J.P. MORGAN CENTER
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GLOBAL
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CONTRIBUTING EDITOR'S COLLECTION

"WHEN HAS OPEC SPARE CAPACITY MATTERED FOR OIL PRICES?"

"WHAT ARE THE SOURCES OF RETURN FOR CTAs AND COMMODITY INDICES? A BRIEF SURVEY OF RELEVANT RESEARCH"

"CASE STUDIES FROM COMMODITY DERIVATIVES DEBACLES"

"BRIEF CASE STUDIES ON FUTURES CONTRACT SUCCESSES AND FAILURES"

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Contributing Editor's Collection

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This collection of four separate digest articles provides answers to the following questions:

- When has OPEC spare capacity mattered for oil prices?
- What are the sources of return for CTAs and commodity indices?
- What are the risk-management lessons from high-profile commodity derivatives debacles?
- What determines whether commodity futures contacts succeed or not?

Each article takes a different approach in answering these questions, as noted on the next page.

Hilary Till, M.Sc. (Statistics), Solich Scholar, J.P. Morgan Center for Commodities (JPMCC) at the University of Colorado Denver Business School, posing a question at the JPMCC's Research Council meeting on December 4, 2015. She is flanked (left) by Dr. Sueann Ambron, Former Dean of the Business School and Senior Advisor, JPMCC; and (right) by Dr. Thomas Brady, Chief Economist at Newmont Mining Corporation; and (immediate foreground) by Dr. Margaret Slade, Professor Emeritus, Vancouver School of Economics, University of British Columbia and Co-Chair of the JPMCC Research Council.

Original Empirical Analysis

The first article on OPEC spare capacity and oil prices examines historical data and finds that at least in the past, OPEC spare capacity has only mattered when (U.S.) crude oil inventories have been low. The article does raise the question on whether a focus on OPEC behavior will continue to be relevant if America's shale industry has replaced OPEC as the oil market's "swing producer."

Survey of Empirical Research

The second article on Commodity Trading Advisors (CTAs) and commodity indices surveys empirical research on the long-term drivers of return for futures programs. From this survey, one can find strong evidence that there are persistent returns in futures programs due to momentum, roll yield, and also due to rebalancing. Further, a CTA investor may also require that a program's dynamic trading strategies produce returns that have options-like payoff profiles; and institutional investors expect commodity index programs to provide diversification for their balanced equity-and-bond portfolios.

Industry Case Studies

The third article on commodity derivatives debacles uses case studies to infer key risk-management lessons. Each of the case studies did not involve complex mathematical issues; instead, they can each be summarized as fundamental control problems. Large commodity derivatives trading companies must emphasize (1) compliance with regulatory rules and laws; (2) the valuation of derivatives instruments by third parties independent of front-office personnel; and (3) the imposition of position limits in all electronic trading systems.

A Complex System Modeled as a Competitive Game

The fourth article on futures contract successes and failures treats the futures markets as a competitive game. Specifically, futures trading can be seen as a game where the competing players, the hedgers and speculators, each have sufficient economic reasons to participate. The referee of this game, the government authorities, has the power to stop the game, if there is not a convincing economic rationale for a futures contract's existence. Therefore, a futures contract can only succeed if it responds to a hedging need, and if speculators are able to manage the risk of taking on hedger positions. In addition, if one cannot make a convincing case that a contract serves an economic purpose, then the contract is at risk to either being banned or being heavily curtailed.

Common Theme

The goal with each of the four digest articles that follows is to provide both industry participants and policymakers with useful insights on the frequently opaque, but always dynamic, commodity markets.

Brief Case Studies on Futures Contract Successes and Failures

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Forthcoming in the ***Journal of Alternative Investments***
Abstract Available at SSRN: **http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2573894**

Why do some futures contracts succeed and others fail? Although the U.S. futures markets have evolved in a trial-and-error fashion, a survey of relevant research suggests key elements have determined whether particular futures contracts succeeded or failed. This knowledge could be useful for new financial centers as they build successful futures markets. This paper shows that there are three elements that determine whether a futures contract succeeds or not:

1. *There must be a commercial need for hedging;*
2. *A pool of speculators must be attracted to a market; and*
3. *Public policy should not be too adverse to futures trading.*

A Commercial Hedging Need

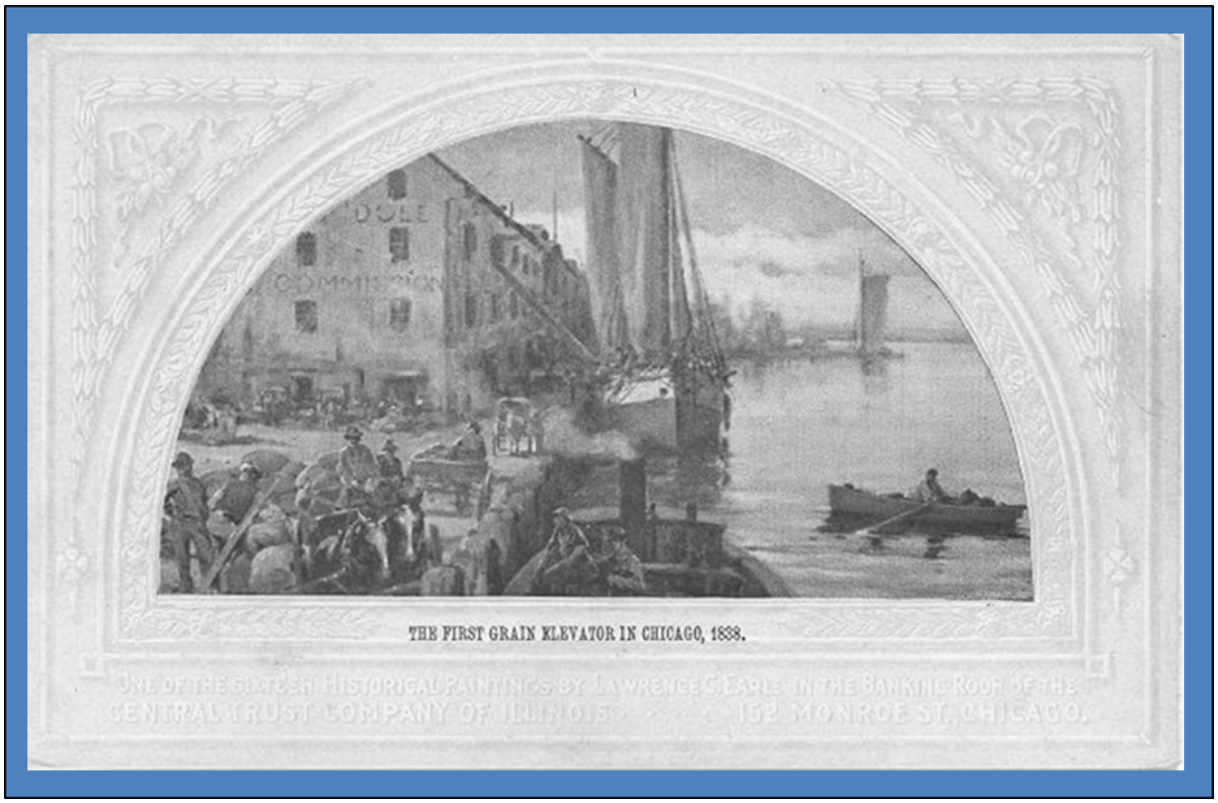
Successes

New futures contracts have succeeded when there has been a need for a hedging instrument to hedge new kinds of risks. The earliest (modern) example is the establishment of the Chicago Board of Trade to manage the price risk of accumulating grain inventories in the 19th Century. Figure 1 on the next page illustrates the first-ever grain elevator in Chicago.

Much later and surprisingly at the time, the price-risk-management approach for grain inventories turned out to be well-suited for financial instruments and for energy products. Namely, the collapse of the Bretton Woods Agreement in the 1970s created a need to hedge currency risk; and the change in the structure of the oil industry, also in the 1970s, produced an economic need for hedging volatile spot oil price risk.

New futures contracts have also succeeded when the market was looking for new *ways* to hedge *existing* risks. Examples include futures contracts in the soybean complex, live cattle, and the creation of the Chicago Board Options Exchange.

Figure 1
"The First Grain Elevator in Chicago, 1838"
Postcard of a 1902 Painting By Lawrence C. Earle



Source of Image: http://www.lcearle.com/works/CH-grainelevator-1838.jpg, retrieved on December 20, 2015.

Note: This 1902 painting is "one of 16 historical paintings by Lawrence C. Earle, [which were] originally located in the banking room of the Central Trust Company of Illinois, 152 Monroe Street, Chicago;" the paintings are "now stored within the Collection Services Department at the Chicago History Museum," according to http://www.earlychicago.com, also retrieved on December 20, 2015. This website, in turn, is based on Danckers and Meredith (1999).

Failures

Contracts fail when the risks are not sufficiently material. This was the case with currency futures launched pre-Bretton Woods, CPI futures and some redundant U.S. Interest Rate futures contracts in the 1970's and 1980's. Figure 2 on the next page illustrates how 64% of financial futures contracts launched between 1975 and 1982 failed.

Additional reasons for failure are when existing contracts or exchanges already serve to adequately manage risk and when technology and government policies change in ways that reduce risk or make past ways of hedging no longer effective.

Figure 2
Financial Futures Contract Launches Between 1975 and 1982

Financial Futures Innovations: 1975-1982

Contract	*Exchange*	*Date of Innovation*	*Average Daily Volume*	*Wall Street Journal Listing*	*Traded in 1985*
GNMA-CDR[1]	CBT	10/20/75	1995	Yes	Yes
Treasury bills (90-day)	CME	1/6/76	1610	Yes	Yes
Treasury bonds	CBT	8/22/77	7954	Yes	Yes
Commercial paper (90-day)	CBT	9/26/77	99	No	No
Treasury bills (1-year)	CME	9/11/78	63	No	No
GNMA-CD[2]	CBT	9/12/78	180	No	No
GNMA-CD[2]	ACE[3]	9/12/78	180	No	No
Commercial paper (30-day)	CBT	5/14/79	12	No	No
Treasury notes (4-6 - year)	CBT	6/25/79	88	No	No
Treasury bills (90-day)	ACE[3]	6/26/79	52	No	No
Treasury notes (4-year)	CME	7/10/79	93	No	No
Treasury bills (90-day)	COMEX	10/2/79	286	No	No
GNMA-CD[2]	COMEX	11/13/79	47	No	No
Treasury bonds	ACE[3]	11/14/79	130	No	No
Treasury bonds	NYFE	8/7/80	867	Yes	No
Treasury bills (90-day)	NYFE	8/14/80	188	No	No
Treasury notes (2-year)	COMEX	12/2/80	290	No	No
CD (90-day)	NYFE	7/9/81	914	No	No
CD (90-day)	CBT	7/22/81	895	No	No
CD (90-day)	CME	7/29/81	5103	Yes	Yes
Eurodollar (3 month)	CME	12/9/81	2012	Yes	Yes
Value Line Index	KCBT	2/24/82	2683	Yes	Yes
S&P 500 Index	CME	4/21/82	24156	Yes	Yes
Treasury notes (6 1/2 - 10-year)	CBT	5/3/82	4228	Yes	Yes
NYSE Composite index	NYFE	5/6/82	11656	Yes	Yes

Notes: CBT = Chicago Board of Trade; CME = Chicago Mercantile Exchange; ACE = Amex Commodity Exchanges; COMEX = Commodity Exchange; NYFE = New York Futures Exchange; and KCBT = Kansas City Board of Trade.
1. GNMA-CDR = Collateralized Depository Receipt GNMA contract.
2. GNMA-CD = Certificate Deposit GNMA contract.
3. No longer in existence.

Source: Black (1985), as reproduced in Silber (1985), Table 2.2.

Pool of Speculators Must Be Attracted to a Market

Not only must a futures contract respond to a commercial need for hedging, but the contract must also attract a pool of speculators. Arguably, there are three aspects to attracting speculators: (1) A futures exchange must already have a community of risk-takers; (2) There must be a level playing field for speculators; and (3) A speculator must have the ability to actually manage the price risk of taking on the other side of a commercial hedger's position.

Community of Risk-Takers

Two central features of speculators have historically been their practical approach and their willingness to risk failure. Both traditions have continued in present-day Chicago. In a 2013 *Opalesque* Round Table on Chicago, Paul MacGregor of FFastFill noted in his interview with Melin (2013): "Chicago is … the only town in the world … where you can walk into a large proprietary firm [and] what you see is literally three

guys: The trader, the technology guy and the manager, and that's it. And then you look at the kind of volumes they are trading and you are just staggered. You don't see that … anywhere else in the world."

Level Playing Field for Speculators

Another key aspect to attracting speculators to a futures market is that commercial hedgers cannot have an undue advantage in predicting prices, as demonstrated with two examples below.

Grains

With the highly successful soybean, corn, and wheat futures contracts, the primary uncertainty is the outcome of supply. Therefore, speculators and hedgers are on a level playing field. Hedgers would not have an informational edge over speculators. In contrast, with agricultural contracts where the primary uncertainty is demand, and where this demand is concentrated amongst large commercials, a speculator could be at an informational disadvantage.

Equities

A similar consideration applies to equities, regarding the need for informational symmetry. "One of the problems inherent in market making with specific equities is the risk that a buyer or seller has information that will affect the specific price of a stock. The trade is then information based rather than liquidity motivated," wrote Silber (1985). "A dealer will make a better market for a package of equities rather than one or two individual stocks because it is then less concerned about inside information. Such buy or sell programs for groups of large blocks of stock are ideally hedged in the stock index futures markets," contributing to the success of equity index futures contracts, according to Silber.

The Ability to Actually Manage Risk

In order to participate, speculators must also be able to manage the risk of taking on the other side of a commercial hedger's position. There are actually a number of ways in which professional speculators provide risk-bearing services. A speculator may be an expert in the term structure of a futures curve and would spread the position taken on from the commercial hedger against a futures contract in another maturity of the futures curve. Or the speculator may spread the position against a related commodity. Alternatively, a speculator may detect trends resulting from the impact of a commercial's hedging activity, and be able to manage taking on an outright position from a commercial because the speculator has created a large portfolio of unrelated trades. In this example, the speculator's risk-bearing specialization comes from the astute application of portfolio theory.

Public Policy Should Not Be Too Adverse

Besides a contract serving a commercial hedging need and being able to attract a pool of speculators, a third factor determining the success of a futures contract relies on public policy not being too adverse. Historically, there have been four relevant factors: (1) A contract must have a convincing economic rationale; (2) It is helpful if contracts are viewed as being in the national interest; (3) Regulatory imbalances across jurisdictions should be avoided; and (4) Regulatory interventions should not be too draconian.

Conclusion

In a sense, futures trading can be seen as a game where the competing players, the hedgers and the speculators, each have sufficient economic reasons to participate. The referee of this game, the government authorities, has the power to stop the game, if there is not a convincing economic rationale for a futures contract's existence. Therefore, a futures contract can succeed only if it responds to a commercial hedging need, *and* if speculators are able to manage the risk of taking on the hedger's positions. In addition, a convincing case must be made that the contract serves an economic purpose; otherwise the contract is at risk to either being banned or heavily curtailed.

Endnotes and Acknowledgement

The title of the SSRN version of this article is "Why Some Commodity (and Financial) Futures Contracts Succeed and Others Fail: A Survey of Relevant Research." The comprehensive version of this article was excerpted from a seminar in Chicago that was prepared by the author for staff from the Shanghai Futures Exchange. In addition, the comprehensive article benefitted from insightful comments and inferences from Joseph Bast.

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