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THE FORMAT WARS

I. The Phantom Menace for Consumers

High Definition Television (HDTV) was first demonstrated to the public in 1969 and made commercially available in the mid-1990s.[1] However, upon being made commercially available, HDTV created a problem for consumers who wished to record and watch movies. In 1998, more than 90% of households in the United States had a videocassette recorder (VCR).[2] At the time, most of those VCRs recorded in an analog format, rather than in a digital format.[3] Analog media formats have lower image and sound qualities than digital media formats.[4] While consumers would be able to watch videocassettes on their HDTVs, they would not be utilizing the high definition technology to its fullest. A digital media format needed to come into the marketplace that could cheaply and effectively record and play high definition programming. However, instead of one format establishing itself, two formats have fought to become the next established standard. This article will examine how these formats have developed and progressed, the legal problems that have arisen out of the conflict between these two formats, and what this conflict might mean for consumers.

II. Attack of the Clones: HD DVD and Blu-ray

The first media format to come to the forefront was Blu-ray. Announced in 1999, Sony and Philips introduced DVR-blue,

which boasted large data capacity and high data read/write rates, thereby satisfying the requirements for a format that could effectively record and play back high definition programs.[5] The system got the name from its use of a blue laser, which operated on a shorter wavelength than red lasers used for digital video discs (DVDs), allowing for these features.[6] In February 2002, DVR-blue was re-christened Blu-ray, with nine of the world's largest electronics companies throwing their support behind the new format.[7]

Notably absent from these companies was Toshiba.[8] The reason for their absence was that they were also working on their own high definition format at the time. Toshiba and NEC unveiled this new format in August 2002.[9] Both companies claimed this new format would have a larger storage capacity than Blu-ray and would also benefit disc manufacturers since they could simply modify existing equipment to make the new format, rather than replace the equipment altogether.[10] Like the Blu-ray, it would utilize blue lasers to facilitate increased storage capacity as well as effectively reading and writing high definition programming.[11]

Supporters of these two technologies began to make their cases to the DVD Forum, which was an industry group that was responsible for choosing which format would become the next official DVD format.[12] Competition was incredibly heated among both sides. Eventually, the DVD Forum settled on the Toshiba and NEC HD DVD model over the Blu-ray

model.[13] Shortly thereafter, in 2004, the US Department of Justice launched a preliminary inquiry to investigate claims that the Blu-ray Disc Founders, a group consisting of electronics vendors such as Sony and Philips, had attempted to impede progress of the DVD Forum and development of the HD DVD.[14] The next two years saw negotiations and compromises between the two sides to unify the DVD standard and settle on a single format, but in the end, those negotiations fell apart.[15]

III. Revenge of the Video Game Nerds

The two companies moved their rivalry from the negotiating table out to the marketplace shortly after these negotiations fell apart. Needless to say, this rivalry has become incredibly heated. Moreover, unlike previous format wars, such as the conflict between Betamax and VHS, this particular format war is not just relegated to the recording and playing of movies. Video games play just as prominent of a role in this conflict.

Sony, one of the primary proponents of Blu-ray, unveiled details about its Playstation 3 (PS3) in 2006, revealing that the PS3 would utilize the Blu-ray technology to act both as a video game console as well as a Blu-ray movie player.[16] At the time of its unveiling, analysts noted the gamble Sony was taking, as the PS3 would be priced considerably lower than standalone Blu-ray players, but would cost more than competing video game systems, such as Microsoft's Xbox 360.[17]

Sony's PS3 is competing in the video game console market against both the Xbox 360 and the Nintendo Wii, neither of which utilize the HD DVD format. Since its introduction a little over a year ago, sales of the PS3 have fluctuated wildly. Between January and April of 2007, the PS3 sold approximately 583,000 units, compared to 850,000 Xbox 360 units and 1,390,000 units of the Wii.[18] However, ever since Sony announced price cuts to its original PS3 model and introduced a new PS3 model with 40 gigabytes more memory than the original model,[19] Sony claimed its U.S. sales of the PS3 more than doubled.[20] While the PS3 has a long way to go before it catches up with the other two systems in terms of overall sales figures, Blu-ray supporters can breathe a temporary sigh of relief that Blu-ray's main platform appears to be making a recovery from its disastrous start.

IV. Exclusivity: A New Hope

This rivalry has become incredibly heated ever since both formats announced their respective formats. First and foremost, both sides have taken incredible measures to secure the support of various movie studios, technology companies, and retailers. One of the most important tools in the legal arsenal of these two sides is the ability to get sides to exclusively commit to their side of the fray.

Many movie and technology companies have gone in different directions thus far. In August 2007, Paramount and DreamWorks Animation pledged their exclusive worldwide support of the HD DVD

format.[21] Along with a number of other movie studios, technology giants Microsoft and Intel both back the HD DVD,[22] with rumors continuing to swirl about whether or not Microsoft will integrate HD DVD drives into forthcoming models of the Xbox 360.[23] On the other side of the fence, supporters of Blu-ray include movie studios such as Disney and Twentieth Century Fox, along with notable technology companies Dell and Apple.[24] Currently, supporters of both formats are attempting to sway movie studio giant Warner into an exclusive contract.[25]

Retailers have also felt the effects of this conflict. Most notably, Kmart and Target have both been in the news because of their dealings with both sides. In July 2007, news came out that Target would no longer sell HD DVDs and would instead only sell Blu-rays.[26] Shortly after the news broke, Target issued a clarification, stating that Sony had merely purchased an end cap with Target retailers, featuring Blu-ray titles at the end of aisles, rather than reached an exclusivity agreement.[27]

At the end of October 2007, a report circulated that Kmart would not be selling Blu-ray players this holiday season due to the high prices of the players and would instead sell HD DVDs exclusively.[28] However, a few days later, Kmart claimed the reports were erroneous, stating they would still sell Blu-ray players.[29] At the time this article was written, Kmart's website sells a Toshiba standalone HD DVD player and an HD DVD player for the Xbox 360. However, while the website sells PS3s, no standalone Blu-ray players are offered.

V. The European Commission Strikes Back

Both sides attempting to garner exclusive support from movie studios has not gone unnoticed over in Europe. Fresh off their victory over Microsoft, the European Commission launched an investigation into numerous movie and technology companies, including Sony and Toshiba, over whether they were acting anti-competitively in locking up other companies into these exclusive contracts.[30] Requesting records and data regarding the decisions these companies have made regarding these companies' dealings regarding these two formats along with questionnaires regarding actions these companies have taken.[31] Given the enormous amount of data and records likely to be handed over, it may be awhile before investigators come to any conclusion, although the potential fines that might be handed out could put a major dent in the pocketbooks of movie studios and technology companies.[32]

VI. Return of the Outdated Format to the Local Retailer

The European Commission investigation highlights a serious problem looming for consumers as well as for manufacturers of these high definition formats in this format war. While consumers may benefit from both sides attempting to gain favor by cutting their prices, these exclusive contracts could create some really difficult situations for consumers. Because of these exclusivity contracts, consumers who wish to watch their favorite movies may have to spend hundreds of dollars to buy players for both formats. While the current situation may be a stalemate between both sides, according to Sony Corp.'s head,[33] one format is bound to win out in the end. After spending hundreds of

dollars on both sides, numerous consumers will eventually have one player that plays the established high definition format with new movies released on it and another player that will have no new releases. Considering computer manufacturers have hitched their wagons to either side, plenty of consumers who bought new computers with an optical drive exclusive to the losing format will find they will be unable to install and utilize new software.

Moreover, exclusive contracts are an enormous gamble for those who utilize the high definition formats. While Sony, Toshiba, and other companies have already sunk countless amounts of money into researching, developing, manufacturing, and marketing their products, movie studios and technology companies who put their products on those formats take an enormous risk by signing an exclusive contract. Assuming a movie studio sides with the losing format, that studio will now have to go back to the format it originally spurned. That movie studio will have to re-release all of its movies onto that format. The studio will also have to break off or renegotiate a number of contracts with the companies responsible for putting their movies onto the high definition format. While the movie company may benefit if its gamble pays off, the long term costs could really hurt the companies. This will not reward movie companies who put out superior products. It will only reward movie companies who either have an incredible grasp on the market for high definition formats or who make lucky guesses.

Finally, exclusivity is not good from a technological standpoint. In short, exclusivity will not reward the

company which has the superior product, but will instead reward the company which is better at negotiating these contracts with movie studios and other companies. If one side locked up most of the major movie studios, it would be the death knell for the other format, no matter how advanced it is and how effectively it utilizes HDTV technology. Depending on the length and breadth of these contracts, they could be remarkable barriers to entry for any technology companies who wish to introduce their own high definition format.

In short, these exclusive practices are anti-competitive and could seriously harm consumers. Granted, these agreements might be beneficial to the businesses who enter into these agreements due to the amount of money they receive in exchange and also if the businesses side with the winning format. However, the potential long-term ramifications could seriously harm consumers, other businesses, and even the businesses entering into these contracts. The wisest choice any consumer can do at this point is wait until a clear winner comes forward. Anyone wishing to enter the fray should do their research and be prepared to pay the price if they choose poorly.

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FOLLOWING THE LEEDER: WHAT ATTORNEYS SHOULD KNOW ABOUT GREEN BUILDING

Green building is gaining momentum as a construction trend with widespread benefits, from environmental efficiency and resource conservation to human health and lifestyle improvement. Several government entities have reacted to the green building movement, creating national and local standards and monetary incentives for developers to create green buildings. In representing developers and others associated with green building, attorneys should consider how to contractually plan for risks that may not otherwise arise in ordinary development projects.

I. What is “Green Building”?

Green buildings are “designed, built, operated, renovated, and disposed of using ecological principles for the purpose of promoting occupant health and resource efficiency plus minimizing the impacts of the built environment on the natural environment.”[1] The costs of green building as compared to ordinary construction are debatable. One 2001 study found that green buildings cost “ten to fifteen percent more” than conventional buildings.[2] To the contrary, a 2003 study found that green buildings incorporate less than a two percent premium on conventional buildings.[3] Despite the costs, many developers think that green buildings enhance the occupant’s health and quality of life.[4] Studies show that a building’s environment influences the productivity and performance of the building occupants and that connecting building occupants with the environment “reduces worker stress and improves overall psychological and emotional functioning.”[5] It is predicted that eventually not only developers, but

consumers themselves, will desire to live and work in green buildings because of such “health and lifestyle benefits.”[6]

II. Government Initiatives

The momentum gained by the green building movement has not gone unnoticed by government entities, who have stepped to the forefront in promoting workable ways to construct green buildings. The United States Green Building Council (“USGBC”) has created a Leadership in Energy and Environmental Design (“LEED”) Green Building Rating System.[7] The LEED system “evaluates the design, construction, and operation of newly constructed or renovated buildings.”[8] Additionally, it provides a “voluntary national standard” for green building.[9] Following the initiative demonstrated by the USGBC, many states and cities have created their own standards and incentives for green building.

For example, the City of Chicago has established a Green Permit Program through the Department of Construction and Permits (“DCAP”).[10] Application into the Green Permit Program requires meeting a series of green building certification requirements.[11] For example, commercial projects must meet appropriate LEED certification levels, and residential projects “must meet or exceed EnergyStar requirements developed by the U.S. Environmental Protection Agency.”[12] Additionally, green projects must incorporate certain DCAP “menu items,” such as a green roof, renewable energy, or extra affordability.[13]

In addition to the environmental benefits, the Green Permit Program offers several incentives to developers.[14] First, the Green Permit Program offers a shorter permit application and review process.[15] Projects accepted into the Green Permit Program may receive permits “in as little as 15 business days.”[16] Comparatively, ordinary permits issue in about four

months.[17] Second, developers of green projects can expect “cross-departmental coordination” among city departments responsible for reviewing the projects.[18] Third, developers may receive fee waivers for services from green permit experts.[19] For developers that are motivated by saving time and money, the quick issuance of a green permit and the savings from consulting green permit experts provide incentives to create green projects. The costs savings of time and money may negate some of the purported premiums on green building, making it easier to rationalize costs of the bottom line against the added environmental and health benefits.

III. Attorney Concerns

One recent article lists several risks an attorney should consider in representing parties to green building projects.[20] These risks include, among others, defining who is responsible for the green building process, ensuring adequate insurance coverage, and checking that green building techniques do not interfere with product warranties or intellectual property rights.[21] In general, it seems that attorneys must ensure that contracts adequately and accurately document the obligations and responsibilities related to the green building process.

In addition, attorneys must think about how novel issues raised by the green building process relate to an attorney’s traditional role in real estate development projects. For one, an attorney should consider how green building projects relate to one’s ethical responsibilities as a lawyer. For example, the Model Rules of Professional Conduct require that an attorney consult with the client about the means to achieve the client’s objectives. It is therefore important that an attorney working with a developer discuss the green technologies and processes involved in the green building development so that an attorney can provide adequate representation. Additionally, the Model Rules require an attorney to act with

competence, or to act with the legal knowledge, skill, thoroughness and preparation reasonably necessary for representation. Thus, an attorney should become familiar with the green building standards, permits, and processes in preparation for the representation.

Another concern relates to representing a financial institution lending a construction loan for a green building project. Conceivably, the lender will want to document how the green building construction processes and certifications relate to draw-downs on the construction loan. The parties should discuss the green building process in detail, including what materials are to be used and when green certifications are to be obtained and by whom, to clearly and contractually establish guidelines for the lender to supervise how the green building process correlates to the money drawn-down to finance the project.

Ultimately the green building trend is bound to continue as it gains favor from developers and consumers alike. In serving this trend, so long as developers and attorneys pay close attention to the unique concerns raised by green building projects, green buildings will provide positive benefits for all.

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HOMEOWNERS' ASSOCIATIONS & THEIR LIMITATIONS ON FREE SPEECH

I. Introduction

Free speech is a right guaranteed by the First Amendment, but is it possible to give up this right if you move into a neighborhood governed by a homeowners' association? The New Jersey Supreme Court had to decide this issue when a group of residents subject to the rules of their homeowners' association were restricted from posting signs on their lawns or the common areas of the community. [1] Although the ruling is limited to application in New Jersey, homeowners' associations everywhere were watching the case closely to see whether it would have an impact on how their state dealt with such constitutional challenges to their rules and regulations. [2] This article will explore the outcome of the New Jersey case as well as its implications on homeowners' associations elsewhere.

II. The New Jersey Supreme Court Ruling

In New Jersey, the Twin Rivers Homeowners' Association was sued over the rules it imposed on its residents restricting the posting of signs (including political signs) on residential property and the allegedly unequal access to voicing concerns via the Association's monthly newspaper. [3] These rules were challenged as being unconstitutional restrictions on the residents' rights to free speech. [4] The unhappy residents of the Twin Rivers Homeowners' Association (named in the case as the Committee for a Better Twin Rivers) based their

argument on the fact that the Association had "effectively replaced the role of the municipality in the lives of its residents," and as a result, the rules governing the Association should be subjected to the New Jersey Constitution's free speech and free association clauses. [5] The New Jersey Supreme Court upheld the trial court's finding that although the Twin Rivers Homeowners' Association "asserted considerable influence on the lives of the [development] residents," much of the impact "was a function of the contractual relationship that the residents entered into when they elected to purchase property" in the Twin Rivers development. [6] The Court recognized that the guarantees of free speech could be waived, which was the case here when the residents signed the contract to abide by the Association's regulations. [7]

Ronald L. Perl, president of Community Associations Institute, was pleased with the result and in a press release declared that the "decision clearly defines associations as businesses and respects the private, contractual agreements among homeowners who share the same expectations of home ownership." [8]

III. How *Twin Rivers* Will Affect Other States

It is important to note that the New Jersey Supreme Court acknowledged that the New Jersey Constitution's "free speech provision is broader than practically all others in the nation." [9] The majority of jurisdictions require some state action "before the free speech and assembly clauses under [the] constitution may be invoked." [10] Thus, the implication here is that if New Jersey failed to acknowledge that homeowners' associations act as a municipality when they enact rules to govern their communities, it is unlikely that a state with a higher bar for free speech violations will conclude that a homeowners' association is acting as a municipality for the purpose of determining whether a state action has taken place. This seems to align with the opinions of real estate news commentators as

well, unless a homeowners' association takes on such a form where the services they provide are undeniably similar to that of a municipality. [11] However, as noted in the *Twin Rivers* case, the services provided for by a municipality like schools, courts, and police and fire departments, are unlikely to ever be provided by a homeowners' association in such a way as to trigger the state action element. [12]

This case is also viewed as a demonstration that the courts "are not going to intervene and overturn reasonable rules that govern those who have contractually committed to follow them." [13] Despite free speech protections, courts are unlikely to find a basis to protect free speech when homeowners' association rules are "clear and consistently applied." [14] Connecticut real estate attorney Gurdon Buck stated it plainly, "The rights of free speech can be limited by private contract." [15]

As noted in the *Twin Rivers* opinion, the residents had the option to purchase homes elsewhere, but chose to subject themselves to the regulations of the Twin Rivers Association in exchange for owning property in that development. With that kind of choice available, it is unlikely that courts will conclude differently than the New Jersey Supreme Court, because the homeowner effectively waives his rights when he signs that contract. There was nothing in the opinion to suggest that the residents were not aware of the rules prior to closing or that the Association was favoring certain parties with respect to its adoption or application of these rules, and because of this, the homeowners were out of luck when they attempted to challenge the rules that they voluntarily accepted when they purchased homes in Twin Rivers. Unless homeowners' association members can make a showing that they did not get what they bargained for or that the association is unfairly imposing rules amongst its members, it is unlikely that they will prevail in free speech challenges to their association rules and regulations.

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GOOGLE’S BOOK SEARCH LIBRARY PROJECT FACES COPYRIGHT CHALLENGES

I. Introduction

Google’s stated mission is “to organize the world’s information and make it universally accessible and useful.” [1] As part of that mission, the Google Book Search Library Project is scanning and organizing printed books from dozens of libraries. By digitizing these books and making them available online, the Google Book Project will potentially benefit academic research around the world by increasing accessibility to rare and remote volumes. Google plans to make its entire digital library searchable as part of its primary search engine, reaping profits from its current advertisement structure. However, the Project has drawn opposition from some publishers, librarians and academics for a variety of reasons, including threats to copyright, scan quality and search biases.

II. Background

In late 2004, Google announced an extension of its Google Print program, which assisted publishers in “making books and other offline information searchable online.” [2] Through its Print program, Google softened the copyright ground by getting publishers use to the idea of making copyrighted material available online and searchable. On December 14, Google announced its partnership with five major library systems: Harvard, Stanford, the University of Michigan, the University of Oxford, and The New York Public Library. [3] These libraries opened their enormous stacks to Google, making their collections available for

scanning. Google paid the full costs of the scanning process, and even agreed to pay for any potential litigation relating to the project.

Despite threats of legal action from various trade groups, several more libraries joined Google's ranks in the following three years. In August 2006, the University of California system signed onto the Google Book Project. [4] On October 12, 2006, the University of Wisconsin–Madison became the 8th library to join, following Madrid's Complutense University, the largest university library in Spain. [5] In late January 2007, the University of Texas at Austin joined, granting access to several noted collections concentrating on Latin America. [6] In March 2007, the Bavarian State Library joined the project, opening access to “more than a million public-domain books,” including “out-of-copyright works in French, Spanish, Latin, Italian and English.” [7] Google continued adding foreign libraries during 2007, from The Boekentoren Library of Ghent University to Keio University in Japan. [8] Google also continued adding major institutional libraries throughout the US, including the Cornell University Library [9] and the Committee on Institutional Cooperation, a consortium of 12 research universities. [10] Google will undoubtedly seek additional partners, especially those libraries with rare or unique collections. However, some libraries are not so eager to jump on Google's bandwagon.

Google faces competition from several entities who have initiated their own competing scan services. Microsoft is the biggest name among Google's scanning-competitors, with equally deep pockets to finance the scanning process and combat litigation. [11] Although Microsoft's project still trails Google in press coverage and alliances, it is beginning to build its own stable of alliances. In the fall of 2007, Yale University agreed to allow Microsoft to scan “thousands of books from its library system.” [12] But the most notable competition comes

from the Open Content Alliance (OCA), which fears the concentration of digital materials in the hands of a single company. [13]

The OCA currently boasts about 60 members, including Microsoft, Yahoo, and libraries, universities. [14] A recent addition was the Boston Library Consortium, a group of 19 research and academic libraries in New England, including the Massachusetts Institute of Technology, Brown University, the University of Connecticut and the University of Massachusetts. [15] Unlike Google, which requires authors and publishers to opt out of the program after scanning is complete, the OCA will not scan books without the permission of the author. [16] Google's opt-out system is a major source of friction with the publishers and authors who filed suit against Google. OCA will also allow any search engine to catalog and search its database, unlike Google and Microsoft, who prevent its books from being indexed by competing search engines. [17]

It costs the OCA "as much as \$30 to scan each book," a factor that pushed many libraries and institutions into their alliances with Google and Microsoft. [18] Google currently scans approximately 3,000 books per day, roughly 1 million books annually. [19] Current cost estimates for Google's project are roughly \$100 million, with the full cost paid by Google. Without a similar corporate or charitable benefactor, the OCA faces significant hurdles in scanning as many books as quickly as Google can. However, Google faces several challenges in spite of its advantages in funding and technology.

III. Challenges

Because of the size and scope of Google's project, it has become the focal point for various challenges to book digitization. In May 2005, the Association of

American University Presses, a 125-member nonprofit organization of scholarly publishers, sent a six-page letter to Google detailing their concerns over the Book Project. [20] In September 2005, the Authors Guild filed suit against Google for “massive” copyright infringement. [21] The Authors Guild “represents more than 8,000 authors and is the largest society of published writers in the United States.” [22] In October 2006, the French publishers union Le Syndicat National de l’Edition “joined book publisher Le Martiniere Groupe in its copyright suit against Google.” [23]

In these lawsuits, publishers and authors raised various copyright concerns. First, copyright owners are unhappy with Google’s opt-out system for the Library Search. In contrast, there are no complaints regarding Google Print, a system where publishers opt-in, since participants consent to Google’s use. More significantly, Google may be violating the copyright owner’s right to make copies and control distribution, since Google makes a digital copy for itself while also providing the source libraries with their own copy. [24] The two sides disagree as to whether this constitutes fair use. [25] To address copyright concerns, Google’s search function only allows access to the full text if the volume is already out of copyright. For volumes still protected by copyright, Google’s search only displays a small selection of the full text, similar to an image thumbnail. Hence, Google relies on *Kelly v. Arriba Soft Corporation*, claiming that this setup constitutes fair use. Several lawsuits against Google are currently being litigated on these copyright issues.

IV. Analysis

Copyright owners claim that Google’s digitization has violated their right to reproduce and distribute. Google is vulnerable to this charge because it gives the

originating library a copy of all books digitized from that library's collection, in addition to storing digital copies on its own servers. Google believes that by offering only a snippet of copyrighted works and by barring access to the full text, it is protected as fair use. Indeed, most search engines use similar tactics when displaying search results for texts, images and news stories. Courts have repeatedly sided with the search engines, since a contrary ruling would effectively destroy the Internet by hamstringing a search engine's ability to function.

Google already makes copies of the entire Internet on its servers, cataloging and indexing the information for its search engine. Few, if any, have challenged Google's right to make these copies. Like publishers, webmasters desire the widest possible audience, and recognize Google's utility in reaching that goal. However, webmasters willingly make their content available on the Internet, granting Google an "implied license" to index their content. [26] Publishers have not made their content available online in a similar manner. Unlike most webmasters, publishers fear that Google will siphon off sales rather than increase them. In that respect, the publishers are similar to newspapers and wire services, some of whom have brought suit against Google News.

Google News has drawn lawsuits from a variety of news agencies and wire services, primarily in Europe. [27] A Belgian court ruled against Google's use of snippets and thumbnails. [28] But even as Google is mired in litigation, they are working on contracts with various news agencies to include their content in Google News. [29] Most news agencies recognize that exclusion from aggregation services such as Google's will only harm them, since Google News will still index hundreds of other agencies eager and willing to have search traffic driven to their sites. Similarly, Google may be looking to contract with publishers, even as litigation continues.

V. Conclusion

The Google Library Project represents a potential boon to scholars and researchers around the world. A completed database will make accessible millions of rare and hard to find volumes in the remote great libraries of the world. Despite concerns that Google will effectively gain control of out-of-copyright public domain materials, the Book Project is more likely to enhance access to these materials. Public domain materials that were easily accessed before the Book Project will likely continue to be easily accessible through the same sources. The windfall comes from previously inaccessible public domain materials, which will become widely available after scanning and indexing. The Book Project will also improve access to out of print editions from publishers, potentially generating sales revenue for publishers.

While litigation mounts in opposition to Google's digitization project, it likely will not have a long-term impact. The successful digitization and cataloging of the world's libraries would no doubt increase traffic to Google's search engine. The lack of digitized books in Google's index would only be financially damaging if a competing search engine gained access to those works through exclusive contracts with copyright owners.

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- [17] *Id.*
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SONIC BOOM OR BUST: FRANCHISE RELOCATION IN THE NBA

I. Introduction

The emergence of today's state-of-the-art basketball arena has National Basketball Association ("NBA") team owners holding cities hostage. Team owners seek public funding for these stadiums, and if the city refuses to provide the funding, there are always smaller markets without professional franchises willing to pony up. [1] The most recent example involves the Seattle Supersonics. The Sonics have called Seattle home for forty years. [2] Their future in the Emerald City appears bleak as the current owner, Oklahoma City businessman Clay Bennett, plans to relocate the team to Oklahoma City unless a deal to construct a new arena is agreed upon. [3] The City of Seattle, reluctant to provide funding for a new arena, has sought to keep Bennett from relocating. [4]

II. Legal Issue

The Sonics are currently under a commercial lease with Key Arena through the 2009-2010 season. [5] Rather than stay through the lease, Bennett is attempting to breach the lease and enter into arbitration to pay off the remainder of the term and move to Oklahoma City. [6] The city is seeking to force the Sonics to play out the remainder of the lease. [7] The City of Seattle brought suit against Bennett in an effort to keep the dispute out of arbitration. [8] The case was removed to federal court

by Sonics ownership in an effort to keep a potentially partisan judge from ruling against the move. [9]

Perhaps the ownership's decision to remove to federal court was based primarily on *Metropolitan Sports Facilities Commission v. Minnesota Twins Partnership*, 638 N.W. 2d 214 (Minn. App. 2002), where a seemingly biased judge ruled against Twins ownership which sought to relocate the team. [10] In *Metropolitan Sports Facilities*, the Twins were forced to honor the lease. [11] The court focused on "positive externalities" and stated that if the Twins relocated before the lease commenced, the harm could not be repaired. [12] However, there was nothing to prevent the team from moving the following year. [13] By removing to federal court, Bennett will likely avoid a decision like the one handed down in *Metropolitan Sports Facilities Commission* by avoiding a partial judge.

Judge Ricardo Martinez ordered a stay of arbitration, finding that Article II of the lease is excluded from arbitration. [14] The city has won a minor victory, and is hoping that a judge will force the Sonics to complete their lease, similar to what occurred with the Twins franchise. Sonics ownership is willing to pay the lease in its entirety if they can leave town and begin play in Oklahoma City by the 2008-2009 season. [15]

III. League-Wide Implications

Should

Bennett succeed in moving the team, this may set the wheels in motion for other franchises to relocate to cities willing to provide public funding. Team owners can attempt to hold cities hostage by threatening relocation. The threat may appear more credible should the Sonics be successful. [16] With relocations from Charlotte to New Orleans and potentially Seattle to Oklahoma City, the

threat of relocation will have teeth. [17] The implications behind an owner's threats may handcuff a city into providing more public funding or losing a city to a smaller market that is starved for a professional team. [18] There have been rumblings that ownership in Orlando and Sacramento are considering a move. If Bennett and the Sonics are successful in abandoning their lease of Key Arena, the cities of Sacramento and Orlando could follow this example to begin a domino effect which would significantly alter the landscape of the NBA.

IV. Conclusion

This entire issue could have been resolved without litigation if the Sonics were willing to provide more than 20% of the financing for a new arena. Bennett has offered to provide \$100 million of the estimated \$500 million required to build a state-of-the-art arena, requiring the public to come up with the remaining \$400 million. [19] There is nothing stopping an owner from making a subpar offer, knowing that the city will not come up with the additional funding, and moving the team to a city that will provide a huge chunk of the financing for a stadium. The decision in the aforementioned litigation may go a long way to determine whether or not owners can pick up and move a franchise for seemingly greener pastures, leaving loyal fan bases in the dust.

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IPO OF CHINA CONSTRUCTION BANK

The Initial Public Offering (“IPO”) of Industrial and Commercial Bank of China (“ICBC”) set the record for the amount of money raised among all IPOs ever made over the world. The IPO of ICBC was actually one of the steps the Chinese government had taken to privatize (or at least partially privatize) its four major commercial banks: ICBC, China Construction Bank (“CCB”), Bank of China (“BoC”) and Agriculture Bank of China. CCB and BoC already performed IPOs during the last two years and the IPO of Agricultural Bank of China (“ABC”) is scheduled at 2008. ICBC, established in 1984 when China began its capitalist turn, boasted \$724 billion in deposits, 355,000 employees and 18,038 branches, more than three times as many as Bank of America, the USA's largest bank.” In this article, we focus on the listing choices of CCB, as it was the first of the four big banks to have listed itself on public stock exchanges.

There are basically three choices for Chinese companies when they want to list themselves in public exchange: domestic (Shanghai or Shengzheng), Hong Kong and New York. European stock exchanges (like London or Frankfurt) are seldom considered because most European investment is not familiar with Chinese companies and thus reluctant to invest. The above three exchanges all have its own advantages and disadvantages. New York Stock Exchange is known for its capability to raise large amount of funds, but US has the most restrictive security regulations, which made it difficult for most Chinese companies. Chinese domestic stock exchanges have more relaxed requirements but the stock market in Mainland China is very immature and the volatility is high. Therefore most large Chinese companies, when facing the need to raise overseas funds, usually would select Hong Kong as its best

place to do IPO, as it has not only the advantage of a mature market, overseas fund raising capability but a less restrictive regulation as well. There was a rumor that CCB previously planned to list itself on NYSE but later decided to turn to Hong Kong due to legal problems. However, CCB once issued an official statement denying this and said it prepare to apply to be listed in Hong Kong Stock Exchange at the first place.

The IPO in Hong Kong was quite successful. CCB (whose share was listed as 0939.HK) initiated 26,485,944,000 H shares at the price of 2.35 Hong Kong Dollar (HKD), which constituted about 14% of all its capital. The total raised capital was about 8 billion US dollars, of which 0.6 billion are sold to retail investors. Strategic investors including BoA and Temasek bought about 1.5 billion in total and other international institutional investors had shared the rest 5.9 billion. One thing to note is that the subscriptions before IPO exceeds 80 billion, which made CCB's initial shares ten times over-subscribed for institutional investors. For retail portion "market sources have said the IPO's retail portion was more than 42 times over-subscribed, less than the 50 to 60 times level earlier estimated by Hong Kong brokerages." [1]

The IPO process at that time was one of the world's largest in terms of the capital it had raised. The results turned out be quite good considering that fact that the Chinese banking law has required that shares of all foreign investors in a Chinese bank be lower than 25% in total and shares of any single foreign investor be kept below 20%. This is why only 14% of the total CCB shares were sold for IPO. If CCB had offered more initial shares, it would have been very certain that they could raise much more capital than they did. At this point it is not clear whether this regulation could be an obstacle in the future for Chinese banking industry's privatization process. However, CCB's IPO performed at Oct 2005 was quite successful considering the demand for IPO

shares and its final results. Most analysts keep a modest optimistic tone on CCB shares. The later BoC and ICBC IPO both turned out to be successful and were welcomed by the market.

Bringing Bank of America and Temasek into the partnership with CCB was one important step towards privatization. As Chinese government's goal in this privatization process is to eliminate the government's influence from the bank and let it operate by itself. Experienced commercial banks like Bank of America was certainly a good choice and BoA actually get two positions in CCB's board. CCB even built a western style café in the Beijing headquarter building as Bank of America actually sent about 50 people to work in Beijing. It is clear that CCB do need the experience and expertise from Bank of America. In Oct 2006, CCB spend 9.71 billion dollars to fully (100%) acquire Bank of American Asia, which is another important step to make CCB and BoA closer in their cooperation. The deal gives CCB "much-needed cash and a measure of respectability as it prepares for major changes in China's competitive environment"[2].

At the other side, the deal "gives BoA a toehold to access the numerous branches, the large deposit market and the emerging but rapidly growing credit card business."[3]. Clearly partnering with CCB is a good chance for BoA to enter into the Chinese market. By agreeing to increase their shares of CCB to 19.9% in the future, BoA actually tries its best to maximize its existence in China. The market in China's banking sector is certainly very alluring. There are huge amount of residential deposits, growing demand for credit card business and a thirst for small amount loans in rural areas. All these factors would bring to Bank of America large profits in the foreseeable future if it can operate in the Chinese market. As the deadline of Chinese admission of foreign market is approaching, it is really a good opportunity to start cooperating with one of the four big players now.

CCB also had talks with Citibank before the IPO and somehow no agreements had been made. There were rumors saying that Citibank didn't wanted to make a commitment to further purchase shares during CCB's IPO and this was the major reason that drove CCB to Temasek.

Cooperation with Temasek was a totally different story. Temasek Holdings is an investment company fully owned by Singapore government (Ministry of Finance) and is Singapore's largest company with more than 90 billion dollars assets. They hold approximate 47% percent of all shares being traded in Singapore's stock market. Besides investment in Chinese banks, Temesak is also very interested in Asian markets and have been holding shares in Malaysia, India, Australia, Taiwan etc., mostly in large state-operated enterprises like banking, telecom industries. As the CEO of Temasek Ho Ching puts it at November 15, 2006, "Temasek's decision to start investing directly in Asia four to five years ago was taken after seeing the emergence of similar market reforms and changes in the region that had made its investments in Singapore so successful, the head of the Singapore investment company said yesterday." [4] On areas of their particular interest, Ho commented, "We look for sectors like infrastructure, transport & logistics, banking, services and financials because these are broad-based reflections of the economic opportunities. A second theme is to focus on services, products or companies that serve the middle class. This includes consumer banking and telecommunications." [5]

It is difficult to see why CCB particularly favored Temasek as its partner. One of the most likely reasons might be that Temasek is a state-owned company with very efficient management, which the Chinese government is eager to achieve. Although Temasek is 100% owned by the Singapore government, it has been one of the most successful investment companies in Asia and most of its operations are based on real market situations without any interference

from the government. This mechanism is certainly what the Chinese government would like to learn from.

The privatization of banking industry in China is really a new and immature process compared with those in other countries. The prospect is still kind of unclear and risky. The real limitation comes from the fact that the privatization is carried out under a political system, which is far from a capitalism country. Whether the effort of privatization of China will be successful can't be seen in the next 10 or 20 years. As some of the analysts have put it, "while we agree that much progress has been made, we are skeptical that the existing reforms are likely to be sufficient to ensure that the result will be effective intermediation of Chinese savings." [6]

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[4] Temasek CEO speaks about investing in Asia, Financial Asia, Nov. 23, 2006, available at <http://www.financeasia.com/article.aspx?CIaNID=42179&r=hstory>

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FINANCING SPACE ASSETS AND PRIVATE BUSINESS ENTITIES – PART II

III. Debtor's Rights and Related Rights

A. Background

Since space assets require huge amount of money, the space industry takes a great effort to get finance for manufacturing and maintaining them. Large scale entities use their own surplus and other smaller ones tend to form a consortium to get finance.[1] If they don't get enough finance, they will cooperate with private-sector investors like investment banks but private-sector investors want to have a security agreement on the specific space asset or the future cash-flow from operating the asset or equipment to make sure to collect money.[2] Most satellite manufacturers such as Boeing Satellite Systems, Motorola, and Mitsubishi Electronic actively participate in the project financing with major investment and commercial banks such as Morgan Stanley Senior Funding, Inc, UBS Investment Bank, Citibank, Deutsche Bank, and Goldman, Sachs & Co.[3]

However, it is hard to determine which jurisdiction or law is applied to the security agreement because each State has a different security law and space assets are in the space moving around over the world.[4] It would be a big hurdle for business entities to get finance easily; private-sector financiers would not want to support financing or charge higher security interest.[5]

The Cape Town Convention tries to solve this problem through the Protocol. The main purpose of the Protocol is to make an internationally unified treaty on

security agreements and the attached protocol to reflect the unique characteristic of each space asset.[6] They would solve the problems because of the difference of security laws of each State. The unified policy would make financing easier for space business entities so that it would promote the space commerce and commercialization of space assets ultimately.[7]

B. Debtor's rights and Related Rights

Having discussed above background and the ultimate goal of the Protocol, what do debtor's rights and related rights mean at all? These are very new and unique concepts only for this Protocol since it regulates particularly space assets which are very different from other assets.[8] It is difficult to physically move space assets and to use them for other purposes. They are specifically designed to be used in space and the size of space assets is usually huge. Thus, the Space Working Group (SWG) suggested to have new and more specific concepts for space assets, debtor's rights and related rights, rather than to have a general term, associated rights.

Debtor's rights refers "the rights to receive payment and performance" as operating the space asset and related rights means the rights a government grants to debtors, such as permission to use the satellite communication frequency.[9] However, it has been criticized that the concept of related rights is ambiguous and the Protocol can interfere with each State's domestic policy. Therefore, the SWG has been working on these issues and tries to reach on consensus on the mechanism of the Protocol.

The SWG seeks to increase the credit value that the Protocol would provide, specifically it seeks "to facilitate the creditor's ability to receive performance due

to the debtor from the third parties with respect to the space asset” and to reduce the detrimental effects that otherwise would arise from legal constraints when enforcing an international interest.[10]

A commentator suggested that the SWG should keep in mind that the Protocol addresses autonomous private parties, which is for those to make sure that they can realize their interest in that they fulfill the requirements necessary according to national laws regarding any authorization or license to operate a satellite.[11]

IV. Expected Impact to Commercial Space Industry and Businesses

The space industry primarily consists of mostly satellite-related services and manufacturing, such as satellite communication services, remote sensing, and satellite equipment and manufacturing, launch services, and the related companies which supply the equipments and technology.[12] The space industry is a lucrative business and many business entities seek to join the industry continuously. This article will discuss the current space industry and tourism, and then will discuss the potential impact of the Protocol.

A. Current Space Industry and Related Business

Telecommunications is the most essential and largest areas of the space technology. For now, telecommunications conquers the vast majority of space application such as cellular phones, satellite television, satellite radio, and a long-distance communication including video conferences. Satellites provide wireless signal transmission and there is no need for cable or fiber optic systems which, most importantly, allows the long distance transmissions to reach all over the world without wire installation.[13] The function of satellites is that signals are

sent to a satellite from one point and reflected off the satellite to reach their destination.[14] This technology is very attractive to various industries and business entities, not only telecommunication industry but also the entertainment/media industry, internet service industry and governments. Governmental sectors use a satellite for the national security or defense purpose, military services, and also scientific research purpose. As an example of private entities' use of satellite, Direct TV achieves a great success through its satellite operating and delivers numerous amount of radio, television and movie service.

Remote sensing is a technique used to collect data about the earth without taking a physical sample of the earth's surface.[15] A sensor is used to measure the energy reflected from the earth. This information can be displayed as a digital image or as a photograph.[16] Sensors can be mounted on a satellite orbiting the earth, or on a plane or other airborne structure. Remote sensing is mainly used for the coastal applications, oceanic applications, hazard assessment, and natural resource management by governmental organizations.[17]

As discussed above, the current space industry focuses very much on the satellite sector. However, there is significant interest of energy industry, pharmaceutical and biotechnology industries to discover novel technology energy sources and health care methods.

B. Tourism

Tourism in space could be another potential benefit for the space business. The time is not yet ripe but many governments and business entities jointly invest a lot of money to developing technology for the space tourism due to its potential profit. For example, the United States government has stimulated interest and

investment in entrepreneurial space ventures especially through the National Aeronautics and Space Administration (NASA), which “aims to use commercially available space vehicles to transport crew and cargo to the International Space Station.”[18] This is a good example of cooperation of a government and business entities in the operation of space business like the space shuttle.[19]

The more people are interested in tourism, the more governments and entrepreneurs will invest in the space tourism industry. As the space tourism is developed, it is necessary to have a uniformed regulation and insurance mechanism.

C. Expected Impact

Above all, if the Protocol clearly provides the regulation on the space assets and debtors and related rights of the related business entities, it will help to solve a lot of problem of financing and conflicts on the assets and rights on them. The SWG provides expertise to the International Institute for the Unification of Private Law (UNIDROIT) and on educating governments as well as industry and financial institutions about the benefits of the Protocol.[20] This effort will help to increase interest from the commercial entities and financial assistance from them.[21] Also, it will help the Protocol to be adopted as an international instrument universally.

Until recently, the primary parties seeking financing for space industrial projects were the government sector, huge multinational companies, and a consortium.[22] Financiers were willing to lend to them because the risk is relatively small. However, now they hesitate to lend to the later starters since

there seems to be higher risk of non-payment and, therefore, the later starters only get satellites themselves and related rights and licenses.[23]

Obviously, the telecommunication industry or satellite related industries are dominated by big companies which are able to afford those risks or convince financiers to lend to them. In contrast, the later starters or smaller companies are subordinated to the big companies or governments passively. Since the Protocol assures repayment, financiers would, at least, reconsider to lend to the later starters positively. Additionally, if the Protocol can provide a clear definition of space assets, it would be more secured to determine which assets are protected by the security agreements in the scope of the Protocol. It will help business entities to get financial support from financiers and open broader access to more companies.

The SWG and UNIDROIT, first of all, need to define space assets accurately which might solve the conflict between the space industry or manufacturers and the financiers.

V. Conclusion

The space industry and the related industries are very attractive business field to not only private business entities but also a government since it bears such huge potential development. For example, each State argues on specific matters such as the definition of space assets and scope of the application of the Protocol, especially the regulation of a security agreement which has a critical role for a State to gain or loose its profit and leading. Likewise, space manufacturer and investment bank have a sharp conflict of opinion on those points. Sometimes, an investment bank refuses to finance a space industry unless the Protocol makes

sure what kinds of space assets can be subject to the regulation of security agreements and how the bank can be financially protected from the bankruptcy or explosion of the space asset.

Regarding the definition of space assets, because of new space assets which cannot be expected from the current space technology and knowledge, it should be considered case by case and opened to possible development of space technology. Associated to the debtor's rights and related rights, the SWG and UNIDROIT might also need to set a regulation on international Space Insurance and Intellectual Property.

As the Protocol's main goal is to reduce the costs, and increase the availability of credit to the affected industries and commercialization of space assets, the SWG and each Member State have to keep in mind that it should be flexible to amend the Protocol and gather different opinions from related parties. Also, having the Convention and Protocol on the space assets and security agreement will benefit the countries get into the space industry later. However, the SWG and UNIDROIT as well as the international community in general should consider those countries' law and interest because of the potential development of the space industry.

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THE ART OF REGISTERING A BUSINESS: PICKING THE RIGHT METHOD OF REGISTRATION FOR YOUR NEW BUSINESS

I. Introduction

Starting a new business can be a scary venture for a new entrepreneur. Beyond picking a location, hiring personnel and establishing a clientele base, deciding how to register the business can be an important decision with lasting implications. There are five main categories under which a new business owner can register his or her new business: sole proprietorship, general partnership, limited liability partnership, limited liability company or corporation. This article discusses the pros and cons of registering under each of the five categories and the legal implications of each option.

II. Sole Proprietorship: Description, Liability, Tax Benefits

A sole proprietorship is the most common type of business organization. [1] In a sole proprietorship, one person owns and manages the business and there is no separation between the business entity and the individual, meaning for tax purposes the individual must file only one individual tax return. [2] The advantages of having a sole proprietorship can be great because it is low cost and low effort. [3] There are no registration requirements for becoming a sole proprietor. [4] Additionally, a sole proprietor can easily operate in other states without registering the business in those states. [5] The greatest

disadvantage to having a sole proprietorship is that the business owner becomes one with the assets of the business- meaning if the business goes bankrupt or has liabilities, they become the owners liabilities, as well. [5]

III. General Partnership: Description, Liability, Tax Benefits

In a general partnership (GP), the individual(s) or corporation designated as the general partner will be held responsible for the debts and actions of the partnership as a whole or any of its members. [6] Additionally, all partners share in the profits and liability. Section 101 of the Uniform Partnership Act defines a partnership as, "an association of two or more persons to carry on as co-owners a business for profit." [7] While registration is not necessary to form a GP, it is best to delineate the terms of the partnership in writing in case conflict arises. [8] For tax purposes, each owner of the GP will be taxed on his or her share of the partnership profits. [9]

IV. Limited Liability Partnership: Description, Liability, Tax Benefits

A limited liability partnership (LLP), on the other hand, is generally reserved for use by specific professions, like accounting and law firms. [10] Professional firms generally prefer the LLP designation because it allows individuals to practice without fear of being held completely liable for malpractice claims in which the individual has no part. [11] Registering as a limited liability partnership protects the owners of the partnership from "the debts, obligations, or liabilities of the partnership resulting from negligence, malpractice or wrongful acts, or misconduct by another partner, employee or agent of the partnership." [12] However, a partner will still be liable for any of

the aforementioned conduct that a partner commits or that occurs under that partner's direct supervision. [13] In an LLP, any partner can bind the business. [14] Additionally, LLPs are similar to general partnerships in the way they are run. [15] The profits of an LLP pass to the partners, who eventually pay them as an income tax. [16]

V. Limited Liability Company: Legal Description, Liability, Tax Benefits

A limited liability company (LLC) is called so because the owners, also called members, are only subject to limited liability for the debts and actions of the company. [17] While the members will not be liable for the mistakes of the company, they will be held liable for any individual mistakes the member makes. [18] Registering the company as an LLC also has tax benefits. [19] "LLCs are a 'pass through' tax entity, which means company profits are passed through the business and taxed solely on the member's individual tax returns." [20] Additionally, the members of an LLC report all gains, losses, credits and deductions as income on their personal tax returns. [21]

VI. Corporation: Legal Description, Liability, Tax Benefits

Unlike the LLP, LLC and sole proprietorship, a corporation is considered distinct from its shareholders. [22] Since it is considered a separate legal entity, a corporation is considered of unlimited duration. [23] "When a company is incorporated it acquires all of the powers of an individual, an independent existence- separate and distinct from its shareholders, and an unlimited life expectancy." [24] Shareholders can easily transfer shares and no member can be held personally liable for any debts or obligations the corporation incurs. [25] The advantages of incorporation include limited liability,

possible tax advantages, specialized management, transferable ownership and a continuous existence. [26] Disadvantages of a corporation include character restrictions, extensive record keeping and close regulation by the government. [27]

VII. Legal Implications

As with any foundational business decision, the legal implications of registering can have a lasting effect on the success of that business. The sole proprietorship is the most popular option for small business owners because it is procedurally the easiest to establish and gives owners the most control. However, the owner is left with full liability if the business fails, which is a risk for many new businesses. The LLP is the best option for professional businesses that may be held liable for the mistakes of employers or the partnership within that business because it insulates individuals from liability. The LLC is also a solid option for business owners seeking to limit liability. While the corporation also limits the liability of corporate shareholders, incorporating a business can be a heavy feat for a small business owner and may not be worth the hassle.

VIII. Conclusion

This article outlines the five basic types of business organizations. Factors to take into account when deciding how to register a business include size of customer base, number of employees, tax benefits and overall purpose of the business. Additionally, It is always wise for new business owners to seek the advice of an attorney before deciding how to register the business because attorneys have the

perspective and resources to help an owner make the proper decisions for their business.

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INSTANT MESSAGES: AN E-DISCOVERY NIGHTMARE?

I. Introduction

Instant Messages (IMs) have become an increasingly popular method of communication, both in the personal and business world. [1] They have the benefit of being an efficient, rapid and oftentimes free means of communication. [2] IMs are often candid and free-form, and when users close their IM dialogue box when the conversation ends, the chat session generally disappears and is not recorded. [3] However, with the advent of the e-discovery amendments to the Federal Rules of Civil Procedure (FRCP), many electronically stored documents have become subject to discovery in litigation. [4] While Word documents, Excel spreadsheets and e-mails are accepted as discoverable documents for litigation purposes, it is unclear whether IMs can and should be requested during the discovery process. [5] This article will explore issues related to the discoverability of instant messages and will ultimately suggest that businesses employ techniques to closely monitor employee use of instant messages to prevent a “smoking gun” IM from costing employers millions of dollars in court.

II. Are IMs Discoverable?

On December 1st, 2006, the FRCP were amended to allow for the discovery of electronically stored information (ESI). [6] That is, in a litigation setting, counsel may request a variety of electronic documents during the discovery

process. [7] It is easy to classify certain communications as falling under the FRCP amendments, such as emails and word documents. [8] Other communications, such as a telephone call, generally do not fall into the regulations due to the real-time nature of the communication and a deeply-rooted expectation of privacy. [9] However, IMs may fall into a category all their own, taking on characteristics of both an electronic document and a real-time telephone call. [10] The question therefore becomes, are IMs discoverable? [11]

If the company in question is in the financial services industry and is therefore governed by the Securities and Exchange Commission (SEC) and the National Association of Securities Dealers (NASD), then they must retain all IM conversations for at least three years. [12] However, no state or federal rules offer guidance as to whether other businesses must retain their IM correspondence. [13] It is certain that court cases will hash this out in the future, but in the meantime it is important to have a discussion about on which side of the line IMs fall: is it a real-time communication like a telephone call, or an asynchronous communication like an email? [14]

Much like a telephone call, IM users interact in real time [15], and the dialogue very much mimics the flow of an oral conversation [16], though in a “chat” box on a computer screen. [17] Additionally, “unless unusual steps are taken, [telephone and IM] conversations are not recorded.” [18] Much like a telephone call, many IM users have a perception that what is said during that IM conversation will be kept private and is not being monitored. [19] There is, therefore, an inherent expectation of privacy that is not there with respect to emails. [20]

However, most instant message platforms allow users to decide whether they want to record the conversation digitally or not. [21] Telephones almost always require extra equipment before you can record conversations, whereas IM software has that feature built in, though it is usually not the default setting. [22]

In fact, when you change your IM settings to record conversations, some programs alert you to warn those you are chatting with that the conversation is being recorded, suggesting that otherwise users will not expect that their conversation will be saved for possible production in the future. [23]

Additionally, IMs may be more like emails than telephone calls because IMs do come in a textual format, and though IMs are most often sent between people who are available at the same point in time to “chat,” it is possible to send an IM to someone who is online but away from their computer. That message will reach the person even though a real-time exchange has not occurred. IM users, however, must at least be signed into their online account to receive messages, whereas email users can retrieve their messages at any time, even if they were sent while the recipient was not online. These are just some of the reasons why it is difficult to decide whether IMs should be discoverable under the amendments to the FRCP.

III. Should Companies Retain their IMs?

Electronically *stored* information (ESI) is the focus of the December 1, 2006 amendments to the FRCP, which implies that only stored information may be requested. [24] However, a court may decide that a company should have stored certain kinds of information, even if they did not in fact do so, and impose fines. [25] For a company that did not retain IM conversations, a court’s analysis on whether the company is liable for penalties will likely revolve around whether the company acted reasonably. [26] Factors a court is likely to consider when deciding if a company acted reasonably with respect to IM retention are: “(1) How was the IM being used? (Why, by whom, and when?) (2) What particular IM systems are being used? (3) Is IM addressed in the document retention policy? (4) What is the basis for that IM policy? (5) How well is the policy enforced? (6) Is

the IM relevant to the litigation? (7) Was the company on notice that the IM should have been preserved? (When why and how?).” [27] A company therefore should be prepared to face a request for IMs in litigation, and should they be unable to produce records of IMs, be able to defend the reasonableness of failing to keep records of these conversations. [28]

IV. Authentication of IMs

If a court decides that IM conversations are in fact discoverable, and the company in question did keep IM records, another issue is authentication of those communications. The first problem is the identification of the conversation participants. It is almost impossible to know, with certainty, who the two people in the conversation really were – “even if a user believes that “UTFan” is Person X, Person Y may have hacked into the UTFan username.” [29] Authentication of any information to be used in court is key, and IMs pose a very serious identification challenge. [30] This kind of problem may be counteracted by enacting stringent security standards for logging into IM programs, such as highly complicated passwords. This would create a presumption that the person speaking under a particular username is the primary accountholder. This presumption could then be rebutted in court with evidence to the contrary.

In addition to this, IMs may be altered after the date of the conversation, and then post-dated. [31] This may be easy for someone that is somewhat computer savvy since a company using IM software is likely to have thousands of conversations to keep track of, so a small change in any one conversation is likely to go undetected. [32] It has been suggested that to authenticate IMs and prevent tampering, a company’s best option is to store all IMs with a third party server which can monitor the data and ensure that nothing is changed after the conversation has been terminated and saved. [33]

V. Recommendation

There can be no doubt that IMs pose a challenge to the litigation world; a balance must be struck between providing the information each side needs in the discovery phase, but also keeping expectations of privacy in check. Employers must first realize that employees are using instant message programs, whether they realize it or not. [34] Ignoring the problem will not make it go away, and courts are not likely to allow ignorance as an excuse for not retaining these documents. [35] While it is unclear whether IMs will become discoverable on a large scale, it would not be surprising if in the near future courts adopted a default rule that IMs are as discoverable as their email counterparts. [36]

To defend themselves, employers must assure that employees are trained as to the importance of instant messages in potential litigation. Some companies have adopted such techniques as making sure that employees are only using a company sanctioned IM program, and then every time a conversation begins a message pops up reminding the employee that the conversation they are about to have is not private and will be monitored/recorded. [37] Though instant messages may often be thought of in the same category as a casual telephone call – informal and conducive to a candid exchange – instant messages should be treated with more care. Employees must be taught that what they type is not for the receiver's eyes only, but potentially will be seen by an adversary and a judge in trial proceedings.

Whereas “smoking gun” emails have damned companies in the past, “smoking gun” IMs may be the wave of the future. Plaintiffs' attorneys are likely to seize on the fact that most IMers falsely assume that their communications will never be seen by anyone other than the recipient. [38] When those using instant messages are made aware of the consequences of their words being recorded, the likelihood of instant messages becoming the downfall of a lawsuit is reduced

substantially. In this situation, it would seem that education is the key. Some companies have taken the stand that IMs are simply not allowed or only allowed for certain employees. [39] This is an unrealistic approach that robs the company of the efficiency of allowing IMs in the workplace, and of course, employees are likely to do it anyway.

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THREE BANKS AND THEIR SIV “SUPERFUND” BABY

Introduction

Over the weekend of October 13, 2007, the U.S. Treasury hosted talks with some of the largest U.S. banks with the aim of creating a "superfund" that would be used to provide stability to the shaky credit markets.[1] The meeting included some of the biggest banking institutions such as Citigroup, Bank of America, and J.P. Morgan Chase.[2] This summer brought turmoil in the credit markets as the subprime mortgage fiasco began to bear fruit, and the goal of the proposed superfund is to hedge off fears of future bank defaults as well as invigorate demand for commercial paper, which has since this summer frozen up.[3] This article will review the details of the proposed superfund, its aims, and address some criticism leveled at it as well as the government's role in the process.

Details

As expected on October 15, 2007, the triumvirate of aforesaid banks announced the creation of a superfund entitled the Master-Liquidity Enhancement Conduit (M-LEC).[4] The twofold goal of the superfund is to: 1) protect banks and financial institutions from shaky investments held by SIVs; 2) reinvigorate the demand for commercial paper.[5] Structured Investment Vehicles (SIVs) were first created in the 80's by two London bankers, Nicholas Sossidis and Stephen Partridge-Hicks, then at Citibank.[6]

At the time, the securitization of assets, such as securities backed by mortgages or credit card debt, was developing, and the two bankers wanted to find a better way for Citigroup clients to profit from this nascent market.[7] What they developed is known as a SIV, which is essentially a fund established by a financial institution that issues short-term debt to investors and uses the proceeds to invest in higher-yielding assets usually over a longer term.[8] Oftentimes these high-yielding assets would consist of asset-backed securities or the like.[9] Banks would collect fees for operating the oftentimes complicated SIVs; however, the principle benefit to the bank is that the SIV fund is owned by the investors, not the bank, so the fund stays off the balance sheet.[10] The two banks launched the first SIVs, Alpha Finance Corp. and Beta Finance Corp., in 1988 and 1989 respectively.[11] Soon thereafter, Messers. Sossidis and Partridge-Hicks left Citigroup to form their own SIV management firm, Gordian Knot.[12] Gordian Knot, located in the ritzy Mayfair district in London, is the world's largest SIV, valued at \$57 billion.[13] Since those beginning years, the industry in SIVs has grown to thirty[14] such funds valued at \$400 billion.[15]

The current problem concerning SIVs stems both from the growth of the industry and the investments chosen by the funds. As the attractive features of SIV's disseminated into the greater financial sector, many inexperienced investors enter the market, "many of the new players didn't fully recognize the perils involved in borrowing money short-term and investing it long-term." [16] Moreover, many of the chosen long-term assets were in securitized mortgage debt, which of late has come past due. The problem became self-perpetuating during the summer as the credit markets were roiled causing a sharp drop in confidence, which consequently dried up much of the supply of commercial paper, which the SIV funds principally rely on for short-term debt.[17] Treasury officials, including Secretary Henry Paulson, watched this perilous situation with

the credit markets develop and convened a meeting in mid-September with executives from the largest financial institutions in Mr. Paulson's office.[18]

The fear was that the banks would either be forced to transfer the funds onto their balance sheets or the funds themselves "would engage in a fire sale of assets, a move that could exacerbate the credit crunch and damp the broader economy." [19] Over the weeks subsequent to the meeting with Mr. Paulson, Citigroup officials drafted the details of M-LEC. The M-LEC superfund hopes to raise nearly \$100 billion with the aim of restoring investors' confidence in the commercial paper market; this \$100 billion represents "roughly one-third of the \$350 billion in debt issued by SIVs [that] would be coming due in the next six to nine months." [20] This \$100 billion goal is to be raised by the participating banks and financial institutions, and they have given themselves a 90-day timetable to do so.[21]

The M-LEC superfund will operate as a "superconduit" to act as a "buyer of last resort" by paying near market prices for SIV assets.[22] First, the superfund would issue short-term debts to investors, and in turn would use these proceeds to purchase securities from ailing SIVs.[23] By purchasing these assets from the SIVs, which currently have little demand because of excessive risk, this could prevent the SIV funds from selling their assets at "fire-sale prices." [24] There would be restrictions placed on the types of SIV securities that the superfund would purchase (only assets rated AA or higher), the superfund likely would not purchase any CDO debt, and the SIVs must offer the securities at discount.[25] The life of M-LEC is expected to be one year, and participating banks will receive fees for their work in arranging it.[26] Broad participation in the superfund is important, and so far the only other big player it has enlisted since the original announcement is Wachovia Corp, with many European institutions so far

cautiously hanging back.[27] However, other financial institutions that either manage SIVs or are affected by its market, are watching from a distance, and if the credit squeeze continues, they too could join.[28] This seems nearly certain if the asset-backed commercial paper markets continue to contract, as the Federal Reserve recently projected is the case.[29]

Criticism

Criticism of the M-LEC superfund is on two fronts. First, some contend that Citigroup stands with the most to gain from the superfund, and therefore its wooing of other investors is slyly deceptive.[30] Citigroup's holdings account for 25%, or \$100 billion, of the SIV market, so Citigroup "was facing the prospect of either having to unload them in a disorderly fire-sale fashion or moving them onto its books." [31] As the world's largest bank by market value, such a prospect caught the attention of Treasury out of fears of such a scenario occurring and having secondary effects of damping the economy.[32] The critics are correct in concluding that Citigroup is directly exposed to the most risk from the SIV market. For instance, neither Bank of America nor J.P. Morgan have SIVs, but both decided to participate in forming M-LEC out of fears of how the market seizing up would harm them, and both are expected to gain from collecting fees for their participation in the superfund.[33]

Second, critics accuse the government of helping to prop up banks that should ultimately bear the loss of bad investments by moving the SIV funds to their balance sheets.[34] To be clear, the federal government is not providing capital or bailing out the SIV-laden banks, but critics contend "[the government's] role could be crucial in persuading investors to buy debt issued by the rescue fund as part of the plan." [35] Further, critics doubt the perilous claims made by Citigroup

and Treasury that the SIV market is crucial to "world economic health" and likewise that the failure of SIVs would in turn lead to broader turmoil in other capital markets.[36] Rather, the banks and the SIV industry should bear their risk: "Hasty rescue plans amount to an amnesty for sloppy banking and an invitation for it to continue." [37] In response to apologists of the superfund, see *infra*, who argue that the fund does nothing more than establish a price basis for the SIV assets, superfund critics argue that its efforts could distort the market by "throwing good money after bad." [38]

In response to these critics, Peter J. Wallison, a senior fellow at the American Enterprise Institute, contends that the principle objective of the superfund is "price discovery." [39] He contends that there currently exists great uncertainty about the value of some of the SIVs' assets: "buyers back off because they can't assess the risks, and would-be sellers fear unnecessary losses if they sell at too low a price." [40] As applied, the value of the securitized assets is unknown, so the market is "moribund." [41] The presence of the superfund, he contends, will act similar to an auction with low bidding on the securities at first, but as the bids rise, the securities will begin to flow when "a substantial number of holders think their mortgage of other asset-backed securities are worth at least that much." [42] Through this process the market may be reignited and confidence restored to both buyers and sellers. [43] Moreover, Mr. Wallison argues that Treasury support is different than support from the Fed: "Treasury has no funds with which to effect a bailout or to make good on a guarantee." [44] By contrast, he offers that Treasury's involvement is necessary because this deal requires a "good broker"; to close, he offers this analogy: "Banks are like cats; they aren't easily herded... Their culture is aggressive competition." [45] With no other meaningful players, he contends, Treasury's refusal would have smacked of irresponsibility. [46]

Conclusion

A triumvirate of the nation's largest banks, at the behest of the Treasury, recently announced the proposed formation of a superfund to provide support to the ailing SIV market. The aim of this superfund would be to stave off the possibility of institutions holding SIVs from either emptying these funds in a fire-sale or moving the debts back to their respective balance sheets. Ultimately, the fear is that without prompt action, either scenario could cause broader economic distress. In the weeks to come with both the commercial paper market continuing to tighten and SIV assets hemorrhaging further, the M-LEC superfund's effect on the markets is eagerly anticipated.

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[46] *Id.*

ECONOMICALLY REPREHENSIBLE BEHAVIOR, OR BENEFITS AND RISKS OF MORALITY? (2 OF 2)

I. Introduction

This

second article in the series first identifies past assumptions of the traditional investment model. Possible additional benefits and drawbacks of morally responsible investing (MRI) as compared to the traditional model are pointed out along the way. Finally, future legal issues that MRI may raise are identified, and the court's likely treatment of such issues is hypothesized.

II. Getting Past Those Assumptions

Several assumptions from traditional economic theory and law seemingly hinder MRI. However, the premises underlying these assumptions are not on as solid footing as once perceived. Some of these assumptions include A) the decreased profitability of MRI, B) the legal doctrine that a director's sole responsibility is to maximize profits and C) the gap between ownership and control in the public corporation cannot be closed.

Assumption A. Traditional economic theory assumes that MRI is less profitable than traditional instruments because profit

maximization is not the only goal of MRI.

The Amana

Growth fund mentioned in the previous article provides an example to contradict the blanket assumption that moral preference hurts the bottom line. Amana Growth showed a rate of return from 2003-2005 that “crushed” the S&P 500 by 11 points per year. [1] This is not merely an exception, but an example of the success moral funds can achieve, a success much doubted by traditional economists. One example does not establish that the assumption is completely incorrect, but it does go to show that MRI and profitability are not mutually exclusive concepts.

On the other hand, arguably maximizing profit indeed allows the satisfaction of the moral needs of investors. Since investors in any public corporation or investment fund likely come from varying religious, cultural and socio-economic backgrounds, investors within the same investment will have very diverse moral preferences. [2] By maximizing profits returned to each investor, the traditional model does allow each individual to use those profits more discretely to reach their own diverse moral preferences. Thus, by returning the maximum profit to the investor, the investor’s moral preferences are more directly addressed.

However, this argument overlooks key practical factors. The argument assumes that investors will in fact have the time and know how to use those maximized profits to satisfy their social preferences. But the antitheses of these assumptions are the reasons for establishing corporations and mutual funds. Investors lack the time and sophistication to investigate business opportunities and

investments, so they trust their money to managers, both corporate directors and fund managers. Investors knowingly relinquish some control to managers in return for expertise and decreased time commitment. Thus, these practical factors weigh in favor of further promoting managers to exercise socially responsible business decision making where investors seek such a preference.

Assumption B. Corporate law imposes on managers a duty above all others to maximize profits.

Traditionally, corporate directors have been assumed to have one duty, maximize profitability. *Dodge v. Ford* is often cited for this proposition. [3] However, the same Court did not disagree with the proposition that a corporation could carry on charitable works for the benefit of society incidental to the corporation's main business. [4] Thus, the legal paradigm does provide wiggle room for corporate directors to be morally conscious. Further, the relationship between directors and shareholders is a contractual one. The law allows for contracting parties to come to mutually agreed to relationships. Such a relationship could be based on shared business and moral preferences and thus would be within the freedom to contract.

C. Because of the structure of the public corporation, a gap will always exist between ownership and control.

Ownership lies with the investors, while control remains with the directors. Owners do exercise control by voting for directors, or instead by selling their stake in the investment. Even with this

voting ability, investors lack the ability to take part in day to day decision making.

MRI can bridge this gap. By selecting investments where directors share similar social goals for the corporation, investors are able to select directors with similar moral preferences. Thus, although investors are not directly participating in business decisions, investors are assured that directors will make decisions in line with the investors' moral preferences. For these investors, profit is not the only consideration when making a decision. Similarly, by allowing directors to allow moral preferences to guide business decisions, the investors' desires are more completely fulfilled. [5] Thus, MRI does help to close the gap between ownership and control that remains in the traditional for-profit corporate structure.

III. Possible Future Developments

Basing a contractual relationship in this setting on MRI principles, however, may raise a new legal claim: the shareholder derivative action for the failure to remain socially responsible. This would be in contrast to the traditional shareholder derivative action for failure to maximize profits. The courts have deferred to the management-biased business judgment rule concerned that courts are not most capable to make business judgments and out of fear of hindsight decision making. Analogously, courts would likely continue to defer to managerial business decisions fearing the same concerns where social benefit, rather than profit, has been agreed to as part of the goal of the corporation. However the courts handle such a claim, the freedom of

contract does and should continue to allow investors and managers to establish relationships based on moral preferences.

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POST-MERGER: WHAT'S IN A NAME?

Amongst the due diligence, negotiations, and deal making in crafting a merger between two companies, one issue that arises is what to name the new company. A newly merged company's choice of name may have much to do with how shareholders, customers, and other corporate constituents perceive the newly merged company.

As one example of the importance of names, it has been previously estimated that among law firms “about half of the proposed mergers among equal-sized firms, with living, named partners, fail on the issue of firm name alone.”[1] While this sounds drastic, choosing a name for a newly-merged company seems to have at least some bearing on the future business of the company.

In some instances, changing names after a corporate transaction can be a positive signal to corporate workers and consumers. After DaimlerChrysler sold its majority interest in Chrysler, Chrysler celebrated its return to its pre-merger name and its return to American ownership.[2] It was expected that the name change and reintroduction of Chrysler's pre-merger logo would be a “welcome change for the company and for the reputation of Chrysler's name.”[3] Yet, not all corporate transactions and resulting name changes have resulted in such a welcome change.

In the same transaction that split Chrysler from DaimlerChrysler, the remaining Daimler contingent faced shareholder challenges to bring the “Benz” name back to Daimler.[4] In the original merger between Daimler-Benz and Chrysler, “Daimler offered to drop the Benz hyphenate if Chrysler agreed to take a back seat in the name DaimlerChrysler.”[5] With the Chrysler name now severed from

Daimler, shareholders rallied to bring “Benz” back to Daimler, stating that “[r]einstating the name of one the company’s founding fathers would ‘constitute a certain degree of compensation for the many years of frustration for the employees, particularly in the traditional Benz plants.’”[6] Thus, while the Chrysler contingent welcomes a return to American ownership and an identifiable American name, the Daimler shareholders express concern with not returning to the pre-merger name of Daimler-Benz.

Deciding on a corporate name after a merger or similar transaction also can prove complicated to properly identify a company’s strongest businesses. Consider the early 2001 merger of America Online, Inc. and Time Warner Inc. America Online and Time Warner merged “the world’s most highly respected and valuable entertainment, news and Internet brands,” labeling the new company “AOL Time Warner Inc.”[7] AOL Time Warner was expected to “lead the convergence of the media, entertainment, communications and Internet industries and provide wide-ranging, innovative benefits for consumers.”[8] A few years later, the AOL Time Warner Board of Directors voted to rename the company “Time Warner Inc.”[9] The new name was cited as one that “better reflects the portfolio of [the company’s] valuable businesses and ends any confusion between our corporate name and the America Online brand name.”[10] Also notable, in the same press release describing the new name, the company describes itself as “the world’s leading media and entertainment company, whose businesses include filmed entertainment, interactive services, television networks, cable systems, publishing and music.”[11] One might wonder why in the 2001 merger announcement, the internet services are promoted, yet the same services are downplayed if even existent in the 2003 description of the same company operating under a different name. Some analysts attribute this move to Time Warner backing away from the America Online name and financial losses and to America Online’s need to prove

itself to Time Warner in light of the changing internet landscape.[12] Time Warner's message in eliminating AOL from its company name could signal a shift away from viewing the internet business as an integral part of the corporation.[13] It could also signal a shift toward severing AOL from the business of Time Warner, as analysts estimate that "Time Warner could realize more shareholder value if it were split up." [14]

To further complicate the name game, in 2006 Time Warner announced it would retire the "America Online" name and operate as "AOL." [15] The mission of America Online was to literally "[get] America online," and that mission appears long since to have been accomplished.[16] Thus, reflecting on the pattern of name changes in Time Warner, it appears that internet and entertainment businesses were once equally lucrative, and at some point the internet business was judged not truly indicative of the broader corporate portfolio of businesses and created confusion with the America Online brand name. Regardless of the changes, it appears that Time Warner changed its name to highlight the value of its businesses over time.

In contrast, consider Macy's (formerly known as Federated Department Stores, Inc.) acquisition of May Company. As part of the transaction, Macy's changed the names of several regional department stores formerly operated by May Company.[17] Despite a statement that Macy's "carefully research[ed] customer preferences"[18], the name change had the effect of "alienating thousands of customers"[19] who dislike the newly-named store and remain loyal to the previous branded department store. Unlike Time Warner, who appeared sensitive to customers' and analysts' perception of the America Online name and its internet business, Macy's alienated customers merely by changing the name of its businesses. While part of the merger process appears to rely on synergy of the

merging companies, it seems that the names chosen may have much to do with the way the newly combined company is perceived.

Ultimately, the name of a newly merged company is just one of several terms to negotiate in the merger process. However, companies should take note that the names they choose may have a significant impact on corporate and customer image and branding.

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THE TRADE-OFF: LAND FOR FEWER DROPPED CALLS

With 171 million wireless subscribers in the United States, it is no surprise that the number of cellular phone transmission towers grew from 22,663 in 1995 to 104,288 in 2000. [1] These towers range from fifteen to twenty stories tall, and can make quite a statement when added to a city block or neighborhood park. [2] Residents of cities all across America have protested the planting of these unsightly towers in their neighborhoods, but the Cellular Telecommunications & Internet Association has reported that "dead spots and dropped calls can be eliminated only by new cell sites." [3] Faced with that reality, we are forced to decide which is the lesser of two evils: dropped calls or backyard barbeques next to a cell phone tower.

No matter how much people refuse to live without wireless technology, the common reaction of communities is to keep those cell towers as far away from their homes as possible. [4] It is not just the size of the monstrosities that bothers people: cell phone towers over 200 feet tall must be lighted so as to be visible by aircraft flying above them. [5] Wireless companies are aware that they are not a welcomed presence in communities, and they repeatedly face the public relations circus that comes as a result of protests to placing more towers wherever they can legally do so.

However, they are not forced to accept no for an answer if the municipality denies them access to its land. The Telecommunications Act of 1996 states that ordinances are actionable if they prohibit or have the effect of prohibiting the provision of personal wireless services. [6] Wireless telecommunications company Nextel West Corporation sued the Unity Township and its Zoning

Hearing Board when it was denied permission to build a 250-foot radio tower on private property in the Township. [7] The Third Circuit reversed a summary judgment decision against Nextel, allowing the case to go to trial and be decided on its merits. [8] Nextel claims that Unity Township, a Pennsylvania city, violated the Telecommunications Act by attempting to regulate the towers through ordinances prohibiting them. [9] It will be interesting to see how this case unfolds and whether a Nextel-friendly ruling will prompt more wireless companies to take similar action, pressuring local legislatures to turn a deaf ear to their residents' petitions.

In Berkeley, California, the city government set up restrictions on cell phone towers based on health and aesthetic concerns. [10] Due to these restrictions, Berkeley's cell phone coverage has been "notoriously spotty" and new towers have only been approved in the Berkeley flatlands. [11] Despite the lack of coverage, residents are still in support of setting up many hurdles for wireless companies to overcome before obtaining a permit for a new tower. [12] Berkeley residents fear that the radiation emitted from cell phone towers poses a health risk, although scientific findings have reported the contrary. [13] Whether Berkeley's health-related arguments will withstand a lawsuit based on the Telecommunications Act is yet to be determined. [14]

On the flip side, attempts are being made to give the towers more aesthetic appeal. A tower in Shaler Township, Pennsylvania was converted to look like a bell tower. [15] And companies are looking to the alternative of using antennas on road signs and church steeples. [16] Still, it is not clear that these ideas are spreading quickly enough in response to people's concerns about losing valuable land to a very noticeable monument.

Unless the land is a historical landmark or has other significant meaning, it is necessary for municipalities to succumb to the zoning demands of allowing cell towers into their neighborhoods. Without strong evidence that the radiation emitted from the towers poses any kind of health risk, the technological demand of cell phone towers is too great to disallow due to the inconvenience it poses to residents. The wireless business does not appear to be declining anytime soon, and as a result, sacrifices must be made in order to keep this technology in our lives. The construction for each tower is a very expensive undertaking by the wireless companies, and until better technology is developed, this is the only option for continued and improved wireless service. Cell phones are more than a technological luxury, they give citizens a safety blanket in times of emergency, and it should not be one that people are willing to part with just to get a better view.

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FMRI AND DNA GENE SEQUENCE MAPPING PROVIDE PROMISING TECHNOLOGIES WITH AN ORWELLIAN [1] PRICE TAG

I. Introduction

Functional Magnetic Resonance Imaging (FMRI) and DNA sequence mapping provide technologies that offer society unprecedented benefits, but at a cost that we are only beginning to understand. [2] FMRI, for example, enables researchers to map the brain's neurons as they process thoughts, sensations, memories and motor commands. [3] This provides neurologists with the ability to detect early onset of Alzheimer's disease and other ailments without invasive surgery. [4] It also can be used as a next generation lie detector in that it provides an almost infallible insight into a person's thought process that detects deception, raising obvious concerns about our civil liberties and right to privacy. [5]

DNA sequence screening, on the other hand, involves the study of genes and the notion that they are determinative of an individual's behavior, character, and future medical problems. [6] Diseases such as Crohn's disease, night blindness, Lupus, and emphysema and their associated genes are already patented [7], making genes a highly lucrative business commodity. [8] However, should there be property rights associated with genes? In the wrong hands, these potentially altruistic technologies may create an Orwellian society where the government and/or large corporations may legally infringe on our traditional notions of civil liberties in the pursuit of capitalist ends. [9] Where should we draw the line?

II. FMRI Technology – Promises and Lies

FMRI scans have uncovered a rough methodology of, for example, how our brains handle fear, memory, risk-taking, and romantic love. [10] Lie detection is possible because the hemoglobin in red blood cells react differently to the FMRI magnetic fields depending on if the cells are carrying a molecule of oxygen. [11] Active regions of the brain use more oxygen, and the fMRI scanner can pinpoint the busiest regions of the brain in real time with no danger or discomfort to the subject. [12] Subjects that lie showed increased brain activity in areas such as memory, judgment, planning, sentence processing, and inhibition. [13] In contrast, those that told the truth that utilized less mental resources; thus, the liars exerted more mental processes to lie than truth tellers, making for fail proof determinations of deception. [14]

Two startup companies called No Lie MRI and Cephos have emerged, promising to bring deception detection to the market. [15] Because of the highly controlled, sensitive, and cumbersome non-portable testing environment, their primary customers are those that seek to exonerate themselves from their convictions. [16] However, new derivative infra-red technologies that can still achieve a 95% accuracy rate, are under way that could enable discrete scans from across the room, applicable to situations like airport screening or military interrogations without the need for consensual participation. [17]

The potential uses are vast; beyond determining if someone is a law-abiding citizen or a security threat, this technology could be used, for example, in employee hiring procedures or even if to determine if your partner is faithful or not. [18] This raises obvious questions of 4th and 5th amendment rights – is an involuntary FMRI scan an illegal search and seizure since something (your

thoughts) was taken from you without your consent? [19] The intrusion into one's thoughts would arguably violate one's constitutional right not to incriminate yourself if people could ask you questions that you cannot deny or refuse to answer. [20]

III. Gene Sequence Screening and Health Coverage

Genes have become a major business commodity, with venture capitalists and patent procurements aimed primarily at the development of drugs and diagnostic tests. [21] Almost 20 percent of the entire human genome is "owned" by patent holders and investors mostly focused on human disease and biological pathways. [22] While the benefits of the technology show unprecedented promise in fighting disease, the benefit may be at some cost to our privacy with genetic information. [23]

Insurance companies have already denied health insurance to patients because of genetic screening. [24] For example, an HMO stated that it would pay for an abortion of a fetus with a genetic defect, but would not provide financial coverage if the fetus was brought to term. [25] Even healthy people have been denied coverage despite their disease prevention measures because of genetic screening. A healthy child who carried a gene that predisposed him of a heart disorder was rejected for health coverage despite his medication that eliminated his risk of heart disease. [26] This poses the question as to whether insurance companies should be able to charge higher premiums based on genetic screening when predisposed but controllable ailments are detected. [27] The protection and privacy of our genetic information will certainly be hotly debated in the years to come.

IV. Conclusion

fMRI and Gene Sequence Screening offer many benefits to society that can revolutionize and greatly enhance, among other things, our medical and security capabilities. However, if left unchecked, the capitalistic ends may test our traditional notions of civil liberty.

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BILLABLE HOURS BE GONE: SHOULD THE HOURLY BILLING SYSTEM BE REPLACED?

I. Introduction

Law firms have adjusted to recent generations of associates that demand a better quality of life in conjunction with their careers. [1] A young lawyer wants it all: a successful career, a family, and time for a social-life outside the office. "Work/life balance" has become a buzzword for firms attempting to recruit the best and brightest. Some firms have responded to the needs of working parents who prioritize childrearing by offering reduced and alternative working schedules. [2] Others allow associates to bill some of their time to pro bono work, which increases the esteem of the profession [3] in addition to satiating a young associate's need to make a difference. While programs such as these move toward the much sought after "work/life balance," they may not be enough to truly achieve a happy, well-balanced life.

"[Practicing law] has become a soul-destroying business. . . . The cynics flourish, while the idealists lag, jump ship, or, unable to beat the cynics, join their ranks." [4] this grim view of the legal profession is supported by the surprising number of associates that leave their firms within the first three years. [5] A NALP Foundation 1998-2003 survey of firms found that in firms of 251-500, more than half of new associates left before the end of their third year for a variety of reasons. [6] Depression, anxiety, and alcoholism are more prevalent in lawyers than most other professions. [7] While the unhappiness is partly attributed to difficulty coping with an inherently adversarial system, much of the stress and pressure that causes attrition results from the sheer number of hours required. [8]

II. Work/Life Balance

Some firms have attempted to help partners and associates keep a balance between their work and families. Virginia Seitz, a partner at Sidley Austin, maintains this balance by working part-time. [9] Sidley seems supportive of work/life balance, with 35 to 40 partners working part-time. [10] However, part-time for Seitz is still a nine hour day, arriving in the office by 6 a.m. in order to leave before 3 p.m. [11] Her 45 hour work week is within Sidley's definition of part-time, anything less than 100% of their yearly billable hours. [12]

Other firms allow full-time status employees to work late from home after they have spent time with their children and put them to bed. [13] In these cases, the lawyer does not actually bill less hours; he merely sacrifices sleep instead of time with his child. To prevent employees from having to miss work in the case of childcare emergencies, firms such as Fulbright & Jaworski subsidize emergency childcare. [14] For more information on flexible work schedules, refer to the related article by Karen Lee located [here](#). [15]

Working part-time or telecommuting from home may be an option for some employees, but for the majority of associates and partners, flexible work schedules are not a feasible option. [16] Face-time with clients and coworkers is important and expected by superiors. [17] Law firms have business hours, and many expect their associates to be at their desks during the day. [18] Maintaining happy and well-balanced lawyers may require the profession as a whole to make a much greater adjustment.

III. A Bigger Problem

The ABA's Ad Hoc Committee on Billable Hours wrote that "[t]he treadmill of billable hours is depriving the legal profession of its heart and soul." [19] Although approximately 90% of firms use the billable-hour system to charge their clients as well as to determine the future of young associates, hourly billing was not always the norm. [20] The hourly billing system gained favor as firms wanted an accurate picture of how much time they were spending on each client, and clients, in turn, wanted a detailed accounting of charges they were billed. [21] As firms sought to increase their profits, the minimum hours each associate was required to bill each year also increased. [22]

In a recent article, Scott Turow discusses how the minimum billable hours expected by attorneys has increased drastically since he entered private practice in the mid-1980s. [23] While associates in large Chicago firms were then expected to bill 1,800 hours a year, today associates in those same firms can be expected to bill as many as 2,200 hours a year. [24] If the estimate is correct that a lawyer must work three hours for every two hours billed, [25] those attorneys are fast approaching a seventy hour work week (optimistically and perhaps unrealistically accounting for two weeks of vacation, sick days, or personal time off). Mr. Turow criticizes the trend in increased billable hours as harming clients by discouraging lawyers to be as efficient as possible. [26]

IV. Hourly Billing Alternatives

There are alternatives to hourly billing. These include charging the client a contingency fee, adjusting the bill in light of the outcome or complexity of the work, [27] and averaging the rates of partners and associates. [28] Shepherd Law Group, a firm in Boston, has had success in a flat fee system, charged to the client either annually or per job requested. [29] Charging the client a flat rate serves as

an incentive to the lawyer to work as efficiently as possible while encouraging the client to fully utilize the lawyer's advice and counsel without worrying how much each conversation is costing him. [30] Shepherd's flat rate service not only equates to a 30% savings to one of his clients, but since the attorneys are not mandated a certain amount of time to spend on the case file, his employees have more time to spend on activities that are important to them: time with family, pro bono work, and community service. [31]

While the ABA encourages and offers support in exploring new methods of billing, [32] there is an ease and fairness to hourly billing that no alternative has yet to replace. [33] In response to Mr. Turow's article, a retired lawyer retorted, "omplaining about 'the billable-hours regime' is like a condemned man complaining about the executioner using a rope. If they get rid of the rope, they will substitute some other means to secure his death. It's the death penalty that is the problem not the rope." [34] Hourly billing is not to blame for the staggering workload, but the fees required of an associate who hopes to make partner one day. [35]

With starting salaries at top firms as high as \$160,000, firms expect a minimum workload of 2,000 hours per year. [36] A small number of firms are experimenting with giving their associates another option. [37] Perkins Coie in Seattle, faced with raising their salaries to compete with California firms, gave their associates a choice: meet the 2,000 hour minimum requirement, or forgo the pay raise and work fewer hours. [38] Chapman and Cutler in Chicago have also given their second year associates a choice to choose between two paths: work more hours for more money, or fewer hours for less money. [39] While neither firm would give specific details about the exact trade-off, both hope to increase their retention rates. [40] With pressure to work so many hours, many associates

leave after their third year, just when they are beginning to make money for the firm. [41] With 84.2% of respondents to a recent ABA Journal online survey answering they would take a reduction in pay for a reduction in hours, [42] this trade-off may payoff. Unfortunately, many associates are worried there will be a stigma associated with working fewer hours. [43] They worry they will be seen as undedicated, mediocre attorneys. [44] There will always be a hungry young associate willing to step up and put in the hours. [45]

V. Conclusion

The number of billable hours required by some firms has nearly reached its outer limit. [46] With only 24 hours in a day, the demand has gone as far as it can until mankind discovers a way to exist without sleep. While there are alternatives to hourly billing, the accountability of the system currently in place makes it a convenient and time-tested method. The demand for ever increasing salaries for everyone from young talent to senior partners makes the 60 hour workweek unlikely to shrink. Until there is enough discord in the profession to demand a better balance, and perhaps some sacrifice in salary, those who venture into life in a big firm can only expect to be pushed to their physical and emotional limits.

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RIAA ADVANCES THE LEGAL BATTLE AGAINST PIRACY

I. Introduction

The Recording Industry Association of America's (RIAA) recent victory over alleged file-sharer Jammie Thomas represents the latest step in their lengthy and costly legal campaign against online music piracy. Since its 1999 lawsuit against Napster [1], the RIAA has been engaged in non-stop litigation against a variety of alleged infringers, from centralized distribution networks to decentralized peer-to-peer networks. "In September of 2003, the RIAA adjusted their legal strategy and began to sue individuals suspected of sharing music files online." [2] Barring a successful appeal, the verdict against Thomas potentially sets several legal precedents favorable to the RIAA.

II. Background

The launch of Napster in 1999 touched off the RIAA's recent blitz of lawsuits against a wide assortment of file-sharers and copyright infringers. Prior to Napster's 1999 launch, only sophisticated computer users engaged in extensive file-sharing. The release of user-friendly Napster quickly popularized the concept of peer-to-peer file sharing. [3] Napster relied on a centralized server that indexed every file shared on the Napster network by various individuals. [4] Users seeking music files on the network relied on the central Napster server for addresses and file indexes. This "first generation" structure allowed Napster to exercise extensive control over its file sharing network. However, Napster's centralized nature also made it an obvious and easy target for infringement litigation by the RIAA. Because Napster exercised such control over

its centralized network, courts were able to reasonably order the removal or filtering of copyrighted materials. [5] But even while this drawn out legal haggling crippled Napster, “second generation” networks were quickly filling user demands for peer-to-peer file sharing.

Learning from the demise of Napster and its centralized server structure, peer-to-peer developers sought a decentralized structure that would both improve efficiency and evade countermeasures by the RIAA. The first of these second generation networks was Gnutella, which simply connected users directly to one another in a massive, decentralized network. [6] With no centralized server, there was no obvious user or entity against whom the RIAA could easily file suit. However, various inefficiencies hampered this setup, prompting the emergence of a third major peer-to-peer network: FastTrack. [7]

The FastTrack network’s clients included Morpheus, Grokster, the subject of significant litigation, and Kazaa, the subject of the current litigation. [8] FastTrack’s immense popularity and efficiency raised concerns for the RIAA. The RIAA could not simply target a central server or operator with litigation, as they did with Napster. Eventually a movie studio, MGM Studios, successfully brought suit against Grokster in a 2005 U.S. Supreme Court case. [9] The Court did not overturn the *Sony Betamax* rule, which provides a safe harbor for technologies such as VCRs that potentially infringe copyrights, so long as those technologies are capable of substantial non-infringing uses. [10] However, the Court still found Grokster liable for copyright infringement on the FastTrack network via a new theory: inducement. Where one distributes a device with the object of promoting its use to infringe copyright, the distributor can be

held liable for resulting acts of infringement by third parties. [11] While this litigation slowed the developers of the Grokster client, open-source developers created a slew of alternative clients capable of accessing the FastTrack network. [12] The distributed nature of both the network and client development has blunted the RIAA's ability to stop file sharing. Even the RIAA's technology-based strategies, such as flooding networks with fake files, have quickly been overcome by new sharing technologies. [13] Unable to shut down the networks themselves, the RIAA began filing suits against individuals suspected of infringing.

III. Current Litigation

Since 2003, the RIAA has filed approximately 20,000 lawsuits against individuals suspected of file sharing. [14] Surprisingly, the case against Thomas was the first to reach a jury verdict. The RIAA dropped several other cases after embarrassingly suing a dead grandmother [15], a Mac user for using the Windows-only Kazaa program [16], and a user with mistaken identity. [17] However, the vast majority of suits typically settled for a few thousand dollars. [18] Thus, Thomas' case is notable for the legal precedence set for future litigation.

Significantly, the RIAA never established the actual transfer of files from Thomas' computer to another user. Instead, the RIAA only proved that a computer, which may or may not have been Thomas's, "made available" files for potential sharing. First, the RIAA claimed that its investigators found over 1,700 songs being shared on the Kazaa network under a username and IP address linked to Thomas. [19] While the username was never proven to be hers, the RIAA believed it belonged to Thomas because she used it on several other online

services. Second, although the IP address was also linked to Thomas, her defense claimed that another individual could have “spoofed” the address, sending out false data and pretending to be her. Third, the RIAA never proved the download of music files by anyone other than its own investigatory agents. Instead, they argued that liability attached simply by “making available” the files, significantly reducing their burden of proof. [20] Importantly, the RIAA never found evidence of the allegedly shared files on Thomas’ computer. She replaced her supposedly failed hard drive soon after being contacted by the RIAA, potentially destroying any such evidence. [21]

IV. Measuring the Litigation’s Impact

Although the RIAA hoped this series of litigation would stem the tide of illegal file sharing, it is unclear how successful their strategy has been. A major difficulty in measuring the litigation’s impact is the inability to develop reliable data on file sharing, from the number of users to the number of files shared to the value of the files shared. The RIAA is unable to calculate the actual damages that they have suffered. Instead, they are forced to seek punitive damages as available under the Copyright Act. [22]

Even though the “rate of growth in peer-to-peer users slowed in 2006,” the factors that caused that slowing remain unclear. [23] While the RIAA’s litigation blitz may have deterred some new peer-to-peer users, the slowed growth could also be attributed to a number of other potential factors, such as market saturation and improved monitoring and filtering on college campuses. This statistic also ignores the massive user base already utilizing peer-to-peer services.

Furthermore, “the number of files downloaded through P-to-P services increased 47 percent between 2005 and 2006, from 3.4 billion to 5 billion,” suggesting that file sharing by current users is becoming more intense. [24] This statistic also fails to capture the evolution of file sharing over the past half-decade; specifically, the emergence of BitTorrent, enabling users to efficiently share massive, previously unwieldy files. The study does not seem to differentiate between music files and other files, which could range from software and television shows to full-length movies. This method of tallying is problematic, since it does not recognize the varying values of different media files.

This method also fails to account for the increasingly popular tactic of bundling files together for easier transfers. Because protocols like BitTorrent are most efficient with large files, many file sharers simply package dozens of files, such as the tracks of an entire music album, into a single compressed file. Thus, most statistics on file sharing form an unreliable basis upon which to form broad conclusions on the growth and extent of file sharing.

V. Implications

Through its lawsuit against Jammie Thomas, the RIAA successfully established its “making available” theory. Barring a successful appeal, this holding will significantly ease the RIAA’s burden of proof in future litigation. Instead of the relatively difficult task of locating an actual transfer between two file sharers, the RIAA will only need evidence that the defendant made a copyrighted work available for download. Thus, evidence from its investigatory agents, such as SafeNet, will be sufficient.

This standard represents a potential danger for unsophisticated computer users who set their security too low. [25] Since low security settings may enable access by other users, these users may be “making available” any copyrighted works on their machines.

This ruling also endangered unsophisticated users when the jury ignored the defense’s IP spoofing theory. [26] While advanced users might defend themselves against such problems, most computer users are ignorant of the various issues surrounding online identification. Thus, this ruling opens most internet users to litigation for infringement committed by malicious users who “spoof” their IP and other online identification information.

As in most emerging legal frontiers, the RIAA sought to establish favorable legal precedents through dozens, if not hundreds, of minor cases against relatively unsophisticated defendants. [27] Most of their litigation targeted people unable to effectively defend themselves, who had never hired a lawyer and who had no legal experience. Barring a successful appeal by Thomas, the RIAA may succeed in establishing a legal bulwark against future challenges to its copyright theories.

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DO HEDGE FUNDS NEED TO BE BETTER REGULATED?

Introduction

One of the hottest topics, when Wall Street recently saw a market turmoil, was whether hedge funds need to be more strictly regulated. As a special investment vehicle designed for large institutions and rich personal investors, hedge funds are notorious for their ruthless trading strategies aiming to reap as high absolute returns as possible, which usually came with very high risks. The financial leverages hedge funds often utilize had more or less contributed to almost every financial crisis we have faced in the last decades. Typical examples include the fall of Long Term Capital Management (LTCM) in late 1990s and its recent counterpart Amaranth in 2006.

Therefore, the world has recently seen a desire to put more strict regulations to curb hedge funds by most countries. This was well manifested by what was happening in Germany, which had already started a series of legislative moves “against” hedge fund. As Peer Steinbrück, the Finance Minister of Germany commented during G7 meeting of 2007, “any mistakes in the hedge funds’ calculations may well trigger off a vicious circle which will have negative implications similar, or even worse, than the financial crises we saw in the 1990s.” [1] There have been similar moves taken by Steinbrück’s counterparts in the States. For example Connecticut's attorney general, Richard Blumenthal, said after the fall of Amaranth, which lost 6 of its 9 billion assets in less than a week during Sept. 2006, “The facts about mammoth losses by Amaranth offer

additional powerful and compelling evidence about the need to reform disclosure and oversight requirements [for hedge funds]." [2]

In this article, we will briefly review how hedge funds are currently regulated and what problems they have brought to the financial market. At the end, we will argue that based on what we have seen in the past collapses of hedge funds, restricting their operations by more harsh regulations might not be a good idea.

How hedge funds are regulated?

Contrary to what people generally call them, hedge funds are actually not “unregulated”. They are no less regulated than mutual funds, which are more familiar to most common people. The illusion that hedge funds lack regulation generally comes from the fact that hedge funds are exempt from certain laws. Before discussing the major problems facing the hedge fund industry, we need to review relevant legislative structures for hedge funds and understand why they are “exempt” from certain provisions.

First, a hedge fund is nowhere different from any other investment vehicles as a general investment company. It is regulated in two basic aspects: tax laws and securities laws. We will only focus on the part related to security laws in this article as tax issues themselves might bring much more complications in a necessary manner.

Every hedge fund is regulated by the Security Act of 1933 since it is considered as a security. The difference of a hedge fund from another common security is that it usually registers itself under Regulation D as a “private

placement”. This is the key different of a hedge fund from a mutual fund or a company publicly offered stock. Thus a hedge fund cannot be advised or offered to the general public. It is, by nature, a game for rich investors.

Secondly, a hedge fund is different from another investment company is that it usually qualifies itself for Section 3 (c)(1) of Investment Company Act of 1940[3], which relieves registration requirements if an investment company make distributions among less than 100 investors. Compared with most open-end mutual funds who allow any number of clients to buy their funds every day, hedge funds again demonstrate its intrinsic nature: small and private. The National Securities market Improvement Act of 1996[4] further added one more exemption from SEC registration in section 3 (c) 7 for any investment companies with unlimited client as long as each client has an a net worth of 5 million dollars. These two types of funds are thus nicknamed 3c1 fund and 3c7 funds, which are two most common types for hedge funds legal structures now. That’s also the reasons that people often call hedge funds “unregistered entities”.

Third, we review the Investment Advisers Act of 1940[5], which governs bookkeeping and reporting activities for investment companies. It also contains an exemption section 203 (b) 3, which relieves the reporting duties of a fund manager who has less than 15 client. As one hedge fund is usually counted as one client for that manager, most hedge funds are exempted again from reporting to SEC.

Besides the basic three Acts we have discussed, there are a few more things that distinguish a hedge fund from another investment vehicle, which could be summarized as liquidity constraints, trading restrictions and marketing restriction.

(We will not go to details but interested readers can refer to the book All About Hedge Funds[6])

Now we are clear that the fundamental principle under regulating a hedge fund is to avoid unnecessary restrictions as long as it can be considered as activities among a small group of rich people, who can take risks and who have enough money not to become social burdens when their aggressive investment fails.

What are the most controversial issues?

Fall of hedge funds usually make headlines of media and received a lot of following coverage. As modern hedge funds become larger and larger, it seemed that they are bringing in instability. They might no longer look as a private group making investment.

When analyzing the fall of a hedge fund, two major problems have been discussed again and again. The first one is the high leverages hedge funds usually use to boost its gains. The famous fall of Long Term Capital Management in 1997 is a well-known example and the fall of Amaranth in 2006 seemed simply repeating the history. The hunger for high-leveraged position simply originates from the greed for high returns. Thus this remains one of the top problems for central bankers or security administrators in most countries.

Aside from that, financial industry often suffers from the issue that hedge funds usually don't like to disclose their position or trading activities, or anything they can avoid to open. Since most hedge funds exploit certain proprietary trading

models, they don't want other people to follow or analyze their trading styles. Thus it is understandable that they don't want to disclose their holding. But with almost opaque trading books, most financial problems could be deeply hidden. That's what exactly happened during the asset-backed security crisis (mostly in the area of sub prime mortgage-backed securities) in this summer. Most investment banks had chosen to bail out their child hedge funds instead of disclosing their position for applying bankruptcy because they don't want make their positions of asset backed securities public.

Do we need more regulations?

Until this point, there is really not much we can do to better regulate the hedge fund sector. As we have discussed earlier, the first problem a hedge fund might bring is its high leverage. In today's world, a default of a large leveraged position could be detrimental to the whole market and every single investor could be harmed from it. This argument is one crucial driving force for those who propose more regulations. However, hedge funds usually establish their high leveraged positions by mutual agreed contracts with other fully functional and consenting parties. There are no reasons that the legislators should forbid this. The banks or any institutions providing money or loans should automatically tighten their fund and restrict more on their lending requirement. Thus the situation should be considered as something the market could adjust to with better due diligence. There is indeed not much left to do for the regulators.

The second problem of reporting or disclosures is also difficult to regulate. If quarterly reports are needed from each hedge fund, it could results into ton of papers being sent to SEC. Such is hedge fund's nature that it usually has very frequent account turnovers looking for quick and imminent profits. This will

firstly first make it impossible for SEC staffs to examine all their trading activities or position. Secondly, most reported activities or position would be stale on a quarterly basis so the report itself could become useless. Thirdly, investors in hedge fund are usually rich people and they have necessary resources to carry out due diligence. The hedge fund should be willing to disclose their performance to potential clients and they are well capable of striking a good balance between keeping their strategies secret and marketing to a small circle of private investors. Therefore, requiring hedge funds to report to SEC or the general public is not necessary.

Aside from the two issues, we face more practical problems as to how a hedge fund is legally defined. One of the SEC's requirement asking large hedge funds to register with them was struck down by a New York District Court because of exactly this reason. "The court specifically attacked the SEC's definition of the word 'client', saying regulators did not provide a detailed enough explanation of what the word means in the context of a hedge fund." [7]. The court specifically attacked the SEC's definition of the word "client," saying regulators did not provide a detailed enough explanation of what the word means in the context of a hedge fund. It is also well known that there is only small difference between hedge funds and other private investment entities like private equity or venture capital, which differs in strategy but bear similar legal structures from hedge funds. Private equity and venture capital don't bring troubles that hedge fund bring to us so that we can't put the same regulations to all of them.

We conclude this article by how Timothy F. Geithner, the President of Federal Reserve Bank of New York, put it, "The fundamental challenge for policy is how to achieve the appropriate balance between efficiency and financial resilience." [8]

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FINANCING SPACE ASSETS AND PRIVATE BUSINESS ENTITIES (PART I)

I. Introduction

A. Space Technology and Law

Have you ever thought about who owns the satellite when you listen to the satellite radio, or watch satellite television? While society benefits from the satellite technology such as satellite television, radio, navigation, phone and so on, international organizations, governments and space industry are disputing over the ownership of the satellites, what space assets are, and how to get financing. Likewise, defining space assets and the protection of financiers to space assets is very new and critical for the entertainment and space industries. This is because of the tremendous capital and interest of investors is related to space assets and they have great potential to be developed more.

Although the space technology contributes to the entertainment industry only with the satellite technology for now, it is being developed and improved. A lot of investors are willing to involve the space technology and industry because they can see the potential of the space technology and space assets. Also, commercial space means business to entrepreneurs.

However, it also has a big risk, for example, when the satellite or spaceship explodes before or after launching or it loses its orbit, investors lose their money

and efforts. Also, as the space assets are mobile and cannot stay in a certain jurisdiction, it makes defining the ownership of space assets more difficult. Therefore, investors and governments want to be secure and try to set a legal protection. Representatively, the UNIDROIT, International Institute for the Unification of Private Law,[1] makes a great effort to gather all people involved the space industry and they discuss to legislate a uniform international space law for the private sector.

B. UNIDROIT – Preliminary Draft Protocol on Matters Specific to Space Property to the Convention on International Interests in Mobile Equipment (Space Protocol)

The UNIDROIT Convention on International Interests in Mobile Equipment [2] was adopted in Cape Town in 2001 and has expanded its scope to aircraft, railway, and space assets with protocols.[3] There has been the Convention on Registration of Objects Launched into Outer Space[4] which provides the Registry of Space objects in the Context of International Space Law. The Convention requires all States Parties obligatory register space objects. The purpose of this Convention is “to notify to other States where a launching State’s space objects are located in order to prevent collision” and to make “identifiable the potentially liable launching State for damage cause by a space object.”[5] However, The Space Protocol has a different perspective. It “aims at facilitating the private[z]ation and commerciali[z]ation of outer space by protecting private investment in that sector.”[6]

According to the UNIDROIT, the purpose of the protocol related to space assets (the Space Protocol) is;
to address the difficult task of applying the benefits of the Convention to space

assets, which are increasingly being financed by private-sector investors rather than central governments, which are subject to a myriad of existing regulations under international treaties, and which are often physically located beyond terrestrial jurisdictions. [7]

The primary goal of the Cape Town Convention is to reduce the costs, and increase the availability, of credit to the affected industries.[8] In other words, drafters created the Protocol with “four objectives in mind: (1) to provide international protection to security interests in high-value, uniquely identifiable mobile equipment; (2) to give holders of such interests a set of default remedies they can expeditiously exercise; (3) to create a system of public registration to perfect such interests so as to give notice to others; and (4) to establish rules ordering the priority of those interests.”[9] The Convention does so by reducing the risk that an extension of credit will not be repaid.[10] The proposals seek to increase the security that the Space Protocol would provide.

The Protocol is currently under consideration by an inter-governmental negotiation process which includes representatives from private-sector financiers and the space industry. Several groups are involved in improving the preliminary Protocol such as the Space Working Group, “the core membership of which was provided by manufacturers, financiers and users/operators of space property,” the United Nations Office for Outer Space Affairs, the European Space Agency/European Centre for Space Law, and the International Bar Association at the invitation of the UNIDROIT.[11]

This article will introduce how the international community is trying to have a unified space law, especially, the definition of space assets and the treatment of debtor’s rights and related rights cooperating with the UNIDROIT. It will also introduce different views on this matter amongst the international organization, governments and space industry, especially Boeing involved in the Convention

very much. This article will examine how the Convention will affect the private financing community as well as commercial satellite business with plenty of their lawyers.

II. Definition of Space Assets

A. Definition

The Cape Town Convention states that it will enter into force “only as regards a category of objects to which a Protocol applies.”[12] Also, the Convention requires the registration of space assets which protects creditors who invest in the space assets, the trustees in bankruptcy, and creditors in the obligor’s insolvency.[13] Therefore, it is very important to clarify the definition and scope of space assets.

“Space assets[14] ” mean;

- (i) any identifiable asset that is intended to be launched and placed in space or that is in space;
- (ii) any identifiable asset assembled or manufactured in space;
- (iii) any identifiable launch vehicle that is expendable or can be reused to transport persons or goods to and from space; and
- (iv) any separately identifiable component forming a part of an asset referred to in the preceding sub-paragraphs or attached to or contained within such asset.

As used in this definition, the term “space” means outer space, including the moon and other celestial bodies.[15]

The phrase “space assets” have been used in the Cape Town Convention but have not been defined in the international space law before such as the space treaties which uses the term space property or space objects.[16] Space assets

“would not only cover satellites used for telecommunications but would cover satellites used for any purpose, including satellites used for remote sensing, and would also cover the component parts of satellites, such as transponders.[17]”

The definition includes “space assets on Earth intended for launch into outer space, intangible rights to control satellites, contractual rights, proceeds and revenues, and other rights yet to be established” as well as “debtor’s rights to payment or performance under agreements secured by or associated with space assets.”[18] Associated rights[19] include permits, licenses, authorizations or equivalent instruments granted or issued by governmental bodies, and authorizations to use space any kinds of assets.[20]

It is very broad and encompasses any separately identifiable component since it reflects the possibility of travel to the space and other future development related to the space technology. Thus, it can cause tremendous numbers of “registrations of international interests[21] by component providers whose contribution to a satellite may be relatively small.”[22]

B. Current Dispute on the Issue

First of all, there is a concern whether the Protocol’s definition of “space assets” should be consistent with the international space law’s definition of “space object.”[23] However, it seems that majority agrees with that consistency is necessary since the purposes of each law are different. Likewise, the Protocol focuses on private law and “protection of financiers who enter into private law contracts” while the space law focuses on public law.[24]

As mentioned above, there is a conflict on the definition of space assets regarding the broad applicability of the Protocol. Some delegations pointed that the word “component” in sub-section (iv) was too abstract.[25] A component can include even a camera on a satellite or space probe which is not specifically

created for a space asset.

The definition also causes a conflict between common law jurisdiction countries and civil law jurisdiction countries. Since each jurisdiction has different legal concepts on property rights, it is an indispensable debate. The U.S., Canada, and England agree with the broad definition of space assets.[26] Because in these countries components are sold, purchased, and financed separately, they urge those components should be included in the definition of space assets. However, civil law jurisdiction countries, such as Germany, Greece, Russia, and Senegal, are against this opinion because a component is merely an accessory which does not have any independent right.[27]

Professor Robert Goode has proposed to solve this problem in his Explanatory Memorandum. He suggests a two-tier approach;

(1) to provide a list of items that should clearly be included in the definition such as satellites, transponders, space stations, space vehicles, launch vehicles and reusable space capsules, and (2) regarding other identifiable objects, to cover these only if there is agreement with the satellite owner that these are to retain their separate identity after affixation.[28]

Most members of the Space Working Group seem to agree with this proposal but they are still working on it to seek consent. This Proposal limits the broad definition of the original draft which includes almost everything related to the space technology and rights and gives discretion to parties of the agreement on the space assets.

Another commentator suggests providing one detailed definition, with a comprehensive and conclusive list of space assets and components to be included.[29] However, this proposal might cause unavoidable problems with novel space assets which no one can even imagine would exist in the future. Another proposal regarding flexibility is to provide for a simplified quick

procedure for covering additional categories of space assets, without the need for convening a full diplomatic Conference to amend the definition.[30]

C. Conclusion

Although these proposals have at least minimal problems, it would work out if the draft keeps Professor Goode's proposal and harmonizes it with the simplified procedure for additional space assets. It also will cause trouble since it is very flexible and each agreement would include different space assets. However, it has to be considered case by case and opened to new space assets which cannot be expected from the current space technology and knowledge. There is not yet a set definition of space assets but another plenary session will take place in Rome in 2008.

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[29] Hobe, *supra* note v, p.20.

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LEGAL OUTSOURCING: THE ENDANGERED ASSOCIATE

For the past 30 years United States manufacturing jobs have been outsourced to foreign countries as a means to save both time and money. [1] Long thought to be immune from outsourcing, American workers in the service industry have also recently been replaced by cheaper, foreign workers. [2] For example, customer service and technical support telephone numbers are often rerouted to call centers in India. [3] As service providers themselves, should lawyers and law student be worried that they may be replaced by a cheaper alternative? Is there a substitute for seven years of higher education and a degree worth six figures in student loans? In actuality, there is, and in-house legal departments and law firms alike are taking advantage of the opportunity.

The Dallas law firm Bickel & Brewer began the phenomenon of outsourcing legal work in 1995 when they realized they could hire a lawyer in India to work for just \$2.00 an hour. [4] The company created by Bickel and Brewer now handles legal work not only for their firm, but for other clients based in the U.S. as well. [5] While most of the legal work currently outsourced is low-level paralegal work, some companies are beginning to focus on more specialized and sophisticated services such as patent applications. [6] Lexadigm, a legal outsourcing company in India, boasts they can provide the same quality work as large law firms while

only charging 1/3 of the price. [7] Salaries for their attorneys start as low as \$6,000 per year. Even at \$36,000, the salaries of their top earners pale in comparison to the starting salaries at top firms in the U.S. [8] Among the services Lexadigm offers are preparing trial and appellate briefs, document review, preparation of patent applications and competitor patent review, contract drafting, and a myriad of legal research services. [9] Lexadigm has also drafted briefs for submission to both Circuit Courts of Appeals as well as the U.S. Supreme Court. [10]

There are several incentives for firms to outsource their legal work overseas to countries such as India. The first and most obvious is the cost savings to clients as well as to the firms themselves. While a lawyer fresh from a top American law school may start as a new associate at a firm for up to \$160,000 per year, the starting salary for a lawyer at Lexadigm is only \$6,000 per year. [11] While Lexadigm's starting salary is up to three times larger than the starting salary at most Indian law firms, the cost savings to firms in the U.S. is staggering. [12] In 2003, Bruce Masterson, the C.E.O. of Socrates Media L.L.C., opted to hire a firm from India to tailor leases for each state at a cost of \$45,000, a price tag that was \$355,000 less than the estimate his outside counsel had quoted. [13] By utilizing offshore legal services, law firms can realize up to an 80% savings for basic legal work such as legal research, patent review, and transcription services. [14]

Another advantage of outsourcing to India is the difference in time zones. [15] An attorney can electronically send work to India as he is leaving the office, and return the next morning to the completed assignment. [16] The ten hour time difference also has its drawbacks. [17] Supervising the Indian attorney and communication in general becomes more difficult with both attorneys essentially working opposite hours of the clock. [18] There is also the issue of quality

control. [19] While preparing patent applications is one of the most common outsourced legal tasks, [20] patent applications must be very specific, and poor drafting could leave a company holding a virtually worthless patent as well as opening up the drafting firm for malpractice. [21]

Though most attorneys may not believe they are easily replaceable by outsourced foreign attorneys, the truth is that more and more firms are opting for this cost saving measure. Ten of the highest grossing U.S. law firms were asked to comment on the trend toward outsourcing legal jobs; seven of those firms declined to comment. [22] Only one, Mayer Brown Rowe & Maw, stated they did not outsource any legal work overseas. [23] When a client requests outsourcing to save money, firms such as Jones Day and Kirkland & Ellis send basic legal work to India, saving the client a substantial amount in legal bills. [24] A Forrester Research Inc. forecast estimates that 50,000 legal jobs will be outsourced to other countries by 2015. [25]

The outsourcing of American jobs to foreign countries is a touchy subject, and many firms do not want to risk alienating clients and damaging their reputation by an often unpopular practice. [26] As more firms opt to use this cost saving measure, however, the court of popular opinion may sway in the opposite direction, making outsourcing a more acceptable alternative. [27] David Perla, co-chief executive of a New York and Mumbai based offshore legal service company, speculated that law firms were not ashamed of using the practice, but instead wanted to maintain the competitive advantage offshoring provided. [28]

With technology advancing in leaps and bounds everyday, countries become interdependent on each other for economic success. This globalization is a double edged sword for the U.S. legal market. Law firms are able to offer their clients

more service for less money, and general counsel can appease their corporate shareholders with higher profits. Unfortunately, legal jobs in the U.S. are cut in the same fell swoop. While there has not yet been an exodus of outsourced legal work, if this practice becomes standard many firms will have no choice but to outsource as well to compete.

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- [25] *Id.*
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PRIVATIZATION IN CHINA

The term privatization was believed to be coined in 1936, first appearing in a chronicle published in “The Economist”. It did not become popular until 1980s when most European countries began their privatization efforts. With the fall of USSR and other socialist countries in the early 1990s, the tide of privatization has reached a lot of developing countries. As an example, for four Eastern European countries (namely Poland, Hungary, Czech and Slovak) in Eastern Europe, “the average share of national GDP attributable to the private sector increased from 20% to more than 50% over the three year period 1990-1993.” [1]

As a country trying to reforming its economic system into a capitalistic one and also being the largest one of the only four surviving communist countries (China, Cuba, North Korea and Vietnam), China also noticed this global trend of privatization and has started to plan its own privatization procedures. Target sectors include utility, telecommunication, railway, post system, banking and various others, which were previously controlled by special committees of the government under a planning economy. After more than 20 years of reforms, most of these sectors have seen a shift from governmental committees to state-owned companies. Therefore, the Chinese government is naturally seeking for the next step: pushing those companies further into the “free market” and relieving

itself from the operational and management duties, only keeping the governance responsibilities. This was what they did later in the telecommunication companies by listing them in Hong Kong.

In recent years, the banking sector has become the focus. It is interesting to note that the next area to which the government may shift is its post system. With the recent emergence of UPS and FedEx in China's domestic parcel service market, discussions of a possible reform of China's post system have frequently appeared in various media or forums. As China has been quickly expanding its economy for almost 20 years, it is crucial that a healthy and powerful financial market be established in China to sustain its growth. Besides trying to establish a security market from scratch, the Chinese government also felt it was necessary to reform its long-existing commercial banks, which had long been part of this country's government since it was established in 1949.

One of the recent news that hit many financial analysts in Wall Street was the Initial Public Offering ("IPO") of the Industrial and Commercial Bank of China ("ICBC"), setting the record for the amount of money it raised among all IPOs ever made over the world. The IPO of ICBC was actually one of the steps the Chinese government had taken to privatize (or at least partially privatize) its four major commercial banks: ICBC, China Construction Bank ("CCB"), Bank of China ("BoC") and Agriculture Bank of China ("ABoC"). CCB and BoC have already performed IPOs during the last 18 months and the IPO of ABoC is scheduled at 2007. Table 1.1 shows the scale of these four largest Chinese commercial banks and Table 1.2 shows the comparison of ICBC with Bank of America ("BoA"), one of US's major commercial banks. From these figures, we can see that these banks are "noteworthy for scale alone," like ICBC, which was "established in 1984 as China began its capitalist turn, boasts \$724 billion in

deposits, 355,000 employees and 18,038 branches, more than three times as many as Bank of America, the United States' largest bank.”[2]

Table 1.1 Assets and deposits of China's big four (in billions dollars, as of 2005[3])

Banks	Assets	Deposits	Loans	Branches
ICBC	815.2	724.0	415.4	18038
ABC	603.5	510.6	357.9	31004
BoC	599.9	468.5	282.7	11910
CCB	580.0	506.7	311.0	14467

Table 1.2 Comparisons of ICBC with BoA (in billions dollars, as of 2005[4])

Banks	Assets	Loans	Branches	ATMs	Employees
BoA	1400	668	5779	16984	201898
ICBC	815.2	415.4	18038	19026	355000

Chinese banking system had been operating under China's planning economy for a long time. This historic system was no longer working after China turned itself to market economy at the end of 1970's. However, the old system had left with the Chinese government a huge amount of non-performing loans

(NPL or “bad ” loans) and a seriously corrupted management (especially for high bank officials). They had become two most urgent problems facing the Chinese banking system. Back in the old days, Chinese banks offered loans solely based on political decisions of the government and there were no mechanisms for risk management or credit policy. Without any evaluation or restriction on the creditworthiness of borrowers, it was not surprising that Chinese commercial banks were having tremendous bad loans, which became apparently very serious in the early 1990s. This finally led the Chinese government to consider taking reforms in its banking industry. Based on an article in the year of 2003, “Ratings agency Standard and Poor's said yesterday it has cut its estimate on the non-performing loan (NPL) ratio for Chinese banks to 44 to 45 percent from 50 percent. It also raised its estimate on NPL recovery rate to 20 percent from 15 percent based on recent observations of Chinese banks and asset management companies.”[5]. These figures have been decreasing since China started banking reforms. In 2004, “China's major banking institutions slashed the ratio of non-performing loans (NPLs) by 5.32 percentage points to 17.8 percent last year, according to a press conference Thursday.” [6]. It was reported that “Chinese banks have seen their average Non-Performing Loan (NPL) ratio drop to single figures for the first time, reports the banking watchdog. In their latest report, the China Banking Regulatory Commission (CBRC) revealed the banks' NPL ratio has shrunk 4.2 percentage points in 2005 to 8.6 percent.”[7]

Although these numbers looked promising, the prospect of Chinese banking industry was still dim at that time. As pointed by Professor Victor Shih from Northwestern University [8], in those years “Chinese banks actually had a net increase in NPL amount, although the ratio fell in 2004. The only reason official figures report a drop in both NPL ratio and absolute NPL amount is that 50 billion USD was transferred from the foreign exchange reserve to the BOC and

CCB to help them write-off NPLs. Without the write-off, China's NPL would stand at 2.18 trillion RMB, which is "just" 16% of GDP. China has had high growth this year and now has a GDP of some 13.65 trillion RMB". This was not the full story of the figure yet. Moreover, people still questioned the accuracy of the number. As pointed out by Professor Victor Shih again, "this NPL figure only includes the 16 largest banks in China and does not include NPLs in the smaller city commercial banks and all of the rural credit cooperative" and "the other issue is false reporting by branch banks. Because of intense pressure to reduce NPL ratio, many branch banks have falsified NPL ratios or have hid them by rolling over loans. No one really knows the magnitude of this problem, but the problem might well add another 10% to China's NPL ratio." [9] It was very clear that simply more injecting money to write off bad assets would not help very much.

The second major reason for Chinese banking industry reforms is the commitments made by the Chinese government to open its domestic banking market to foreign banks at the end of 2006 under the agreement China made when joining the WTO. Before that agreed date, foreign banks might pose very little threat to Chinese banks as it was reported in [10] that "At the end of year 2003, foreign equity stakes in Chinese banking institutions were just \$500 million or 0.3 percent of total banking capital. Foreign banks held only about 1 percent of total banking assets. By contrast, China's five largest SBCs (State Controlled Bank) ... control over 60 percent of the country's loans and deposits." However, the Chinese government feared that without further reforms, it would be impossible for Chinese commercial banks to compete with foreign banks. As Liu Mingkang, chairman and president of the Bank of China, said in 2001 "In five to 10 years, Chinese banks may be faced with problems, such as the loss of clients and brain drain, as a result of foreign banks' flooding into China." [11] Thus, turning those

major commercial banks that had been heavily burdened by NPL to more efficient and profitable banks that can operate under market economy becomes a necessity.

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IT'S NOT EASY BEING GREEN [1]: THE TECH INDUSTRY SEEKS GREENER SOLUTIONS TO ITS RAPIDLY INCREASING ENERGY DEMANDS

I. Introduction

Why do companies go green? A cleaner, more efficient energy solution certainly sounds progressive and looks great on paper, but aside from generating good public relations with environmental groups, is it an economically sound investment? In the case of the tech industry and its rapidly increasing energy costs and demands, it may be their only option. Put another way, the answer may be a resounding "Yes."

To illustrate this problem, take for example the ubiquitous IT data center, or the air-conditioned computer farms found at the heart of almost any large technology firm. [2] They offer increasingly more complex and useful applications, web pages, internet traffic and processing power, but at significantly increasing costs. [3] Data centers are massive energy consumers and may require as much as fifty times the power of a comparably sized office space. [4] Despite some recent notable improvements in hardware power efficiency [5], the Environmental

Protection Agency (“EPA”) released a report on August 7, 2007 that projected the tech industry’s overall electricity consumption to double between 2006 and 2011. [6]

II. The Green Factors

Several key factors are driving the accelerated effort to convert to "greener" energy solutions including rising power demands, increasing energy costs, and government mandated energy efficiency policies and economic incentives. [7]

A. Increasing Power Consumption and Energy Costs

The consumption of energy in data centers, for example, involves as little as 30 percent of the total electricity consumed to actually run the computers. [8] The remainder is largely reserved for the industrial air conditioning that cools the densely packed rack-mounted servers down to approximately 40 degrees to ensure that no single server's temperature ever rises above its optimum level for maximum performance. [9] Power consumption and usage inefficiencies are rampant in an industry that historically turned a blind eye to the environmental footprint until it started affecting their bottom line. [10]

The technology sector as a whole is seeing power consumption rise rapidly, with the IT industry consuming roughly 61 billion kilowatt-hours, which amounts to a roughly \$4.5 billion cost, as reported by the EPA in 2006. [11] This amount is expected to double by 2011. [12]

B. State and Federal Energy Policies and Economic Incentives

California has enjoyed an accelerated growth of the clean technology sector in Silicon Valley due to the state’s clean tech backing policies. Because of this, it has quickly become the U.S. leader in state-sponsored energy incentive programs. [13] For example, California has created incentive programs to increase the use of solar panels on homes in an effort to help achieve a 25 percent

reduction in greenhouse gas emissions by 2020, and requires that public utilities must generate 20 percent of their electricity from renewable resources by the year 2010. [14]

Though California trailblazes state-run initiatives for the conversion to green power, the federal government has also contributed to the effort. The EPA offers financial incentives, including tax credits and utility rebates, to help expedite the tech industry's segue into greener power solutions. [15]

III. Green Solutions

A. Existing Technologies

While the utility and tech industries seek out new and more efficient technologies, some efficiency reducing solutions already exist and are being implemented. The EPA estimates that the easiest and least expensive changes to data center operations (including tweaks to the software, the server layout and air conditioning), could increase efficiency by as much as 20 percent. [16] While these changes alone will provide substantial savings, it will not offset the 45 percent reduction necessary to lower overall electricity usage by 2011. [17]

A number of data center components are currently being manufactured that are robust enough to withstand sustained ambient temperatures of 122 degrees Fahrenheit. [18] This could eliminate the need for the massively power-hungry cooling systems, resulting in data centers that are hundreds of times more efficient. [19] Companies like IBM, Sun, and HP are currently spearheading this clean technology effort to one day offer technological solutions to realizing self-sustained, no-outside-cooling-necessary data centers. [20]

B. Alternative Solutions

While the technology sector searches for ways to increase power efficiency and reduce their environmental footprint, the utility industry is seeking cleaner and

more affordable alternatives to the use of fossil fuels. [21] A wide array of new and innovative alternative energy sources are coming to the forefront in the push for greener renewable resources.

Wind energy, though currently only comprising a half of a percent of total U.S. energy consumption, is the fastest growing source of renewably energy in terms of usage and capacity due to its remarkable cost per kilowatt of producing electricity [22], green power mandates and federal tax credits. [23] The Energy Department expects wind generated power to reach 46.2K megawatt hours this year, constituting greater than a 300 percent increase from 2004. [24]

Other innovative technologies are emerging as viable renewable energy resources. These include solar, fuel cells, clean coal [25], extracting liquid natural gas from landfill waste, harvesting wave energy [26], and smart grid technology (an intersection of information technology and energy distribution). [27] There are even more exotic solutions like bioengineering yeast cells to consume sugar and excrete biofuels [28], harnessing lightning, and even creating man made tornadoes to theoretically produce as much energy as a nuclear power plant. [29] The future of green technology is remarkably rife with innovation and outside-the-box thinking.

The Future of Green Energy

Silicon Valley is experiencing a boom, commonly referred to as “Boom 2.0”, in the number of green-tech start-ups that are developing environmentally friendly technologies. [30] Venture capital firms nationwide have invested \$2.9 billion into these clean, green technology start-ups in 2006 alone, constituting a 180 percent increase from 2005. [31] Investments are projected to increase to \$8.7 billion by 2009. Most IP attorneys involved in green technology say clean technology is here to stay, regardless of the relative price of oil which has driven

its popularity in the past, and are reporting an impressive increase in patents and licensing in the clean tech sector with no end in sight. [32]

Conclusion

With the advent of rising energy costs, increasing usage demands, and mounting regulations by state and federal legislatures to force corporations to convert to renewable energy sources to meet progressively tighter environmental regulations, companies are forced to adapt by investing in cleaner energy alternatives.

The EPA and the current state-of-the-art of clean technology offer solutions to significantly improve energy efficiency in IT data centers to help achieve lower energy consumption amidst a climate of increased technological usage. Furthermore, with rapidly increasing investment in clean technology research, innovation, patents, and licensing, the energy sector is primed to manage the rigorous energy demands of the future in the most economically feasible and environmentally friendly manner. The “green movement” has had a slow and somewhat turbulent beginning, but from here on out it looks like blue skies.

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HOW CAN WE PROTECT FASHION DESIGNS WITH TRADEMARK LAW?

Gucci's shoes, Louis Vuitton's bag, and Chanel's clothes . . . no one would deny the fact that the fashion industry continuously invests tremendous amounts of capital to intellectual creativity and marketing. Such investments earn the industry a tremendous amount of money. As brand names and trademarks become more recognized, trademark owners struggle to find strategies to protect their trademarks and designs from appropriators.

Today, trademarks and brand names have become a major international matter. Trademark owners are justly concerned about others appropriating their trademark in light of the substantial monetary investment required to cultivate and promote public awareness. This is the fundamental reason for protecting marks.[1]

In practice, however, it is difficult to regulate trademark appropriation internationally as marks, especially famous marks, are becoming globalized. This situation creates several international organizations and regulations, such as the World Intellectual Property Organization (WIPO)[2] and International Trademark Association – Representing Trademark Owners (INTA),[3] and conventions such as the Paris Convention for the Protection of Industrial Property (Paris Convention),[4] Madrid System for the International Registration of Marks (Madrid System),[5] Trademark Law Treaty, [6]and Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).[7]

Regarding trademark protection in the fashion industry, many fashion houses are struggling to protect their design that bears their unique character and trademark. Efficiency and effectiveness of these regulations are a significant concern as the fashion industry crosses borders all over the world via the media; e.g., televising fashion shows and celebrities being sighted while wearing a particular brand or designer. Big fashion houses value their brand equity.[8] Most develop a bond with their customers through their brand names and fiercely protect these through registration of trademarks and protection of associated artwork by copyright law.[9] In accordance with the goals of trademark law, the trade dress, which is the overall look of manufacturer's goods, expands the protection of commercial designs and symbols broadly.[10]

For example, Louis Vuitton uses its trademark, the initials "LV" logo with two distinct coloring patterns, printed on leather women's handbags.[11] It is a prominent example that of a fashion house using its own trademark to create its pattern and product designs. Trade dress "encompasses the design and appearance of the product together with all the elements making up the overall image that serves to identify the product presented to the consumer." [12] Trade dress consists of the "total image of a good as defined by its overall composition and design, including size, shape, color, texture, and graphics." [13] It is the image itself, however, that may be represented in or by the written word.[14] To be protected as trademark or trade dress, a mark should acquire "secondary meaning" when "in the minds of the public, the primary significance of a [mark] is to identify the source of the product rather than the product itself." [15]

However, there is a possible significant limitation on the trademark protection of fashion designs: functionality. The functionality doctrine protects "the integrity of utility patents by prohibiting manufacturers from claiming functional aspects of their products as trademarks" and fosters "competition by allowing competitors to copy even distinctive features that are required to make a product useful, or

indeed to make it at all.”[16] Under this doctrine, an ornamental feature is considered as functional and therefore those designs are not eligible for trademark protection.[17]

However, this doctrine has been criticized that it discourages trademark and trade dress to protect fashion design. There are various functionality tests and among them the “aesthetic functionality test”[18] would have been “inappropriate because it provides a disincentive to creators of pleasing designs.”[19] If a feature is an important ingredient in the commercial success of the product, the feature is functional.[20] This poses a conundrum because “in order to satisfy the requirement of secondary meaning a product must have acquired some degree of commercial success.”[21] As mentioned above, a trade dress should be distinctive and acquire secondary meaning. Under the functionality doctrine, every fashion design commercially succeeded will be functional and not be protectable. However, aesthetic functionality alone will not create functionality. While aesthetic functionality is a consideration, the main emphasis in determining functionality is whether the feature is so important that others need to be able to use it so they can compete.[22] Courts should weigh more on the latter and try to protect creative designs as much as they can.

Another possible protection for fashion design is the design registration separate from the trademark regime. While filing an application for a registered industrial design may be the best way to prevent others from using the design, manufacturers of a design do not register their designs commonly, given the short lifespan of the protection. [23]However, for fashion items with a long life span, it is possible to request at the time of filing – not after – that the publication of the application be deferred for up to 30 months.[24] This is a particularly useful feature, offered under the Hague System for the International Registration of Industrial Designs,[25] the European Union community mark,[26] and many national systems, for those who may want to keep their design secret until it

comes into the market.[27]

An interesting example of strategic use of a company's trademark in the fashion industry, is reflected in Pickwick,[28] an Italian casual clothes company.

Pickwick originally only had the trademark.[29] The owner of the trademark selected clothes which would appeal to the younger generations and put the trademark on the clothes. Now teenagers perceive the Pickwick logo as trendy and are willing to pay extra for clothes bearing its trademark. The company subcontracts the manufacturing of clothes and it solely focuses on marketing, distribution, and monitoring and controlling the use of the trademark.[30] Business managers need to identify such relevance between design and trademark in a timely manner, determine their business relevance, and agree on those to be protected and leveraged through the Intellectual Property system.[31]

Sources

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WHEN PRETEND MONEY HAS REAL VALUE: A STUDY OF VIRTUAL PROPERTY IN ONLINE GAMING

The increasing availability of broadband Internet has led to the popularization of virtual worlds. As of September 17, 2007, Linden Research, Inc. ("Linden Lab") boasted 9,562,490 "residents" in Second Life, an Internet community modeled after real world environments and mimicking real life interactions. [1] Those who are more interested in escaping reality can happily immerse themselves in Paragon City, where a mere \$29.99 membership and a \$14.99 monthly fee allows an online gamer to battle villains and connect with other players as a spandex-clad superhero in NCsoft's "City of Heroes" ("CoH"). [2] Market analysts predict that online games will yield \$11.5 billion of revenues worldwide in 2011 at a 25.2 percent compound annual growth rate. [3] Virtual worlds have become the newest medium in which Internet denizens explore, play, and interact.

A virtual economy is present in most virtual worlds. An inhabitant of the world can exchange many kinds of virtual property for virtual currency. Virtual property comes in several forms:

- An **avatar** is the in-world graphical representation of a player. Through this character image, the player interacts with the virtual world of the game he is playing. [4]
- An **item** is how this article will refer to personal property of an avatar. During a player's journey through the virtual realm, his avatar will come across any number of virtual objects that it can carry around and

"own." These include virtual weapons, clothing, supplies, and other non-monetary possessions.

- In-world **virtual currency** is any fictional currency that fuels the virtual economy like gold, "Linden dollars," or "influence." [5]
- **Land** or (virtual) real property is a novel concept unique to Second Life. Linden Lab periodically auctions in-world real estate to players to let them develop the new land and start businesses.

Similar to trading Monopoly money for Boardwalk, game developers structure a virtual property transaction on the premise of a fair market value based on in-world supply-and-demand, where there is equal consideration for both parties. [6] But what happens when a Monopoly player, down on his luck, tries to exchange \$5 of real-life money for Boardwalk because he doesn't have enough fake cash? As long as a piece of property is scarce and coveted enough that someone is willing to engage in a real money transaction ("RMT"), other players can capitalize on the demand by accepting outside currency into the system.

One consequence of cashing in is the weakening of the virtual economy. Honoring real-life currency in-game affects the value of the virtual currency and allows the formation of a "gray market" in virtual goods. RMTs also detract from the game experience for more honest players, who often spend hours in gameplay to amass virtual wealth that is suddenly available to unexperienced newcomers. These considerations, among others, lead game developers to regulate their virtual economies to ensure the viability of their creation.

Very little has been decided in the US courts on the specific subject of virtual property ownership. An avatar that "owns" a virtual item in its inventory doesn't necessarily own property rights to it in real life. What a gamer buys when he

signs an End-User License Agreement (EULA) is permission to enter the virtual world; The game company retains all other sticks in the bundle.

The first obstacle to recognition of gamer rights is due to federal copyright protection of the virtual world as a creative work. Although some may argue that a storyline may play out infinitely different ways due to gamer participation, the nature of the contribution to in-game elements does not reach the level of originality to be accorded copyright protection. [7] As stated in *Midway Mfg. Co. v. Arctic Int'l, Inc.*, players that engage in a video game are merely interacting with a pre-determined set of developer-created expressions, "choos[ing] one of a limited number of sequences the game allows him to choose." [8] Therefore, the player doesn't truly own his avatar or its virtual property, because they are defined within and made possible by the virtual world. Each is little more than a string of ones and zeros on a server. If the player doesn't own the copyright to anything within the game, it's unlikely he has the right to sell it.

The second obstacle is that gamers are often contractually precluded from claiming any property rights under the EULA. [9] Blizzard Entertainment ("Blizzard"), who makes "World of Warcraft" ("Warcraft") has a license agreement with its users, retaining "[a]ll title, ownership rights and intellectual property rights in and to the Game and all copies thereof (including without limitation any title, computer code, themes, objects, characters, character names, stories, dialog, catch phrases, locations, concepts, artwork, character inventories, structural or landscape designs, [etc]" [10] Failure to comply can result in confiscation of all virtual property and termination of the member account.

In spite of these legal deterrents, the more daring gamers are not dissuaded from capitalizing on a virtual economy whose growth parallels the expansion of the in-

world community. Accordingly, game companies have dealt with the ownership issues in various manners.

Traditional Approach

In the brief history of online gaming, companies that provide virtual worlds take the full ownership approach, laying claim to any and all creative content in the game as expressed in the binding EULA. After Sony Computer Entertainment, maker of "Everquest," began enforcing its EULA terms in demanding third-party websites to cancel online auctions where users were selling avatars and virtual items for cash [11], auction powerhouse eBay declared all RMTs for virtual items off-limits beginning January 2007: "Due to the legal complexity associated with these types of items, the sale of 'virtual game items' is now banned on eBay. . . . The seller must be the owner of the underlying intellectual property, or authorized to distribute it by the intellectual property owner." [12]

In spite of the policy, players still thrive in the gray market, sneaking their avatars and items postings onto personal websites and auction sites like eBay. A quick search for "City of Heroes" pulls up level 50 avatars for sale and numerous Google ads for online companies hawking CoH virtual currency. Those who sell in-world currency are particularly reviled as "gold farmers": players who work in virtual sweatshops, pointing and clicking their way to amass fictional money for the sole purpose of exchanging it for real money. These "farmers" spam the in-world communication channels regularly for customers, and have multiple accounts to ensure that the operation doesn't end when one account is terminated. Game companies like Blizzard have come up with some clever ways to thwart this practice like enacting "bind on pickup" rules for rare items [13], or implementing a time-delay for the transfer of virtual property between players

[14], but it remains to be seen whether these stricter in-game methods cannot also be circumvented.

Sony Station Exchange

Sony Entertainment Online, maker of "Everquest II" and "Star Wars Galaxies," has taken steps to curb gold farming by providing its own auction site where its players can transfer virtual property in real money transactions. [15] The CEO stated in an interview that RMTs are "a billion dollar industry worldwide and we as game makers need to seriously work to handle it in-game. There is rampant farming in these games With this kind of money involved, it's not going away." [16] The appeal of Station Exchange is that it provides a safe, easy and legal transaction for the parties involved, without getting into messy questions of copyright and ownership. The minimal service fee is a small price to pay in return for security against *caveat emptor* traps like password changes, bait-and-switch tactics, and non-delivery. [17] So although Sony Entertainment Online may retain all copyrights to the creative works within their virtual worlds, the company loosens its grip on the right to sell to reduce infringement and the cycle of oneupmanship.

Second Life

Linden Lab had a different approach. [18] The Second Life community allows a uniquely high level of user interaction with the virtual environment compared to most online games. The official website has video footage documenting how players have created their own virtual objects using a graphic design program similar to AutoCAD. This in stark contrast from classic massive multiplayer online role-playing games (MMORPGs) where items that could be invented within the system were identical to others of its kind, and had a predefined, unwavering formula of ingredients. There is an abundance of creativity and user originality beyond that contemplated in *Midway Mfg.*, that warrants a deeper

consideration of gamer rights in a finished virtual product. The Second Lab EULA unsurprisingly allowed gamers more intellectual property ownership: "[S]ubject to the terms and conditions of this Agreement . . . [the user] will retain any and all applicable copyright and other intellectual property rights with respect to any Content [the user] create[s] using the Service, to the extent [the user has] such rights under applicable law." [19]

The implication is that any player other than the creator of a new virtual object (who owns the copyright) and Linden Lab (who owns a license) that clones the object without permission may be liable for copyright infringement. The first virtual property case in the US has recently been filed in the 13th Federal District Court as of July 2007 to test copyright infringement theory on the Second Life virtual world [20]; The complaint involved an unauthorized cloning of a virtual bed. [21]

Another curious distinction between Second Life and classic MMORPGs is that real money transactions are welcomed and mostly unregulated. Players invest heavily in Second Life's virtual real estate and opportunities to grow startup businesses [22]; Though many come to the virtual world to play and interact, stories of success and overnight millionaires bring others who are there to make a buck while the income is still untaxed by the IRS. [23] A Linden dollar to US dollar conversion rate is calculated daily, and is currently at a 266:1 ratio. [24] Real money can easily be extracted from the virtual system using the conversion rate and Linden Lab's Dollar Exchange program. However, Linden Lab expressly retains the right in its Terms of Service, to tax Linden dollars, distribute them without charge, or cancel accounts without refunds. [25] Though characterized by Linden Lab as "in-world fictional currency," the direct USD to Linden dollar conversion suggests otherwise. [26] It would seem that the broad grant of property rights to the members of Second Life under the Terms has

encouraged players to visit the courts to determine what exactly their rights encompass in this medium.

While the US courts have yet to decide the boundaries of gamer rights and settle concepts of virtual world property, some other countries have decided to weigh in on the issue. In a 2003 case against a gaming company, a Chinese court found in favor of the gamer plaintiff, demanding that the defendant return the equivalent of the plaintiff's stolen virtual property when a hacker exploited a security vulnerability in the software. [27] Last year, South Korea proposed a bill that would prohibit the commercial sale of in-world currency to cut down on the the horrible conditions that some gold farmers are forced to work in by employers. [28]

Ridiculous as it may seem to some, online personalities are exchanging real money to stay in the virtual world a little longer. As Judge Richard Posner of the Seventh Federal Circuit Court of Appeals recently remarked in a Second Life appearance, "with real money being invested in virtual worlds, there need [sic] to be law-like rules to resolve disputes, protect property rights, enforce contracts, protect intellectual property and so forth." [29] It is only a matter of time before the implications of real money transactions command attention from more than just the game companies that run virtual worlds.

[1] Second Life Economic

Statistics, http://secondlife.com/whatis/economy_stats.php (providing daily economic statistics for Second Life) (last visited Sept. 21, 2007).

[2] Play NC, <https://secure.plaync.com/cgi-bin/Store.pl> (displaying price for "City of Heroes") (last visited Sept. 21, 2007).

- [3] Ben Kuchera, *Report: MMORPGs Revenues to Explode Over Next Few Years*, ARS TECHNICA, Sept. 12, 2007, <http://arstechnica.com/news.ars/post/20070912-report-mmorpgs-revenues-to-explode-over-next-few-years.html>.
- [4] Game developers have not allowed the trade of avatars, either inside or outside the virtual world. However, avatars are commonly auctioned without permission.
- [5] "Linden dollars" make up the Second Life currency, while "influence" is the CoH equivalent.
- [6] DR. RICHARD A. BARTLE, *PITFALLS OF VIRTUAL PROPERTY*, Apr., 2004, at 5, available at <http://www.themis-group.com/uploads/Pitfalls%20of%20Virtual%20Property.pdf>.
- [7] Mia Garlick, *Player, Pirate or Conducer? A Consideration of the Rights of Online Gamers*, 7 YALE J.L. & TECH. 422 (2005) (discussing obstacles to court recognition of gamers' virtual property rights).
- [8] *Midway Mfg. Co. v. Arctic Int'l, Inc.*, 704 F.2d 1009, 1012 (7th Cir. 1983).
- [9] Garlick, *supra* note 7.
- [10] World of Warcraft End User License Agreement, <http://www.worldofwarcraft.com/legal/eula.html> (describing Blizzard EULA for Warcraft).
- [11] *EverQuest "Virtual Item" Debate Goes to the Courts*, IGN, Jan. 30, 2001, <http://pc.ign.com/articles/090/090838p1.html>.
- [12] Wagner James Au, *eBay on RMT: World of Warcraft, No... Second Life, Yes*, GIGAGAMEZ, Jan. 29, 2007, <http://gigagamez.com/2007/01/29/ebay-on-rmt-world-of-warcraft-no-second-life-yes>.

[13] "Bind on pickup" refers to a category of items in Warcraft that can only be used by the first avatar that picks it up. Therefore, there is no chance that the property will be traded if it won't function for anyone else.

[14] Posting of Play No Evil Game Security News & Analysis, <http://www.playnoevil.com/serendipity> (Sept. 20, 2007).

[15] Station Exchange, <http://stationexchange.station.sony.com> (showing terms for Sony Entertainment Online auction site).

[16] Michael Zenke, *SOE's Station Exchange – The Results of a Year of Trading*, GAMASUTRA, Feb. 7, 2007, http://www.gamasutra.com/features/20070207/zenke_01.shtml.

[17] *Id.*

[18] One could argue, as eBay did when it excluded Second Life virtual property from the list of auctions to be banned (*supra* note 12), that Second Life is not a traditional MMORPG like the other examples given in the article, and is not defined as a game by its creators. Because new questions of virtual property arise from the least-restricted RMTs within Second Life, the virtual world will be treated as a game for the purposes of this article.

[19] Second Life Economic Statistics, *supra* note 1.

[20] Onder Skall, Prokofy Neva, & Curious Rousselot, *Stroker's Bed Heads to Court*, Jul. 3, 2007, <http://www.secondlifeherald.com/slh/2007/07/virtual-sex-bed.html>.

[21] Second Life, <http://secondlife.reuters.com/media/SDOC1202.pdf> (describing the details of the court filing for *Eros, LLC v. John Doe*).

[22] *See e.g.*, Luigi Benetton, *Lawyers Hang Their Virtual Shingles Online in Second Life*, LAWYERS WEEKLY, Sept. 21, 2007, <http://www.lawyersweekly.ca/index.php?section=article&articleid=535>. *See also* Roger Parloff, *Anshe Chung: First Virtual Millionaire*, CNN MONEY, Nov.

27, 2006, <http://money.cnn.com/blogs/legalpad/2006/11/anshe-chung-first-virtual-millionaire.html>.

[23] Daniel Terdiman, *Congress Set to Issue Virtual Taxation Report in August*, CNET NEWS, June 22, 2007, http://www.news.com/8301-10784_3-9733848-7.html.

[24] Second Life Economic Statistics, *supra* note 1 (displaying daily the fluctuating value of a Linden dollar as compared to USD).

[25] *Id.*

[26] *See e.g.*, Eric J. Sinrod, *Perspective: Virtual World Litigation for Real*, CNET NEWS, June 13, 2007, http://www.news.com/Virtual-world-litigation-for-real/2010-1047_3-6190583.html (remarking on a recent case brought against Linden Lab by a plaintiff whose account and earnings were confiscated); *Bragg v. Linden Research, Inc.*, 487 F. Supp. 2d 593 (E.D. Pa 2007)). *See also* Posting to Play No Evil Security News & Analysis, SecurePlay, Gold Fraudsters, Virtual Theft, and Property Rights, <http://www.playnoevil.com/serendipity/index.php?/categories/22-Virtual-Theft-Property-Rights> (July 25, 2007).

[27] Jay Lyman, *Gamer Wins Lawsuit in Chinese Court Over Stolen Winnings*, TECH NEWS WORLD, Dec. 19, 2003, <http://www.technewsworld.com/story/32441.html>.

[28] Ryan Paul, *Korea Considering Gold Farming Regulation*, ARS TECHNICA, Dec. 27, 2006, <http://arstechnica.com/news.ars/post/20061227-8503.html>.

[29] *The Second Life of Judge Richard A. Posner*, NEW WORLD NOTES, Dec. 11, 2006, http://nwn.blogs.com/nwn/2006/12/the_second_life.html.

SECURING IP INTERESTS MEANS SECURING A FUTURE FOR YOUR BUSINESS

Starting a new business can be a scary venture, especially for an inexperienced entrepreneur. [1] However, adhering to one little known business fundamental can help make the process run as smoothly as possible. [2] Specifically, securing one's intellectual property ("IP") interests from the start can secure a solid future for a new business by ensuring more funding from venture capitalists and investors. [3] IP traditionally includes patent, trademark, copyright and trade secrets, all of which can be protected with the right legal knowledge or competent attorney. [4] This article explains the four types of IP interests, their advantages and disadvantages and the benefits of securing them during the start-up stage of new businesses.

When venture capitalists consider funding a business, the deciding factor in whether to invest often rests with the availability of IP interests like trade secrets.[5] A trade secret is defined as, “a process, method, plan, formula or other information unique to a manufacturer, which gives it an advantage over competitors.”[6] Because of the private nature of trade secrets, “legally they are property that can (and should) be protected because, like real or tangible property, they can also be misappropriated, or stolen.”[7] In the mind of a venture capitalist, the availability of trade secrets is the factor that sets potentially successful businesses apart from those that will most likely prove fruitless.[8] Venture capitalists are acutely aware

of this driving factor and look for entrepreneurs with exclusive knowledge or access to trade secrets. Additionally, “[I]t should be kept in mind that the patent system and trade secret system are not mutually exclusive but, in reality, are complementary. To protect adequately new inventive products or processes both can and should be used in complementary, even synergistic, ways.”[9]

Hence,

in addition to availability of trade secrets, holding a good patent can also help secure funding for your company.[10] However, one must consider the costs and benefits of obtaining a patent. Patents protect an interest in a tangible good.[11] A solid patent can safeguard an entrepreneur’s economic future by barring others from imitating the patent holder’s conception.[12] Additionally, holding a patent can shield an entrepreneur from the potential aggravation of another inventor claiming he/she made the good first.[13] However, because patents offer such broad protection over certain IP interests, they are harder and more expensive to acquire than copyright or trademark protection.[14] Yet, while sometimes expensive and time consuming, obtaining a patent may prove to bring in a larger return than would have otherwise been possible.[15] One must consider the cost of the patent versus its likely value in the end.[16] A valuable patent should be constructed in such a way that a competitor “cannot design around it or, if he can, it will cost too much in time and money to be justified.”[17] Moreover, should one need to enforce the patent, one must have the resources to fight suspected infringement by others.[18] “Your patent will be valuable if there are simple (inexpensive)

observations, tests or measurements you can perform which will confirm infringement.”[19]

Generally, attorneys with a specialization in IP have the tools to help entrepreneurs establish an appropriate system to detect infringement.[20]

In contrast to patents, copyright protection covers the expression of ideas.[21] This type of IP protection is more useful when dealing with literature, the written word and media.[22] However, copyright provides less protection than a patent because the individual holding the copyright must generally show actual replication of the language itself and not merely the idea behind it.[23] Because it provides a lesser level of protection, copyrights are generally cheaper to obtain than patents.[24] Copyright protection includes the right to “copy and sell (or rent) protected works and, for some, the right to perform or display publicly.”[25]

Trademark protection, a more narrow type of security, covers “a name, phrase, sound, or symbol used in association with services or products.”[26] To obtain a trademark, one must simply attach the “TM” symbol, essentially marking one’s territory.[27] Another’s use of the name, phrase, sound or symbol will be hard to enforce, however, if the item merely identifies a service or individual’s surname.[28] Instead, identifying specifics in a name, such as an uncommon surname or fake word, sets it apart from others.[29] Therefore, it is important, when

deciding to obtain a trademark, to choose an item that is distinct and somewhat unique.[30]

Depending on the type of business, securing international IP interests may prove to be as important as securing local interests.[31] According to Connie Bagley, Harvard Business School associate professor, one of the most common mistakes new entrepreneurs make is waiting to consider international IP protection.[32] Bagley notes that “a tremendous amount of money might be spent developing a brand in the United States, yet when the product is shipped overseas it could violate trademarks of companies dealing in similar goods outside the United States . . . one must make intelligent choices . . . at an early stage in order to ensure that the brand is available in those markets [where there is a demand].”[33] Additionally, as patent systems in developing countries continue to mature, it is imperative for international businesses to safeguard their interests in the global market and follow the progress of patent systems in developing countries.[34]

While the stress and demand of starting a company from the ground up may seem overwhelming, one way of ensuring your company has a competitive edge from the beginning is to secure IP interests as soon as possible. Properly securing interests through trade secrets, patents, copyrights and trademarks, can mean a more secure future for your business.

[1] *Top Ten Mistakes Made by Business Owners*, HARVARD BUSINESS SCHOOL: WORKING KNOWLEDGE FOR BUSINESS OWNERS, Sept. 15, 2007, <http://hbswk.hbs.edu/cgi-bin/print>.

[2] Thomas Field, *Intellectual Property: The Practical and Legal Fundamentals*, Mar. 3, 2003, <http://www.piercelaw.edu/tfield/plfip.htm>.

[3] *Id.*

[4] Robert Myers, *Intellectual Property Challenges for Entrepreneurs* (Intellectual Property Consultant, FRI Working Paper, 2002), *available at* <http://home.nyc.rr.com/ramyersip/entrepreneurs.htm>.

[5] *Id.*

[6] Law.com Dictionary, <http://dictionary.law.com/default2.asp?typed=trade+secret&type=1> (last visited Sept. 15, 2007).

[7] *Id.*

[8] *Id.*

[9] Karl Jorda, *Intellectual Property: Reflections on its Nature and Importance*, Mar. 22, 1999, http://www.ipmall.info/hosted_resources/pubspapers/jorda_03_22_99.asp.

[10] *Id.*

[11] The ABC's of Intellectual Property Protection, http://www.csoonline.com/fundamentals/abc_ip.html#3 (last visited Sept. 7, 2007) [hereinafter "The ABCs"].

[12] Myers, *supra* note 4.

[13] *Id.*

[14] Field, *supra* note 2 (stating that trademark and copyright protection is generally cheaper than patent protection because the former protect only against exact copying of the original, whereas patents protect ideas and concepts, as well as tangible goods).

[15] Myers, *supra* note 4.

[16] *Id.*

[17] *Id.*

[18] *Id.* (Additionally, "in order to be infringed, the infringer must practice every element of at least one claim in a patent.")

[19] Myers, *supra* note 4.

[20] *Id.*

[21] The ABC's, *supra* note 11.

[22] *Id.*

[23] Field, *supra* note 2.

[24] *Id.*

[25] *Id.*

[26] The ABC's, *supra* note 11.

[27] *Id.*

[28] *See* Field, *supra* note 2.

[29] *Id.*

[30] *Id.*

[31] HARVARD BUSINESS SCHOOL, *supra* note 1.

[32] *Id.*

[33] *Id.*

[34] See Jorda, *supra* note 9 for discussion of a developing country's need for advanced intellectual property systems.

ISLAMIC FINANCE: ORIGINS, EMERGENCE, AND FUTURE

One of the most raucous political fights of 2006 involved the takeover of the British ports operator P&O by DP World, which if fully effectuated would have ceded the control over six U.S. ports to a firm owned by the government of Dubai.[1] A principle objection to the deal was that it in effect would have rendered control of U.S. commerce and a main facet of national security to a government of Middle Eastern country that potentially had links to international terrorism. After a lengthy showdown between the Congress and President, DP World conceded to sell the firm to an American interest.[2] However, what went almost unnoticed was that this new deal was financed with a *sukuk*, a bond-like financial instrument that concurrently remains consistent with *Shariah* law.[3] Such issues are part of an emerging sector in the financial industry known as "Islamic Finance." This article traces a brief history of the origins of Islamic Finance, its emerging competitiveness, and its prospects for the future.

Origins

Islamic Finance is part of a larger unified system known as "Islamic Economics." There is much in common with this system and western economic systems.[4] One overarching difference, however, is that Islam does not distinguish between the secular and the sacred as has been the tradition through much of the Christian West.[5] One author has painted this distinction by characterizing western secular economic systems as being driven by "unbridled profit motive" regulated only by the legislative and democratic processes while an Islamic system recognizes market forces up front but simultaneously requires

humanity to submit to "divine authority" and all its commands to correct for the assigned evils emanating from the marketplace.[6]

Thus, "Islam postulates a unique nexus of contracts among the Creator, man and society on the basis of the Divine Law that directly affects the workings of the various social, political, economic, and financial systems." [7] Thus, the foundation of any Islamic economic system will be consistent with Islamic ideology, which encompasses three tenants[8]:

1. Unity and Oneness of the Creator;
2. Mohammed is the last prophet of Allah and was the perfect prototype of a perfect set of rules for living a perfect life in this world;
3. Return of everything in this world to Allah at the Final Judgment

Consistent with this ideological framework, Islam posits a unique law, *Shariah*, which governs both private and public affairs.[9] The sources of *Shariah* include the *Quran* and the writings and acts of the Prophet Mohammed, commonly called the *Hadith*. [10] These laws are comprehensive, governing all aspects of one's life, and ultimate compliance with these rules leads to not only a harmonious life but also a consequential unified human society.[11] It is important to remember that any Islamic economic system seeks consistency with *Shariah* not as an end in itself, but its ordering is part of a much larger unified whole. Examples of how an Islamic system based on *Shariah* challenges the western secular model include[12]:

- Priority in emphasis on Islam's teaching of Justice and Equity as demonstrated by the enforcement of both distributive and commutative justice
- A spiritual framework that values human relations above material possessions

- A balance between individual self-interest and the common good
- Maximum profit and satisfaction are not the sole objectives, which in effect minimizes waste
- Recognition and protection of private property rights while encouraging reciprocal responsibilities

One well-reported feature of Islamic Finance, or rather *Shariah*, is its abhorrence of interest, or *riba*. Scholars differ on whether an exact translation exists; however, a suitable definition is that *Shariah* forbids "the practice of charging financial interest or a premium in excesses of the principle amount of a loan." [13]. The *Quran* emphasizes the earning of money through trade and commerce rather than the charging of interest. [14] One verse from the *Quran*, 2:275, specifically distinguishes between the two practices by describing Allah's prohibition against "usury." [15]

Essentially, the prohibition of *riba* is a prohibition on debt security, but the system permits other forms of financing, such as risk and profit sharing. [16] Thus, instead of return on capital being determined *ex ante* through a nominal interest rate, the return naturally occurs *ex post* on the basis of the economic activity for which the funds were invested. [17] Scholars posit that this system avoids the risks, such as bank runs and periodic financial crisis, inherent in a fractional reserve banking system. [18] However, the element of *riba* does not alone differentiate Islamic Finance; a valid financial contract also must not contain *Gharar* (ambiguity or deficiency of information in the contract), *Qimar* (any elements of gambling), and *Myisur* (deceptive games of chance). [19]

All Islamic banks or traditional banks that provide Islamic financial products are required to establish "Shariah Advisory Councils" that serve the dual purpose of advising clients and assuring that the institution remains compliant with the demands of *Shariah*. [20] Such councils are composed of religious scholars who

are experts in *Shariah* as well as the financial markets.[21] It is in conjunction with these councils that financial institutions have developed tools that while remaining consistent with *Shariah* also satisfy the institution's shareholders and customers. The Islamic Finance system is complex, but a nonexclusive list of some of its tools includes:

- *Musharakah*: This word literally means, "sharing", and in the business context it means a joint enterprise in which all partners share in the profits and losses.[22] This entity naturally developed out of the *riba* prohibition, and proponents argue that it is more equitable than the interest model.[23] For instance, in the interest model, if the debtor suffers a loss, a fixed rate of interest is still payable to the creditor which results in an "injustice." [24] Likewise, if a debtor succeeds in his venture, then the creditor only receives the fixed interest rate payment instead of a more proportional sum of the profits.[25]
- *Murabahah*: This is financing on a cost-plus basis usually through the form of a sale.[26] For instance, if an entrepreneur lacks the capital to do so, he approaches a bank or financier for assistance, which instead of lending him the funds at interest, the two parties form an agreement whereby the financier purchases the product at its "acquisition cost." [27] Then in accordance with the agreement, the financier transfers the product to the entrepreneur at its acquisition cost plus a certain amount above in the form of profit.[28] The entrepreneur thereby agrees to make installment payments to the financier for the balance of the account. This financial tool remains consistent with *Shariah* and avoids the use of *riba* on the ground that the bank actually owns the product and has thereby taken on considerable risk in case the entrepreneur backs out, so the profit is justifiable because it is earned.[29] Likewise, if the entrepreneur defaults, he is only responsible for the balance of the account attributable to the acquisition cost, not for any additional fees

or interest.[30] Two allowable exceptions under *Shariah* to a *murabahah* include a *salam* (similar to a futures contract for specific goods that require payment up front and a fixed delivery date) and a *istisna* (a future contract for something that requires manufacturing).[31]

- *Ijarah*: A leasing arrangement to be distinguished from a *murabahah* in that instead of the sale of a tangible asset, an *ijarah* is the sale of the right to use an asset for a specific period of time.[32] There are several slight differences between this and a conventional lease such as the lease begins on the date of acquisition instead of the date the contract was signed, the lessee is not responsible for the value of the asset in case of its destruction because the bank is required to take out insurance, and the lessee is not bound to purchase the asset at the completion of the contract.[33]
- *Mudarabah*: Contract similar to a venture capital transaction whereby a financier agrees to provide capital to an entrepreneur in exchange for a percentage of future profits.[34] The entrepreneur provides only his labor and expertise in investing in real economic activities, while the financier agrees to bear the full loss of a failure.[35]
- *Hawala*: An informal debt transfer system that operates exclusively using the honor system without any formal legal system.[36] The system works through a network of interconnected brokers. For example, if I owe a debt to person X in Cairo but I am currently in Damascus, I can approach a hawala broker and pay my debt to him. The broker in turn calls another broker in Cairo who agrees to settle the debt at a later time for a small commission. The advantage of this system is that it avoids hassles such as national currency manipulation, regulatory regimes, and taxation. More pointedly, because of its informal nature, it does not leave a paper trail.[37]

Above are some of the main contracts and financial tools that compose the emerging Islamic Finance sector. Each developed as a way to remain compliant

with *Shariah* while permitting the flourishing of a functioning economy. Along with understanding what the basic tools of Islamic Finance are, it is also helpful to know of its history, rapid emergence, and prospective future success in the United States and world financial markets.

Emergence & Future

A sketch of the modern history of Islamic Finance would begin sometime in the 19th Century in predominantly Islamic countries then under colonial rule.[38] During this period, especially during the early decades, the indigent peoples gradually lost touch with their traditional practices and heritage.[39] The colonial powers offered new systems and symbols of modern success that led to the de-emphasis of traditional Islamic teachings that informed one's total worldview.[40]

Following the demise of the colonial period, "Muslims began to re-discover their identities and manifested the desire to regain the lost values in all aspects of life, especially concerning the economic system." [41] Most notably in Egypt, opposition grew to the presence of the interest-based Barclays Bank, which was established for the purpose of raising capital for the construction of the Suez Canal.[42] Similar opposition arose in India at the turn of the century where a minority of Muslims established *Shariah* compliant interest-free loans.[43] Joining this low level opposition was a group of intellectuals and scholars that by 1953 developed a formal Islamic banking system.[44]

As the 20th Century advanced, the Middle East as a whole, but especially the petroleum-rich nations, grew in influence. Increased capital flows resulting from the growing demand for petroleum exports created the need for an integrated financial and banking system. Likewise, in Islamic countries outside the Middle

East, such as Malaysia, efforts were made to develop an interest free financial system to assist Muslims performing the Pilgrimage.[45] By the 1970s, the high oil revenues created an incentive for the creation of *Shariah* compliant investment and financial products. In 1975, the Islamic Development Bank was established, which provided developmental finance in accord with *Shariah*. This bank and other financial systems used the financial contracts listed above, such as *Murabahah*, for the placement of the Islamic banks' funds.[47] The countries Iran, Pakistan, and Sudan, at least officially, converted their entire banking systems to an interest-free basis.[48]

By the 1990s countries such as Bahrain and Malaysia began to promote Islamic banking in conjunction with the conventional system.[49] Products such as Islamic insurance and equity funds were developed, and both the Dow Jones and FTSE created indices that specifically listed *Shariah* compliant securities.[50] A regulatory body, the Islamic Financial Services Board, is established.[51] Culminating at the turn of the 21st Century, the Islamic financial system encompassed products such as: banking, mortgages, equity funds, fixed income, insurance, project finance, private equity, and even derivatives.[52] The ratings agency Standard & Poor's recently valued these interests at around \$400 billion.[53] At growth rates of 15% over the past three years, Islamic finance as an emerging sector is expected to expand further especially with the rapidly increasing demand for petroleum exports, which brings fresh infusions of "petro-dollars." [54]

The Islamic Finance sector includes exclusively Islamic banks such as Saudi Arabia's Al-Rajhi Bank, which claims to be the world's largest Islamic financial institution.[55] More significantly however, a large number of conventional banking institutions such as Citibank, HSBC, and UBS all provide *Shariah* compliant financial products throughout both Islamic and non-Islamic regions. One example is HSBC, which on its website advertises a wide

array of both personal and business financial products.[56] Customers are also able to search the biographies of the three sheikhs that compose HSBC's "Central Shariah Committee." [57]

A recent article described the widening advertising campaign for Islamic financial products that various financial institutions are promoting in Malaysia.[58] Marketing for these products is becoming savvier as institutions emphasize the competitiveness of their products while remaining consistent with *Shariah* principles.[59] Markedly, some of the financial institutions are attempting to broaden their market to customers less concerned with compliance with *Shariah* than earning a competitive return.[60] In fact, some of the advertising is being aimed squarely at non-Muslims or others less concerned with the foundational mission of the products.[61] Perhaps these institutions through savvy marketing techniques are attempting to create a popular trend in an alternative financial market that is appealing to nominally religious customers more concerned with personal wealth and image. Other banks are responding with promises of steadfast devotion to *Shariah*: "One Bank Muamalat ad shows goldfish jumping from an overcrowded, dirty brown bowl in to a clean one. 'Free the national from the murkiness of interest payments,' says the slogan with the ad." [62]

What are the prospects for this emerging financial sector called Islamic Finance? Will it meet the same dismal fate ushered in by political pressure as that of DP World in its ports deal? Or will Islamic Finance continue to expand and perhaps significantly compete with the conventional western financial system? No doubt the differences in approach and the underlying philosophical and religious underpinnings of *Shariah*-compliant products will raise questions about the legitimacy of certain features currently present in the western system such as the fractional-reserve banking system, the credit markets, and the problems associated with an excessive debt burden. Perhaps critics could point to the current financial

crisis in the United Kingdom where the governmental had to bailout the British bank Northern Rock, after thousands of its customers removed their deposits in fear of the looming worldwide mortgage meltdown. Several legal and sociological factors may either prevent or contribute to the expansion of Islamic Finance in the U.S. and throughout the world.

As far as the world is concerned, one beacon of hope and perhaps an ideal model of an Islamic financial center is Dubai. Some of the world's largest financial institutions, investors, and even western business schools are all flocking to this region to get a piece of the growing pie.[63] Although not having the largest economy in the Gulf region, Dubai is marketing itself as the "one-stop shop" offering financial products ranging from insurance and stocks to *sulak* bonds.[64] Such a system openly flourishes in the predominately Islamic Middle East; what about in the United States?

There are several factors that may lead to the success or failure of such a system in the U.S. First, it should be noted that the conventional financial system currently allows for some Islamic financial products as long as the sponsoring institutions remain compliant with various regulatory agencies as well as state and federal laws. However, since the declaration of the "War on Terror", certain elements of Islamic Finance have come under increased scrutiny. One example of this arises from suspicions that Islamic financial institutions are used to launder and funnel money to international terrorist organizations. As of 2005, a total of 140 individuals have been arrested and over \$25 million seized by the Department of Homeland Security on alleged violations of the Patriot Act for using *hawala*, or more specifically for participating in "unlicensed informal money transfer systems." [65] Could the same governmental crackdown come against other Islamic financial products upon the allegation of "terror financing?"

As far as private American citizens are concerned, Islamic Finance may be in more welcoming waters than those flowing from the public authorities. As noted

above, Islamic financial institution as well as conventional banks offering like products are attempting to expand to the greater non-Muslim market base. In Malaysia for instance, the bank Al Rajhi partnered for the ad campaign that appeals to broad religious values with the slogan, "Truth. Honor. Respect. Just Values." [66] There are least two reasons why such an approach may be successful in the United States.

First, Islamic Finance and its underlying religious worldview can bring a sense of confidence to an investor that his assets are being responsibly cared for: "some people in the West have begun to find the idea attractive. It gives the provider of money a strong incentive to be sure he is doing something sensible with it." [67] Thus instead of the oftentimes flimsy security that one has of investing in a system that is almost exclusive governed by sheer positive laws or utilitarian force, with Islamic Finance one is investing in a system that naturally governs through conscience and obedience to a Higher calling.

Second, while Muslims are a minority group in the U.S., there is potential growth for Islamic Finance in America's large non-Muslim religious population. There are many large traditional religious groups in America, such as Christians and Jews, whose members are seeking to live out their lives with a worldview consistent with their religion. However, this has often proved to be difficult when it comes to investing or conducting oneself in the marketplace because so many business entities operate or invest in ways contrary to these traditional religious worldviews. There could be growth in Islamic Finance with non-Muslim customers who not only seek a modest return on investment but more importantly, desire a higher satisfaction that their funds are being used in a morally responsible way. For instance, many Catholics and Evangelical Christians would welcome the opportunity to invest in a financial enterprise such as Islamic Finance that is not

involved with operations that violate their religious worldview by sponsoring pornography, providing non-spousal partner employee benefits, or promoting abortion rights.

Lastly, there are two reasons why Islamic Finance may steadily grow and expand across the world in the years to come. First, both domestic and immigrant Islamic populations are widely exceeding their replacement rates while much of the secular West, with the notable exception of the United States, is barely able to keep itself within replacement levels.^[68] Second, as the demand for oil grows and the supply likewise declines, this will create increased influence and "petro-dollar" revenues for Islamic nations that insist on investing exclusively through the Islamic financial system.

Conclusion

Islamic Finance is a subset of a larger concept called Islamic Economics that seeks to conform all of one's life to the tenets of Islamic ideology. This system has developed from under colonial rule and expanded to compete with some of the largest western financial institutions. The prospects for success of this emerging sector in the U.S. will depend on public enforcement of its laws as well as its reception by the American public. However, the prospects for Islamic Finance worldwide with diversified holdings are positive both because of growing Muslim populations as well as increased demand for petroleum exports from Middle Eastern countries.

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[17] *Id.* at 18.

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[23] *Id.*

[24] *Id.*

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[26] J. Michael Taylor, *Islamic Banking: The Feasibility of Establishing an Islamic Bank in the United States*, 40 AM. BUS. L.J. 385, 395 (2003).

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[29] *Id.*

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[31] Usmani, *supra* note 6, at 83-89.

[32] Iqbal & Mirakhor, *supra* note 4, at 84.

[33] Taylor, *supra* note 26, at 396.

[34] Iqbal & Mirakhor, *supra* note 4, at 103.

[35] *Id.*

[36] *Id.* at 108.

[37] *Id.*

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[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] *Id.*

[43] *Id.*

[44] *Id.* at 24.

[45] *Id.*

[46] *Id.* at 25.

[47] *Id.*

[48] *Id.*

[49] *Id.*

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[58] Wright & Yuniar, *supra* note 55, at B3.

[59] *Id.*

[60] *Id.*

[61] *Id.*

[62] *Id.*

[63] *A Bouquet of Desert Flowers*, THE ECONOMIST, Sept. 15, 2007, at 14, *available at* http://www4.economist.com/research/articlesBySubject/displaystory.cfm?subjectid=682272&story_id=9753196.

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THE EFFECT OF REGULATORY SCHEMES ON THE RATE OF NEW VENTURE CREATION

It is well understood that regulatory schemes have an influence on the rate of new innovations in an industry. [1] What is unknown is to what extent regulatory schemes influence the rate of new venture creation by industry actors. In order to study this question, it is necessary to define the nature of the diffusion of new innovations and to consider the reaction of market participants in their acceptance of new innovations in the face of regulatory schemes and extrapolate from this reaction how they will react to the same regulatory schemes with regard to forming new ventures.

Diffusion of Innovation defined:

Diffusion of new innovations can be tracked by plotting a graph of an innovation's rate of adoption by the marketplace; this graph produces an S-shaped curve whereby a more gradual slope suggests a slower rate of adoption and a more inclined slope suggests a faster rate of adoption. [2] Within the marketplace, there are five categories of adopters:

- 1) Innovators – who are daring, can absorb possible losses, understand complex, technical knowledge, and can cope with high degrees of uncertainty
- 2) Early Adopters – who are part of a local social system, have great degree of opinion leadership, serve as role model's for society, are respected by peers, and are successful
- 3) Early Majority – who interact frequently with peers, seldom hold positions of opinion leadership, are 1/3 of society, and deliberate before adopting a new idea

- 4) Late Majority – who are 1/3 of society, are skeptical, cautious, and adopt out of peer pressure and economic necessity
- 5) Laggards – who possess no opinion leadership, are isolated, have their point of reference in the past, are suspicious of innovations, have a long decision-making process and have limited resources [3]

Regulatory Effects:

Government regulations can have both positive and negative effects on the innovation process in our free market. [4] On the positive end, regulation can spawn new industries such as the “environment industry”, focus industry research efforts, generate openness or competition, and ensure a level playing field for market participants. [5] On the negative end, regulation can erect barriers to new innovations, distort research choices, and increase the cost and uncertainty of development. [6] What follows from this is that if regulation has certain effects on industries and corporations regarding innovation, then it should have similar effects on individuals regarding their choice to innovate or not and to form new ventures or not.

Effects on Innovators:

When AT&T had monopoly power due to governmental regulatory schemes, innovation was stifled and innovators looked for profitable projects in other areas. [7] Of all the classes of adopters, innovators have the most freedom because of their technical understanding, high risk tolerance, and low financial constraints; due to this, innovators are less likely to be affected by regulation because they can focus their energies on unregulated industries. Thus, the rate of innovation and new venture creation should remain constant with regard to innovators.

Effect on Early Adopters:

When regulatory schemes affect early adopters ability to consume new innovations, this group often turns to Internet piracy. [8] Rather than be frustrated by regulation, this group turns to online civil disobedience. [9] What this suggests is that this group's rate of innovation and new venture creation is likely to have a positive relationship to the level of regulation. Early adopters, without the freedom of innovators, will innovate to generate new opportunities that skirt around or overcome the cost of regulatory schemes.

Effect on the Early Majority:

Early majority members accept new ideas slower than innovators and early adopters and are seldom leaders in the area of new innovations. [10] It follow then that regulation will have a negative relationship with innovation and new venture creation among early majority members because their attributes (low risk tolerance, follower mentality) suggest increases in uncertainty and cost will place higher barriers to entry on this class than innovators or early adopters.

Effect on the Late Majority:

Late majority members accept new ideas even slower than the early majority but tend to adopt ideas due to peer pressure and economic necessity. [11] This suggests a negative relationship between regulation and innovation and new venture creation among the late majority. However, since this group adopts due to economic necessity and adopts only when a new idea is the norm, this may suggest a higher rate of new venture creation in lower-risk industries such as franchising.

Effect on Laggards:

Laggards have limited resources to expend on new ideas and generally have a viewpoint existing in the past. [12] This suggests a neutral relationship between regulation and innovation and new venture creation because innovation is likely to be nearly non-existent in this group. However, it may be inferred that this group – having the strongest ties to the old technology – may be pushed to improve pre-existing technologies and business methods in the face of innovation-limiting regulations.

Synthesis:

Though government regulation can produce positive or negative results in an industry or market in the aggregate, the effect is dissimilar with regard to individual market participants with regard to where they are on the S-Curve for a technology's rate of adoption and this placement affects the rate of new venture creation accordingly. [13]

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PAPARAZZI CAUSE NEED FOR NEW FEDERAL LAWS

The tenth anniversary of Princess Diana's death once again stirs questions regarding paparazzi and the right of publicity for celebrities. Many magazines are in the business of exploiting the personal lives of celebrities, publishing photos and stories about them in every walk of life. Tabloid magazines make millions of dollars each year from magazine sales fueled by images of big name celebrities on their covers.

The right of publicity arose out of the case *Haelan Laboratories v. Topps Chewing Gum, Inc.*, where two chewing gum companies went to court over exclusive contracts to use baseball players' likenesses to sell their gum. [1] The court struck down the idea that a celebrity only has a right of privacy interest in their own images and decided that celebrities have a property interest in their images since they have a "pecuniary worth." [2] In this manner, courts recognized that celebrity images are a commodity that can be bought and sold in order to make money.

Paparazzi has been able to capitalize upon this worth by selling photographs of celebrities to tabloid magazines. Magazines offer high sums of money for photos of celebrities in order to help their sales. It has been claimed that \$500,000 has been offered for photos of Brad Pitt and Angelina Jolie in the past. [3] Paparazzi try to get the most exclusive photos of celebrities in order to make the most money off of their photos. With an estimated 150 paparazzi in Los Angeles alone [4], this is difficult and leads them to take extreme measures to get a photo.

Ten years ago paparazzi followed Princess Diana in Paris as she was on a date with Dodi Fayed. In a high speed chase her car crashed, killing Princess Diana, Dodi Fayed and the driver, Henri Paul. [5] In 2005 Lindsay Lohan

crashed her car into a van after being chased by paparazzi in West Hollywood, causing injury to Lohan, her passenger and the driver of the van. [6] Last year, Brad Pitt and Angelina Jolie required security to surround their rickshaw as they traveled through India last year. [7] All of these are just a few examples of the impact paparazzi have on the lives and safety of celebrities. When paparazzi is in pursuit of a valuable photo, they are likely to create dangerous situations for celebrities and bystanders. Sometimes, as in the case with Princess Diana, the consequences are fatal.

There is a need to enact a new law to protect celebrities from the paparazzi because the current laws are inadequate. The right of publicity protects a celebrity's interest in their own image while the right to privacy protects any individual's personal interest in privacy. [8] The right of privacy for a celebrity is somewhat more limited than it is for the average person. [9] A celebrity has put themselves in the limelight and therefore is guaranteed a lesser protection of their privacy. [10] Rights of publicity are based on common law and state statutes since there is no federal law concerning this area. [11]

Currently the only federal laws that come close to offering a right of publicity are the Lanham Act and the Copyright Act. [12] Neither act, however, fully helps celebrities curb the unwanted attention from the paparazzi. State laws against trespass, stalking and harassment, while offering minor protection, do not protect celebrities from paparazzi when out in public spaces. [13]

Some states, like California, have tried to enact legislation to disincentive the press from paying paparazzi large sums of money for photos in order to curb invasion upon celebrities. [14] It is unclear, however, that the Supreme Court would determine this sort of legislation to be constitutional under the First Amendment. [15] The First Amendment right to freedom of the press makes it difficult to put any sort of limitation on only the press. As a result, it is likely that

state legislation that only affects the press' ability to pay for photographs of celebrities would be struck down.

In *Galella v. Onassis*, the court found that an injunction could stop paparazzi from following Jackie Onassis as long as it did not infringe on the ability of other press to cover Onassis. [16] While the court was willing to offer an injunction, it is not clear that they would be willing to make such blanket rulings, especially if such a ruling might infringe on the press' ability to cover celebrities.

The paparazzi offers a threat to the safety of the lives of celebrities. Paparazzi are often motivated by large sums being offered by tabloid and special interest magazines for photographs of celebrities. While many magazines offer larger sums for exclusive photo shoots, many more will still pay a large amount for a photograph of a celebrity in public. In order to get these photographs, paparazzi often to go extreme lengths, chasing celebrities in cars and hounding them on the street. As a result, celebrities often try to leave the area in order to get someplace where they can go about their business in peace. In some instances, like that with Lindsay Lohan and Princess Diana, this will lead to a car chase with ends in a collision.

Celebrities' right of privacy is limited as a result of their line of work. Because they choose to enter a career that puts them in the limelight, celebrities face the consequences of giving up a large portion of their privacy. They still are able to protect themselves somewhat from paparazzi as a result of right to publicity statutes passed by states across the country. However these statutes do not protect a celebrity from the ever prying eyes of the paparazzi and the photographs that are taken of them. Some states, like California, have tried to enact legislation to prevent magazines from offering cash incentives to paparazzi to go to extreme measures to get photographs, however it is unclear that these laws will be able to pass constitutional muster. Federal legislation is needed

to ensure a uniform law that protects public figures from the extreme measures that paparazzi often take to get a photograph. The right of the paparazzi to take photographs falls within a fundamental First Amendment freedom, the freedom of the press, and therefore should not be cut off altogether. However, for the safety of those concerned, it is important that limits be placed on the methods that may be used to photograph celebrities.

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VETO POWER IN THE SALE OF THE CUBS

The Tribune Company's opening day announcement that it would divest itself of the Chicago Cubs began the process of what could be the most scrutinized sale of a professional sports team in history. While the prospect of a change in ownership has been the subject of speculation ever since the team's off-season spending spree and the parent company's decision to put itself up for sale, the news that one of Major League Baseball's (MLB's) marquis franchises would change hands by early 2008 made waves throughout sports and business communities.[1] Forbes Magazine estimates the value of the Cubs to be \$592 million, a substantial appreciation from the \$21 million the Tribune Company paid for the team in 1981.[2] As further enticement to potential investors, the sale will also include Wrigley Field and the team's twenty-five percent stake in the Comcast sports channel in Chicago.[3] To date, much of the attention has been focused on the list of high-profile bidders, fueling speculation that the sale price could exceed one billion dollars.[4] Despite the possibility of a bidding war, MLB's procedural rules for the sale of a franchise ensures that dollars alone will not be the decisive factor in determining who will be the next owner of the Cubs.

Unlike the seller in a typical commercial transaction, the Tribune Company has very little authority in determining who will purchase its franchise. Control rests in the hands of MLB Commissioner Bud Selig, to whom potential ownership groups must submit an application.[5] Upon Selig's appraisal of the applicants and bids, MLB requires the approval of

seventy-five percent of the thirty team owners before announcing the winning group.[6] While the bid price plays a factor, MLB gives heavy consideration to the overall strength of an ownership team and its ties to the city.[7] For example, when billionaire commodities trader John Henry bought the Boston Red Sox in 2002, the \$660 million price he paid was not the highest among the competing bids.[8]

A similar outcome may arise in the sale of the Cubs. Cubs players praise announced bidder Mark Cuban, the controversial owner of the National Basketball Association's (NBA's) Dallas Mavericks, as a potential owner.[9] However, Chicago Tribune business columnist Michael ONeal characterizes him as an underdog, stating, "While Internet billionaire Mark Cuban . . . has expressed interest in the Cubs, most observers think MLB would balk at a potential owner as unpredictable and outspoken as Cuban." [10] The presumed frontrunner in the bidding process is Selig's longtime friend and business partner John Canning, who would have to sell his eleven percent interest in Milwaukee Brewers in order to assume ownership of the Cubs.[11] In addition to his connection to Selig, Canning has put together an investment team of over 20 members of Chicago's so-called business elite.[12] As a result, despite Cuban's deep pockets, well-known desire to win at all costs, and the Tribune's presumed intent to sell as high as possible, Cuban is thought to be an underdog in this contest when compared to Canning.

In addition to the aforementioned candidates, Chicago Wolves owner Donald Levin and investment broker Joe Ricketts are known bidders, while Chicago native and sports executive Jerry Colangelo has

expressed interest as well.[13] In addition to the economic allure of acquiring the team and its related assets, bidders are also vying for the prestige of owning one of the premier franchises in sports.[14] This incentive, coupled with the opportunity to bring the team its first championship in nearly 100 years, could trigger a bidding war that exceeds one billion dollars.[15]

While it is Selig's duty to act in the best interests of baseball, Cubs fans might feel a bit uneasy about his control over the process. Selig ascended to his position after serving as the owner of the division rival Milwaukee Brewers.[16] Furthermore, Selig's closest ally amongst team owners is Chicago White Sox Chairman Jerry Reinsdorf.[17] Thus, fans must face the reality that the future of the Cubs is in the hands of the team's past and present adversaries. Fans must also be aware of the disposition of the other twenty-eight owners. As compared with their counterparts in the National Football League (NFL) and NBA, baseball owners are thought to be a very conservative group, a factor that may adversely impact an applicant such as Cuban.[18] Selig, likely aware of the perception that Canning's connections give him the upper hand, promises a fair and open bidding process.[19] Yet Reinsdorf, who also owns the NBA's Chicago Bulls, publicly reminds everyone that he was the lone vote against Cuban's purchase of the Mavericks when that sale came before NBA owners in 2000.[20]

MLB's broad power to control the process of team sales stems in part from its antitrust exemption, a benefit not bestowed upon the other major sports. The Supreme Court created the exemption in 1922 in *Federal*

Club of Baltimore, Inc. v. National Baseball Clubs.^[21] In *Baltimore*, the city's independent league team tried to sue MLB's predecessor under antitrust law for allegedly causing the ruin of its league.^[22] In preventing the plaintiff from availing itself of antitrust law, Justice Oliver Wendell Holmes stated that baseball games are intrastate affairs, and the fact that some people travel across state lines is not essential to the business.^[23] Thus, the federal government cannot use antitrust law to regulate baseball under the Commerce Clause of the U.S. Constitution. MLB's antitrust exemption affords the league vast control over its teams' ability to sell or relocate, among other things.^[24] The Supreme Court has subsequently acknowledged that baseball does engage in interstate commerce and that its antitrust exemption is an anomaly, though the Court decided to defer to Congress to alter the long-established status of the sport.^[25] The Court's lukewarm assessment of the antitrust status, coupled with several legal challenges and legislative attempts to weaken the scope of the exemption, indicate that the antitrust issue may come before the courts again in the future.^[26]

Regardless of the outcome of the sale of the Cubs, close scrutiny will accompany the process. The transaction could initiate a renewed review of baseball's antitrust exemption, and MLB is no doubt aware of the intense speculation surrounding this sale and its potential consequences. As the Cubs sale proceeds forward, the sports, business, and legal communities will continue to monitor both the quantitative and qualitative standards MLB sets forth in this unique business transaction.

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THE FAILURE AND FUTURE OF E-VOTING IN AMERICA

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1. Introduction

On September 28, 2007, Judge Winifred Smith of the Superior Court of Alameda County, California, took the extraordinary measure of invalidating an election result – an event that has only happened once before in California’s history.[1] Measure R, originally voted upon in November 2004, was ordered back onto next year’s ballot not because of electoral fraud or force majeure, but because 96% of the results from the election had vanished.[2] There was not any suggestion of dastardly doings; no ballots mysteriously vanished; no warehouses caught fire under unusual circumstances. These ballots had vanished because in a very real way they never existed in the first place. The election deciding Measure R’s fate took place entirely on computerized voting machines.

In the middle of litigation over the fate of the election, the machines were returned to the manufacturers, without the data having been backed up.[3] It is unknown why the county returned the machines, or what happened to the data once the machines were sent back.[4] Computers lose data all the time; crashes are a fact of life in the modern world. It is rare, however, that large, professionally designed computer systems crash quite so catastrophically. While most people are familiar with Windows’ infamous Blue Screen of Death [5], however, companies spending millions (or more) on tabulating data have little tolerance for errors that destroy the vast majority of the information they are designed to store. Alameda County, according to its own statements, rolled out the machines before it knew how to effectively handle the data they generated.[6] This is one recent

example of the short but extremely tumultuous history that computerized touch-screen voting has had in the US.[7] It's easy to see their attraction – small, sexy information age devices, they seem a panacea for a voting system that often borders on antique. But touch-screen voting is a concept whose time has not yet come; rather, now is the time the nation needs to wake up, take a deep breath, and stop throwing good money after bad on systems that will never accomplish the job for which they are designed. This article will give a geek's-eye view of the current state of computerized voting[8], discussing its history, why it is so problematic, and finally giving a suggestion as to what is the best direction to go towards in the future.

2. The State of Computerized Voting

Since the 'butterfly ballot' debacle of the 2000 election cycle, the nation has re-examined how it votes. Currently, a hodge-podge of methods and devices, some invented more than a century ago, are being used.[9] The Help America Vote Act of 2002 (HAVA) grants, among other things, money to precincts to update their voting apparatus if in the November 2000 election that apparatus used punch cards or levers. [10] Computerized touch-screen systems called DREs – Direct Recording Electronic voting machines [11] – were a popular choice of many large precincts.[12] Their main competition in the battle to replace older systems is optical scan voting technology, similar in many ways to the Scantron sheets used for standardized testing.

a. Older systems

A central problem of voting in the United States has been balancing accurate, secure counting of votes with rapid tabulation. A population of three hundred million and counting, even if only a fraction can and do vote, requires quite a bit of counting. For the last hundred years, companies have been designing systems that are easier and easier to count by machine. The punch-card ballots of Florida, for instance, evolved from a system for operating mechanical looms.[13] Lever machines keep an ongoing tally for the machine, but do not produce actual ballots. [14] Optical scan machines have been in use since the 60s, and are an elegant combination of old and new technology. They are a paper ballot for all intents and purposes, capable of being reviewed by election personnel during a recount. However, they are run through a tabulator, which saves almost all of the time, effort, and expense of an initial hand count.[15] However, each of these systems are vulnerable in many ways to the same problems that occurred in Florida: poor ballot design. Like any ballot, their layout is designed by election officials who may or may not have experience or expertise in doing so. A voter using an optical scan machine does not see how the computer reads their vote, so confusion is still possible. Consider:

They are the same graphic; the one on the left is simply cropped to cut out one of the circles. The line on the right seems clear, a voter in a rush or simply not paying much attention may not see a bubble or may automatically assume the bubbles are on a specific side. Ballot design will never be perfect, and people will continue making mistakes like this.

b. A new choice

DRE voting machines came to the forefront after Florida because they have the potential to sidestep many of the issues of other voting systems.[16] Among the

most powerful of these features is the idea of a confirmation screen. No matter how confusing the ballot might be, the computer presents the voter with a screen detailing the choices the system has recorded. If the voter made a mistake, or the computer made an error recording it, the voter can return to the previous screen to correct the error.[17] At the same time, computerized systems have all of the other advantages of being a computer, as well. Access for the disabled is a huge issue in favor of DREs.[18] These machines are generally built on Windows, which comes built-in with features such as screen readers for the blind.[19] In addition to being forgiving of mistakes, DREs do not require the manual strength to pull a lever or the dexterity to fill out a bubble. To millions of Americans, these machines make voting easier; to some, they make it possible to vote unassisted.[20] DREs do all of this, and make the back-end advantage even more noticeable. There is no need to even feed forms through an optical reader; the computer system tabulates the entire precinct at the end of the day.[21] It can then spit out a disc of the results, which can be manually carried to a central location, or can upload the results automatically to another computer compiling the entire district.[22] In a best case scenario, official results can be ready mere minutes after the last vote is cast.

c. Who builds them?

Most Americans have used automated teller machines (ATMs) hundreds of times, but have never thought for even a second about where they come from; which company makes them, who owns them, who installed them.[23] And that is a good thing; if we need to make the decision at each ATM whether or not we trust the company that made it, then a lot of the convenience of the machines is lost. ATMs need to be bulletproof, figuratively and quite literally.[24] They need to be trusted by walk-up clients who want to withdraw or deposit funds, as well as the

banks that purchase them and the banks whose systems they debit money from. It seems logical, then, that companies making ATMs would be the perfect choice to design voting machines.

The problem with that logic is that voting machines pose a very different problem than either ATMs or traditional voting systems do. ATMs are permanent installations in heavily-surveilled areas – they even have their own surveillance systems built in. They're a mature technology with billions, if not trillions, of individual transactions to build upon when refining the process.[25] Finally, they're created for businesses with experience in the area and incredibly exacting standards; an exploitable flaw in one model of ATM could potentially lose millions of dollars, a risk no bank will ever be willing to take.

DRE voting machines, on the other hand, have none of the features that make ATMs secure. They're only used one day a year, which means they need to be easy to move around.[26] By nature – by the very laws surrounding their reason for use – they can not be under any kind of surveillance.[27] They are technologically immature, in wide scale deployment for less than a decade.[28] As for the target consumer, few of the officials in charge of buying voting systems in the US are likely to be qualified to make purchasing decisions for large computer systems.[29]

With almost two billion dollars in HAVA funds up for grabs since 2002, there's been no shortage of incentive for companies with experience making either ATMs or voting machines to throw their hats into the DRE ring, then trying to convince those voting officials to purchase their products.[30] The challenges inherent to DREs, however, are significant enough to not only negate any advantages experienced companies might have, but also to make their 'expertise' – not to mention their reputations – full-on liabilities. The three major manufacturers of DRE voting systems – Diebold Election Systems, Sequoia Voting Systems, and

Election Systems & Software (ES&S) – have had every problem imaginable.[31] There is no limit to the number of audits the three companies have failed between them, but more troubling are accusations of outright malfeasance on the part of these companies. The FDA wouldn't allow these companies to sell aspirin, but through a combination of political connections, lobbying, and simply being the only options, they are supplying devices intrinsic to the health of a nation.[32]

3. Looking forward

Security is a hard problem. There are references to locks in the Old Testament, and Daedalus' Labyrinth at Crete was designed to prevent people from getting at the Minotaur at the center (and to prevent that pesky Minotaur from getting out, as well).[33] As long as we've had doors, we've been trying to figure out how to keep people from opening them, and failing. Locks still get picked and spies still steal secrets. Designing computer systems is even more difficult; as time goes on, computers get more advanced, programs get more complex, and there are more and more places for things to go wrong. And this is not likely to get better any time soon; the trend in computer programs seems to be towards more flaws, not fewer.[34] Managing security in a computer system piles these problems on top of each other, and it is nearly impossible to live in the modern age without hearing a litany of terms like "virus" and "worm", or reading how a bank accidentally posted half a million credit card files on its website. It's not a problem with an easy or conventional answer, but it's a problem which needs to be solved if people are to trust the democratic process into the 21st century.

a. Trust, but verify

Suppose the existence of a rare stamp which people would steal, if they could find it. After thinking long and hard, its owner comes up with two alternatives; take it

into the woods behind his house and bury it, or put it in a safety deposit box in the local bank. Which seems more secure? Few people would choose to bury the stamp; it seems immediately apparent that the bank is more secure. But why? Everyone knows that banks can be broken into and robbed. In fact, the bank on the corner is a target; if the vault were robbed, the stamp might get stolen even if the thief didn't know it was there when planning the robbery. On the other hand, if the owner is careful, it is likely that no one will know about the box in the woods. Doesn't that make it safer?

Again, it is unusual if intuition suggests that the box in the woods is safer. However likely it is that no one will know about the stamp, however careful the owner is, there is always a chance that it will be found. Someone might see the box being buried; someone might walk by and notice that a hole had recently been dug; someone else might be burying their rare stamp, and happen do it in the exact same place. Once that happens, the other person will have total access to it. On the other hand, the owner probably wouldn't mind telling someone "My stamp is in box 145-H at Blackwater Savings Bank, on the corner of Fifth and Main." Knowing the stamp is in the bank doesn't accomplish very much for a potential thief; they still need the ability to get into the bank vault. If they had that in the first place, they would likely rob it regardless of the presence of the stamp.

Hiding your stamp in a box in the woods is what computer security experts pejoratively call "security by obscurity," short for "security by obscurity is no security at all."^[35]

Security by obscurity means that the only thing protecting a secret is the fact that it's somewhere out of the way. Think of the Sherlock Holmes story "The Purloined Letter" – a blackmailer had stolen an extremely important letter, and had hidden it well. Holmes tricked him into revealing the hiding place, and after

that, was able to recover it with no trouble at all. Good security can include hiding something, but what is reassuring about a bank vault is that it is secure despite everyone knowing where it is. A bank which told customers “We take your money somewhere really secret, then bury it inside of a shoebox” would quickly go out of business.

When someone is attacking something secure – trying to break into a computer system, or a house, or a bank vault – the best strategy is always to go after the weakest point. That’s why most computer systems won’t let a password be the same as a username, for instance.[36] All of the security on that system is worthless if it relies on a secret that’s easy to guess. That maxim can be generalized – the security on a system is only as strong as its weakest point. There’s no point to having a \$500 lock on your front door if your windows are unprotected. And if all of your security relies on you having secrets that nobody else knows, then your security can only be as good as the protection on that secret. Design a system that doesn’t need secrets, and it may not be impregnable, but at least you are assured that there are no easy ways to bypass your security.[37]

Given this basic knowledge, it seems logical that companies with a great deal invested in assuring their clients that their systems are secure would go out of their way to make their systems as transparent as possible. Instead, however, the major election system vendors have spared absolutely nothing to try to keep as many secrets as possible, including one crucial one – how the programs that run on their machines work. They argue that their computer code is central to their business, and that it is a secret they should be able to keep for competitive reasons. They have used every method possible to make sure this viewpoint prevails, from lobbying efforts to flat-out refusing to follow laws which would

require them to disclose their code.[38] In contrast, the Nevada Gaming Control Board requires that the code for all software installed on slot machines be available for them to review.[39]

Secrets are only as secure as long as they're kept secret. In 2003, both Diebold and Sequoia suffered similar gaffes – they left their computer code, supposedly so secret it could not even be shown to the government, openly available on public web servers.[40] Each company was supposedly expert enough in computer security to protect an election, but they could not even protect themselves. Sequoia's software was stored in binary code in a directory which allowed people to write as well as read, leaving the possibility that someone unnoticed altered their program.[41] Diebold, on the other hand, lost their source code – the actual work done by their programmers before it is made into a machine-readable form.[42] Over the next couple of weeks, media, researchers, and interested amateur computer scientists picked through the program, exposing dozens of flaws and security holes.[43] For the first time, the public could see beyond the secrets, and what it saw was a system that was wide open to malicious users.[44] Diebold claims that all of the holes are patched in its current version, but how would anyone know? The current version is, again, secret.

b. Security without secrets

Banks certainly use some secrets – PIN codes, for instance, or combination vaults – but they try to reduce them as much as possible. If all an intruder needs to get into a vault are the blueprints, then the architect, or anyone who sees the plans, can walk right in. True security uses as few secrets as possible – in fact, truly secure systems want people to be able to see how they work. Some bad guys will be deterred (why go after a bank vault you can see is incredibly hard to crack,

when there are so many easier ones?) and some good guys will point out mistakes that were made, so they can be corrected. Just as importantly, everyone interested in buying the product, or using the bank, can be confident in the strength of the security.

A real-world example of this principle was the creation of AES, the government Advanced Encryption Standard.[45] When the National Institute of Standards and Technology (NIST) decided that their old cipher, DES, was getting outdated, they held a public competition to replace it.[46] Public, in this case, didn't simply mean that anyone could enter; it meant that once you did enter, your work was open for everyone to look at.[47] The security experts who participated in the process didn't just submit new algorithms, they actively examined the others' work, searching for flaws that would leave it vulnerable to attack. There were no secrets. Today, AES is used in thousands of applications because people can trust that it does not have hidden flaws.[48]

The lesson here cannot be overstated. If your data is protected using AES, someone who wants to uncover your secrets can go to a public website and learn everything there is to know about AES itself. They can see every line of the algorithm and exactly what steps it puts your data through, but this will not help them get at your data. There's only one secret, and that is the password you use to encrypt the data itself.

AES's openness didn't just make it stronger, it made it much, much more valuable. Banks, stock markets, and even foreign governments trust AES because they can look at it themselves, see that there are no traps, no secret passwords or back doors. Think about the lock on an average house's front door. Who might have a key to it, other than the owner, and anyone else directly authorized? Well,

the locksmith who installed it may, as might the company that made it. Either of them might also have a master key, which can open all locks of that type. Generally, people don't care because there's generally nothing in our houses worth that much – after all, if it turns out that a lock company is snooping around in its customers' houses, the company will not last long. It's not worth losing a business simply to peek into a random house. But what the owner was storing a bag of diamonds in the house? Or a file describing a billion dollar invention? All of a sudden, those locks may not be quite as secure as the owner thinks. All of a sudden the owner might wonder if anyone other than the locksmith has a copy of that master key, and even a reputable lock company might be considering the pros and cons of breaking the law. When guarding something important, even the company providing the security itself may be a weak point. What secrets do they have? Does the customer really know who they are, and who else might know them? Would it not be better if they had no secrets at all?

How a person votes is supposed to be secret – from everyone but that person. However, when a vote is entered into a DRE voting system on any given election day, the simple truth is that it becomes a secret to everyone - the voter has no idea what has happened to that vote. The system is a black box, a secret in and of itself, and all she can do is trust that the vote it spits out on the other side is the same vote she entered. There is a chain of trust involved in any election; vote tampering and fraud are problems as old as democracy itself. But up until the advent of DRE voting, what a citizen's own ballot said was never a secret from her, never something she needed to trust.

c. Chains of trust

Think, for a moment, about that “chain of trust” a voter must have in an election that uses a simple paper ballot. The voter goes into the booth, checks a box on a ballot handed to her at the door, and puts it into a ballot box. She then leaves the voting booth. She trusts that systems are in place to prevent the workers at the polling place or another voter from stuffing the ballot box; to prevent the counters from intentionally miscounting or destroying ballots; to prevent the people tallying the various precincts from coming up with the wrong numbers. That’s a lot of trust, to start with, but we think it’s worth it for a system which allows people to cast secret ballots.

Why is it relatively easy to trust paper ballots? One important reason is that they are big. True, a piece of paper hardly seems big, but carrying around enough ballots to actually ‘stuff’ the ballot box becomes easy to spot at numbers far smaller than needed to influence most elections. If the cheating happens during the counting process, it’s easy to detect with a recount. Election officials know enough to make the ballots themselves distinctive, so forged ones can’t easily be prepared ahead of time. But again, merely keeping the ballot secret isn’t effective security; with many modern voting machines, voters never get the opportunity to physically handle the ballots, though they may see them in the machines. What, then, is different about DRE voting that would make a voter less confident in it? There are several, but the biggest difference is this: in traditional voting systems, the ballot box itself can’t cheat. That may seem an odd if not incredulous statement at first. A ballot box is a thing; it has no will of its own with which to cheat... and that itself is the problem. A computer program does exactly what it is programmed to, and computers

can be programmed to break the rules. Punch cards, and optical scan machines differ from DREs in one phenomenally critical way: they keep their memory on paper, which the voter can see. DREs keep their memory hidden deeply away, but

perhaps not deeply enough. And while that big direct recording machine in the school gymnasium with the giant lever may be clunky, it has its own key difference from its electronic descendants. After the election, it can be examined for signs of tampering. Computers can be programmed to not only cheat, but wipe away the fingerprints when the job is done.

i. Voting with a DRE system

To really understand how complicated the chain of trust a voter needs to have in a DRE

voting system versus a paper ballot, it is necessary to examine a theoretical voting procedure using a DRE.[49] Before the voting starts, technicians from either the locale or the manufacturer show up to set up the election; this is the digital equivalent of writing the ballot. They do this on a central server, which all of the voting machines will then download the ballots from. The poll workers set up the machines, connecting them over the network to the central server. The workers test each machine to make sure ballots are recording properly, then each machine then spits out a “zero tape” which shows that there are no ballots currently registered at the machine. As voters come in, they are given a special digital keycard which, when inserted into the machine, allows the casting of one vote and then disables itself. The voter returns the keycard to the poll workers, who can then re-enable it and give it to the next voter. At the end of the day, the poll workers print a result tape which tallies the total number of votes cast, check to make sure it matches up with the number of people they have manually recorded as voting, and uploads the vote tallies to a central location within the city.

Who does a voter need to trust? Where might things go wrong? Data is transmitted over the internet, so there’s always the possibility that someone

malicious might be able to intercept and change what is being transmitted. Hundreds of voters might have access to that machine itself; any one of them could tamper with it. Imagine a specially designed keycard that did not shut off after use; one voter might be able to cast a hundred votes in a few minutes. Someone with the know-how could open the machine and upload a virus, or simply tinker with the memory. An attacker could simply remove the computer's memory card and snap it in half, destroying the votes for that machine so far, a useful strategy in a precinct expected to vote strongly for the opposition. None of these attacks are novel, but the sheer clunkiness of paper ballots makes them difficult; imagine how long it would take someone to set a stack of a hundred ballots aflame with a lighter, for instance, or how obvious carrying those votes in under a coat would look.

ii. Trusting the ballot box

If that were the only problem, though – that the sheer efficiency of computer ballots makes them more vulnerable to attack – then we could find ways around this. But we've left off the second, more critical assertion – that unlike other types of voting machines, DREs are capable of putting the fix in for an election all on their own. Unlike an optical-scan machine, for instance, or a punch-card ballot, a DRE runs on a general-purpose computer, similar to a laptop and capable of running any piece of software its operating system can handle.[50]

In this sample case, the voting machine runs Windows CE 3.0, a smaller version of Windows built by Microsoft for “embedded devices” – things like cell phones, palmtops, and, yes, ATMs and voting machines.[51] The device is programmed so that it only does two things; first, when booted up, it checks to see there are

any updates on its removable memory cards, then it runs a program called BallotStation.[52]

To try to list the security problems which have been associated with various versions of Microsoft Windows would be an exercise in futility. Windows is popular and effective for many reasons, but its security is not among them. BallotStation is an unknown; it's not a widely used program, so there's not a lot of data on security problems inside of it. However, just like biological organisms, computer programs develop resistance to attacks; the more a program gets exposed to malicious behavior, the more it develops defenses and immunities, by programmers patching holes and creating protective software like virus scanners.

The other place the voting machine can get software from is the memory card.[53] Unlike the ballot station software, this is not an unknown; it is an easily-spotted security nightmare. Imagine a mailbox – a secret mailbox, admittedly, a locked mailbox. Every morning, the mailbox's owner wakes up, opens it, and then does whatever any letter in that mailbox tells him to do, without question. If a letter managed to get into the mailbox, it must be important, so its orders get carried out. That is a more or less accurate description of the voting computer; once a card is inserted into the slot, it simply does whatever it's told. It may ask for confirmation – by flashing a “yes/no” message on the touch screen – but it seems obvious that anyone inserting a card with malicious software will be around to press “yes.”[54]

iii. A needle in a million haystacks

On December 7, 2006, seven U.S. attorneys were dismissed without explanation and replaced with interim appointees.[55] This was made legally possible by a

provision slipped into the USA PATRIOT reauthorization act in the dead of night by one of Arlen Specter's assistants.[56] A few short lines in a bill two hundred pages long; virtually impossible to notice, even for someone actively looking for it. Now imagine a programmer working on that BallotStation software. The only other people who will ever see this program are the few dozen other programmers working for the company; once it is shipped out, the software itself is turned from a readable script into the ones and zeroes that computers run on. That program is another secret; it is incredibly difficult to take those ones and zeroes and turn them back into something a human can make sense of, and even if it were possible, doing so is prevented by both contract and copyright law. The USA PATRIOT reauthorization bill was at most eight or ten thousand lines, and someone was able to insert a clause into it without being noticed. Even a moderately-sized computer program can approach a million lines of code, and larger programs can be huge – Windows XP, for instance, has an estimated forty million lines of code.[57] That's about million printed pages, or about thirteen hundred bound volumes – at eight hundred pages a book. Even if it took fifty of those pages to write the code to steal an election (and there's no reason to believe it would take nearly that much space) no-one goes through the code line by line before it is delivered. If the program works, it goes out to customers. And even if a malicious piece of the program was detected, it would be almost impossible to track the perpetrator down. Unlike the Senate, most software companies use programs which track any changes made, but security is not a primary priority for those applications.[58] In other words, anyone who could make the change in the first place could easily hide their own tracks.

Finally, someone falsifying ballots in a traditional election can't have them self-destruct after the count is over. On a computer, such a thing is trivial. A vote-stealing program could delete itself after the results had been turned in;

alternately, it could delete all the election data, or just crash the DRE itself. Once that's done, the only people qualified to do a post-mortem on the machine work for the company itself. The economic fallout for a company whose machine was hacked during an actual election would be enormous... and in any investigation, a strong desire by the examiner for a specific outcome often slants the investigation towards that outcome. This has parallels to the situation in Alameda County; there, the vote was close enough for a recount, but none was possible. If the vote was a strong victory for one side, but tampering was suspected, what better way to head off an investigation than to simply have the systems crash and get sent back to the manufacturer?

To a hypothetical election-rigger, then, it seems that a precinct which uses DREs has a lot of advantages. In addition to access, which any potential rigger needs to have, rigging an election that uses computerized systems may requires more technical know-how than rigging one with only paper ballots. In return, however, it is nearly impossible to detect while happening and nearly untraceable afterwards – ‘virtues’ which traditional methods of electoral fraud do not have. In an age of close-call elections that seem to be decided as often in courts as in the voting booths, flipping just one out of every hundred votes from one candidate to another turns a neck-and-neck race into a solid 2% lead.

So how much do you trust the programmers at Diebold Election Systems, a company with strong political ties, whose managers have included a man jailed for falsifying computer records?[59] How much do you trust Microsoft, a company which has recently started updating its customer's computers without their permission, and even when they specifically denied permission, with an update that can break some of those computers?[60] How much do you trust every single person who has ever handled that machine, every election worker,

every techie? How much can any voter trust that within that entire chain, there is no person who is interested in subverting the process? Simply handling a clunky, old-school lever machine accomplishes little, but anyone who touches that DRE can potentially install software on it to steal an election. How much can any voter trust that within that entire chain, there is no person who can be bribed sufficiently to put the fix in? How much can you trust that the person in line before you, who took just a minute more than usual, didn't pull a memory card out of his pocket the second he got into the booth?

4. How do we fix it? Legal and policy recommendations

There are many things that are fundamental to the functioning of a democracy – freedoms of speech, the press, and assembly, as well as an engaged populace participating in the process. Even more fundamental, however, is simply that the process work – that when the people cast their votes, they are counted properly. If voters cannot trust that the process works on this central level, why should they bother to vote in the first place? How can people be reassured that their vote will be counted when they can not even see it?

a. Voter-verified paper trails

There has been plenty of writing about this one particular issue, but it is impossible to say it too many times; a voting system which does not leave any kind of paper trail is too vulnerable.^[61] Many of the problems discussed in the last few pages can be avoided simply by having the DRE spit out a receipt which the voter can then put in a secure ballot box just as in traditional voting. This does not negate the primary benefits of the DRE system, ease of use to voters and ease of counting to

administrators, but it provides the ability to do a recount independent of the computer system. It does make the machines significantly more expensive. It also provides another potential wrench on election day (a printer jam) but these technical hurdles shouldn't be seen as barriers to use a paper trail, but rather barriers to use DREs at all. If the systems cannot be brought up to this basic level of reliability, our nation cannot afford to be using them.

b. Design competition

The idea of a federal government-mandated rollout of a single, centrally-manufactured voting machine is not likely to reassure anyone. Any new device designed to ensure people's confidence in the voting process cannot come from a group few have confidence in the first place. Large government procurement efforts, additionally, tend to turn into political windfalls to specific private companies; this is a big part of the problem that currently exists. And yet, the assurance that a vote in precinct A is just as secure as a vote in precinct B, regardless of which company manufactured the voting machines, is exactly what a program to generate a new voting system would be designed to ensure.

To resolve this conflict requires a process which takes full advantage of the benefits of each of the various levels of our society. Standards are best set at a federal level, to assure unity across the entire country. Purchasing of the systems themselves belongs at a local level, so each city can go with a vendor which best meets its own needs. Manufacturing needs to be open to the market, so that companies can compete and the people are assured of getting the best devices possible. To satisfy all of these various ends, NIST should hold a five-year competition for the creation of a secure voting system, along the lines of the competition it announced for the creation of AES in

1997[62].

The purpose of the competition is not to award a contract to make the machine itself, but to get a reference specification – a standard design, which any company could then manufacture. All of the specifications for the machine will be open to the public, from the source code for the programs to the physical design for the circuit boards. When a company uses this reference specification to produce an actual machine, they must themselves publish everything they do – from the design of the housing to the serial numbers on the chips they plan on using. Since the winners will not themselves make money from selling the design, a substantial prize needs to be awarded; considering the billions allocated through HAVA, prizes in the ten thousand range for finalists, and in the ten million range for the winner, plus the publicity, should be enough to motivate participants from across the spectrum.

c. Bounty hunting

An idea which is gaining strength in tech circles is that of a free market for computer bugs.[63] The concept is simple; someone who discovers a new way to penetrate a web site (for instance) may divulge it to the company that built the web server, for which they might possibly get a bit of recognition. On the other hand, there are an increasing number of criminal groups willing to pay a good deal of cold cash for ways to exploit web sites. In the time before a fix is found, they can steal credit card numbers, learn corporate secrets, or even hold entire businesses hostage. Criminals have been quick to seize opportunities in this area, and now pay good money for so-called “zero day exploits”, bugs that are unknown and unprepared for. If one such attack can cause millions of dollars in damage or more, it makes economic sense for companies to compete with the criminals for these bugs. A systems administrator who has found something new

may be much happier taking ten thousand legitimate dollars from IBM than five times that from an Eastern European criminal syndicate.[64] This is an economists' dream; organizations making the rational choice to remove the incentive someone might have to commit a criminal act which the normal justice system is virtually unable to catch.

This is a perfect model for a secure voting system. Once the reference specification is finished, money should continue to be put aside to reward the first person who can demonstrate a specific bug in the system. Prizes would be awarded in varying amounts, based on the severity of the bug – perhaps ten thousand dollars for a minor bug which required a lot of time and effort to exploit, up to a hundred thousand or more for someone who found a flaw which allowed someone to enter a voting booth and change the voting tallies. Based on the heartening results of the AES development process, severe bugs should be relatively rare, if not squashed entirely by the time the system goes into production. Again, however, a hundred thousand dollars is a pittance compared to a stolen election.

d. Competition on quality

Business competition is one of the cornerstones of our economy, driving prices down and putting goods in the hands of all. However, this can be a huge problem as well, when companies reduce the quality of those goods in order to make them affordable. Since this is a good that should not be majorly different from manufacturer to manufacturer, companies should compete on quality, rather than price. Companies should allege when bidding for a contract that their machines make only so many errors per million votes cast, and then be bound to that

number just as a contractor who bids on a construction project is bound to the budget bid.

At the same time, there should be quite simply zero tolerance for major errors. A company which delivers product shown to not meet the quality standards must be fined, and in serious cases, barred from receiving further government money for manufacturing voting systems. After putting millions of public dollars into development of a system all voters can trust, and rewarding pledges of quality, that quality must be fully delivered on. The delivered machines need to be available for testing at any point during the year, not simply on the run-up to election day.

5. Conclusion

Computerized voting systems allow nearly untraceable electoral fraud on a massive level. Building computer systems is not an easy task in the best of circumstances, and computerized voting systems combine many of the hardest problems facing programmers today. The companies currently involved have shown time and time again that they are simply not up to the task of producing cost-effective, secure voting terminals. Part of the problem is the perceived business need for secrecy, but more often this merely serves to cloak the truth of embarrassingly insecure systems from the public, while leaving those security flaws open to attackers. Open systems are secure in ways closed, privately held systems can never be; they do not rely on people not knowing how they are built to remain secure, and the more people checking and testing a piece of software, the more likely it is to not contain bugs.[65]

Recent history has shown several extremely promising examples of open public competition spurring great technical strides.[66] Such contests generate not only return for those willing to invest in development which might otherwise be unprofitable, but public awareness and excitement. By sponsoring such a competition at the federal level, the government can begin to restore faith in a process which far too many people are starting to believe is no longer effective.

Endnotes:

[1] Henry K. Lee, Judge Voids Results of Berkeley Measure on Medicinal Pot, S.F. CHRON., Sept. 28, 2007, at B1.

[2] Id.

[3] Id.

[4] Id.

[5]

“Blue Screen of Death” is the nickname for the blue-colored screen that comes up when the various versions of Microsoft Windows crashes.

<http://www.catb.org/~esr/jargon/html/B/Blue-Screen-of-Death.html>.

[6] Lee, *supra* note 1.

[7] E.g. David Cho & Lisa Rein, Fairfax To Probe Voting Machines, WASH. POST, Nov. 18, 2003, at B01; Greg Lucas, State bans electronic balloting in 4 counties, S.F. CHRON., May 1, 2004, at A1; Diebold to Settle E-Voting Suit, <http://www.wired.com/politics/security/news/2004/11/65674>. Alameda County, Ca., is one of the counties Diebold settled with, referred to in the third cited article.

[8]

My pre-law professional background includes ten years doing systems design, management, and support for IT departments of all shapes and

sizes.

[9] See Douglas Jones, A Brief Illustrated History of Voting,
<http://www.cs.uiowa.edu/~jones/voting/pictures/>.

[10] 42 U.S.C. § 15302 (2006).

[11]

Direct recording voting systems do not use traditional ballots, but instead use a machine which tabulates the votes as they are being cast. Lever machines are the original direct recording systems. Direct recording electronic voting systems simply replace the recording machine with an electronic device.

[11] All Levels of
Government Are Needed to Address Electronic Voting System Challenges:
Testimony before the Subcomm. on Financial Services and General
Government of the H. Comm. on Appropriations, 110th Cong. 13 (2007)
(statement of Randolph Hite, Dir. Info. Tech. Architecture and Sys.) available at
<http://www.gao.gov/new.items/d07576t.pdf>.

[12] Jones, *supra* note 9.

[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] Catherine Seelye, County in California Touches Future of Voting, N.Y.
Times, Feb. 12, 2001.

[17] E.g. IVOTRONIC TOUCH SCREEN VOTING SYSTEM PRODUCT
OVERVIEW 2, <http://www.essvote.com/HTML/docs/iVotronic.pdf>.

[18] Kim Zetter, E-Voting Fans: The Disabled, WIRED, Oct. 4, 2004,
<http://www.wired.com/politics/security/news/2004/10/65206>.

[19] Accessibility Tutorials: Hear text read aloud with Narrator, <http://www.microsoft.com/enable/training/windowsvista/narrator.aspx> (last visited October 28, 2007).

[20] Zetter, *supra* note 18.

[21] E.g. DATA ACQUISITION MANAGER PRODUCT OVERVIEW, http://www.essvote.com/HTML/docs/ESS_DataAquiMngr.pdf.

[22] *Id.*

[23]

Using the 2000 census data and defining “adult” as a person aged 20 or above, there are approximately 125 million ATM users in the US, making each responsible for an average of 81 ATM transactions per year.

Census 2000 data for the United States,

<http://www.census.gov/census2000/states/us.html>

(follow “General Demographic Characteristics” hyperlink) (201 million Americans aged 20 or older as of 2000); Standard Register Announces Results of National Consumer Survey of Plastic Card Usage,

<http://www.icma.com/info/survey91099.htm>

(In 1999, 61% of American adults owned ATM cards); Jack Plunkett,

PLUNKETT'S BANKING, MORTGAGES & CREDIT INDUSTRY ALMANAC 30 (2007)

(In 2006, there were 10.1 billion ATM transactions in the USA).

[24] At least in the UK. ATMs added to U.K. phone booths, http://www.selfservice.org/article_1860_23.php (last visited Oct. 28, 2007).

[25] Plunkett, *supra* note 23.

[26]

Todd Jackson, New high-tech purchase will make voting easier, THE ROANOKE TIMES, Mar. 3, 2004, at B1 (warehousing and transportation costs for new DRE voting systems represent a significant savings over

old lever machines).

[27] “Each voting system used in an election for Federal office shall meet the following requirements. . . permit the voter to verify (in a private and independent manner) the votes selected by the voter on the ballot before the ballot is cast and counted. . .” 42 U.S.C. § 15481(a)(1)(A)(i).

[28] In 1996, only 7.7% of voters in the US used a DRE system, according to the Federal Election Commission. Direct Recording Electronic, <http://www.fec.gov/pages/dre.htm> (last visited Oct. 26, 2007).

[29] For example, the Acting Director of the NJ Division of Elections is a Deputy Attorney General with no listed experience either in IT or purchasing. NJ Division of Elections, http://nj.gov/oag/elections/dir_bio.html (Biography of Acting Director Maria Del Valle Koch).

[30] A partial list of companies currently involved some facet of the business of creating DRE machines can be found at BlackBoxVoting.org, <http://www.bbvforums.org/forums/messages/7659/7659.html?1187057600>.

[31] In 2007, after failing to sell the unit off, Diebold Inc. distanced itself by changing the name of Diebold Election Systems to Premier Election Services. Grant Gross, Diebold Can't Sell E-Voting Subsidiary, PC WORLD, Aug. 16, 2007, <http://www.pcworld.com/article/id,136044-c,companynews/article.html>.

[32] Even a brief run-down of the scandals, questionable tactics (or election results!) and unseemly or illegal doings by the major DRE

suppliers is beyond the scope of this article. I will provide one of the most powerful examples of such as illustration. Walden O'Dell was, until he resigned in 2005, the head of Diebold Election Systems. Mr. O'Dell is also one of President Bush's "Rangers and Pioneers", marking him as a fund raiser who has collected more than \$100,000 for the Bush campaign. In 2003, while still head of Diebold, an Ohio company, he wrote a letter to other wealthy and high-ranking Republicans stating that he was "committed to helping Ohio deliver its electoral votes to the president next year." A predictable furor followed. Two years later, as his company was hit with class-action lawsuits alleging insider trading and misrepresentation, he resigned. Melanie Warner, Machine Politics In the Digital Age, N.Y. TIMES, Nov. 9, 2003; Editorial, The Business of Voting, N.Y. TIMES, Dec. 18, 2005.

[33]

Nehemiah 3:6 – "Moreover the old gate repaired Jehoiada the son of Paseah, and Meshullam the son of Besodeiah; they laid the beams thereof, and set up the doors thereof, and the locks thereof, and the bars thereof."

[34] Charles Mann, Why Software Is So Bad, TECHNOLOGY REVIEW, July 2002, <http://www.technologyreview.com/Infotech/12887/?a=f>.

[35] For an excellent discussion of this idea, also known as Kerckhoffs' Principle, see Bruce Schneier, Secrecy, Security, and Obscurity, CRYPTO-GRAM NEWSLETTER, May 15, 2002, <http://www.schneier.com/crypto-gram-0205.html#1>.

[36]

For example, neither Hotmail nor Gmail will allow a new user for their email systems to choose their username as a password. Virtually every article returned by a Google search for "Password best practices"

mentions not to use an account's username as its password; it is the most obvious guess for anyone trying to access the account illicitly.

[37] Or at least a system that needs as few secrets as possible. Again, see Schneier, *supra* note 35.

[38]

Press Release, California Secretary of State, Secretary of State Debra Bowen Moves To Tap ES&S's Escrowed Source Code After Vendor Violates Conditions of Its State Certification (June 21, 2007) available at http://www.sos.ca.gov/executive/press_releases/2007/DB07_029.pdf.

[39]

NGC Reg. 14.110(3) (2005). A sobering comparison of the regulatory schemes which control slot machines with those which control voting machines is available at Slot Machines vs. Electronic Voting Machines, <http://www.votingmachinesprocon.org/slotschart.htm> (showing point by point how much easier it is to be certified to provide voting machines than slot machines).

[40] Kim Zetter, E-Vote Software Leaked Online, WIRED, Oct. 29, 2003, <http://www.wired.com/politics/onlinerights/news/2003/10/61014>.

[41] *Id.*

Binary code is a string of ones and zeroes that can only be read by computers. To turn it into something which humans can interpret requires a lengthy process called decompiling.

[42] *Id.*

Even after decompiling, binary code gives a viewer only the instructions to be carried out by the program. Source code, on the other hand, includes any commentary or annotation the programmers included. This is similar to the difference between reading a printed copy of a book and a manuscript with notes in the author's own hand.

[43] E.g. Aviel Rubin et al., Analysis of an Electronic Voting System, IEEE SYMPOSIUM ON SECURITY AND PRIVACY (2004).

[44]

The public, being law-abiding, couldn't see the code before this; contract and copyright law prevent people from attempting to examine or decompile the computer code. The only people who could see the flaws, therefore, were people already willing to break the law.

[45] The

AES is the standard cipher that the government uses for encoding information, including secrets. The NIST keeps an archive of the process at <http://csrc.nist.gov/CryptoToolkit/aes/>.

I refer to AES alternately as both an algorithm and a computer program throughout; while this is not technically precise, it is workable for the purposes of this article. More technically, AES is an algorithm which is implemented by computer programs; a badly designed program can still leave data encrypted by AES vulnerable if it implements it improperly. AES may be the lock on your front door, but if the programmer leaves a window open, people can still get in. It cannot be stated enough: computer security is difficult.

[46] Announcing

Development of a Federal Information Processing Standard for Advanced Encryption Standard, 62 Fed. Reg. 32,494 (Jan. 2, 1997).

[47] Id.

Participants had to submit not only a full specification for their algorithm, but an example implementation in the C programming language.

[48] IAIK Crypto Group – AES Lounge, <http://www.iaik.tu-graz.ac.at/research/krypto/AES/> (surveying available literature on implementing, optimizing, and attacking the AES cipher).

[49]

This example uses the Diebold AccuVote-TS machine. This is a slightly older model voting machine, but one in wide use; in 2006, 10% of America cast its votes on an AccuVote-TS. It is also one of the few DREs which has been subject to an exhaustive independent scrutiny. Computer scientists at Princeton acquired one of the devices and learned a great deal about what makes it tick. The description of the procedure here is taken from that paper. Feldman, Halderman, and Felten, Security Analysis of the Diebold AccuVote-TS Voting Machine, Sept. 13, 2006, <http://itpolicy.princeton.edu/voting/ts-paper.pdf>.

[50] Id at 7.

[51] Id. Windows CE is now part of Microsoft's Windows Embedded product line. Windows Embedded, <http://www.microsoft.com/windows/embedded/default.msp>.

[52] Id.

[53] Id at 9.

[54] Id.

[55] Dan Eggen & Paul Kane, Gonzales: "Mistakes Were Made", WASH. POST, Mar. 14, 2007, at A01.

[56] Paul Keil, Specter: "I do not slip things in.", TPM, Feb. 6, 2007, <http://www.tpmmuckraker.com/archives/002487.php>.

[57] VINCENT MARAIA, THE BUILD MASTER (2005).

[58] David A. Wheeler, Software Configuration Management (SCM) Security, March 13, 2004, <http://www.dwheeler.com/essays/scm-security.html>.

[59] Associated Press, Con Job at Diebold Subsidiary, WIRED, Dec. 17, 2003, <http://www.wired.com/politics/security/news/2003/12/61640>.

[60] Scott Dunn, Microsoft updates Windows without users' consent, WINDOWS SECRETS, Sept. 13, 2007,

<http://windowssecrets.com/2007/09/13/01-Microsoft-updates-Windows-without-users-consent>; Scott Dunn, *Stealth Windows update prevents XP repair*, WINDOWS SECRETS, Sept. 27, 2007, <http://www.windowssecrets.com/2007/09/27/03-Stealth-Windows-update-prevents-XP-repair>.

[61] <http://www.verifiedvoting.org/>

is one of many groups working on making paper trails for DREs a reality. It is a critical start, but not nearly enough to make DRE voting secure.

[62] Full discussion of what such a competition might look like is outside of the scope of this article. Briefly, however, a competition along the lines of the AES competition might look like this:

The competition would take place in five phases, including several conferences open to the public, with invitations going out to academics and relevant players in the industry. In the first phase, the minimum requirements would be hammered out – what, at least, must any secure voting system have? Once those specifications are finalized and published, phase two is a request for submissions. Like all phases of the competition, this would be open to anyone, be they industry player or home inventor. The length of this phase would be one of the things determined during phase one; once it is finished, all of the submissions are opened to public viewing. Phase three is a review period, during which each of the entries is examined and rated by four separate groups – industry, academia, NIST itself, and the interested public not aligned with any of those groups. At the end of phase three, the top five rated submissions become the finalists, and again, a conference is held for direct public discussion. This gives

each of the finalists an opportunity to present their system and argue why their specification should be chosen. Based on commentary received, each finalist may then make improvements and fix bugs. During phase four, the five finalists are subject to intense scrutiny, but can no longer make changes. A winner is selected, and during phase five final commentary is given, final tweaks are made on the chosen system, and a final specification is published.

[63] Ryan Naraine, Punditry: Will Microsoft buy flaws?, ZDNET, Mar. 19, 2007, <http://blogs.zdnet.com/security/?p=130> (opinions from six security experts).

[64]

3Com runs one of the highest-profile of such systems through its Tipping Point division, called the Zero Day Initiative.

<http://www.zerodayinitiative.com/>.

[65] Victoria Ho, Asia finds security in open source, ZDNET ASIA, Sept. 28, 2007, <http://www.zdnetasia.com/news/software/0,39044164,62032771,00.htm>.

[66]

In addition to AES' creation, a similar example of a competition to encourage private innovation is the Ansari X Prize, which awarded ten million dollars to the first private company capable of achieving spaceflight. <http://www.xprize.org/x-prizes/ansari-x-prize>.