

Testimony of Kurt Eggert
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Before the

House Energy and Commerce Committee
Subcommittee on Commerce, Manufacturing, and Trade

At a Hearing Entitled:

“Daily Fantasy Sports: Issues and Perspectives.”

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Witness Background Statement

Kurt Eggert is a Professor of Law at Chapman University Dale E. Fowler School of Law in Orange, California, where he teaches gambling law, among other courses, and directs the Alona Cortese Elder Law Center. As a law professor, he has testified before congressional committees of both the House and Senate on gambling and other consumer protection issues, and formerly was a member of the Federal Reserve Board's Consumer Advisory Council, where he chaired the Subcommittee on Consumer Credit. Professor Eggert has written on gambling law issues and spoken on them in conferences in the United States, Canada and Europe. Before joining the Chapman faculty, Professor Eggert was a staff attorney at Bet Tzedek Legal Services, a non-profit legal services provider, and also an adjunct professor at Loyola Law School in Los Angeles, California. Professor Eggert holds a J.D. from the University of California at Berkeley, and a B.A. from Rice University. While clinical programs at Chapman University School of Law have received Federal grants unrelated to the subject matter of this testimony, Professor Eggert has not received any Federal grants nor has he received any compensation in connection with his testimony.

Executive Summary

Daily Fantasy Sports (DFS) are a recent development in the American entertainment industry. They are based on traditional fantasy sports, but have an accelerated pace, with most competitions taking place on Internet DFS sites and concluded in a day or a week. Also, DFS competitions have increasing and now often enormous sums of prize-money for the winners. Daily Fantasy Sports is an industry experiencing explosive growth and has affiliations with many major sports leagues. DFS operators argue that Daily Fantasy Sports do not constitute gambling because they are games of skill and are exempt from the restrictions on Internet gambling found in the Unlawful Internet Gambling Enforcement Act (UIGEA).

Daily Fantasy Sports have recently been rocked by scandals involving potential insider information used by insiders in competition with outsiders and face many legal hurdles, including states arguing that DFS constitute gambling and so are banned by state law, class action lawsuits claiming illegality, infringement of athletes' rights regarding their name and likeness, and claims of misrepresentation and other torts, and are currently the subject of investigation by several federal prosecutors for possible illegal behavior.

One significant issue for Daily Fantasy Sports is whether they constitute gambling, an issue which is normally determined by state law. Some states have concluded that Daily Fantasy Sports constitute gambling and so cannot be provided unless otherwise permitted by state law governing gambling. Other states have concluded that Daily Fantasy Sports are games of skill, rather than chance, and so do not constitute gambling. DFS operators argue that Daily Fantasy Sports are games of skill and are specifically exempted from gambling regulation under the UIGEA.

One significant problem with Daily Fantasy Sports is that they pit recreational players against highly skilled professionals who gather extensive data regarding the athletes, match-ups and weather and other conditions for the relevant competitions, employ sophisticated computer algorithms to analyze that data and create portfolios of numerous and carefully designed DFS line-ups, and use scripting tools to enter those numerous line-ups into a large number of competitions. Because the effort of entering line-ups once they have been created is minimized with the use of these scripting tools, professional DFS competitors have the financial incentive to enter their DFS line-ups into many levels of DFS competition, both higher and lower stakes. Recreational players therefore contend at all levels of competition with professionals employing powerful algorithms that overpower almost all but the luckiest recreational players in head-to-head matchups or in tournaments and so the few professionals win the vast majority of DFS prize money.

The advent of large DFS tournaments with large, often million dollar or more prizes has changed the strategy of how to win at Daily Fantasy Sports. Instead of seeking to create the strongest and most reliably effective team generally, such tournaments encourage participants, counter-intuitively, to construct teams that demonstrate great skewness, with a low probability of winning, but with a high reward for doing so. Professional DFS players create portfolios of line-ups with diverse aspects of skewness, thus increasing their chances that one of their teams will be the big winner. They are aided in this effort by employing their algorithms to create this diverse portfolio of line-ups and their scripting tools to enter the resulting line-ups in many competitions. The algorithms permit them to analyze and manage an enormous amount of data far better than would be possible without such algorithms, and create successful groups of line-ups, keeping track of such diverse and vast data as the performance, variance, price-to-value ratio and rarity score of hundreds of players at a time.

Daily Fantasy Sports appear very suited to the use of computer algorithms, as DFS is not a game of incomplete information, but is rather one of excessive information for most humans to retain and

manage, tasks better suited for computers than persons. However, the use of algorithms may be difficult to detect, as those employing them merely submit the resulting line-ups. While at least one DFS site appears to be trying to rein in the use of third party scripting tools, doing so may be difficult to achieve.

The ecology of Daily Fantasy Sports is a challenging one, as a small number of professionals win a massive percentage of the prize money, and a small percentage of competitors are substantial losers and contribute most of the losses. The DFS sites profit off of the rake from entry fees, and so have conflicting interests. They profit in the short term from the many substantial entry fees paid by professionals, but the pool of entry fees is most drained by those professionals as well. While recreational gamblers may be happy submitting entry fees even if, on average they often lose, the long term success of the DFS industry depends on keeping recreational players and especially the most substantial losers willing to keep playing.

There is now a movement among some states to reform Daily Fantasy Sports, with Massachusetts leading the way with a nuanced, thoughtful approach to consumer protection for the DFS industry. New regulations in Massachusetts would give recreational players means to protect themselves, should they so desire, from playing against professionals by clearly and visibly labeling highly-experienced competitors and mandating some competitions free from them. The Massachusetts regulations limit the use of scripting tools and the number of entries by DFS competitors and also provide self-exclusion methods for problem players, as well as deposit limits to prevent excess play. The Massachusetts regulations, like the laws of two states that newly regulate the DFS industry, set a minimum age for entrants and protect college and high school sports from the effects of the DFS industry.

While the Massachusetts regulations may be viewed as a model on which to build for DFS regulation, even these regulations do not prevent but rather merely mitigate the effects of the use of sophisticated computer algorithms to generate DFS line-ups. It is possible that the use of such sophisticated and powerful algorithms may spread from professional to recreational gamblers, which could permanently affect Daily Fantasy Sports and the pleasure that recreational players gain from playing them.

Mr. Chairman, Members of the Committee

Good morning. My name is Kurt Eggert, and I am a Professor of Law at the Chapman University Dale E. Fowler School of Law, in Orange, California, where I teach courses in gambling law and legal remedies, among others, and direct the Alona Cortese Elder Law Center. However, the views I express today are my own.

Thank you for inviting me to testify and talk about the issues, specifically consumer protection issues, that arise in the area of Daily Fantasy Sports. I have testified before this committee twice previously on consumer protection in Internet gambling generally and Internet poker specifically.¹ For a more complete discussion of the principles behind consumer protection in the gambling industry, I would refer you back to that previous testimony and to a law review article that I have written on the subject.² In this testimony, I would like to focus on the issue of consumer protection in Daily Fantasy Sports.

I have spent most of my professional life dealing with consumer protection issues in many different contexts and industries. That work includes litigation against mortgage lenders and contractors who defrauded my elderly clients and against scam artists who forged the names of elderly homeowners to steal their homes. I have testified to Congress, to the Financial Crisis Inquiry Commission and to the California State Legislature on mortgage and consumer protection issues, and was on a board that advised the Federal Reserve Board regarding consumer finance issues. I have also

¹ Testimony of Kurt Eggert before the House Energy and Commerce Committee Subcommittee on Commerce, Manufacturing, and Trade At a Hearing Entitled: "Internet Gaming: Is There a Safe Bet?" October 25, 2011, available at: http://democrats.energycommerce.house.gov/sites/default/files/image_uploads/Testimony_CMT_10.25.11_Egget.pdf and Testimony of Kurt Eggert Before the House Energy and Commerce Committee Subcommittee on Commerce, Manufacturing, and Trade At a Hearing Entitled: "The State of Online Gaming" December 10, 2013, available at: <http://docs.house.gov/meetings/IF/IF17/20131210/101570/HHRG-113-IF17-Wstate-EggetK-20131210.pdf>

² Kurt Eggert, Truth in Gaming: Toward Consumer Protection in the Gambling Industry, 63 Maryland Law Review 217 (2004), available at SSRN: <http://ssrn.com/abstract=901306>

been researching, writing, and speaking about consumer protection and gambling law issues for more than fifteen years, and have lectured in the United States, Canada, and Europe on gambling issues.³

I should preface this testimony by noting that I am neither an advocate nor an opponent of either gambling in general or Daily Fantasy Sports in particular. Instead, my interest is that sufficient and effective consumer protection, regulation, and supervision of Daily Fantasy Sports is accomplished, and that protections and tools for self-protection for problem Daily Fantasy Sports users are mandated and in place. Fantasy sports in their traditional form have provided decades of pleasure to their participants and have for many provided an important social outlet, an interesting and challenging hobby, and a way to boost their enjoyment in sporting events. I have played many sports in high school, college, law school, and after, and understand the thrill of following sports teams passionately, and having an outlet to discuss them. Daily Fantasy Sports has a reduced social aspect, but it too provides an intellectually challenging form of entertainment and, unless a player spirals out of control, can provide beneficial stimulation to the sports fans who enjoy it and understand its risks and rewards.

Many of the consumer protection and problem use issues that arise in Daily Fantasy Sports (DFS) are identical to those that arise in the gambling industry, which makes sense given that DFS is, under the laws of many states and in its construction, application and effects, a form of gambling. It would be wise, therefore, for what should be the best practices of the Internet gambling industry to be applied to Daily Fantasy Sports, and much of what I describe and propose will be quite similar to that found in my previous testimony regarding internet poker.

³ See Kurt Eggert, Truth in Gaming: Toward Consumer Protection in the Gambling Industry, 63 Maryland Law Review 217 (2004), available at SSRN: <http://ssrn.com/abstract=901306>, for a general discussion of consumer protection in the gambling industry, and Kurt Eggert, Lashed to the Mast and Crying for Help. 36 Loyola of Los Angeles Law Review 693 (2003), available at SSRN: <http://ssrn.com/abstract=905062>, discussing autonomy effects of self-exclusion programs for casinos.

The Nature of Daily Fantasy Sports

As much has been written about the nature of Daily Fantasy Sports and other witnesses testifying at this hearing will no doubt be providing lengthy explanations of them, the following is merely a thumbnail sketch of what Daily Fantasy Sports are and how they operate.⁴ Traditional fantasy sports have been played and enjoyed for decades and involve fantasy sports contestants assembling their own hypothetical rosters comprised of real players from a particular sport, then importing the real results of those athletes' performance into their imaginary team and fantasy sport competition. The objective performance of the real players as measured by specified statistics, whether they be touchdowns scored, baskets or goals made, or more mundane statistics such as hits are applied to the fantasy team and those specified statistics are converted into points in the fantasy game in competition with other fantasy teams. Traditional fantasy sports were typically sport season-long competitions, often played between friends, family or co-workers, and they differed among them by which sport was selected, how fantasy players selected athletes to be on their teams, whether by auction or by draft, and the duration of the competition, whether it was season-long or perennial.⁵ Fantasy sports were specifically exempted from the provisions of the Unlawful Internet Gambling Enforcement Act, 31 U.S.C.S. § 5362 (UIGEA), which greatly restricted the provision of Internet gambling, based on their history and nature and the understanding that the season-long strategy and skill involved, as well as the low or non-existent stakes, made them seem not like gambling.

Daily Fantasy Sports, a recent industry exploding in popularity, differ from traditional fantasy sports in that they take place much more rapidly, typically in a day or a week, involve a fee to enter, and

⁴ For a complete description of the genesis, development and different formats of Daily Fantasy Sports, see Marc Edelman, Navigating the Legal Risks of Daily Fantasy Sports: A Detailed Primer in Federal and State Gambling Law, 2016 U. Ill. L. Rev. 117, 120-27.

⁵ Marc Edelman, A Short Treatise on Fantasy Sports and the Law: How America Regulates Its New National Pastime, 3 HARV. J. SPORTS & ENT. L. 1, 11-15 (2012).

confer often substantial prize-money on the winners. The growing influence and popularity of Daily Fantasy Sports can be seen in the major sports leagues affiliation with the DFS operators and large investments being made in DFS companies.⁶ Further, “some “daily fantasy sports’ contests have even begun to partner with the U.S. professional sports leagues. . . [I]n November 2014, FanDuel announced its signing of the NBA as an equity investor. Meanwhile, both the MLB and the National Hockey League (“NHL”) currently have endorsement deals with DraftKings--an even newer “daily fantasy sports” company that launched in 2012.”⁷ DFS competitions are typically played on the Internet, most often among strangers who interact briefly and fairly anonymously with their competitors, and are operated by Daily Fantasy Sports (DFS) providers, with the DFS industry currently dominated by two DFS site operators. The size of the largest prizes for Daily Fantasy Sports has mushroomed, with million dollar events now fairly common. DFS operators contend, though, that despite these changes from traditional fantasy sports, Daily Fantasy Sports do not constitute gambling because they are games of skill and also are eligible for the UIGEA exemption for fantasy sports in general.

Daily Fantasy Sports Scandals

Daily Fantasy Sports function much like Internet poker and, just as Internet poker has had many scandals, so too have we seen recent scandals in Daily Fantasy Sports. In October, 2015, controversy over Daily Fantasy Sports erupted when it was discovered that an employee of one of the leading DFS providers had inadvertently released data showing what sports players had been chosen by DFS participants in one of the provider’s contests and that the same employee had also won a significant

⁶ James L. Johnston & Josh Gordon, Rise of Daily Fantasy Sports Presents Opportunities and Risks to Companies, *Intellectual Property & Technology Law Journal*. Jan2015, Vol. 27 Issue 1, p19-20.

⁷ Marc Edelman, Navigating the Legal Risks of Daily Fantasy Sports: A Detailed Primer in Federal and State Gambling Law, 2016 U. Ill. L. Rev. 117, 127.

prize in a similar contest at a rival site that same week.⁸ A DFS provider reportedly acknowledged that their employees and those of their major competitor played at other DFS sites. If those employees had access to this kind of player information, that insider information could have given them a sizable advantage, in that avoiding players selected by most other contestants maximizes an entrant's chances of choosing a uniquely successful choice of players.⁹ The unregulated use of insider information would be disastrous to outsider players. "Insider information at DFS sites is so pernicious because insiders set player costs and also create the algorithms used in scoring player entries and so 'make the market.' If they can make the market and participate in the market, they can cheat the market."¹⁰

The two major DFS providers issued a joint statement claiming that "[N]othing is more important than the integrity of the games we offer to fans" and that employees with insider information are "rigorously monitored by internal fraud control teams"¹¹ According to reports, however, the DFS providers "offered few specifics about how they keep contests on the level."¹² Law Professor Marc Edelman stated, "One thing I find grossly troubling about DraftKings [the DFS operator] is they spend so much time and money advertising and a lot less time in internal controls and operating in a risk averse manner."¹³

⁸ Joe Drape and Jacqueline Williams, Scandal Erupts in Unregulated World of Fantasy Sports, New York Times, October 5, 2015, <http://www.nytimes.com/2015/10/06/sports/fanduel-draftkings-fantasy-employees-bet-rivals.html>.

⁹ Des Bieler, Insider-trading scandal rocks daily fantasy sports industry, October 5, 2015, Washington Post <https://www.washingtonpost.com/news/early-lead/wp/2015/10/05/insider-trading-scandal-rocks-daily-fantasy-sports-industry/>

¹⁰ Joe Drape and Jacqueline Williams, Scandal Erupts in Unregulated World of Fantasy Sports, New York Times, October 5, 2015, <http://www.nytimes.com/2015/10/06/sports/fanduel-draftkings-fantasy-employees-bet-rivals.html>.

¹¹ Statement by Draftkings and FanDuel, UPDATE: Integrity of Our Employees, October 6, 2015, <https://newsroom.fanduel.com/2015/10/05/integrity-of-our-employees/>

¹² Joe Drape and Jacqueline Williams, Scandal Erupts in Unregulated World of Fantasy Sports, New York Times, October 5, 2015, <http://www.nytimes.com/2015/10/06/sports/fanduel-draftkings-fantasy-employees-bet-rivals.html>.

¹³ Des Bieler, Insider-trading scandal rocks daily fantasy sports industry, October 5, 2015, Washington Post <https://www.washingtonpost.com/news/early-lead/wp/2015/10/05/insider-trading-scandal-rocks-daily-fantasy-sports-industry/>

The scandal over Daily Fantasy Sports will likely spread. Federal prosecutors are reportedly investigating DFS firms in Massachusetts and Florida.¹⁴ Such criminal investigation could greatly damage the relationship between DFS operators and the professional sports leagues that have invested in or become affiliated with them.¹⁵ There are also reports of an investigation by New York Federal Prosecutor Preet Bharara.¹⁶ Bharara's office is reportedly investigating whether the business model of DFS operators violates federal gambling statutes, a frightening prospect for DFS operators, as Bharara's office caused "Black Friday," the April 15, 2011 indictment of executives at the two largest online poker firms, effectively shut down the entire American online poker industry.¹⁷ The federal gambling statutes that DFS operations could potentially violate include the Wire Act, the Illegal Gambling Business Act, and the Professional and Amateur Sports Protection Act ("PASPA"), which regulates sports betting.¹⁸ Interestingly, it would provide some defense to PASPA to be affiliated with a major professional sports league, which may encourage DFS operators to affiliate with such leagues even more than mere economics might otherwise.

A Boston-based criminal defense attorney who asserted that he represents employees from a large DFS operator informed the audience at a law school public forum that three grand jury investigations are in their earliest stages, some subpoenas have been issued, and that "a pretty thick cloak of secrecy which has been draped over these ongoing criminal investigations. And not much is

¹⁴ Dan Adams & Curt Woodward, *As Scrutiny Rises, Draftkings Under Review Across US*, December 26, 2015, <https://www.bostonglobe.com/business/2015/12/25/daily-fantasy-sports-under-scrutiny-around/2MwInmn3tcUpDDMEAFr6NO/story.html>

¹⁵ Michael McCann, *Examining the Future of Daily Fantasy Sports Sites*, October 9, 2015, <http://www.si.com/nfl/2015/10/09/daily-fantasy-sports-investigation-federal-grand-jury>

¹⁶ Lori W. Sieron, *Increasing Regulation of Daily Fantasy Sports*, March 11, 2016, *Lexis Practice Advisor Journal*.

¹⁷ Devlin Barrett and Christopher M. Matthews, *U.S. Prosecutor Probing Daily Fantasy-Sports Business*, October 21, 2015, <http://www.wsj.com/articles/u-s-prosecutor-probing-daily-fantasy-sports-business-1445400505>

¹⁸ See Marc Edelman, *Navigating the Legal Risks of Daily Fantasy Sports: A Detailed Primer in Federal and State Gambling Law*, 2016 U. Ill. L. Rev. 117, 136-41.

really presently known about what the Department of Justice is up to.”¹⁹ The attorney asserted that the investigations were to determine both whether the basic DFS system violated federal gambling laws and also to see if the DFS operators’ employees were using insider information to play DFS themselves with an unfair advantage over other players. The attorney appeared to make the astounding claim that DFS employees were using insider information to target the weakest players at other DFS sites, reportedly stating:

But DraftKings and FanDuel both keep elaborate spreadsheets, and they literally list the winners, the big winners at the top all the way down to the big losers at the bottom. And so what was happening for a long time, it’s no longer happening, but FanDuel was encouraging its employees to bet on DraftKings and vice versa. The reason they were doing this is because it was felt that if they were participating in the games themselves, they would have a much better feel for what would appeal to the customers and the nuances of it all and it would just make them better employees.

And so what the employees were doing is they were taking these spreadsheets and they were then focusing on the losers. . . And they were beating these guys regularly because they were so bad at it, the losers, and they knew they were losers, and they were basically putting money in their own pockets. You know, so the DraftKings guys were betting in FanDuel and vice-versa.²⁰

The attorney later walked back these reported statements, saying that he was merely speaking of hypotheticals to stimulate discussion, and both DFS operators implicated denied the claims. However,

¹⁹ Staff, Here’s Where the Federal Investigations into Daily Fantasy Sports Might Be Focused, March 18, 2016, Legal Sports Report, <http://www.legalsportsreport.com/9053/dfs-federal-issues/#transcript>

²⁰ Staff, Here’s Where the Federal Investigations into Daily Fantasy Sports Might Be Focused, March 18, 2016, Legal Sports Report, <http://www.legalsportsreport.com/9053/dfs-federal-issues/#transcript>

even as a hypothetical, one can see the grave danger of insider information in the DFS industry. Insider playing in the DFS industry is even worse than insider trading in the stock market, in that DFS insiders could conceivably target specific weak players, invite them to head-to-head matches, and likely win. At least most insider trading only affects the market in general and does not target specific losers.

To make matters worse for the DFS industry, more than 80 class action lawsuits have been filed against DFS providers. “In fact, consumers have brought so many lawsuits and putative class actions against DraftKings and FanDuel that the U.S. Judicial Panel on Multidistrict Litigation consolidated the litigation in a Massachusetts federal court in early February” and these include 42 that “allege insider trading; 36 center on alleged illegal gambling; and eight allege bonus fraud, according to a February report by Law360.”²¹ For example, an Oregon class action suit involves claims that the Daily Fantasy Sports constitute illegal online sports betting.²² Another class action suit was reportedly filed against a DFS provider claiming that it misled customers with claims that they could win the biggest prizes even though those prizes were largely won by professionals using computer algorithms.²³ In addition, DFS sites face class action litigation from athletes who charge that the DFS sites use the athletes’ name, image and likeness without their consent.²⁴

These scandals and great potential for abusive insider behavior point to the need for strict government regulation of Daily Fantasy Sports. They demonstrate the hazards of leaving DFS players to

²¹ Nerissa Coyle McGinn, All Bets Are Off When It Comes to the Future of Daily Fantasy Sports, April 24, 2016, <http://www.chicagolawbulletin.com/Law-Day/2016/fantasy-sports-under-fire.aspx>

²² Maxine Bernstein, Lawsuit Claims Fantasy Sports Websites FanDuel, DraftKings Violate Oregon Law, January 26, 2016, http://www.oregonlive.com/pacific-northwest-news/index.ssf/2016/01/lawsuit_claims_fantasy_sports.html

²³ Jonny Bonner, Class Claims Web Bots Rake in FanDuel Money, April 14, 2016, <http://www.courthousenews.com/2016/04/14/class-claims-web-bots-rake-in-fanduel-money.htm>

²⁴ Roger Groves, Player Lawsuits Against Fantasy Sports Sites Will Eventually Force More Revenue Sharing, February 3, 2016, <http://www.forbes.com/sites/rogergroves/2016/02/03/player-lawsuits-against-fantasy-sports-sites-will-eventually-force-more-revenue-sharing/#a34313e62f69>

play on unregulated DFS sites, trusting in only DFS providers' unsubstantiated, unverifiable, and possibly untrustworthy claims of self-regulation to protect their customers.

Are Daily Fantasy Sports Gambling?

Daily Fantasy Sports providers argue vigorously that the product they offer is a contest of skill and so engaging in DFS does not constitute gambling. For example, DraftKings has stated: "There is overwhelming evidence that DraftKings' contests are complex games of skill," and based its argument on, among other things, an analysis that indicated that "91% of DFS player profits were won by just 1.3% of players."²⁵ This claim is important to the DFS industry, in that if Daily Fantasy Sports were labelled as gambling, then the DFS industry would have to go through a much more rigorous and hence expensive licensing process, would have to pay licensure fees as well as state gaming taxes, and would be subject to gambling regulation, which is more exacting even than most DFS state bills being considered.²⁶

One problem is that there is much confusion as to what constitutes gambling, a determination usually made under state law. While the federal law barring much internet gambling, the Uniform Internet Gambling Enforcement Act (UIGEA), provides a carve-out for fantasy sports so that they are not barred by the UIGEA itself, the UIGEA expressly provides that it shall not be construed as limiting state law.²⁷ "It is hard to imagine a clearer express statement that this Act was not intended to change any other anti-gambling law."²⁸

²⁵ Verified Petition of Plaintiff Draft Kings, at 8-9, <https://www.scribd.com/doc/289583608/DFS-suit>, adding that "[S]killed users employ lineups that create covariance by choosing multiple athletes from the same real-life team in order to produce the extreme DFS outcomes—good and bad—that are necessary to win a large field tournament; and (2) skilled users exploit salary cap pricing inefficiencies by using sophisticated models to optimize their lineups by projecting which athletes are most likely to under- or over-perform relative to their salary on a given day."

²⁶ Dustin Gouker, *Why the Gambling vs. Game of Skill Debate in Fantasy Sports Won't Go Away*, Legal Sports Report, March 15, 2016, <http://www.legalsportsreport.com/9022/fantasy-sports-or-gambling/>

²⁷ 31 U.S.C. Sec. 5361(b)(2012).

²⁸ Nelson Rose, *Are Daily Fantasy Sports Legal?* GAMING LAW REVIEW AND ECONOMICS Volume 19, Number 5, 2015.

Furthermore, the UIGEA carve-out protects fantasy sports from the bans contained in the UIGEA but does not purport to ensure that fantasy sports are legal under state law. Nelson Rose, a noted gambling law scholar, bluntly stated, “The first thing to know about the law of fantasy is that the federal Unlawful Internet Gambling Enforcement Act (UIGEA) did not make fantasy sports betting legal.”²⁹ The UIGEA therefore leaves to the states a determination of whether DFS constitute illegal gambling under state law. Gambling is largely regulated by the states and whether DFS would constitute gambling therefore largely would be determined by state law definition of gambling, which obviously differs from state to state. In some states, for example, whether a contest for money constitutes gambling is not determined by whether it is a game of chance or skill, but rather whether it is a paid contest for a prize not permissible by state law, and so other attributes of the contest determine whether it constitutes gambling. For example, in Illinois, the state Attorney General issued an opinion that, under Illinois law, all games of chance or skill, if played for money, constitute illegal gambling under state law unless they are somehow excepted. The Attorney General further found that there is no exception for fantasy sports because they do not involve the actual participants in actual sporting events, stating, “In this regard, persons whose wagers depend on how particular, selected athletes perform in actual sporting events stand in no different stead than persons who wager on the outcome of any sporting event in which they are not participants.”³⁰ The Office of the Attorney General for the State of Nevada also found that whether a contest constitutes “a gambling game or sports pool” does not depend, except for lotteries, on the level of skill required.³¹

²⁹ Nelson Rose, Are Daily Fantasy Sports Legal? GAMING LAW REVIEW AND ECONOMICS Volume 19, Number 5, 2015.

³⁰ Opinion of the Illinois Attorney General, December 23, 2015, 8-10, <http://www.legalsportsreport.com/wp-content/uploads/2015/12/Illinois-DFS.pdf>

³¹ Memorandum of the State of Nevada Office of the Attorney General, October 16, 2015, <http://www.legalsportsreport.com/wp-content/uploads/2015/10/Nevada-AG-DFS.pdf>

In other states, whether a contest constitutes gambling is determined by whether skill or chance predominates in the outcome of the contest. The Attorney General for the State of Kansas determined that Kansas follows the “dominant factor doctrine,” such that, “To be considered a game of chance, chance must generally predominate over skills in the results of the game.” And since the state legislation authorizing fantasy sports leagues incorporates the dominant factor test, those sports were permissible under the Kansas Constitution.³² DFS providers claim that, because in the long run more skillful DFS contestants prevail over less skillful contestants, that win differential indicates that Daily Fantasy Sports are games of skill and hence not gambling. Other states use different tests, such as whether chance is a “material element” that would affect the game’s outcome, or even the “any chance” test, which would seem to include almost all games.³³

This argument seems flawed, however, in that even in some activities that are widely acknowledged as gambling, such as poker, more skillful players will generally prevail in the long run over less skillful players, despite the chance which permeates the contests. Two noted gambling experts noted about poker, “Skilled players do not always win and unskilled players do not always lose; there are statistical fluctuations in the outcomes. In the long run, however, a skilled player (one who is more skilled than others at the table) is assured of making money. . .”³⁴ Also, it has been argued that Daily Fantasy Sports arguably involves more luck than regular sports betting, in that while a stronger sports team will regularly prevail, individual members of that team may not pile up their normal statistics for more random reasons, such as player injury, or as one author put it, “Its multiple points of assessment and prediction look more like a highly risky multi-game parlay wager than it does a classic side bets

³² Attorney General Opinion No. 2015-9, April 24, 2015, 4-5, <http://www.legalsportsreport.com/wp-content/uploads/2015/04/2015-009.pdf>

³³ See Jeffrey C. Meehan, *The Predominate Goliath; Why Pay-to-Play Daily Fantasy Sports are a Game of Skill Under the Dominant Factor Test*, 26 Marq. Sports L. Rev. 5, 16-18 (2015).

³⁴ Anthony Cabot & Robert Hannum, *Poker: Public Policy, Law, Mathematics, and the Future of an American Tradition*, 22 T. M. COOLEY L. REV. 443, 478-79 (2005).

against a point spread.”³⁵ Therefore, the argument that there is no gambling where the more skilled player almost always prevails in the long run proves far too much and so should be discarded.

Instead, the determination of whether a game constitutes gambling should be the following: Gambling is a contest including a wager in which a set amount of randomness is an intentional and unavoidable element of the game, sizable enough to determine the outcome of the game on a regular basis, and a player’s skill cannot minimize that amount of randomness but instead can merely maximize the player’s chances despite that fixed randomness. For example, tennis involves some randomness in gusts of wind and irregularities of surface conditions, among other things, but professional tennis players can minimize the effects of that randomness and prevail almost inevitably against recreational players. If I were to play against Roger Federer, both of us would be subject to those random conditions, but they would little affect his ability to beat me on every single point. By comparison, if a recreational poker player were playing against the best player in the world and the recreational player consistently drew straights and flushes against the professional player’s low pairs, the recreational player could win, at least in the short term. Similarly, even the most amateur DFS player could defeat the best professional in the short term if luck favors the amateur. Given this more refined explication of the skill vs. chance question, it is clear that chance is an essential, unavoidable element of Daily Fantasy Sports sufficient to allow low skill players to defeat high skill players, at least in the short term, and so Daily Fantasy Sports do constitute gambling.

The connection between Daily Fantasy Sports and gambling can also be seen the correlation between Daily Fantasy Sports and problem gambling. A 2014 found a correlation between fantasy sports in general and problem gambling endorsement, and that in particular, “There was also a trend that

³⁵ Jeffrey Standen, *The Special Exemption for Fantasy Sports*, 42 N. Ky. L. Rev. 427, 434 (2015).

participants who played for money had higher rates of gambling problem endorsement than participants who played for no money, and this appeared to be driven by male participants.”³⁶

Daily Fantasy Sports: Professionals vs. Recreational Players

While Daily Fantasy Sports constitute a form of gambling similar to Internet poker, in some ways DFS are more challenging for recreational players than internet poker, in that recreational poker players can often avoid playing against highly skilled players by playing on low-stakes tables. While poker is a relatively time-intensive activity demanding significant attention and mental energy during the game itself, DFS allows the participant to create and enter a slate of teams and enter them in numerous tournaments. Once a DFS competitor creates a portfolio of entries, it is relatively straightforward to enter that slate of entries into every available competition at every stakes level, from low to high. No additional strategic thinking is required for duplicative entries. A single DFS participant could, unless prevented, enter into hundreds of tournaments or other contests in a day, especially if aided by computer scripting programs that speed the entry. DFS professionals, therefore, are willing to enter into even low stakes games, because the cost of entry in time and effort is not sizable, while professional poker players typically only enter into higher stakes games that were worth their time and effort. This buffer between novices and professionals allowed a sizable middle class to thrive in Internet poker on lower stakes tables, since “because the best players populated the higher-stakes tables, thousands of players were able to grind out decent livings in the low- and middle-stakes games.”³⁷

By comparison, a novice or recreational player even in a low stakes DFS competition might find himself or herself competing against some of the best DFS competitors in the world. While Internet

³⁶ Ryan J. Martin & Sarah Nelson, Fantasy Sports, Real Money: Exploration of the Relationship Between Fantasy Sports Participation and Gambling Related Problems, October 2015, Addictive Behaviors, Vol. 39, Pages 1377-1382.

³⁷ Steve Ruddock, . . .And DFS for All, October 14, 2015, All In, <http://www.allinmag.com/fantasy-sports/inside-fantasy-sports/the-business/oct-14-2015-ruddock-innovative-solution-to-solve-skill-gap-concerns-in-dfs>

poker provides a natural buffer between professional and recreational players, Daily Fantasy Sports has none. As a pair of commentators noted, “In DFS, the top players can enter every contest. One player, maxdalury on DraftKings, every day enters nearly every MLB contest on the site, from the \$10,600 buy-in contests to the \$1 buy-in tournaments. Indeed, sharp players often enter each small buy-in tournament dozens or even hundreds of times. The novice player is like Neo in ‘The Matrix Reloaded,’ fighting hundreds of Agent Smiths simultaneously.”³⁸ Unless limited by the DFS sites, the number of entries a player could make is less limited by the time and difficulty of submitting numerous entries to numerous tournaments and more limited by the player’s bankroll and willingness to risk it. As the player becomes more successful, both the bankroll and confidence in risking it should likely grow, making the player willing to expand the reach of his or her DFS entries.

In both Internet poker and Daily Fantasy Sports, players are likely to run into computer programs or algorithms that replace, to a great extent, the native strategy or skill of the opponent. In poker, the problem is bots, sophisticated computer programs designed to play poker based on algorithms and designed to recognize the cards dealt and played. In DFS, players use complex computer algorithms to generate a portfolio of team entries, so that the algorithm could spit out a hundred teams or more to enter in numerous contests each day.

Daily Fantasy Sports seem a form of competition particularly suited for play through complex computer algorithms. First of all, there is an enormous amount of complex data available for the many games that might be available, data such as which players are injured, the weather and wind at the various stadiums, which players are likely starters and which regularly come off the bench.

³⁸ Ed Miller & Daniel Singer, For Daily Fantasy Sports Operators, the Curse off Too Much Skill, Sports Business Journal, July 27, 2015, <http://www.sportsbusinessdaily.com/Journal/Issues/2015/07/27/Opinion/From-the-Field-of-Fantasy-Sports.aspx>

Also, the best strategies to prevail at high dollar tournaments are often counter-intuitive, as professional players select large portfolios of entries not based on what they think would be the team most likely to prevail, but rather to create a portfolio that contains the best collection of highly skewed teams, each fairly unlikely on its own to win, but each with a bigger chance than average for the big win. When Daily Fantasy Sports emphasized cash games, competitions with smaller shares of the total prize money to a greater percentage of players, that model encouraged entries of line-ups filled with consistent players with a lower standard deviation in their performance, in essence selecting the best consistent team, with “higher floors, but lower ceilings.”³⁹ This model rewarded what many recreational players would likely view as the optimal strategy of creating a team most likely collectively to do well consistently. However, moving to high dollar tournaments with many entries has changed the winning strategy and weakened the intuitive strategy, in that many players are likely to choose dependably good athletes, and so an entry filled with such athletes is unlikely to break out from the mass of entries and be uniquely successful.

Instead, for the large value tournaments, the better strategy appears to be to create a large number of entries, each filled with players with great variance, inconsistent players able to, on occasion, rise to great heights in individual games. In other words, professionals in large value tournaments seek entries with a high degree of skewness. Skewness in the context of gambling and Daily Fantasy Sports is a wager or DFS entry with a low probability of winning, but a high reward for doing so. Lotteries are the archetypal gambling method with a high level of skewness, with very low chances for each entry to win, but with enormous rewards for winning.⁴⁰ By comparison, coin flip games have very little skewness, as the chances of winning are 50/50, but the amount won is normally only double the wager. If on a given

³⁹ David Purdum, How Daily Fantasy Players Are Winning, February 25, 2015, http://espn.go.com/chalk/story/_/id/12380815/the-skills-required-succeed-daily-fantasy-sports-espn-chalk

⁴⁰ For a discussion of skewness in the gambling context, see Phillip J. Grossman & Catherine C. Eckel, Loving the Long Shot: Risk Taking with Skewed Lotteries, 2015, *J. Risk Uncertain.* 51: 195-217.

day, all of the inconsistent players have a great game, the entry with those players is likely to be among the best entries and so be awarded a large prize. However, each such entry is unlikely to hit it big, and so professionals create and deploy a large portfolio of entries, with diversified skewness among entries, to maximize the chance that one of the entries will be a winner. “The object of DFS seems obvious: pick the players who will hit home runs or score touchdowns in a given day of games. But in large tournaments with headline-grabbing prizes, payouts are skewed heavily to the top 1 percent of participants. Therefore, the goal is to create a lineup that will produce extreme outcomes (good and bad) more often than the average lineup.”⁴¹

Professionals submit a huge number of entries into tournaments to maximize their chances of winning by having a large portfolio of teams with diversified combinations of skewness. This large portfolio of entries with different players allows the professional to reduce the variance of their entire portfolio while maintaining the skewness of individual entries. In other words, each entry is unlikely to win because of its high skewness, but because there are a large number of entries with diversified skewness attributes, one of them is much more likely to win the biggest prizes than the same sized portfolio with entries all skewed the same way. Normally, risk and reward go hand in hand, but a properly prepared portfolio of teams with diverse but high skewness could result in higher reward with lower risk.

Another factor competitors should be able to analyze is which athletes are underpriced by the salary levels dictated by the DFS operator. Since those operators select a salary cap for all players and set the salary amount of each player, a successful DFS competitor should seek out those players that the DFS operator have underpriced, a challenging task. In regular sports betting, the pricing of various bets is

⁴¹ Ed Miller & Daniel Singer, For Daily Fantasy Sports Operators, the Curse off Too Much Skill, Sports Business Journal, July 27, 2015, <http://www.sportsbusinessdaily.com/Journal/Issues/2015/07/27/Opinion/From-the-Field-of-Fantasy-Sports.aspx>

set by the sports books based on the collective decision-making of the gamblers, and so reflects the collective judgment of sports books and gamblers. In that way, recreational gamblers benefit from the decision-making of experienced gamblers, and the prices of bets fairly accurately reflect their true value.⁴² In DFS competitions, the pricing of the players is set by the DFS sites, and may not accurately reflect their true value. For example, some sites may not “take into account the opposing starting pitcher or game-day lineup changes. Finding underpriced players among 800 active MLB options can be overwhelming to the novice, but sharks use sophisticated models to optimize their lineups.”⁴³

This “mispricing” of player salaries is likely intentional on the part of the DFS sites, as they may well view it as a necessary component to keeping their product a game of skill rather than gambling. If player prices perfectly reflected their skills, then DFS competitors would no longer require the skill of finding mispriced players. The so-called creator of “daily fantasy sports,” Kevin Bonnet, asserted recently that if there were perfect pricing of players, “then all fantasy teams drafted that used the full cap amount would have the same projected fantasy score and all skill would be removed from the game.”⁴⁴ Professor Marc Edelman adds, “Given that the primary skill-based element of ‘daily fantasy sports’ is indeed mathematical, making all player selections into near mathematical equivalents to one another would dissipate the game’s skill component.”⁴⁵ Dissipating the skill component could render Daily Fantasy Sports gambling, in some states.

⁴² Ed Miller & Daniel Singer, For Daily Fantasy Sports Operators, the Curse off Too Much Skill, Sports Business Journal, July 27, 2015, <http://www.sportsbusinessdaily.com/Journal/Issues/2015/07/27/Opinion/From-the-Field-of-Fantasy-Sports.aspx>

⁴³ Ed Miller & Daniel Singer, For Daily Fantasy Sports Operators, the Curse off Too Much Skill, Sports Business Journal, July 27, 2015, <http://www.sportsbusinessdaily.com/Journal/Issues/2015/07/27/Opinion/From-the-Field-of-Fantasy-Sports.aspx>

⁴⁴ Kevin Bonnet, ESSENTIAL STRATEGIES FOR WINNING AT DAILY FANTASY SPORTS 50 (2014)

⁴⁵ Marc Edelman, Navigating the Legal Risks of Daily Fantasy Sports: A Detailed Primer in Federal and State Gambling Law, 2016 U. Ill. L. Rev. 117, 145.

Competitors should also attempt to discern which players are underutilized by other DFS competitors, as choosing athletes who rarely appear on other DFS competitors' entries maximizes the likelihood of winning should those athletes surprisingly outperform their norm. This could be called the "rarity score" for each player.⁴⁶ Should an athlete with a high rarity score perform at a high level, that obscure athlete is especially valuable because few other entries will include him or her. While competitors might guess at which athletes would seldom appear on other entries, actual knowledge of this information is not publicly available. This is why insider information about the use of players on DFS entries can be so valuable.

To be successful, DFS competitors need to be able to react quickly to late-breaking information, perhaps regarding an injury to a player, and change their line-ups on the fly before the competition "locks" to prevent changes in order to reflect that information. Being able to react to late breaking news may make all of the difference between a night of enormous victory and defeat.

As one might imagine, the data and computational requirements of this system of entry creation are enormous. Analyzing the skills, variance, price-to-value ratio, and rarity score of each player in the league given the many variables that might affect their performance is far beyond the abilities of the average recreational gambler, but is necessary to play at the level of a professional. And even for professionals, it would be impossible to capture, remember and analyze the enormous amount of data involved without the aid of computer assistance. DFS operators have acknowledged the challenge of this analysis. In one court pleading, a DFS operator stated that the DFS design and rules of play, "coupled

⁴⁶ For a good discussion of the importance of rarity in DFS, see Jeremy Greenfield, How to Cheat – and Win – at Daily Fantasy Football, October 16, 2015, <http://www.thestreet.com/story/13327452/1/how-to-cheat-and-win-at-daily-fantasy-football.html>

with the large number of real-world players and statistical categories for which fantasy points are earned provide a nearly infinite number of possible lineups and results. . .”⁴⁷

Daily Fantasy Sports and the Use of Computerized Algorithms and Scripts

To perform the intensive data collection and manipulation required to succeed at a professional level, professionals turn to highly sophisticated computer programs, which include algorithms to determine the best portfolio of entries to maximize their chance of winning. “There are hand-coded, hyper-sophisticated statistical models that can vacuum up data on hundreds of games, players, contests and spit out thoughts on how to bet. There are even ‘fish finders’ and browser extensions that highlight newbies most easily separated from their cash.”⁴⁸ While some limitations on computer aids such as “fish-finders” have been imposed, it appears that these limitations are small and it is uncertain if they are enforced.

It is important to note that the algorithms do not merely aid professionals in choosing their entries, but instead directly determine what entries to submit. A professional might tinker with the results spit out by the algorithms at the margins, but the algorithms are making the real determinations about what players to select for line-ups. For example, a newspaper story of a highly successful DFS professional, Saahil Sud AKA maxdalury, who by November, 2015 had bagged over \$3 million in year to date profit, indicates that his computer algorithm creates his many lineups for DFS entries and at most he might tinker around the edges, based on hunches.⁴⁹

⁴⁷ Verified Petition of DraftKings, Inc., 8, <https://www.scribd.com/doc/289584526/2015-11-13-DraftKings-Verified-Petition>

⁴⁸ Drew Harwell, All the Reasons You (Probably) Won’t Win Money Playing Daily Fantasy Sports, October 12, 2015, <https://www.washingtonpost.com/news/the-switch/wp/2015/10/12/all-the-reasons-you-probably-wont-win-money-playing-daily-fantasy-sports/>

⁴⁹ Curt Nickisch, Meet a Bostonian who’s Made \$3 Million This Year Playing Fantasy Sports, November 23, 2015.

Currently the data management tools and algorithms for managing the data are individually created and closely held secrets. And just as poker bots, chess programs and go programs have improved dramatically in recent years, so too will DFS algorithms, a frightening prospect given how much better they play than humans do already. Ed Miller, an MIT-trained engineer, best-selling author of poker strategy books, fantasy sports competitor, said “I think the skill gap is very large, and I suspect it's going to get bigger before it gets smaller. And the thing is the sharks are not particularly good yet, and they are still able to extract a lot of money from the system.”⁵⁰ The rate of improvement in DFS algorithms will likely speed up as professionals discover and create more advanced computer programs using artificial intelligence and neural networks in the creation of those algorithms. Neural networks are computer systems designed to resemble the functions of the human brain, with its complex interconnectedness. Neural networks could develop their own gaming strategies by playing or recreating and then analyzing a mind-numbing set of DFS competitions, determining which strategies are most effective through billions of instances of trial and error. In effect, neural networks could teach themselves how to play Daily Fantasy Sports, and the evidence from poker indicates that they could soon defeat algorithms directly designed by humans. A poker bot designed by neural networks for Texas Hold’em Heads Up Poker is already among the best players in the world at this game.⁵¹ A team of AI researchers has now declared that Limit Texas Hold’em poker has been “essentially weakly solved,”

⁵⁰ Jason Cato, Skilled “Sharks” Collect Lion’s Share of Daily Fantasy Sports Winnings, November 3, 2015, <http://triblive.com/news/editorspicks/9294675-74/players-fantasy-daily>, quoting Brent Holloway, editor for DailyFantasyTalk.com.

⁵¹ For a discussion of Dahl’s Texas Hold’em poker bot, upon which this description is based, see: Michael Kaplan, The Steely Headless King of Texas Hold’em, The New York Times, September 5, 2013, available at: <http://www.nytimes.com/2013/09/08/magazine/poker-computer.html>

indicating that no human could beat this program.⁵² A neural network system for No Limit Hold’Em is claimed to give the best No Limit strategy advice in the world.”⁵³

Daily Fantasy Sports seems to be better designed for computer dominance than No Limit Hold’Em in that poker is a game of bluffing and limited information. A poker player can only see the cards in her hand or on the table and must read the other player to guess at what cards the other player holds, and so is a game of imperfect information, a particular challenge to computer analysis.⁵⁴ On the other hand, each player can easily see at all times what cards are visible and so has perfect, readily accessible information about what information is publicly available to all players. In other words, a human player can easily gain the same access to all of the information on the table that a computer program would rely on. By comparison, a computer algorithm can store, access, and manipulate a much greater quantity of data about players, including their skills, variance and skewness, price-to-value ratio, and rarity score, as well as match-ups, weather conditions, injuries of athletes, and any of the other myriad factors that may affect the outcome of the game than could a human. But should be no information hidden from one player but known to the other equivalent to down cards, allowing the computer program to process more easily the likely results of potential decisions. AI-driven computer programs will inevitably improve over the current algorithms which even now can dominate in Daily Fantasy Sports competitions.

Neural networks and artificial intelligence could eventually also be deployed in the data collection end of DFS computer algorithms, as they could be used to scrape data off the Internet at a

⁵² Michael Bowling, et. al., Heads-up Limit Hold-em Poker is Solved, January 9, 2015, Science, Vol. 347, Issue 6218, pp. 145-149.

⁵³ Nick Jones, Review: Poker Snowie Promises “Perfect Gameplay” Training With New GTO-Based Learning Software, Pokerfuse Independent Online Poker News, October 1, 2013, available at: <http://pokerfuse.com/features/reviews/review-poker-snowie-promises-perfect-gameplay-training-with-new-gto-based-learning-software-01-10/>

⁵⁴ See generally, Tuomas Sandholm, Solving Imperfect-Information Games, January 9, 2015, Science, Vol. 347, Issue 6218, pp. 122-123.

rapid pace and without the direct supervision of the DFS player. Once the AI-driven algorithm teaches itself how to acquire information and experiments regarding what information is most useful to acquire, the spoon-feeding of data to the algorithm might be much less necessary. Players who do not use algorithms might find themselves competing against computer programs that are not only better able to manage and create portfolios of line-ups from data, but also may be much better at acquiring the data itself.

Worse yet, the use of computer programs and algorithms would seem to be much harder to detect in Daily Fantasy Sports than in Internet poker, where it is already highly suspect. According to former Senator Al D'Amato, then Chairman of the Poker Players Alliance, the Internet poker industry attempts to detect bots by examining the mouse or cursor movements, in hopes that bots will have a pattern of movements unlike human users that the Internet poker sites can detect.⁵⁵ No such mouse movements are needed for DFS. Also sites examine the “fingerprint” of poker decisions to determine if, over time, a player plays in a set, predictable fashion that might indicate computer-directed play, which is perhaps possible given the limited number of cards in a deck. By comparison, the ever-changing variety of athletic games and the almost infinite combination of players and games would prevent such a “fingerprint” analysis of DFS play to detect the use of programs.

In addition to computer algorithms, professionals use computer scripts to allow them to change large numbers of entries very quickly and in an organized fashion. In a now legendary move, one DFS player, when alerted that Channing Frye would replace Nikola Vucevic at center for the Orlando Magic less than an hour before the DFS basketball competition locked, was able to change most of his 400 entries for the competition, even though it “would have taken a firestorm of keystrokes and clicks to manually adjust 400 lineups in an hour, but a computer script could do that work in no time,” and after

⁵⁵ Sen. Al D'Amato, Committee Follow Up Memo from Alfonse D'Amato – PPA, November 7, 2011, available at: <http://www.scribd.com/doc/72737574/Committee-Follow-Up-Memo-from-Alfonse-D-Amato-PPA-11-07-2011>

Frye had a season-high 22 points, the DFS player reportedly won first, third, fourth, and seventh place, with a reported 300 of 400 entries in the money and claimed to have winnings in the multiple six-figures for the night.⁵⁶ DFS providers have come under fire for allowing professionals to use scripting tools, software that allows them to change hundreds of lineups almost simultaneously to respond to roster changes, like those caused by last-minute injuries, and so gain a technological advantage over less technologically savvy competitors. “A computer script is a list of commands that a computer can execute without the user's interaction. . . Setting 100 lineups manually is nearly a day's chore. Scripts also could be used to adjust lineups quickly on late-breaking news.”⁵⁷ Scripts therefore allow professionals to set up hundreds of lineups generated by their computer algorithm, allowing professionals to exercise the great advantage their algorithms give them. One DFS provider first responded by modifying its terms of service “to permit third-party scripting tools, leading much of the community to accuse the company of catering to its high-volume customers, from whom DraftKings earns a significant chunk of its revenue.”⁵⁸

Daily Fantasy Sports organizations have recently made some efforts to rein in the ability of professionals to use computer scripts by banning third party scripting tools. For example, on February 19, 2016, DraftKings announced that it was banning the use of third party scripts. However, as if to minimize the burden on professionals who generate lineups through their computer algorithms and submit them in bulk, DraftKings included in this announcement the following: “In connection with this updated policy, we are developing and offering all users new tools designed to perform the most requested types of functionality. For example, earlier this month we introduced a new feature that

⁵⁶ David Purdum, Are Computer Scripts Bad for Daily Fantasy Sports?, July 15, 2015, http://espn.go.com/fantasy/baseball/story/_/id/13261582/are-computer-scripts-bad-daily-fantasy-sports

⁵⁷ David Purdum, Are Computer Scripts Bad for Daily Fantasy Sports?, July 15, 2015, http://espn.go.com/fantasy/baseball/story/_/id/13261582/are-computer-scripts-bad-daily-fantasy-sports

⁵⁸ Steven Stradbroke, DraftKings Sees the Light: Bans Third-Party Scripts, Labels High-Volume Players, January 22, 2016, <http://calvinayre.com/2016/01/22/business/draftkings-ban-third-party-scripts/>

allows any user to upload lineups in bulk via CSV, and we encourage users to try this new tool for contest entry needs.”⁵⁹

The Financial Ecology of Daily Fantasy Sports

The financial ecology of Daily Fantasy Sports, how money comes into and drains out of the system, is an interesting eco-system. DFS providers profit from the rake, a percentage of the total amount of dollars entered in competitions, and so value professionals, who pay enormous entry fees for their numerous entries. One professional claimed to risk \$140,000 every day, and so a portion of that amount went directly to the DFS sites’ bottom line.⁶⁰

DFS providers have limited the number of entries, but this limit seems almost laughably high. “For the massive tournaments whose prizes regularly top \$1 million, both websites now limit the number of entries from a single player. FanDuel put a cap of about 1,000 entries on big football tournaments this year. For DraftKings’s ‘Millionaire Maker’ tournament, players are limited to 500 entries at the \$10 level.”⁶¹

The DFS providers have conflicting interests in the high number of entries by professionals. On the one hand, DFS provider income is based on the volume of entry payments, so more entries by professionals means more income to DFS providers. Furthermore, DFS providers require liquidity for their large games, in that they need enough participants to fill out their pools and so make tournaments with large payouts profitable for the DFS sites. Professionals who submit hundreds or thousands of entries do far more to help liquidity than recreational players, for obvious reason. Offering competitions

⁵⁹ Announcement: Use of Third-Party Scripts Banned on FanDuel, <https://newsroom.fanduel.com/2016/02/19/use-of-third-party-scripts-banned-on-fanduel/>

⁶⁰ Drake Baer, *Why Daily Fantasy Sports Games Are for Suckers*, September 20, 2015, <http://www.thefiscaltimes.com/2015/09/20/Why-Daily-Fantasy-Sports-Games-Are-Suckers>

⁶¹ Joshua Brustein & Ira Boudway, *You Aren’t Good Enough to Win Money Playing Daily Fantasy Football*, September 10, 2015, <http://www.bloomberg.com/news/articles/2015-09-10/you-aren-t-good-enough-to-win-money-playing-daily-fantasy-football>

with million dollar payouts increases public interest in DFS, but requires great liquidity to pull off. One commentator believes that the companies are attempting to build client base and value as fast as possible to go public, a strategy that might encourage them to seek the short term gains of heavy professional involvement over the long term stability of protecting recreational competitors. If a DFS operator wants to grow quickly, “One way to do that is liquidity, and a fast way to get there is to allow these players with large bankrolls to enter as many contests as possible.”⁶²

On the other hand, professionals drain money from the DFS system by winning, and the system survives by the losses of the remaining players. The entire DFS financial structure is based on money coming in from recreational players, and especially players who lose a lot of money. While almost all of the player profits from DFS competition goes to the small percentage of professional players, a staggering amount of the losses that feed the system come from a small percentage of players who lose large amounts, the “whales,” in industry parlance. (The DFS industry uses marine metaphors to classify players, with “sharks” being the winners who eat the “fish” who are the losers. “Minnows” are players who lose little, though regularly, while “whales” are players who lose much larger sums.)⁶³ One study of Daily Fantasy Sports found that 5% of players, the whales, contributed 36% of the entry fees paid, and lost on average \$1,100 on entry fees off \$3,600.⁶⁴ The authors of the study noted how reliant the entire industry is on these big losers: “Hence, the DFS economy depends heavily on retaining the big fish. They had a staggering loss rate of 31 percent of what they paid in entry fees and accounted for 75 percent of all losses. Each minnow loses less than \$10 per month and may happily continue to play forever, but

⁶² Jason Cato, Skilled “Sharks” Collect Lion’s Share of Daily Fantasy Sports Winnings, November 3, 2015, <http://triblive.com/news/editorspicks/9294675-74/players-fantasy-daily>, quoting Brent Holloway, editor for DailyFantasyTalk.com.

⁶³ Joshua Brustein & Ira Boudway, You Aren’t Good Enough to Win Money Playing Daily Fantasy Football, September 10, 2015, <http://www.bloomberg.com/news/articles/2015-09-10/you-aren-t-good-enough-to-win-money-playing-daily-fantasy-football>

⁶⁴ Ed Miller & Daniel Singer, For Daily Fantasy-Sports Operators, the Curse of Too Much Skill, September, 2015, <http://www.mckinsey.com/industries/media-and-entertainment/our-insights/for-daily-fantasy-sports-operators-the-curse-of-too-much-skill>

each big fish loses more than \$4,000 per year. The entire DFS economy depends on these few players.”⁶⁵

The danger to the entire DFS industry, then, is if they allow professional players relentlessly to defeat the recreational players and especially the biggest losers, those players may choose to leave Daily Fantasy Sports having tired of being defeated over and over by professionals.

How to Clean Up Daily Fantasy Sports

Daily Fantasy Sports have been unfair to recreational gamblers, as they were regularly subjected to playing against professionals employing computer algorithms and scripts that allowed them to crush opponents using only their native wits, however good those may be. Internet poker has long recognized the unfairness of allowing entrants to deploy computers to defeat their opponents, but Daily Fantasy Sports seems not only to permit this but even encourage it, by working with professionals on the bulk submission of large numbers of entries.

DraftKings, in addition to barring third-party scripts, has announced plans somehow to identify high-level players, to allow recreational players to identify the professionals.⁶⁶ The former move will give only slightly better odds to recreational players, as the ability to make easy changes to large numbers of line-ups clearly benefits the high volume professionals much more than the casual player with only a few entries. Furthermore, it is not at all clear that DFS sites can even detect third-party scripts, making any ban completely ineffective. One DFS site representative has stated that DFS companies cannot reliably detect the use of such scripting tools, though another DFS operator claimed that those

⁶⁵ Ed Miller & Daniel Singer, For Daily Fantasy-Sports Operators, the Curse of Too Much Skill, September, 2015, <http://www.mckinsey.com/industries/media-and-entertainment/our-insights/for-daily-fantasy-sports-operators-the-curse-of-too-much-skill>

⁶⁶ Curt Woodward, DraftKings Adopts Some of AG’s Rules Plan, January 22, 2016, <https://www.bostonglobe.com/business/2016/01/22/draftkings-starts-adopting-some-fantasy-sports-regulations/GeoETtf7XpVNbezvmJk7qN/story.html>

assumptions were inaccurate.⁶⁷ The latter move does seem to be a more important one, as it gives a recreational player a tool to fend off professionals with their sophisticated algorithms making their lineup decisions. However, initial reports of DraftKings decision indicated that exactly how it would identify professionals was yet to be determined. “DraftKings is still discussing what criteria will be used to designate experienced players and how they will be identified.”⁶⁸

The DraftKings announcement seems to be in reaction to rules proposed by Massachusetts Attorney General Maura Healey, which included barring third-party scripts and identifying experienced players.⁶⁹ However, DraftKings seems to be rejecting other aspects of those proposed regulations, including a \$1,000 monthly limit on the amount a DraftKings customer can deposit in their account and requiring contestants to be over the age of 21.⁷⁰ While the DraftKings changes may provide some help to recreational gamblers, the history of DFS scandals indicates that either state or federal regulation is necessary to ensure that consumer protections for Daily Fantasy Sports be mandated by regulation and monitored by regulatory agencies.

Some states, including Indiana, Virginia, and Massachusetts, have established regulatory regimes, either through state laws or regulations, over fantasy sports.⁷¹ Virginia’s law hands off oversight of Daily Fantasy Sports to the Department of Agriculture and Consumer Services and empowers the DACS to enforce the act and investigate any violations thereof, requires operators to pay

⁶⁷ Jay Caspian Kang, How the Daily Fantasy Sports Industry Turns Fans into Suckers, January 6, 2016, <http://www.nytimes.com/2016/01/06/magazine/how-the-daily-fantasy-sports-industry-turns-fans-into-suckers.html>

⁶⁸ David Purdum, DraftKings to Create Designation for Elite Players, Ban Offsite Scripts, January 22, 2016, http://espn.go.com/chalk/story/_/id/14623271/draftkings-bans-use-offsite-scripts-identify-experienced-players

⁶⁹ The proposed regulations can be found at: <http://www.mass.gov/ago/docs/regulations/proposed/940-cmr-34-draft.pdf>

⁷⁰ Curt Woodward, DraftKings Adopts Some of AG’s Rules Plan, January 22, 2016, <https://www.bostonglobe.com/business/2016/01/22/draftkings-starts-adopting-some-fantasy-sports-regulations/Geoetf7XpVNbezvmJk7qN/story.html>

⁷¹ A tracking website for bills and laws regulating Daily Fantasy Sports can be found at: <http://www.legalsportsreport.com/dfs-bill-tracker/>

a \$50,000 fee, sets 18 as the minimum age for DFS, requires DFS sites to allow individuals to “[a]llow individuals to restrict themselves from entering a fantasy contest upon request and take reasonable steps to prevent those individuals from entering the operator’s fantasy contests” and prevents DFS site employees, as well as their immediate relatives, from playing at the employee’s DFS site.⁷² Indiana’s law also sets 18 as the minimum playing age and prevents employees and close relatives from playing in contests and requires self-exclusion measures, hands oversight of the DFS industry to the state gaming commission, but declares that a “paid fantasy sports game conducted under this chapter does not constitute gambling for any purpose,” and furthermore bans DFS contests for college or high school sports or the aiming of advertising at juveniles or to elementary or high schools or sports venues used exclusively by them.⁷³

The Massachusetts proposed regulations were finalized and provide perhaps the most thoughtful regulation of Daily Fantasy Sports.⁷⁴ The regulations can be broken down into the following categories:

Aid to Recreational Players to Protect Themselves from Professionals:

The regulations require the clearly visible labeling by a symbol or otherwise of “highly-experienced players,” defining a highly-experienced player as “Any DFS player who has 1) entered more than 1,000 contests offered by a single DFSO; or 2) has won more than three DFS contest Prizes valued

⁷² SB 646 Fantasy Contests Act, <http://lis.virginia.gov/cgi-bin/legp604.exe?161+ful+CHAP0318>. For an analysis of the bill, see Dustin Gouker, Virginia Governor Signs Fantasy Sports Bill, March 7, 2016, <http://www.legalsportsreport.com/8873/virginia-governor-signs-dfs-bill/>

⁷³ Senate Enrolled Act 339, <http://iga.in.gov/legislative/2016/bills/senate/339#document-7f15fe9f>. An analysis of this act can be found at Dustin Gouker, Indiana Becomes the Second State to Pass Daily Fantasy Sports Regulation, March 24, 2016, <http://www.legalsportsreport.com/9239/indiana-passes-dfs-regulation/>

⁷⁴ 940 C.M.R. 34.00: Daily Fantasy Sports Contest Operators in Massachusetts, <http://www.legalsportsreport.com/wp-content/uploads/2016/03/Massachusetts-DFS-regulations.pdf>. An analysis of the Massachusetts regulations can be found at: Dustin Gouker, Massachusetts AG Healey Announces Final Daily Fantasy Sports Regulation, March 25, 2016, <http://www.legalsportsreport.com/9272/massachusetts-fantasy-sports-regulations/>

at \$1,000 or more.” DFS operators are required to develop games for beginners and also games that exclude highly-experienced players, either directly or through proxy. This regulation allows recreational players to recognize when they are playing against or being challenged by a professional and to choose competitions that exclude highly-experienced players.

Ban Unauthorized Scripts and Limit Usefulness of Authorized Scripts to Professionals:

Unauthorized scripts are banned and DFS operators are not permitted to authorize scripts that facilitate entry into multiple contests with the same line-up or changes to many line-ups simultaneously, or those that gather performance information against weaker players.

Limits on Number of Entries by Any One Player:

The regulations also limit the number of entries to a contest a player can make, on a sliding scale determined by the number of total entries. For example, for a contest involving more than 100 entries, a player can submit no more than the lesser of either 3% of all entries or 150 entries, though DFS organizations can hold up to 2% of their contests with no restriction on the number of entries.

Limiting Players to One Account and One Username:

Players may have only one account and one username and DFS organizations are required to take reasonable measures to verify DFS players’ “true identities and addresses” and use that information to enforce the one account and one username limit and terminate any player that tries to violate that limit either directly or through proxy, unless there is a determination that “the DFS player’s conduct was not intended to obtain competitive advantage.” Furthermore, DFS operators are mandated to use reasonable measures, such as geolocation technologies, to prevent players from acting as proxies for another.

Insider Information and Play by DFS Employees:

The Massachusetts regulations bar a DFS site employee from not only competing in a DFS competition hosted by their employer, but also hosted by any DFS operator. Further, no DFS employee can disclose non-public or proprietary information that could affect gameplay to anyone eligible to engage in gameplay. This rule, if followed, would reduce the chances that insider information could harm DFS players. However, to be effective, it would require regulatory supervision to ascertain whether it was being abided by.

Player Self-Exclusion and Exclusion by Others and Help for Problem Gamers:

DFS operators must honor self-exclusion requests or self-limitation requests from their customers and allow customers to adjust these limits and provide customers with information regarding assistance to “Problem gamers.” The regulations provide a method for third parties who are jointly financially responsible with the customer, such as joint ownership of the funds deposited to the DFS organization or joint obligation on a credit or debit card used for the customer’s account, or where the requestor is liable for the debts of the customer or the customer is subject to a court order for unmet child support.

Deposit Limits and Credit Bans:

The regulations provide that customers can deposit only \$1,000 per month, unless the customer provides information showing sufficient assets or income to afford “losses that might result from gameplay” at a higher deposit amount. DFS sites are barred from extending credit to their customers.

Prevent Contests Based on Amateur Sports and Protect Minors:

The regulations bar DFS contests based on any amateur sporting events, including high school, college or “student sporting events” and requires DFS organizations to publish and facilitate parental controls for the exclusion of minors.

The Massachusetts regulations take many important steps necessary for the regulation of Daily Fantasy Sports. First of all, they require the labeling of highly-experienced players and provide tools for recreational players to recognize and avoid them. They give problem gamers tools to limit the damage that excessive DFS play might cause by limiting deposits and providing ways for them to exclude themselves and for those financially entangled with them to exclude them from DFS play. To accomplish both the protection from professionals and the ability to self-exclude, the regulations limit players to one username and account, and require players to demonstrate their identities, to prevent them from evading the rules by establishing alternate accounts. The regulations also protect amateur sports, including college and high school sports, from the effects of DFS contests that could involve them.

The consumer protections embodied in the Massachusetts regulations at this point promise to be the most thorough existing response to the problems caused by Daily Fantasy Sports, including professionals using computer algorithms and scripts to easily defeat recreational gamblers based on their computer and data management skills, problem DFS gaming, and the possible effect of DFS contests on college and high school sports. The Massachusetts regulations should, at this point, be considered a model for other states to build on regarding how to regulate Daily Fantasy Sports, and for federal regulation, if it is attempted. It is interesting, though, that even these regulations do not bar the use of computer algorithms in DFS contests. In Internet poker, gambling regulators claim to ban the use of poker bots, which are essentially identical in use and purpose to the computer algorithms used by DFS contestants. Even the Massachusetts DFS regulation does not even attempt to ban their use.

The Future of Daily Fantasy Sports

While it is always dangerous to make predictions about the future of a new industry, there are warning signs that Daily Fantasy Sports, already in trouble, are headed for more. The scandals that have erupted are possibly short term. If DFS employees have violated the law by engaging in insider trading, their possible prosecution and, if warranted, conviction could deter some such future behavior. Sufficient regulation and oversight by governmental regulators is likely necessary to ensure that insider trading is minimized, however. The fight over whether DFS constitutes illegal gambling will, unless circumvented by federal law, play out throughout the states, with some states banning Daily Fantasy Sports and other states either finding it legal or, if not, legalizing it. If more states follow Massachusetts' lead in DFS regulation, DFS players will enjoy greater ability to protect themselves from losses to professional players, and will gain valuable tools to limit excessive DFS play and seek help for problem gaming. College and high school sports will be better protected from the influence of DFS gaming.

The greatest threat to Daily Fantasy Sports as an industry, however, is technological. The computer algorithms that allow professionals to triumph are unlikely to go away, as they are already deeply rooted and may be difficult to detect by the DFS sites. While limitations on scripting tools may make life somewhat more challenging for those using these complex algorithms, they will not prevent that use. Perhaps the best method to reduce the incentive to use these algorithms would be to limit even far more than Massachusetts already does the number of entries an individual gamer can make and so reduce the ability to create a large portfolio of entries with diverse skewness and thus the profit from employing sophisticated algorithms against recreational players.

However, with artificial intelligence and neural networks, those algorithms will only grow more powerful, as their creators engage in an arms race to devise the most effective algorithms. And the use of such algorithms is quite likely to spread from the elite professional DFS players to recreational

players, especially if software containing the algorithms is sold publicly. It seems quite possible, if not likely, that even more powerful tools than those used by today's professional will be much more widely available in the future. With the increases in computing power and artificial intelligence, someday not too long from now, members of the public might well be able to have their own computers or even smart phones generate portfolios of DFS entries far better than those that professionals can create today.

On the one hand, such a dissemination of computer algorithms will level the playing field between professional and recreational player. However, it could also rob Daily Fantasy Sports of much of their fun for recreational players. Instead of inserting their favorite players or members of their favorite teams into their entries, DFS contestants might feel competitively obligated to follow blindly the dictates of their algorithms. Instead of building loyalty in their favorite teams and players, DFS contestants may feel compelled to root against them, as their algorithms have pushed them to include rival teams and players into their line-ups. And DFS competitors may lose the pleasure of watching sports closely and fervently in order to determine which player they personally think will outperform expectations on a given day, as they could feel compelled to allow their line-ups to be chosen by their algorithms, not their own brains or hearts. DFS competitions may change from a fascinating and emotional decision-making process to a soulless lock-step following of the dictates of the algorithms.

Also, if the playing field were to be completely leveled and all competitors were to use the same complex algorithms with the same chance of success, then no human skill would be involved in DFS competitions, as all competitors would be merely following the same increasingly powerful algorithms. Without the need of skill, DFS competitions could become pure games of chance, with the winners not judged by better decision-making, since the level of decision-making would be equal across the board, but rather by which line-ups were lucky enough to be successful on the day of the competition. DFS

operators argue that their product is skill-based, but if all players are using the same algorithms to determine their entries, Daily Fantasy Sports could become true games of chance.

This prediction may well be prove to be overly pessimistic, perhaps even wildly so. Predictions often are. If Daily Fantasy Sports are to be legal, for the sake of those who take part in DFS competitions, the different stake-holders in this issue should find ways to reduce or eliminate the current problems that beset Daily Fantasy Sports and to prevent their devolution into something less enjoyable. However, solving problems requires first diagnosing the problems, and the above is an attempt at such diagnosis.