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Manipulation in Political Prediction Markets

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I. INTRODUCTION

Political prediction markets captured the public’s imagination during the 2008 U.S. presidential election cycle.\(^1\) Political prediction markets are a relatively
new market mechanism in which members of the public can trade political event contracts, which are financial agreements that yield payments based on the outcome of uncertain events such as the nomination or election of a particular candidate. Popular interest and optimism about the potential of political prediction markets reached a pinnacle with the success of these markets in predicting milestones during the 2008 U.S. presidential election. One of these markets predicted the exact final Electoral College vote counts for each presidential candidate. Another market predicted from the start of the presidential race that the Democratic nominee would win the 2008 popular vote. Moreover, political prediction markets predicted the 2008 presidential election results more accurately than conventional forecasting methods such as polling and expert opinion analysis.

The excitement surrounding political prediction markets has been tempered, however, with concerns about manipulation or attempted manipulation in these markets. Fear of manipulation may constitute the greatest concern that observers have about political prediction markets. Currently, no laws in the United States clearly regulate political prediction markets.

The only explicitly legal political prediction markets in the United States are hosted through the Iowa Electronic Market (“IEM”). The IEM is a non-profit

nytimes.com/tag/prediction-markets/ (last visited Nov. 22, 2008).

2 This Article uses the term “prediction market” because this appears to be the preferred term in the growing literature. Georgios Tziralis & Ilias Tatsiopoulos, Prediction Markets: An Extended Literature Review, 1 J. PREDICTION MARKETS 75, 75 (2007) available at http://gtziralis.googlepages.com/PredictionMarkets_AnExtendedLiteratureReview_TziralisTatsiopoulos.pdf.


7 For example, whereas the Iowa Electronic Market predicted the final vote count in the 2008 presidential election to within a half percentage point, the average absolute error by public opinion polls was 1.2%. Press Release, Henry B. Tippie Coll. of Bus., Univ. of Iowa, IEM Within Less Than Half Percentage Point in Presidential Race Prediction, Nov. 24, 2008, http://tippie.uiowa.edu/news/story.cfm?id=2058.

8 See discussion infra Part III.


prediction market exchange that permits limited real-money trading. Event contract trading on the IEM is permitted by virtue of two no-action letters issued by the Commodity Futures Trading Commission (“CFTC”). Intrade, which is one of the most well-known for-profit, real-money political prediction market exchanges, is incorporated in Ireland. The absence of a legal framework has suppressed the development of these markets in the United States, and has arguably reduced the opportunities that these markets have to encourage broader participation, aggregate information, and improve decision-making. Numerous participants in the prediction market industry have pleaded for regulatory clarity.

In the spring of 2008, the CFTC sought public commentary in the form of a Concept Release on the appropriate regulatory treatment of event contracts traded on prediction markets generally. The CFTC issued this call for public comment in response to a “substantial number of requests for guidance on the propriety of trading various event contracts under the regulatory rubric of the Commodity Exchange Act (“CEA” or “Act”).” Leaders in the prediction market industry are hopeful that legal clarity from the CFTC will improve public confidence in these markets and increase market liquidity through a significantly higher volume of trading.

As part of its review, the CFTC is currently examining whether political event contracts should be prohibited, or deserve special treatment, under the CEA, “due to the nature and importance of their outcomes.” The CFTC is also analyzing whether any types of market participants or trading practices exist on prediction markets generally that should be prohibited or closely monitored by regulators. The agency was expected to issue a response to questions posed in the Concept Release during 2009 in the form of an interpretive statement, a proposed rulemaking, or an exemptive order, but as of early 2010 the agency has issued no response at all.

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13 Id.
15 See Arrow et al., supra note 3, at 877–78.
16 Id. at 878.
19 Id.
20 Zumbrun, supra note 4.
22 Id. at 25,674.
23 E-mails from Bruce Fekrat, Special Counsel, Office of the Director, Division of Market
Prediction market scholars disagree about whether the CFTC legally can regulate public prediction markets generally under the CEA, or whether state gambling laws should regulate these markets. This Article does not address these questions. Rather, this Article argues that if the CFTC acquires jurisdiction over political prediction markets specifically, it must abandon the CEA’s anti-manipulation jurisprudence toward these markets. This argument is raised because the CEA’s regulatory rubric is incoherent when applied to the types of activities and effects that market analysts, participants and observers consider manipulative in political prediction markets.

The incoherence results because the concepts of artificial price and specific intent to influence market price that are central to the CEA’s anti-manipulation jurisprudence are inapplicable in the context of political prediction markets. After abandoning the CEA’s anti-manipulation jurisprudence, the CFTC will have at least three options with regard to regulating the manipulation we worry about in political prediction markets: it can develop a revised anti-manipulation doctrine with elements that are coherent when applied to political election markets; it can encourage private contracting between market participants to prohibit certain trading activities; or it can take no action and simply allow political prediction markets themselves to control manipulation through self-deterrence mechanisms.

Part II of this Article offers a brief background to prediction markets generally. Part III catalogues five examples of activity considered manipulative in political prediction markets, and draws conclusions about the types of trading activities that trouble market analysts. Part IV addresses the CEA’s current anti-manipulation jurisprudence, and explains why this jurisprudence is incoherent when applied to manipulation in political prediction markets. Part V suggests three alternatives to the CEA’s anti-manipulation jurisprudence to control manipulation in political prediction markets: a new regulatory scheme, private contractual enforcement, or self-deterrence. Part VI concludes by urging the CFTC, if it acquires jurisdiction over political prediction markets, to exercise oversight by developing new principles applied to these markets.


restraint in the regulation of manipulative trading, in order to promote further experimentation and development of these markets.

II. BACKGROUND TO PREDICTION MARKETS

Public prediction markets, of which political prediction markets are a type, are markets in which members of the public can trade event contracts, which are financial agreements that yield payments based on the outcome of uncertain events.\(^26\) A public prediction market is contrasted with a private or “in-house” prediction market, where the prediction market is only open to members of a particular firm.\(^27\) The uncertain event that lays the foundation for the event contract on a public prediction market can range from the results of a presidential election to the occurrence of a scientific discovery to the length of a celebrity marriage.\(^28\)

A typical event contract in a political prediction market specifies a single uncertain event as follows: “Barack Obama to be elected President of the United States in 2008.” Only two possibilities exist for the outcome of this contract: either Barack Obama will be elected President of the United States in 2008, or he will not. This type of event contract is known as a binary-option contract.\(^29\) and it is the most prevalent type of event contract traded today. The name reflects the fact that there are only two possibilities for the outcome of the contract.

To participate in a typical public prediction market, a buyer purchases a binary-option contract from a market sponsor such as the IEM or Intrade, which issues contracts linked to various event outcomes and facilitates trades between buyers and sellers.\(^30\) The price that the buyer pays for the contract indicates the lowest probability at which the buyer thinks the event will occur (the buyer wants to buy the contract for the lowest possible price).\(^31\) The seller will sell the share at a price that exceeds his purchase price, and the seller’s willingness to sell the contract at the buyer’s offered price indicates the highest probability at which the seller thinks the event will occur (the seller naturally wants to obtain the highest price possible for the sale of the contract).\(^32\) When all of the event contracts for a

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\(^{26}\) Arrow et al., supra note 3, at 877. For additional background information, see generally, e.g., Miriam A. Cherry & Robert L. Rogers, Markets for Markets: Origins and Subjects of Information Markets, 58 Rutgers L. Rev. 339 (2006) (providing in-depth introduction to prediction markets).

\(^{27}\) Bell, Private Prediction Markets, supra note 24, at 14.


\(^{29}\) Id. Binary-option contracts are traded on both the IEM and Intrade.

\(^{30}\) These market sponsors, which are often online forums, are analogous to the clearing houses familiar in the commodity futures contract trading context. See generally U.S. Commodity Futures Trading Commission, The Economic Purpose of Futures Markets and How They Work http://www.cftc.gov/educationcenter/economicpurpose.html (last visited Feb. 2, 2010) (“Futures trades that are made on an exchange are cleared through a clearing organization (clearing house), which acts as the buyer to all sellers and the seller to all buyers.”).

\(^{31}\) See generally Michael Abramowicz, Information Markets, Administrative Decisionmaking, and Predictive Cost-Benefit Analysis, 71 U. Chi. L. Rev. 933, 934-44 (2004) (“The prices at which these transactions occur, as well as the bid and ask prices, reflect market predictions of the eventual payout and thus of the number or numbers on which that payout is based.”).

\(^{32}\) Id.
specific event are aggregated on a prediction market, the price of the event contract on the market represents the average perceived likelihood that the event will actually occur—this is the “aggregated expected probability” of the event.33

For example, the buyer selects the event in which she is interested—“Barack Obama to be elected President of the United States in 2008.” This binary-option contract will pay $1 if Barack Obama is elected, but will pay $0 if he is not elected. Therefore, if the buyer purchases the contract for $0.85, the buyer has expressed her belief that Barack Obama has an 85% or greater chance of winning the 2008 U.S. presidential election. By selling the contract for $0.85, the seller has indicated his belief that the price of the Barack Obama contract will not exceed $0.85, and that Barack Obama has less than an 85% chance of being elected. If Barack Obama is actually elected, the buyer will receive $1, thus making $0.15 profit on that event contract. Market participants who bought contracts favoring other presidential candidates will receive nothing.

The virtues of public prediction markets are manifold. Functioning as “information aggregation vehicles,”34 prediction markets may boast predictive accuracy exceeding the precision of other predictive processes such as deliberation,35 polling, or expert opinion-making.36 For example, one research study found that political prediction markets are more accurate long-run forecasting tools in political elections than political polls both across elections and across long periods of time preceding elections.37 This study aggregated over 964 polls from the five U.S. presidential elections since 1988, and concluded that the political prediction market was closer to the final two-party vote split 74% of the time.38 This study also concluded that the political prediction market significantly outperformed the polls in each of these elections when forecasting more than 100 days in advance of the election.39

Cass Sunstein argues that this predictive accuracy arises because prediction markets provide incentives for the disclosure of information.40 He theorizes:

Precisely because many people are making purchasing decisions, their aggregate

35 SUNSTEIN, supra note 9, at 104.
38 Id. at 287.
39 Id.
40 SUNSTEIN, supra note 9, at 104.
judgments are highly likely to be correct, at least if most purchasers have relevant information. And simply because purchasers are purchasers, and hence are willing to put money on the line, they probably do have some such information, at least most of the time. . . . When people are willing to put their money where their mouth is, there is an increased likelihood that they will be right.\footnote{Id. at 121.}

The information aggregation feature of prediction markets is enhanced by the fact that these markets have the potential to be completely objective since “they provide financial incentive for honest predictions.”\footnote{Abramowicz, supra note 31, at 971. For a famous version of the argument that betting encourages the expression of objective belief, see generally IMMANUEL KANT, CRITIQUE OF PURE REASON 687 (Paul Guyer & Allen W. Wood eds., trans., 1998).}

Information aggregation can occur quickly, which is another virtue of the markets.\footnote{Joyce E. Berg et al., The Iowa Electronic Markets: Stylized Facts and Open Issues, in INFORMATION MARKETS: A NEW WAY OF MAKING DECISIONS 142, 152 (Robert W. Hahn & Paul C. Tetlock eds., 2006), available at http://reg-markets.org/admin/authorpdis/redirect-safely.php?fnname=./pdffiles/phpoY.pdf; see also Yiling Chen et al., Information Markets vs. Opinion Polls: An Empirical Comparison 9 (Working Paper, 2005) (“[I]nformation markets can provide real-time predictions, which are hardly achievable through resorting to experts.”).} For example, on November 8, 1995, at 8:10 a.m. CST, Colin Powell announced that he would be holding a press conference later that afternoon, but revealed no explicit information about the content of that conference.\footnote{Id. at 152.} Traders on the IEM reacted quickly to this announcement, and within minutes the price of the Colin Powell Nomination Market for the 1996 Republican National Convention dropped from $0.60 to almost zero.\footnote{Id.} This drop occurred more than seven hours in advance of the press conference at which Powell actually made the announcement that he would not campaign for the nomination.\footnote{Id.}

While rapid information aggregation is the most prominent virtue of public prediction markets, scholars postulate other virtues as well. Public prediction markets may promote free speech,\footnote{See Cherry & Rogers, supra note 10, at 835, 875.} democratic deliberation,\footnote{See John O. McGinnis, Who Will Be President?, WALL ST. J., July 11, 2008, at A13; John O. McGinnis, A Democracy of Accelerating Technology 22 (Working Paper, 2008); SUNSTEIN, supra note 9, at vii.} public decision making,\footnote{Robert W. Hahn & Paul C. Tetlock, Using Information Markets to Improve Public Decision Making, 29 HARV. J. L. & PUB. POL’Y 213 (2005).} scientific progress,\footnote{See Bell, Science and the Useful Arts, supra note 24.} and risk management.\footnote{See Arrow et al., supra note 3, at 877.} Given these potential virtues, it is no wonder that some scholars “wish that anything even remotely resembling a prediction market be free to thrive, in order that this important field might enjoy the optimal conditions for growth.”\footnote{Cherry & Rogers, supra note 10, at 835, 878.}

Other commentators, however, are more cautious in their enthusiasm for prediction markets. For example, one scholar has observed that prediction markets are valuable only as long as they maintain a competitive advantage in making
accurate predictions relative to other forecasting models—"[a] highly accurate set of prediction markets has little value if some other meta predictive mechanism(s) can provide similar accuracy at a lower cost, or if very few substantial decisions are influenced by accurate predictions on its topic."\(^{53}\)

Another concern is that prediction markets may merely reflect information that is already available, rather than actually predict new information.\(^{54}\) In one recent study, economists postulated that the 2008 U.S. presidential prediction markets merely reacted to the release of polling information, and did not actually anticipate any significant changes in voter sentiment.\(^{55}\)

Moreover, prediction markets may be susceptible to various types of “foul play,” including lying, sabotage, embezzlement, retribution, vulnerability to bubbles or information cascades, bias, or other possible weaknesses.\(^{56}\) Market observers are also concerned about particular applications of prediction markets, such as those used to predict terrorist attacks, assassinations, and nuclear missile attacks.\(^{57}\)

This Article does not address these concerns, but rather focuses on the legal concept of manipulation as it pertains to trading activities on political prediction markets. Part III offers five examples of activities and effects that market analysts have considered manipulative in political prediction markets.

III. EXAMPLES OF MANIPULATION IN POLITICAL PREDICTION MARKETS

Over the past several years, political prediction market analysts in the popular media and academia have identified activities constituting manipulation in these markets. Most commentators identifying manipulated markets have not explicitly defined the term manipulation. However, it appears that all of these commentators have implicitly adopted the definition of manipulation recently asserted by Paul W. Rhode and Koleman S. Strumpf.\(^{58}\) Rhode and Strumpf define manipulation in political prediction markets as a “speculative attack that achieves its objective of changing prices” that is “usually not possible unless the trades

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\(^{53}\) CFM = Prediction Markets, supra note 33.

\(^{54}\) See ABRAMOWICZ, supra note 24, at 38.


\(^{56}\) See generally Yiling Chen et al., Bluffing and Strategic Reticence in Prediction Markets 1 (Working Paper, 2007) available at http://www.yiling.seas.harvard.edu/files/wine082.pdf (“[T]here exist circumstances when traders can benefit by either hiding information (reticence) or lying about information (bluffing).”); Robin Hanson, Foul Play in Information Markets, in INFORMATION MARKETS, supra note 43, at 126, 130 (analyzing various forms of foul play in prediction markets); Note, Prediction Markets and Law, supra note 9, at 1221-24 (identifying situations where prediction markets “go wrong”).

\(^{57}\) See generally SUNSTEIN, supra note 9, at 106-08 (providing background information on the controversial Policy Analysis Market).

influence the beliefs of other market participants.” A speculative attack is “any trade uninformed by fundamentals, intended to change prices,” and a fundamental is “any information that influences the underlying value of the contract.”

Pursuant to this definition, political prediction market commentators find in the five examples below that attempted manipulation has occurred when it appears that a trader has purchased contracts attempting to influence the perception that other people have about the viability of a particular candidate. Manipulation is successful when these perceptions actually are influenced. The manipulative trader does not necessarily purchase contracts with the hope of making a profit. In fact, the manipulative trader often loses money on the trade, even intentionally, and is unable to affect the price of the contract substantially or in the long-term.

A. September/October 2008: “John McCain Wins Presidency” Contracts on Intrade

In September and October, 2008, trading activity occurred in the John McCain contract on Intrade that raised concerns. As Intrade CEO John Delaney described the questionable trading, “[m]ultiple large volume Buy orders placed and matched rapidly caused the McCain market to move significantly above the previously prevailing market price by up to 10 pts,” while at the same time “[m]ultiple large volume Sell orders placed and matched rapidly caused the Obama market to move significantly below the previously prevailing market price by up to 9 pts.”

From a public relations perspective, Delaney analyzed these transactions by explaining that a single “institutional” investor on Intrade had purchased a large number of McCain contracts in order to “manage certain risks.” Other market observers, however, described the trading as “manipulative.” The New York Times reported that the price of McCain contracts on Intrade was up to ten points higher than the price of McCain stock on other large online prediction markets such as Britain’s BetFair market. The discrepancies between the same types of contracts on different election prediction markets raised concerns about the integrity of these markets.

One commentator observed that this price discrepancy between the different public prediction markets created arbitrage opportunities. This type of
opportunity was found on September 24, 2008—the Obama contract on Intrade was trading at 52.3, suggesting that Obama had a 52.3% chance of being elected president.66 At the same time, on the BetFair prediction market site, Obama contracts were trading at 1.62, suggesting that Obama had a 61.7% chance of winning the presidency.67 A savvy investor could make a substantial profit by purchasing Obama contracts for a lower price on Intrade and then selling them for a higher price on BetFair.

The Wall Street Journal observed that in addition to price disparity with other markets, McCain contracts were being traded at high volume during unusual times, such as early in the morning, during periods of relative political calm.68 Such timing raised concerns that a manipulator’s hand was involved.

The New York Times offered a “political explanation” for the increased value of McCain contracts to explain the trading activity of those contracts:

The political explanation—that someone was trying to game the system to give Mr. McCain some momentum—has the advantage of at least appearing rational to economists. Increasing a candidate’s perceived standing would be something of value to offset the irrational decision to waste money buying a share in Mr. McCain for more than the absolute minimum price.69

Similarly, Justin Wolfers of the University of Pennsylvania’s Wharton School of Business noted that whoever bought the large number of McCain contracts was “obviously someone who want[ed] good news for McCain.”70 As reported in the Wall Street Journal:

[The trader placing the suspicious orders moved the contracts to price levels that weren’t sustained, so it’s nearly impossible that they made money on the transaction. That suggests to us that the trader had an ulterior motive, such as a desire to raise Sen. McCain’s stock and alter the public perception of how the horserace was unfolding.]71

The fact that the non-manipulative prediction market participants quickly identified the manipulative inflationary trading of the McCain contract meant that the manipulative trader likely lost thousands of dollars.72 This suggests that the manipulative trader had incentives that went beyond financial gain from the market.

Highlighting the possibility of unsavory motivations held by manipulative traders, Nate Silver of the political blog fivethirtyeight.com observed that on

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66 Silver, supra note 65.
67 Id.
69 Cohen, supra note 63.
71 Rothschild & Wolfers, supra note 68.
September 22, 2008, a “rogue trader” who bought large volumes of McCain contracts was also purchasing Hillary Clinton contracts. Silver hypothesized that “someone is betting on some sort of disqualifying event happening to Obama,” and he encouraged the FBI to uncover the rogue trader’s identity.

These various analyses suggest that whereas a rational economic actor would not risk losing money by purchasing McCain contracts for more than their market value, a rational political actor would purchase a large number of McCain’s Intrade contracts to make the probability of a McCain victory appear higher to outside observers. The goal of the manipulative trader would be to influence the beliefs that other market observers had about the viability of McCain’s candidacy.

B. May 2007: “Hillary Clinton Wins Presidency” Contracts on Intrade

In May 2007, economist Eric Zitzewitz observed that the “Hillary Clinton for President” contract, which had been trading consistently between twenty-three and twenty-six points on Intrade, suddenly increased to forty points around May 12. With her odds of winning the Democratic nomination hovering around fifty percent, these numbers implied that, if nominated, Hillary Clinton’s chance of winning the presidency would be about eighty percent. Zitzewitz noted that this price was “clearly ridiculous” for two reasons: first, “[y]ou could sell the President contracts of Hillary, Obama, Gore, and Edwards for a combined 69 and buy the ‘Democrat to win’ contract for 56,” and second, “[s]ince there was no movement in the nomination contract, the conditional probability of Hillary was now a ridiculous 40/52 = 77%, while the conditional probability of ‘Not Hillary’ was 16/48 = 33%.” The first reason raised red flags because it defied logic why an aggregated bundle of contracts indicating that one of the four major Democratic candidates would win the presidency would cost substantially more than a single contract predicting generally that a Democrat would win. The second reason was odd because the conditional contract predicting that Clinton would win the presidency if she were nominated suggested that Clinton was a significantly more popular candidate than the contract predicting the likelihood of her nomination suggested.

Additionally, Zitzewitz observed that the “Hillary Clinton for President” contract price stayed at forty points for about a week on higher than normal volume, suggesting that someone was putting a very large amount of money into the market and sustaining that investment at a high level. Overall, Zitzewitz

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73 Silver, supra note 65.

74 Id.

75 Id. (“Still, if I were the Secret Service FBI (**), I would probably want to know the identity of this trader.”).


78 Zitzewitz, supra note 76.

79 Id.
concluded that this market participant spent $10,000 to increase the price of “Hillary Clinton for President” contracts by twelve points over the course of two weeks.80

Similar to the John McCain contract above,81 the question arises whether a Hillary Clinton supporter was trying to manipulate the market to make Clinton’s success in the market a self-fulfilling prophecy at the polls, or whether a rival candidate was trying to make the Clinton camp look manipulative.82 At any rate, astute Intrade investors who noticed the overvalued “Hillary Clinton for President” contracts had the opportunity, even two weeks after the start of the allegedly manipulative activity, to make “free money” by selling their contracts purchased before the activity at the “true” price of twenty-six points to other market participants who bid for “Hillary Clinton for President” contracts valued at thirty-three points and higher after the attempted manipulation.


Prediction market analysts also observed attempted manipulation in the fall of 2004 “George W. Bush Wins Presidency” contracts on TradeSports (formerly part of Intrade).83 Economists Paul Rhode and Koleman Strumpf summarize the trades as follows:

Shortly after 2:30 pm (EDT) on Friday, October 15, 2004, the TradeSports odds price on the re-election of President Bush began to fall precipitously. From a plateau of 54 points at 2:30 pm, a series of thirty trades in less than a second dropped the price to 48 at 2:31 pm. After stabilizing for two minutes, another rapid set of trades led prices to tumble to 10 at 2:33 pm. Thus prices fell by 44 points in just three minutes, suggesting that Bush went from a slight favorite to serious underdog.84

Rhode and Strumpf note that the manipulator spent around $20,000 in an attempt to alter the market, but likely did not make any profit from his efforts.85 The price impact of these trades was reversed within twenty-four hours.86 Discussing the trader’s motivations, one commentator suggested, “either someone was drunk, or a political hack made a crass attempt to change the odds.”87 Rhode and Strumpf wrote:

This sharp drop was the most dramatic of a series of trades that National Review Online blogger Donald Luskin soon charged were politically-motivated speculative attacks on Bush futures “to sway the election towards Kerry.” Reports circulated

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80 Harford, supra note 77.
81 See supra Part IV.A.
82 Id.
83 Rhode & Strumpf, supra note 58, at 2-3.
84 Id.
85 Id. at 35, 37.
86 Wolfers & Zitzewitz, supra note 36, at 23.
87 Harford, supra note 77.
that George Soros was behind the October 15 plunge as well as earlier bear raids on Bush. Such rumors gained currency when a TradeSports press release, publicized in Wall Street Journal and Time, confirmed that the large trades of a single investor produced the October 15 price moves. The press release asserted “Bush contract has become the battle ground of wills between a cadre of large, well financed rogue traders seemingly bent on driving down the Bush re-election contract and a growing list of financial traders who think they can predict the outcome of this election.”

Under the Rhode and Strumpf definition of attempted manipulation, the trader sought to influence the political decisions of market observers, and to use market prices as a means of doing so.

**D. Year 2000: “Patrick Buchanan for President” Contracts on IEM**

Cass Sunstein observed that an attempt to manipulate a political prediction market occurred during the 2000 presidential election. The value of the contracts for Patrick Buchanan increased suddenly after a group of traders bought large volumes of these contracts, but the price soon dropped when other “well-informed traders” sold these contracts for a profit. Sunstein does not define the meaning of attempted manipulation, but from his description it appears that he implicitly adopted the Rhode and Strumpf definition. Sunstein’s description suggests that manipulation involves an effort to increase the price of a candidate’s contracts through high-volume purchasing to signal the candidate’s popularity to other market observers.

**E. Year 1999: “FDP Party to Win Berlin State Election” Contracts on WahlStreet**

Economists Jan Hansen, Carsten Schmidt and Martin Strobel identified unusual trading activity in political prediction markets that were run during the 1999 Berlin state election. Two independent political prediction markets were conducted to predict the outcome of this election. One of these markets, the Wahlboerse market run through the Humboldt University Berlin and the newspaper Berliner Zeitung, took about one week to enroll new market participants. In contrast, the WahlStreet prediction market run through the daily newspapers Der

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89 SUNSTEIN, supra note 9, at 137-38.

90 Id.


92 Id. at 460.

93 Id. at 461.
Tagesspiegel and Berliner Morgenpost enabled new market participants to trade instantly upon enrollment. All three of the newspapers involved published the daily results of the vote share-contracts on the first page of their Berlin editions for six weeks preceding the election.

The headquarters of the liberal Free Democratic Party (“FDP”) party sent out an email message to all Berlin FDP party members eleven days prior to the election. In this email, party members were encouraged to enroll in the Wahlstreet prediction market and to purchase FDP party stock, in order to increase the demand, and thus the price, of the FDP contracts on the Wahlstreet market. Discussing these political stock markets (“PSMs”), the email read:

The Tagesspiegel is publishing a PSM on a daily basis, according to which the FDP is traded at 4.23% at the moment. You find the PSM on the internet at http://berlin.wahlstreet.de. Many citizens do not think of the PSM as a game, but consider it a result of opinion polls. Hence, it is important that the price of the FDP will rise during the last days. As is the case with every exchange, the price level is a result of the demand. Please participate at the PSM and buy FDP contracts. Eventually, we are all convinced of the success of our party.

Shortly after this email was sent, the FDP prices began to increase slowly on the Wahlstreet market, up until the day of the last newspaper announcement of the Wahlstreet prediction price favoring the FDP party. After the final announcement at 4:00 p.m. on the eve of the election day, the FDP price at Wahlstreet fell by thirty percent, suggesting that people had purchased FDP contracts solely to increase the reported probability of an FDP victory. Strikingly, similar price increases did not occur on the Wahlboerse market where enrollment was not instantaneous, as it was on Wahlstreet.

Like the other examples above, the discussion of the 1999 Berlin state election conforms to Rhode and Strumpf’s definition of manipulation. The FDP party organizers sought to influence the beliefs of external market observers by increasing the price of the FDP contract, hoping that a higher contract price would motivate observers to support the FDP at the polls. Rhode and Strumpf note that a manipulator’s actions in increasing the price of a contract “might influence the choice of undecided voters, either directly or through the media.” Because of this influence, some scholars suggest that an extreme solution to avoiding manipulative effects in political prediction markets is to prevent media coverage of

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94 Id.
95 Id. at 460.
96 Hansen et al., supra note 91, at 460.
97 Id. at 460-461.
99 Hansen et al., supra note 91, at 461.
100 Id.
101 Id. at 462.
102 Rhode & Strumpf, supra note 58, at 7.
prediction market results.\textsuperscript{103} It is unlikely that such a solution would be viable or even legal in the United States.\textsuperscript{104}

**IV. THE INCOHERENCE OF THE CEA’S ANTI-MANIPULATION JURISPRUDENCE AS APPLIED TO POLITICAL PREDICTION MARKETS**

The five examples of trading activities in political prediction markets above comply with the Rhode and Strumpf definition of manipulation, which heavily emphasizes the trader’s hope that the trades will influence the beliefs of other market participants through the price changes in the market, regardless of whether the manipulative trader sought to or actually did make a profit.\textsuperscript{105} This concept of manipulation is markedly different from the CEA’s anti-manipulation doctrine.

Whereas the adopted concept of manipulation in political prediction markets depends on the attempt or ability to influence external beliefs, the CEA’s doctrine depends upon the concepts of artificial price and specific intent to influence the market price. In what follows, this Article summarizes the CEA’s anti-manipulation doctrine, and argues that the CEA’s concepts of artificial price and specific intent to influence the market price are incoherent as applied to political prediction markets. No other prediction market commentator has engaged in this type of sustained analysis of why the CEA’s traditional doctrine of manipulation in commodity futures market is incoherent when applied to public prediction markets.\textsuperscript{106} This Article argues that if the CFTC eventually acquires jurisdiction over political prediction markets, it must abandon the CEA’s anti-manipulation jurisprudence in the context of regulating political prediction markets, because the CEA’s regulatory rubric is incoherent when applied to the types of activities that market analysts consider to be manipulation in political prediction markets.

**A. Background to the CEA’s Anti-Manipulation Jurisprudence**

The CFTC operates pursuant to the CEA, which regulates the trading of commodities markets in the United States.\textsuperscript{107} Under the CEA, the CFTC has exclusive jurisdiction over commodity options and commodity futures contracts.\textsuperscript{108}

\textsuperscript{103} Hansen et al., supra note 91, at 462.


\textsuperscript{105} See discussion supra Part III.

\textsuperscript{106} See generally Rhode & Strumpf, supra note 58, at 6-7 (distinguishing “manipulation” in political prediction markets from manipulation in derivative markets because “[t]here are no underlying assets in political stock markets, and so manipulation can only be detected using data from the prediction market alone,” but not justifying this claim or analyzing its legal implications).


\textsuperscript{108} Concept Release on the Appropriate Regulatory Treatment of Event Contracts, 73 Fed. Reg. at 25,670. Section 4c(b) of the CEA gives the CFTC plenary jurisdiction over commodity options, and provides that “[n]o person shall . . . enter into . . . any transaction involving any commodity regulated under this Act which is of the character of, or is commonly known to the trade as, an option . . . contrary to any rule, regulation or order of the Commission [.]” Id. Section 2(a)(1)(A) awards the Commission
If public prediction markets fall under the jurisdiction of the CFTC and are regulated under the CEA, then the question arises whether the CEA’s anti-manipulation jurisprudence can apply to political prediction markets. The CEA does not contain any explicit statutory definition of the term manipulation. However, § 13(a)(2) makes it a felony for “[a]ny person to manipulate or attempt to manipulate the price of any commodity in interstate commerce,” and § 13(b) specifically prohibits “[a]ny person [from] manipulate[ing] or attempt[ing] to manipulate the price of any commodity in interstate commerce, or for future delivery on or subject to the rules of any registered entity.” Congress may have intentionally left the term manipulation undefined, because it wanted to cast a wide net and cover all types of conduct that someone seeking to affect market prices could perform. After all, “[t]he methods and techniques of manipulation are limited only by the ingenuity of man.” The analysis of whether manipulation has occurred in a commodities market is usually highly fact-specific.

Although the CEA’s anti-manipulation jurisprudence has been described as “a murky miasma of questionable analysis and unclear effect,” a four-part test has emerged which federal courts and the CFTC use to evaluate manipulation on commodity futures markets. Under the four-part test, the following elements must be established by a preponderance of the evidence before a court will determine that manipulation has occurred on a commodity futures market: (1) the accused had the ability to influence market prices; (2) the accused specifically intended to influence market prices; (3) artificial prices existed; and (4) the accused caused the artificial prices. Moreover, a claim of attempted manipulation requires proof of the following two elements: (1) intent to affect market prices; and (2) an overt act in furtherance thereof.

The legal test for manipulation and attempted manipulation under the CEA is an extraordinarily difficult test to apply. The difficulty is due to the resource-
intensive investigation required, the complexity between the market variables involved in an artificial price and the mind-reading problems of proving intent, among other challenges.\textsuperscript{119} The conceptual vagueness of these elements makes their application a “daunting, indeed impossible, task for the CFTC staff.”\textsuperscript{120} According to one commentator, manipulation in commodities markets is “virtually an unparsable crime” due to the difficulty of applying the CEA’s anti-manipulation doctrine.\textsuperscript{121} As hard as it is to apply the doctrine to commodity exchange markets, it is downright incoherent to apply the doctrine to political prediction markets.

\textbf{B. The Incoherence of “Artificial Price”}

The elements of the CEA’s anti-manipulation doctrine hinge on the concept of an \textit{artificial price}. There is no single test for what constitutes an artificial price in a commodity futures market. Every test presents its own problems—commodity futures market scholars find that the task of defining what constitutes an artificial price is “a very perilous exercise.”\textsuperscript{122} Despite the difficulties, it appears that three of the predominant tests that courts and the CFTC have developed for “artificial price” in commodity futures markets depend upon the relationship between the futures contract and the value of an “underlying cash asset,”\textsuperscript{123} and two of the tests depend upon a “historical relationship” between similar futures contracts compared against each other in different time periods.\textsuperscript{124} In the political prediction market context, the concepts of underlying cash asset and historical relationships are incoherent. Therefore, the main five tests for artificial price developed under the CEA all fail to analogize meaningfully to political prediction markets.

Regarding the underlying cash asset relationship, the first test defines an artificial price as a price that diverges from basic forces of supply and demand.\textsuperscript{125} The standard technique to determine whether the basic forces of supply and demand are being violated in a commodity futures market is to look for squeezes and corners in the underlying deliverable assets.\textsuperscript{126} A “corner” is a situation where...
a trader “intentionally causes a price to rise by acquiring a dominant position in the futures market and simultaneously achieving sufficient dominance in the cash market ‘to dry up the sources of deliverable goods.’” 127 A “squeeze” is a situation in which “the open interest on the futures market is considerably in excess of the deliverable supplies.” 128 The concepts of corners and squeezes both concern abuses of the basic force of supply and demand, and both concepts are inextricably linked to cash markets for the underlying commodity. Political prediction markets lack this link to a cash market, and thus the supply and demand test is incoherent as applied to political prediction markets.

Moreover, the concept of manipulation based upon a violation of supply and demand forces is itself troublesome. This is because the concept rests on the paradoxical notion that there is no such thing as an artificial price if all market forces that contribute to shaping a price are considered to be part of legitimate supply and demand. 129 As one scholar explains, “After all, the trader is a part of the market. If he believes a commodity is under priced and seeks advantage, who is to say that the resulting price is artificial?” 130

A second test compares the futures price to the cash prices of the commodity. 131 Commodity futures contracts require physical delivery of the commodity as a means of settlement. 132 This requirement is important because it causes futures prices and cash prices to converge. 133 This convergence occurs because arbitrage is profitable when a price disparity exists, but the arbitrage transactions themselves will ultimately force cash and futures price convergence. 134 Whereas a commodity futures contract has a connection to an actual physical commodity that can be delivered in the future or immediately received for cash, the political event forming the basis of the political prediction market contract has no relationship to any underlying physical commodity that can be traded instantly in a cash market or physically delivered in the future. Political prediction markets are even more abstract than futures trading in intangible goods such as stock index futures contracts, because at least with stock index futures the trader “receives a cash settlement based on the theoretical results of his having bought or sold that basket of stocks.” 135 Due to the absence of a cash market basis and delivery in the political prediction market context, this second test is also incoherent when applied to political prediction markets.

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127 Perdue, supra note 118, at 381 n.217 (citing Note, The Delivery Requirement: An Illusory Bar to Regulation of Manipulation in Commodity Exchanges, 73 YALE L. J. 171, 175 (1963)).
128 Cargill, 452 F.2d at 1162.
130 Markham et al., Star Chamber, supra note 118.
131 Kozinn, supra note 124, at 262.
132 Perdue, supra note 118, at 381 n.217.
133 Id. (citing Kenneth D. Garbade & William L. Silber, Cash Settlement of Futures Contracts: An Economic Analysis, 3 J. FUTURES MARKETS 451, 454 (1983)).
134 Id.
Additionally, a third test analyzes the historical price relationship between different Boards of Trade. Under this test, the price of commodity futures contracts in one market during a given time frame is compared with the price of the same type of commodity futures contracts in a different market during the same time frame. This test is problematic when applied to political prediction markets, because these markets lack any cash basis by which to compare market prices. Direct comparisons between the same types of political event contracts in the same time period on different political prediction markets do not account for whether the benchmark of comparison in any of the markets represents the “true” value of the contract. A cash market basis is essential for this third test to provide a meaningful basis of comparison, and the test therefore cannot apply to political prediction markets.

Moving on to the historical relationship puzzle, a fourth test for artificial prices in commodity futures markets compares “the price changes of the suspect contract during the suspect period with price changes of the same type of contract during the same historical period.” Under this test, we compare the contract’s price during the “suspect period” with the contract’s price movements during the same period in earlier years. A fifth test for artificial price in commodity futures markets evaluates “price movement in the spread . . . in comparison to price changes in the previous years’ spreads.” This test compares the price difference between the futures contract in a particular commodity in one given month as well as in the subsequent month.

While these two historical relationship tests may be sensible in commodity futures markets, where the commodities are often agricultural products that are traded seasonally year after year, both of these tests are incoherent in the political prediction market context. This is because the event forming the basis of the political prediction market contract is unique under the strictest meaning of the word. Political events do not have repetitive, cyclical “harvesting” periods. Each particular nomination or election can occur only once.

Although it is true that elections generally occur according to cyclical, predictable schedules pursuant to the expiration of pre-determined terms of office, the infinite distinct variables surrounding a political election thwart direct historical comparison between election cycles, even when the same candidate is involved. It is not fruitful, for example, to analyze the price fluctuations of a “George W. Bush will be elected President in 2000” contract’s price with the price fluctuations of a “George W. Bush will be elected President in 2004” contract’s

136 Kozinn, supra note 124, at 261-62.
137 Id. at 262 n.150.
138 Id. 261-62.
139 Id. at 262 n.147.
140 Id. at 262.
141 Id. at 262 n.148.
142 See generally 7 U.S.C. § 1(a)(4) (2006) (defining “commodity” by listing specific agricultural products along with “all other goods and articles . . . and all services, rights, and interests in which contracts for future delivery are presently or in the future dealt in”).
143 The Oxford English Dictionary defines “unique” as “[o]f which there is only one; one and no other; single, sole, solitary.” OXFORD ENGLISH DICTIONARY (2d ed. 1989).
price. Although both markets concern the same candidate for U.S. President, the political environments and variance in overall candidate pools were different enough to make direct historical price comparison meaningless.

Since the doctrines of artificial price that courts and the CFTC have developed in light of the CEA’s anti-manipulation jurisprudence are incoherent when applied to political prediction markets, the CFTC cannot utilize this jurisprudence if it acquires jurisdiction to regulate political prediction markets. As we see next, the CEA’s doctrinal concept of specific intent to influence market price is also incoherent when applied to political prediction markets.

C. The Incoherence of “Specific Intent to Influence Market Price”

The element of specific intent to influence market price is the most elusive component of the current CEA anti-manipulation doctrine in the commodity futures market context, due to its circumstantial and subjective nature. After all, “it is hard to read people’s minds.”\(^{144}\) Despite the difficulties that arise in defining specific intent to influence market prices in commodities markets, the underlying basic premise is that manipulators intend to affect the market such that they can buy a commodity futures contract at a low price and sell at a high price.\(^{145}\) As we will see, this basic premise is incoherent when applied to political prediction markets, because as illustrated in Part III, manipulative traders in political prediction markets seek to change the price of the contract in order to influence external beliefs about the candidate's viability. In the commodity futures market context, price change for profit is the manipulator’s end in itself. In the political prediction market context, price change for profit or loss is a means to the secondary end of influencing beliefs.

Commodities market scholar Wendy Collins Perdue starts with the basic premise of the CEA’s anti-manipulation doctrine that rational investors try to buy a commodity futures contract at a low price and sell at a high price.\(^{146}\) Perdue explains that a rational, non-manipulative trader seeks to minimize the price impacts of his own trades on the commodity futures markets, because doing so will enable the trader to obtain the best price.\(^{147}\) This is because the rational, non-manipulative trader wants to purchase the contract for the lowest possible price in order to obtain the greatest possible profit upon sale at a higher price.

Perdue suggests that a trader may indicate manipulative intent when the trader purchases a large quantity of a commodity contract and does so in a manner that seems designed specifically to increase the price impact of that purchase.\(^{148}\) Another indication of manipulative intent is “reaching,” which occurs “when the trader makes a bid at a price that is substantially higher, (or lower) than the last bid or transaction.”\(^{149}\) Either activity comports with basic economic rationality,

\(^{144}\) Fischel & Ross, supra note 118, at 519.
\(^{145}\) Perdue, supra note 118, at 393.
\(^{146}\) Id.
\(^{147}\) Id. at 396.
\(^{148}\) Id.
\(^{149}\) Id. at 397.
because it is the manipulative trader’s goal to make a monetary profit off of the market-based trades.

However, Perdue’s analysis is problematic when applied to the context of political prediction markets, because her basic premise—that rational traders on commodities futures markets try to buy low and sell high—does not apply to the manipulation relevant to political prediction markets. As illustrated in Part III, traders in political prediction markets will purchase event contracts in order to influence the beliefs of other market observers, and ultimately policy decisions. It would be politically rational, though not economically rational under the CEA’s manipulation doctrine, for a political prediction market trader to try to force the price of the contract down if the trader’s object was to indicate that a particular candidate was falling out of popular favor. Prediction market scholar Robin Hanson observes that people will make trades on public prediction markets that lose money in order to change prices and therefore policy. 150 Hanson writes, “[e]ven if such trades lost money on average, those losses might be outweighed by gains from more favorable policy.” 151 Whereas manipulation in a political prediction market is rational if it influences external political belief, manipulation in a traditional commodities market is rational only if it results in the trader’s own monetary gain. The two types of manipulation are not analogous.

Ironically, it is likely politically irrational for traders in political prediction markets to structure their trades with the intent to influence beliefs. Empirical research suggests that even the secondary goal of influencing beliefs is not likely to be accomplished through contract trading in political prediction markets. While some prediction market traders engage in trade-based manipulation with the intent to influence external beliefs, an experiment by prediction market researchers suggests that “price manipulation is a largely ineffective strategy for altering the beliefs of investors and other decision makers.” 152 Although the experiment was designed to provide manipulation incentives to some market participants while other participants were “kept in the dark about the direction in which manipulation incentives ran,” the manipulation did not reduce the accuracy of the third party observers’ forecasts. 153 The manipulative trader’s efforts to influence the third parties’ beliefs were ineffective, and the effort was an economic and political waste.

In another prediction market experiment, researchers discovered that within limited boundaries of experimental design, when a non-manipulative market participant suspects the presence of prediction market manipulators and knows the direction in which the manipulators are likely to push the price, the manipulation efforts are ineffective. 154 This experiment was limited to situations in which all the participants knew that prediction market manipulators were present, how strong the incentive to manipulate was, and in which direction the manipulators

150 Hanson, supra note 56, at 128.
151 Id.
153 Id.
had an incentive to push the price.\footnote{Id.}

The authors acknowledge that the experimental conditions of this research should be altered in future experimental designs, to uncover more information about the robustness of prediction markets to manipulative trading designed to influence external beliefs of other market participants or observers.\footnote{Id.} Nonetheless, these studies suggest that it does not matter whether prediction market traders share the same rational basis to buy low and sell high as commodities market traders, because even if prediction market traders trade to influence policy rather than maximize personal economic profits pursuant to the CEA’s anti-manipulation doctrine, such efforts are likely to be ineffective anyway.\footnote{Id.}

This Part has argued that the concepts of \textit{artificial price} and \textit{specific intent to influence market price} as developed under the CEA’s anti-manipulation jurisprudence are incoherent when applied to political prediction markets. Therefore, the CFTC must abandon the CEA’s regime if it acquires jurisdiction over political prediction markets. Part V suggests three different alternatives to the CEA regime to address the issue of manipulation in political prediction markets.

\section*{V. THREE ALTERNATIVES FOR PREVENTING MANIPULATION IN POLITICAL PREDICTION MARKETS}

Part IV demonstrated that the concept of manipulation under the CEA’s anti-manipulation doctrine is incoherent when applied to political prediction markets due to the nature of the concepts of \textit{artificial price} and \textit{specific intent to influence market prices} as developed under the CEA’s jurisprudence. Part V now presents three alternatives to the CEA’s regime that the CFTC can choose to adopt if it acquires jurisdiction over political prediction markets. These three alternatives are: (1) the CFTC can develop a revised anti-manipulation doctrine with elements that are coherent when applied to political election markets; (2) the CFTC can encourage private contracting between market participants to prohibit certain trading activities; or (3) the CFTC can take no action and simply allow political prediction markets themselves to control manipulation through self-deterrence mechanisms.

\subsection*{A. Designing a New Regulatory Regime}

Since the anti-manipulation doctrine involving \textit{artificial price} and \textit{specific intent to influence market prices} under the CEA is incoherent when applied to political prediction markets, the CFTC and courts may develop a new set of tests to apply when analyzing whether a trader has manipulated or attempted to manipulate a political prediction market.

\footnote{These studies generally relate to the notion that trade-based price manipulation in both commodity futures markets and political prediction markets is self-deterring. \textit{See} discussion \textit{infra}, Part V.C.}
One approach is for the courts and the CFTC to develop a set of objective factors that can be observed and discovered *ex post*. The *ex post* approach avoids the “mind reading” exercise typically involved in discerning specific intent. Under the *ex post* approach, where it is found that a trader engaged in specific prohibited practices in the political prediction markets, CFTC regulation would be necessary, but the trader’s intent to influence the beliefs of outside observers would only be relevant at the sanctions stage.

Several *ex post* factors that the CFTC and the courts could analyze to discern whether a trader attempted to manipulate a political prediction markets are 1) whether the purchase price of the contract was substantially above the market price; 2) whether the purchases were made rapidly at increasingly higher prices; 3) whether extremely large purchases were made relative to the market as a whole; 4) whether a single trader spent a significant amount of money on contracts for a single candidate; 5) whether the resulting price of the candidate’s contract after the trade is significantly different from the political poll data for that candidate; 6) whether arbitrage opportunities existed between different political prediction market boards of trade after the attempted manipulative trading has occurred; 7) whether the trader in question is affiliated with a political party; 8) whether the candidate endorses policies that would personally benefit or hurt the trader or parties in privity with the trader; and 9) whether the trader has a history of contributing to political campaigns.

None of these *ex post* factors would be outcome-determinative as to whether the trader attempted to manipulate the political prediction market. However, they at least provide some starting factors that the CFTC and courts could consider in combination when analyzing whether the trader engaged in manipulation with the ultimate intent to influence the beliefs of external market observers.

Rather than prevent market manipulation with criteria that identifies problematic objective behaviors indicative of manipulative intent *ex post*, some scholars argue that unwanted market behavior should be policed *ex ante* through the use of affirmative regulation. Writing in the context of combating manipulation in commodity future markets, Jerry Markham argues that the CFTC should engage in intensive surveillance. This surveillance would continue throughout the life of the commodity futures contract, in order, for example, “to see if large traders are affecting prices through their trades and whether these positions are so large that they should be required to liquidate well before the delivery period.” In addition to this intensive daily surveillance, Markham proposes limits on the amount of short trading that any one commodity futures

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158 See generally Markham, *supra* note 111, at 369 (offering objective factors in the commodity futures market context).

159 Id.

160 See id. (citing CFTC Division of Trading and Markets, *Analysis of Trading in the Chicago Board of Trade’s Major Market Index Futures Contract on October 20, 1987*, at 1-2 (1988)).

161 Id. at 375.

162 Id. at 365.

163 Id.
As a policy matter, Markham argues that strict affirmative regulation is required in the commodity futures market context for the trading public to gain confidence in the “highly innovative and still-growing futures industry.” Markham writes that the alternative to aggressive, affirmative regulation is “to declare that the manipulation of commodity prices is an unpunishable crime in which traders may engage with no regard for the effect upon the consumer and the economy in general.” His tone suggests that it would be disgraceful for our government to concede that manipulation is unpunishable.

Markham’s argument in favor of ex ante affirmative regulation is powerful in the political prediction market context, because public acceptance of the markets as legitimate is crucial if these markets are to grow on a large scale. The mere fact that prediction markets are novel, complex and anonymous causes some concern for market abuse. John Delaney, the CEO of Intrade.com, is concerned enough about the effect of political prediction market “manipulation” on public confidence in these markets that he has solicited feedback on the matter in a public online forum.

Several scholars have posited reasons why manipulation in public prediction markets is troubling. The most emotionally compelling argument against manipulation of prediction markets is that it undermines potential market participants’ belief in the integrity of the market, and therefore discourages them from participating. Eric Zitzewitz points out, “[p]eople have a taste for institutional integrity itself.” Zitzewitz also notes that the possibility for manipulation creates bad incentive effects, and manipulation relies on surprise, which is a source of vexation for honest prediction market participants.

However, Markham’s approach to affirmative ex ante regulation has several drawbacks. First, even Markham acknowledges that the greatest danger from this type of affirmative regulation is that it “might strangle the markets and stifle
innovation.” There is a risk that potential traders will be overly-deterred from participation due to fear of legal repercussions for “questionable” trades. In a newly developing field such as political prediction markets, it is desirable to invite wide participation without threatening participants with stiff regulations that will prevent them from exploring and experimenting with this new market medium.

Second, some commentators fear that Markham’s approach to strong government regulation could obscure the underlying economic information on commodity futures markets. Robert Lower argues, “[w]ith the CFTC acting as a ‘hands-on’ policeman and occasional market participant, the markets could easily become governed by political considerations having nothing to do with the economic factors affecting price.” Political actors would seek to control the price of commodities having a disproportionately influential effect in their constituents’ region.

Lower’s worry suggests that governmental regulatory intervention will obscure the underlying prediction price data, thus resulting in inferior predictive ability of these markets. Analogizing to the political prediction market context, Gary Becker fears that political prediction markets with distorted underlying price data are less reliable as predictors of outcomes. These considerations indicate that aggressive affirmative regulation of prediction markets is not the best solution to manipulation in political prediction markets.

B. Private Contract Solutions

Rather than monitor manipulation in the political prediction market through either ex post or ex ante regulation, the CFTC could encourage private contractual solutions to curb manipulative trading activities. Private contract solutions provide an alternative to aggressive governmental regulation of manipulation in public prediction markets. Gaining insight from the commodities market context, some scholars have argued that governmental regulation of commodity futures market manipulation is unnecessary because the exchanges that offer these futures contracts have a private incentive to regulate manipulation. To attract business, compete with other exchanges, and compete with other securities markets, private exchanges have the incentive to adopt contract terms and trading rules that reduce the costs of manipulation.

This observation is easily applied to the prediction market context generally.

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174 Markham, supra note 111, at 375.
175 See generally Fischel & Ross, supra note 118, at 523 (“Even a seemingly narrow legal rule focusing on ‘clear’ evidence of manipulative intent (assuming such ‘clear’ evidence exists) is unlikely to provide net social benefits. Any rule that addresses the difficult problem of identifying manipulative conduct risks overdeterrence—causing society to bear the costs of foregone beneficial activity.”).
176 Lower, supra note 135, at 397.
177 See id.
178 Id. at 398.
180 Fischel & Ross, supra note 118, at 549.
181 Id.
In fact, Cantor Futures Exchange, L.P. ("Cantor"), presumably in anticipation of imminent CFTC regulation of public prediction markets, recently filed an application with the CFTC to become a fully regulated futures exchange.\(^{182}\) In its application, Cantor expressed its intent to list contracts on domestic movie box office receipts.\(^{183}\) This course of action would constitute a public prediction market in which traders predict the total gross domestic box office receipts in the United States and Canada in U.S. dollars.\(^{184}\) Notably, Cantor’s application includes private contractual provisions to control manipulation on its box office exchange.\(^{185}\)

Box office receipt prediction markets can suffer from the same types of manipulation as political prediction markets. Traders in box office receipt contracts may seek to influence the beliefs of outside observers as to the movie’s commercial appeal and success to persuade others to attend the film in the theater. Unfortunately, Cantor does not define the term manipulation in its application. If the private contractual solutions were applied to political prediction markets, parties would be well-advised to define manipulation clearly to avoid the interpretive difficulties discussed in Part IV.

Although private contracts avoid some of the problems associated with aggressive governmental regulation, these private contractual solutions pose several problems of their own. As Fischel and Ross acknowledge in the commodities market context, “rules designed to prevent the exercise of market power also reduce the return to information about future prices and thus reduce the incentive for market participants to gather such information.”\(^{186}\) This reduction in information gathering incentives would be highly problematic in the political prediction market context, in which the incentive to gather information is one of


\(^{184}\) Id.

\(^{185}\) Id. Under section III-3, Execution of the Pre-Opening Auction, the Contract Rules state: (c) Prior to closing the Pre-Opening Auction, the Exchange will determine . . . whether any bids or offers . . . may potentially be part of a manipulation or attempted manipulation of the relevant DBOR Contract, or may otherwise be in violation of Exchange Rules. In making this determination, the Exchange will consider and examine, among other things, any large quantities that the Exchange determines to be inappropriate, or patterns of orders that might be considered disruptive to the auction process. The Exchange may request, and Participants shall provide, any additional information or documentation reasonably requested by the Exchange in connection with its consideration of these issues. The Exchange shall have the authority to reject or cancel any bids or offers that it determines to be part of a manipulation or attempted manipulation, or that are otherwise not in accordance with the Rules of the Exchange, including these DBOR Contract Rules.

\(^{186}\) Fischel & Ross, supra note 118, at 549.
the prime virtues of such a market.  

Another problem is whether the private contractual rules adopted by the public prediction market exchange will adopt the optimal amount of precautions against manipulation, however it is defined.  

The optimal precaution level against manipulation in private contractual agreement occurs when the marginal private gains equal the marginal private costs, and the private gains and costs approximate the social gains and costs.

In the commodities market context, scholars disagree about whether the level of precautions against manipulation undertaken by private contracting parties will approximate the social gains and costs. On the one hand, some believe this convergence is likely because “traders on the futures market are those who bear most of the costs and receive most of the gains from trading in these markets.”

If the privately contracting traders capture nearly all the benefits or burdens of the trades resulting from private agreement, then the private and social costs do converge almost completely.

On the other hand, some scholars are concerned that the private contractors will not take the optimal amount of precautions because “exchanges do not take into account the interests of those who are affected by futures prices but do not participate in the futures market.” The dispute here is whether the privately contracting traders do in fact capture all (or nearly all) of the benefits of the contract themselves, and whether they need to be concerned with the interests of outside market observers.

Fischel and Ross dispose of this concern by arguing that private contracts formed between traders do take into account the needs of outside market observers. This is because outside observers of commodities markets (such as farmers who look at futures prices to determine how much to plant) participate in spot markets for the commodity. They explain that “[s]peculators in futures markets take positions that ensure that futures prices reflect the information in spot markets (and vice versa)” and that “[t]his interaction between spot and futures markets may provide incentives for exchanges to take the spot market into account in determining what precautions to take.”

The issue of whether privately contracting parties will adopt the optimal level of precautions against manipulation in the political prediction market context raises particular difficulties in light of Fischel and Ross’s theories. First of all, whereas in the commodity futures context it is at least arguable that the privately contracting parties capture nearly all the benefits or burdens of the trades resulting from the private agreement, this notion is false in the political prediction market.

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187 See discussion supra Part II.
188 Fischel & Ross, supra note 118, at 549 n.200.
189 Id.
190 Id. (citing Frank H. Easterbrook, Monopoly, Manipulation, and the Regulation of Futures Markets, 59 J. B.U.S. S103, S113 (1986)).
191 Id.
192 Id.
193 Id.
194 Id.
context. As discussed in Part III, concerns about manipulation in political prediction markets are based upon the influence of the trades on external market observers. Outside observers look at the market prices to analyze the viability of a political candidate, and this can influence the outsider’s own votes. Therefore it is not a colorable argument to suggest that private and social costs will converge completely through private contracting where political prediction markets are concerned.

Secondly, the solution by which Fischel and Ross dispose of the optimal precaution concern cannot be analogized to political prediction markets. Whereas Fischel and Ross argue that the existence of a spot market provides incentives for private contracting parties to adopt the optimal precautions against manipulation in commodity futures markets, there is no analogous spot market for the events underlying political prediction markets. In a commodities market a trader can, for example, simultaneously purchase frozen orange juice concentrate immediately on a spot market as well as purchase futures contracts for the frozen concentrate. In contrast, a trader on the political prediction market cannot simultaneously discern the final vote counts of an actual election while purchasing contracts on the political prediction market for the same exact election.

These failures of analogy between private contractual solution for manipulation in commodity futures markets and political prediction markets suggest that private contracts would not solve the problems of manipulation in political prediction markets. If affirmative government regulation and private contractual solutions both fail in the political prediction market context, perhaps a third solution—self-deterrence—can solve the problem of manipulation in these markets. We now turn to this possibility.

C. Self-Deterrence of Manipulative Trading

In the context of commodity futures markets, Fischel and Ross offer an argument that manipulation on commodity futures markets is self-deterring and thus not in need of a regulatory regime. First, they observe that the acquisition of market power requires a large amount of capital, and this by itself is a deterrent to manipulative efforts. Second, they argue that manipulation on commodity markets is self-deterring because of how risky such efforts are. A manipulator must withhold supplies of a commodity to cause a price increase, but such behavior is risky because after the futures contract expires, the demand is likely to be much more elastic. The manipulator does not necessarily have the ability to obtain a high price for the contract after its expiration. Therefore, the would-be manipulator “has no assurance that the price at expiration will yield him a profit,” and thus attempted manipulations in futures markets are “extremely risky.”

The concept of manipulation on political prediction markets is also likely

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195 See discussion supra Part III.
196 Fischel & Ross, supra note 118, at 547.
197 Id. at 547–48.
198 Id. at 548.
199 Id.
self-deterring. The cost of manipulation is high, the chance of profiting financially is low, and the prices are usually altered for only a short period of time. Alert market participants can profit off the manipulated prices, so the manipulator essentially subsidizes the profit-making ability of the non-manipulators. Moreover, as expressed in Part IV.C, price manipulation is largely ineffective in influencing the beliefs of observers outside the market.

Saul Levmore supports the self-deterrence theory by observing, “[M]uch as there is money to be made in manipulation, there is money to be made in counter-manipulation.” He explains that the market itself will generate “corrective entrepreneurs and activities” that oppose manipulation, and that the free market will “prove superior to government-sponsored regulators even at the task of regulation itself.” The self-deterrence theory concludes that because market forces and private incentives make manipulative attempts costly, risky, and ineffective, market manipulators will be deterred from attempting to engage in such activities. Governmental regulation of these activities would be superfluous, costly, and unnecessary.

VI. CONCLUSION: URGING REGULATORY RESTRAINT

This Article has argued that the CEA’s current anti-manipulation doctrine is incoherent as applied to political prediction markets. Additionally, it has suggested that both aggressive governmental regulation and private contractual solutions are problematic. Self-deterrence within the market structure itself may be the best solution for preventing manipulation in political prediction markets. For this reason, the CFTC should exercise restraint in designing an anti-manipulation regime towards political prediction markets, if it acquires jurisdiction over these markets. Beyond the possibility that self-deterrence is the best solution, this Article concludes with an additional reason why the CFTC should exercise regulatory restraint: empirical experiments suggest that manipulation may actually improve the predictive accuracy of these markets.

Robin Hanson explains that the low impact of manipulation in prediction markets is due to the high level of “noise trades” in these markets. Trades are made in these markets that have nothing to do with the underlying information; rather, trades are made because of mental mistakes, insurance purposes, or other

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200 Id.; see discussion supra Part III.B.
201 Fischel & Ross, supra note 118, at 548; see discussion supra Part III.B.
202 Fischel & Ross, supra note 118, at 548; see discussion supra Part III.C.
203 Fischel & Ross, supra note 118, at 548; see discussion supra Part III.A.
204 See discussion supra Part IV.C.
206 Id. at 602.
207 See discussion supra Part IV.
208 See discussion supra Parts V.A, V.B.
209 See discussion supra Part V.C.
210 Hanson, supra note 56, at 130.
non-informational reasons.\textsuperscript{211} Manipulation is merely another type of noise trading, and those traders holding real information have the opportunity to make a profit off of those participants who are trading for reasons other than for revealing accurate information about the underlying event probability.\textsuperscript{212} Moreover, manipulation “should not add any systematic bias, and the prospect of manipulation should increase liquidity and thus reduce noise overall.”\textsuperscript{213}

Hanson observes that non-manipulative participants will alter their behavior in two ways to profit off of the manipulative or “noise traders.” First, they will trade at a higher volume for any information they hold because doing so will increase their expected profits.\textsuperscript{214} Second, and most significantly, they will increase their efforts to obtain relevant and accurate information to beat the price set by the manipulative trader.\textsuperscript{215}

The second behavior is important because these efforts to obtain accurate information mean that on average, more noise trading should \textit{increase} price accuracy.\textsuperscript{216} Hanson explains that empirically “it seems that financial and information markets with more noise trading, and hence a large trading volume, tend to be more accurate, all else being equal.”\textsuperscript{217} This is because the presence of manipulative traders induces more effort by informed traders, and this explains the typical failure of most manipulation attempts.\textsuperscript{218}

In one of Hanson and Oprea’s empirical studies, the authors discovered that in a thin prediction market with a known manipulator possessing definite price objectives, the presence of the manipulator actually \textit{increased} the accuracy of the market price.\textsuperscript{219} The presence of a manipulator motivated other traders to gather information, and this additional information resulted in greater expected financial rewards for the non-manipulative traders.\textsuperscript{220} The manipulator’s known presence therefore “indirectly \textit{increases} the accuracy of the market price as an estimate of fundamental asset value.”\textsuperscript{221} Although their experiment focused on thin prediction markets, Hanson and Oprea note that the largest financial markets have the most accurate information and prices because other traders who anticipate a large volume of noise trades in the larger market will change their trading behavior in

\begin{itemize}
\item \textsuperscript{211} See id.
\item \textsuperscript{212} See id.
\item Hanson, \textit{supra} note 56, at 130.
\item Id. at 131.
\item Id. (citing Joyce Berg et al., \textit{What Makes Markets Predict Well? Evidence from the Iowa Electronic Markets}, in \textit{Understanding Strategic Interaction: Essays in Honor of Reinhard Selten} 444–64 (Wulf Albers et al. eds., 1996)).
\item Hanson & Oprea, \textit{supra} note 169, at 3.
\item Id.
\item Id.
\item Id. at 4.
\end{itemize}
response.\textsuperscript{222}

These empirical findings indicate that manipulation might actually be \textit{good} for political prediction markets. Additional research is needed, but in the meantime such data suggests that the CFTC, if it acquires jurisdiction, should not hastily seek to regulate apparently manipulative trading on political prediction markets if doing so will prevent these markets from reaching their most accurate potential.

\textsuperscript{222} \textit{Id.} at 12.