* Complaint at 2–3, *Blizzard Ent., Inc. v. In Game Dollar, L.L.C.*, No. 07-0589 (C.D. Cal. May 22, 2007) (terminated after permanent injunction granted, Jan. 28, 2008); Complaint at 2–3, *MDY Indus., L.L.C. v. Blizzard Ent., Inc.*, No. 06-2555 (D. Ariz. Oct. 25, 2006).

7. *See* Dibbell, *Gold Farmer*, *supra* note 3, at 40 (explaining that customers can pay a fee and "get on with [their] real li[ves] for a while; in a marathon of round-the-clock monster-bashing, a team of power levelers will raise [their] character[s] from the lowest level to the highest").

8. David Barboza, *Boring Game? Hire a Player*, INT'L HERALD TRIB., Dec. 9, 2005, at 1.

9. Lior Jacob Strahilevitz, *Wealth Without Markets?*, 116 YALE L.J., 1472, 1499–1500 (2007) (reviewing YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* (2006)).

has a GNP per capita equivalent to Bulgaria.¹⁰ Professor Richard Heeks has gathered several estimates of the economic value of gold farming, with some extrapolation from existing research.¹¹ In numerous worlds, workers hold various jobs that make it possible to “work in a fantasy world to pay rent in reality.”¹²

In addition to work in virtual worlds, we are also seeing the rise of crowdsourcing and clickworking, in which complicated tasks are broken down and distributed to thousands of workers throughout cyberspace, then later consolidated into a finished product.¹³ In other writing, I have used the term “virtual work” as an umbrella phrase to encompass work in virtual worlds, crowdsourcing, clickworking, even encompassing, to some degree, the commonplace telecommuting and “mobile executives” that have become ubiquitous over the past decade.¹⁴ These developments have profound implications for the future of labor and employment law, and interestingly, none of this work is constrained by traditional nation–state borders.

Part I of this Article provides background into virtual work as well as its potential promises and perils. Then, in Part II, the Article highlights several themes in virtual work salient in cross-border labor and employment law, including labor value arbitrage,¹⁵ outsourcing, contract labor, immigration, the resulting “brain drain,” and describes how virtual work might fit in with these trends. Finally, Part III explains the current gap in regulation and its particular consequences, which make virtual work somewhat unstable. To the extent that work increasingly is taking “place” in cyberspace or virtual worlds, traditional nation–state boundaries would seem to be increasingly irrelevant. In fact, it is one component of virtual work that promises to increase efficiency and productivity—allowing for collaboration of many workers and businesses across borders. Currently, however, traditional legal regulation of the

10. EDWARD CASTRONOVA, *SYNTHETIC WORLDS THE BUSINESS AND CULTURE OF ONLINE GAMES* 19 (2005) [hereinafter CASTRONOVA, *SYNTHETIC WORLDS*].

11. Heeks, *supra* note 1, at 8–9.

12. F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CAL. L. REV. 1, 11 (2004).

13. Jeff Howe, *The Rise of Crowdsourcing*, WIRED, June 2006, at 176, 178–79 (using term “crowdsourcing” to describe work performed with the aid of contributions from diverse groups of users on the internet); V.C. Gulick et al., *Student and Public Participation in Acquiring and Analyzing HiRISE Images*, in POSTER SESSION II: ENGAGING STUDENT EDUCATORS AND THE PUBLIC IN PLANETARY SCIENCE (2007), available at <ftp://ftp.lpi.usra.edu/pub/outgoing/lpsc2007/full631.pdf> (discussing NASA’s use of a clickwork to website to identify and classify craters on the surface of Mars).

14. Miriam A. Cherry, *Working for (Virtually) Minimum Wage: Applying the Fair Labor Standards Act in Cyberspace*, 60 ALA. L. REV. 1077, 1978 (2009).

15. See, e.g., George S. Geis, *Business Outsourcing and the Agency Cost Problem*, 82 NOTRE DAME L. REV. 955, 972 (2007) (describing how outsourcing takes advantage of labor value arbitrage).

employment relationship is largely based on the physical “domicile” of the worker.¹⁶ Nation–states, therefore, still seem to have a significant role to play. Indeed, nation–states can cause significant disruption, such as the recent Chinese government’s crackdown on virtual money.¹⁷ Aside from raising these concerns about appropriate regulation, I also suggest that voluntary standard setting by employers could also lend stability in the process and hasten its adoption.

I. THE DEVELOPMENT OF WORK IN CYBERSPACE AND VIRTUAL ENVIRONMENTS

A. *Background*

Numerous scholars and commentators have already written comprehensive overviews of virtual worlds,¹⁸ and, therefore, I provide only a brief description of the development and history of the different types of virtual worlds that exist. As one of the original game designers describes them, virtual worlds are “persistent, computer-mediated environments in which a plurality of players can interact with the world and each other.”¹⁹ Beginning with text-based games of the late 1970s that adapted the plot and characters of fantasy author J.R.R. Tolkien, games dramatically evolved as use of computers and the Internet increased and made these environments simultaneously more familiar and more exciting.²⁰

It seems today that most virtual worlds are fundamentally one of two types: scripted worlds that involve a quest, game, or puzzle, or those worlds that promote social interaction.²¹ The first type is commonly known as

16. Marcus Pinney, Comment, *A Constitutional Dilemma: The Conflict of the Title VII Alien Exemption Clause with the Civil Rights Act of 1991*, 26 HOUS. J. INT’L L. 707, 709–10 (2004) (describing the application of U.S. employment laws overseas).

17. See *infra* notes 99–102 and accompanying text.

18. See, e.g., Bobby Glushko, *Tales of the (Virtual) City: Governing Property Disputes in Virtual Worlds*, 22 BERKELEY TECH. L.J. 507, 511–15 (2007) (describing the nature of a virtual world property and its comparison to the physical world property); Andrew E. Jankowich, *Property and Democracy in Virtual Worlds*, 11 B.U. J. SCI. & TECH. L. 173, 176 (2005) (comparing similarities and differences in norm setting and governance of real and virtual worlds); Beth Simone Noveck, *The State of Play*, 49 N.Y.L. SCH. L. REV. 1, 6–11 (2005) (describing the history and development of virtual worlds).

19. Richard A. Bartle, *Virtual Worldliness: What the Imaginary Asks of the Real*, 49 N.Y.L. SCH. L. REV. 19, 19 (2005) (describing virtual worlds and rules from the point of view of game designer).

20. See Lastowka & Hunter, *supra* note 12, at 15–16 (describing the virtual worlds based on those created by J.R.R. Tolkien).

21. See BENJAMIN TYSON DURANSKE, VIRTUAL LAW: NAVIGATING THE LEGAL LANDSCAPE OF VIRTUAL WORLDS 263 (2008) (providing listing of virtual worlds, current as of 2008).

“Massively Multiplayer Online Role-playing Games” (MMORPGs).²² These games have the player–protagonist follow a quest or complicated series of puzzles to obtain an objective.²³ In the process, the player–protagonist may interact with other real player–characters and the computer (AI) characters (“bots”).²⁴

The second type of worlds, such as *The Sims*²⁵ and *Second Life*,²⁶ are fundamentally concerned with social interaction.²⁷ Each person who enters these worlds assumes an identity—an avatar—that can be tailored to reflect that individual’s personality.²⁸ Rather than requiring users to pursue a quest or play a game while interacting with others, these social worlds depend on users to create their own content, economies, and entertainment.²⁹ I use the word “economies” deliberately, as *Second Life* is a commodified space—an environment friendly to businesses, which encourages trading and wealth building.³⁰ The various games and worlds have interaction with real world economies too, since you can often sell “virtual goods” that may be scarce or only obtained with some effort—for a value that they have in the real world.³¹ With this brief overview, I turn to the types of work that are available in the virtual realm.

22. See Ung-gi Yoon, *A Quest for the Legal Identity of MMORPGs—From a Computer Game, Back to a Play Association*, 10 J. GAME INDUSTRY & CULTURE (2005), available at <http://ssrn.com/abstract=905748> (describing the nature of MMORPGs and their impact on the legal landscape).

23. Heeks, *supra* note 1.

24. Yoon, *supra* note 22, at 3.

25. See *The Sims*—Official Site, <http://thesims.ea.com> (last visited Feb. 15, 2010).

26. See *Second Life* Official Site: <http://secondlife.com> (last visited Feb. 15, 2010).

27. Maged N. Kamel Boulos et al., *Second Lige: An Overview of the Potential of 3-D Virtual Worlds in Medical and Health Education*, 24 HEALTH INFO. & LIBR. J. 233, 233 (2007).

28. See Woodrow Barfield, *Intellectual Property Rights in Virtual Environments: Considering the Rights of Owners, Programmers and Virtual Avatars*, 39 AKRON L. REV. 649, 651 (2006) (explaining that an avatar is a “virtual representation of [a participant’s] identity which is displayed in the online virtual environment”).

29. See Cory Ondrejka, *Escaping the Gilded Cage: User Created Content and Building the Metaverse*, 49 N.Y.L. SCH. L. REV. 81, 84–88 (2004) (describing differences between role-playing fantasy worlds and *Second Life*).

30. *Id.* at 84–88; see also EDWARD CASTRONOVA, EXODUS TO THE VIRTUAL WORLD: HOW ONLINE FUN IS CHANGING REALITY 6–19 (2007) [hereinafter EXODUS] (describing commodified nature of *Second Life*). It is significant that one of the first academics to study virtual worlds is an economist. CASTRONOVA, SYNTHETIC WORLDS, *supra* note 10; Edward Castonova, *The Right to Play*, 49 N.Y.L. SCH. L. REV. 185 (2004), for works authored by the economist Castronova discussing virtual worlds.

31. CASTRONOVA, EXODUS, *supra* note 30, at 6.

B. *The Types of Work Available*

From customer service call centers located thousands of miles from the call's origin,³² to telecommuting "work at home" arrangements,³³ to personal assistants who assist with tasks even though they may live in different countries,³⁴ the idea of "virtual work" is increasingly common and accepted.³⁵ Given these different types of work, I believe that it is useful to classify some of these new jobs into categories, and examine the similarities and differences between them.

1. The Commonplace: Telecommuting and Telework

Types of work that could be classified as cyberwork or "virtual work" have become increasingly familiar.³⁶ It is almost standard (especially recently, with long commutes, traffic jams, and soaring gas prices) that many employees prefer to spend a portion of their week working from home, "teleworking" or telecommuting.³⁷ For others who may live in a remote location—because of personal preferences, family, or spousal proximity—telecommuting may be the most efficient form of work from both a time-saving and environmental perspective.³⁸ Others use telecommuting as a way of balancing work and family,³⁹ although that arrangement has the potential to overburden the caregiver who is attempting to juggle conflicting work and family demands.⁴⁰ Currently, many telecommuting arrangements involve work tasks that can be performed independently of supervision, coupled with the worker's own computer, Internet service, telephone service, and email.⁴¹ But there is a certain time and distance lag involved in this type of work, which can be isolating for the individual at home all day with the computer.

Studies have shown that, compared to standard telecommuting, using virtual worlds can decrease the sense of isolation that many telecommuters

32. Trevor W. Nagel & Elizabeth M. Kelley, *The Impact of Globalization on Structuring, Implementing, and Advising on Sourcing Agreements*, 38 GEO. J. INT'L L. 619, 634–35 (2007).

33. Michelle A. Travis, *Equality in the Virtual Workplace*, 24 BERKELEY J. EMP. & LAB. L. 283, 289–92 (2003).

34. Erin Conroy, *Outsource Your Errands*, J. GAZETTE, July 15, 2008, at 12B.

35. Steve Lohr, *Hello India? I Need Help With My Math*, N.Y. TIMES, Oct. 31, 2007, at C1.

36. See Travis, *supra* note 33, at 293 ("The growth in telecommuting appears to be continuing into the new millennium.").

37. *Id.*

38. *Id.* at 295.

39. *Id.*

40. See *id.* at 313 (explaining women who telecommute "often experience an increased level of work-related stress" and "an increase in the time they spend on domestic tasks and childcare").

41. Travis, *supra* note 33, at 290.

feel.⁴² These work arrangements can easily move into virtual worlds. If the “office” consists of twenty people scattered across the United States and perhaps two other continents, there is no reason why everyone—including the telecommuters—could not attend a virtual staff meeting in Second Life. The fact that there are many companies that not only have established “distance work,” but also tout it as a benefit, suggests there is a significant opportunity for virtual work to become more widespread.⁴³

2. Old Economy, New Economy

The work available on Second Life breaks down into traditional occupations that would look familiar to anyone and into new types of work that would have confused a career counselor only a decade ago.⁴⁴ The work that seems familiar is traditional service or counseling work, essentially similar to those positions in the real world.⁴⁵ For example, during tax season, one can get tax advice in the virtual world the same way as if one were to use a traditional medium, such as going to an accountant or tax preparer’s office, or talking to a tax professional on the telephone.⁴⁶ The only difference between the two is that the consultation and “meeting” occurs in the virtual environment. Attorneys are beginning to establish virtual offices in Second Life, but so far the model is to use Second Life to meet clients, then take the clients into the “real world.”⁴⁷ It is not so much that Second Life exactly changes these “old economy” service occupations. Rather, it may just make the work more efficient, obviate the need for in-person consultations or conferences, and provide an additional way to stay connected—especially if clients are geographically isolated from service providers.

42. See VirtualWorldsNews.com, *Liveblogging MetaverseU: A Conversation with Christian Renaud, Reuben Steiger, and Bryon Reeves about Work* (Feb. 16, 2008, 12:31 EST), <http://www.virtualworldsnews.com/2008/02/liveblogging--3.html> (last visited Feb. 15, 2010) (describing isolation of telecommuters and how working in virtual worlds may present opportunities for workers to feel more connected to each other); Andrew Patrick, *The Psychology of Virtual Presence: Research Ideas*, Jan. 24, 2002, <http://www.andrewpatrick.ca/virtual-presence/presence-ideas.html> (describing research that would help measure questions of how individuals get swept up in virtual game environments).

43. Travis, *supra* note 33, at 295–96.

44. See Gabrielle Monaghan, *A Virtual Way to Find Real Talent*, SUNDAY TIMES (LONDON), Mar. 16, 2008, at 19 (describing different types of employment opportunities in Second Life).

45. See *id.* (explaining the positions available at Second Life).

46. Indeed, the author visited Second Life during tax season and found that tax preparation services were available there, just the same way they would be in the real world.

47. See, e.g., Monaghan, *supra* note 44, at 19 (describing attorney who used Second Life to find clients, and within two weeks had made \$7000); Attila Berry, *Lawyers Earn Actual Cash in Virtual World*, LEGAL TIMES, July 30, 2007, at 15 (describing law firm that brought in \$20,000 in revenue in first year from its Second Life office).

On the other hand, there are entirely new jobs, such as avatar designer, that are currently being developed and defined.⁴⁸ These career opportunities coexist with, and, indeed, would not have been engendered unless there was a virtual world.⁴⁹ New technical, engineering, and computer skills required to meet the needs of the virtual worlds and the individuals who spend time there will result in increased demand for workers in the virtual world. Many opportunities also exist for standard education as well as in orienting newcomers to the environment of virtual reality. These jobs, both new economy and old economy, provide some of the “promise” that appears evident to many who look at Second Life and other virtual worlds as presenting new and interesting options for working, social networking, and keeping in touch with friends and family members.

3. Gold Farming

As discussed earlier, gold farming is an intriguing illustration of many issues surrounding virtual work.⁵⁰ While the gold farmers toil, clicking away in remote location, the virtual fruits of their labor are sold on online auction sites.⁵¹ Virtual sales of property are arranged, so that after the financial transaction is completed, the auction company sends a representative’s avatar into the world to transfer objects to the new purchaser.⁵² Even though some versions of game rules in various worlds may technically forbid the marketing of objects,⁵³ the practice is a frequent one.⁵⁴ Because of the number of players, the number of gold farmers, the difficulty in discerning the identity of the farmers, and the ease of transferring objects, this is a difficult practice to ban. In a recent study of the gold farmers, Professor Richard Heeks estimates the industry to be worth up to \$1 billion per year.⁵⁵

48. Monaghan, *supra* note 44, at 19 (describing available job positions, including avatar designers).

49. *See id.* (describing jobs available only in Second Life).

50. *See supra* notes 1–8 and accompanying text.

51. Barboza, *supra* note 1, at A1.

52. Julian Dibbell, *The Unreal Estate Boom*, WIREd, Jan. 2003, at 106, 110 [hereinafter Dibbell, *Estate Boom*].

53. Barboza, *supra* note 1, at A1. *See also* Class Action Complaint at 16–25, *Hernandez v. Internet Gaming Entm’t, Ltd.*, No. 07-21403-Civ (S.D. Fla. May 31, 2007) (describing complaints filed against gold farming auction websites).

54. *See* Heeks, *supra* note 1, at 2 (explaining that gold farming has expanded so much as to be considered “an economic sub-sector employing tens of thousands in developing countries and with global trade worth hundreds of millions of dollars”).

55. *Id.* at 64.

Of course, there are pluses and minuses in monetizing virtual world games.⁵⁶ Some First World gamers object to the practice of gold farming, claiming that it detracts from the fantasy aura of the game.⁵⁷ Gamers are successful in a MMORPG ostensibly because of skill, dedication, and number of hours spent playing.⁵⁸ If a player may easily purchase his or her way to victory, it may degrade the accomplishments of all players within the game.⁵⁹ The game designers cannot solve the problem by simply creating more of the high-demand objects. After all, scarcity must be built into the game, otherwise it would simply be too “easy” and few players would want a repeat experience.⁶⁰

In his book, *Synthetic Worlds*, economist Edward Castronova discusses exchange rates for virtual worlds, and explores the similarities and differences between them and real world economies.⁶¹ The objects represent a certain amount of time and work that goes into either their discovery or conquering enemies.⁶² Castronova implicates that in making such a trade, and in opening up the game to those in foreign countries, the values of the objects fall.⁶³ Some players resent the presence of such market intrusions into these fantasy worlds, and sometimes take that frustration out on the Third World gold farmers.⁶⁴ And these frustrations persist, even though the gold farmers are only acting rationally in an attempt to better their own (and relative to the First World gamers, considerably impoverished) economic situations.⁶⁵ For those in the Third World, these games are not entertainment—they are just another form of work.⁶⁶ Their alternatives may include far more dangerous employment in a

56. Games are already monetized, to some degree, as the companies market them to customers via subscription, and some give particular advantages to groups of “premium” members who pay a higher monthly fee.

57. Dibbell, *Gold Farmer*, *supra* note 3, at 39 (“[L]ate last month American WoW [World of Warcraft] players filed a class-action suit against the dominant virtual-gold retailer, IGE, the first of its kind.”).

58. Ondrejka, *supra* note 29, at 96–97.

59. *Id.* at 97.

60. Dibbell, *Estate Boom*, *supra* note 52, at 110.

61. CASTRONOVA, *SYNTHETIC WORLDS*, *supra* note 10, at 44.

62. *Id.* at 40–41.

63. *Id.* at 150. This is strangely counterintuitive, because one imagines that in opening more markets, both supply and demand would increase. But when gold farming is brought into the picture, supply in essence, far outstrips demand. See Heeks, *supra* note 1, at 19 (discussing criticisms with Castronova’s interpretation).

64. Barboza, *supra* note 1, at A1.

65. *Id.*

66. *Id.*

dirty, crowded, and unsafe factory, or barely scraping by as a subsistence farmer.⁶⁷

4. Crowdsourcing and Clickworkers

Crowdsourcing is another type of work that occurs in cyberspace. And while, technically, it does not take place in a virtual environment, it still fits under the “virtual work” rubric.⁶⁸ Here, computers automate and break down tasks, and work which requires human participation is sourced out.⁶⁹ The work is matched with thousands of computer workers who perform tasks that require only minimal awareness, such as the entry of a few characters or the clicking of a mouse.⁷⁰ Crowdsourcing thus takes the products of many workers to create something greater than the sum of its parts.⁷¹ The individuals engaged in this work are known as “clickworkers.”⁷²

Amazon has launched a service, known as the Mechanical Turk, which is described as a “marketplace for work,” and claims that it can provide an “on-demand, scalable workforce.”⁷³ Named after an 18th-century mechanical device that could beat humans at the game of chess (this was no “Deep Blue”—a chess master was actually hidden inside),⁷⁴ the Amazon Mechanical

67. *Id.* According to 2003 data from an ILO survey, average employees in different countries work varying numbers of hours. In the United States, the average employee worked slightly more than forty hours per week. Americans worked more than the French, whose workers averaged 35.5 hours, and worked more than most of the average workers in countries in industrialized Europe. But workers in the developing world worked much harder, with more hours worked in Argentina, China, and Mexico. The hardest working country was Egypt, where employees worked on average fifty-seven hours per week.

68. See Howe, *supra* note 13, at 178–79 (defining “crowdsourcing” as work performed with the aid of workers from diverse groups of users on the internet).

69. *Id.*

70. Crowdsourcing is currently being used in ways that do not take particular advantage of human intelligence. But there is some indication that crowdsourcing has some potential for creating more accurate journalism, for example. In *Rashomon* style, different observers may collect and tell different stories, which journalists can then use to compile a more complete story, rather than a top-down vision. Wendy D. Roth & Jal D. Mehta, *The Rashomon Effect: Combining Positivist and Interpretivist Approaches in the Analysis of Contested Events*, 31 SOC. METHODS & RES. 131, 131–32 (2002).

71. Howe, *supra* note 13, at 178–79 (using term “crowdsourcing” to describe work performed with the aid of contributions from diverse groups of users on the internet).

72. BENKLER, *supra* note 9 at 69 (describing the NASA Clickworkers experiment). Perhaps because of the connection to the computer, or to other virtual worlds, the “click” in clickworkers is onomatopoeia for the noise a worker makes when “clicking” his or her computer mouse.

73. Amazon Mechanical Turk—Welcome, <http://www.mturk.com/mturk/welcome> (last visited Feb. 15, 2010).

74. Katharine Mieszkowski, *I Make \$1.45 a Week and I Love It*, SALON.COM, July 24, 2006, <http://www.salon.com/tech/feature/2006/07/24/turks/index.html> (describing origin and history of

Turk is one of the most prominent crowdsourcing websites.⁷⁵ Individuals or companies formulate and post tasks for the vast crowd of Turkers/Workers on the Mechanical Turk website.⁷⁶ These tasks may include “image tagging,” comparing two products, or determining if a website is “suitable for a general audience.”⁷⁷ The Turkers are able to browse among the listed tasks, complete them, and receive payment in the form of credits from the Amazon.com website.⁷⁸

Parties who are seeking workers and paying them, known as “Requesters,” have many rights on the Mechanical Turk website; Turkers, on the other hand, have far fewer.⁷⁹ Requesters may set hiring criteria; they may also accept or reject the work product, which has an effect on a Turkers’s online reputation and ability to compete for work in the future.⁸⁰ While Requesters must have a United States address, Turkers can be located anywhere in the world.⁸¹ Amazon.com makes money by charging a service fee for requests—typically ten percent of the value of the “wages” being sourced.⁸²

In the past few years, the Mechanical Turk’s results have been mixed. For example, thousands of people logged onto their computers to donate their time searching the Nevada desert for missing aviator Steve Fossett.⁸³ Using satellite

the name “Mechanical Turk”); Murray Campbell et al., *Deep Blue*, 134 ARTIFICIAL INTELLIGENCE 57, 57 (2002) (describing Deep Blue as a “computer chess system”).

75. See 10 Kickass Crowdsourcing Sites for Your Business, <http://econsultancy.com/blog/4355-10-kickass-crowdsourcing-sites-for-your-business> (Aug. 4, 2009, 11:43 a.m.) (listing the Mechanical Turk as one of the best crowdsourcing services).

76. See, e.g., Mieszkowski, *supra* note 74; *Amazon Web Services Launches New Web-Based Tools for Mechanical Turk*, DATAMONITOR, July 31, 2008, available at 2008 WLNR 14200460.

77. Andrea James, *Service Offers Pay for Doing Tiny Tasks Online*, SEATTLE POST-INTELLIGENCER, July 31, 2008, at D2.

78. Mieszkowski, *supra* note 74. The Mechanical Turk website neutrally describes the Turkers as “Workers,” most likely to avoid calling them employees or to give rise to any of the obligations that may attach if these workers were to be considered employees of Amazon.com. Amazon Mechanical Turk—Welcome, *supra* note 73. Of course, the label that one party attaches to a relationship is far from dispositive in determining an employment relationship. See, e.g., Debra T. Landis, Annotation, *Determination of “Independent Contractor” and “Employee” Status for Purposes of § 3(e)(1) of the Fair Labor Standards Act (29 USCS § 203(e)(1))*, 51 A.L.R. FED. 702, 706–07 (1981) (explaining that courts generally use an “economic reality” factors test to determine if there is an employment relationship).

79. See *infra* notes 73–76 and accompanying text.

80. See Wikipedia, *Amazon Mechanical Turk*—Wikipedia, http://en.wikipedia.org/wiki/Amazon_Mechanical_Turk (last visited Feb. 15, 2010).

81. See *Technology Quarterly: Artificial Intelligence*, ECONOMIST, June 10, 2006.

82. Mieszkowski, *supra* note 74.

83. See, e.g., Dan Fost, *Despite Silicon Valley Optimism, a Disease Resists Cure*, N.Y. TIMES, April 14, 2008, at C6 (describing failed searches for Fossett and James Gray, a scientist who was lost at sea); Steve Friess, *Searching by Land, Air and the Web*, N.Y. TIMES, Sept. 16, 2007, at A19 (describing the search for the missing adventurers); *The Search for Steve Fossett: Turk and Rescue*, ECONOMIST, Sept. 22, 2007, at 97.

photographs of the vast area where Fossett had likely disappeared, the computer program split up the task of searching by farming out the work to the thousands of Turkers on the Mechanical Turk program.⁸⁴ If a Turker was to find anything out of the ordinary, the frame was referred to other Turkers to double-check, and ultimately passed onto the search-and-rescue team.⁸⁵ Amazon highly publicized the effort, and the news media picked up on the dramatic rescue efforts.⁸⁶ Unfortunately, even with the hype and the thousands of hours of work, the Turkers were unable to find either Fossett or any traces of his airplane.⁸⁷ Since that time, the remains have been found—apparently in rough terrain that was inaccessible to aerial photography.⁸⁸ The Turkers' failure to find Fossett was not the fault of the technology or in any way related to the effectiveness of crowdsourcing; rather, it was a limitation caused by the natural world.⁸⁹

The tasks that Turkers perform are typically simple, repetitive, and likely overlooked within existing regulatory schemes.⁹⁰ According to online accounts, Requesters “do not have to file forms for, nor . . . pay, payroll taxes, and they avoid laws regarding minimum wage, overtime, and workers compensation.”⁹¹ Turkers, on the other hand, are still responsible for reporting their income to the IRS.⁹² How many Turkers actually *do* report these earnings, however, is another question, especially those Turkers who use the website only occasionally.⁹³ The ultimate result is a fuzzy gray market for casual clickwork services, where practically no regulation exists. An analogy

84. Fost, *supra* note 83, at C6.

85. Friess, *supra* note 83, at A19.

86. *See* Fost, *supra* note 83 at C6 (noting that the disappearances “provided showcases for Microsoft and Google, as well as for Amazon’s ‘Mechanical Turk’ technology”).

87. *Id.*

88. *See, e.g.,* Miriam Cherry, *Limitations of Technology and “Right Size” Challenges*, CONCURRING OPINIONS (Oct. 11, 2008, 5:29 PM), <http://www.concurringopinions.com/?author=21> (discussing eventual discovery of wreckage); Steve Friess, *DNA in Bones Near Plane Crash Matches Fossett’s*, N.Y. TIMES, Nov. 4, 2008, at A19.

89. *See* Cherry, *supra* note 88.

90. *See, e.g.,* Clay Risen, *The 7th Annual Year in Ideas*, N.Y. TIMES, Dec. 9, 2007, at 50 (describing digital search efforts by turkers). My research assistant was eager to mechanical turk the Bluebooking citations for this article, but ultimately I decided that such an experiment was beyond the scope of this Article.

91. *Amazon Mechanical Turk*, *supra* note 80. The entry goes on to point out that the Mechanical Turk has given rise to other questionable employment practices, noting that some Requesters have had workers perform tasks, only later to reject their work so that they do not have to pay for the work. *Id.* In the real world, taking advantage of workers in a similar way would violate the FLSA and would result in fines and penalties. *See* 29 U.S.C. § 207(g) (2006).

92. *See* Amazon Mechanical Turk, <https://www.mturk.com/mturk/help?helpPage=worker> (last visited Feb. 15, 2010) (explaining the tax process for workers).

93. *See* *Amazon Mechanical Turk*, *supra* note 80 (explaining that Amazon will ask for tax information once workers meet a certain minimum earnings requirement).

might be hiring a neighborhood teen to mow your lawn for cash twice per summer, but on a grand and global scale.⁹⁴

While no statistics are available on the class background of workers on the Mechanical Turk, at least some are middle class, live in the First World, and casually perform clickwork for fun when they have a few spare minutes.⁹⁵ This group of workers plows whatever money they make back onto the Amazon.com website, where they buy books, videos, or other goods on offer.⁹⁶ The result is work that is collaborative but still monetized and which interestingly straddles the divide between work and leisure.⁹⁷ As such, crowdsourcing and other types of distributed work are likely to increase in frequency in the years to come. Already there have been proposals to crowdsource surveillance between the United States–Mexico border to look for aliens,⁹⁸ and to use computers to help SETI in the search for different types of aliens.⁹⁹

C. *The Promise and Peril of Virtual Work*

The advent of virtual work simultaneously provides immense opportunities and challenges for workers in the new digital economy.¹⁰⁰ New technology allowing collaboration can provide remarkable opportunities for workers and employers alike.¹⁰¹ Traditional limitations on transnational collaboration—travel, meeting, commuting—can be minimized or reduced.¹⁰² Employers can use virtual spaces to make contacts and recruit talent without spending money on transportation.¹⁰³ Recently, in his book *The Wealth of Networks*, Professor

94. See Richard A. Epstein, *The Moral and Practical Dilemmas of an Underground Economy*, 103 YALE L.J. 2157, 2157 (1994) (describing the “underground economy” as an “unreported, unrecorded, or informal economy” and giving examples of workers involved in the “underground economy”).

95. Mieszkowski, *supra* note 74 (describing middle class Turkers who use the proceeds from their work as “mad money” to make purchases on Amazon.com).

96. *See id.*

97. *See id.*

98. BBC, *Web User to “Patrol” US Border*, June 2, 2006, <http://news.bbc.co.uk/2/hi/americas/5040372.stm>.

99. *See* BENKLER, *supra* note 9, at 81–83.

100. Robert D. Hof, *Technology on the March: Increasing Connectivity Will Change How and Where We Labor—Even the Very Notion of an Employer*, BUS. WK., Aug. 20 & 27, 2007, at 80, 83 (“Will this be a new world of empowered individuals encased in a bubble of time-saving technologies? Or will it be a brave new world of virtual sweatshops, where all but a tech-savvy few are relegated to an always-on world in which keystrokes, contacts, and purchases are tracked and fed into the faceless corporate maw?”).

101. *Id.*

102. *Id.* at 82–83.

103. *See, e.g.*, Monaghan, *supra* note 44, at 19 (describing KPMG and Accenture recruiting events on Second Life, and the fact that the Manpower recruiting agency has also opened an

Yochai Benkler described the potential for collaborative work in cyberspace, especially in a non-market setting.¹⁰⁴ Certainly, the possibility of matching workers and jobs in cyberspace creates more opportunities and more efficient labor markets.¹⁰⁵ The thought of virtual work enabling workers from five different countries to join together and collaborate on a project is enticing — it allows for the sharing of truly diverse ideas and thoughts.

Simultaneously, virtual work presents many of the same enduring problems that workers' rights advocates have struggled with over the years. Many of the gold farming operations and other types of virtual work have been criticized in the press as creating new "virtual sweatshops."¹⁰⁶ For years, corporations have engaged in races to the bottom, not only by selecting the jurisdiction of incorporation that will govern their internal corporate affairs,¹⁰⁷ but also by finding the jurisdictions with the cheapest labor and the least regulation of employment relationships.¹⁰⁸ While such behavior is, perhaps, financially understandable, whether such a race is the best system for worker's interests and sustainable development is another question altogether. The concern is that virtual work will lead to acceleration of the "race to the bottom" and, ultimately, the further erosion of worker's rights and benefits.¹⁰⁹

II. VIRTUAL WORK AND THEMES OF TRANSNATIONAL EMPLOYMENT LAW

This discussion of virtual work draws in the major themes of global employment law, including outsourcing and labor value arbitrage, as well as

island within Second Life); Joel Dresang, *Manpower Opens Office in Online Virtual Society*, MILWAUKEE J. SENTINEL, July 13, 2007, at D1.

104. See, e.g., BENKLER, *supra* note 9, at 9 ("As collaboration among far-flung individuals becomes more common, the idea of doing things that require cooperation with others becomes much more attainable, and the range of projects individuals can choose as their own therefore qualitatively increases. The very fluidity and low commitment required of any given cooperative relationship increases the range and diversity of cooperative relations people can enter, and therefore of collaborative projects they can conceive of as open to them.").

105. ALAN HYDE, *WORKING IN SILICON VALLEY: ECONOMIC AND LEGAL ANALYSIS OF A HIGH-VELOCITY LABOR MARKET* 145–46 (2003).

106. See Barboza, *supra* note 1 at C4. *But cf.* Wendy N. Duong, *Ghetto'ing Workers with Hi-Tech: Exploring Regulatory Solutions for the Effect of Artificial Intelligence on "Third World" Foreign Direct Investment*, 22 TEMP. INT'L & COMP. L.J. 63, 77–79 (2008). Barboza argues that despite criticism, "Third World host countr[ies] [do] benefit from [foreign direct investment] through technology transfer, training and employment opportunities for the local workforce, and the flow of hard currencies into the country. . . ." *Id.* at 77.

107. Brett H. McDonnell, *Getting Stuck Between Bottom and Top: State Competition for Corporate Charters in the Presence of Network Effects*, 31 HOFSTRA L. REV. 681, 691 (2003).

108. Katherine Van Wezel Stone, *To the Yukon and Beyond: Local Laborers in a Global Market*, 3 J. SMALL & EMERGING BUS. L. 93, 95–96 (1999).

109. Van Wezel Stone, *supra* note 108, at 95–96 (describing the "race to the bottom" phenomenon within global labor markets).

immigration and the “brain drain.”¹¹⁰ First, labor value arbitrage and outsourcing are linked concepts. For example, suppose one country, Pacifica, has a high standard of living and labor and employment laws that are quite protective, and another country, Erewhon, has relatively few protections for workers, a low minimum wage, and a lower standard of living. An instantly linked, truly globalized, and fully efficient labor market would see the citizens of Pacifica losing jobs and the citizens of Erewhon gaining jobs until equilibrium was reached. This issue is far from new; plant closings and relocations of industrial jobs have long been a problem for blue-collar workers in the First World.¹¹¹ The irony is that only now, when white-collar work is potentially at stake, alarms are again sounding.¹¹²

In the new information economy, labor value arbitrage and outsourcing are no longer about manufacturing or factory work migrating overseas with cheap imports shipped back in return.¹¹³ Instead, jobs in the technology and information sectors—which have been the mainstay of the United States economy in the past few decades—are feeling the effects.¹¹⁴ Law, medicine, and other forms of skilled work are beginning to realize some of the changes that used to have an impact on the manufacturing sector.¹¹⁵ One benefit of outsourcing and free trade is, on the margins, it may raise the standard of living in Third World countries. And, as noted by Stewart Schwab, regardless of how one feels about free trade and labor across borders, protectionist

110. See, e.g., Archie A. Alexander, III, *American Diagnostic Radiology Moves Offshore: Is This Field Riding the “Internet Wave” into a Regulatory Abyss?*, 20 J.L. & HEALTH 199, 133 (2006) (analyzing outsourcing of medical services); Raúl Delgado Wise & James M. Cypher, *The Strategic Role of Mexican Labor Under NAFTA: Critical Perspectives on Current Economic Integration*, 610 ANNALS AM. ACAD. POL. & SOC. SCI. 120, 133 (2007) (discussing the impact of the North American Free Trade Agreement on outsourcing); Christina Laun, Note, *The Central American Free Trade Agreement and the Decline of U.S. Manufacturing*, 17 IND. INT’L & COMP. L. REV. 431, 432, 437–52 (2007) (considering the impact of the Central American Free Trade Agreement on U.S. manufacturing industries); Keith Woffinden, Comment, *Surfing the Next Wave of Outsourcing: The Ethics of Sending Domestic Legal Work to Foreign Countries Under New York City Opinion 2006-3*, 2007 BYU. L. REV. 483, 484–85, 490–94 (2007) (discussing the legal and ethical implications of outsourcing legal work).

111. See, e.g., Local 1330, *United Steel Workers v. U.S. Steel Corp.*, 631 F.2d 1264, 1265–66 (1980); Nicholas A. Ashford & Christine Ayers, *Changes and Opportunities in the Environment for Technology Bargaining*, 62 NOTRE DAME L. REV. 810, 810 (1987).

112. The answer in the past was to create higher-value jobs; while that is still the answer, perhaps the question is how to do so in a way that is fair and equitable.

113. KATHERINE V.W. STONE, *FROM WIDGETS TO DIGITS: EMPLOYMENT REGULATION FOR THE CHANGING WORKPLACE* 5 (2004).

114. See Information Technology Association of America, *Executive Summary: The Comprehensive Impact of Offshore IT Software and Services Outsourcing on the U.S. Economy and the IT Industry*, 1–2 (2004), available at <http://www.ita.org/itserv/docs/execsumm.pdf>.

115. Alexander, *supra* note 110, at 203; Woffinden, *supra* note 110, at 484–85.

legislation is difficult to implement given strong countervailing market forces.¹¹⁶

The larger issue is concern for all workers regardless of the First-World/Third-World divide. This concern is that in crowdsourcing and clickworking, once intellectual and professional tasks are increasingly broken down to their least common denominator. In her book *From Widgets to Digits: Employment Regulation for the Changing Workplace*, Professor Katherine Stone noted that technology could empower at least some groups of workers, potentially freeing increasing numbers from drudgery and manual labor.¹¹⁷ The concern might be that instead of freeing workers, technology may actually be bringing us full circle—to a type of assembly line for pursuits traditionally thought of as intellectual tasks.

As for the brain drain, one of the pressing problems in the developing world is that, many times, citizens who are the most educated, or have the most skills and options, tend to leave their homes for countries where they will be best able to advance their careers.¹¹⁸ While that is a fortuitous result for those in the developed world—who benefit from some of the smartest and most talented immigrants making contributions to their nations—it has a negative impact on the country of origin.¹¹⁹ The emigrants from those countries do send home remittances, which cushion the blow somewhat for their families, but it is still a drain to the country of origin's economy if it happens often enough.¹²⁰ With the advent of virtual work, there would seem to be less reason for the brain drain to occur.¹²¹ If a talented worker can obtain remunerative virtual work or employment in cyberspace, there is no reason for that person to leave the country, taking his or her enhanced earning and spending power with them.

So far, this Article has been mostly descriptive, providing background on virtual work, describing the impact that virtual work will have on some of the persistent themes that cut across global issues in employment law. Having

116. Stewart J. Schwab, *Predicting the Future of Employment Law: Reflecting or Refracting Market Forces?*, 76 IND. L.J. 29, 32–34 (2001). Instead, Schwab advocates for channeling market forces and working with them, if possible. *Id.* at 34.

117. STONE, *supra* note 113, at 289–90.

118. Anupam Chander, *Homeward Bound*, 81 N.Y.U. L. REV. 60, 67 (2006).

119. Lisa Leiman, Comment, *Should the Brain Drain Be Plugged? A Behavioral Economics Approach*, 39 TEX. INT'L. L.J. 675, 676 (2004).

120. Leiman, *supra* note 119, at 675–76, 687 (defining “brain drain” as referring “to the exodus of the brightest, most skilled, and most productive members of a society” and later describing the effects of immigration remittances). See also Chander, *supra* note 118, at 68 (describing the need to cultivate diaspora relationships).

121. Cf. Courtney L. Cromwell, *Friend or Foe of the U.S. Labor Market: Why Congress Should Raise or Eliminate the H-1B Visa Cap*, 3 BROOK. J. CORP. FIN. & COM. L. 455, 476 n.202 (2008) (citations omitted) (describing the “reverse brain drain” phenomenon in which workers are trained in developed countries and then return to their countries of origin to start up companies or otherwise use their expertise, thereby depriving U.S. labor markets of highly skilled workers).

explored the impact that virtual work might have for some of the persistent themes in global employment law, the question then becomes how to deal with the current gap in regulation? The next section attempts to answer some of these questions, with a particular emphasis on the Chinese crackdown on virtual money.

III. THE PARADOX OF NATIONAL REGULATION

A. *The Increasing Irrelevance of National Boundaries*

As described above, one of the most exciting elements of virtual worlds is the new technology allowing people to interact with each other even when separated by great distance. Expertise will no longer be bounded by geographical constraints, which will encourage cross-border collaborations and engagements to flourish. But at the same time, the basic regulation of the employment relationship is governed by traditional nation–state boundaries (or in the case of the United States, a mix of federal and state law).¹²² In an era of transnational companies, when much work does not take place in a fixed location, and indeed the term “workplace” seems almost antiquated if the work takes place in the ether,¹²³ a system that relies on national boundaries for regulation of the employee–employer relationship seems to make less sense.¹²⁴ If work in virtual environments continues to grow in volume and economic importance, (which I predict it will), national regulation may leave uneven gaps.

From a policy perspective, does it make sense for employers to try out a form of work that may then subject them to the laws of many different countries?¹²⁵ If the governing law is that of the location where the worker is domiciled, difficult problems for employers will occur.¹²⁶ Different regulations may need to be followed to bring the employer into full compliance

122. Julia Lopez, *Beyond the National Case: The Role of Transnational Labor Law in Shaping Domestic Regulation*, 28 COMP. LAB. L. & POL’Y J. 547, 548 (2007). Perhaps it is because of the connection between employment and agency to contract and tort default rules, as well as its rooting in particular local labor markets and the livelihood of communities, that employment law has largely been viewed as a matter deserving of local regulation and attention.

123. Mike Tonsing, *Welcome to the Digital Danger Zone: Say Hello to the Virtual Workforce of the Next Millennium*, FEDERAL LAWYER, July 1999, at 19.

124. David G. Post, *Governing Cyberspace: Law*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 883, 885–86 (2008).

125. *See id.* at 893 (describing the problem of anticipating jurisdiction’s regulations would apply).

126. *Id.* (arguing that such a system would subject employers to unexpected foreign jurisdictions).

in all the jurisdictions in which its workers live.¹²⁷ If these technologies are to be adopted and become more widespread, employers need to have some certainty about what rules they will face. And for many conscientious employers, it may not feel right to have workers operating in a gray zone where it is unclear which rules might apply to them.

As I have described in other articles, in the United States, some forms of low-wage work in cyberspace tend to look more like games or projects undertaken for fun or leisure.¹²⁸ Other forms of virtual work seem to have no discernible difference from work performed in person at an employer's place of business.¹²⁹ The tests employed to determine whether minimum wage applies date from the advent of the FLSA, during the Great Depression,¹³⁰ and are far from clear.¹³¹ I have also described the desirability of voluntary standard setting by both the employers experimenting with this type of work—and the websites that facilitate them—to attempt a private response.¹³² I would go further to say that an attempt at private ordering among the employers who want to experiment with this type of technology, as well as the websites that provide such services, would also be useful in prospectively dealing with any issues before they become serious legal concerns.

My proposal relates to many of the ideas of voluntary standard setting and the idea of certifying “fair labor” that is already employed by many multinational companies. Some multinational companies have adopted standards independent of government in order to ensure the protection and benefit of workers.¹³³ Adhering to these codes of conduct allows a certain sense of security that the work that comprised a product or service has not been coerced, and that the labor was not exploitative.¹³⁴

127. *Id.* at 911–12 (calling for a new set of regulations perhaps fueled by self-governing communities).

128. Miriam A. Cherry, *Working for (Virtually) Minimum Wage: Applying the Fair Labor Standards Act in Cyberspace*, 60 ALA. L. REV. 1077, 1078 (2009).

129. *Id.* at 1080.

130. *Id.* at 1077–78.

131. *Id.* at 1078.

132. *Id.* at 1082–83.

133. See SAMUEL ESTREICHER & MIRIAM A. CHERRY, GLOBAL ISSUES IN EMPLOYMENT LAW 22–30 (2008) (describing corporate codes of conduct and reproducing Levi Strauss's Code of Conduct). For example, many business entities have adopted codes of corporate social responsibility, or adhere to programs that certify that they comply with minimum labor standards in Third World countries. *Id.*

134. *Id.* at 23–24. Some of these corporate codes were adopted out of the hope of stemming bad publicity arising from poor labor practices or in the hopes of staving off such bad publicity. *Id.* But whatever the reasons for adoption, these efforts at private standard setting are positive developments.

B. Overregulation of Virtual World and Virtual Money

In the previous section, I noted that nation–state boundaries are somewhat problematic for regulating virtual work. With shifting standards according to the domicile of the worker, Third World workers might find themselves with few protections. At the same time, employers might not have the certainty of knowing what laws would potentially apply to govern their relationship with employees, and thus have a difficult time with compliance. While in the previous section I was concerned about *under-enforcement* of various employment laws, such as the minimum wage, health and safety codes, maximum hour laws, or child labor laws, the fact is that national regulation could also potentially lead to *over-enforcement*. If there is too much regulation, many of those experimenting with virtual work will not want to take a chance on the potential legal liability or uncertainty.

What exactly is over-regulation by national governments? The latest crackdown on virtual money in China, which took place over the summer of 2009,¹³⁵ is a good example. The regulation itself, which was only partially available in English, is reproduced herein as Appendix A.¹³⁶ According to one commentator, the regulations were “aimed at cracking down on the use of virtual currencies amid worries that a huge underground economy was developing out of the country’s online gaming community . . . [t]he new rules, issued jointly by the Ministry of Commerce and the Ministry of Culture in Beijing, could deal a sharp blow to the country’s fast-growing online game industry.”¹³⁷

In the wake of the regulation, some commentators have wondered whether the government crackdown would deal a serious loss to virtual economies and the Chinese gold farmers.¹³⁸ Previous versions of the law, apparently, had either imposed an income tax in trading virtual currency or had attempted to outlaw the practice entirely.¹³⁹ Like many laws in China, however, the question is not precisely what the law says, but in what manner it will be

135. David Barboza, *Beijing Limits Use of Virtual Currencies in Gaming Industry*, INT’L HERALD TRIB., July 1, 2009, at 13 [hereinafter Barboza, *Beijing Limits Virtual Currencies*]; David Barboza, *In China, New Limits on Virtual Currency*, N.Y. TIMES, July 1, 2009, at B4; David Barboza, *Power Game: Virtual Currency vs. Real Thing*, SAN JOSE MERCURY NEWS, July 6, 2009, at 5C (“Last year, nearly \$2 billion in virtual currency was traded in China, according to the China Internet Network Information Center. Some experts say that they believe there is a much larger underground economy in the virtual world.”).

136. See *infra* Appendix A.

137. Barboza, *Beijing Limits Virtual Currencies*, *supra* note 135.

138. Andy Ho, *Virtual Markets Need Real World Rules*, STRAITS TIMES, July 9, 2009; Barboza, *Beijing Limits Virtual Currencies*, *supra* note 135.

139. Ho, *supra* note 138.

enforced.¹⁴⁰ The previous laws on virtual currencies were not enforced.¹⁴¹ According to some interpretations, the recently passed law could also be capacious enough for gold farmers to operate within its strictures.¹⁴²

The fact that national governments might choose to regulate virtual worlds in a way that would constrict their development may also provide an impetus for an initial attempt at private ordering. To attract more capital and build economies, virtual worlds must be seen as stable. To be subject to the whims of any one national government—and possibly have a burgeoning market for both providers and consumers cut off—seems like a significant risk. There is currently a problem of both over-enforcement (such as the Chinese government ban) and under-enforcement (that leads to a lack of minimum guarantees for those who are working on these websites). What, if anything, can be done to restore equilibrium? As I mentioned in the previous section, I believe that some attempt at private ordering needs to take place to address both sides of this issue. Virtual worlds transcend the physical world with its geographical boundaries of power.

IV. CONCLUSION

As detailed throughout this Article, virtual work presents a seeming paradox. One side of the coin presents great potential for workers and employers alike, making work increasingly more efficient and enabling globalization and cooperation between workers on an unprecedented level. The other side of the coin is the specter of eroding labor rights and relentless races to the bottom. Although such issues are certainly present domestically, adding a global dimension only brings the problem into starker relief, given the inherent concern with labor value arbitrage.

Ultimately, virtual worlds present difficult global labor and employment law issues that have yet to be resolved, and this Article has discussed many of these concerns. Certain current trends, such as outsourcing, will inevitably accelerate, while others, such as the brain drain, may actually be reversed. As I have discussed, some system other than regulation by the domicile of the cyberworker would seem to be more logical, given the decreasing importance of national boundaries with work in cyberspace. It would be useful for employers who are interested in using virtual environments as well as the websites that provide these services to begin a dialogue for what such regulation might look like. Certainly such discussions and agreements could

140. Phyllis Xu & Ben Blanchard, *China's Anti-discrimination Laws Good, Need Enforcing*, REUTERS, May 14, 2007, <http://www.reuters.com/article/africaCrisis/idUSPEK295682>. For example, China has many seemingly stringent laws banning discrimination in the workplace, but these laws are rarely, if ever, enforced. *Id.*

141. Ho, *supra* note 138.

142. See Barboza, *Beijing Limits Virtual Currencies*, *supra* note 135.

then set the tone for any contemplated or proposed national government regulation.

APPENDIX A

THE NOTICE ON STRENGTHENING REGULATION OF VIRTUAL CURRENCY FOR
ONLINE GAMES¹⁴³

By Ministry of Culture and Ministry of Commerce
Ministry of Culture Decree No. 20 (2009)

With the rapid development of online games in recent years, virtual currency for Internet games has been widely applied in Internet gaming services. While virtual currency for online games promotes the development of Internet games industry, it also brings out new economic and social problems. These problems mainly include: lacking protection of users' rights and interests; lacking supervision of the market; numerous disputes caused in the course of application of virtual currency.

In order to standardize the market order of online game business, according to the Provisional Regulations on the Cultural Management of the Internet, the Notice on Strengthening Regulating Internet Bars and Online Games (Ministry of Culture Decree No. 10 (2007)) and the Notice on Standardizing Online Game Business and Banning the Use of Online Games for Gambling (Ministry of Public Security Decree No. 3 (2007)), we, in consultation with the People's Bank of China, stipulate as follows:

I. STRICTLY ENFORCE MARKET ACCESS RULES

(1) The term 'virtual currency' stipulated in this Notice refers to any virtual exchange tool which is (1) issued by internet games enterprises (2) purchased directly or indirectly by game users using legal tender at a certain exchange rate (3) independent of the game programs and stored in electromagnetic manner in the server provided by online games enterprises and (4) exhibited in numerical units. Virtual currency for online games is used for exchanging online game services of specified ranges and periods of time provided by currency issuing enterprises, in the forms of prepaid, rechargeable cards, prepaid amounts or points and etc., but not including game props acquired in the games.

(2) Cultural administrative departments shall enforce strictly market access rules; strengthen controlling qualifications of virtual currency issuing enterprises and virtual currency trading service providers. The enterprises, which engage in "internet game virtual currency issuing services" and "internet

143. The Notice on Strengthening Regulation of Virtual Currency for Online Games, Ministry of Culture and Ministry of Commerce, *available at* http://www.ccnt.gov.cn/xxfb/xwzx/whxw/200906/t20090626_71470.html (Translation by Professor Lou Wenyan, Ph.D., LL.M., Prof. of Law, Zhejiang Gongshang University).

game virtual currency trading services,” are subject to the State Council’s Decision on the Administrative Licensing Items which shall be Retained (State Council Decree No. 412) and Provisional Regulations on the Cultural Management of the Internet. Those that intend to provide the above two services must meet the qualifications of Internet cultural service operators, and submit applications to the cultural administrative department of the province where the applicant enterprises are located. The provincial cultural administrative department must conduct a preliminary review and then refer the application to the Ministry of Cultural for approval. “Internet game virtual currency issuing enterprise” refers to the internet game operating business that issues and provides virtual currency use services. “Internet game virtual currency trading services provider” refers to the business that provides platform services for the users to trade in internet game virtual currency. The same enterprise cannot operate these two businesses at the same time.

(3) In addition to submitting relevant materials required by law, the enterprise that applies for engaging in “internet game virtual currency issuing services,” must articulate in the business report the forms of virtual currency, distribution range, purchasing price per unit, the method of refunding at the time of termination of the services, the purchase method of the users (including cash, bank cards, and online payment and other purchasing methods), user protection measures, and technical security protection measures.

(4) The enterprise that engages in “internet game virtual currency trading services” shall be subject to the department of commerce’s provisions on e-commerce (platform) services. Besides submitting relevant materials required by law, such enterprises shall articulate in the business report the models of service (platform), the purchase methods of the users (including cash, bank cards, and online payment and other purchasing methods), the user protection measures, and technical security protection measures.

(5) Those enterprises that have already engaged in the virtual currency issuing or trading services shall apply for running relevant businesses to cultural administrative departments within three months from the date this Notice is issued. An overdue application shall be investigated and punished by departments of culture in light of the Provisional Regulations on the Cultural Management of the Internet. The approval document shall be copied to the Ministry of Commerce and the People’s Bank of China.

II. STANDARDIZE THE ISSUING AND TRADING CONDUCTS, PREVENT MARKET RISKS

(6) Internet game operating enterprises should issue internet game currency reasonably based on its operating status and products. They are prohibited from issuing virtual currency maliciously for the purpose of prepaid funds. Internet game operating enterprises shall submit quarterly reports of

total issuance of virtual currency to the cultural administrative department of the province where the enterprise is located.

(7) Except for using legal tender, Internet game operating enterprises shall not provide internet game virtual currency to the users in any other way. While issuing Internet game virtual currency, the internet game operating enterprise shall keep records of users' recharge for no less than 180 days from the date of users' recharge.

(8) The virtual currency, which is converted into real money at a certain exchange rate, will only be allowed to trade in virtual goods and services provided by its issuer, not real goods and services.

(9) The internet game operating enterprise shall take necessary measures and complaint handling procedures to protect the users' legal rights and interests, and explanations of the measures shall be made conspicuously at the website through which the enterprise provides the users with the services.

(10) When a dispute occurs in relation to the application of internet game virtual currency, the user shall show his/her personal identification document consistent with the registration information. After verifying the user's identity, the Internet game operating enterprise shall provide virtual currency recharge and transfer records and handle the case in accordance with the complaint procedures. If the user's legitimate rights and interests are violated, the internet game operating enterprise shall assist actively to investigate and coordinate the resolution of the dispute.

(11) The internet game operating enterprise that intends to terminate its products and services shall give 60 days' notice. As to the virtual currency that the users have purchased but not yet been used at the time of termination of the services, the enterprise must refund it to the users with legal/legitimate tender or other methods accepted by the users.

It shall be regarded as termination if the Internet game facilities have ceased to be accessible for 30 continuous days due to the operating enterprise's internal reasons such as wiring, technical, or other problems.

(12) The Internet game operating enterprise shall not change virtual currency purchasing price per unit; it should report to department of culture in accordance with Article III of the Notice when it issues new types of virtual currency.

(13) The Internet game operating enterprise that does not support virtual currency trading shall take technical measures to prevent the function of virtual currency transfer among the user accounts.

(14) While providing the internet game virtual currency trading facilities, the enterprise shall stipulate that the seller conducts real-name registration with valid identification and binds it to a bank account consistent with the information of the real-name registration. The trading facilities providing enterprise must keep users' transaction records and account records for no less than 180 days from the date of the transaction.

(15) The trading facilities providing enterprise shall establish the accountability system for illegal transactions and take technical measures to strictly verify the authenticity of the transaction information and ban illegal transactions. If it has the knowledge that the internet game virtual currency is illegally acquired or if the illegal acquiring report is verified, the enterprise shall delete the false transaction information and terminate the trading facilities in a timely manner.

(16) The trading facilities providing enterprise shall not provide transaction services to minors.

(17) The virtual currency issuing and trading facilities providing enterprise shall take active measures to protect personal information. It shall cooperate actively with the relevant departments and provide relevant records when these departments conduct investigation in accordance with law.

(18) The internet games operating enterprise that provides virtual currency transferring facilities among the users shall take measures to keep transfer records for no less than 180 days.

III. STRENGTHEN MARKET SUPERVISION, CRACK DOWN ON GAMBLING AND OTHER CRIMINAL ACTS USING VIRTUAL CURRENCY

(19) The local authorities shall comply with the Order on Standardizing the Operation of Internet Games and Banning Gamble Using Online Games (Ministry of Public Security decree No. 3 in 2007) promulgated by the Ministry of Public Security and Ministry of Culture and other departments, accord cooperation to the public security organs to rectify strictly the online games of gambling nature and crack down on illegal and criminal activities using online game virtual currency for gambling.

(20) Provided that the users invest cash or virtual currency directly, the online games operating enterprise shall not allocate game props or virtual currency by way of drawing lots, betting, and random lottery and others.

(21) The online game virtual currency issuing and trading facilities providing enterprise shall actively accord cooperation to administrative organs, and take technical measures to crack down on “stealing ID”, “non-official server” and “plug-ins.”

(22) The Ministry of Culture shall report to the People’s Band of China if it has verified the facts of providing online payment services through “non-official server” and “plug-in” websites.

IV. STRENGTHEN LAW ENFORCEMENT, AND PURIFY THE MARKET ENVIRONMENT

(23) As to the enterprise that engages in online game virtual currency issuing and trading facilities providing without due license, the cultural administrative department at the provincial level or above shall conduct

investigation thereof and accord punishment to according to the Provisional Regulations on Cultural Management of the Internet.

(24) As to the online game virtual currency issuing and trading facilities providing enterprise that violates the stipulations of this Notice, the department of culture and department of commerce shall inform it of a deadline for rectification. The relevant organs shall investigate and deal with the overdue rectification according to the law.

(25) The coordination mechanism for regulating online game virtual currency shall be established to crack down on “stealing ID”, “non-official server”, “plug-in”, “illegal profiteering” and money laundering and other illegal activities. The departments concerned shall communicate periodically with relevant information, coordinate actively, and fulfill their responsibilities respectively within their authorities regarding virtual currency regulation.

(26) The online game virtual currency issued by online games operating enterprise shall not overlap with game props. The regulations on game props will be promulgated separately by the Ministry of Culture in conjunction with other relevant organs.

Cc: General Office of the State Council, Ministry of Public Security, Ministry of Industry and Information, People’s Bank of China, and General Administration of Press and Publication.

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