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SUPERSTITION, SKILL, OR CHEATING? HOW CASINOS AND REGULATORS CAN COMBAT EDGE SORTING

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I. INTRODUCTION

Since the advent of gambling activity, people have sought to gain an edge or advantage over the house to increase their chances or odds of winning. From the use of slugs and increasing the amount of a wager after play has begun, to sophisticated teams and technological devices that fool slot machines, people will seemingly stop at nothing to try to overcome the house advantage. One example is advantage play.

Advantage play is a broad term used to describe various forms or types of play in which a gambling patron may acquire an advantage over the casino.¹ Put another way, advantage play is “a situation in which a player through some method of play can acquire an advantage over the casino in the context of a gambling contract.”²

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1. See ANTHONY N. CABOT & KEITH C. MILLER, *THE LAW OF GAMBLING AND REGULATED GAMING: CASES AND MATERIALS* 277 (2011).

2. David W. Schnell-Davis, *High-Tech Casino Advantage Play: Legislative Approaches to the Threat of Predictive Devices*, 3 UNLV GAMING L.J. 299, 303 (2012).

(1)

Arguably, the most well-known and popularized form of advantage play is card counting at the game of blackjack, which has been featured in movies such as *21*.³ Not all forms of advantage play are considered cheating or unlawful. For example, card counting is not illegal under New Jersey, Nevada, or any other state's laws.⁴ Some forms of advantage play, such as marking, mucking, or crimping cards or using prohibited devices, are cheating.⁵ Still other forms of advantage play fall somewhere in between legal play and cheating, including shuffle tracking or hole-carding.

This article concerns a newer and controversial form of advantage play called edge sorting. While courts and gaming regulatory agencies have addressed other forms of advantage play in casinos, edge sorting has not received the same level of attention. As dis-

3. As described by former New Jersey Casino Control Commissioner Prospero De Bona, card counting has three elements:

The first is the method for keeping track of, or "counting," the cards that have been dealt. This is usually accomplished by assigning a certain plus or minus value to each card in the deck and keeping a "running total or count" of these values as the cards are being dealt. The "running count" is then converted into a "true count" which depends upon the number of cards left to be dealt. The second element of these systems is the strategy to be followed for hitting, standing, doubling down, splitting pairs or surrendering. This strategy is a variable one which depends on the specific cards held by the player, the exposed card of the dealer, and the plus or minus value of the count at that particular time. The third component of these systems is the ability to vary the amount of each wager so that minimal amounts are bet when the "count" is unfavorable and larger amounts when the "count" is favorable.

Bartolo v. Boardwalk Regency Hotel Casino, Inc., 449 A.2d 1339, 1341–42 (N.J. Super. Ct. Law. Div. 1982).

4. See *CABOT & MILLER*, *supra* note 1, at 277. See also *Campione v. Adamar of New Jersey, Inc.*, 714 A.2d 299 (N.J. 1988); *Chen v. Nevada State Gaming Control Bd.*, 994 P.2d 1151 (Nev. 2000). This has also been recognized by the United States Court of Appeals for the Fifth Circuit. See *Cashio v. Alpha Gulf Coast, Inc.*, 77 F.3d 477 (5th Cir. 1995).

5. Marking cards is the act of actually defacing the card in such a way as to make it identifiable to the player. This can be accomplished with ink or by scratching the back of the card. Sophisticated players have developed invisible inks that can only be detected under certain lights or by the use of special contact lenses or glasses. For more examples, see Howard Collier, *Cheating at Blackjack and Poker: Marked Cards*, BLACKJACK FORUM ONLINE (1993), <http://www.blackjackforumonline.com/content/crimp.htm> [<https://perma.cc/GQY4-2ZEU>]. Mucking a card is the act of palming a card, such as in single-deck blackjack, in order to conceal the card and then use it later when the card's value is more advantageous for the player. See *Gaming Definitions*, VEGAS-ACES (2015), <http://www.vegas-aces.com/Root/definitions.html> [<https://perma.cc/WA8B-PRPP>]. Crimping is the physical act of bending the card so as to create an indentation in the back of the card that can be perceived by the advantage player. See Collier, *supra* note 5. For examples of prohibited devices, see, e.g., NEV. REV. STAT. 465.080 (2016); COLO. REV. STAT. § 12-47.1-824 (2016); MISS. CODE ANN. § 75-76-303 (2016); N.J. STAT. ANN. § 5:12-113.1 (West 2016). For a discussion of where advantage play is considered to be cheating, see *CABOT & MILLER*, *supra* note 1, at 277.

cussed more fully below, edge sorting is a form of advantage play where players identify imperfections or defects in the design on the back of playing cards and use that information to their advantage. Several high profile cases of edge sorting in casinos in New Jersey, Connecticut, and the United Kingdom have been the subject of litigation involving tens of millions of dollars.⁶ While the legality of edge sorting and other forms of advantage play is an important aspect in the discussion of advantage play, it is not the main focus of this article. Rather, this article will provide a brief background on advantage play in general and edge sorting more specifically, and make recommendations on what casinos and gaming regulatory agencies might do to combat edge sorting.

II. GAMING CONTRACTS

Before addressing advantage play, it is important to define the unique character of the contractual relationship between a gaming establishment and a patron. A contract is a promise or set of promises that the law will enforce.⁷ In the casino/gaming context, the wager itself is an adhesion contract between the casino and the patron that is non-negotiable.⁸ The casino defines the terms of the contract and it is a “take-it-or-leave-it” type contract.⁹ Gaming contracts are not typical contracts however, and have several unique aspects. First, the major condition in a gaming contract to the contractual obligations of the casino and the player is determined in whole or in part on the outcome of chance or a random event.¹⁰ Second, the economic outcome of a gaming contract based on a random event will, almost without exception, favor the casino over time.¹¹

Because random outcomes and probabilities underlie the very nature of gaming contracts, advantage play that shifts the advantage

6. See *Marina Dist. Dev. Co., LLC v. Ivey*, 93 F. Supp. 3d 327 (D.N.J. 2015); *Marina Dist. Dev. Co. v. Ivey*, No. 14-2283 (NLH/AMD), 2016 U.S. Dist. LEXIS 146084 (D.N.J. October 21, 2016); *Sun v. Mashantucket Pequot Gaming Enter.*, 309 F.R.D. 157 (D. Conn. 2015); *Ivey v. Genting Casinos UK Ltd. t/a Crockfords Club* [2014] EWHC 3394 (QB) [hereinafter *Crockfords Club Case*].

7. See CABOT & MILLER, *supra* note 1, at 171.

8. See *id.*

9. See *id.*

10. See Anthony Cabot & Robert Hannum, *Advantage Play and Commercial Casinos*, 74 Miss. L.J. 681, 683 (2005). These random events include the roll of the dice in craps or the spin of the wheel in roulette.

11. See *id.* at 684. This is because there is an advantage, known as the house advantage, built into every house-banked casino game, which are games in which the house is a participant, collects money from losers, pays out money to the winners, and where the house can win money.

or removes the random outcome affects the foundational nature of these contracts. There is a basic assumption of a covenant of good faith and fair dealing in all contracts, including gaming contracts, whereby the parties, here the casino and patron, will abide by the rules of the game, the chance built into that game, and that the contract was not entered into by deceit or fraud. If an advantage player acquires and uses information that is outside the rules of the game or cheats at a game, the gaming contract has been breached and a question arises as to legal remedies. The primary question is whether the courts will require the casino to pay alleged winnings to an advantage player. The answer to how the law will remedy that breach depends on the type of advantage play and whether the technique used is considered to be legal or cheating. How this might be answered in the context of edge sorting will be addressed below, as it could be argued that edge sorting is a breach of the player's duty of good faith and fair dealing.

III. CATEGORIES OF ADVANTAGE PLAY

Noted gaming law attorney Anthony Cabot, a partner in the Las Vegas, Nevada office of Lewis Roca Rothgerber Christie LLP and adjunct professor at the William S. Boyd School of Law, University of Nevada, Las Vegas, and Robert Hannum, Professor of Risk Analysis & Gaming at the University of Denver, have identified five categories of advantage play based on the following factors:

1. Is the advantage play consistent with the defined rules of the game?[];
2. Does the advantage player use information readily available to all players, as opposed to attempting to acquire information not readily available to all players, that would provide an advantage in determining or predicting what was intended to be a random event?[];
3. Does the advantage player attempt to take advantage of known errors by the casino?[]; and]
4. Does the advantage player attempt to alter the random event that serves as the basis for the game result?¹²

Two perspectives are important when looking at the various types of advantage play. The first is whether the type of advantage play is legal. The second is how the specific type of advantage play

12. Cabot & Hannum, *supra* note 10, at 686.

fits within the contractual relationship between the casino and patron.

The first category of advantage play is when a player “uses superior skill in analyzing the game data that are available to all players and where both the players and casinos contemplate the use of such data as part of the contractual relationship.”¹³ However, this type of advantage play is generally applicable to casino games involving some level of skill, such as blackjack and video poker.¹⁴ The most well-known example of this category of advantage play is card counting at blackjack, where the player uses information that is available to all players and is skilled at analyzing the cards played to determine when he has an advantage over the house.¹⁵

The second category of advantage play includes players who use superior skills in analyzing data that is available to all players but such data is not part of the basic rules of the game and can impact the outcome.¹⁶ Examples of category two advantage play include edge sorting, which is discussed in greater detail later, and shuffle tracking. Shuffle tracking is where a player predicts the order of the cards in the deck based on the location of the cards in the discard pile and how the dealer shuffled the deck.¹⁷ While all players in a game may follow the cards in the discard pile and how the deck is shuffled, a shuffle tracker attempts to alter the random outcome of the game, which contravenes the basic contractual assumption that the shuffle of the cards used in the game will be random, therefore removing the advantage player from the basic rules of the game.¹⁸ Again, the issue of exclusion and countermeasures are important topics to address regarding category two advantage players, but these questions become more difficult where the advantage play is not specifically illegal. This will be further addressed below.

The third category of advantage play is when the advantage player takes advantage of a mistake on the part of the casino.¹⁹ Examples of this type of advantage play include taking advantage of a

13. *Id.*

14. *See id.* However, slot teams can analyze progressive meters and determine when to gamble on pure chance games.

15. *See id.* The primary issue for category one advantage players such as card counters is whether or not they have a protected right of entry into the casinos, which will be discussed *infra*.

16. *See Cabot & Hannum, supra* note 10, at 687.

17. *See id.*

18. *See id.*

19. *See id.*

malfunctioning slot machine that is paying out too much or too often, or when a dealer overpays a patron or pays on a losing hand and the patron keeps the payment.²⁰ Category four advantage play occurs when a player acquires knowledge that is not typically or readily available to other players. This provides an advantage in determining or predicting what is meant to be a random event.²¹ An example of this type of advantage play is hole-carding, where a blackjack player is able to discern the value of the dealer's hole card before having to make a decision on how to play their hand. This type of play is clearly outside the defined rules of the game.²² The fifth and final category of advantage play identified by Cabot and Hannum is where the player actually alters the random event in their favor, such as dice sliding in craps, where the player attempts to slide a die across the craps table so that it remains on a pre-determined side.²³

IV. EDGE SORTING

“Edge sorting” is a form of advantage play that falls within the second category of advantage play as described above. The legality of edge sorting by players is not settled, and there is scant case law or administrative guidance on the issue.²⁴ As discussed earlier, edge sorting is a method in which players recognize and identify irregularities or printing mistakes on the back of playing cards and use this information to their advantage in the games in which they

20. One issue that arises in the context of overpayment is whether a patron keeping the excess payment constitutes larceny. A Ninth Circuit Court of Appeals case clearly suggests that knowingly keeping an overpayment can constitute theft and that overpayments are recoverable by the casino. *See Conner v. Heiman*, 672 F.3d 1126 (9th Cir. 2012).

21. *See Cabot & Hannum*, *supra* note 10, at 687.

22. It is questionable whether an activity like hole-carding is criminal, but in most cases it would be nearly impossible to prove criminal intent.

23. *See Cabot & Hannum*, *supra* note 10, at 688. Generally, this category of advantage play is criminal and Nevada has several statutes that address casino cheating and fraudulent acts including N.R.S. 465.083, N.R.S. 465.015, and N.R.S. 465.070.

24. While the legality of edge sorting is not the focus of this article, it is an important and interrelated topic. Some argue that edge sorting is more akin to card counting because the players do not actually touch the cards and the information is available to all players. Others argue that edge sorting is more like using a prohibited device and is illegal cheating. For more discussion on the issue of the legality of edge sorting, see Kevin Schweitzer, *Edge-Sorting: A Chance for Courts to Sort Out the Law for Advantage Play*, INT'L ASS'N OF GAMING ADVISORS (May 14, 2015), <http://www.theiaga.org/assets/advantageplay-schweitzer.pdf> [<https://perma.cc/6939-9V7B>].

are playing.²⁵ With this information, which is in theory available to all players at a game, an advantage player is able to identify certain cards and follow them through the game play, adjusting their strategy and betting as needed.²⁶ This form of advantage play can be used in numerous casino games, including, but not limited to, blackjack, poker, Caribbean Stud, Mississippi Stud, and, most notably, baccarat.²⁷ For example, in the game of baccarat (also known

25. For an illustration of edge sorting see Eliot Jacobson, *Edge Sorting in Baccarat*, APHEAT (Aug. 18, 2012), <https://apheat.net/2012/08/18/edge-sorting-in-baccarat/> [<https://perma.cc/P7JU-4WCD>]. See also Francesca Soler, *Edge Sorting: Everything You Need to Know*, CASINOTOP10 (May 7, 2014, 2:35 AM), <http://www.casinotop10.net/edge-sorting> [<https://perma.cc/HAF8-VPDA>]. This commentator has identified six “necessary ingredients” to properly edge sort cards, including:

1. [T]he back of the cards shall have a clearly visible asymmetrical repeated pattern[;]
2. Edge sorting can only work in a game where the back of one or more cards can be viewed making a necessary decision in the game[;]
3. Edge sorting can only work if there is a fixed procedure for playing as well as for dealing in the cards so much so that even when the cards are collected back from the players, the edges are not disturbed and they are consistent and can be determined in the next round of the game as well[;]
4. The shuffling of the cards must be done in such a manner that it does not include a turn (i.e. a turn of 180 degrees of the cards) which [disturbs the pattern visible on the back of the cards;]
5. Anyone else other than the dealer and players shall not be able to interfere with the sorting of the cards in the deck of shoe[; and]
6. . . . [T]he on-site staff and surveillance must be completely ignorant of this method.

Id.

26. See *id.*

27. See *id.* Baccarat is a game of chance in which the players bet on the relative value of two hands of two cards each before the hands are dealt or the cards are revealed. One hand is referred to as the “player’s” hand, the other is known as the “banker’s” hand. The “banker” is not the House, and the “player” does not refer to those playing the game. Players are free to bet on either hand. The object of baccarat is to bet on the hand that will have a total value closest to nine (9). Tens, face cards, and any cards that total ten are counted as zero. All other cards are counted at face value. The scores of hands range from 0 to 9. Neither hand can “bust.” The game is generally played with six or eight decks of cards placed into a dealing “shoe.” Before the cards are dealt, the players must place one of three bets: “banker,” “player,” or “tie.” A bet on “banker” is a bet that the baker will hold the hand closest to nine. A bet on “player” is a bet that the player will have the hand closest to nine. A bet on “tie” is a bet that the two hands will be tied. Two hands are then dealt from the shoe, one for the “player” and one for the “banker.” The first card is dealt to the “player’s” hand. In certain circumstances, a third card may be dealt to either or both hands, depending on the score of the hands. A winning bet on “banker” pays 19 to 20. A winning bet on “player” pays even money. A winning bet on “tie” pays 8 to 1. The house advantage for baccarat is approximately 1.06% on “banker” bets, 1.24% on “player” bets, and 4.84% on “tie” bets. Based on the mathematical probability, when the first card dealt to the “player” has a value of 6, 7, 8, or 9, the chances of the “player” hand winning are greatly increased. Conversely, if the “player” hand’s first card has a value of 10, 1

as punto banco), the important cards are 6, 7, 8, and 9.²⁸ If a player can track these cards in the decks used in the game, they can adjust their wagering accordingly and gain an edge of approximately 6.76 percent over the house, effectively nullifying the house edge of the game and potentially even bringing the game into their own favor.²⁹

V. CASE LAW ON EDGE SORTING

Edge sorting gained notoriety following several large wins by high profile, big-money gamblers, such as professional poker player Phil Ivey.³⁰ All three of the following examples of edge sorting were subject to litigation, but they are informative as to what casinos and regulatory agencies can do to combat and/or regulate edge sorting. These cases demonstrate the unsettled nature of the law as it relates to advantage play in general and edge sorting more specifically.

A. *Ivey v. Genting Casinos UK Limited (t/a Crockfords Club)*, [2014] EWHC 3394 (QB) (England and Wales High Court)

The first of the recent examples of edge sorting occurred at the Crockfords Club casino in the Mayfair section of London. Over the course of August 20 to 21, 2015, Phil Ivey, aided by player partner Cheung Yin Sun, a fellow professional gambler, won over £7.7 million while playing punto banco.³¹ That Ivey and Sun engaged in

(Ace), 2, 3, or 4, the chances of the “banker” hand winning are greatly increased. Thus, if a player knows the value of the first card in the shoe before it is dealt, the player can reverse the house advantage, and instead have a significant advantage over the house. The player with this “first card knowledge” has an overall advantage of approximately 6.765% over the house. The advantage is up to 21.5% for “player” bets and up to 5.5% for “banker” bets. See *Marina Dist. Dev. Co., LLC v. Ivey*, 93 F. Supp. 3d 327, 329 n.1 (D.N.J. 2015).

28. See, e.g., N.J. ADMIN. CODE §§ 13:69F-3.1–13:69F-3.12 (2016) (establishing rules of play for Baccarat-Punto Banco in New Jersey casinos); see also Soler, *supra* note 25.

29. See *id.* The house edge in baccarat/punto banco is 1.24% if the player wins and 1.06% if the banker wins. If a player is edge sorting and knows whether the first dealt card is or is not going to be a 7, 8, or 9, that player will have a long-term edge of about 6.5% over the house if played perfectly accurately. This player edge can range from 4.5% to 7%. See *Crockfords Club Case*, [2014] EWHC 3394 at ¶¶ 7, 12, 13.

30. Phil Ivey is a prolific professional poker player who has won multiple bracelets at the World Series of Poker and has amassed \$21.52 million in tournament earnings in his career. See *Phil Ivey – Quick Bio*, IVEYLEAGUE, <http://iveyleague.com/coaches/phil-ivey> [<https://perma.cc/BS3J-85SG>] (last visited Oct. 24, 2016).

31. See *Crockfords Club Case*, [2014] EWHC 3394 at ¶ 9.

edge sorting to win was not in dispute.³² Following an ex post facto investigation, Crockfords Club determined that Ivey and Sun were edge sorting and refused to pay Ivey his winnings, except to refund his deposited stake of £1 million.³³ Ivey sued for his winnings.³⁴

For Ivey and Sun to successfully edge sort at punto banco, they made and were granted several requests during their play. The British court considering the case recognized that casinos often accommodate a “wide variety of requests” by punto banco players based on “quirky and superstitious” behavior of the players, especially “those willing to wager large sums on games which they must in the long run lose.”³⁵ For example, Ivey asked the senior croupier overseeing his game, “If I win, can I say I want the same cards again?” to which the croupier agreed.³⁶ Additionally, the dealer was asked to cut the shoe of cards seven cards from the end, which was not the casino’s practice, to increase the number of hands that could be played from that shoe.³⁷

Importantly, Ivey and Sun asked the dealer to turn certain cards so that the long edge of “not good” cards were oriented in a different way from the long edge of the “good” cards.³⁸ The cards were then shuffled by machine.³⁹ The subsequent play following these requests resulted in the “accuracy of [Ivey’s] bets increas[ing] sharply.”⁴⁰ When notified that a new shoe would be introduced into the game, Ivey and Sun ended their play having won about £7.7 million.⁴¹

The court addressed several issues, including whether edge sorting amounted to cheating. First, the court rejected the Crockfords Club’s argument that no actual game of punto banco took place. This is because Ivey’s edge sorting removed the element of randomness of the game since the cards were still dealt in their prescribed sequence and bets were paid at the prescribed

32. *See id.*

33. *See id.* at ¶ ¶ 29–32.

34. *See id.* at ¶ 33. Ivey admitted his conduct, but denied that it constituted cheating or a criminal offense.

35. *Id.* at ¶ 16. Ivey’s wagers ranged from £4,000 to £150,000, the maximum permitted. *See id.* at ¶ ¶ 18, 28.

36. *Crockfords Club Case*, [2014] EWHC 3394 at ¶ 18. The request was granted ostensibly because Ivey was not touching or bending the cards.

37. *See id.* at ¶ 19.

38. *Id.* at ¶ ¶ 20–21. This was done supposedly to “change the luck” of the cards.

39. *See id.* at ¶ 24. Because the dealer did not rotate the cards before placing them in the shuffling machine, the edge sorting technique was preserved.

40. *Id.* at ¶ 26.

41. *See id.* at ¶ 28.

odds.⁴² Next, the court concluded that Ivey's deceptive conduct in convincing the croupier and dealer that his requests were based on superstition did not "vitiating the gaming contract," comparing it to an experienced blackjack player pretending to be a fool to influence the play of another.⁴³

Turning to the issue of cheating, the court recognized that "[t]here is no commonly accepted view amongst those who play Punto Banco about whether edge-sorting does or does not amount to cheating."⁴⁴ In concluding that Ivey's conduct amounted to cheating under civil law, and that Crockfords Club did not have to pay out his winnings, the court summarized Ivey's actions and their consequences as follows:

(1) He gave himself an advantage, throughout the play of the sixth and subsequent shoes, which the game precludes – knowing, or having a good idea, whether the first card was or was not a 7, 8 or 9. That is quite different from the advantage which may accrue to a punter as a result of counting the cards, so that very near the end of the shoe he may obtain a legitimate advantage by doing so.

(2) He did so by using the croupier as his innocent agent or tool by turning the 7s, 8s and 9s differentially. He was not simply taking advantage of an error on the part of the croupier or an anomaly produced by a practice of the casino for which he was not responsible.

(3) He was doing so in circumstances in which he knew that she and her superiors did not realise the consequences of what she had done at his instigation. **Accordingly, he converted a game which the knowledge of both sides as to the likelihood that player or banker will win – in principle nil, - was equal into a game in which his knowledge is greater than that of the croupier and greater than that which she would reasonably have expected it to be.**⁴⁵

In the court's view, this conduct amounted to "cheating for the purposes of civil law."⁴⁶ Interestingly for the purposes of this article, the court held that it is "immaterial that the casino could have

42. See *Crockfords Club Case*, [2014] EWHC 3394 at ¶ 34.

43. *Id.* at ¶ 40.

44. *Id.* at ¶ 36.

45. *Id.* at ¶ 50 (emphasis added).

46. *Id.* at ¶ ¶51–52. The court declined to address whether the conduct amounted to cheating under the criminal law.

protected itself against it by simple measures.”⁴⁷ Ivey appealed the ruling.⁴⁸

B. *Marina District Development Company, LLC v. Ivey*, 93 F. Supp. 3d 327 (D.N.J. March 13, 2015) and *Marina District Development Company, LLC v. Ivey*, 2016 U.S. Dist. LEXIS 146084 (D.N.J. October 21, 2016)

During the month of April 2012, Phil Ivey arranged to play high stakes baccarat at the Borgata Hotel Casino & Spa in Atlantic City, New Jersey and made five requests, including:

(1) A private area or “pit” in which to play; (2) a casino dealer who spoke Mandarin Chinese; (3) a guest (Ms. Sun) to sit with him at the table while he played; (4) one 8-deck shoe of purple Gemaco Borgata playing cards to be used for the entirety of each session of play; and (5) an automatic card shuffling device to be used to shuffle the cards after each shoe was dealt.⁴⁹

The casino agreed to all the requests.⁵⁰ Playing under these conditions, Ivey played baccarat on April 11, 2012 with an average bet of \$25,000, winning \$2,416,000.⁵¹ Under the same terms, Ivey returned to play in May 2012 and won \$1,597,400 with an average bet of \$36,000.⁵² In July 2012, Ivey returned again to the Borgata with the same five requests, except this time he fronted \$3 million and raised the maximum bet to \$100,000.⁵³ Under these conditions, Ivey won \$4,787,700 with an average bet of \$89,000.⁵⁴ Under these same conditions, Ivey returned in October 2012, and won \$824,900 with an average bet of \$93,800.⁵⁵

47. *Id.* at ¶ 51.

48. See Ian Gallagher, “I’m Getting a Second Shot”: Poker Ace Accused of Cheating by Exclusive Mayfair Gaming Club may get back his £8 Million Winnings in Court Appeal, DAILY MAIL (last updated Nov. 29, 2015, 12:00 AM), <http://www.dailymail.co.uk/news/article-3337982/I-m-getting-second-shot-Poker-ace-accused-cheating-exclusive-Mayfair-gaming-club-8million-winnings-court-appeal.html> [https://perma.cc/K7SZ-22EN].

49. *Marina Dist. Dev. Co., LLC v. Ivey*, 93 F. Supp. 3d 327, 329–30 (D.N.J. 2015).

50. See *id.* at 330. In return, Ivey agreed to front a deposit of \$1 million and agreed that the maximum bet would be \$50,000 per hand.

51. See *id.*

52. See *id.*

53. See *id.*

54. See *id.*

55. See *Marina Dist. Dev. Co., LLC*, 93 F. Supp. 3d. at 330. In total, Ivey won \$9,626,000 in his four visits to the Borgata. After each trip, Ivey requested his money be wired to a bank account in Mexico.

Following Ivey's October play, the Borgata learned through media reports of Ivey's play and subsequent litigation in the *Crockfords Club Case*.⁵⁶ Similar to the facts of the *Crockfords Club Case*, the Borgata alleged that Ivey and Sun asked the dealer to turn certain cards so that they could be distinguished from other cards in the shoe. In addition, Ivey and Sun requested an automatic shuffler because they knew that the edges of the cards would remain facing the same direction unless turned manually by the dealer.⁵⁷ Lastly, the Borgata alleged that Ivey would begin each session betting well below the maximum bet until he and Sun had edge sorted the entire shoe, after which he would bet the maximum on each hand.⁵⁸

Based on these actions, the Borgata sued Ivey and Sun for breach of contract, fraud, conspiracy, and RICO violations.⁵⁹ Ivey and Sun filed a motion to dismiss all counts.⁶⁰ Borgata's main assertion on the breach of contract claim was that by edge sorting and making requests under the guise of superstition, the normal odds of the game were altered; and, Ivey and Sun misrepresented their purpose, which amounted to a breach of their promise to play by the established rules and odds of the game of baccarat.⁶¹ The court held that the New Jersey Casino Control Act did not create a common law cause of action that did not otherwise exist, and that the New Jersey Division of Gaming Enforcement or the New Jersey Casino Control Commission, not the Federal court, must determine whether Ivey's and Sun's actions violated any provision of the Casino Control Act.⁶² The court denied Ivey and Sun's motion to dismiss as to the fraud, RICO, and related claims because those claims did not rely on any interpretation of the Casino Control Act.⁶³

Following further discovery, Judge Hillman of the United States District Court for the District of New Jersey issued a subsequent opinion addressing the claims that survived a motion to dis-

56. *See id.* The Borgata argued that the result of the *Crockfords Club Case* should be given res judicata preclusive effect, but the Federal court rejected this argument. *See id.* at 335 n.4.

57. *See id.* at 331.

58. *See id.* at 331–32.

59. *See id.* at 332.

60. *See id.*

61. *See Marina Dist. Dev. Co., LLC*, 93 F. Supp. 3d. at 337.

62. *See* N.J. STAT. ANN. § 5:12-1-5:12-233 (West 2016); *see also Marina Dist. Dev. Co., LLC*, 93 F. Supp. 3d. at 335–39. However, the decision signaled that the task of determining whether the gaming contract was breached might fall on the court to decide eventually if the state gaming regulators did not act.

63. *See id.* at 339–42.

miss.⁶⁴ Judge Hillman granted summary judgment in favor of the Borgata on its contract-based claims because he found the Borgata “agreed to fulfill its obligations to provide a gaming experience in compliance with the New Jersey Casino Control Act” and Ivey and Sun breached the gaming contract by not complying with their obligations under the law.⁶⁵ The Casino Control Act provides that “[a]ll gaming shall be conducted according to rules promulgated by the [Division of Gaming Enforcement].”⁶⁶ Any gaming contract in a casino in New Jersey must include, whether expressly or impliedly, a provision that both parties agree to abide by the Casino Control Act.⁶⁷ The court concluded Ivey and Sun breached their contract with Borgata to play baccarat in compliance with the Casino Control Act by violating N.J.S.A. 5:12-115(a)(2) when they “knowingly engaged in a scheme to create a set of marked cards and then used those marked cards to place bets based on the markings.”⁶⁸

64. See *Marina Dist. Dev. Co. v. Ivey*, No. 14-2283 (NLH/AMD), 2016 U.S. Dist. LEXIS 146084 (D.N.J. October 21, 2016).

65. *Id.* at *13–*14.

66. N.J. STAT. ANN. § 5:12-100(e) (West 2016). The rules for baccarat in New Jersey are contained within N.J.A.C. 13:69F-3–13:69F-3.12. See also *supra* note 27 and accompanying text.

67. See *Marina Dist. Dev. Co.*, 2016 U.S. Dist. LEXIS 146084, at *14.

68. *Id.* at *17. The court noted that the Borgata was equally obligated to comply with the Casino Control Act, and for example, would breach its obligations under the gaming contract if it had secretly tampered with the cards to raise the house advantage above the set odds of the game. See *id.* at *20–*21 n.13.

It had been suggested to use more general laws to establish the criminality of edge sorting, particularly related to how it alters the random element of the game or acquiring knowledge not readily available to other players. For example, N.J.S.A. 5:12-113(a) makes it unlawful to “purposely or knowingly by any trick or sleight of hand performance or by a fraud or fraudulent scheme, cards, dice or device, for himself or herself or for another, wins or attempts to win money or property or a representative of either[.]” N.J. STAT. ANN. § 5:12-113(a) (West 2016). Furthermore, N.J.S.A. 5:12-115(a)(2), relied upon by Judge Hillman, makes it unlawful to:

Knowingly to deal, conduct, carry on, operate or expose for play any game or games played with cards, dice or any mechanical device, or any combination of games or devices, which have in any manner been marked or tampered with, or placed in a condition, or operated in a manner, the result of which tends to deceive the public or tends to alter the normal random selection of characteristics or the normal chance of the game which could determine or alter the result of the game.

N.J. STAT. ANN. § 5:12-115(a)(2) (West 2016). Either of these general casino-cheating laws could potentially be used to make the argument that edge sorting is already illegal under New Jersey law absent regulation from state regulators in order to vitiate a gaming contract. One court has suggested that hole-carding could violate both N.J.S.A. 5:12-113 and N.J.S.A. 5:12-115. See *Houck v. Ferrari*, 57 F. Supp. 3d 377, 383–84 (D.N.J. 2014). However, that court was addressing the detention of a patron by casino personnel suspected of hole-carding and not the validity of a gaming contract. At the summary judgment stage of the Borgata mat-

The court rejected as too narrow the argument that Ivey and Sun had not “marked” the cards because they did not physically touch the cards.⁶⁹ The court held that the term “marking” can be defined as having something done to the card, such as turning it to face a certain way, which identifies the value of the card to a player, but to no one else.⁷⁰ Importantly, the court held that it is not the act of “marking” the cards, but rather the “use” or “possession” of the marked card that violates the Casino Control Act. In granting summary judgment in favor of the Borgata, Judge Hillman concluded:

By using cards they caused to be maneuvered in order to identify their value only to them, Ivey and Sun adjusted the odds of Baccarat in their favor. This is in complete contravention of the fundamental purpose of legalized gambling, as set forth by the [Casino Control Act]. Ivey and Sun’s violation of the card marking provision in the [Casino Control Act] constitutes a breach of their mutual obligation with Borgata to play by the rules of the [Casino Control Act]. Consequently, summary judgment must be entered in Borgata’s favor, and against Ivey and Sun, on Borgata’s contract-based claims.⁷¹

According to the court, what set Ivey and Sun’s action apart from “deceitful maneuvers” in other games was that their actions broke the rules of gambling as defined in New Jersey and violated their primary obligation under their gaming contract with the Borgata.⁷² As Judge Hillman noted, “the principle that the odds are against you is literally true and eventually wins out. This is something every gambler knows.”⁷³

ter, Judge Hillman concluded that the gaming contract was vitiated by Ivey and Sun’s conduct because their actions fell outside the defined rules of baccarat by violating N.J.S.A. 5:12-115(a)(2).

69. *See Marina Dist. Dev. Co.*, 2016 U.S. Dist. LEXIS 146084, at *18.

70. *See id.*

71. *Id.* at *20. The court granted summary judgment to Ivey and Sun on the Borgata’s RICO and fraud based claims, reasoning that even though “Ivey and Sun did not reveal to Borgata the true purpose behind their requests and actions, there were not required to provide a reason.” *Id.* at *30–*31.

72. *See id.* at *33. Judge Hillman ordered the parties to address the amount of damages for the breach of contract in subsequent filings.

73. *Id.* at *2.

C. *Sun v. Mashantucket Pequot Gaming Enterprise*, 309 F.R.D. 157
(D. Conn. Aug. 3, 2015)

In late December 2011, Ms. Sun visited the Foxwoods Resorts Casino with two playing partners and deposited \$1.6 million to play baccarat.⁷⁴ The three players ended up winning an additional \$1,148,000 while engaging in edge sorting.⁷⁵ Upon requesting that they receive their winning chips, the casino declined to comply and instead told Sun and her partners that they would need to file a formal complaint with the Mashantucket Pequot Gaming Enterprise or file a civil lawsuit to recover their winnings.⁷⁶

The plaintiffs and the Mashantucket Pequot Gaming Enterprise entered into an agreement whereby the casino would return the initial deposit and submit the claim regarding the winnings to the Mashantucket Pequot Tribal Nation Gaming Commission Inspection Division for a final, non-appealable resolution.⁷⁷ The Inspection Division concluded that the plaintiffs “violated rules and regulations governing gaming” and were “therefore not entitled to the chips that were ‘won’ while wagering” on baccarat while edge sorting.⁷⁸ The full Mashantucket Pequot Tribal Nation Gaming Commission upheld the decision on appeal.⁷⁹

Sun and her co-plaintiffs then filed a motion to re-open the case in federal court.⁸⁰ The court held that it lacked subject matter jurisdiction over the case because the tribal defendants enjoyed sovereign immunity.⁸¹ Furthermore, the court held that it did not have personal jurisdiction over the tribal defendants or an officer of the Connecticut Department of Public Safety, and denied the motion to re-open the case.⁸² Because this case was dismissed on subject matter jurisdiction grounds, the court did not address the legality of edge sorting.⁸³

74. *See Sun*, 309 F.R.D. at 159.

75. *See id.*

76. *See id.* at 160.

77. *See id.*

78. *Id.*

79. *See id.*

80. *See Sun*, 309 F.R.D. at 160.

81. *See id.* at 164.

82. *See id.* at 166–67.

83. The dismissal was affirmed by the Second Circuit in a summary order. *See Cheung Yin Sun v. Mashantucket Pequot Gaming Enter.*, No. 15-2148-cv, 2016 U.S. App. LEXIS 18023 (2d Cir. Oct. 5, 2016).

VI. WHAT CAN CASINOS AND REGULATORS DO?

With these recent high-profile (and big-money) cases in mind, casino operators and gaming regulators may take several approaches, regulations, and countermeasures to proactively fight and/or prevent edge sorting at games such as baccarat. Many of these approaches may seem to be little more than common sense, and in some instances regulations already exist that simply were not being followed. These approaches include regulating the design of the cards, introducing countermeasures into the gameplay, excluding advantage players using edge sorting techniques, and refusing to pay winnings based on principles of contract law or on the basis that edge sorting constitutes cheating.

A. Design of the Cards

While this first suggestion might seem obvious, it is a solution nonetheless. That is, casinos and card manufacturers need to ensure that the designs on the back of the playing cards used in games such as baccarat (and potentially other games) are uniform and designed in such a way that players cannot differentiate between cards before they are dealt. Many gaming jurisdictions, including New Jersey, already have such regulations. For example, a New Jersey regulation governing the design of cards used in table games in casinos reads:

The backs of each card in the deck shall be identical and no card shall contain any marking, symbol or design that will enable a person to know the identity of any element printed on the face of the card or that will in any way differentiate the back of that card from any other card in the deck.⁸⁴

The use of a symmetrical design with an even border all around the back of the card is a “simple measure” that could be employed according to these types of regulations.⁸⁵

84. N.J. ADMIN. CODE § 13:69E-1.17(d) (2016). Other gaming jurisdictions have this identical language in their regulations regulating the design of playing cards in table games. *See, e.g.*, 58 PA CODE § 603a.15 (2016); OHIO ADMIN. CODE 3772-11-22(4) (2016). In addition, it is well within the regulatory authority of state gaming regulators to specify design requirements and require pre-approval for items used on the casino floor, such as chips and tokens. *See, e.g.*, NEV. GAMING REG. 12 (Sept. 22, 2016).

85. Eliot Jacobson, *Phil Ivey's Appeal and Simple Measures*, GAMING REPORTS (Dec. 4, 2015, 6:56 PM), <http://www.cdcgamingreports.com/commentaries/phil-iveys-appeal-and-simple-measures/> [https://perma.cc/87A6-QYXL].

At least part of the onus of enforcement of regulations must rest with the card manufacturer and casino operators. Quality control, both at the point of manufacture and at the casino before the cards are put into play, are important and critical steps. Cards should be inspected before leaving the manufacturer and again before casino employees, such as pit bosses and dealers, put them into play. New Jersey, for example, has detailed regulations governing the inspection of cards before, during, and after their use in games such as baccarat.⁸⁶ These steps were not strictly adhered to during Ivey's play at the Borgata and Crockfords, and the large sums of money won highlight the ramifications of failing to follow these common-sense approaches. While casinos are often eager to please their big-money "whales," that practice should not include disregarding regulations, and state regulators should increase focus on regulatory compliance relative to these basic matters.

B. Countermeasures

Besides the design and inspection of the playing cards used in casino games, casino operators have a variety of countermeasures available to combat advantage play such as edge sorting. Again, some potential countermeasures are simple steps and are often regularly used in casinos, but not necessarily on high limit tables or with big-money whales. These steps include placing a brush or plastic plate at the end of the shoe where cards are dealt from to obscure or block the view of the next card to be dealt. These devices have been in widespread use for over twenty years.⁸⁷ "Smart shoes" that track or block the view of the next card have also been introduced into casinos in recent years and can combat advantage play.⁸⁸ Another potential tool that casino operators could use are continuous shuffle machines. Unlike a traditional shoe, where the dealer shuffles the cards once a shoe is finished, continuous shuffle machines do exactly what the name implies; they continuously shuffle the playing cards while play is occurring, with the dealer inserting the used playing cards after play is finished. However, these machines have proved to be unpopular with players, especially bigger money players, and are not immune to advantage play.⁸⁹ Fur-

86. See N.J. ADMIN. CODE § 13:69E-1.18 (2016).

87. See Jacobson, *supra* note 85.

88. See *id.*

89. See Colin, *Are Continuous Shuffle Machines Making Card Counting Obsolete?*, BLACKJACK APPRENTICESHIP (May 9, 2013), <http://www.blackjackapprenticeship.com/continuous-shuffle-machines/> [<https://perma.cc/3Y4R-BXLC>].

thermore, these machines are an additional cost for casino operators.⁹⁰

Alternatively, a casino could use automatic shuffling machines. However, even the use of these machines is not guaranteed to prevent edge sorting if proper shuffling procedures are not followed.⁹¹ Regulators or casino operators could require a “turn” of some of the cards before they are shuffled either by hand or by machine.⁹² This action would negate the edge sorter’s advantage in a game such as baccarat because the shuffle of the cards would negate any knowledge previously gained by the advantage player. Again, the casino operator could implement this simple measure for little to no cost.⁹³

Another countermeasure that casinos could use if edge sorting is suspected is a mid-shoe shuffle where the cards are shuffled before the cards in a shoe are depleted. Such a countermeasure would only be effective if it also involved a turn of the cards before they are shuffled. Otherwise, the advantage player could still edge sort the cards and conform their play as necessary. For example, New Jersey’s baccarat regulations permit a recut of the cards if the pit boss believes that the cut was improper or would otherwise “affect the integrity or fairness of the game.”⁹⁴ New Jersey regulations offer casinos more options for countermeasures in blackjack to combat card counters.⁹⁵ Regulators could adopt similar regulations

90. *See id.*

91. For example, the Crockfords Club used an automatic shuffler during Ivey’s and Sun’s play, but because the dealer did not turn the cards before placing them in the machine, the edge sorting technique was preserved. *See Crockfords Club Case*, [2014] EWHC 3394 at ¶ 24.

92. A “turn” requires splitting the deck into two halves, and rotating one of the halves 180 degrees before recombining the two halves. *See* Eliot Jacobson, *Is Your Shuffle Procedure All Mixed Up?*, GAMING REPORTS (March 7, 2016, 12:07 PM), <http://www.cdcgamingreports.com/commentaries/is-your-shuffle-procedure-all-mixed-up/> [<https://perma.cc/UJG9-7VW6>].

93. Gaming regulators often have precise steps that must be taken to properly shuffle cards before they may be used in play. *See, e.g.*, N.J. ADMIN. CODE § 13:69F-3.5 (2016) (“Shuffle and cut of the cards.”).

94. N.J. ADMIN. CODE § 13:69F-3.5(f) (2016).

95. Similar to baccarat, a pit boss overseeing a blackjack table may require a recut of the cards if they are not satisfied with the cut. *See* N.J. ADMIN. CODE § 13:69F-2.5(g) (2016). Additionally, a casino may employ a “Bart Carter” shuffling method, use a continuous shuffler machine (as discussed), shuffling at will, allowing a casino to shuffle after any round of play, and increasing the number of decks of cards in a shoe. *See* *Campione v. Adamar of New Jersey, Inc.*, 714 A.2d 299, 306 (N.J. 1988). A “Bart Carter” shuffle “means a shuffling procedure in which approximately one deck of cards is shuffled after being dealt, segregated into separate stacks and each stack is inserted into premarked locations within the remaining decks contained in the dealing shoe.” N.J. ADMIN. CODE § 12:69F-2A.1 (2016).

for baccarat, giving casino operators more flexibility, and greater range of abilities, in preventing edge sorting.

C. Other Options

Casinos may still have other options available when it comes to edge sorters, including exclusion and refusing to pay winnings to the advantage players. As a category two form of advantage play, exclusion is an option in only some jurisdictions. Whether a patron has a protected right of entry in a casino will vary widely by jurisdiction and the courts have not explored this issue in the context of edge sorting. However, some analogies can be made with card counters. The Supreme Court of New Jersey held that the Casino Control Act precluded a casino from excluding a player for counting cards because the New Jersey Casino Control Commission had not exercised its exclusive authority to determine whether card counters should be excluded.⁹⁶ Following that decision, the New Jersey Casino Control Commission did not issue a regulation that allowed casinos to exclude card counters, but it did authorize the use of countermeasures.⁹⁷ Thus, absent some regulation in New Jersey, Atlantic City casinos probably cannot exclude card counters.⁹⁸ Conversely, the United States District Court for the District of Nevada held that Nevada's gaming regulations did not impose an affirmative obligation to compel casinos to admit persons thought to be card counters, and that no state action was implicated by a casino excluding such a player from a gaming establishment.⁹⁹ The courts in New Jersey and Nevada may apply similar logic to edge sorters. A casino in Reno or Las Vegas would almost certainly be permitted to exclude a suspected edge sorter from the casino premises. To date, neither the New Jersey Casino Control Commission nor the Division of Gaming Enforcement have promulgated guidelines or regulations concerning edge sorting, so edge sorters may have a protected right of entry in Atlantic City casinos, absent some further action from the regulators. However, it is equally likely that Atlantic City casinos would be permitted to implement countermeasures similar to those allowed to stop card counters.

Lastly, casinos could seek to refuse payment to edge sorters, either under a contract theory of good faith and fair dealing or

96. See *Uston v. Resorts Int'l Hotel, Inc.*, 445 A.2d 370 (N.J. 1982).

97. See *CABOT & MILLER*, *supra* note 1, at 226.

98. However, New Jersey regulations permit casinos to exclude cheats from their premises. See N.J. ADMIN. CODE § 13:69G-1.3(4)(i) (2016).

99. See *Uston v. Hilton Hotels Corp.*, 448 F. Supp. 116 (D. Nev. 1978).

based on a theory that the conduct amounts to cheating. As noted, there is scant to no case law on the topic.

In the *Crockfords Club Case*, the judge concluded that edge sorting constituted cheating under the civil law, and thus the casino was not obligated to pay, but expressly declined to opine whether edge sorting was a criminal act of cheating.¹⁰⁰ Interestingly, that same judge concluded that it is “immaterial that the casino could have protected itself against [edge sorting] by simple measures.”¹⁰¹ In reaching his decision, the judge also rejected the claim that Ivey and Sun’s deceptive tactics were not of the kind “as to vitiate the gaming contract” and likened the conduct to “legitimate gamesmanship” such as a “shrewd” blackjack player “pretending to be a fool” to influence the play of others.¹⁰²

In the Borgata lawsuit, the casino advanced arguments that Ivey and Sun “misrepresented their true motivations in order to perpetrate a scheme to defraud Borgata” and that these claims constitute common law fraud, conspiracy to commit fraud, and meet the elements of criminal racketeering activity.¹⁰³ These claims survived a motion to dismiss, but only the contract-based claims were ultimately successful at the trial court level, with the court rejecting the fraud and RICO claims.¹⁰⁴ Because the New Jersey gaming regulators have not issued an opinion as to whether edge sorting violates a patrons obligation under the gaming contract and the Casino Control Act, Judge Hillman needed to decide whether Ivey and Sun’s violation of the Casino Control Act vitiated the gaming contract because they did not comply with their obligation to play baccarat within the strictures of the Casino Control Act.¹⁰⁵ This is the first such decision to hold that edge sorting breached a patron’s obligations under a gaming contract and it remains to be seen whether Ivey and Sun will choose to appeal Judge Hillman’s decision. If the reasoning is upheld or adopted by other gaming jurisdictions, it could provide casinos with another tool in their arsenal in combatting edge sorting by giving them the ability to refuse to

100. *Crockfords Club Case*, [2014] EWHC 3394 at ¶ 51. However, this ruling is currently under appeal. See Gallagher, *supra* note 48.

101. *Crockfords Club Case*, [2014] EWHC 3394 at ¶ 51. Under this theory, the fact that both the Borgata and Crockfords Club granted the specific requests of Ivey and Sun and could have taken countermeasures would not factor into the casino’s obligation to pay money won by edge sorting.

102. *Id.* at ¶ 40.

103. *Marina Dist. Dev. Co., LLC v. Ivey*, 93 F. Supp. 3d 327, 341 (D.N.J. 2015).

104. See *Marina Dist. Dev. Co., LLC v. Ivey*, No. 14-2283 (NLH/AMD), 2016 U.S. Dist. LEXIS 146084 *33-*34 (D.N.J. Oct. 21, 2016).

105. See *id.* at *15.

pay patrons engaged in such schemes based on a violation of the gaming contract.

VII. CONCLUSION

While edge sorting has not received the same level of attention from regulators, gamblers, and Hollywood, as card counting has, it is a serious form of advantage play occurring at casinos all over the world. As evidenced by the three cases discussed in this article, a skilled edge sorter can win millions of dollars in just a short amount of time. This is a topic that deserves more attention and scrutiny, and this article is merely a starting point for that conversation. As outlined above, there are many steps that both casinos and regulators can and likely should take to proactively combat edge sorting. Some of these steps would be new, and would likely require regulations to be promulgated, while others are simple (and inexpensive) measures that are already within the casinos' authority. With the huge sums of money at stake, is this something that casinos and regulators want to leave to the turn of a card and a perceptive eye?

