



Concurrent Session C-5: Can Randomness in Daily Fantasy Sports Contests Be Reduced?

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Outline



- General Description & History of Fantasy Sports
- Fantasy Sports Industry Statistics
- General Description & History of Daily Fantasy Sports
- Daily Fantasy Sports Industry Statistics
- Description of Recent Controversy in Daily Fantasy Sports Industry
- Description of How the Daily Fantasy Sports Games are Played
 - Description of Daily Fantasy Baseball Games
 - Description of Daily Fantasy Football Games
 - Description of the Different Types of Contests & General Strategies
- Research Results / Recommended Strategies
 - Daily Fantasy Baseball
 - Daily Fantasy Football

Fantasy Sports – General Description



- Fans form fantasy leagues, usually consisting of 10-12 teams
- Leagues have preseason drafts of real-life players
- Once real-life season starts, fantasy teams accumulate points based on how well their players perform in real life
- Types of Leagues
 - Results based entirely on fantasy teams' cumulative statistics for given sport's regular season (more common for fantasy baseball)
 - Combination of a fantasy regular season and fantasy playoffs (more common in fantasy football)
- Some leagues have entry fees and prize money; many are free to join and offer only bragging rights to the league champion
- Prohibitions in 7 states: AZ, IL, IA, LA, MT, ND, WA

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Fantasy Sports - History



- Fantasy football – first known league, the Greater Oakland Professional Pigskin Prognosticators League (GOPPL) formed in 1963
- Fantasy baseball – most popular scoring format was developed by Daniel Okrent –1980
- Compiling fantasy sports leagues' results done by hand and based on newspapers' game box scores until mid-1990s
- Surge in fantasy sports' popularity after the dawn of the Internet Age made compiling results faster and easier
- Unlawful Internet Gambling Enforcement Act of 2006 (aka UIGEA) => exemption for the fantasy sports based on their being considered games of skill rather than games of chance

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Fantasy Sports – Industry Statistics (source: Fantasy Sports Trade Association)



- In 2015 there are ~56.8 Mil people playing fantasy sports in the United States & Canada
 - 2014: 41.5 Mil
 - 2010: 32.0 Mil
- Approximately 2/3 of participants are men
- Average Age of participants: 37
- College Degree or more: 57%
- Household income > \$75K: 47%
- Full-time employment: 66%

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Daily Fantasy Sports – General Description



- Differ from traditional season-long leagues in that results based on one day (baseball) or one weekend (football) worth of real-life games
- Participants may compete against anywhere from one to tens of thousands of other participants at a time
- Many contests allow multiple entries
- Most common games are salary-cap contests
 - Real-life players assigned imaginary salaries (based on perceived value) by daily fantasy sports websites
 - Participants pick a roster of real-life players whose aggregated salaries are less than or equal to the daily fantasy game's salary cap
 - Real-life game events are assigned points (e.g. – home runs, touchdowns); fantasy teams accumulate points based on these events
- Several different types of contests: multiple winners possible

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Daily Fantasy Sports (DFS) - History



- First DFS sites began sprouting up ~2007
- FanDuel launches in 2009 and attracts venture capital
- DraftKings launches in 2012 and attracts venture capital
- Major League Baseball (MLB) invests in DraftKings in 2013
- National Hockey League (NHL) signs sponsorship deal with DraftKings in 2014
- National Basketball Association (NBA) acquires equity stake in FanDuel in 2014
- National Football League (NFL) allows DFS sites to sign multi-year sponsorship deals with individual teams in 2015
- DraftKings signs sponsorship deals with ESPN & Fox Sports in 2015
- Yahoo launches daily and weekly sports contests in 2015

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Daily Fantasy Sports (DFS) – Industry Statistics



- Projected to generate ~\$2.6 Bil in 2015 entry fees (source: Forbes)
- Projected to grow 41% annually to \$14.4 Bil in 2020 (source: Forbes)
- 17% of fantasy sports participants play daily fantasy sports contests only (source: IPSOS)
- 21% of fantasy sports participants play both daily contests and traditional season-long leagues (source: IPSOS)
- 8.9 Mil new DFS players have entered the market since 2013 (source: IPSOS)

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Recent Daily Fantasy Sports (DFS) Controversy



- DraftKings and FanDuel have always banned their employees from playing in DFS contests on their own sites
- Ethan Haskell, a DraftKings employee, won \$350K for finishing in second place (out of 229,885 entrants) in a DFS contest on FanDuel
- Haskell posted real-life players' "percentage owned" stats after FanDuel games' lineups had locked, but not before some other DFS sites' games' lineups had locked
- In theory this would give an advantage to participants in contests with large numbers of entrants who attempt to identify real-life players with small percentage owned figures (and high upsides) in DFS contests
- DraftKings and FanDuel have responded by prohibiting their employees from playing DFS contests on any competing DFS site

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Daily Fantasy Baseball Games - Description



- Daily fantasy sites establish salary cap for a contest
- Game events assigned point values
 - Positive points
 - Hitters: Hits, RBIs, Runs Scored, Stolen Bases
 - Pitchers: Wins, Strikeouts, Innings Pitched, Complete Games, Shutouts
 - Negative points:
 - Hitters: Outs (or Strikeouts), Unsuccessful Stolen Base Attempts
 - Pitchers: Earned Runs, Losses, Hits Allowed, Walks Allowed
- Contest participants select lineup that contains both hitters and one or more pitchers (roster requirements vary from site to site)
- Rules typically require participants to select players from at least three different real-life teams
- Goal is to have your fantasy lineup accumulate the highest point total

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Daily Fantasy Football Games - Description



- Daily fantasy sites establish salary cap for a contest
- Roster requirements: QB, RB, WR, TE, DEF, K or FLEX
- Game events assigned point values
 - Positive points: TDs, Yards Gained, Field Goals Made, Sacks, etc.
 - Negative points: Fumbles Lost, QB Interceptions, etc.
- Contest participants select lineups that satisfies roster requirements and stays within the salary cap
- Rules typically require participants to select players from at least two different real-life teams and at least two different real-life games
- Goal is to have your fantasy lineup accumulate the highest point total

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Daily Fantasy Sports (DFS) Popular Contest Types & Basic Strategies



- Big Field Tournaments w/ Large Prizes and Guaranteed Payouts
 - Strategy: pick players with high variance/high upside
- Head-to-Head Games (i.e. – play against one opponent)
 - Strategy: pick players with high expected value
- 50/50 and Double-up Games
 - 50/50: exactly half the contest's entrants win slightly less than double their entry fee
 - Double-up: slightly less than half the contest's entrants win exactly double their entry fee
 - Strategy: pick players with high expected value
- Multiplier Contests (3x, 4x, 5x) – slightly less than 1/n of the contest's entrants win exactly n times their entry fee
 - Strategy: the higher n is, the more value high variance/high upside players have

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Daily Fantasy Sports (DFS) Research Results / Recommended Strategies



- You'll have to come to our concurrent session at the CAS Annual Meeting in Philadelphia to hear our roundtable discussion and find out!
- Our session (C-5) will be offered twice
 - Mon 11/16 at 1:35pm (Franklin Hall 3)
 - Wed 11/18 at 8:00am (Franklin Hall 2)

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