Ilya Beylin
Associate Professor
Seton Hall Law School
1109 Raymond Blvd.
Newark, NJ 07102

Christopher Kirkpatrick,
Secretary of the Commission,
Commodity Futures Trading Commission,
Three Lafayette Centre,
1155 21st Street NW,
Washington, DC 20581

July 30, 2024

Dear Mr. Sebastian Pujol Schott:

This letter is a response to the Commodity Futures Trading Commission (CFTC) request for comment on "Event Contracts", RIN number 3038–AF14.

I am a professor of business law at Seton Hall Law School, and, among other things, previously practiced derivatives law in regulatory and transactional capacities at Sullivan & Cromwell LLP and Sidley Austin LLP. My scholarship focuses on derivatives and other financial markets. I write in my personal capacity, and the views expressed in this letter represent only my personal views. The views expressed in this letter are not the views of Seton Hall University, Seton Hall Law School, or anyone else associated with Seton Hall.

Event contracts pose difficult issues as the CFTC contends with limited resources, an epic expansion of its regulatory authority under the Dodd-Frank Act, and the evolution of financial markets. The utility, risks, and legal status of event contracts all pose complex questions that have to be addressed in a context of inadequate legislative guidance and consideration, posing additional challenges for the CFTC.

In this response, I address some but not all of the questions posed in the CFTC's Notice of Proposed Rulemaking regarding Event Contracts, 89 Fed. Reg. 48968 (June 10, 2024) (the "***Proposing Release***").

1. *Clarifying and correcting drafting in CEA Section 5c(c)(5)(C) and the definition of "excluded commodity"*

Any rulemaking implementing Section 5c(c)(5)(C) must first construe that subsection's intent. This exercise is difficult because the legislature was not thoughtful or careful when drafting this and other language in the Commodity Exchange Act ("***CEA***"). Simply put, the lawyerly ambition of eliciting Congressional intent from the language of the statute is too optimistic regarding the legislative process. Notwithstanding that Congress wields tremendous power over the U.S. economy and the livelihoods that depend on it, repeated experience with drafting shows that this power is sometimes used in a neglectful manner with little thought or care. Expert agencies such as the CFTC are left with the task of asserting Congressional intent and then dressing up chaotic realities in the garb of legislative intent through reasoning or rhetoric. It is for you and your colleagues to engage in the linguistic and hopefully somewhat logical task through which principle and reality somewhat cohere. Of course, that coherence is strained when the agency is mired in political disagreement; the mix of debate and agitation expose the weaknesses and artifice in agency efforts to achieve sensible regulatory aims that Congress fails to specify and/or enable, further eroding legitimacy. In this regard, I recall the statement then Commissioner Quintenz issued when ErisX withdrew its three proposed contracts that would settle on NFL games.[1] A substantial thrust to his critical observations was that the CFTC was playing too great a role in defining public interest. As a matter of theory that is supposed to be embodied in our representative democracy, there is substantial merit to the arguments Comm'r Quintenz then made. But as a pragmatic matter, his vision (and the vision of inexperienced conservative judges he cites) is unachievable and corrosive. It is for the CFTC to do the hard, non-democratic work of defining public interest and otherwise making law because if the CFTC doesn't do this work, no one with any competence will. Many decades of poor draftsmanship in the CEA confirm this.

With that background, there are basic textual issues that should be resolved in addressing restrictions on event contracts.

First, there is the interpretation of the reference to "section 1a(2)(i)" in the following language:

> "In connection with the listing of agreements, contracts, transactions, or swaps in excluded commodities that are based upon the occurrence, extent of an occurrence, or contingency (other than a change in price, rate, value, or levels of a commodity described in section 1a(2)(i)), by a designated contract market or swap execution facility, the Commission may determine that such agreements, contracts, or transactions are contrary to the public interest if the agreements, contracts or transactions involve [certain matters]."

Prior CFTC releases such as the initial § 40.11 rulemaking have assumed or argued that the reference to section 1a(2)(i) is a reference to the first part of the excluded commodity definition in Section 1a(19). This is reflected in public commentary on this question as well, such as the article

[1] https://www.cftc.gov/PressRoom/SpeechesTestimony/quintenzstatement032521

from Dave Aron and Matt Jones.[2] I share the general impression that here Congress made a typo, particularly due to the large – but incomplete – overlap between the language used in Section 5c(c)(5)(C)(i) and the language in 1a(2)(19)(iv). As a reminder, the latter subsection includes a reference to Section 1(a)(19)(i) where the inexplicable reference to Section 1a(2)(i) occurs. Likely, some Congressional staffer hit a few wrong keys and although dozens of reviewers were supposed to catch this mistake, none bothered enough to do the job they are supposed to do.

There is a second interpretive challenge, however, here that doesn't get as much attention. There is likely an error in the definition of "excluded commodity" in Section 1a(19). Specifically, there is an extra negation in clause 1a(19)(iv).[3] In my view, that clause intends to cover products that are <u>not</u> based on an interest rate, exchange rate, currency, security, macroeconomic variables, and other items referenced in Section 1a(19)(i). Otherwise, Section 1a(19)(iv) would cover only contracts based on an occurrence, extent of occurrence of contingency related to a variable listed in Section 1a(19)(i); this result would make Section 1a(19)(iv) largely redundant to 1a(19)(i) and would make a reference to it in the context of Section 5c(c)(5)(C)(i) make little sense. Without this correction to 1a(19)(iv), which would strip out an extra "not", contracts on various contests (e.g., elections, NFL games, Emmys) would not fall under Section 1a(19) and thus be treated as exempt commodities. This result would treat these event contracts like contracts on energy products and metals. This result would also put them outside of the ambit of Section 5c(c)(5)(C), which is inconsistent with any Congressional purpose of having the CFTC pay extra attention to contracts involving terrorism, assassination, war, gaming, etc. As part of this rulemaking, the CFTC should clarify the definition of excluded commodities in Section 1a(19). It appears that the CFTC has implicitly accepted that Section 1a(19)(iv) includes an extra "not" in the Proposing Release.[4] Notably, the same confusing and likely erroneous drafting occurs in Section

---

[2] Dave Aron & Matt Jones, *States' Big Gamble on Sports Betting*, 12 UNLV GAMING L.J. 53, 67 (2021) ("The reference to "la(2)(i)" is nonsensical . . . The authors believe that Congress instead meant to refer to CEA § la(19)(i), a reading consistent with CEA § 5c(c)(5)(C)(i)'s focus on excluded commodities.").

[3] Section 1a(19) reads as follows with my underlining added: "(19) EXCLUDED COMMODITY.—The term "excluded commodity" means—

> (i) an interest rate, exchange rate, currency, security, security index, credit risk or measure, debt or equity instrument, index or measure of inflation, or other macroeconomic index or measure;
>
> (ii) any other rate, differential, index, or measure of economic or commercial risk, return, or value that is—
>
> > (I) not based in substantial part on the value of a narrow group of commodities not described in clause (i); or
> >
> > (II) based solely on one or more commodities that have no cash market;
>
> (iii) any economic or commercial index based on prices, rates, values, or levels that are not within the control of any party to the relevant contract, agreement, or transaction; or
>
> (iv) an occurrence, extent of an occurrence, or contingency (other than a change in the price, rate, value, or level of a commodity <u>not</u> described in clause (i)) that is—
>
> > (I) beyond the control of the parties to the relevant contract, agreement, or transaction; and
> >
> > (II) associated with a financial, commercial, or economic consequence."

[4] Proposing Release, 89 Fed. Reg. 48968, 48972 (omitting the extra "not" appearing in the statute when discussing the statutory language in the following excerpt "[The CFTC] is proposing to amend §§ 40.11(a)(1)–(2) and § 40.11(c) to refer to agreements, contracts, transactions, or swaps in excluded commodities based on the occurrence, extent of an occurrence, or contingency (other than a change in the price, rate, value, or levels of a commodity described in section 1a(19)(i) of the Act).")

1a(19)(ii)(I), and should also be clarified as part of this rulemaking due to the centrality of the excluded commodity definition to Section 5c(c)(5)(C).

For the same reason, and as a matter of statutory interpretation applying reasonable corrective revisions to the CEA, I read the scope of potential Section 5c(c)(5)(C) prohibitions as excluding products covered under Section 1a(19)(i), such as those based on: (a) economic indicators, including the CPI and other price indices; the U.S. trade deficit with another country; measures related to GDP, jobless claims, or the unemployment rate; and U.S. new home sales; (b) financial indicators, including the federal funds rate; total U.S. credit card debt; fixed-rate mortgage averages (e.g., the 30-year fixed-rate mortgage interest rate); and end of day, week, or month values for broad-based stock indexes; and (c) foreign exchange rates or currencies.

I do not view numerical values produced through the lawmaking effort (as opposed to decentralized economic activity) as falling within the scope of Section 1a(19)(i). For example, corporate tax rates, tariff levels, allocations for industrial subsidies, and similar variables are produced through centralized decision-making and may be within the scope of Section 5c(c)(5)(C). There is ample scholarship demonstrating the weakness of markets in producing accurate pricing with respect to political decisions[5], and there are common sense concerns with corruption, manipulation, and the appearance thereof when contracts settle on the basis of decisions by small groups of elected individuals and their representatives. A better candidate for a derivative contracts falling under CEA Section 1a(19)(i) would be one that settled on the basis of, e.g., observed effective tax rates among S&P500 companies. This metric (unlike the de jure corporate tax rates) would be substantially the product of economic activity as opposed to governmental policymaking.

More generally, and as discussed below, I urge the CFTC to ban trading of products based on outcomes attributable to the deliberate decisions of identifiable individuals or organizations, subject to a limitation where the group becomes sufficiently large (e.g., an industry, or a set of firms composing a broad index of securities). Naturally, questions will be raised as to where individual decisionmaking aggregates to macro-relevance, but the CFTC (together with the SEC) has ample experience with this question in the context of security-indices. An arbitrary line will have to be drawn. But in the core examples of organizational decisionmaking, the risk that market positions influence insiders' decisions is both too high and too unlike the nature of risks the CFTC has experience and expertise policing. Moreover, in these contexts, markets are weak price aggregators.

---

[5] As discussed below, contracts settling on the basis of policymakers' decisions typically exhibit highly noisy pricing and do not fulfill the jurisdictional prerequisites under Section 3(a) of the CEA, being unjustified from a hedging or price discovery perspective. *See generally* Rebecca Haw Allensworth, *Prediction Markets and Law*, 122 HARV. L. REV. 1217 (2009) (describing circumstances such as where information is secret or not widely dispersed that market function is expected to fail). *See also* Erik Snowberg, Justin Wolfers and Eric Zitzewitz, *Prediction Markets for Economic Forecasting* at 12 (June 13, 2012) (published in Handbook of Economic Forecasting) ("[T]raders may quite rationally choose not to trade in markets where there is a high degree of insider information. For example, despite the high intrinsic interest in who a Supreme Court nominee will be, markets on this topic have routinely failed.").

2. *Defining, as a policy matter, which categories of products will be prohibited under Section 5c(c)(5)(C).*

The proposing release requests comments on what products should be treated as those involving "(I) activity that is unlawful under any Federal or State law; (II) terrorism; (III) assassination; (IV) war; (V) gaming; or (VI) other similar activity . . . ." Admittedly, this requires the CFTC to engage in considerations beyond its typical remit of caring for the health of derivatives markets and related cash markets. It is for this very reason that a broad reading of the prohibition would be appropriate, because enabling the listing of socially controversial products suspends the application of state law through preemption and puts pressure on CFTC resources as primary watchdog for the products. While the CFTC is ill equipped to make these public interest determinations, it is even less well equipped to supervise trading where it has implications for mental health (e.g., gambling addiction), foreign policy (e.g., elections, war, assassination and terrorism), government integrity (e.g., elections and policy, war, assassination, terrorism), and other matters whose social relevance is to a great extent beyond the boundaries of commerce and finance. Furthermore, lack of clarity provides a disservice to the platforms interested in listing the contracts for the benefit of their outside lawyers. While there is uncertainty, applications will be made, denied, and only law firms will profit while clients lose money and CFTC resources are exhausted. A bright line rule has significant advantages over product-by-product determinations.

Regarding the term "gaming", I agree that the term should cover "the staking or risking by any person of something of value upon: (i) the outcome of a contest of others; (ii) the outcome of a game involving skill or chance; (iii) the performance of one or more competitors in one or more contests or games; or (iv) any other occurrence or non-occurrence in connection with one or more contests or games." This definition should be clarified to include other contests, such as legal adjudications (e.g., who will win a certain trial), races to invent or commercial products (e.g., will a vaccine for an epidemic be patented by a certain date) and market share measures (e.g., will Pepsi's share of the soft drink market increase by 1% from 1/1/2025 to 1/1/2026). Similarly, events and contingencies based on cessation of, or reduction in, competition should also be excluded from the permissible subjects for derivative products (e.g., whether Ukraine joins NATO, whether a bilateral treaty is reached, and perhaps whether humans succeed in causing a specie's extinction). Simply put, these events result from prices too idiosyncratic to analogize to products traditionally within the CFTC's remit under Section 3(a). Products based on these types of underliers raise issues of moral hazard. And their ability to assist in hedging or price discovery is too limited, and instead, these products are too likely to be used for gambling (i.e., gaming).[6] As insulation from court challenge, products discussed in this paragraph should also be treated as products banned under state law and products in "similar activity" to those listed in Section 5c(c)(5)(C). As a reminder, while many states have expanded legal gambling in recent years – some have not. And as the proposing release notes, a number of states have definitions of illicit gambling or gaming that are broader than the proposed definition.

[6] In addition, products on market share – like products on specific merger or acquisition transactions, as well as products on factors relevant to a specific firm's costs, revenues or other financial features – should not be regulated without input from the SEC.

Care should be taken, however, in prohibiting products that involve activities that violate state law. The CFTC should not enable one or few states to shut down national derivatives markets to the detriment of innovative commercial practices. The suite of products banned under any Section 5c(c)(5)(C) rulemaking should include products based on any activity that is unlawful under *Federal* law; however, subject to specified and narrowly tailored exceptions, the scope of the ban should not cover products based on activities that are unlawful only under one or a few States' laws. As a bright line, the per se ban under Section 5c(c)(5)(C) may be imposed if at least ten (10) States' laws ban the activity, with contract specific review applicable where fewer than ten (10) States ban the relevant activity.

In addition, when defining the scope of prohibited products, "other similar activity" should cover events such as fires at specific locations (whether or not due to arson), a health status event for an individual (such as illness, incapacitation, or death), privacy breaches (whether inadvertent or due to cyberattack), and other instances where one or more individual is injured as a result of what may or may not have been a crime. These kinds of adverse events are best left to insurance markets, which have mechanisms for investigating occurrences and distinguishing between bad luck and foul play. In economic terms, these contracts both pose moral hazard and are generally unfit for market listing due to low value from a hedging or price discovery perspective and high likelihood of noisy pricing. To be clear, while contracts on a fire at a specific building should be banned, contracts as to the number of significant fires in a geographic area over a period of time could be permitted. Again, there is a line drawing problem – but the CFTC should not put itself in a position where inquiring into market manipulation is synonymous with pursuing traditional law enforcement concerns (e.g., investigating a fire as potential arson in the course of an inquiry whether a market participant inappropriately influenced contract settlement).

3. How should the CFTC assess "public interest" in the context of Section 5c(c)(5)(C)?

There are many factors that inform whether a product's listing is in the public' interest and these factors vary by category of contract. That said, the CFTC must always consider whether a contract serves hedging or price discovery functions when assessing whether it is appropriate to permit listing of the product on a designated contract market or swap execution facility. That obligation arises under Section 3(a) of the CEA, which provides (with emphasis added):

> "(a) FINDINGS.—The transactions subject to this Act are entered into regularly in interstate and international commerce and are affected with a *national public interest* by providing a means for managing and assuming price risks, discovering prices, or disseminating pricing information through trading in liquid, fair and financially secure trading facilities."

In specifying what transactions fall under the CEA, Section 3(a) is also implicitly stating what transactions are outside of the CEA and remain subject to state law. Only the transactions advancing the public interests identified in Section 3(a) are eligible for exchange listing.

Transactions that do not advance either interest beyond a de minimis threshold are outside of the CEA, as developed in my draft Article included in the Appendix to this comment letter.[7]

The public interest that the CEA is intended to achieve can be divided between "managing and assuming price risks" (i.e., hedging) and "discovering prices, or disseminating pricing information" (i.e., enabling cash market pricing on the basis of prices developed in derivatives markets). This statement of purpose was adopted with the Commodity Futures Modernization Act (CFMA) of 2000. At the time, it replaced a statement of purpose that is traceable to the 1920s and 1930s era, long before the CFTC was founded and when commodity-derivative regulation was in service of agricultural markets. While one may argue the price discovery goals referred to in the CFMA language relate to aggregating information through pricing as a goal in itself without regard to cash markets[8], this is inconsistent with the history of the language used in Section 3(a). Throughout the 1990s and in the runup to the enactment of the CFMA, regulators and other professional commentators referred to "discovering prices" and "disseminating pricing information" as functions serving related cash markets.[9]

For many event contracts, there are no relevant cash markets and only their hedging utility can qualify them for the privilege of regulation under the CEA (i.e., preemption of regulation under state law). To be clear, the CFTC has no authority to regulate a product that does not have significant hedging or price discovery functions just as the CFTC would have no authority to regulate cars or avocados should a designated contract market or swap execution facility launch sales of vehicles or vegetables. It may be that some products listed on one or more regulated platforms do not qualify as commodity interests, and are instead subject to state law regulation for these reasons. But while prior self-certifications may have been lightly reviewed, this is a good time to take stock and reassert the boundaries of the CEA. In this regard, it is useful to reference the long history of trading in futures under state law for non-agricultural products until the Commodity Futures Trading Commission Act of 1974 famously expanded the definition of commodity; for example, silver futures traded for at least half a century outside of the CEA, and

---

[7] Although Congress referenced specific types of event contracts in the Dodd-Frank Act when it added Section 5c(c)(5)(C), Congress did not rescind Section 3(a) or affirm that previously authorized contracts were consistent with Section 3(a).

[8] As background, economic theory drawing on Hayekian insights sometimes uses the term "price discovery" to refer simply to the capacity of markets to aggregate information about supply and demand through the price formed through market interactions. Under this definition, any price is itself valuable as an aggregation of information. Many prediction markets have designed products so that their pricing reflects dispersed estimates of event likelihoods, highlighting the value of a market-set price without more. However, price discovery in this Hayekian sense is foreign to the CEA.

[9] *See, for example,* Testimony of CFTC Chair Mary Shapiro before the House Banking and Financial Services Committee (March 30, 1995) ("Commodity futures and options contracts are risk-shifting instruments that . . . provide a means to construct and adjust hedges on all types of commodities and financial instruments quickly and cheaply . . . In addition, because the price of a futures or option contract is derived from the value of an underlying commodity, the prices that result from futures trading serve as reference points in cash markets."); Report of the President's Working Group on Financial Markets, *Over the Counter Derivatives Markets and the Commodity Exchange Act* (Nov. 1999) (in arguing against the regulation of swaps markets, distinguishing swaps from futures in that the former do not serve the price discovery functions that the latter have served); *A New Regulatory Framework for Trading Facilities, Intermediaries and Clearing Organizations*, 66 Fed. Reg. 14262, 14267 (March 9, 2001) (discussing price discovery and price dissemination as serving price formation in cash markets referenced by regulated derivatives); *Exempt Commercial Markets*, 68 Fed. Reg. 66032, 66034-35 (Nov. 25, 2003) (same).

instead subject to state law. Event contracts (like other products) that do not exhibit significant hedging or price discovery utility should not get the benefit of preemption accorded to listed products regulated under the CEA.

Respecting this limitation is not just a matter of legislative prescription. It also reflects sensible policy. In the millennia-long history of social evolution and adaptation, markets mediated through a common currency are an epic innovation. Markets are capable of managing supply and demand, and enabling mutually beneficial exchange. Market price can provide substantial insight into the terms at which exchange is mutually beneficial. However, decades of study have identified limitations on the utility of markets and derivation of prices. In particular, in financial markets, price is meaningful to the extent that it reflects future performance of the relevant financial product. Different regulators focus on different types of financial products and distinct dimensions of product performance. For example, the SEC is primarily concerned with securities; securities are transacted in for two overwhelming purposes: capital formation and investment. Gaming regulators are primarily concerned with balancing the entertainment value of gambling with its addictive and exploitative potentials, while minimizing illicit transactions that breed criminal enterprise. The CFTC is neither a securities regulator nor a gaming regulator. In fact, the origins of federal futures regulation predate federal securities regulation and stem from the recognition, initially by the Supreme Court of the United States and then Congress[10], of the importance of futures markets for hedging in the agricultural sector and establishing prices for cash market transactions in that sector. Historically, the primary reason commercial market participants turn to futures markets (and later, option and then swaps markets) is for hedging. And historically, there has been an important line between products governed by the CEA and gaming.

Market integrity relies on the price formation mechanism, which in turn relies on interactions between informed traders and other participants in the market. These interactions may be direct, but are often intermediated through market makers. Prices become accurate in financial markets through traders developing and trading on private information, i.e., through informed trading. Informed buying updates prices upward, and informed selling updates prices downwards. Informed trading, however, cannot by itself produce substantial market liquidity. If everyone in the market is informed and knows they are trading against other informed traders, rationality will dampen willingness to trade.[11] While a particular trader has information (s)he believes is not known to other market participants and influences future returns from the product, that same trader

---

[10] *Bd. of Trade of City of Chicago v. Christie Grain & Stock Co.*, 198 U.S. 236, 249 (1905) (distinguishing CBOT futures transactions resolved through offset from illegal gambling at bucket shops where settlement took place on the basis of differences between prices at initiation and prices at settlement); Grain Futures Act, Section 3 (1922) (defining the purpose of commodity derivative regulation in a manner that was verbose and focused on grain products but conceptually tracked current Section 3(a) of the CEA through a focus on hedging and assisting cash market pricing). It is worth repeating that the current CEA's statutory purpose as reflected in Section 3(a) is substantially the same as the purpose of the original Grain Futures Act, and that legislative history of amendments to Section 3(a) shows no intention to depart from those goals (instead, the textual changes made in 2000 broadened the language beyond grain products and updated archaic phrasing).

[11] For similar reasons, where accurate price must be based on information that is only available to a few potential market participants and/or is guarded (e.g., as a terrorist cell may guard information about its plots through threats of physical harm to those revealing the plot, or as a government body may guard information about future policy through disciplinary measures against employees revealing such information) reliable pricing is unlikely to emerge.

also knows that other market participants will take the opposite position only if they hold private information that leans in the opposite direction. While informed traders may lead to more accurate prices, their presence in the market suppresses liquidity. Instead, liquidity derives from trading that is motivated by *other* purposes. In other words, price tuning through informed trading relies on non-informed traders participating in the market for purposes other than to make profits from private information.[12] This purpose is primarily investment in securities markets; every month, millions of Americans make automatic contributions to 401(k) and similar retirement programs, which result in purchases of billions of dollars of shares. These purchases take place not because the savers have private information about the firms issuing such shares, but because we have become comfortable with the premise that in the long term, investors receive substantial returns for parking their savings in public securities markets (e.g., via a passive mutual fund that tracks a broad equity index). These investors do not care if they are paying a few dollars more or less for a particular share than its worth, because in the long run, they will receive returns far in excess of those few dollars that they may be losing to exploitation of their informational deficiencies. This liquidity from passive investors enables informed traders to make profits through research and informed trades. It is the presence and substantial liquidity from uninformed investors that invites informed trading, ultimately leading to improved price accuracy in public securities markets.

Similar dynamics take place in gambling contexts. Gamblers are driven by entertainment goals (as well as addiction and other psychological factors) and for this reason do not care that when they wager the objective expectation is that they will lose money. To the extent there is informed trading in gambling markets beyond the intermediaries, the behavior of non-sophisticated participants (e.g., those gambling for entertainment, addicts) provides the liquidity for predictors to do the research and enter the market.

The same tradeoffs between liquidity and price accuracy enable successful derivatives markets under the CFTC's purview. Informed trading follows the participation of traders whose first priority is <u>not</u> taking advantage of private information as to the future performance of a financial product. Historically, in derivatives markets, these liquidity generating traders have been hedgers. While commodity positions can be used to track inflation, they do not typically generate beta in the manner of securities products.[13] In other words, unlike securities markets, commodity prices do not keep up with economic expansion let alone profitability growth observed across publicly traded companies. Or stated in another way, futures products (and related options) on many agricultural, metal, energy, currency, etc. commodities have not been attractive for

---

[12] The tradeoff between liquidity and price accuracy in financial markets has been developed through decades of scholarship exploring the interaction of informed traders and other market participants. See, for example, Albert S. Kyle, *Continuous Auctions and Insider Trading*, 53 ECONOMETRICA 1315 (1985); Lawrence R. Glosten and Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 J. FIN. ECON. 71 (1985); Lawrence Harris, LIQUIDITY, TRADING RULES AND ELECTRONIC TRADING SYSTEMS, New York University Salomon Center Monograph Series in Finance and Economics, Monograph 1990-4, (Feb. 1991).

[13] Products on broad based security indices and other security-related products are omitted from this discussion. They may exhibit dynamics distinct from other products within the CFTC's purview and may deserve separate study on the part of the CFTC. Some (e.g., metals and energy) contracts may also exhibit returns consistent with investment motives. These qualifications, however, are irrelevant to the discussion of event contracts. By design, binary option offerings from Kalshi, Hedge Street, and other exchanges have been less than zero sum. As a result, they are non-functional for investment where investment seeks exposure to long term market returns.

investment. Simply put, whereas those providing capital to a company can share in that company's growth (i.e., the dynamic in securities markets), those buying a traditional commodity long (let alone selling it short) are not able to participate in the profit generating activities of one or more organizations. Nor have commodity derivative markets traditionally served entertainment purposes (nor should they). Instead, to the extent non-informed traders participate in the CFTC's markets, these traders have sought access to products for hedging purposes. These traders receive risk management benefits through derivatives markets that compensate for any losses they may incur through accepting market prices. It is such traders that generate liquidity, and it is their presence in the market that attracts informed traders. Without a hedging purpose, CFTC products historically haven't generated liquidity from uninformed traders – and thus failed to invite informed traders into the ecosystem. In the absence of informed traders, prices should not be expected to reflect expectations of long-term returns. As a result, without hedgers, neither the price discovery nor the hedging purposes are likely to be served. Instead, to the extent robust liquidity develops, it reflects leakage of speculation for the sake of speculation into derivatives markets (i.e., personal consumption through entertainment, education or other experiences derived from trading).

Recent technological and contractual innovations have increased the risk of gambling and other forms of personal consumption activity through derivatives markets. Exchanges have overtly focused on broadening their clientele to retail customers. Online trading makes the expenses of supporting a pit irrelevant. Technology also greatly reduces the costs of advertising, particularly to retail customers who do not expect expensive features or customer support. Products such as binary options enable full funding at the outset, and thus obviate the operational costs of margin and other risk management.[14] These contracts are easy to launch for exchanges, and the positions are easy to enter into for retail participants. At the same time, many of the new contracts settle on the basis of newsworthy events that receive attention from amateur prognosticators. Unless these contracts have significant hedging utility, they have no prospect of surviving except through cultivating a mentality among retail traders that engaging with these contracts is a form of personal consumption (e.g., entertainment, education). These are not the purposes CFTC regulated markets have served, and these are not the participant goals that the CEA is designed to protect. The CEA has never been about furthering markets devoted solely to speculation. Furthermore, this business model on the part of exchanges will encourage marketing to retail investors that ultimately undermines public faith in CFTC regulation. If this business model can not be restricted through per se rules such as those being considered in the Proposing Release, it should be deterred through filing fees. The costs of experimenting with retail products are too low given the impact on CFTC resources and derivatives market participants. One approach would be to impose substantial fees per new product listing, where part of the fee is returned after the platform demonstrates a history of substantial trading in the product. These fees could both deter exchanges from "throwing pasta

[14] Although it is not a subject I have looked into deeply, I am tentatively somewhat skeptical of micro contracts as well because few retail traders appear to be using them for hedging as opposed to gambling purposes due to the observed short durations of open positions among retail traders. See Alex Ferko, Scott Mixon, Esen Onur, *Retail Traders in Futures Markets*, OCE Staff Papers and Reports, Number 2023-002 (October, 2023).

at the wall" in product innovation, and offset the drain on CFTC resources from these new launches.

To sum up, unless an event contract has hedging utility it will either: (a) fail to attract liquidity and the informed trading that contributes to price accuracy, or (b) come to rely on consumption motives among retail investors for its survival. Neither kind of market is consistent with the purpose the CEA had in extending federal regulation and preempting state law.

Where there is a genuine question as to whether a product has hedging utility, it is reasonable to expect that the platform submitting the product to the CFTC will have internal studies demonstrating the hedging utility. As part of product development, platforms interview potential customers, and in particular, the community that may use a product for hedging purposes. For example, in launching event contracts on heating and cooling degree days, the CME interviewed utility companies to identify the temperature at which air-conditioning and heating systems are activated, thereby arriving at the 65 degree Fahrenheit baseline.[15] Without documented interests on the part of potential customers, a product should not launch. Regulatory certification or approval for a well-designed product with bona fide hedging potential is not a high-risk proposition, and thus can procedurally follow the other stages of product development. If at the time of regulatory submission there is a question as to the hedging utility of a product, the surveys and other marketing information the platform developed prior to submission can be referenced to assess hedging utility. This marketing information may be qualitative, but frequently includes quantitative components. The CFTC should engage with ex-employees of major derivative exchanges' marketing and product development departments and through those consulting arrangements obtain a realistic understanding of the internal information an exchange should be expected to have.

Substantial upfront fees when filing a product followed by earnouts based on product usage could also help bond exchanges to responsible innovation. As an alternative or complement to *ex ante* evidence of hedging utility, *ex post* data on market utilization of the products could be used. Where an exchange can submit information to the CFTC identifying through customer data how a product is being used to hedge, the exchange would be refunded a portion of a hefty fee that is paid at the time of product submission (via either the self-certification or approval pathway). To clarify, first – at the time of product submission – the exchange would pay a substantial fee; and second, when the exchange submits evidence of customers using the product to hedge, part of the fee would be refunded. Exchanges are better positioned than the CFTC to collect customer data on product usage, and are likely to want to do this in any case so as to further product development and support. The CFTC can leverage exchange access to customer usage information towards assessing hedging utility and other features of interest.

---

[15] See CME, Overview of Weather Markets available online at https://www.cmegroup.com/education/lessons/overview-of-weather-markets.html ("A 'degree day' is a measure of how much a day's temperature deviates from 65 degrees Fahrenheit, or 18 degrees Celsius. This baseline temperature was established by utility companies after observing that air conditioners and furnaces are usually turned on when the temperature rises above or falls below this benchmark.")

Before moving on it is important to note that once a type of product is permitted for gambling or other personal consumption purposes, there is a natural demand for hedging. This kind of bootstrapping should not be permitted. For example, once a number of states legalized sports gambling, local bookies built books. Those books had imbalanced exposure due to, among other reasons, home teams generally being overly preferred by gamblers. As a result, bookies in (e.g., California and New York) had reason to offset risk through swapping exposure with one another and narrowing spreads. Indeed, this was the theory behind the three contract types ErisX tried to list. Platforms legal under state law (e.g., Draft Kings, Fan Duel, Caesars), however, should not be able to always turn to federally regulated derivatives markets for hedging commercial exposure.[16] If this was enabled, there would be no limiting principle. For example, if a state or foreign jurisdiction successfully legalized platforms where wagers were taken on future wars or assassinations, those platforms would have hedging needs. But should federally regulated derivatives markets serve those needs? I think the answer is plainly no. It is for this reason that gaming and a number of other items were carved out under 5c(c)(5)(C) irrespective of whether or not they violate Federal or State law. In other words, a bona fide hedging need is generally a necessary but insufficient reason for approving a product. A single jurisdiction legalizing wagering on an event or otherwise permitting an anti-social activity enables a good faith argument that there is a hedging need in relation to positions related to that activity – but this should not be enough for product approval.

The utility of a product for hedging or price discovery purposes is not the only consideration that is relevant in the course of a public interest analysis. As CFTC-regulated derivative markets evolve, new risks need to be considered. These risks will vary based on the type of product. Additional considerations may include concerns regarding moral hazard, interference with States' police power, the competencies and resources of the CFTC, the jurisdiction and authority of the CFTC, public perceptions of regulated markets, protecting market participants from fraud and manipulation as well as other matters of market integrity, the reliability of prices for the product (e.g., whether relevant information is available only to a few individuals and/or is guarded as secret), the risks of corruption (or perception thereof) with respect to public and private bodies, and other matters.

* * *

The evolution of event contract products poses a classic case of where law struggles to keep up with markets. Changes on various dimensions (including technology, scale, commercial practice, and cultural attitudes to financial market participation) have prompted products that challenge assumptions the CEA and its regulatory framework have been built on. The CFTC has a difficult role in making the CEA fit new possibilities for derivatives trading.

A rational approach to regulation builds on information and enlists the assistance and input of interested parties. I applaud your work and appreciate the difficult decisions that have to be made. However, I also urge you to invest in information, data and descriptive resources to help make derivatives markets and their regulation more accessible. I understand the CFTC is strained

[16] For this reason, I disagree with statements from ex-Commissioner Berkovitz on the ErisX certification. https://www.cftc.gov/PressRoom/SpeechesTestimony/berkovitzstatement040721

for resources, however, the website has deficiencies that make it difficult for researchers such as myself to participate in notice and comment rulemaking processes or otherwise enrich the regulatory environment. For example, the CFTC purports to list previously approved and self-certified products.[17] However, the data the CFTC provides to the public is incomplete. Among other things, the CFTC's database fails to include documentation for many of the contracts it lists, despite having received this documentation from DCMs making submissions. While it would take work on the part of the CFTC to complete the public database of designated contract market products, the CFTC would also benefit from third parties then using this data to study derivatives markets and inform the CFTC. As another example, the Commitments of Traders data is poorly formatted and difficult to use.[18] More devastatingly, the CFTC updates the data on a weekly basis, deleting past data. As a result, any longitudinal analysis is impossible (short of making FOIA requests for the data that gets hidden every week when new data is added). It would be relatively easy for the CFTC to provide the Commitments of Traders data in a format usable in statistical analysis packages and to make historical data available. In other words, help well meaning researchers help you!

The CFTC is uniquely positioned to gather and disseminate information on derivatives markets, contributing not only to transparency but fundamental understanding. I believe these kinds of investments are worth it, and in addition to providing data, the CFTC would do well to engage in concept releases that revisit and organize thinking on core issues informing derivative market regulation.

* * *

I would be glad to hear from you at ilya.beylin@shu.edu to discuss these and related matters further whether via setting up a call or through correspondence.

Sincerely,

Ilya Beylin

Professor Ilya Beylin

[17] https://www.cftc.gov/IndustryOversight/IndustryFilings/TradingOrganizationProducts
[18] https://www.cftc.gov/MarketReports/CommitmentsofTraders/index.htm

Appendix A

DRAFT

EVENT CONTRACTS ARE A STEP TOO FAR FOR DERIVATIVES REGULATION

Ilya Beylin[*]

CONTENTS

[*] Associate Professor, Seton Hall Law School, B.A.S. Stanford University, J.D. University of Chicago Law School. I am grateful for the work of my research assistants, Daria Beshentseva, Devin Droll and Najma Hassan and for feedback from Tom W. Bell, Stephen Lubben, Gideon Mark, Fabio Mattos, and Adam Wells and participants at the Seton Hall Law School summer workshop. All errors are my own.

INTRODUCTION

In the U.S., derivatives trading began when the Chicago Board of Trade (CBOT) developed a market in grain futures soon after the Civil War.[1] Since their inception, futures did not exist for their own sake but instead to assist activities in so called "cash" or "spot" markets, i.e., business activities involving assets referenced in the futures contract.[2] For example, early wheat futures required one party to buy a specified amount of a grade of wheat at a specified time and location and the other party to sell that wheat, at the specified time and location.[3] As discussed in Part I below, this enabled the management of risk and establishment of prices with respect to transactions in wheat all over the U.S.[4]

For example, a farmer could go "short" through the futures contract (i.e., sell the grain under the contract) to neutralize her risk that grain prices fluctuate. Through selling wheat under the futures contract, the farmer sells at today's prices with settlement taking place in the future through an exchange of the referenced commodity for cash. If prices for wheat increase, the farmer will (i) lose money under the futures contract because the price of wheat at the time of delivery under the futures contract exceeds what she sold it for, but (ii) experience increased revenues from the harvest. If, on the other hand, prices fall, the farmer will (i) profit under the futures contract, and (b) suffer offsetting losses as she sells her harvest at the lower price. A bakery can similarly use grain futures to guard against prices fluctuations. The bakery would go "long" through the futures contract (i.e., buy the grain). This would mean that if wheat prices decline, the bakery loses under the futures contract but is able to procure its ingredients at a lower cost. And

---

[1] Part I.A., *infra*. *See also* Gideon Mark, *Spoofing and Layering*, 45 J. CORP. L. 101 (2019) ("The futures industry traces its origin to agricultural commodities trading in the 1860s.").

[2] William L. Stein, *The Exchange-Trading Requirement of the Commodity Exchange Act*, 41 VAND. L. REV. 473, 474-75 (1988) (discussing cash or spot market for grain).

[3] Part I.A., *infra*.

[4] Part I.C., *infra*.

reciprocally, if grain prices increase, the value of the bakery's futures position increases although its procurement costs rise. These examples of a farmer and baker using a futures contract are quintessential examples of hedging, i.e., risk transfer. Trade in futures contracts also generates prices (i.e., how much do parties in the futures market demand to take a long or short position). Cash markets reference the prices established in futures markets in lieu of developing pricing independently. As reviewed in more detail in Part I, derivatives are not viewed as an end in themselves. Instead, the regulation of derivatives is based on their historical contributions to hedging and pricing in cash markets.[5]

This Article argues that the development of derivatives products has become unmoored from these twin statutory goals. The source of federal derivatives regulation is the Commodity Exchange Act (CEA).[6] The federal regulator of derivatives markets is the Commodity Futures Trading Commission (CFTC).[7] Among its various roles under the CEA, the CFTC authorizes the derivatives products that exchanges make available to market participants.[8] The CFTC also provides a database of all products it has authorized since its birth in 1974.[9] Through a review of futures contracts the CFTC has authorized, this Article traces a step-by-step drift in the design and function of permitted derivatives instruments.[10] As described in Part II, the individual

---

[5] As in other contexts, the justification for permitting the activities of "Wall Street" are that they serve the interests of "Main Street". Part I.C., *infra*.

[6] 7 U.S.C. § 1 et seq.

[7] 7 U.S.C. § 2.

[8] 17 C.F.R. §§ 40.2 and 40.3 (providing alternative routes for submitting a new product for CFTC review before the product may be traded on a CFTC-regulated exchange).

[9] Archive of listed derivatives products, CFTC https://www.cftc.gov/IndustryOversight/IndustryFilings/TradingOrganizationProducts (last visited July 23, 2024).

[10] My comprehensive review examined all futures that the CFTC has authorized prior to 2005, as well as many futures authorized since then. My review is limited to futures on intangible asset classes, also referred to as excluded commodities under the CEA. CEA § 1a(20). In other words, I do not review products with tangible underliers such as foodstuffs, energy products, or metals. After the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, a number of products that would have been labeled as futures or options

steps generally appear justifiable as they sacrifice fidelity to the twin goals to address new forms of risk or serve new clienteles[11]—but in the aggregate, these steps trace a gross departure from the underpinnings of derivatives regulation.[12]

The cumulative drift in derivatives products has led to the authorization of contracts this Article refers to as "event contracts." While the term "event contract" is not defined in the CEA or CFTC regulations, event contracts are generally understood to be a type of derivative contract based on the outcome of an underlying event where the payoff structure is binary (i.e., either the specified event occurs and a payment is made, or the event does not occur and no payment is made).[13] As distinct from traditional futures, the events driving cash flows under event contracts are not changes in price of a referenced asset. These events may be as varied as a macroeconomic variable reaching some value (e.g., the unemployment rate reaching five percent), a certain number of hurricanes making landfall in the U.S., or Taylor Swift's most recent album spending a specified period at the top of the Billboard 200.[14] The CFTC has approved all of the foregoing products and thousands more without regard to the statutory purpose of derivatives regulation.[15] In doing so, it provides these products preemption from state law and enlarges the CFTC's jurisdiction. This results from a statutory provision that grants the CFTC

---

instead became labeled as swaps because of the DFA's broad definition of swap that includes all binary options. CEA § 1a(47)(A). However, this semantic difference does not affect the findings or conclusions of this Article because the purpose of the CEA does not distinguish between futures, options and swaps. *See also* Dave Aron & Matt Jones, *States Big Gamble on Sports Betting*, 12 UNLV GAMING L. J. 53, 58, 91 (2021) (this work by two ex-CFTC lawyers argues that the expansion of CFTC regulation to swaps under the Dodd-Frank Act may invalidate a variety of traditional gambling transactions governed under state law).

[11] As discussed in Part II.C, *supra*, the CFTC's authorization of binary options first offered by HedgeStreet in the mid-2000s is likely an unjustifiable step in the expansion of permitted derivatives instruments.

[12] Part III, *infra*.

[13] *Event Contracts*, 89 Fed. Reg. 48968, 48969 (June 10, 2024).

[14] Part II.C, *infra*.

[15] *Id.*

exclusive jurisdiction over any products listed on CFTC-governed exchanges[16] As a result, the CFTC has amassed regulatory power while, among other things, suspending protections market participants would receive under state gambling regulation.[17] This Article explains why the CFTC should review listed derivatives products–and event contracts in particular—to identify those that have scant utility for hedging and pricing in cash markets. These products should be delisted, and instead regulated under state law.

This Article proceeds as follows. Part I provides a novel perspective on the history of U.S. derivatives regulation. After introducing futures and their pre-regulatory history, Part I identifies the twin purposes driving derivatives regulation since its birth. Part I also explains the role of the CFTC, and how the CFTC is able to displace state regulation of listed products. Part II then presents the results of a review of derivatives product development that led to event contracts becoming authorized. This novel empirical inquiry reveals the gradual expansion of the universe of listed products, marked by specific innovations in contract design. The evolution is additive, with ingenuity adapting and expanding prior innovations while responding to commercial challenges and new market demands.[18] Part II traces evolution in product offerings to the contemporary availability of event contracts to a retail clientele. Part III applies the legal background developed in Part I to the evolution of instruments described in Part II. Part III argues for banning a range of listed products from CFTC-regulated exchanges. A range of the contracts reviewed in Part II fail to serve either hedging or pricing goals, which Part I establishes are the exclusive goals of the Commodity Exchange Act. The CFTC erred

---

[16] 7 U.S.C. § 2(a)(1)(A).

[17] Although the CFTC has acknowledged that these products serve a predictive function—as distinct from hedging or pricing functions—the CFTC has not wrestled with whether these products serve the public interest its authority under the CEA is meant to advance. *See* n. 164, *infra*, and surrounding text.

[18] The history also reveals the happenstance of success, illustrating the chaos of creative destruction. *See generally* Joseph Schumpeter, CAPITALISM, SOCIALISM AND DEMOCRACY (1942) (providing a theoretical account of progress through commercial cannibalism in capitalist systems).

in permitting these products, and should mandate they are delisted. Part III considers and dispenses with legal and policy arguments for making these products available through CFTC-regulated exchanges. The conclusion discusses how the CFTC should operationalize the limiting principle on its jurisdiction in review of event contracts.

I. A BRIEF HISTORY OF U.S. DERIVATIVES REGULATION

The origins of U.S. derivatives markets and their regulation are in agriculture, and in particular, grain. From its outset, derivatives regulation struggled to draw a boundary between gambling and justifiable speculation in the context of financial transactions.

A. The Birth of Futures Trading in the United States

The Chicago Board of Trade (CBOT) was established in 1848. Initially, it served as a wholesale market for grain. CBOT's charter permitted it to set rules for membership, and these rules permitted members to trade on their own behalf as well as on behalf of customers while mandating certain practices meant to facilitate trading. Within a few decades, CBOT developed sophisticated trading and risk management processes based on self-regulation under its Illinois charter. Among other things, CBOT introduced standardized contracts that required the delivery of grain of a certain grade at a certain location one or more months in the future at the price prevailing in the market at the time of execution. In this manner, CBOT transitioned from being a "cash" or "spot" market where execution and settlement were largely contemporaneous to being a derivatives market where traders could take positions based on future prices of grain and transfer the risk of price fluctuation.[19]

These standardized contracts came to be called "futures", as

[19] The CBOT's federal regulation preceded the regulation of the first stock exchange, as discussed in more detail below.

distinct from the tailored bilateral agreements for future delivery of an asset referred to as "forwards". Forwards preexisted futures and continue to be used across various assets. And forwards differ from futures not only in their bespoke terms, but also in their idiosyncratic credit quality.

In 1883, CBOT developed a "clearing" mechanism[20], which other futures exchanges came to emulate. Pursuant to clearing, exchange members entering into a future transaction effectively split the transaction into two – one between the first member and a clearinghouse and a second between the clearinghouse and the second member. The clearinghouse is typically an affiliate of the exchange. The clearinghouse acts as guarantor of both transactions, standing in between the parties and standardizing credit risk similarly to how the delivery terms of the future standardize market risk (i.e., risk related to the price of the referenced asset).[21] The standardization of futures contracts is an

---

[20] History of the CFTC, CFTC https://www.cftc.gov/About/HistoryoftheCFTC/history_precftc.html (last visited July 23,2024) ("1883 – The first clearing organization is established to clear CBOT contracts, initially on a voluntary basis."). Some, however, dispute the chronology offered by the CFTC and trace the advent of clearing to 1925. Neal L. Wolkoff & Jason B. Werner, *The History of Regulation of Clearing in the Securities and Futures Markets, and Its Impact on Competition*, 30 REV. BANKING & FIN. L. 313, 345 (2010) ("Phillip McBride Johnson, a former CFTC Chairman, believes that, around 1925, the CBOT's clearinghouse, the Board of Trade Clearing Corporation ('BOTCC'), became the first 'true mechanism for addressing counterparty credit risk through a centralized guarantee system.'").

[21] Before introducing a clearinghouse to manage and standardize credit risk across its futures, CBOT employed techniques that came to be known as compression in settling members' obligations. Through "ring" or "multilateral" compression, members would identify rings of redundant obligations and cancel them, such as where member A owed delivery of corn under 50 contracts to member B, member B owed delivery of corn under 50 contracts to C, and member C owed delivery of corn under 50 contracts to member A; assuming that the deliveries were to be made at the same place and at the same time and the grade was the same across contracts, cancelling these three sets of 50 contracts simplified settlement without affecting economic outcomes. Ilya Beylin, *ESG-linked Swaps and the Next Chapter of Regulatory Innovation*, 42 REV. BANK. FIN. L. 755, 809-816 (2023) (explaining compression in the context of swaps). Prior to the advent of clearing, these kinds of offset exercises simplified tracking and processing delivery obligations. These exercises enabled netting similarly to

important function of market intermediaries, and explains unique dynamics within these multi-trillion dollar markets.[22]

Because futures contracts are standardized, a contract to buy a certain amount of grain at a certain location upon a certain date can be offset through entering into a contract to sell the same grain at the same location and on the same date. This enables financial settlement of contracts through the purchase of inverse contracts, notwithstanding that on its face, a contract may require settlement through physical delivery.[23]

Three common properties help explain how futures function. First, the "value" of a position established through a futures contract changes over the lifetime of the contract. For example, a future to buy (or sell) 1,000 bushels of hard red winter wheat on a particular date at a particular grain depot will change price as the expected price of the wheat at delivery changes. If, for example, the expected price goes up by one dollar per bushel, the contract price should increase by $1,000. This represents a $1,000 gain to prior purchasers of grain delivery under the contract and a $1,000 loss to prior sellers. Pursuant to margin requirements, the seller in the preceding example would have to post $1,000 in additional collateral upon the change in expected price; this collateral (also called variation margin) helps assure performance and acts as a

---

how centralized clearing enables netting today. To reduce credit quality idiosyncrasies – as yet another step towards the clearing regime that evolved in the 1900s – CBOT required third-party guarantees from clearing members of the members' obligations under futures. *See also* Stephen J. Lubben, *Always Crashing in the Same Car—Clearinghouse Rescue in the United States under Dodd–Frank*, 3 J. FIN. REG. 133, 137-38 (2017) (explaining clearing).

[22] The Bank of International Settlements reports the global value of futures as of December 31, 2023 as exceeding $37 trillion. https://data.bis.org/topics/XTD_DER/tables-and-dashboards/BIS,XTD_D1,1.0 (last visited July 23, 2024).

[23] For example, a future to buy 1,000 bushels of hard red winter wheat on a particular date at a particular grain depot could be fully satisfied through entering into a future to sell the same amount of such wheat at the same time and location. As a result, instead of satisfaction through physical delivery, futures contracts can be financially settled and typically are.

quasi-real time settlement mechanism against expectations.[24] By design, as the settlement date approaches, the price of the futures contract should converge to the cash market price of wheat.

A second, related, quality is the relationship between futures prices and cash market prices in a "competitive" market. To illustrate, assume that the market price of an obligation to deliver 1,000 bushels of hard red winter wheat on December 31 at a particular depot is $6,000. In other words, a futures contract to sell that wheat provides $6,000 to the seller. If the costs of obtaining the wheat, storing it until December 31, and then making delivery at the specified location is substantially below $6,000, it is sensible to procure, store and then transport that wheat while entering into futures contracts to sell that wheat. The various costs of obtaining an asset and making delivery in a manner that would satisfy the terms of the futures contract provide a ceiling on the price of a futures contract, and a linkage between cash and futures markets.[25]

Third, futures contracts generally imply "basis risk" for their commercial users. For example, if a grain exporter is obligated to deliver 1,000 bushels of hard red winter wheat in six months at then prevailing market prices, the exporter faces a risk. First, she does not have the grain and needs to procure it. Second, if the price of grain declines after procurement and before the export, the decrease will be a loss to the exporter. To address these circumstances, the exporter may enter into two transactions. First, the exporter enters into a forward purchase agreement for the 1,000 bushels of wheat at a fixed price six months ahead of the export obligation. Second, the exporter hedges against price declines through selling futures contracts on 1,000 bushels to be

---

[24] Ilya Beylin, *ESG-Linked Swaps and the Next Chapter of Regulatory Innovation*, 42 REV. BANK & FIN. L. 755, 816-23 (2023) (overviewing margin requirements for swaps); Christian Chamorro-Courtland, *The Legal Aspects of Portfolio Margining: A Move Toward the LSOC Model*, 10 J. BUS. ENTREPRENEURSHIP & L. 25, 31-34 (2016) (illustrating margining).

[25] The potential excess of futures prices over cash market prices reflects these costs of procurement (e.g., financing costs), storage (e.g., rent, insurance), and delivery (e.g., transportation) and are referred to as contango.

settled in six months' time. Pursuant to the combination of the forward and future position: (1) if prices for wheat increase, the exporter will gain based on the differential between the price of the exported grain and the price at which that grain was procured, while losing money on the futures contract; and (2) if prices for wheat decline, the exporter will lose based on the differential between the price at which the grain was procured and the lower price at which it will be exported, while profiting on the futures position. Notably, (1) and (2) only note that the performance of the futures position dampens the gain (or loss) on the commercial transactions (i.e., the combination of procurement and export). The claim is not that the futures position eliminates the risk from commercial operations. That is because of "basis risk", which refers to risk that prices of the commodity underlying the futures transaction develop differently from prices of the commodity underlying the commercial transactions.

There are many potential sources of basis risk: for example, the wheat deliverable under the futures may be of a different quality than the wheat the exporter must ship; or the location of delivery under the futures contract is significantly different from the location where the exporter must deliver the wheat to its customer and this difference entails greater transportation costs; or the delivery deadline for the future and the forward differ. These types of slippage in pricing between the commodity in its commercial settings and the commodity as it satisfies futures contract delivery requirements mean that hedging through futures addresses risk to a degree, and that degree can vary. In this respect, asking whether a product serves a hedging purpose is somewhat like asking whether a relationship is romantic. Some relationships are clearly romantic, others clearly are not, and then there are some that are more romantic than others and some that are barely romantic or not romantic enough. This difficult assessment is revisited in Part III, which recommends delisting products with inadequate hedging utility.

B. Telegraphs Forced a Difficult Distinction Between Futures Trading and Gambling

The derivatives business changed profoundly after the introduction of telegraphs. The commercial opportunities this technology unleashed threatened the exchanges and prompted the initial contact between derivatives markets and federal lawmaking. Telegraphs enabled bucket-shops to compete with exchanges, undercutting exchange liquidity and undermining confidence in financial markets.

Before the days of computing, exchanges functioned through individuals communicating orders to buy and sell in designated locations.[26] These humans were members of the relevant exchange or traders working for members organized as entities. Traders were not necessarily submitting orders for the member, but instead could submit orders for customers. With the advent of telegraphs, brokers could quickly serve customers in distant locations. But telegraphs also allowed the prices established on an exchange to be broadly, swiftly disseminated over ticker tape. Major exchanges exhibited prices, which were updated as orders came in and were matched. This price information was disseminated from exchanges to distant exchange-member offices, from where it could (and sometimes was) disseminated further including to unauthorized third parties.[27]

---

[26] Exchanges varied in whether they required members to trade exclusively on premises. Allowing off-premises trading undercut liquidity at the exchange, but allowed member firms to compete with the "curb" markets outside of the exchange. Jerry W. Markham & Daniel J. Harty, *For Whom the Bell Tolls: The Demise of Exchange Trading Floors and the Growth of ECNs*, 33 J. CORP. L. 865, 872 (2008) [hereinafter Markham & Harty, *For Whom the Bell Tolls*]. This was particularly relevant for trading outside exchange hours. *Id.*

[27] Exchanges were poorly positioned to identify where their data was shared beyond authorized purposes, but used informants, traced telegraph cables, and engaged in other expensive investigation to launch legal actions against members that sold price data to third parties. *See* David Hochfelder, *"Where the Common People Could Speculate": The Ticker, Bucket Shops, and the Origins of Popular Participation in Financial Markets, 1880-1920*, 93 J. AMER. HIST. 335, 353-55 (Sept. 2006) [hereinafter Hochfelder, *Where the Common People Could Speculate*].

Bucket shops paid brokers and others near enough exchange floors for price data. They would then display current price information to their customers. When a customer placed an order with a bucket shop, the order would represent a contract with the bucket shop. It was not routed to the exchange. Instead, a zero sum was created between the customer and the bucket shop, which took the other side of the position. Bucket shops tended to charge lower prices than brokers, so their services were a competitive substitute for placing an order through a broker. But the relationship between shop and customer, as well as the character of many bucket shop owners, led to predatory dynamics. When a customer failed to meet margin requirements over the lifetime of a trade, the customer would lose her position (including all transaction fees). Bucket shops manipulated price information. For example, bucket shops placed sell orders on exchanges to settle at lower prices with customers. The same practice of placing strategic exchange orders to manipulate the bucket shop's own pricing stream was used to create margin calls towards triggering customer defaults. Perhaps more importantly, a number of bucket shops were fly-by-night operations that took customer fees for a while and then – when the market turned against the bucket shop – absconded.[28]

Brokers working with exchange members, in contrast, were not subject to the same default risk, as they did not assume proprietary positions. Many customers probably did not appreciate the difference between submitting orders to a brokerage to establish a position through an organized exchange and submitting the same order to a bucket shop.[29] All they saw was that the bucket shop charged lower fees, while wearing the dress of a brokerage and nominally putting the customer in the same position.

The difference between orders placed with a broker and orders placed with a bucket shop, however, was critical. Brokered orders

---

[28] Charles P. Kindleberger, MANIAS, PANICS, AND CRASHES 76-77 (4th ed. 2000).

[29] Hochfelder, *Where the Common People Could Speculate* at 343.

led to transactions matched through the facilities of an exchange. That transaction would be with a third party and subject to bilateral margining, which decreased the risk of default. Brokered orders also necessarily added to the liquidity of an exchange. Understandably, exchanges such as the Chicago Board of Trade and the New York Stock Exchange campaigned against bucket shops and sought to prevent the flow of price data to them.[30] The exchanges were concerned about the free riding, the reputational damage to their ecosystem, the loss of fees and the loss of liquidity.[31] Initially, the exchanges brought cases in state courts. However, for decades, the exchanges consistently lost.[32] Courts saw both the exchanges and the bucket shops as engaged in illegal gambling, and would not protect data related to this illicit activity.

The crux of the gambling argument derived from a principle under state law, which looked to whether parties entered into the contract with intent to deliver.[33] Under this principle, if a transaction in property was entered into with intent to transfer the property, it was not gambling. In contrast, if the contract was entered into with intent to settle it financially based on how the value of the property changed in the future, the parties were

---

[30] As an example of using non-legal means to protect intellectual property rights to price data, in August 1887, the president of the CBOT used force to remove telegraphic equipment from CBOT's premises. Hochfelder, *Where the Common People Could Speculate* at 336. Later, in 1900, the major exchanges threatened to begin their own telegraph service if existing telegraph companies did not cooperate in protecting the exchanges' price quotations. *Id.* at 354.

[31] Paul G. Mahoney, *The Exchange As Regulator*, 83 VA L. REV. 1453, 1479-82 (1997) (discussing collective action problems exchange rules are designed to address).

[32] In addition to issues related to illegal gambling, some state courts opposed exchange efforts to protect data as monopolistic practices designed to prevent competition through denying bucket shops (and intermediary brokers) the unfettered use of data collected at the exchange.

[33] These illegal transactions were referred to as contracts for "difference", with the difference being the speculative difference between the price of the referenced asset at execution and its price for settlement. Telford Taylor, *Trading in Commodity Futures--A New Standard of Legality*, 43 YALE L.J. 63, 71-78 (1933) (discussing courts' inquiry into delivery intent in the context of futures trading).

engaged in illegal gambling.[34] The doctrine included an important exception that accounted for changes in circumstances. In the former case, by the time of settlement, the intentions of the parties may have evolved so that instead of completing physical delivery, the parties resolve their obligations through a financial settlement.[35] Anti-gambling prohibitions permitted enforcement in such contexts, again, focusing on the intent of the parties at the time the contract was executed.

Anti-gambling statutes captured intuitions distinguishing speculation from commercial arrangements in the context of ordinary, bilateral transactions. These intuitions did not coherently map onto the futures context where contracts both (a) required physical delivery, and (b) were overwhelmingly resolved through payment for offsetting transactions rather than physical delivery. Focusing on the economic substance as distinct from form, state courts repeatedly applied anti-gambling law to protect customers from futures-brokers' attempts at collection. The same laws were used by bucket shops to argue that because futures predominantly settled financially rather than through physical delivery, futures exchanges were illegal gambling organizations ineligible for legal protections with respect to the subject of their operations.

Ultimately, the exchanges brought their case to the Supreme Court in a case that pitted CBOT against a large bucket-shop, Christie Grain & Stock Co. *Board of Trade v. Christie Grain & Stock Co.*, 198 U. S. 236 (1905) distinguished between gambling and futures trading, holding the latter was permissible under state law and thus eligible for protection under contract law. In writing for the majority, Justice Holmes asserted without any principled basis that financial settlement and settlement through offsetting transactions were distinct and the latter did not violate Illinois

---

[34] Jerry W. Markham, *Confederate Bonds, General Custer, and the Regulation of Derivative Financial Instruments*, 25 SETON HALL L. REV. 1, 9 (1994) [hereinafter Markham, *General Custer*] (describing illegal difference trading).

[35] The same result would obtain if breach was met with suit followed by monetary damages

state anti-gambling law.[36] This was a formalist argument that focused on the language of contracts rather than the course of financial performance. Although Justice Holmes was unable to find logic to support the outcome, his opinion expressed sophisticated intuitions for distinguishing futures trading from gambling.[37] Read charitably, his distinction rested on the context of contracting rather than the content or performance of specific contracts. Holmes made three observations that are excerpted below and returned to subsequently, which are fundamental to justifying and defining the extent of regulated derivatives markets.

(1) Utility of Hedging to Commercial Market Participants: "There is no doubt that a large part of [futures contracts are] made for serious business purposes. Hedging, for instance, as it is called, is a means by which collectors and exporters of grain or other products, and manufacturers who make contracts in advance for the sale of their goods, secure themselves against the fluctuations of the market by counter contracts for the purchase or sale, as the case may be, of an equal quantity of the product, or of the material of manufacture. It is none the less a serious business contract for a legitimate and useful purpose that it may be offset before the time of delivery in case delivery should not be needed or desired."[38]

(2) Use of Prices from Futures Markets in Commercial Dealings: "[T]he quotation of prices from the [futures] market are of

---

[36] *Id.* at 250 ("A set-off is in legal effect a delivery."). Justice Holmes offered no practical distinction between settling a contract through a payment and settling a contract through a payment for an offsetting contract. Instead, viewed charitably, his majority opinion sees the operations of the CBOT as inherent in the CBOT's charter; and that charter is a more specific expression of legislative intent as to its permitted operations than general Illinois anti-gambling law.

[37] The opinion assesses the operations of the CBOT through balancing its facilitation of "serious" (and hence legitimate) business activity against its support of gambling: "the proportion of the dealings in the pit which are settled [through offsetting transaction] throws no light on the question of the proportion of serious dealings for legitimate business purposes to those which fairly can be classed as wagers, or pretended contracts." *Id.* at 250.

[38] *Id.* at 249.

> the utmost importance to the business world, and not least, to the farmers; so important, indeed, that it is argued here and has been held in Illinois that the quotations are clothed with a public use."[39]

(3) Speculation and Price Formation: "[I]n a modern market, contracts are not confined to sales for immediate delivery. People will endeavor to forecast the future, and to make agreements according to their prophecy. Speculation of this kind by competent men is the self-adjustment of society to the probable. Its value is well known as a means of avoiding or mitigating catastrophes, equalizing prices and providing for periods of want. It is true that the success of the strong induces imitation by the weak, and that incompetent persons bring themselves to ruin by undertaking to speculate in their turn."[40]

In distinguishing futures trading from gambling and the CBOT from a bucket shop, *Board of Trade v. Christie Grain & Stock Co.* enabled the contemporary ecosystem of standardized derivatives trading. Bucket shops were parasitic in this ecosystem and endangered exchange operation. First, bucket shops could not operate without exchange sourced data, but the reverse was untrue. Second, if bucket shops drew sufficient transactional volumes from exchanges, the latter would lose the liquidity that attracted traders and justified membership. Without liquidity (i.e., orders to buy and sell futures), an exchange like the CBOT would lose its raison d'être and no longer be able to justify the costs of membership or support its operations. As a result, if bucket shops could divert trading from exchanges, they endangered both the exchanges and the price information they used to attract customers and operate their own business. Furthermore, confusion among customers between legitimate brokers and bucket-shops combined with malfeasance on the part of the latter contributed to deterioration in overall trust. In a classic tragedy-of-the-

---

[39] *Id.* at 249.
[40] *Id.* at 247.

commons[41], however, individual bucket-shops had no incentive to limit how much they undermined the exchanges through diverting order flow or, more generally, subverting trust. The Supreme Court and then Congress came to protect futures exchanges from parasitic competition from bucket shops.

C. Federal Regulation of Derivatives

The Grain Futures Act of 1922 (GFA) initiated federal derivatives regulation.[42] The GFA established the paradigm for federal regulation of derivatives markets, which continues through the present day. That paradigm focuses on regulating market intermediaries, rather than the end-users of financial products. Under the GFA, contract markets (i.e., exchanges) applied to the Department of Agriculture for designation. Unless a contract market was designated, the GFA made it illegal to trade futures on the contract market.[43] To qualify for designation, a contract market had to meet various criteria related to the quality of its grain delivery facilities, the volume of deliveries, and its regulation of members.[44] An exchange had to prohibit its members from making or disseminating misleading reports about grain as well as

---

[41] Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243–8 (1968) (discussing scenarios where an exhaustible resource such as a pasture is over-used due to coordination difficulties among potential users).

[42] Grain Futures Act, Pub. L. No. 67-331, 42 Stat. 998 (1922). Congress enacted legislation after President Woodrow Wilson commissioned the Federal Trade Commission to engage in a study of grain markets. President Wilson's charge responded to broad concerns with speculation in grain markets during World War I. Prior to the Grain Futures Act, Congress passed two other acts regulating futures exchanges, the Futures Trading Act of 1921 and the Cotton Futures Act of 1916. The Supreme Court declared both of these prior Acts unconstitutional as exceeding Congressional taxation authorities. *See Hill v. Wallace*, 259 U.S. 44, 68 (1922) (invaliding Futures Trading Act). In contrast, the Grain Futures Act was based on authority over interstate commerce and survived judicial review. Prior to these Acts, there were many legislative gestures towards regulating futures and options markets. Between 1880 and 1920, over two hundred bills were introduced in Congress to regulate derivatives markets in response to complaints against bucket shops and manipulation on exchanges. Markham, *General Custer* at n. 49.

[43] GFA at Section 4.

[44] GFA at Section 5.

engaging in corners and other manipulation. Additionally, an exchange had to require its members to follow reporting and recordkeeping requirements that the Secretary of Agriculture developed.[45] Although the GFA primarily assigned administration of the Act to the Department of Agriculture, it also reserved roles for the Attorney General and Secretary of Commerce who together with the Secretary of Agriculture composed "the commission". The commission reviewed suspensions and revocations of contract market designation as well as rejections of contract markets' applications for designation. As a leading scholar of derivatives regulation, Jerry Markham, explains:

> "The GFA limited futures trading to 'contract markets' licensed by the federal government, thereby establishing the exchange trading floor's exclusivity over trading in futures contracts for decades to come. Like most congressional actions, the limitation of trading to [designated] 'contract markets' was a balance of interests, promoting the dissemination of price information, expanding the regulation and monitoring of the marketplace, and eliminating bucket shops."[46]

The GFA regulated futures trading on "wheat, corn, oats, barley, rye, flax, and sorghum." Futures on commodities that were not referenced in the statute—such as silver—remained outside of federal regulation until the Commodity Futures Trading Commission Act of 1974, which is discussed below. In the interim, Congress occasionally expanded the scope of commodities triggering federal regulation.[47]

---

[45] GFA at Section 5(b). These requirements are the basis of large trader reporting that takes place to this day. https://www.cftc.gov/MarketReports/CommitmentsofTraders/index.htm

[46] Markham & Harty, *For Whom the Bell Tolls* at 875 (internal citations omitted).

[47] *See also* H.R. Rep. No. 975, 93d Cong., 2d Sess. 35 (1974) ("By amendment of April 7, 1938, wool tops were added to the commodities subject to the [CEA], and fats and oils, cottonseed, cottonseed meal, peanuts, soybeans, and soybean meal were added October 9, 1940. Wool (as distinguished from wool tops) was added on August 28, 1954, and the act was made applicable to onions on July 26, 1955. Public Law 85-839, approved August 28, 1958, prohibited futures trading in onions, effective September 27, 1958, but did not remove onions from the list of commodities covered by the Commodity Exchange Act. Effective June

Following the initial raft of New Deal legislation, the Commodity Exchange Act (CEA) was enacted in 1936.[48] The CEA substantially expanded the regulation of derivatives markets, including through (a) requiring the registration of exchange members and floor brokers, (b) imposing a variety of requirements intended to protect customers directly on exchange members (e.g., prohibitions on members defrauding their customers and requirements that members segregate customer funds from proprietary assets).[49] The CEA also addressed widespread concerns about speculation and manipulation causing artificial prices through delegating to the "Commodity Exchange Commission"[50] the power to set position limits.[51] Position limits restrict the size of positions traders can take through futures transactions, with an important exception for bona fide hedging transactions.[52] This was the first, and not a significant, obligation to apply to end-users in derivatives markets as distinct from intermediaries.

The CEA remains the source of federal derivatives regulation, and followed the birth of federal securities regulation under the Securities Act of 1933 and the Securities Exchange Act of 1934. Whereas the latter created the Securities Exchange Commission as a standalone agency to regulate securities markets, the CEA continued to rely primarily on the Department of Agriculture to

---

18, 1968, the act was amended to include livestock and livestock products . . . . Public Law 90-418, approved July 23, 1968, extended coverage of the act to frozen concentrated orange juice.").

[48]Commodity Exchange Act, Pub. L. No. 74-675, 49 Stat. 1491 (1936).

[49] *See id.* at Section 4b (prohibiting members of contract markets and their agents from cheating, defrauding, making false reports, deceiving, and bucketing orders); Section 4d(2) (requiring the segregation of customer property) (1936).

[50] The Commodity Exchange Commission consisted of the same three individuals as the GFA referred to as the commission. *Id.* at Section 3(b).

[51] *Id.* at Section 4a (1936).

[52] *See* Andrew Verstein, *Privatizing Personalized Law*, 86 U. CHI. L. REV. 551, 554-555 (2019) (discussing position limits and the exemption for bona fide hedging).

regulate derivatives markets.[53] It was only the CFTC Act of 1974 that created an independent agency modeled on the SEC to regulate derivatives markets.[54]

The birth of the CFTC coincided with the expansion and firming of derivatives regulation. It was the CFTC Act that expanded the scope of regulated derivatives beyond agricultural products to all products listed on designated contract markets.[55] This was done through a terse, complex and powerful revision to the term "commodity". That term defines the ambit of the CEA. The CFTC Act expanded the term to include "all services, rights, and interests in which [futures] are presently *or in the future* dealt in."[56] As a result of this amendment, any subject of a futures contract became a commodity, allowing CFTC jurisdiction to expand as derivatives exchanges developed new contracts.[57] This elegant but not unproblematic drafting put markets in the driver's seat, while giving the CFTC veto powers through the contract authorization process. This expansion was especially powerful because the CFTC Act also gave the CFTC exclusive jurisdiction over exchange traded contracts.[58] As a result, product approval

---

[53] The role of the Department of Agriculture traces to the combination of the agricultural origins of derivatives markets and the role of the agricultural committees in the House and Senate in developing the legislation.

[54] Although both SEC and CFTC regulations primarily target intermediaries as distinct from end-users, the former affects end-users more through imposing requirements on offerings and public companies (as well as certain related parties) under the Securities Act of 1933 and the Securities Exchange Act of 1934.

[55] Gary E. Kalbaugh, *Why Regulate Commodities?*, 57 SUFFOLK L. REV. 43, 45-49 (2024) (discussing definition of commodity as it changed in 1974, and the related ambiguities).

[56] CFTC Act Section 201(b) (emphasis added).

[57] For example, when futures were launched on Bitcoin (an asset absent from Congressional imagination in 1974) this language transformed Bitcoin into a commodity. *See* Yuliya Guseva & Irena Hutton, *Regulatory Fragmentation: Investor Reaction to SEC and CFTC Enforcement in Crypto Markets*, 64 BOSTON COL. L. REV. 1555, at n. 116 and surrounding text (2023) (discussing CFTC jurisdiction over cash markets in Bitcoin and other cryptocurrencies following the development of derivatives on these assets).

[58] CFTC Act Section 201(b) (granting the CFTC "exclusive jurisdiction with respect to accounts, agreements (including any transaction which is of the character of, or is commonly known to the trade as, an 'option', 'privilege',

both expanded CFTC jurisdiction and displaced state regulation.[59] As discussed below, this would become important as exchange proposals for products strayed further from the roots of the CEA and implicated the gambling concerns traditionally addressed through state law.[60]

Part II below traces the evolution of products traded on CFTC-regulated exchanges. Given the evolution of products and the consequences of a product being listed on a derivatives exchange—for expansion of CFTC jurisdiction and preemption of other regulation—a natural question is whether there are statutory bounds on the products the CEA governs? Section 3 of the CEA addresses this question. Section 3 predates the CEA,

---

'indemnity', 'bid', 'offer', 'put', 'call', 'advance guaranty', or 'decline guaranty'), and transactions involving contracts of sale of a commodity for future delivery, traded or executed on a contract market designated pursuant to section 5 of this Act or any other board of trade, exchange, or market, and transactions subject to regulation by the Commission pursuant to section 217 of the Commodity Futures Trading Commission Act of 1974"). *See* Stephen J. Lubben, *Failure of the Clearinghouse: Dodd-Frank's Fatal Flaw*, 10 VA. L. & BUS. REV. 127, n.71 (2015) (discussing exclusive jurisdiction of the CFTC).

[59] Abelardo Lopez Valdez, *Modernizing the Regulation of the Commodity Futures Markets*, 13 HARV. J. ON LEGIS. 35, 49-51 (1975) (discussing scope of preemption under the CEA following the CFTC Act). *See* M. Van Smith, *The Commodity Futures Trading Commission and the Return of the Bucketeers: A Lesson in Regulatory Failure*, 57 N.D. L. REV. 7, 14-16 (1981) (discussing concurrent state and federal jurisdiction prior to the CFTC Act).

[60] Initially, the assignment of exclusive jurisdiction over exchange listed products to the CFTC arguably raised greater concerns for other federal regulators as opposed to states. During legislative deliberation over the CFTC Act, the banking regulators raised concerns with currency futures and other products. Thomas A. Tormey, *A Derivatives Dilemma: The Treasury Amendment Controversy and the Regulatory Status of Foreign Currency Options*, 65 FORDHAM L. REV. 2313, 2328-30 (1997). In response, Congress included the so called "Treasury amendment" in the CFTC Act, which carved out off-exchange "transactions in foreign currency, security warrants, security rights, resales of installment loan contracts, repurchase options, government securities, or mortgages and mortgage purchase commitments." CFTC Act Section 201(b) codified at 7 U.S.C. Section 2(ii). In subsequent years, jurisdictional tensions between federal regulators continued to arise as exchanges continued to innovate products with similar uses to those traditionally marketed by banks, and hence subject to banking regulation, as well as those under SEC jurisdiction. *See* Part II, *infra*.

being present in the original Grain Futures Act. That section specifies that futures contracts, as Holmes had observed almost twenty years earlier, were used both for hedging and for setting prices in grain cash markets. According to the GFA, these two uses imbued futures with a public interest.[61] The Commodity Exchange Act retained this language. In fact, this language did not change until 1983 when Congress enacted the Futures Trading Act (FTA) of 1982.[62] The FTA's revisions to Section 3 caught up with the 1974 expansion of CEA authority beyond agricultural commodities through replacing references to "grain" in the description of the Act's purpose with references to "commodities."[63] Then, almost eight decades after Section 3 was adopted, it was substantially shortened under the Commodity Futures Modernization Act (CFMA) of 2000 to read as follows:

> "(a) FINDINGS.—The transactions subject to this Act are entered into regularly in interstate and international commerce and are affected with a national public interest by providing a means for managing and assuming price risks, discovering prices, or disseminating pricing information through trading in liquid, fair and financially secure trading facilities."

These changes replaced longer and more concrete explanations of the public interest implicated in derivatives transactions with an abstract summary. Nevertheless, the purpose of the CEA

---

[61] GFA's Section 3 went on to state that "sudden or unreasonable fluctuations in the prices [of grain and futures on grain] frequently occur as a result of . . . speculation, manipulation, or control, which are detrimental to the producer or the consumer and the persons handling grain and products and byproducts thereof in interstate commerce."

[62] Futures Trading Act of 1982, Pub. L. No. 97-444, 99 Stat. 2294 (1983).The FTA of 1982, despite its name, was not enacted until January of 1983. *Id.*

[63] Futures Trading Act of 1982, Pub. L. No. 97-444, §203, 99 Stat. 2294, 2298-2299 (1983).In addition to correcting this oversight under the 1974 Act, the FTA revised the purpose of the CEA to reflect growing acceptance of speculation. Under the original Grain Futures Act and for the next six decades, federal commodity law saw "speculation" in grain futures markets as on the same level as "manipulation" and "control." *See* supra n. 61. The FTA revised Section 3 to link harms only to "excessive speculation" rather than speculation generally. FTA Section 203. The FTA also included references to options rather than just futures. *Id.*

continues to be linked to the utility of derivatives for hedging (i.e., "managing and assuming price risks") and discovering and disseminating pricing in cash markets as Justice Holmes had intuited almost a century earlier. Part III below will return to Section 3 in discussing whether CFTC-regulated exchanges have authority to list various products that lack hedging and price setting functions. But before engaging in this analysis, Part II follows the evolution of derivatives products to where they have ceased to appreciably serve either of these twin purposes.

II. THE EVOLUTION OF FUTURES CONTRACTS

Prior to the CFTC Act of 1974, federal derivatives regulation governed exclusively agricultural derivatives. With the CFTC's founding, the range of federally governed derivatives vastly expanded, coming to encompass futures on metals and a variety of other exchange-traded products. This era is referred to as the financialization of derivatives, as the variables driving cash flows under derivatives instruments came to include intangibles such as currencies and interest rates. The CFTC provides a database listing products it has authorized since its inception.[64] Through reviewing this database—including the contracts that were already being traded on designated exchanges as of the time of the CFTC's formation— this Part II chronicles the gradual unmooring of regulated derivatives from the hedging and price discovery justifications of the CEA.[65]

---

[64] Industry Filings: Designated Contract Market Products, CFTC, https://www.cftc.gov/IndustryOversight/IndustryFilings/TradingOrganizationProducts (last visited July 26, 2024).

[65] For many of the authorized futures, the CFTC's database does not provide details on product specifications. In these cases, where the product was relevant to the evolution of futures leading to event contracts, contemporary media were reviewed to understand product specifications. Many of the citations in this Part II reference these contemporary sources. *See also* https://www.cftc.gov/sites/default/files/anr/anrcontractsdesig98.htm "Futures and Option Contracts Designated by the Commodity Futures Trading Commission as of September 30, 1998".

A. The Development of Currency and Interest Rate Futures and the Dawn of Financial Futures

The first futures contract designed to manage risk related to an intangible asset was the foreign currency future. The New York Produce Exchange (NYPE) was founded in 1862 and had been a successful commodity exchange in the late 1800s and early 1900s. By the middle of the 1900s, however, the NYPE encountered scandal and began to struggle.[66] The exchange then pivoted, seeking to reinvent itself. It developed a stunning proposal to list first futures on currencies and then futures on stock.[67] In April 1970, the NYPE launched the International Commercial Exchange, which began trading in currency futures.[68] By 1973 the NYPE closed, and its International Commercial Exchange futures market would come to fail.[69] Instead, it was the Chicago Mercantile Exchange (CME) that would come to develop the first deep markets in currency futures.

In December 1971, the CME created an affiliate—the International Monetary Market (IMM)—to list financial futures. On May 16, 1972, the IMM launched seven currency futures contracts.[70] The timing was important. On August 15, 1971,

---

[66] H.J. Maidenberg, *Produce Exchange: A Grand Lady With Few Suitors: Dressed Up Produce Exchange Now Ponders Where*, NY TIMES, March 21, 1965, at F1.

[67] Philip Greer, *Currency Futures Market Described: Nation's First*, WASH POST, TIMES HERALD, Dec. 26, 1969, at D6.

[68] *Trading Mart Hopes Speculators Have Yen For Foreign Currency*, WALL ST. J., Oct. 14, 1969, at 29.

[69] *Produce Exchange Dissolved Into Realty Business Trust*, WALL ST. J., May 29, 1973, at 31. The International Commercial Exchange suffered from circumstance and design choices. It launched *before* Nixon's fateful withdrawal from the gold standard. And its futures targeted relatively small market participants, which some viewed as an invitation to speculation by retail investors. Leo Melamed, *The Birth of FX Futures* at 2. *See Trading Mart Hopes Speculators Have Yen For Foreign Currency*, WALL ST. J., Oct. 14, 1969 at 29 (explaining that the currency futures would require downpayments, i.e., initial margin, of $4,500, which was not an insignificant sum in 1970).

[70] These were contracts based on the price in dollars of (i.e., the exchange rates to) the following currencies: (1) British pounds sterling, (2) Canadian dollars, (3) Deutsche marks, (4) Japanese yen, (5), Mexican pesos (6) Swiss

shortly before the birth of IMM and its introduction of a suite of currency futures, President Nixon abandoned the gold standard.[71] This initially devalued the dollar and permanently unmoored foreign exchange rates. The result was that market participants with international operations faced less predictable cash flows.[72] Figure II.A illustrates the increased volatility through showing the cost of British Pounds Sterling in U.S. dollars over the relevant timeframe.

---

franks, and (7) French francs. https://www.cftc.gov/IndustryOversight/IndustryFilings/TradingOrganizationProducts (listing futures contracts that the CFTC has authorized since its founding, including contracts that were authorized ex post after the CFTC was established). Soon after these seven futures were launched, the New York Mercantile Exchange (NYMEX), launched nine futures on (1) British pounds sterling, (2) Canadian dollars, (3) Deutsche marks, (4) Japanese yen, (5) Mexican pesos, (6) Swiss francs, (7) Italian lira, (8) Dutch guilders, and (9) Belgian francs. The IMM responded by listing contracts on Dutch guilders, but left Belgian francs to NYMEX. In 1980, IMM would list Italian lira and the Intercontinental Exchange (ICE) began to compete as a third U.S. venue with currency futures products, offering (1) British pounds sterling, (2) Japanese yen, and (3) Swiss franc contracts. This history demonstrates substantial but incomplete competition among derivatives exchanges. Among other things, the minimum volumes required for futures trading to be attractive limit the number of venues that offer a product (in the absence of linkage between venues).

[71] Christina Parajon Skinner, *The Monetary Executive*, 91 GEO. WASH. L. REV. 164, 195-97 (2023) (discussing how the U.S. left the gold standard under President Richard Nixon).

[72] Hilary Till, *Case Studies on the Success or Failure of Futures Contracts*, 4 J. GOV. REG. 30, 30-31 (2015) ("With the U.S. dollar no longer pegged to gold or anything of fixed value, the risk of large price changes entered the markets.").

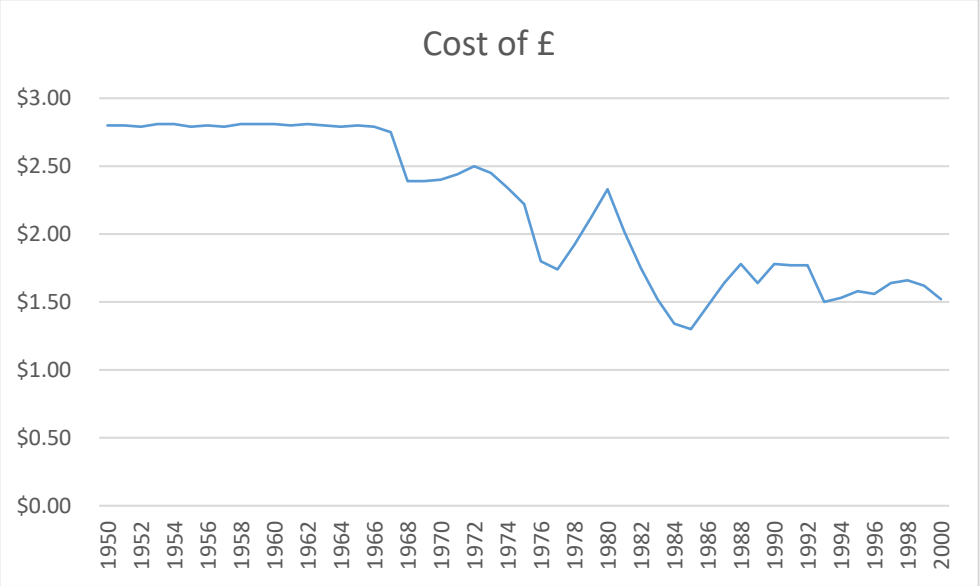


Figure II.A: Cost of £ in U.S. dollars[73]

The IMM launched currency futures with an eye to serving a substantial market. At the time, there was an established interbank forward market for hedging currency exchange risk.[74] However, that interbank market had restrictions on eligible participants. Most firms that recognized revenues in one currency but had expenses in another could not directly access the market, and many smaller businesses faced high costs or difficulties in accessing the interbank market. The CME served these clients, allowing them to buy contracts that locked-in the future price of foreign currency. While the exchange that invented futures to manage foreign exchange risk failed, the CME's suite of products succeeded and was soon emulated by other major exchanges.[75]

---

[73] The source of data is Samuel Williamson's MeasuringWorth.com (last visited July 25, 2024).

[74] *See* Leo Melamed, *Evolution of the International Monetary Market*, 8 CATO J. 393, 401 (1988) (discussing how IMM linked to the interbank market to harmonize pricing through having select clearing members arbitrage prices in the IMM market with prices in the interbank market).

[75] *See New York Merc Aims for Trading in Foreign Currency by Year-End*, GLOBE AND MAIL, Jul. 20, 1978, at B2 (discussing New York Mercantile Exchange plans to list currency futures to compete with Chicago exchanges, with

CBOT and CME—the two successful Chicago-based futures exchanges that trace their roots to the 1800s—would continue to compete and shape U.S. derivatives markets for decades until their merger in the early 2000s.[76] It was these two exchanges that took the next step in the evolution of risk transfer markets. Along with significant increases in currency exchange rate volatility, the 1970s saw sustained interest rate volatility.[77] Figure II.B shows short term interest rates throughout the 1900s, reflecting growth of interest rate risk.

---

the NYME contracts differing in "delivery points and some technicalities.")

[76] Roger Lowenstein, *Commodities Trader Pushes a New Market For Financial Futures*, WALL ST. J., Dec. 29, 1980, at 1 (discussing dominance of CBOT and CME exchanges and difficulties the New York Futures Exchange was having in competing with the two, despite being an affiliate of the storied New York Stock Exchange). The two major Chicago exchanges merged in two steps. In 2003, they merged their clearing operations; in 2007, they merged their exchange operations. *See* Markham & Harty, *For Whom the Bell Tolls* at 895. Their merger of clearing operations created substantial netting efficiencies for market participants. Wolkoff & Werner, *The History of Regulation of Clearing in the Securities and Futures Markets, and Its Impact on Competition* at 375 (discussing $1.4 billion reduction in exposure when the two clearinghouses merged).

[77] Serge Jeanneau, *A Survey of Interest Rate Futures*, BANK OF ENGLAND QUARTERLY BULLETIN 388-98, 388 (Aug. 1989) ("During the 1970s a combination of high inflation, growing stocks of private and public debt and changes in the framework of monetary policies contributed to high levels of nominal interest rates and considerable interest rate volatility.")

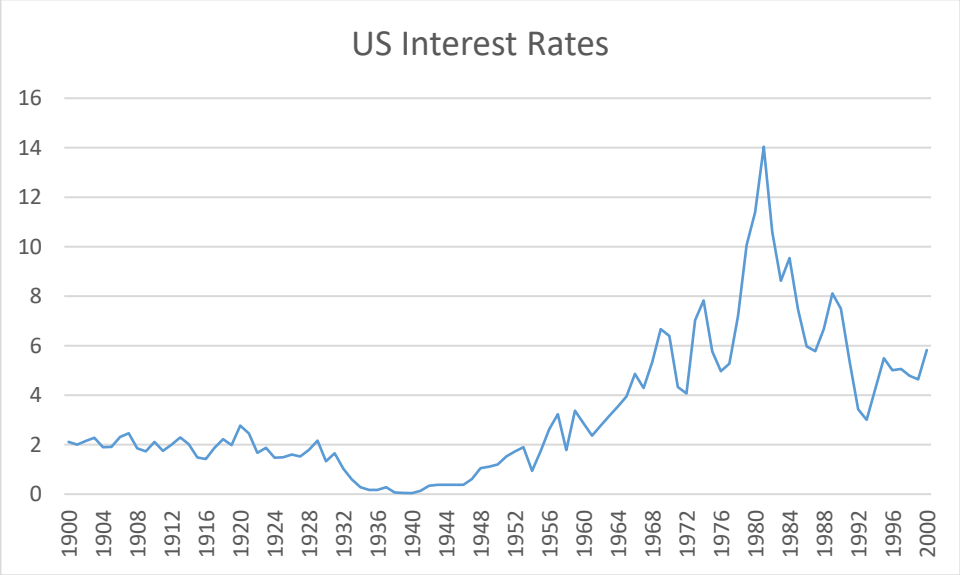


Figure II.B: U.S. short term interest rates[78]

The first derivative enabling hedging of interest rate risk was the futures contract on U.S. Government National Mortgage Association (GNMA) pass through certificates, which the CBOT began trading on October 1975.[79] The GNMA pass through certificate represents an interest in a securitization of mortgages.[80] Those mortgages produce cash as homeowners make principal and interest payments. Those payments are guaranteed by the GNMA, which effectively has the backing of the U.S. government and thus is not subject to default risk.[81] As a result of the federal government's backing, the holder of a GNMA certificate is subject

[78] The source of data is Samuel Williamson's MeasuringWorth.com (last visited July 25, 2024).

[79] The contract was approved on September 11, 1975. The timeline between CFTC approval and commercial launch varies significantly across contracts, with some taking less than a handful of days and other taking months or longer.

[80] Robin Paul Malloy, *The Secondary Mortgage Market - A Catalyst for Change in Real Estate Transactions*, 39 SW. L. J. 991, 1006 (1986).

[81] Because the obligation is denominated in U.S. dollars and the U.S. government can print more U.S. dollars, it is thought that U.S. dollar denominated obligations (such as GNMA certificates) carry no default risk, although their real value can decrease due to inflation in the event that the U.S. government prints more money to satisfy its debts.

only to the risk that the value of cash flows the certificate produces changes in real terms. This is synonymous with interest rate risk, i.e., changes in the cost of funds over time.

The insight behind the first interest rate future exploits the financial relationship between interest rates and the price of debt instruments such as loans, bonds and notes. For example, as interest rates rise, the value of a GNMA certificate declines because identical cash flows to those due on the certificate can be obtained through a smaller extension of principal.[82] As background, GNMA certificate futures, like the initial currency futures, were physically settled. Although their underlying asset was financial as distinct from tangible, these futures adopted settlement mechanics from agricultural and other tangible commodity futures markets established about a century prior. When an IMM currency futures settled, dollars would be delivered in exchange for the contractually defined amount of foreign currency. Similarly, when the GNMA future settled, dollars would be delivered in exchange for the contractually specified GNMA certificate representing $100,000 in principal on mortgages paying an effective annual interest rate of eight percent.[83] By design, the difference in price between a GNMA certificate at the time of execution and its price at the time of settlement expressed interim changes in risk-free interest rates.[84] Each basis point decrease (increase) in interest rates led to a constant increment (decrement) in the price of the deliverable certificate. GNMA futures proved to be successful and the market expanded rapidly.[85] By July 1979,

---

[82] The secondary market for debt modulates prices of issued debt instruments to reflect the opportunity cost of investing through the primary market as opposed to the secondary market. This is the well known inverse relationship between yields (i.e., effective interest payments) and value, where the value of debt increases (decreases) as yields decline (increase).

[83] Stephen Figlewski, *Futures Trading and Volatility in the GNMA Market*, 36 J. FIN. 445, 447 (May 1981).

[84] N. 81 *supra*.

[85] William L. Silber, *Innovation, Competition and New Contract Design in Futures Markets*, 1 J. FUTURES MKTS 123, 133-35 (1981) (observing that the Amex Commodities Exchange, Inc. designed a futures on GNMA certificates that was more tailored to hedging but nevertheless lost to CBOT, which had greater resources and captured a substantial amount of liquidity for its GNMA futures).

open contracts were outstanding for more than $7 billion face value of GNMAs.[86]

A variety of interest rate hedging futures arrived on the scene by the early 1980s, although experts expected relatively few to attract sufficient liquidity and survive.[87] CME and CBOT followed up on the GNMA contract through introducing futures linked to other U.S. risk-free interest rates based on short, medium, and long-term U.S. government debt.[88] Exchanges also worked on developing products that tracked private market interest rates (i.e., interest rates charged to non-governmental borrowers).[89] These included two distinct CBOT futures on commercial paper that were approved in July 1977 and September 1978 and went on to fail[90], as well as futures on domestic bank certificates of deposit that were first proposed by the New York Futures Exchange and shortly thereafter by CBOT and CME.[91]

---

[86] *Id.*

[87] *See CFTC Allows Trading In Eurodollar Futures By 2 More Exchanges*, WALL ST. J., Dec. 16, 1981, at p. 44) (discussing expectations that only one LIBOR-based futures contract will survive after three exchanges received approvals for competing products).

[88] About two months after the CFTC approved CBOT's GNMA futures, on November 26, 1975, the CFTC approved a competing product that the CME submitted. This was a future settling on the 90-day T-bill (i.e. three-month debt issuances from the U.S. Treasury). Over the next five years, CBOT, CME and COMEX would list a variety of interest rate futures settling on risk-free debt from the U.S. government, namely, Treasury bills (i.e., risk-free obligations having an original maturity of a year or less), Treasury notes (i.e., risk-free obligations having an original maturity between two and ten years), and Treasury bonds (i.e., risk-free obligations having an original maturity over ten years).

[89] Bernard Shakin, *Interest Rate Futures: They've Opened Up a Whole New Financial World*, 58 BARRON'S NAT'L BUS FIN. WEEKLY, Nov. 13, 1978, at 4 (Nov 13, 1978) (explaining the development of interest rate futures as well as how they are used to hedge, e.g., by mortgage originators and holders of Treasuries).

[90] Allen B. Frankel, *Interest Rate Futures: An Innovation in Financial Techniques for the Management of Risk*, BIS ECONOMIC PAPERS NO. 12, 14 -18 (Sept. 1984)

[91] *See* Richard L. Hudson &Robert Prinsky, *New CFTC Head Calls Big Board Unit Front-Runner for CD Futures Trading*, WALL ST. J., Jun. 17, 1981, at 46 ("The CDs [underlying the futures contracts] represent amounts of at least $100,000 left with major banks for a specified time. . . . [These futures] would

Probably the most important evolution within interest rate futures following the GNMA contract was the design of the so called "Eurodollar" futures contract. Eurodollar futures were approved for the CME and soon thereafter for CBOT and the New York Futures Exchange in early to mid-December 1981.[92] The asset referenced in these futures contracts was a Eurodollar deposit collecting interest at the London Interbank Overnight Rate (LIBOR). As background, these deposits became popular after deposits within the U.S. became subject to reserve requirements, expensive FDIC assessments and interest rate caps.[93] Eurodollar deposits (e.g., a deposit of dollars at a U.S. bank's European location by a multinational corporate client) were used to skirt these restrictions and collect higher interest rates than were available in the U.S. Partly, these interest rates compensated for the deposit accounts being ineligible for support from FDIC insurance or the Federal Reserve.[94]

---

represent the first important futures contracts covering nongovernment debt instruments, and would provide banks and other financial institutions with an opportunity to hedge against changes in interest rates in the private sector.") The New York Futures Exchange, an affiliate of the New York Stock Exchange, attempted to launch interest rate futures but failed. Frankel, *Interest Rate Futures* at 14. Meanwhile, the London International Financial Futures Exchange was established in 1982 and by 1984 was trading a suite of U.S. dollar and sterling interest rate futures. *Id.* at 18. Other countries' exchanges also started trading interest rate futures products. *Id.*

[92] *See CFTC Allows Trading In Eurodollar Futures By 2 More Exchanges*, WALL ST. J., Dec. 29, 1980 at p. 44 (discussing Eurodollar futures); Roger Lowenstein, *Commodities Trader Pushes a New Market For Financial Futures*, WALL ST. J., Dec. 29, 1980, at 1) (discussing NYFE).

[93] Jonathan R. Macey & Geoffrey P. Miller, *Nondeposit Deposits and the Future of Bank Regulation*, 91 MICH. L. REV. 237, 238, 262-64 (1992)(explaining how bank deposits in London and elsewhere outside of the U.S. were exempt from U.S. requirements related to reserves and FDIC insurance assessments)

[94] The interbank rate at which these deposits accrued interest was discontinued after the LIBOR rigging scandal. Matthew Mosby, Hubert Raglan & Joshua S. Tompkins, *Clearing Up the Tax Considerations of the Cleared Swap Discounting Transitions*, 17 J. TAX'N FIN. PRODUCTS 29, 29 (2020) (discussing discontinuation of LIBOR). However, for approximately three decades, LIBOR was a key metric of non-risk-free interest rates and Eurodollar futures were extraordinarily popular. Frankel, *Interest Rate Futures* at 14.(discussing popularity of Eurodollar futures); Sue S. Guan, *Benchmark Competition*, 80 MD.

Like other interest rate futures, Eurodollar futures were designed so the long position lost value as interest rates increased (and reciprocally, rose in value as rates dropped) with a fixed increment (and decrement) per basis point change in the referenced rate. Unlike all prior futures however (including all CFTC-regulated interest rate products), Eurodollar futures were cash settled. There was no deposit account outside of the U.S. that would be delivered to the futures purchaser (i.e., long position) at settlement. Instead, the difference between the value of a *hypothetical* account at the time of execution and the time of settlement was used to calculate an amount of cash the purchaser would receive if LIBOR dropped in the interim or pay if LIBOR rose. This dispensed with Holmes's fictive distinction[95] of futures contracts from illegal gambling instruments. And the distinction was no longer necessary because futures contracts traded on CFTC-regulated exchanges were protected through preemption of state law, which as discussed above was expressly provided for under the CFTC Act of 1974. With the CFTC's approval of Eurodollar futures, precedent was set for a more attenuated link between futures and cash markets.

Eurodollar futures had another feature that would be influential in product development. These contracts settled on the basis of an index rather than a concretely observed price. Adriana Robertson defines an index as "an aggregation of different pieces of information into a single number based on some algorithm."[96] LIBOR, as an index, was calculated through soliciting banks for the rates they would hypothetically charge to loan funds, and then pruning outliers.[97] Through collecting quotes for hypothetical loans in the London interbank funds market, the index expressed

---

L. REV. 1, 4 (2020) (discussing significance of LIBOR).

[95] *See* n. 36 *supra*.

[96] Adriana Z. Robertson, *Passive in Name Only: Delegated Management and "Index" Investing*, 36 YALE J. REG. 795, 799 (2019).

[97] Gabriel Rauterberg & Andrew Verstein, *Index Theory: The Law, Promise, and Failure of Financial Indices*, 30 YALE J. REG. 1, 16 (2013) ("Libor is the average of the self-reported rates at which sixteen major commercial banks are offered large unsecured loans.").

the cost of unsecured funds to major banks.[98] This served as a reference point to other private borrowers, who could generally expect a similar or higher rate depending on how their default risk compared to that of major banks.[99]

B. Stock and Other Index Futures

A few months after approving Eurodollar futures, the CFTC approved the first futures based on an equity index. Their story is similar to the birth story of currency futures related above. The Kansas City Board of Trade (KBOT) operated since 1856 and was known for agricultural commodities, and in particular, futures on the relatively nutritious hard red winter wheat.[100] In February 1982, the CFTC approved an application from KBOT to list stock index futures that referenced the Value Line Index. The Value Line Index represents the combined value of stock from approximately 1,681 public companies. Nowadays, relatively few mutual funds, exchange traded funds, or other financial products track the Value Line Index.

While futures on the Value Line Index floundered, futures settling on equity indices multiplied and became a substantial portion of derivatives markets.[101] The CME obtained approval for futures on the S&P500 two months after KBOT's approval. Like prior futures contracts, the Value Line futures from KBOT and the S&P500 futures from CME were designed to enable hedging.[102]

---

[98] In 1986, the British Banking Association (BBA) began to administer LIBOR.

[99] *See* discussion of basis risk in Part I, *supra*.

[100] Gregory Meyer, *CME to buy Kansas City Board of Trade for $126m*, FIN. TIMES, Oct. 18, 2012, at 14 (discussing acquisition of KBOT by CME in 2012).

[101] Lynn Bai, *The Regulation of Equity Index Futures*, 22 TENN. J. BUS. L. 14, 17 (2020) (introducing types of broad equity indices that underlie futures contracts).

[102] Bai, *The Regulation of Equity Index Futures* at 21 (discussing use of equity index futures to hedge); *Proposal on Stock-Index Futures Contract Is Dealt a Setback by Silver Market Crash*, WALL ST. J., May 19, 1980, at 38 (discussing hedging uses for proposed Value Line index futures while highlighting concern that they may be used for irresponsible speculation).

Various financial market participants (e.g., investors, dealers) had portfolios of stocks, which short positions on an index composed in significant part of those stocks could hedge.

Since then, a variety of equity indexes have been developed covering various sectors (e.g., energy, aerospace, healthcare), geographies (e.g., East Asia, Europe, Emerging Markets) as well as broad composites of public equities listed in the U.S. (e.g., NASDAQ 100, Russel 2000 and 3000). To enable more participation and fine tuning, mini- and micro- contracts have been developed that allow purchase of futures with smaller exposure.[103] All of the equity indexes have in common that their values are aggregates of public companies' share prices. The construction of indices varies, however; for example, some indices give equal weight to all shares in the index while others apply a market weighting so that companies with relatively more shares outstanding have higher representation in the index.

Equity index futures are cash settled. Delivery of a basket of stock is operationally costly and may require fractions of shares. Instead of requiring physical settlement, the Value Line futures and subsequent equity index futures applied the cash settlement mechanics developed for Eurodollar futures.[104] Where the index declines over the lifetime of the trade, the purchaser of the future (i.e., the long position) pays the difference between the value at execution and the value at settlement.[105] The inverse applies

---

[103] A year and a half later, in July 1983, CME received approval for a mini futures on the S&P500. In April 2019, CME received approval for a micro futures on the S&P500 as well as other equity indices.

[104] L.T. Thuong & S.L. Vischer, *The Hedging Effectiveness of Dry-Bulk Freight Rate Futures*, 29 TRANSPORTATION J. 58, 60 (1990) ("Futures trading on other market indices [followed soon after the Value Line index futures]. Indexation allows futures contracts to be traded on the basis of some market index and enables cash settlements to be made against the index value at the time of their expiration. Without indexation, futures trading would not be possible in markets composed of various components.").

[105] Generally, the index value is multiplied by a constant. For example, CME's mini S&P500 futures settle based on the product of $50 and the level of the S&P500 whereas micro S&P500 futures settle based on the product of $5 and the level of the S&P500. Like other futures, equity index futures are

where the index increases in value. It is worth noting an important distinction between a position through stock index futures and the same position through underlying stock. Stock index futures do not enable the holder to exercise the rights of shareholders, such as rights to receive dividends or vote. This is identical to the position the buyer of futures would be in if the buyer instead contracted for a delivery of the stock on a future date through an off-exchange forward agreement (e.g., the deferred buyer would not be able to vote shares she did not yet have or receive dividends on such shares). However, this is a new feature relative to prior futures contracts. Prior futures did not involve an asset that could profitably be used in the interim between execution and settlement (e.g., the foodstuffs underlying agricultural commodities could not be eaten and then delivered, and interest rate futures were designed to reference an obligation that did not pay coupons between execution and settlement). This step further attenuated the requisite linkage between futures and related cash markets.

In the few years after the approval of stock index futures, CFTC approval followed for a wide variety of cash-settled index-based products. For example, cash settled futures were approved based on indices representing the aggregate value of baskets of:

1. foreign currencies, which were introduced starting in 1985 to enable positions based on the U.S. dollar's relative value in global currency markets as opposed to its value relative to a specific currency;[106] and
2. corporate bonds, which were introduced starting in 1987 to enable positions based on bond portfolios such as those held by pension funds and insurance companies;[107]

---

margined at least daily. This means that as the value of the referenced index changes over the lifetime of the trade, parties exchange variation margin as a form of collateralization synonymous with interim settlement. Ilya Beylin, *How Portfolio Netting Deters Diversification and Competition in the Derivatives Industry*, U. PA. J. BUS. L. (forthcoming 2025) (explaining variation margin).

[106] Between 1985 and 1987, CME, CBOT and Philadelphia Board of Trade (PBOT) obtained CFTC approval for futures financially settled against a "European Currency Unit" and other currency indices.

[107] Corporate bond indices were approved in October 1987. CBT and

Freight rate futures illustrate some of the ingenuity powering futures innovation as well as its dispersion beyond the U.S.[108] Freight rate futures were the first service-based as opposed to property-based futures. They began trading on London's Baltic International Futures Exchange (BIFFEX) on May 1, 1985.[109] BIFFEX futures settle based on an index that reports the aggregate price of shipping cargo along a set of trade routes.[110] While the routes vary greatly, as do the ships that are eligible to participate in the survey on which pricing is based, this aggregate provides a loose metric that reflects costs of shipping. After the BIFFEX futures, additional futures were developed with the first U.S. freight futures being approved two decades later in 2006 upon application from the newly formed Merchants Exchange of St. Louis.[111]

Index based futures, as developed further below, pushed further on the traditional role of CFTC-regulated futures and their relation to cash markets. The Eurodollar contract had a concrete if

---

COMEX had approvals on 10/27/1987. The former launched a long term corporate bond index, whereas the latter launched Moody's corporate bond index. Trading began 1-2 days later.

[108] Markham & Harty, *For Whom the Bell Tolls* at 892-93 (discussing the importance of competition from non-U.S. exchanges for U.S. futures market development).

[109] L.T. Thuong & S.L. Vischer, *The Hedging Effectiveness of Dry-Bulk Freight Rate Futures*, 29 TRANSPORTATION J. 58, 58 (1990).

[110] Thuong &Visscher, *The Hedging Effectiveness of Dry-Bulk Freight Rate Futures* at 61 (Summer 1990) (examining components of the index, including as to what kinds of goods are transported on the relevant ships (first among them grain, and second coal), the size of the vessels (predominantly Panamax vessels carrying between 50,000 and 80,000 deadweight tons that are able to sail through the Panama Canal), and the dominant routes (trans-Pacific followed by trans-Atlantic)).

[111] https://www.cftc.gov/sites/default/files/dea/analysis/deabarge.htm. MESL futures permitted buyers and sellers to trade transportation commitments. Specifically, they enabled buying and selling barge services along U.S. rivers at certain times and between certain locations for the transport of grains. Nowadays, there is a range of freight futures for both wet cargoes (e.g., petroleum) and dry cargoes (e.g., coal, containers) between a wide range of routes globally. https://www.cmegroup.com/trading/energy/freight-futures-and-options.html

hypothetical asset it referenced for purposes of calculating settlement price. Namely, Eurodollar futures settled against the market value of a deposit account with a specified balance bearing a rate of interest for a specified term. The deposit account was an asset with cash (i.e., spot) market equivalents, namely actual deposits made for specific terms in London and other financial centers outside of the U.S. The interest rate raised a complication, as LIBOR represented a rate synthesized from reported interest rates rather than a rate observed in cash market transactions. However, because LIBOR was a widely published and used reference for interest rates, it was relevant to cash markets.

Stock index futures differed from Eurodollar futures due to the multi-component nature of their referenced index. Admittedly, an "underlying asset" is recognizable in the context of an equity index futures.[112] But this asset has a composite nature. The asset is not based on one transaction (e.g., purchase of grain, purchase of a Treasury bond, extension of credit through making a term deposit) but instead related to a large combination of transactions (e.g., 500 distinct purchases of shares from 500 different firms in the case of the S&P500 index). No single cash market is related to the futures contract, or is substitutable for the futures contract. As a result, pricing of the futures contract does not serve as a reference for pricing in cash markets. At the time Holmes wrote the majority in *Board of Trade v. Christie Grain & Stock Co.*, farmers, wholesalers, exporters and others used prices established through futures trading on the CBOT and other exchanges to set the price at which they sold or purchased grain. This function of futures markets continued and was expressed in Section 3 of the Grain Futures Act and then the Commodity Exchange Act. This function is wholly absent in the context of equity index futures and other futures that use an index reflecting the price of a multi-transaction basket.

Other index contracts drifted even further from traditional links between cash and futures markets. A prominent illustration

---

[112] However, as noted already, equity index products involve slippage between cash market value (which includes rights to dividends and voting rights) and the value of futures.

came on April 16, 1985 when the CFTC approved an application from the Coffee, Sugar, & Cocoa Exchange (CSCEX) of futures based on the consumer price index (CPI). A futures contract to hedge inflation was the brainchild of economists. Over a decade earlier–soon after the birth of currency futures and prior to interest rate products—Michael Lovell and Robert Vogel authored an article proposing a futures product that allowed hedging against inflation.[113] CSCEX's launch of CPI futures based on a basket of consumer expenditures drew tepid market interest, despite the nation's difficult experience with inflation in the 1970s.[114] Although economically of little import, conceptually this contract further expanded the CFTC's jurisdiction to products with attenuated cash market linkage. To be fair, there are specific consumer expenditures (i.e., cash market activities) that compose the CPI. However, these transactions are myriad. The Bureau of Labor Statistics, which gathers the CPI, explains that:

> "The CPI represents changes in prices of all goods and services purchased for consumption by urban households. User fees (such as water and sewer service) and sales and excise taxes paid by the consumer are also included. Income taxes and investment items (like stocks, bonds, and life insurance) are not included."

The basket of purchases that the CPI tracks is extraordinarily broad, and as with the initial freight index, it is unlikely that any market participant will be exposed to the changes it tracks with any specificity.[115] That is not to say that CPI futures cannot be used to hedge. They can, albeit only for the relatively short-term period for which futures are available. However, the multi-component nature of the index aggravates basis risk. A farmer selling one kind of wheat but hedging using CBOT's wheat futures knows roughly the relationship between her wheat's prices and the prices of the wheat underlying the CBOT contract. However, an

---

[113] M. Lovell & R. Vogel, *A CPI-Futures Market*, 81 J. Pol. Econ. 1009 (July/August 1973).

[114] Alan Blinder, *The Anatomy of Double-Digit Inflation in the 1970s* (1982) available at http://www.nber.org/chapters/c11462 (examining average 6.8 percent annual inflation over the 1970s).

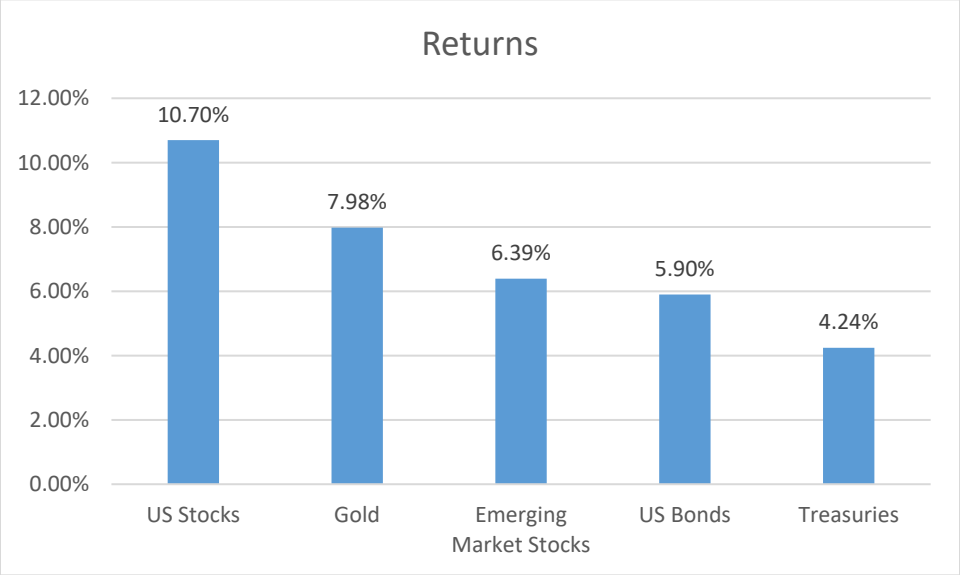
[115] Moreover, the cash market is incomplete as there is no ability to short components of the CPI such as housing costs and groceries.

exporter using BIFFEX contracts to hedge a few specific routes carries substantial basis risk that the index price changes due to prices of routes that are irrelevant to the shipper. Similarly, someone purchasing a CPI future may find that the CPI changes due to changes in the costs of services or goods the hedger doesn't usually use. This is an important point. It may be that the hedger's housing or food costs evolve differently from the housing or food costs reflected in the CPI. That is traditional basis risk (i.e., distinctions in prices of grain by grade, location or timing). Multi-component indices, however, raise a distinct type of non-correlation. It may be that the CPI includes expenditures that the hedger simply does not make, such as car-related expenses where the hedger lives in New York City and relies on public transportation. This slippage between indices and actual exposure may be more of a difference in degree than a difference in kind—again, basis risk is as old as futures—however, the attenuation is important in observing the expansion of the CEA's reach.

Suitability for investment is an additional dimension along which agricultural futures, for which the CEA was established, differ from the futures markets the CFTC enabled by the end of the 1980s. Investors are distinct from hedgers and speculators. Investors have savings, which they seek to grow at market rates. This is distinct from hedgers, who seek to transfer risks incurred in the course of their business or other activity. And it is distinct from informed traders, who seek to make above market returns based on private information. While agricultural futures are not suitable investment products, futures the CFTC authorized since 1974 have features that may allow them to function as investment instruments.

Derivatives are not a monolithic asset class. As already shown and will continue to be explored in reviewing the history of futures authorization, products have different features and have evolved over time. The asset(s) underlying a futures contract are important for understanding the behavior and potential uses of the contract. Foodstuffs are perishable goods that result from a production process that has become more efficient through time. This is reflected in the prices of agricultural commodities. For

example, the price of wheat increases by less than one percent per year, falling short of inflation.[116] While agricultural commodities may have been suitable for short term speculation in anticipation of sharp supply changes (e.g., war, crop disease, weather), they cannot be used for investment.[117] As a result, people do not use agricultural futures to park their savings. The expansion of regulated futures to other tangible commodities as well as financial assets, however, expanded the potential uses of futures to investment. Annual returns on gold, oil, government and private debt, and perforce baskets of public equities substantially exceed returns on foodstuffs. Figure II.C below illustrates returns on assets referenced in popular futures contracts to provide a general sense of how vastly their returns outperform the sub-inflation returns on agricultural commodities.



[116] The St. Louis Federal Reserve provides global wheat price history. https://fred.stlouisfed.org/series/PWHEAMTUSDM . A metric ton of wheat cost $167.92 on January 1, 1990 and cost $227.08 on January 1, 2024. This reflects a compounded annual growth rate of 0.88 percent over the 34 year period. Data on grain prices since 1900 provides similar growth rates. Like other returns presented in this Article, these returns are not risk adjusted and not adjusted for inflation.

[117] *See* Part III.C, infra, discussing uses for derivatives products.

Figure II.C: Annual returns by asset class 1971-2024[118]

Investment using futures products is admittedly non-trivial relative to investment through funds and cash markets. An investor can buy shares or warehouse receipts for tangible non-perishable commodities and hold them in a brokerage account. Alternatively, a person can invest in a fund that holds these assets (and perhaps, other assets). In contrast, an investor using futures markets has to regularly incur transaction costs as futures expire, settlement takes place, and new futures have to be purchased. This is particularly true as typically futures with longer expiration periods have lower liquidity and higher transaction costs. Putting aside these practical considerations, however, the observation stands: unlike agricultural products, the assets underlying regulated futures after the CFTC was established became suitable for investors willing to take market returns rather than just cash market participants seeking to hedge and speculators seeking to outperform the market. This was a reason that the CFTC began a turf battle with the SEC, which had traditionally overseen instruments through which firms obtained capital and investors allocated savings.[119] This subject will be returned to in Part III below.

C. Introduction of Event Contracts

In the two decades after its birth in 1974, the CFTC approved contracts referencing increasingly more exotic variables with pricing further and further removed from identifiable cash market transactions. These were heady days for those arguing against

---

[118] Data comes from Statista, which aggregates information from World Gold Council, Bloomberg and ICE Benchmark. Like other reported returns in this Article, the returns are not risk adjusted. They are presented to give a rough comparison to returns on agricultural commodities, so as to show the expansion of commodity derivatives regulation to asset classes with investible returns. It may be that the transaction fees of using futures or other derivatives to access these asset classes make the derivatives impractical as investment instruments.

[119] *See* David J. Gilberg, *Regulation of New Financial Instruments under the Federal Securities and Commodities Laws*, 39 VAND. L. REV. 1599, 1635-39 (1986) (discussing the early jurisdictional conflict between the CFTC and SEC).

government involvement in market activity. By 1995, the Interstate Commerce Commission was abolished. Prior to that, the Berlin Wall fell and the Soviet Union collapsed. Although these events expressed something far more complex, and distinct from, the theorized merits of "free markets" as compared with centralized planning under the Communist model, these epochal milestones anchored popular perception, politics and directions of regulatory policy.

It was no accident that the approval of index-based products began under Ronald Reagan's presidency. James Stone, who was chair of the CFTC under Carter, refused to approve the Value Line index futures. He likened equity index futures to "gambling."[120] It was only after Reagan's chairman Phillip McBride Johnson took over running the CFTC that index-based futures were authorized. First, Johson led approval of the Eurodollar futures and then the approval of Value Line and other equity index futures.[121]

Derivatives implicate longstanding social concerns with the balance between profits and productivity. Humans have been suspicious of financiers for millennia as examined in usury scholarship, among other fields.[122] As people get wealthy through financial activity, some mix of resentment and genuine concern over resource allocation poses the question: what has this person

---

[120] *Proposal on Stock-Index Futures Contract Is Dealt a Setback by Silver Market Crash*, WALL ST. J., May 19, 1980, at 38 ("Despite the industry claims, 'I've yet to be convinced that this is anything but gambling,' says CFTC Chairman James Stone. If the commission finds that's all it is, then the whole idea is doomed CFTC staffers say. To be legally traded, a futures contract must serve an 'economic purpose,' such as hedging. So far, says another official, "I haven't seen that clear economic purpose demonstrated.")

[121] Johnson had been a partner at the Chicago law firm Kirkland & Ellis prior to his appointment. There, he represented clients from the futures industry. He was an immensely capable lawyer with a keen sense of industry interests, and would write the preeminent treatise on derivatives regulation that enables young associates to practice in the field to this day. Philip McBride Johnson et al., DERIVATIVES REGULATION (Wolters Kluwer 2024).

[122] James G. Frierson, *Changing Concepts on Usury: Ancient Times through the Time of John Calvin*, 7 AM. BUS. L.J. 115, 123 (1969)(discussing how John Calvin's teachings began to modify longstanding religious prohibitions on taking any interest).

really done to earn her wealth? Allen Frankel, who was among other things a chief economist at the Federal Reserve in the 1980s, frankly and eloquently reflected:

> "[I]n many quarters, questions continue to be raised about the rationale and justification of the proliferation of financial futures contracts and about whether, in fact, such markets mainly serve to provide opportunities for speculation. Those who take this view generally see recent innovations in financial techniques as having adversely affected economy-wide productivity growth. James Tobin has expressed such sentiments by admitting to '. . . an uneasy Physiocratic suspicion, perhaps unbecoming in an academic, that we are throwing more and more of our resources, including the cream of our youth, into financial activities remote from the production of goods and services, into activities that generate high private rewards disproportionate to their social productivity.'"[123]

Complicating views on the value of financial activity are the resemblances and overlaps between financial activity and gambling, which were already introduced above. Judgments, or simply assumptions, about the risks and social utility of finance—and derivatives specifically—define political positions.[124] And appointees predictably express party positions as they lead agencies.[125] Under the post-Cold War pre-2008 Financial Crisis

---

[123] Frankel, *Interest Rate Futures* at 3.

[124] See, for example, Remarks by J. Christopher Giancarlo, *Chairman of the CFTC, at the Eurofi Financial Forum* (September 6, 2018) ("Friedrich Hayek argued that free market economics is the foundation of the highest form of human freedom. And, ultimately, that is what I am urging with these recommendations: the freedom of private enterprise that fires the imagination, liberates trade and commerce, unleashes markets lifts our fellow citizens into greater prosperity."). Walt Lukken, Chairman of the CFTC, *The Derivatives World is Flat* (June 14, 2006) (celebrating innovation, competition and technology as forces for advancement in derivatives markets). On the other hand, far left commentators offer reductionist dismissals of derivatives. See, for example, Lynn Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 30-31 (2011) (misrepresenting the hedging utility of cash-settled products by making the nonsensical assertion that they cannot be used to hedge because they do not require physical delivery).

[125] Todd Phillips, *Commission Chairs*, 40 YALE J. REG. 277, 283 (2023) (explaining how the chairs of the CFTC and other agencies have far more influence on policy than other commissioners).

presidencies of George H. W. Bush, Bill Clinton and George W. Bush, futures markets (and derivatives markets more generally) received increasing deference from lawmakers.[126]

Before George H. W. Bush completed his presidency, the CFTC began to approve futures and options without cash market references. These included contracts that CBOT submitted to the CFTC in June 1990, which would settle on the basis of insurers' operating experience.[127] CBOT catastrophe insurance futures provide an example. Following a protracted approval process, these futures began trading in December 1992.[128] The futures settled on the basis of an index tracking experience among property and casualty insurance providers.[129] The index consisted of a numerator and a denominator. The former expressed claims for property and casualty losses over a quarter under a set of policies. The latter aggregated premia paid for those policies. As a result, the index proxied for the ex post profitability of a set of policies (i.e., it was a ratio that captured important features of insurers' cost and revenue structures).[130] The index was not based on the price of any product, instead reflecting a partial measure of financial performance.[131] Contemporaneously, the CFTC approved similar

---

[126] *See* Tim Wu, *Agency Threats*, 60 DUKE L.J. 1841, 1849-51 (2011) (observing that Hayekian predictions about the relatively limited information available to lawmakers encouraged Congress to limit regulation and promote "natural" development within derivatives market as, inter alia, manifest in the Commodity Futures Modernization Act of 2000). David M. Driesen, *Legal Theory Lessons from the Financial Crisis*, 40 J. CORP. L. 55, 64-66 (2014) (observing that a deregulatory ideology influenced lawmakers in the period between the 1980s and the 2008 financial crisis, and explains among other things, the nurturing approach lawmakers took to derivatives markets).

[127] Stephen P. D'Arcy & Virginia Grace France, *Catastrophe Futures: A Better Hedge for Insurers*, 59 J. RISK. INS. 575, 575 (1992).

[128] Michael Bayard Smitha & L. Jamie Pickles, *An Introduction to Catastrophe Insurance Futures*, COLLECTED PAPERS FROM 4TH ACTUARIAL APPROACH FOR FINANCIAL RISKS INTERNATIONAL COLLOQUIUM 817, 822 (April 1994).

[129] Robert P. Eramo, *Insurance Catastrophe Futures* at 49.

[130] Notably, the index did not purport to measure profitability. Among other things, it did not account for investment returns from the premia or the sales and administrative costs of policies.

[131] Premia are the prices of insurance contracts. However, the index was not

products for health insurance and homeowners insurance. With the approval of these products, the CFTC effectively announced that futures could be settled based on variables other than market prices.

In the same period, Hayekian philosophy concerning the information aggregating capacity of market-pricing bloomed into application. Naturally, the first to express theory in action were academic economists. In June 1988, the Iowa Electronic Market (IEM) began trading contracts that settled on the basis of who would win the 1988 election in which the main three candidates were George Bush, Michael Dukakis and Jesse Jackson.[132] The market offered participants a bundle of four contracts it sold for two dollars and fifty cents ($2.50). There was one contract for each of the main three candidates and one for the rest of the field. Market participants could unbundle and sell the contracts via the exchange. Following the election, each contract would pay a product determined by multiplying $2.50 by the relevant candidate(s) share of the popular vote. Because the popular vote would sum to 100% across the contracts, the bundle of contracts would necessarily pay $2.50 at settlement. However, the price of each individual contract within the bundle fluctuated based on how much of the popular vote the referenced candidate(s) were expected to receive. For example, if a candidate received 10% of the vote, the contract referencing that candidate would pay $0.25 (i.e., 10% * $2.50). As a result, to the extent market participants could anticipate the outcome of the popular vote, they would sell the contract for anything over a quarter and buy the contract for prices below that. The IEM reflected the computerization of the financial industry in the 1980s and was wholly electronic, allowing

based on premia alone. Rather, it included claims histories and tracked the extent to which premia covered those claims histories.

[132] Robert Forsythe, Forrest Nelson, George R. Neumann & Jack Wright, *Anatomy of an Experimental Political Stock Market*, 82 AMER. ECON. REV. 1142, n.1 (Dec. 1992) (noting that similar experiments using markets were run at "the University of Rochester, California Institute of Technology, Princeton University, the Wharton School of the University of Pennsylvania, and the Brookings Institution during the 1988 campaign"). Initially, the Iowa Electronic Market was called the Iowa Political Stock Market.

participants to submit orders to buy or sell contracts at specific prices via personal computer. The IEM had 192 participants trading on the 1988 election and the pricing that derived from their judgments predicted the popular vote extremely well.

The IEM was unregulated when it was formed. To avoid state law prohibitions on gambling, the IEM exclusively served members of the University of Iowa community.[133] To expand participation, the IEM sought relief from the CFTC prior to the 1992 election. The IEM submitted a request for a no-action letter to the CFTC, which the CFTC granted on February 5, 1992. Notably, the no-action letter did not take a position as to whether IEM markets traded in CFTC regulated contracts.[134] Whether or not the proposed contracts were subject to CFTC regulation, the no-action letter stated that the CFTC would not take enforcement action provided certain conditions were met.[135] The conditions were meant to assure that the IEM operated at a small scale as an experimental, non-commercial venture that lacked the economic clout to seriously impact political outcomes. These conditions included that the professors operating the IEM did not receive related compensation, that there were fewer than 2000 participants, that the maximum purchase by any participant was capped at $500, and that the IEM operate exclusively for an academic or experimental purpose.[136] Following the birth of the IEM, additional academic projects were launched that used markets to predict election outcomes.[137] The no-action relief

---

[133] *Id.* at n. 5.

[134] A component of the request for no-action proposed a separate market on earnings per share of major corporations. These were clearly linked to the performance of securities, and the CFTC cautioned IEM that not only would it not provide no-action relief but that the SEC could take action. As a result, the IEM never launched trading to predict companies' earnings per share.

[135]Professor George R. Neumann, CFTC No-Action Letter, CFTCLTR No. 92-04(a), (February 5, 1992);Professor George R. Neumann, CFTC No-Action Letter, CFTCLTR No. 93-66, Comm. Fut. L. Rep. P 25, 785, 1993 WL 595741 (June 18, 1993)..

[136] *Id.* Because the IEM was not treated as a futures exchange, the CFTC warned when granting no-action relief that the IEM would separately need to address concerns of triggering state anti-gambling laws.

[137] *Id.* (discussing other prediction markets launched prior to 1992). *See*

granted to IEM birthed a parallel strain of instruments, which were outside of the CFTC's jurisdiction, and devoted uniquely to aggregating information as distinct from enabling hedging, pricing, or investment.

While IEX and other small or foreign prediction markets began to operate outside of the CFTC's jurisdiction, regulated exchanges continued to develop more and more exotic regulated products. In 1995, CBOT received authorization for a number of futures[138] with settlement based on crop yields of specific agricultural products in specific areas. Yield futures demonstrate both a gap in traditional agricultural futures and a step beyond them. The prototypical farmer could use traditional grain futures to hedge against fluctuations in the price of grain. For example, at the time of planting, the farmer could enter into a contract to deliver 1,000 bushels in the September or December following the summer. The farmer would be paid based on current prices of wheat when selling those futures. In exchange, the farmer would deliver the wheat in lieu of selling it at September or December prices (or, alternatively, offset the futures obligation through buying inverse futures at the time of settlement and then delivering her grain to the market based somewhat on the price of the offsetting futures). This enabled the farmer to shed price risk. But this transaction did nothing about "yield" risk, or the farmer's uncertainty as to the volume of her harvest. How could the farmer know when planting how many bushels of wheat she would have to sell? If she used her historical averages, she may oversell futures in a bad season or remain partly exposed to market price fluctuations in a good season. As a result, farmers generally waited long after planting to get a sense of their harvest (i.e. yield) before hedging price. Yield futures addressed this distinct source of risk.

---

*also*Neil Quigley, CFTC No-Action Letter, CFTCLTR No. 14-130, Comm. Fut. L. Rep. P 33324, 2014 WL 5499971 (Oct. 29, 2014); *Clarke v. CFTC*, No. 1:22-CV-909-DAE, 2024 U.S. Dist. LEXIS 28124 (W.D. Tex. Jan. 16, 2024) (lawsuit filed by PredictIt after the CFTC withdrew no-action relief, allegedly following PredictIt straying from the conditions on which that relief rested).

[138] For ease of exposition, the discussion omits that in this instance and in others, that the CBOT also received CFTC approval to trade various options referencing similar settlement terms.

For example, the CBOT introduced futures covering the harvest of corn in Illinois within specific periods.[139] These contracts settled on whether actual yields exceeded or fell short of historical averages. Crop yield futures were not-price based. Instead, they settled based on growing and harvest season-end reports of yield from the U.S. Department of Agriculture.[140] The futures enabled hedging based on the volume of wheat produced. Where state level events (such as weather, pests, fertilizer costs, diseases) as distinct from farm-specific events affect harvests, farmers and other users of grain can use the futures to obtain a hedge against variations in volume.[141] Notably, the underlying events referenced in yield futures are not financial. As discussed above, insurance futures approved in 1992 moved beyond price variables in calculating settlement values. However, the insurance futures were based on financial events, namely, payments of premia and coverage of related claims. In contrast, yield futures were based on natural phenomena, namely, the volume of plants generated by an acreage. The index was sourced from a government agency, thought to be neutral and credible. As the variables permitted to drive cash payments under regulated futures contract became more exotic and departed further from prices observed in cash markets, the CFTC drew no lines and instead approached contract submissions on a case-by-case basis.

The CME became an innovator in weather derivatives, i.e., futures and options that settled on the basis of weather events. Since harvest futures had been approved, phenomena from the natural world were fair game for settlement. In 1999, the CME

---

[139] The CFTC approved similar contracts on harvests in Indiana, Ohio, Nebraska, and the whole of the United States. Similarly, it approved contracts on soybean, winter wheat, spring wheat, and other crop harvests. These contracts were designed to substitute for crop insurance that was already available at the time of the futures' development.

[140] The unit of trading for the contract is the State's yield estimate times $100 (e.g., a yield of 132.2 bushels per acre gives a contract value of $13,220). Tomislav Vukina, Dong-feng Li &Duncan M. Holthausen, *Hedging with Crop Yield Futures: A Mean-Variance Analysis*, 78 AMER. J. AGR. ECON. 1015, 1016 (Nov. 1996). Contract months are September and January.

[141] *Id.*

obtained approval for futures and options that settled against an index tracking temperatures.[142] Specifically, the index tracked the extent to which daily temperatures in a period exceeded or fell short of the sixty-five degree Fahrenheit threshold below which utilities need to provide heating and above which additional electricity is needed for air-conditioning. Subsequent weather-related exchange traded contracts would settle on the basis of other natural phenomena such as wind-related events (e.g., number of named storms that make landfall in the U.S.), levels of precipitation (e.g., regional snowfall or rainfall), and various fluctuations in temperature.

Without any requirement to transfer risk based on changes in market prices, instruments only had to serve hedging purposes to demonstrate their listing eligibility. But as already observed, the extent to which a contract has hedging utility is a question of degree. Even traditional grain futures impose basis risk. The extent to which a contract's settlement price evolves inversely with a hedger's exposure is a highly context dependent question and can only be observed in hindsight with all the defects of hindsight bias. Thus conditioning contract approval on a level of hedging utility poses difficult questions for the CFTC.[143] How are the lawyers and economists at the agency to judge whether a proposed product would meaningfully serve market participants' hedging needs? To what extent should the CFTC be too liberal or too conservative in permitting contracts, particularly given the myriad reasons even contracts with substantial hedging utility fail? The CFTC could choose to err in favor of being too deferential to markets and approve contracts with scant hedging functions, or it could err in favor of being too strict and reject contracts that could have had substantial uses in neutralizing risk. Instead of taking time to reflect and formulate a comprehensive policy on product approval that takes into account the CFTC's legal authority and the

---

[142] *CME Plans First Exchange-Traded Weather Temperature Futures, Options*, PR NEWSWIRE, Feb. 4, 1999, 1.

[143] The CFTC could obtain assistance in making these complex judgments through requiring submission of information developed in product design, including copies of marketing studies exchanges conduct when assessing whether and how market participants may use a proposed product.

principles that the agency serves, the CFTC engaged in decades of contract-by-contract review that led it down a slippery slope.

There are a number of possible explanations for the CFTC's failure to invest in long-term guidance. One story would point to the CFTC being resource constrained and using the bandwidth it had to deal with pressing demands such as addressing applications from market participants, overseeing registrants and enforcing the CEA. CFTC employees can only be expected to work so much, and the CFTC didn't get budget for additional employees or other resources. And the Chairs and Commissioners may be more interested in delivering high level talks in fancy forums and preparing for their next career step than analyzing granular reports on law or markets from CFTC staff, let alone engaging in the difficult, systemically nourishing project of technocracy. Another story points to how the CFTC benefits from approving products. As discussed above, the 1974 amendments to the CEA enabled the CFTC to expand its jurisdiction to all traded futures, options and underlying cash markets. As a result, authorizing novel products expanded the CFTC's jurisdiction, making the agency and the Agricultural committees in Congress more relevant. This helped all of the primary decisionmakers, drawing lobbyists to Congressional committee members and creating career opportunities for those at the CFTC. The industry, oversight committees, the Chair, the Commissioners, and staff at the CFTC all had personal reasons to grow the CFTC's jurisdiction through expanding the range of regulated instruments.[144] A third story is that consensus was simply lacking. The scope of contracts that could be approved under the CEA is not obvious and requires complex judgment informed by law and market activity. There is genuine and substantial room for debate, and in lieu of consensus on a framework, the individuals involved took a case-by-case approach. The fact that the Chair and Commissioners have five-year terms and typically arrive with little sense of priorities (and,

[144] Moreover, growth into areas traditionally regulated solely under state law—as opposed to products within the SEC's jurisdiction or relevant to the Treasury or banking regulators—allowed the Agricultural Committees and the CFTC to expand power without wrestling it away from other Congressional committees.

more frequently than one would hope, applicable law and industry practice) shortens the timeframe during which investment in policy could take place, even if there was an appetite for it. Whatever the explanation, the result was a step-by-step expansion in the permissible types of contracts and put the CFTC in the difficult position of considering applications for futures wholly unmoored from cash market prices.

In 2001, HedgeStreet filed an application to become a CFTC-designated trading market.[145] From its inception, HedgeStreet sought only to list event contracts.[146] Its application went through a grueling process during the first term of the George W. Bush presidency.[147] HedgeStreet was the first applicant to seek designation under a new regime that came into place with the Commodity Futures Modernization Act of 2000. As amended by that Act and discussed further below, the CEA continued to serve a "public interest" defined as enabling hedging and cash market pricing[148]; however, a requirement that the CFTC review every listed futures and options contract to assure that the product would serve this public interest was removed.[149] Prior to its approval, HedgeStreet represented that it "anticipat[s] that its contracts

---

[145] *Merc, Board of Trade Could Face 2 New Rivals*, CHICAGO TRIBUNE, May 28, 2003, at 3 . HedgeStreet began informal meetings with the CFTC to explore an approval for a novel exchange in 1999. Letter from Gregory Robbins, outside counsel to Hedge Street, to Jean Webb, CFTC Secretary at 1-2 (Oct. 20, 2003).

[146] *Hedge Street to Launch Exchange for Options*, LOS ANGELES TIMES, Feb. 20, 2024 at C4.

[147] CFTC Division of Market Oversight*, Designation Memorandum re HedgeStreet* 4-6 (February 10, 2004) [hereinafter HedgeStreet Designation].

[148] Walter L. Lukken, CFTC Commissioner, *Testimony Before the Committee on Agriculture United States House of Representatives regarding Energy Markets* at 2 (April 27, 2006) (identifying the twin roles of futures in assisting with managing risk and establishing pricing in related markets).

[149] The CFMA removed section 7 U.S.C. 7(7), which required the CFTC to assess whether a proposed new contract served the public interest, or more precisely, required an exchange to "demonstrate[] that [futures transactions] for which designation as a contract market is sought will not be contrary to the public interest." After the CFMA, exchanges could obtain authorization to list contracts through either submitting an application for prior approval or through self-certifying the contract and the CFTC not challenging the certification. N. 8, *supra*.

would allow institutions and individuals risk management opportunities that existing exchanges do not provide, although HedgeStreet did not file any contracts with its application."[150] On February 10, 2004, after more than two years of analysis and a resubmission, the application from HedgeStreet was granted.

HedgeStreet was a unique contract market when it was formed. It included a clearing facility, which was approved together with the exchange. The clearing facility was trivial, because of how HedgeStreet designed its contracts. As detailed in its rulebook,[151] HedgeStreet listed only binary options.[152] These were contracts similar to what the IEX had designed, which required no margin or other sophisticated risk management because they were fully prepaid, i.e., parties to the contract did not have contingent payment obligations.[153] HedgeStreet sold two-contract bundles, and supported trading in the individual contracts. The components of the bundle were designed to be mutually exclusive and comprehensive of all potential outcomes. For example, in a bundle referencing a merger between two companies, the two contracts would pay in opposite cases.[154] The

---

[150] HedgeStreet Designation at 2.

[151] Exchanges seeking CFTC designation submit the rules that would govern trading in listed products, among other things.

[152] HedgeStreet Designation at 2 (describing the binary options that HedgeSteet would offer).

[153] Because of how the binary options were designed, exchange participants did not have contingent obligations to the exchange. If it did have those obligations, they would have to be valued and collateralized on a daily basis, which is an expensive proposition. Furthermore, the exchange was relatively cheap to operate because it targeted retail market participants that required little in the way of product features and customer support and could be obtained through internet marketing. Furthermore, because it was all electronic, HedgeStreet did not need to incur the real estate and other expenses of running trading floors.

[154] This is not an idle example. In mid-June 2007, Hedge Street, which was renamed the North American Derivatives Exchange (NADEX), listed binary options settling on the basis of ten potential M&A transactions between various firms: (1) NASDAQ & Philadelphia Exchange; (2) ISE and NYSE; (3) ISE and Deutsche Borse; (4) Hershey and Cadbury; (5) News Corp and Dow Jones; (6) Yahoo and Microsoft; (7) Sirius and XM; (8) Topps and Upper Deck; (9) Google and Salesforce; and (10) Tornante and Madison Dearborn. HedgeStreet was not

first contract would pay the price of the bundle less transaction fees if the merger occurred within the year; the second contract would pay the price of the bundle less transaction fees otherwise.

Between 2006 and 2007, Hedge Street began trading contracts that settled on the basis of whether a specified level of (a) yield per acre was achieved for an agricultural product in a particular region and time period; (b) damage was done by hurricanes or other storm events in a specified region over a specified time period; (c) initial jobless claims was reported by the U.S. Department of Labor. HedgeStreet also listed binary options that settled on the basis of: (1) natural gas and crude oil inventory levels; (2) economic variables such as retail sales, unemployment claims, manufacturing levels, and nonfarm payrolls; (3) prices of gasoline, heating oil, propane, residential real estate, prescription drugs, hospitality services and other consumer expenditures; (4) currency exchange rates; and (5) storm and hurricane damage estimates.[155]

---

the first to offer options that settled on the basis of whether mergers took place. That honor goes to an affiliate of Eurex, a major European exchange, which attempted to compete in the U.S. with CME, CBOT and ICE through an affiliate, USFE. In May 2007, USFE certified two contracts, which settled respectively on whether (a) CME and CBOT would merge, and (b) whether ICE and CBOT would merge. As detailed above, CME and CBOT merged, leading to significant changes in the U.S. derivatives industry. USFE had a difficult time obtaining regulatory approval in the U.S. and went on to fail. James E. Newsome, CFTC Chairman, *Remarks Before the USFE Designation Hearing on the Approval of U.S. Futures Exchange, Application for Contract Market Designation* (February 4, 2004) https://www.cftc.gov/PressRoom/SpeechesTestimony/newsomestatement020404 .

[155] At around the same time that HedgeStreet was launching, Goldman Sachs and Deutsche Bank partnered in launching a derivatives exchange based on economic variables, such as reported U.S. nonfarm payrolls, manufacturing survey results and metrics of retail sales. Paul Taylor, *Economic Derivatives: A New Class of Derivatives from Deutsche Bank and Goldman Sachs is Seen as a Sharper Instrument*, FIN. TIM., May 24, 2003, at 26 This so called "Economic Derivatives" exchange operated approximately between 2002 and 2007. Erik Snowberg, Justin Wolfers& Eric Zitzewitz, *Prediction Markets for Economic Forecasting,* in 2(A) HANDBOOK OF ECONOMIC FORECASTING 657 (Graham Elliott & Allan Timmermann eds., Elsevier 2013). Unlike HedgeStreet, which targeted

Many of these contracts reproduced futures already being traded on CBOT or CME, subject to one alteration: instead of transferring the magnitude of risk as commonly done through futures, the HedgeStreet product transferred risk in a binary manner. For example, these products—although purportedly designed for hedging—did not distinguish, between (a) crop yields falling short of a threshold by a little or an asteroid hitting the state and all farmland being eviscerated; (b) storms causing a bit more damage than the threshold and an unprecedented hurricane season that led to widespread bankruptcies among insurers and general economic collapse; or (c) a slight softening of the job market that triggered the threshold and a massive loss of jobs due to an unprecedent pandemic such as COVID19. The HedgeStreet products were by design crudely binary and aimed at retail traders. While it is difficult to say that the products lacked hedging utility, they were far from as tailored in how they transferred risk than preexisting products were.

Although it transferred risk in a crude fashion, the HedgeStreet product model did have a justification. Traditional futures, which expose market participants to continuous ranges of risk, require margining.[156] Margining, among other things, requires parties to a futures transaction to post or receive collateral on a daily basis.[157] The following example illustrates the relevance of margining to traditional futures as distinct from event contracts in the form of binary options.

Consider a futures contract on the price of grain. If the futures contract is executed at current market prices of grain for settlement in two months' time, each party is exposed to a continuous range of risk. The party that sold the grain is subject to the risk that the price increases. The price could theoretically

---

retail traders, the Economic Derivatives exchange aimed at sophisticated institutions. Goldman Sachs and Deutsche Bank operated the exchange without CFTC approval, I believe possibly under an exemption for markets with only eligible contract participants, i.e., a class of sophisticated persons.

[156] The same is generally true of swaps, and the sale (as opposed to the purchase) of non-binary options.

[157] *See* n. 24, *supra*, and surrounding text.

increase to infinity, so there is no upper bound on the seller's exposure. No amount of prepayment would be sufficient, and instead, derivatives markets have traditionally required the posting of variation margin to cover increases in price as they occur. The long position is distinct, but also exposed to a continuous range of risk. Prices can decline, which results in losses to the purchaser up to a maximum where prices reach zero and the purchaser's loss converges to the price at execution (i.e., for every cent the price of referenced grain declines, the purchaser of the futures loses a cent).[158] Although a purchaser could prepay for all potential losses on the futures by initially depositing an amount that would be deliverable if prices reach zero, for efficiency (because prices rarely fall so much and the additional capital costs on futures-purchasers would deter trading) that historically has not been done.[159] Instead, purchasers—like sellers—post variation margin as prices change.

To continue the example, consider two binary options instead of a futures contract. The first binary option pays $100 if the price of grain is below $6/bushel at the time of settlement. The second binary option pays $100 if the price of grain is equal to or above $6/bushel at the time of settlement. These binary options can be fully prepaid with a payment of $100 plus any transaction fees. This is the structure that IEM developed, which is discussed above. And this structure does not require margining over the lifetime of the trade because no party to the options contract can incur any additional liability over its lifetime – the maximum payable under both options is $100, which is paid at the outset. Being responsive to margin calls on a daily basis—as futures require—is expensive and not something retail and other smaller traders can generally

---

[158] There is precedent for prices falling below zero, such as when during the COVID19 pandemic, oil purchasers were *paid* to take barrels of oil because storage capacity was over-extended. Laila Kearney, *Coronavirus: US Oil has Dropped to Below $0 Dollars a Barrel*, REUTERS (April 21, 2020).

[159] Risk management generally does not seek to eliminate risk but to adequately mitigate it. *See* Christopher L. Culp, Merton H. Miller & Andrea M.P. Neves, *Value at Risk: Uses and Abuses*, 10 J. APPLIED CORP. FIN. 25, 27 (Winter 1998) (explaining how risk is commonly managed to achieve a non-zero amount of expected losses).

support. That is why from an administrative or operational perspective, binary options are better suited to retail participants. The costs of calculating, obtaining, transferring and custodying collateral are avoided, making the products cheaper to support—both for traders and intermediaries. And as already explained, binary options *can* be used to hedge, but in a far more limited way than the futures contracts. When a farmer buys options that pay if prices go below $6/bushel and sells options that pay if prices are at or above $6/bushel, the farmer does obtain a limited hedge. The farmer makes money from her harvest if prices increase and makes money from the options if prices decrease below $6. However, while the amount she loses on her harvest falls continuously as prices approach $0 per bushel, the amount she receives as compensation on the options does not change. The payout is the same whether prices are at $5/bushel or $1/bushel.[160] This makes the hedge relatively crude. But a crude hedge may be better than no hedge if a trader can't access traditional products, as is the case for many retail participants. If products such as those developed by HedgeStreet can be justified from a customer perspective, this is generally how they would be justified, i.e., they offer hedging opportunities where practical alternatives do not exist.

Market-based pricing as a philosophy of social coordination reached an apotheosis in the handful of years prior to the financial crisis of 2008.[161] When Hedge Street submitted its application to be designated as a contract market, CBOT and CME vociferously

---

[160] At the cost of additional transaction fees, the farmer could use binary options to better approximate the continuous price risk she faces on her harvest. This could be done through purchasing additional options that pay if prices go lower, for example, one option that pays if prices fall below $6/bushel, another option that pays if prices fall below $5.50/bushel, another option that pays if prices fall below $5/bushel, and so on. In practice, however, these strategies tend to be impractical because fees on transactions are high and the distinct strike prices at which contracts are available are relatively far from each other (e.g., the price risk between wheat selling at $6/bushel and $5.50/bushel is significant).

[161] As a trivial but illustrative example of product development in this period, in August 2006, the CFTC authorized CME's real-estate index based futures, which professors Karl Case and Robert Shiller had designed to track residential real estate price trends.

argued against it in submissions to the CFTC. HedgeStreet came back with letters from three leading professors, claiming the utility of its products for hedging. Ronald Howard explained to the CFTC:

> "I was surprised and dismayed to learn that the CME and CBOT have filed negative comments on HedgeStreet and are asking the CFTC to deny HedgeStreet market designation. For many decades, those who have studied risk markets have deplored the incompleteness of these markets that causes ordinary people to be unable to take prudent actions that would minimize the effect of risk on their lives. The innovations that HedgeStreet proposes would go a long way toward correcting the inadequacy of current markets."[162]

The letters from distinguished professors offering support for HedgeStreet did not consider the details of the contracts HedgeStreet proposed to list or how these contracts would address risks faced by retail or other participants. It was taken on faith that the instruments would be useful for risk management.[163]

---

[162] Comment Letter from Ronald Howard, Stanford Professor, to Jean Webb, CFTC Secretary, Regarding HedgeStreet's DCM Application (Oct. 20, 2003). *See* also, Comment Letter from Robert Shiller, Yale Professor, to Jean Webb, CFTC Secretary, Regarding HedgeStreet's DCM Application (Oct. 20, 2003) (expressing perfunctory support for the "extensive risk management purpose that will be served by this new market"); Comment Letter from Kenton K. Yee, Columbia Business School Professor, to Jean Webb, CFTC Secretary, Regarding HedgeStreet's DCM Application (Oct. 20, 2003) (claiming HedgeStreet contracts would enable participants to "hedge away risks in ways that are currently impossible with existing risk management tools" and that if the platform was not approved, it was "just a matter of time before someone (if not U.S., then overseas) will implement this idea.)"

[163] The involvement of professors in futures product approval is not novel. Leo Melamed, who was chairman of the CME and launched IMM, worked with Milton Friedman in the approval of the first suite of currency hedging products and subsequent interest rate hedging. Leo Melamed, *The Birth of FX Futures* at 5 (describing how Milton Friedman helped CME lobby Arthur Burns, George Schultz, and Paul Volcker in the authorization of currency futures). Melamed recalls with appreciation: "I remember the winter of 1975. Alan Greenspan instantly loved the idea of T-bill futures. The fact that Milton Friedman loved it too did not hurt. When the CFTC would not approve our contract unless William Simon, the Secretary of the Treasury acquiesced, Milton Friedman telephoned him. Our contract was approved the same day. Milton Friedman, you will recall,

By early 2008, the CFTC began to systematically reflect on the attenuation between emerging products and the traditional roles of futures contracts, issuing a concept release to solicit comments on the trend (the "*2008 Concept Release*"):

> "Since 2005, the Commission's staff has received a substantial number of requests for guidance on the propriety of offering and trading financial agreements that may primarily function as information aggregation vehicles. These event contracts generally take the form of financial agreements linked to eventualities or measures that neither derive from, nor correlate with, market prices or broad economic or commercial measures."[164]

The Concept Release was developed under then Chairman Walt Lukken. Lukken had an unusually long leadership tenure at the CFTC, having served as Commissioner from August 2002 and been promoted Chair in June 2007. The release identified the period in which Lukken was a Commissioner but the prior two George W. Bush chairs led the agency as the time when the flood of prediction products began, although it acknowledged precedent emerged in the early 1990s:

> "Since 1992, Commission-regulated exchanges have listed for trading a variety of commodity futures and options contracts with payout terms based on interests other than price based interests. These contracts involve interests as diverse as regional insured property losses, the count of bankruptcies, temperature volatilities, corporate mergers, and corporate credit corporate mergers, and corporate credit events."[165]

Unfortunately, Lukken's attempt to organize agency thinking was abandoned. The comments that were made on the Concept Release were relegated to the proverbial drawer when derivatives markets convulsed in the summer of 2008 and the financial crisis

---

did the honors of ringing the opening bell on the IMM's first interest rate contract." *Id.*

[164] *Concept Release on the Appropriate Regulatory Treatment of Event Contracts*, 73 Fed. Reg. 25669, 25670 (May 7, 2008).

[165] *Id.* at 25671.

began.[166]

Since the CFTC's abandoned attempt to reflect on permissible exchange-traded products, contracts with questionable hedging capacity and no relation to cash market pricing have proliferated. In December 2011, Hedge Street, which had renamed itself as the North American Derivatives Exchange (NADEX), filed certifications with the CFTC to list contracts on federal elections.[167] Specifically, the exchange wanted to trade binary options similar to what IEX offered based on (a) the presidential election, (b) the majority in the House, and (c) the majority in the Senate.[168] The CFTC rejected these proposals. However, since then, the CFTC has approved hundreds of contracts with only tenuous hedging potential and no contribution to cash market pricing. As discussed below in Part III, these contracts predominantly serve a distinct economic purpose—if any—namely that of prediction.

Growth in exotic products occurred through both further product development from established exchanges—primarily the CME— as well as products developed by new exchanges such as Cantor Exchange, Eris Exchange, and most recently in June 2024, ForecastEx.[169] Among the new exchanges, KalshiEx is responsible for a substantial portion of prediction product submissions.

The CFTC approved KalshiEx at the tail end of the Trump administration, on November 3, 2020.[170] KalshiEx enables trading

---

[166] *See* n. 194, *infra*.

[167] CFTC, *In the Matter of the Self-Certification by North American Derivatives Exchange, Inc., of Political Event Derivatives Contracts and Related Rule Amendments under Part 40 of the Regulations of the Commodity Futures Trading Commission* (April 2, 2012).

[168] Others sought to offer similar products while defying the CFTC's authority. *CFTC v. Trade Exch. Network Ltd.*, 318 F. Supp. 3d 26, 32-33 (D.D.C. 2018) (imposing penalties against the Intrade market, which operated a prediction market offshore and did not challenge whether its prediction products qualified as derivatives under Section 3(a) of the CEA).

[169] *CFTC Grants ForecastEx, LLC DCO Registration and DCM Designation*, Release Number 8926-24 (June 25, 2024).

[170] CFTC, *Order of Designation: In the Matter of the Application of KalshiEX LLC for Designation as a Contract Market* (Nov. 3, 2020).

on a range of esoteric events including many bordering on the trivial such as movies' ratings in Rotten Tomatoes, whether and which University Presidents will fall for their approach to the October 7 attack by Hamas and Israel's response against Gaza, and how many weeks Taylor Swift's album, The Tortured Poet's Department, will spend at the number one spot on the Billboard 200. Arguably, the broad range of offerings that covers front page issues such as the results of awards shows (e.g. Grammys), whether there will be over ten thousand asylum seekers in a given month, and whether the U.S. will ban tik-tok caters to a new, retail audience. The low costs of launching products partly explains the myriad options available to KalshiEx customers. A number of independent factors are responsible for the low cost of developing new products. Lawyers have commodified product certifications. Online trading is highly scalable. And as discussed above in introducing HedgeStreet, binary options carry no counterparty credit risk that requires expensive management because they are fully prepaid. Growing cultural acceptance of online transactions as well as the ease of marketing digital products help spread adoption.

III. WHY MOST EVENT CONTRACTS ARE INELIGIBLE FOR TRADING UNDER THE CEA

As introduced in Part II, in the early 1990s, the CFTC began approving futures that settled without reference to market prices. Since their development in the second half of the 1800s, futures contracts had consistently set prices in related cash markets. From the birth of futures regulation through over half a century, only futures that referenced actual market prices were permitted. This began to change with the approval of indexed products, which strained and ultimately broke the connection between futures and prices in cash markets. However, the futures without connection to any cash markets that were approved in the 1990s retained substantial hedging utility, at least on a theoretical level.[171] For

[171] D'Arcy & France, *Catastrophe Futures: A Better Hedge for Insurers* at 579

example, the insurance products described above did offer an alternative to reinsurance for unusually high losses due to catastrophes or other events. Even the hedging utility of futures, however, began to slip in the 2000s. Binary options offered a design that traded low operational costs for low specificity. Because binary options were prepaid, they did not require margining. But the binary settlement outcomes that enabled prepayment also limited the instrument's hedging utility. As the CFTC approved products with only attenuated connections to the public interest that expressly motivates the CEA, a question arose as to what, if anything, the products the CFTC was approving achieved for the public.

There is perspective that comes with reviewing the history of derivatives' evolution. Each step away from statutory assumptions about the role of derivatives looks relatively small and justifiable, but in the aggregate, the steps trace a path that has led to many products being authorized despite having scant if any connection to the goals of derivatives regulation. The CFTC has ignored its decades-long jurisdictional drift. The agency should undertake a review of traded products to delist those that have only attenuated connection to the purposes of the CEA. Many products should not benefit from preemption, and instead, be subject to state law – including restrictions on gambling.

One could argue that the CEA's jurisdiction extends to products that do not serve the CEA's stated purpose. In that case, this Article continues to be valuable primarily in two ways. First, it empirically traces the trajectory of derivatives evolution in the preceding Part II. Second, as a policy matter, one may nevertheless agree that the CEA's jurisdiction should be limited to achieving the purposes of hedging and pricing in related cash markets. The policy reasons for extending state law protections are reviewed in Part III.C below. If the current language of the CEA is insufficient to prohibit authorization of contracts that fail to adequately advance hedging or pricing goals, the following

---

(examining whether CBOT insurance futures can substitute for reinsurance products in managing risk).

language could be added to CEA § 5c(c), which governs the approval of new products: "No product may be listed under the CEA that does not materially advance the public interest of the CEA as provided under Section 3 hereof."

The rest of this Part III considers interpretive and policy argument against this Article's proposal that the CFTC relinquish control over products with limited hedging and pricing utilities so that they return to state regulation. These arguments stem from a distinct, predictive function of financial products, which the IEM and subsequent prediction markets developed. Before turning to the legal and policy reasons against a retrenchment of the CFTC's reach, the predictive role of financial products is introduced and examined.

A. How Financial Products Aggregate Information and Enable Prediction

The significance of price is a central and illuminating insight in the study of economics. Friedrich Hayek is a standard bearer for the power of prices to aggregate information. As Cass Sunstein observed in 2006:

> "Deliberation is one way to aggregate privately held information, but there are many other possibilities. An obvious alternative is to rely on the price signal, which has a similar aggregative function. As Hayek emphasized, the price mechanism is a kind of 'marvel,' because it combines widely dispersed information held by diverse people. And if an emphasis is placed on the information-aggregating properties of markets, it would seem plain that, to improve on the answer produced by deliberating groups, we might consider an increasingly popular possibility: Create a market."[172]

The importance of price in financial markets is both intuitive and heavily theorized. As quoted above, writing well before Hayek,

---

[172] Cass Sunstein, *Deliberating Groups versus Prediction Markets (or Hayek's Challenge to Habermas)*, EPISTEME 192, 205 (2006).

Justice Holmes understood that when a person has private information about the value of a financial instrument, the person may profitably trade on that information and thereby indirectly share that private information with others as pricing adjusts.[173] For example, if a biologist discovers a strain of poisonous bacteria spreading through American wheat fields, the expert can buy grain futures on the expectation that grain prices will increase due to diminished supply. This is an example of what Justice Holmes refers to as competent speculation, or "prophesizing", that leads to "equalizing prices" between the present and the future.

Finance scholars have long studied how privately held information is absorbed into the prices of financial products through transactions in those products. These studies, which will be expanded on below, distinguish informed from uninformed traders. Informed traders have private information that is not reflected in market prices. Through buying (selling) at the market price, informed traders can make a profit when they have private information that the value of the instrument is higher (lower) than other traders believe. Imbalanced demand (supply) from informed traders drives the price of the instrument up (down), in accordance with basic economic theory[174], albeit operationalized through market micro-structure.[175]

In securities and derivatives markets, prices absorb information concerning the future returns of the relevant instrument.[176] Similar mechanics can be exploited to turn markets into predictive mechanisms, as Sunstein refers to above[177] and

---

[173] N. 40, *supra*, and surrounding text.

[174] This is a reference to increases in demand increasing price and increases in supply decreasing price.

[175] *See, e.g.*, Albert S. Kyle, *Continuous Auctions and Insider Trading*, 53 ECONOMETRICA 1315 (1985); Lawrence R. Glosten and Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 J. FIN. ECON. 71 (1985)

[176] Elisabeth de Fontenay & Gabriel Rauterberg, *The New Public/Private Equilibrium and the Regulation of Public Companies*, 2021 COLUM. BUS. L. REV. 1199, 1227 (2021) (discussing absorption of information into stock price).

[177] Text preceding n. 172, *supra*.

IEM implemented.[178] If there are two potential outcomes, a market that launches and supports trading in two instruments—one paying if the first outcome occurs, and the second paying if the alternative outcome occurs—will yield expectations as to the two outcomes.[179] Provided the market attracts sufficient liquidity and otherwise functions, the price of each instrument should converge to the product of the likelihood of the occurrence and the payment upon the occurrence, with the likelihood being based on traders' dispersed beliefs. By dividing the price by the payment, the likelihood is obtained. Hence the instrument's price embeds a prediction. This is how IEM, HedgeStreet, KalshiEx and other exchanges design their products.

Information embedded in prices has long been thought publicly and privately valuable.[180] This is particularly true of prediction products, which have been celebrated by academics and market enthusiasts for their potential to credibly aggregate information.[181] The informational content of prices offers a

---

[178] Note 132 and surrounding text, *supra*.

[179] This example is generalizable to where there are three or more potential outcomes, through separate instruments linked to each outcome as IEM did with respect to 1988 presidential election outcomes.

[180] Ilya Beylin, *Taxing Fictive Orders: How an Information-Forcing Tax Can Reduce Manipulation and Distortion in Financial Product Markets*, 85 U. CIN. L. REV. 91, 99-102 (2018) (reviewing why financial instruments' pricing information is a public good).

[181] Snowberg, Wolfers& Zitzewitz, *Prediction Markets for Economic Forecasting* at 6 ("Three inter-related facets lead to prediction markets' ability to produce accurate, reliable forecasts. First, the market mechanism is essentially an algorithm for aggregating information. Second, as superior information will produce monetary rewards, there is a financial incentive for truthful revelation. Third, and finally, the existence of a market provides longer term incentives for specialization in discovering novel information and trading on it. While these facets are inherent in any market, other forecasting mechanisms, such as polling, or employing professional forecasters, lacks one or more of them."); Michael Abramowicz, *Information Markets, Administrative Decisionmaking, and Predictive Cost-Benefit Analysis*, 71 U. CHI. L. REV. 933, 937 (2004) (proposing to involve prediction markets in the development of agency actions). *But see* Rebecca Haw Allensworth, *Prediction Markets and Law: A Skeptical Account*, 122 HARV. L. REV. 1217, 1221-24 (Feb., 2009) (cautioning about the efficacy of prediction markets); Jonathan Masur & Jonathan Remy

justification for markets in financial instruments distinct from their utility for undertaking investment and hedging activities, and distinct from developing prices that can be used in cash markets. This Article does not dispute this distinct value of financial markets. Rather, the Article rejects that exchanges organized under the CEA are authorized to offer products that have a predictive function as distinct from hedging or cash market pricing functions. Whether or not these exotic products offer social value, they must be regulated under state law rather than the CEA.

B. The CFTC is not Authorized to Govern Products Based on Predictive Utility

Part I.C above traces the purpose of regulation under the CEA. As developed there, derivatives are not seen as an end in themselves. Rather, the public's interest in derivatives and their regulation flows from how derivatives enable other business activity. Namely, derivatives enable (i) hedging and (ii) pricing in related cash markets. Until the CFMA amended the CEA in 2000, these twin public interests were unambiguously the justification for federal derivatives regulation. However, the development of derivatives markets led to the compact, abstract and arguably ambiguous language of present-day Section 3(a):

> "(a) FINDINGS.—The transactions subject to this Act are entered into regularly in interstate and international commerce and are affected with a national public interest by providing a means for managing and assuming price risks, discovering prices, or disseminating pricing information through trading in liquid, fair and financially secure trading facilities."

Although this language from the CFMA provides an awkward

Nash, *Promoting Regulatory Prediction*, 97 INDIANA L. J. 203, 218 (2022) (same). *See also* Hillary Allen, *Fintech and Techno-Solutionism*, 98 S. CAL. L. REV. (2025) (forthcoming) (arguing against the trend of finding regulatory uses for commercial products).

definition, the "national public interest" related to derivatives should not be construed as extending beyond their contribution to hedging and cash market pricing.[182]

Pursuant to Section 3, the public's interest in derivatives markets consists of "managing and assuming price risks", "discovering prices" and "disseminating pricing information." These phrases are considered in turn. One may argue that any instrument that creates risk and thereby enables a party to "assume" that risk satisfies the first goal. On reflection, this position should be seen as absurd. The creation of risk is not itself beneficial, and is likely to be harmful.[183] Although assumption of risk is referenced, that assumption is combined with management and refers to the fact that when one party manages risk through its transfer, another party assumes that risk.[184] This is the role of intermediaries and speculators in derivatives markets, who provide liquidity to hedgers even when they do not themselves use the instruments to hedge.[185] Moreover, both management and assumption of risk do not refer to any risk. They refer only to "price risk". Given that legislative qualifier, which captures over a century of market practice, a variety of instruments that are not based on cash market prices are beyond the CEA. This potentially disqualifies futures as early in the evolution of exotic instruments as the insurance futures CBOT developed in the early 1990s.[186]

---

[182] As a matter of logic, it does not follow from Section 3(a) that if a transaction does not serve the specified public interest then it is not subject to the CEA. However, when sense is added to logic, the language of Section 3(a) should be read as defining transactions subject to the CEA as exclusively those that serve the public interest specified in Section 3(a).

[183] *See* W.C. Bunting, *A Better Legal Definition of Gambling: With Applications to Synthetic Financial Instruments and Cryptocurrency*, 86 ALBANY L. REV. 257, 324 (2023) (distinguishing gambling from other financial activity in that the latter creates risk as opposed to transferring it).

[184] The grammatical choice made by Congress supports this reading of "managing and assuming" as a single phrase. If either was sufficient to justify the regulation of an instrument under the CEA, "or" would be used instead of "and" so that the phrase would read "managing or assuming price risk."

[185] Ilya Beylin, *Designing Regulation for Mobile Financial Markets*, 10 U.C. IRIVINE L. REV. 497, 507-09 (2020) (describing how intermediaries and speculators assume risks from commercial market participants).

[186] Arguably, the CBOT insurance futures transfer risk related to insurance

Predictive instruments that serve to aggregate information – as opposed to instruments that enable the transfer of price risk – do not achieve the interest of "managing and assuming price risks".

The next two phrases "discovering prices" and "disseminating pricing information" also should be analyzed collectively.[187] They refer to the traditional role of futures markets in establishing prices that cash market participants use, which Justice Holmes observed over a century ago and which the GFA and then the CEA explained prior to the modification of Section 3 under the CFMA.[188] To understand the CFMA's amendment of Section 3, it is helpful to understand what changes in derivatives markets the CFMA was responding to. By the time of the CFMA, other derivatives—primarily swaps—had become popular and were being traded outside of CFTC-regulated exchanges. The CFMA sought to nurture the off-exchange market, referred to frequently as the over-the-counter market notwithstanding that some of the market

---

contract premia under-charging for coverage. Those premia are prices, because they reflect how much the policy holder pays for coverage. Under this view, the CBOT insurance futures would be permissible under Section 3.

[187] *See, e.g.*, *A New Regulatory Framework for Trading Facilities, Intermediaries and Clearing Organizations*, 66 Fed. Reg. 14262, 14267 (March 9, 2001) (implementing the CFMA and observing that "[M]arkets that serve a price discovery function are required to disseminate publicly certain market information . . . [t]his information provides a great benefit to the public in terms of ensuring the supply of *economic guidance to commodity producers and users* . . .") (emphasis added) [hereinafter *A New Regulatory Framework*].

[188] Preceding the CFMA, CEA § 3 explained the public's interest in derivatives regulation as follows: "Transactions in commodities involving the sale thereof for future delivery as commonly conducted on boards of trade and known as "futures" are affected with a national public interest. Such futures transactions are carried on in large volume by the public generally and by persons engaged in the business of buying and selling commodities and the products and byproducts thereof in interstate commerce. The prices involved in such transactions are generally quoted and disseminated throughout the United States and in foreign countries as a basis for determining the prices to the producer and the consumer of commodities and the products and byproducts thereof and to facilitate the movements thereof in interstate commerce. Such transactions are utilized by shippers, dealers, millers, and others engaged in handling commodities and the products and byproducts thereof in interstate commerce as a means of hedging themselves against possible loss through fluctuations in price. . . ."

was conducted through brokers, electronic platforms and other intermediaries. Towards this, the CFMA provided an exemption for certain "transactions in exempt commodities"[189] and developed two regulatory categories for platforms where derivatives could be traded without registration as a contract market (i.e., the traditional regulatory classification of derivatives exchanges under the CEA discussed in Part I, *supra*).[190] In each of these cases, however, the exemption from market transparency requirements turned on whether the relevant derivatives "perform[] a significant price discovery function for transactions in the *cash market* for the commodity underlying" the derivative.[191] If the derivative performed a significant price discovery function for the relevant cash market, dissemination of pricing information for that derivative was required. It was the CFMA that introduced the terms "price discovery" and "price dissemination", and in context, those terms referred to the discovery and subsequent dissemination of prices relevant to underlying cash markets.

It is possible to argue that predictive instruments enable a form of "price discovery" and "price dissemination." Specifically, these instruments by their design aggregate likelihoods into price, thereby enabling the collection and dissemination of that information. This argument would recognize a novel function for derivatives instruments and a significance to derivatives' price that Congress did not acknowledge when enacting the CFMA. There is no evidence that Congress believed derivatives

---

[189] *See* CFMA § 101 (adding classes of "exempt" and "excluded" commodities to the CEA).

[190] CFMA § 106, codified at CEA § 2, provided an exemption for bilaterally executed transactions in exempt commodities such as interest rate swaps, foreign exchange swaps and other swaps between sophisticated market participants. CFMA § 111, codified at CEA § 5a, provided for derivatives transaction execution facilities. CFMA § 114, codified at CEA § 5d, provided for exempt boards of trade. The latter two exemptions enabled an "exchange light" regime for certain products where a low risk of manipulation was anticipated and where only relatively sophisticated parties could participate. *A New Regulatory Framework* at 14262 (explaining the three tiers of regulation for derivatives markets under the CFMA).

[191] CEA § 2(h)(4)(D), as amended by CFMA (emphasis added). *See* CEA §§ 5a(d)(5) and 5d(d), as amended by the CFMA (same).

instruments should be used to serve a predictive function.[192] The standalone Hayekian value of pricing information as distinct from the practical insight derivatives market prices provide for cash market values is foreign to the CEA. The legislative history of the CFMA as well as the use of related terms in Congressional hearings reflects that "price discovery" and "price dissemination" were used in reference to the utility derivatives have for establishing prices in related cash markets.[193] To propose that the CEA should extend to predictive products, preempting their regulation under state law, is to read these terms as academic economists might rather than as they were used in Congressional settings.[194] It would also recognize a value in derivatives markets

---

[192] As discussed in Part I, *supra*, since *Board of Trade v. Christie Grain & Stock Co.*, derivatives have been distinguished through their utility for hedging and price discovery in cash markets.

[193] *See, e.g.*, Testimony of CFTC Chair Mary Shapiro before the House Banking and Financial Services Committee (March 30, 1995) ("Commodity futures and options contracts are risk-shifting instruments that . . . provide a means to construct and adjust hedges on all types of commodities and financial instruments quickly and cheaply . . . In addition, because the price of a futures or option contract is derived from the value of an underlying commodity, the prices that result from futures trading serve as reference points in cash markets."); Report of the President's Working Group on Financial Markets, *Over the Counter Derivatives Markets and the Commodity Exchange Act* (Nov. 1999) (in arguing against the regulation of swaps markets, distinguishing swaps from futures in that the former do not serve the price discovery functions that the latter have served); Hearing before the House Committee on Agriculture, Subcommittee on Risk Management, Research and Specialty Crops, *The Commodity Futures Modernization Act of 2000 H.R. 4541* at 21 (June 14, 2000); *A New Regulatory Framework* at 14267 (discussing price discovery and price dissemination as serving price formation in cash markets referenced by regulated derivatives); *Exempt Commercial Markets*, 68 Fed. Reg. 66032, 66034-35 (Nov. 25, 2003) (same).

[194] The Dodd-Frank Act added a new section 5c(c)(5)(C) to the CEA, which required the CFTC to apply additional scrutiny to event contracts involving "(I) activity that is unlawful under any Federal or State law; (II) terrorism; (III) assassination; (IV) war; (V) gaming; or (VI) other similar activity." The CFTC is implementing restrictions on these referenced contracts. *Event Contracts*, 89 Fed. Reg. 48968, 48969-70 (June 10, 2024). However, this applies to only a relatively small (albeit controversial) segment of the contracts this Article argues are beyond the CEA's authority. *See also*, *Statements of Commissioners Dan M. Berkovitz and Brian D. Quintenz Related to Review of ErisX Certification of NFL Futures Contracts* (arguing whether exchanges should be permitted to

disconnected from how they further cash market activity.

C. State Law is an Adequate Home for Public Prediction Markets

Thus far, the argument for placing products with predominantly predictive functions beyond the CEA has been legal. Simply put, a product is outside of the scope of the CEA and should be governed by state law if it has scant utility for hedging or informing cash-market pricing.[195] A response may be that subjecting these products to state law would make it difficult to offer these products at all; this response is pragmatic, and points to complying with a patchwork of state law in lieu of a single federal regime as complex and expensive. In other words, whatever the law is, one could argue that the status quo should be preserved as a policy matter.[196] This Article does not attempt to engage in a cost-benefit analysis to understand the relative advantages of regulating prediction products (and other non-compliant contracts) under the CEA as opposed to state law. Instead, it assigns products between regimes based on the interests those regimes target, assuming the regimes are appropriately designed. Because of the importance of gambling to prediction market operation, state law regimes are an appropriate regulatory setting for these markets.

A successful market requires liquidity from uninformed traders.[197] Uninformed traders are willing to take market prices,

---

support legalized sports gambling through enabling wholesale hedging of risks bookies and others incur in relation to NFL games).

[195] Fabio Mattos, *Innovation in Future Markets: Event Contracts, Speculation and Hedging* available online at https://agecon.unl.edu/innovation-futures-markets-event-contracts-speculation-and-hedging (Nov 9, 2022) (questioning the hedging utility of event contracts).

[196] *See, e.g.*, Jennifer Hughes, *Prediction Markets Tipped for New Growth as US Trader Interest Mounts*, FIN. TIM., July 8, 2024 (quoting Dartmouth College economics professor arguing that "I'm hoping that (the CFTC) use as light a hand as possible, so that we have a chance to see people try to innovate and then see what happens").

[197] *See, e.g.*, Albert S. Kyle, *Continuous Auctions and Insider Trading*, 53

which creates liquidity (i.e., a supply of potential transactions to other market participants).[198] There are distinct reasons that uninformed traders may be willing to take market prices, even when they know they are thereby taking a short-term loss due to trading on incomplete information. In securities markets, the reason tends to be that the purchaser accepts the market rate of return.[199] In other words, people buy securities to invest given that decades of returns commend these instruments as a superior destination for allocating savings.[200] In traditional derivatives markets, the reason for uninformed participants to trade is that the person (e.g., commercial user of the underlying commodity) seeks to hedge.[201] The other common use of markets is gambling, e.g., odds are created as people bet on which team will win some sporting contest. Gamblers know that in taking market odds, they are taking a loss -- but either the entertainment value is worth it or they have mental health issues such as addiction that motivate their transactions.[202]

ECONOMETRICA 1315, 1317 (1985) ("market depth is proportional to the amount of noise trading and inversely proportional to the amount of private information (in the sense of an error variance) which has not yet been incorporated into prices."); Lawrence R. Glosten & Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 J. FIN. ECON. 71, 72 (1985) ("[T]he core idea is that the [specialist, i.e., market-maker, i.e., dealer] faces an adverse selection problem, since a customer agreeing to trade at the specialist's ask or bid price may be trading because he knows something that the specialist does not. In effect, then, the specialist must recoup the losses suffered in trades with the well informed by gains in trades with liquidity traders.").

[198] Merritt B. Fox, Lawrence R. Glosten & Gabriel V. Rauterberg, *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191, 206 (2015) (explaining how adverse selection risk reduces liquidity when informed traders participate in a market).

[199] Henry T. C. Hu, *Faith and Magic: Investor Beliefs and Government Neutrality*, 78 TEX. L. REV. 777, 803 (1999-2000) (reviewing perceived benefits to investing in stock market).

[200] *See* n. 118, *supra*, and surrounding discussion.

[201] After 1974, some derivatives instruments with reasonable returns were developed so investment may also be a motive for uninformed traders in derivatives markets.

[202] A form of gambling takes place to some extent in securities markets and derivatives markets, although these markets have rational purposes described above that go beyond personal consumption in the form of entertainment and

In the absence of liquidity from these classes of uninformed traders (investors, hedgers, and gamblers) financial markets do not function.[203] Being an informed trader means having some information about the future performance of a financial asset out of a range of potential private information. Even if a trader has private information concerning a product's future performance, the trader will be unlikely to trade if (s)he knows that the counterparty also has private information. In other words, in a market composed exclusively of informed traders, liquidity is likely to be scarce.[204] To understand why rational fear would retard trading, it is important to keep in mind that there is no a priori distribution that defines the potential import of private information. There is a limitless universe of developments that can affect the prices of financial instruments, so informed traders facing other informed traders know they don't know what they don't know and that what they don't know may be material.[205] This deters trading where all traders know their counterparties are only trading because they have contrary private information.[206] The tension between price accuracy, which informed trading generates, and liquidity, which informed trading deters, is well understood. A balance is required. Where a product lacks investment or hedging utility, to the extent there is liquidity, that liquidity comes from the product's use for gambling.[207]

---

education. This Article does not discuss the insurance market, which has a risk management function similar to that of the derivatives market.

[203] *See* Tom W. Bell, *Private Prediction Markets and the Law*, 3 J. PREDICTION MKTS. 89, 91 (2009) (offering an incomplete but substantial taxonomy of purposes a financial instrument may serve).

[204] *See* n. 198, *supra*.

[205] Andrei Shleifer and Lawrence H. Summers, *The Noise Trader Approach to Finance*, 4 J. ECON. PERSPECTIVES 19, 22 (1990) (explaining that informed traders "might not exactly know what [the fundamental value of a financial instrument] is, or be able to detect price changes that reflect deviations from fundamentals").

[206] *See, e.g.*, Paul G. Mahoney, *Equity Market Structure Regulation: Time to Start Over*, 10 MICH. BUS. ENTREPRENEURIAL L. REV. 1, 18 (2020) (discussing preference of liquidity providers, i.e., dealers, for trading against uninformed traders).

[207] The educational value—as opposed to the entertainment value—of trading is ignored.

Public prediction products have no investment utility, necessarily providing a negative return once fees are subtracted.[208] If the product lacks hedging utility, the only uninformed class of trader that would participate would be a gambler. Absent a gambling motivation contributing liquidity, a prediction market would need to rely on informed traders trading against one another, which is a recipe for an illiquid market that would lack the volume requisite for commercial success.[209] As a result, commercially successful prediction markets likely derive a substantial amount of liquidity and revenue from gambling, which is traditionally governed under state law (as distinct from federal securities or derivatives or banking law). Accordingly, while it may complicate operations for platforms offering products that have predictive utility – as distinct from hedging utility – the traditional state interests in regulating gambling apply in full.

CONCLUSION

To some extent, trading in financial instruments represents raw, uninformed speculation.[210] Uninformed speculation is a euphemism for gambling. However, in the context of financial markets, gambling is permitted. The reason is that gambling lubricates markets, enabling trading for other, socially responsible,

---

[208] *See* discussion of IEM, HedgeStreet and other prediction markets above. Businesses have been known to sponsor subsidized internal prediction markets, which overcomes the problem created by zero-sum trading among informed participants. *See* Michael Abaramowicz & M. Todd Henderson, *Prediction Markets for Corporate Governance*, 82 NOTRE DAME L. REV. 1343, 1351 (2007) (discussing subsidized internal prediction markets).

[209] *See* W. C. Bunting, *A Simple Unifying Framework for Categorizing Disparate Risk Transactions: Securities Investments, Insurance, Gambling, and Derivative Contracts*, 25 U. PA. J. BUS. L. 295, 298-99 (2023) (distinguishing gambling from other transactions that increase risk for at least one counterparty, including transactions insurance, derivatives, and investment products).

[210] *See* Nicholas Barberis, *Psychology-Based Models of Asset Prices and Trading Volume*, in Douglas Bernheim, Stefano Della Vigna, and David Laibson, eds.: HANDBOOK OF BEHAVIORAL ECONOMICS (2018) (overviewing irrational determinants of financial market activity).

purposes.[211] Gambling in derivatives markets subsidizes hedging and pricing, just as gambling in securities markets subsidizes capital formation and investing.

As developed in Parts I and III, however, the permission for gambling in derivatives markets under the CEA is not limitless. It is conditional on the instrument serving either of the twin public interests in related cash markets: hedging or pricing. Instruments that do not meaningfully advance either interest should not receive the benefits of regulation under the CEA.

The CFTC has failed to articulate boundaries on permissible instruments, instead taking a case-by-case approach to product approval. Instruments have lost utility for cash-market pricing since at least the index-based futures of the 1980s. Stock index futures do not establish the prices of shares; rather, to the extent stock index futures serve the goals of the CEA, it is because they have hedging utility. A number of instruments listed since then may lack any appreciable hedging utility, and thus represent overreach on the part of the CFTC.

This Article does not propose a means for measuring the hedging utility of an instrument. It is left to further scholarship, the CFTC, or other policy work to formulate a methodology for assessing whether the hedging utility of a product passes a de minimis threshold. That hedging utility, however, is not abstract. Market participants know why they are purchasing a financial product. And disciplined hedgers track the performance of hedges, producing records that show the inverse correlation between a variable of interest (such as revenues or costs) and the performance of the hedge (such as an event contract) for purposes of gauging whether continued use of the instrument to hedge is worthwhile.

In some cases, it is clear that an individual is purely a speculator. For example, in most hands, a contract that settles on

---

[211] It is also difficult to distinguish gambling from other market activity on an ex ante basis, so it is hard to regulate gambling in financial markets without imposing ex post penalties on those whom the market separately punishes.

the basis of how long an album spends at the top of the Billboard 200 is speculation. There is no identifiable risk that is being offset. When that individual is a member of the music industry, however, further analysis is required. Although there may be some exceptions, in most cases, the specific and binary nature of the payoff will prevent the contract from having hedging utility—but ultimately, this is an empirical question and evidence consisting of correlation studies should be considered.[212]

When the derivative is being used by a non-retail audience, the approach to measuring hedging utility is easier. Firms that hedge with derivatives typically have dedicated analyses to tracking products' hedging performance. The CFO of a firm or equivalent would have a thesis in buying a product, and test that thesis over time. That thesis and its assessment can be referenced to understand whether and to what extent a product is useful for hedging.

The CFTC has access to information as to whether listed derivatives serve either hedging or pricing goals. The CFTC should obtain that information, review individual products (starting with event contracts), and order the delisting of contracts that fail to sufficiently support either of the CEA's goals. A subsidiary question in this analysis would be whether a product's hedging utility should be assessed in a standalone fashion or within the context of other hedging products; in other words, a product that has hedging utility in the abstract may not have sufficient hedging utility because competing products are more adept at managing risk.

---

[212] Although the example of a contract settling on an album's performance may be an easy example of overreach, there are many other questionable contracts. Even a binary option on the S&P500 reaching a specified level has questionable hedging utility. This option has no capacity to distinguish between being significantly and only nominally in the money, thereby failing to neutralize differences of degree in risk manifestation.