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TRADING THE OCEANS: THE BRAVE “NEW” WORLD OF SEAFOOD FUTURES CONTRACTS

*Nicholas Boston*¹

I. INTRODUCTION

“Financial markets are like the mirror of mankind. It is not the fault of the mirror if it reflects our blemishes as clearly as our beauty.”² With the United States still attempting to recover from a financial crisis brought on, in part, by financial ingenuity and the relatively unforeseen risks emanating from “new” financial products,³ developing the idea of seafood futures contracts into another product that theoretically could cause market turmoil, may be met with a less than enthusiastic embrace. Although bowing to the urge to disregard the potential benefits for fear of the potential side effects might at first seem the prudent reaction, there are some considerable benefits to creating seafood futures contracts. Such contracts have the potential to influence an increase in seafood consumption and fishermen profitability, while enhancing market efficiency, decreasing waste, and limiting volatile price swings. With so much potential the question must be raised: “Why don’t seafood futures contracts already exist?” The answer is that they do exist,⁴ did exist,⁵ and, if the economic incentives are realized, could again exist in the United States in the near future.

Part II of this Comment reviews forward and futures contracts in the United States and focuses on the creation and use of plywood, shrimp,

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2. NIALL FERGUSON, *THE ASCENT OF MONEY* 358 (2008).

3. WILLIAM COHEN, *HOUSE OF CARDS – A TALE OF HUBRIS AND WRETCHED EXCESS ON WALL STREET 9* (2009).

4. Fresh salmon futures contracts are currently traded in Norway. Gunnvald Grønvik, *A Norwegian Salmon Derivatives Market Has Made It*, 41 *SWISS DERIVATIVES REVIEW* 14 (2009).

5. Shrimp futures were traded on the Minneapolis Grain Exchange (MGE) until 2000. Dwight R. Sanders & Mark R. Manfredo, *The White Shrimp Futures Market: Lessons In Contract Design and Marketing*, 18 *AGRIBUSINESS* 505, 506 (2002).

and salmon futures contracts. Part III of this Comment examines futures contracts under U.S. law. Part IV of this Comment analyzes the potential benefits and drawbacks of seafood futures contracts. Finally, Part V focuses on how seafood futures contracts could be created and implemented.

II. FUTURES CONTRACTS IN THE UNITED STATES

A. *What Are Forward and Futures Contracts?*

“[D]erivative[s] [are] financial instrument[s] or contract[s] between two parties, the value of which is based upon an underlying asset.”⁶ Having existed in some form for thousands of years,⁷ derivatives are essentially “instruments for transferring risks”⁸ that, in some respects, are similar to insurance,⁹ and include by definition, forward, futures, options,¹⁰ and swaps.¹¹

Forward and futures contracts are agreements between parties to purchase and deliver a specific asset, for a specified price, at an established time in the future.¹² Forward contracts are customizable, individualized contracts that must result in an instrument or asset being delivered.¹³ Similar to forward contracts, futures contracts are standardized contracts with fixed terms and conditions set by an

6. David P. Cluchey, *The Financial Crisis And The Response Of The United States: Will Dodd-Frank Protect US From The Next Crisis?* in THE FINANCIAL CRISIS OF 2008: FRENCH AND AMERICAN REPOSES – PROCEEDINGS OF THE 2010 FRANCO-AMERICAN LEGAL SEMINAR 201, 208 (Martin A. Rogoff et al eds., 2011) available at, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1831661.

7. The use of derivatives dates back to 2000 BC. RANDALL DODD, FINANCIAL POLICY FORUM DERIVATIVE STUDY CENTER, DERIVATIVES MARKETS: SOURCES OF VULNERABILITY IN U.S. FINANCIAL MARKETS 2 (rev. 2004), available at <http://www.financialpolicy.org/fpfspr8.pdf>.

8. DON M. CHANCE, ESSAYS IN DERIVATIVES: RISK-TRANSFER TOOLS AND TOPICS MADE EASY 367 (2nd ed. 2008).

9. One party generally pays another party a premium in exchange for taking on some form of risk.

10. Options are “agreements granting the holder the right, but not the obligation, to buy or sell something at a specified price on or before a specified future date.” Alireza M. Gharagozlou, *Unregulable: Why Derivatives May Never Be Regulated*, 4 BROOK. J. CORP. FIN. & COM. L. 269, 273 (2010).

11. Swaps are “agreements to exchange future cash flows, where the amounts to be exchanged are based on a future variable.” *Id.*

12. CHANCE, *supra* note 8, at 105.

13. *Id.*

exchange, are traded on exchanges, but do not require settlement by physical delivery.¹⁴

Forward contracts were established by the Chicago Board of Trade in 1848.¹⁵ Originally called “to arrive” contracts, the purpose of the private contracts was to allow farmers to space out the time between harvesting grain and bringing grain to a market to be sold.¹⁶ These early forward contracts “fixed the terms of sale in advance of the time of delivery,”¹⁷ thereby helping to prevent seasonal supply gluts and shortages that resulted in violent price swings.¹⁸ This provided farmers with a set price for their grain that “smooth[ed] pricing”¹⁹ and helped end users, primarily corporations, limit their “exposure to price change.”²⁰ The protection from adverse price change afforded farmers the opportunity to plan their crops in advance based upon which future prices were available.²¹ Eventually, forward contracts evolved from over-the-counter (“OTC”) individualized contracts into standardized, transferable, futures contracts traded between market participants.²²

Futures contracts first appeared at the Chicago Board of Trade in 1865.²³ These public, standardized contracts, which are now regulated, are fungible, and thus allow for the trading of contracts between parties.²⁴ Futures contracts make participation in a commodity market easier by reducing the costs of participation; this is because they provide for quantity and quality of the product, as well as location, time, and method of delivery.²⁵ Unlike a forward contract, futures contracts have individualized terms and conditions that are not negotiated. This development made hedging and speculation possible.

14. *Id.*

15. *Id.* at 4.

16. *Id.*

17. *Merrill Lynch, Pierce, Fenner & Smith Inc., v. Curran*, 456 U.S. 353, 357 (1982).

18. ROBERT W. KOLB & JAMES A. OVERDAHL, *FINANCIAL DERIVATIVES: PRICING AND RISK MANAGEMENT* 77 (2010).

19. Beverly Goodman, *Regulators Throw Funds a Hot Potato*, *BARRON'S*, Nov. 7, 2011, at 37.

20. CHANCE, *supra* note 8, at 4.

21. *See* KOLB & OVERDAHL, *supra* note 18, at 78.

22. Yuval Millo, *Making Things Deliverable: The Origins of Index Based Derivatives*, *MARKET DEVICES* 200 (2007).

23. CHANCE, *supra* note 8, at 4.

24. *Chicago Mercantile Exchange v. SEC*, 883 F.2d 537, 542 (7th Cir. 1989).

25. ALLEN B. PAUL, RICHARD G. HEIFNER & JOHN W. HELMUTH, U.S. DEPT. OF AGRIC., *FARMERS' USE OF FORWARD CONTRACTS AND FUTURES MARKETS* 6 (1976) [hereinafter PAUL].

“The main economic function of futures (contracts) is to provide a means of hedging” an “existing risk of price movement [by] using derivatives as a means of reducing that risk.”²⁶ Hedging allows farmers to decide which crops to plant based upon futures contract prices. Hedging also allows end users, like food and canning companies, to plan around the acquisition cost of a commodity required for production. These companies can buy a futures contract (long) to protect against a future increase in cash market prices in a given commodity. “Mak[ing] financial planning much easier,”²⁷ a farmer could theoretically sell (short) a futures contract in a given underlying commodity at a price the farmer found acceptable. He could then offset that sale by selling the commodity in the cash market at some desirable point in the future.²⁸ Profits (or losses) from the sale (short) of the futures contract offset (to a certain extent²⁹) profits or losses incurred from the sale of the commodity in the cash market.³⁰ In addition to being economically beneficial to hedgers, futures contracts also create the need for an additional market participant, the speculator.³¹

With the rise of commodity prices in 2008, the word “speculator” in today’s lexicon has a negative connotation, possibly resulting from politicians and the media’s use of the word as a scapegoat to explain the painful prices consumers encounter at the gas pump.³² However,

26. KEITH REDHEAD, FINANCIAL DERIVATIVES: AN INTRODUCTION TO FUTURES, FORWARDS, OPTIONS AND SWAPS 3-4 (1997). *See also* Richard L. Sandor, *Innovation By An Exchange: A Case Study Of The Development Of The Plywood Futures Contract*, 16 J.L. & ECON. 119 (1973).

27. CHANCE, *supra* note 8, at 21.

28. The “cash” market is any market where the delivery of a purchased good occurs immediately upon payment. JOSE M. GABILONDO, THOMAS LEE HAZEN & JERRY W. MARKHAM, CORPORATE FINANCE: DEBT EQUITY, AND DERIVATIVE MARKETS AND THEIR INTERMEDIARIES 697 (3d ed. 2011) [hereinafter CORPORATE FINANCE].

29. *See infra* note 77.

30. MINNEAPOLIS GRAIN EXCHANGE, EXAMINING FUTURES AND OPTIONS 4, *available at* <http://www.mgex.com/documents/MGEXFuturesOptions12-07.pdf>.

31. “Speculators buy and sell derivatives simply to make profit, not to reduce risk.” REDHEAD, *supra* note 26, at 3-9.

32. *See* Doug McKelway & The Associated Press, *Obama Eyes Speculators for Rising Gas Prices, as Other Factors Play Role*, FOX NEWS, Apr. 22, 2011, *available at* <http://www.foxnews.com/politics/2011/04/22/obama-form-task-force-tackle-rising-gas-prices/#ixzz1iyATF5v8>; *see also* Charles Riley, *Americans Blame Oil Companies, Speculators For Prices*, CNN MONEY, May 9, 2011, *available at* http://money.cnn.com/2011/05/09/news/economy/gas_prices_poll/index.htm (last visited Apr. 24, 2012). The word speculator historically possessed a negative connotation that likely derived from the perceived immoral and risky activities of speculators. This perception was reflected in the original Congressional purpose of the Commodity Exchange Act, which was to limit

speculators actually provide a vital function in futures contract markets by providing liquidity and accurate pricing.³³ Without speculators who are willing to be long price risk, a hedger might not be able to find a market participant willing to accept additional risk.³⁴ As speculators entered the futures contract market and provided liquidity, market participants gradually became able to buy and sell contracts without actually owning a commodity.³⁵ Instead of taking delivery of a commodity at the time and place specified by a futures contract, participants simply purchased an offsetting contract that resulted in no physical commodity changing hands.³⁶ Whereas, end users seek to lock in prices and contain costs, speculators step in and profit by attempting to predict price direction.³⁷ Thus, speculators take on the risk that prices for a commodity might move in the opposite direction, while hedgers enter into these transactions to reduce price risk.³⁸ Should a speculator guess

certain activities of speculators. See Lynn A. Stout, *Why The Law Hates Speculators: Regulation and Private Ordering in The Market for OTC Derivatives*, 48 DUKE L.J. 701, 722 (1999); Commodity Exchange Act, 7 U.S.C. § 6a (2010). Furthermore, the use of speculators as scapegoats could also be partially explained by Moral Panic Theory. CORPORATE FINANCE, *supra* note 28, at 14 (analyzing the reaction by the public “to a perceived threat to a fundamental social interest (like gasoline pricing) by invoking a deviant to blame for the perceived threat” (speculators, foreign oil interests, etc.)).

33. REDHEAD, *supra* note 26, at 3-9; CHANCE, *supra* note 8, at 18.

34. REDHEAD, *supra* note 26, at 3-9.

35. U.S. Commodity Futures Trading Comm’n, THE ECONOMIC PURPOSE OF FUTURES MARKETS AND HOW THEY WORK, <http://www.cftc.gov/ConsumerProtection/EducationCenter/economicpurpose> (last visited Apr. 24, 2012) [hereinafter C.F.T.C.].

36. CORPORATE FINANCE, *supra* note 28, at 700.

37. PAUL, *supra* note 25, at 4.

38. Although speculation might sound like gambling (common law banned speculation on food prices), Jerry W. Markam & Daniel J. Harty, *For Whom The Bell Tolls: The Demise of Exchange Trading Floors And The Growth of ECNS*, 33 J.CORP. L. 871 n.34 (2008) [hereinafter *For Whom The Bell Tolls*], the Supreme Court found in *Board of Trade v. Christie Grain & Stock Co.*, that futures contracts are not gambling transactions as they are legally enforceable contracts that require delivery of a good. See *Bd. of Trade v. Christie Grain & Stock Co.*, 198 U.S. 236, 249-50 (1905). With settlement by delivery representing between less than one percent, Dennis W. Carlton, *Futures Markets: Their Purpose, Their History, Their Growth, Their Successes and Failures*, 4 J. FUTURES MARKETS 237, 239 (1984), and two percent of all futures contracts, S. Aaron Hegde, *An Economic History of the Failure of Broiler Futures*, AM. AGRICULTURAL ECON. ASS’N ANN. MEETING 7, 20 (2004), the *Christie Grain* holding and rationale appears to be partially undermined. For an analysis of the distinction between futures contracts and gambling, see Roy Kreitner, *Speculations of Contract, or How Contract Law Stopped Worrying and Learned to Love Risk*, 100 COLUM. L. REV. 1096 (2000).

wrong, market participants could theoretically cause market turmoil by failing to fulfill their contractual obligations, thereby resulting in default.

Forward and futures contracts both contain the problem of counterparty risk. In day-to-day activities, market participants “are exposed not merely to their counterparties, but also to potential problems at their counterparties’ counterparties, and so on.”³⁹ Should a market participant on the other side of a transaction default, the injured party might have to go out and buy a commodity on the open market to satisfy its needs. In resorting to a lawsuit for breach of contract, an injured party may recover from a non-bankrupt counterparty, but the recovery may occur years after the need for a commodity was required. In the case of a counterparty bankruptcy, derivatives contracts are exempted from the automatic stay.⁴⁰ This allows for an injured party to offset or liquidate a contract after bankruptcy is declared,⁴¹ seize any collateral that was posted,⁴² and determine the extent of damages from the transaction that can be sought.⁴³

In 1925, seeking to limit counterparty risk, clearinghouses were created for futures contracts.⁴⁴ Requiring margin and/or collateral to be posted, clearinghouses became parties to each and every contract, which allowed them to net outstanding contracts⁴⁵ and provide a “[c]redit guarantee that assures each party . . . will incur no credit loss.”⁴⁶ Smoothing the trading of commodity futures contracts and guaranteeing performance, commodity exchange clearinghouses basically eliminated counterparty default risk for market participants trading in standardized contracts.⁴⁷

39. JOHN CASSIDY, *HOW MARKETS FAIL – THE LOGIC OF ECONOMIC CALAMITIES* 342 (2009).

40. 11 U.S.C. § 362(b)(6) (2010).

41. 11 U.S.C. § 561 (2010).

42. 11 U.S.C. § 362(b)(17) (2010).

43. Frank C. Puleo, *Derivatives: A Banker's Primer*, 113 *BANKING L.J.* 768, 781-82 (1996).

44. CHANCE, *supra* note 8, at 105.

45. This allows for the offsetting of contracts to buy a specific commodity against contracts to sell that particular commodity. PAUL, *supra* note 25, at 6.

46. CHANCE, *supra* note 8, at 105.

47. Except of course for the counterparty risk presented by the clearinghouse itself. Gunnvald Grønvik, *On Commodity Derivatives and The Norwegian Initiatives to Create a Fish Derivatives Market*, *ECONOMIC BULLETIN* 30 (2008), http://www.norgesbank.no/Upload/67504/On_commodity_derivatives_EB1_2008.pdf [hereinafter *ECONOMIC BULLETIN*]. However, the risk of default of a clearinghouse is very small. CORPORATE FINANCE, *supra* note 28, at 701 n.2.

Commodity exchanges were granted a monopoly to house and facilitate the trading of futures contracts under the Commodity Futures Trading Commission's ("CFTC") interpretation of the Commodity Exchange Act.⁴⁸ This monopoly continued until the Commodity Futures Modernization Act of 2000 ("CFMA") modified the Commodity Exchange Act of 1974.⁴⁹ Exchanges provide organization, rules, and oversight of commodity trading,⁵⁰ as well as selective requirements for members that promote trust and, thus, trading.⁵¹ "[T]rad[ing] standardized contracts through a centralized structure that is organized to promote liquidity and to mutualize credit risk,"⁵² exchanges allow for transparent price discovery and they reduce search and negotiation costs for producers and end users.⁵³

"The primary purpose of the commodity exchanges . . . was to permit hedgers to purchase and sell cash commodities and offset risks associated with operating businesses in the underlying cash commodities."⁵⁴ To do this, futures contracts have to accurately reflect cash market pricing, which is accomplished through liquidity.⁵⁵ If enough market participants trade on the information available, and arbitrageurs step in and "make profit from relative mispricing"⁵⁶ between the cash market and the futures contracts, then a reflective, functioning market can operate. Liquidity is the biggest advantage for a futures market over a forward market as the standardization of terms makes the trading of contracts cheaper and the use of a clearinghouse limits non-performance risk.⁵⁷ Liquidity is so important in futures contract trading that "commodity exchanges encouraged floor trading"⁵⁸ because [it] added liquidity to the

48. See William L. Stein, *The Exchange Trading Requirement of the Commodity Exchange Act*, 41 VAND. L. REV. 473, 490-91 (1988).

49. Commodity Futures Modernization Act, Pub. Law No. 106-554, 114 Stat. 2763 (2000). See *infra* Part III.A (providing more information about this regulatory change).

50. PAUL, *supra* note 25, at 5.

51. *For Whom The Bell Tolls*, *supra* note 38, at 885-86.

52. KOLB & OVERDAHL, *supra* note 18, at 21.

53. "Price discovery describes the process by which trading in a market incorporates new information and market participants expectations into asset prices." *Id.* at 58.

54. *For Whom The Bell Tolls*, *supra* note 38, at 871.

55. "When cash and futures prices do not converge, then the option to liquidate a position by delivery may lose its value. Consequently, this may result in an ineffective hedge." Sandor, *supra* note 26, at 131.

56. REDHEAD, *supra* note 26, at 3-9.

57. See Carlton, *supra* note 38, at 241.

58. Floor trading for securities was banned in 1934 by the Securities and Exchange Commission ("SEC") as the SEC believed that floor traders had an unfair advantage over other traders. JOEL SELIGMAN, *THE TRANSFORMATION OF WALL STREET: A HISTORY OF*

market.”⁵⁹ Electronic trading has now largely removed the need for floor trading to increase liquidity, allowing futures trading to become a global enterprise undertaken via internet connection.⁶⁰ The mobility of electronic trading also allows regulatory choice on the part of market participants and those trying to create new derivatives contracts. No longer restricted by national borders, derivative trading has a history of moving jurisdiction to jurisdiction, based upon law change and the degree of regulatory control.⁶¹

B. Case Studies in the Creation of Futures Contracts

Seafood futures contracts are a combination of a product that is well known and has been used for over one-hundred years in the United States (futures contracts), with a commodity and industry relatively alien to financial products. Futures contracts have the potential to revolutionize the fishing business. Instead of relying upon the ebb and flow of price movements to determine profitability, fishermen could lock in profitability before first stepping foot onto their boats. As fish farming puts downward pressure on pricing for fish that are captured,⁶² the

THE SECURITIES AND EXCHANGE COMMISSION AND MODERN CORPORATE FINANCE 228-43 (1982) (emphasis added). Commodities are not securities and thus do not fall under SEC jurisdiction. Securities Exchange Act of 1934, 15 U.S.C. § 77(b)(a)(1) (2010).

59. *For Whom The Bell Tolls*, *supra* note 38, at 877.

60. *Id.* at 896.

61. “When Japan tried to restrict both listed futures and OTC derivatives tied to the Tokyo stock exchange, the futures business moved to Singapore and the OTC business moved to New York and London.” Bryan H. Booth, *Prudence or Paranoia: Considering Stricter Regulation of the International Over-The-Counter Derivatives Market*, 5 DUKE J. COMP. & INTL L. 499, 523 (1995). Furthermore, when the CFTC and the SEC were engaged in a jurisdiction battle over single stock futures contracts, the regulatory uncertainty allowed South Africa to quietly become the home of the “largest single stock futures exchange” in the world. Jerry W. Markham, *Merging the SEC & CFTC – A Clash of Cultures*, 78 U. CINN. L. REV. 537, 597 (2009). Alan Greenspan summed up this financial market mobility when he said at a Congressional hearing considering the Commodity Futures Modernization Act of 2000, that “[i]f the Congress cannot work it out, foreigners will. It is not a question of whether or not there will be [trading of a particular derivative, but] . . . only: traded where?” *The Commodities Futures Modernization Act of 2000: Hearing on S.2697 Before the Comm. on Agriculture, Nutrition, and Forestry and the Comm. on Banking, Housing and Urban Affairs*, 106th Cong. 29 (2000) (testimony of Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System).

62. Justin Rohrlich, *A Futures Market In Fish Is Inevitable: The Question Is When?*, (June 29, 2010), <http://www.minyanville.com/businessmarkets/articles/aquaculture-fish->

capture fishing industry should embrace seafood forward and futures contracts as one way that the industry can help protect itself. To gain an understanding of how seafood futures contracts would work and what attributes of past contracts resulted in their subsequent success or failure, past and present uses of futures contracts must be examined.

1. Plywood – Evolution of a Futures Contract

Created in December of 1969 by the Chicago Board of Trade (“CBOT”),⁶³ the plywood futures contract came into existence even before the creation of the CFTC.⁶⁴ The invention of a new futures contract occurs in a fluid, ever-changing process that, in the case of the plywood futures contract, took seventeen months.⁶⁵ Starting in the research and development phase, the idea to create the new contract, combined with the exposed need uncovered by price volatility in plywood prices, began the process that led to a feasibility study.⁶⁶ Consulting industry members about the idea, researching supply and demand, and educating possible market participants about the benefits of the futures contracts, the feasibility study concluded with a report recommending moving forward with a contract.⁶⁷ The second step of the process was for a first draft of the futures contract to be created utilizing the details of the report, and once this was written, possible problems had to be gamed out by simulating the use of the contracts in a trading setting. Eventually, moving to formal approval of the contract by the CBOT’s Board of Directors, and then by the membership of the CBOT, the contract began to be traded.⁶⁸ Throughout the entire process, the contract was changed and modified to meet the needs of the market participants that were utilizing the contract by a committee specifically created to oversee and ensure the smooth implementation and trading of

farming-recirculating-aquaculture-aquaculture/6/29/2010/id/28970 (last visited Jan. 24, 2013).

63. Sandor, *supra* note 26, at 120.

64. The CFTC was created in 1974 by the Commodity Exchange Act. Commodity Exchange Act, 7 U.S.C. § 1 (2010). This is particularly important as plywood futures contracts were unregulated until the Commodity Exchange Act of 1974 went into effect. Although unregulated at the time of creation, the CBOT imposed position limits and strict rules for trading on the plywood futures contracts that were consistent, if not more strict, than regulations placed on regulated contracts. Sandor, *supra* note 26, at 135.

65. Sandor, *supra* note 26, at 131.

66. *Id.* at 127.

67. *Id.*

68. Before a futures contract could be traded today, an additional step of CFTC approval is generally required. *See* Commodity Exchange Act, 7 U.S.C. § 1 (2010).

the contract.⁶⁹ Each step of the process to create a futures contract must be questioned.⁷⁰ With a high failure rate among new futures contracts, adhering to past practices, although not a guarantee of future success, can be used to guide the development of sustainable contracts.⁷¹

2. Shrimp Futures Contracts

Shrimp were first thinly traded on the Chicago Mercantile Exchange (“CME”) during the years between 1964 and 1966.⁷² In 1993, the Minneapolis Grain Exchange (“MGE”) introduced the “first exchange-traded . . . [futures] contract”⁷³ aimed at allowing shrimp farmers to hedge their exposure to shrimp price-change risk. Relatively ignored by most major end users of shrimp and shrimp farmers alike, the futures contracts stopped trading in 2000 after seven years of low trading volume.⁷⁴ To gain a better understanding of the challenges facing the re-introduction of seafood futures contracts in the United States, the failure of the shrimp futures contracts must be analyzed.

There are many necessary elements to a successful⁷⁵ futures contract.⁷⁶ Among these elements, the most important are a transparent cash market where market participants can obtain pricing information for

69. Sandor, *supra* note 26, at 130.

70. Some of the important questions to be asked include: Who is going to benefit? Does this satisfy the needs of those market participants that will trade in the contract? Is the contract fair? What are the weaknesses within the contract that could be exploited?

71. “Forty percent of the futures contracts introduced in the United States are delisted prior to their fifth year of trading,” Sanders & Manfredo, *supra* note 5, at 506, and “most new contracts fail within ten years of introduction.” B. Wade Brorsen & N’Zue F. Fofana, *Success and Failure of Agricultural Futures Contracts*, 19 J. OF AGRIBUSINESS 129 (2001) (citing Carlton, *supra* note 38).

72. Josué Martínez-Garmendia & James L. Anderson, *Hedging Performance of Shrimp Futures Contracts With Multiple Deliverable Grades*, 19 J. OF FUTURES MARKETS 957, 960 (1999).

73. Sanders & Manfredo, *supra* note 5, at 505.

74. *Id.* at 506.

75. Successful futures contracts are typically defined as those with high trading volumes, as high trading volumes indicate a liquid market and result in more transaction fees for exchanges. Hegde, *supra* note 38, at 25.

76. Sanders & Manfredo, *supra* note 5, at 507 (listing some necessary elements of successful futures contracts that include: “economic necessity (of the contract) . . . homogeneity of the commodity, a large and well-defined underlying cash market that lends itself to standardization, . . . price volatility, a competitive marketplace, economic need (i.e. hedging demand), the ability to attract speculators, . . . and the free flow of public information”).

immediate delivery,⁷⁷ sufficient liquidity to provide for a smooth functioning market, and a properly designed futures contract.⁷⁸ One of the factors contributing to the failure of shrimp futures was lack of a single, large cash market for shrimp in the United States, let alone in Minneapolis, Minnesota.⁷⁹ “Effective futures markets should generate prices that express consciously-formed opinions on cash prices in the future, and should transmit that information throughout the marketing system in a timely manner.”⁸⁰ Without a transparent cash market, price discovery and supply and demand information are not readily available, and this hinders futures markets by limiting a market participant’s ability to converge futures contract prices with cash market prices via arbitrage. Without the ability to base the purchase of future contracts on the pricing of the cash market, there is insufficient market participation in the futures contracts, the result of which is a lack of liquidity.

Contract design also played a part in the demise of MGE shrimp futures contracts. The very nature of shrimp creates a contractual problem when trying to create a standardized contract. Without a commodity having “objectively quantifiable differences,”⁸¹ or homogeneity, it is very difficult to standardize and trade a contract delineated in that good. MGE tried to overcome the varying difference in

77. This is necessary to help determine the appropriate basis that should be built in to a futures contract. Basis is the sum of the storage costs, opportunity costs, and insurance costs of holding a commodity, CHANCE, *supra* note 8, at 26, and “is defined as the difference between the cash price and the futures price.” KOLB & OVERDAHL, *supra* note 18, at 45. Although profits from the sale of a futures contract will theoretically offset losses incurred from the sale of the commodity in the cash market, this transaction might not recover basis costs. “The value of a futures contract on a commodity is based primarily on expected future spot prices and the storage costs of holding the particular commodity.” KOLB & OVERDAHL, *supra* note 18, at 77. Without a “[b]road and transparent cash market,” it is difficult to determine whether futures contract prices actually correspond to cash market pricing and thus, whether a hedging benefit can be derived from the futures contract (the original purpose of futures contracts), is called into question. Martínez-Garmendia & Anderson, *supra* note 72, at 988.

78. Sanders & Manfredo, *supra* note 5, at 507.

79. *Id.* at 508.

80. Fabio Mattos & Philip Garcia, *Price Discovery in Thinly Traded Markets: Cash and Futures Relationships in Brazilian Agricultural Futures Markets* 1, NCR-134 CONFERENCE ON APPLIED COMMODITY PRICE ANALYSIS, FORECASTING, AND MARKET RISK MANAGEMENT 2004, available at <http://ageconsearch.umn.edu/bitstream/19019/1/cp04ma02.pdf>.

81. See Martínez-Garmendia & Anderson, *supra* note 72, at 957-58. “Objectively quantifiable differences” must be present in a commodity so one unit can be interchanged with another. Such a standard indicates that each unit of the commodity is describable and the quality of the unit is not subjective. Brorsen & Fofana, *supra* note 71, at 133-34.

shrimp by allowing for multiple sizes of shrimp to be delivered under a single futures contract, and pricing the difference in a delivery product with non-par premiums and discounts.⁸² These premiums and discounts, however, failed to rapidly change with the rising and falling prices of different sizes of shrimp traded at the MGE.⁸³ Without certainty as to the size of the shrimp that is going to be delivered, a market participant who needs a certain size of shrimp can be left with a delivered product that fails to meet its needs, even though the initially purchased futures contract met the participant's requirements.

Opening up the opportunity for "price manipulation," the MGE contracts built in favorable terms for sellers and for dispute resolution, but failed to recognize the basic reason why buyers would have utilized the contracts – to meet the demand of end users through proper hedging and/or delivery. It is as if the shrimp futures contracts were designed so that speculators could theoretically manipulate the price of one size count shrimp to make it beneficial for a seller to deliver non-par (*i.e.* another size count) shrimp. The disassociation between market prices for different shrimp sizes also presented the problem of ineffective hedging resulting from a lack of pricing correlation between shrimp sizes, possibly emanating from the different uses for different sizes of shrimp.⁸⁴

MGE shrimp futures failed because there was a lack of liquidity in the futures and futures option markets, there was a lack of transparency in the cash market for shrimp, and there were insufficient penalties for delivery of shrimp that failed to conform to the requirements of the contract.⁸⁵ Furthermore, the role that fear and the costs of change to the status quo play in the viability of shrimp futures contracts must not be overlooked. It is possible that with a profitable business, many industry participants feared that futures contracts might detract from their operations or encourage price competition that could decrease profitability.⁸⁶ End users never fully accepted futures contracts as a way to hedge costs. Instead, it is possible that many end-users purchased shrimp in the cash market and simply passed on the costs to consumers.⁸⁷

82. Martínez-Garmendia & Anderson, *supra* note 72, at 961.

83. *See id.* at 962.

84. *Id.* at 987.

85. JAMES L. ANDERSON, *THE INTERNATIONAL SEAFOOD TRADE* 126 (2003).

86. *See* Roger W. Gray, *Why Does Futures Trading Succeed or Fail: An Analysis of Selected Commodities*, in 3 *FUTURES TRADING SEMINAR* 115, 119-20 (1966).

87. Dwight R. Sanders & Joost M. E. Pennings, *They Trade Shrimp In Minneapolis? An Examination of the MGE White Shrimp Futures Contract*, in *PROCEEDINGS OF THE NCR-134 CONFERENCE ON APPLIED COMMODITY PRICE ANALYSIS, FORECASTING, AND*

Combined, the various problems with shrimp futures contracts raise serious questions as to the viability of new seafood futures contracts.

3. The “Norwegian Experiment”

On April 26, 2007, Fish Pool ASA created fresh Atlantic salmon futures contracts cleared by NOS Clearing ASA to be traded in Norway.⁸⁸ Just six months after launch, Fish Pool claimed that over \$620,000,000 NOK in contract value had been traded in fresh salmon contracts.⁸⁹ With a goal to expand from fresh salmon to other seafood futures contracts, and to graduate seafood futures contracts to the level of traditional futures contracts like corn or coffee,⁹⁰ the “Norwegian experiment” can be looked to for guidance in considering the creation of seafood futures contracts in the United States.

Norway is particularly well suited to be a location for trading fresh salmon futures contracts due to the country’s experience with derivatives markets and its position as the largest single producer of farm raised salmon in the world.⁹¹ Having grown accustomed to “non-traditional” contracts like electric power and freight shipping derivatives, market participants in Norway appear to have likewise accepted fresh salmon derivatives as a way to hedge their exposure to the volatility within fresh salmon cash market pricing.⁹² With a large cash market from which settlement prices can be derived and electronic trading that opens the contracts up for global trading activity, fresh salmon futures contracts were created within an environment ripe for the product. Because futures products “have high failure rates and often contracts die soon after introduction,” every possible advantage must be considered.⁹³ The success of salmon futures in a country surrounded by deliverable fresh salmon, signals one possible lesson that can be learned from Norway’s

MARKET RISK MANAGEMENT 413, 419 (1999), http://www.farmdoc.illinois.edu/nccc134/conf_1999/pdf/confp26-99.pdf.

88. Press Release, Fish Pool, *Fish Pool is First to Launch Salmon Futures Clearing* (Apr. 19, 2007), http://www.fishpool.eu/docs/190407Press_release_Clearing.pdf.

89. Press Release, Fish Pool, *Salmon Exchange Fish Pool Has Passed Hundred Members* (Oct. 23, 2010), http://www.fishpool.eu/docs/231007FP_PressRelease.pdf.

90. *Norwegian Company to Launch Salmon Futures Clearing*, ETF EXPRESS (Apr. 23, 2007), <http://www.etfexpress.com/2007/04/23/norwegian-clearing-house-first-launch-salmon-futures-contracts>.

91. See Grønvik, *supra* note 4, at 14.

92. “The demand to hedge requires price fluctuations sufficiently large to give certainty about future prices an independent value of a sufficient size.” *Id.* at 15.

93. Carlton, *supra* note 38, at 268.

experience: even in an electronic age, location may matter and should be considered when creating new seafood futures contracts in the United States.

III. UNITED STATES LAW GOVERNING FUTURES CONTRACTS

The nature of seafood⁹⁴ presents considerable obstacles to creating and utilizing standardized seafood futures contracts. Creating contracts that account for seafood's inherent lack of fungibility,⁹⁵ and the possibility that a whole host of contracted delivery problems might occur,⁹⁶ requires careful attention to contractual detail as well as an understanding of the law and regulations that govern the creation and use of futures contracts in the United States.

A. *United States Financial Regulations*

Obtaining constitutional authority via the interstate commerce clause of the Constitution,⁹⁷ "[t]he Commodity Exchange Act (CEA) . . . has been aptly characterized as 'a comprehensive regulatory structure to oversee the volatile and esoteric futures trading complex.'"⁹⁸ Created in 1974 as the exclusive regulatory authority for futures contracts,⁹⁹ the CFTC took over and expanded the regulatory position previously held by the Secretary of Agriculture.¹⁰⁰ CFTC jurisdiction¹⁰¹ is governed by the frequently amended CEA and includes all "contracts of sale"¹⁰² of a

94. "Seafood is a disparate array of products encompassing literally hundreds of edible species that have little in common other than an aquatic origin. Collectively, seafood has perhaps the most diverse and complex microbiology of any food commodity." *Inspection of Seafood Products: Hearing Before The H. Comm. on Agriculture, Subcomm. on Livestock, Dairy, and Poultry*, 104th Cong. (1996), available at <http://www.fda.gov/NewsEvents/Testimony/ucm115081.htm>.

95. No two fish of the same species classification are exactly alike.

96. The nets and traps come back empty, a major storm destroys the fishing fleet, a fisherman gets sick, or his boat engine fails, all with the end result that a fisherman cannot satisfy the contract terms.

97. U.S. CONST. art. I, § 8, cl. 3. *See also* Commodity Exchange Act, 7 U.S.C. § 5 (2010).

98. *Merrill Lynch, Pierce, Fenner, & Smith Inc. v. Curran*, 456 U.S. 353, 355-56 (1982).

99. Millo, *supra* note 22, at 203.

100. *Curran*, 456 U.S. at 366.

101. Commodity Exchange Act, 7 U.S.C. § 2(a)(1) (2010).

102. Contract of sale is defined as including "sales, agreements of sale, and agreements to sell." *Id.* at § 1a (13).

commodity¹⁰³ for future delivery.”¹⁰⁴ Exempted from this definition, forward contracts were excluded from CFTC enforcement authority to prevent undue economic burden on commerce.¹⁰⁵ According to numerous courts and the CFTC, to qualify for this exemption the parties to a forward contract must contemplate delivery of the commodity, have the ability to take delivery of the commodity,¹⁰⁶ and intend to enter into a forward, not a disguised futures contract.¹⁰⁷ However, in one of the most recent cases on whether a contract was a futures contract or a forward contract, the Seventh Circuit Court of Appeals defined a futures contract in *Zelener* as a contract in which trading actually “occurs in “the contract,” not the commodity.”¹⁰⁸ Rejecting the CFTC supported totality of the circumstances test, the *Zelener* Court partially disposed of the prior framework that focused on the delivery requirement and identified several important characteristics of futures contracts¹⁰⁹ as well as identified several characteristics of forward contracts.¹¹⁰

Finding in *Zelener* that because foreign currency transactions were in unique amounts and the contracts were of unique timing (even though the contracts had similar terms), the contracts were not futures contracts

103. Commodity is defined as “all . . . goods and articles, except onions . . . and motion picture box office receipts, . . . and all services, rights and interests . . . in which contracts for future delivery are presently or in the future dealt in.” *Id.* at § 1a (9).

104. Future delivery is defined as “not includ[ing] any sale of any cash commodity for deferred shipment or delivery.” *Id.* at § 1a (27).

105. See *Policy Alternatives Relating to Agricultural Trade Options and Other Agricultural Risk-Shifting Contracts*, U.S. COMMODITY FUTURES TRADING COMM’N, <http://www.cftc.gov/About/CFTCReports/acag8> (last visited Jan. 24, 2013).

106. See *Commodity Futures Trading Comm’n v. Co. Petro Mktg. Group, Inc.*, 680 F.2d 573, 579 (9th Cir. 1982).

107. *Commodity Futures Trading Comm’n v. Noble Metals Int’l, Inc.*, 67 F.3d 766, 772 (9th Cir. 1995) (“[B]oth parties [must] contemplate[] and inten[d] [to take] future delivery of the actual commodity.”).

108. *Commodity Futures Trading Comm’n v. Zelener*, 373 F.3d 861, 864 (7th Cir. 2004) (quoting *Chi. Mercantile Exch. v. SEC*, 883 F.2d 537, 542 (7th Cir. 1989)).

109. Several important characteristics of futures contracts are: that participants are actually buying or selling contracts, rather than commodities; that there be standardized terms; that each party’s obligation run to an intermediary, the clearing corporation; that the clearing corporation eliminates the counterparty risk; that contracts become fungible via standardized terms and absence of counterparty-specific risk, this makes it possible to offset a contract; that all contracts expiring in a given month are identical; that each contract call for delivery of the same commodity, in the same place, at the same time. See *id.* at 865.

110. Forward contracts are contracts that call for the sale of a commodity, are not able to be offset because promises are not fungible, and are contracts for which delivery is not centralized. *Id.* at 865-66.

even though the obligations could be rolled forward every two days.¹¹¹ This case, although only court precedent in the Seventh Circuit, has drastically altered the “what is a futures contract” analysis.¹¹² Although the “CFTC is not entitled to deference in its determination of whether an investment is a futures contract subject to CFTC jurisdiction or a forward contract that is not,”¹¹³ the CFTC did not acquiesce to the *Zelener* ruling and reserves the right to bring further cases with similar fact patterns before the courts.

Until the passage of the Commodity Futures Modernization Act of 2000 (“CFMA”), every futures contract had to be approved for trading by the CFTC.¹¹⁴ The purpose of the CFMA is “to promote innovation for . . . derivatives and to reduce systemic risk by enhancing legal certainty in the markets for certain . . . derivatives transactions [and] to reduce systemic risk and provide greater stability to markets during times of market disorder.”¹¹⁵ Serving to deregulate portions of the derivatives market, the CFMA created “over-the-counter (OTC) markets for commodities futures and options.”¹¹⁶ The CFMA also created a tiered regulatory system that separated designated contract markets (“DCM”)¹¹⁷

111. *Id.* at 867.

112. In 2008, the United States Court of Appeals for the Sixth Circuit and Eleventh Circuit also adopted the Seventh Circuit’s analysis and defined forward and futures contracts in a similar manner. *See generally* Commodity Futures Trading Comm’n v. Erskine, 512 F.3d 309, 322-25 (6th Cir. 2008). The Fourth Circuit also recently identified characteristics of a forward contract which include:

- 1) The primary subject of the contract is the commodity itself as opposed to packaging, marketing, shipping or other costs;
- 2) The contract requires payment at a fixed price with delivery more than two days after the agreement;
- 3) The quantity term and timing for delivery are fixed in the agreement when made; and
- 4) There is no requirement for the contract to be traded on an exchange or otherwise in the financial markets.

In re Nat’l Gas Distributors LLC v. E.I. Du Pont de Nemours & Co., 556 F.3d 247, 259-60 (4th Cir. 2009).

113. PHILIP MCBRIDE JOHNSON & THOMAS LEE HAZEN, DERIVATIVES REGULATION 23 (Supp. 2012) (citing Commodity Futures Trading Comm’n v. Erskine, 512 F.3d 309 (6th Cir. 2008)).

114. Commodity Exchange Act, 7 U.S.C. § 6 (2006); Stout, *supra* note 32, at 723.

115. Commodity Exchange Act, 7 U.S.C. § 1 (2006).

116. CORPORATE FINANCE, *supra* note 28, at 776.

117. “Designated contract markets are the traditional commodity exchanges” and are still regulated by the CFTC under the CFMA. *Id.* at 873.

from OTC derivative trading transactions by institutions¹¹⁸ and other “eligible commercial entities . . . including accredited investors as defined in Regulation D by the Securities and Exchange Commission under the Securities Act of 1933 (17 CFR 230.501(a)).¹¹⁹

The CFMA, however, did not change how futures contracts were created or traded on DCMs. The “CFTC [still] acts as a gatekeeper”¹²⁰ that must approve the use of new futures contracts.¹¹⁹ The CFTC futures contract application process results in considerable costs being incurred by an exchange when introducing a new product.¹²¹ Besides the filing fee for the review of the new market contract,¹²² the application itself requires the tedious inclusion of supply and demand, hedging usefulness, and manipulation prevention measure information that significantly increases the costs of filing.¹²³ Despite the considerable new contract costs, the “first-to-trade” advantage can be very lucrative as “there is usually only one successful contract for each good and this is usually the first one to trade at substantial volume.”¹²⁴

The full extent of the changes imposed by the Dodd-Frank Act¹²⁵ are not yet known.¹²⁶ However, one of the Act’s main impacts on futures contracts is the strain imposed by the Act on the CFTC, which had its jurisdiction expanded to include swaps.¹²⁷ Directed at establishing protocol for unwinding companies previously determined “too big to

118. OTC derivative trading between institutions is no longer subject to CFTC regulation under the CFMA. *Id.*

119. Commodity Exchange Act, 7 U.S.C. § 1a (11) (2010).

120. Stout, *supra* note 32, at 723.

121. Research and development of a new contract can involve many people including lawyers, experts, current employees, members of industry, and traders. The result is that innovation is not cheap. *See generally* Ronald W. Anderson, *The Regulation of Futures Contract Innovations in the United States*, 4 J. FUTURES MARKETS 297, 310-26 (1984) [hereinafter R. Anderson].

122. *Id.* at 298-99.

123. *Id.* at 300. The application specifically requires “a cash market description [supply and demand], . . . analysis of the terms and conditions of the contract [fairness and deliverable supply], . . . an explanation of how the contract would fulfill an economic purpose [useful to hedgers], and . . . a public interest statement [manipulation prevention].” *Id.*

124. *Id.* at 324.

125. Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203, 124 Stat. 1376 (2010).

126. The full extent of the ramifications of the Dodd-Frank Act will not be known until all the federal agencies involved have finished promulgating rules and regulations for the enforcement of the Act. *See* Cluchey, *supra* note 6 (analyzing the major parts of the Dodd-Frank Act).

127. Goodman, *supra* note 19.

fail,”¹²⁸ Dodd-Frank created substantial reporting requirements that increased the cost of regulatory compliance, not just for the commodities industry, but also increased the cost of CFTC enforcement.¹²⁹ In this respect, the CEA already provided significant recordkeeping requirements for all registered entities, including DCM’s, by, among other provisions, requiring that complete trading records (an audit trail) are kept and available for inspection by the CFTC or the Department of Justice for a period of five years.¹³⁰ Unlike forward contracts whose terms are dictated between individuals and founded on freedom of contract principals, futures contracts have many more restrictions emanating from their standardized nature and CFTC rules.

B. Contractual Details

Although the CFTC imposes contractual design requirements that include the requirement that there is sufficient supply of a commodity to meet delivery,¹³¹ and undertakes a review of contractual terms to attempt to limit manipulation and protect retail purchasers of futures contracts, the standardization of commodity contracts has been largely accomplished and imposed by exchanges.¹³² After consulting lawyers, industry and market participants, and undertaking a feasibility study,¹³³ exchanges ultimately create the terms and conditions of a specific futures contract. These include the quantity, quality, and grade of a commodity, as well as the time, location, and whether settlement occurs through physical delivery¹³⁴ or through cash settlement.¹³⁵ Breach of contract

128. Cluchey, *supra* note 6, at 205-06.

129. See Core Principles and Other Requirements for Designated Contract Markets, 77 Fed. Reg. 36 612 (June 19, 2012) (detailing the additional costs of regulation imposed by the CFTC on seventeen designated contract markets).

130. Commodity Exchange Act, 7 U.S.C. § 6g (2006).

131. Richard A. Shilts, *Harvard Electricity Policy Group Market Power and Market-Makers*, HARVARD KENNEDY SCH. GOV’T, 20-21, available at <http://www.hks.harvard.edu/hepg/Papers/Shilts%2001-25-02.pdf> (last visited Jan. 27, 2013).

132. *Id.*

133. See Sandor, *supra* note 26, at 127.

134. Methods of physical delivery can include the mode of transportation or the transfer of a warehouse receipt. *Id.* at 124.

135. Cash settlement is defined by the CFTC to be “[a] method of settling futures options and other derivatives whereby the seller (or short) pays the buyer (or long) the cash value of the underlying commodity or a cash amount based on . . . price according to a procedure specified in the contract.” Glossary: A Guide To The Language Of The Futures Industry, *COMMODITY FUTURES TRADING COMM’N*, <http://www.cftc.gov/ucm/>

provisions that identify actions and non-actions of default, are also included in the event that a party fails to deliver an underlying commodity. Once a futures contract is created, the contract must be simulated to identify problems and ways to manipulate terms, to make sure that the contract is attractive to both the industry and potential speculators.¹³⁶ Modifying contractual terms to prevent one market participant from gaming the contract, exchanges must constantly review and evaluate how a particular future contract is being used and make changes to the contract to facilitate trading and liquidity.¹³⁷

IV. BENEFITS & DRAWBACKS OF EXCHANGE TRADED FUTURES CONTRACTS

Derivatives have the ability, as seen in the recent financial crisis, to entangle much of the financial establishment in a web of counterparty risk that presents the danger of mutually assured destruction. Even if a trade goes in a party's favor, if the party on the other side of this zero-sum game is unable to cover the loss (assuming OTC transaction), then the trade can result in both parties failing. Warren Buffett famously remarked, in a Berkshire Hathaway shareholder letter, that "derivatives are financial weapons of mass destruction."¹³⁸ Contrary to this often cited quote, however, two years later, Buffet, acting on behalf of Berkshire Hathaway, entered into derivatives contracts that in 2009 represented up to thirty-seven billion dollars in liability for Berkshire.¹³⁹ Although it is assumed that Buffett was speaking about one type of derivative contract and probably entering into other derivatives contracts with much more favorable attributes, the point is that even Warren Buffett, "the Oracle of Omaha," recognizes the potential benefits of derivatives and realized that it was Berkshire Hathaway's perceived self-interest to enter into the voluntary transactions.

The key that opens the lock within the financial markets is perceived self-interest. In the years before the financial crisis, then Chairman of the Federal Reserve, Alan Greenspan, pushed for deregulation believing that

groups/public/@educationcenter/documents/file/cftcglossary.pdf (last updated May 2010).

136. Sanders & Pennings, *supra* note 87, at 413.

137. See Sandor, *supra* note 26, at 130.

138. Letter from Warren Buffet, Chairman of the Bd., Berkshire Hathaway, Inc., to Berkshire Hathaway, Inc. S'holders, 15 (Feb. 21, 2003) (on file with author), available at <http://www.berkshirehathaway.com/letters/2002pdf.pdf>.

139. *Buffett: Oops!*, CNN MONEY (Aug. 13, 2009), http://money.cnn.com/2009/08/13/news/companies/buffett_berkshire_derivatives.reut/index.htm.

“[r]isks in financial markets, including derivatives markets, are . . . regulated by private parties”¹⁴⁰ and that the invisible hand of the market would have a self-regulating effect. After the financial crisis, Greenspan characterized the market failure as a “self-interest fail[ure].”¹⁴¹ Like Greenspan’s folly in advocating for deregulation, a root cause of the financial crisis, he has also punted his analysis of market participant motivation that led to the calamity. Self-interest did not fail as Greenspan argued, but in actuality, perceived self-interest failed. Blinded by short-term interests, participants failed to understand the very real unintended consequences of their actions. Greenspan’s reliance on the self-regulating effect of free markets did not take into account that actual self-interest and perceived self-interest are not necessarily the same thing. The end result was that leverage, mixed with poor asset quality and a race for the exit, equaled a catastrophe that Greenspan neither foresaw nor correctly diagnosed.

With this in mind, if seafood futures contracts are going to exist it will be because their use will be within the perceived self-interest of the market participants. For the successful introduction of seafood futures contracts, the perceived self-interest calculus must include the numerous benefits and possible drawbacks to creating the contracts, with the benefits outweighing the potential deficiencies.

A. Benefits of Exchange Traded Seafood Futures

Seafood futures contracts present numerous advantages over the status quo. Such contracts provide an alternative to the cash market, allow for producers to reduce price change risk, and perform a price discovery function. If successfully implemented, seafood futures contracts could have a profound, sustained positive effect on the seafood industry and serve to benefit both consumers of seafood and seafood sustainability itself.

1. Price Risk Management Strategy

In commodities where supply is constrained and demand is increasing, prices can rise and fall quickly depending on the elasticity of demand.¹⁴² Since “people generally dislike risk and are willing to pay to

140. JOHN CASSIDY, *HOW MARKETS FAIL: THE LOGIC OF ECONOMIC CALAMITIES* 230 (2009).

141. Geoff Colvin, *Alan Greenspan Fights Back*, 161 *FORTUNE* 82 (2010).

142. See Sandor, *supra* note 26, at 127.

avoid it (hence the insurance industry),”¹⁴³ “[m]arkets for hedging price risk can develop if there is sufficient price fluctuation, and a basic interest for the hedge in both ends of the market.”¹⁴⁴ Without price volatility, futures contracts are not needed as producers of an underlying commodity and end users of the commodity can plan around the cash market price, and thus have no need to hedge.¹⁴⁵

Both producers and end users can benefit from futures contracts as price risk management strategy tools. As it is now, “supply is difficult to gauge [as] . . . ‘sometimes fishermen have a good season, sometimes they don’t.’”¹⁴⁶ By selling a contract, fishermen and fish farmers can theoretically lock in prices. This gives producers the ability to determine their earnings before deciding to capture or harvest seafood, and to weigh the pros and cons of even undertaking that activity based upon the costs associated with fishing: obtaining the necessary permits, equipment, and labor. Such knowledge could alleviate supply gluts before they occur and result in efficient fishing that helps to eliminate fishing when economic benefit is insufficient. The capture seafood industry stands to benefit from the introduction of seafood futures contracts to the United States; futures contracts could result in improved profitability, a decrease in the risk of default on equipment and business loans, and possibly conservation of the natural fishing stock as a result of fishing and harvesting seafood only when the economics make sense.

2. Price Discovery

Prices change as a result of a myriad of factors that influence market participant action. The pricing of a liquid futures contract theoretically incorporates all new pertinent information that may affect supply and demand of a commodity. This price transparency provides market-wide supply and demand data that could allow for financial planning, capital expenditure, and an increase (or decrease) in labor requirements.¹⁴⁷ The price discovery function of a futures market may also create both incentives and disadvantages for large seafood businesses, but such a

143. Stout, *supra* note 32, at 736.

144. Grønvik, *supra* note 4, at 14. See also Kreitner, *supra* note 38, at 1102-03 (discussing how people would enter into futures transactions to “prevent losses resulting from swings in the price of the commodity”).

145. See Jerry W. Markham, *Commodities Regulation: Fraud, Manipulation & Other Claims – Regulatory Battles Between CFTC and SEC*, 13A COMMODITIES REG. § 28.2, 3 (2010).

146. Rohrlich, *supra* note 62.

147. ANDERSON, *supra* note 85, at 117.

market could increase consumer consumption and benefit the entire seafood industry. The ability of a restaurant chain, canning company, or supermarket to offer fresh seafood at a stable, affordable price is bolstered by the price certainty provided by seafood futures contracts. Lowering the costs of production and price volatility, a futures market could result in the decrease of seafood purchase costs for consumers via improved efficiency. However, the ability of middlemen and other large seafood industry participants to put downward pressure on prices paid to fishermen and fish farmers may be diminished as such producers would have access to up-to-the minute market pricing and as a result gain price-negotiation leverage.

The legitimacy, security, price transparency, and quality assurance brought by standardized seafood futures contracts, however, may have drawbacks for lawyers. Once a futures contract is vetted by exchange lawyers, approved by the CFTC, and reviewed by a lawyer for each market participant, the need for lawyers significantly diminishes as a result of the standardization of terms and conditions. With the rules and regulations imposed by the CFTC and exchanges providing for course of conduct and dispute resolution, the traditional breach of contract litigation that may result from cash market and forward market transactions could dry up. With the possibility of reduced lawyer costs, seafood industry market participants could lower the cost of doing business and such savings may be passed on to seafood consumers. Although there are considerable benefits associated with seafood futures contracts, any analysis would be remiss if it failed to identify the possible drawbacks associated with the derivatives.

B. Drawbacks of Exchange-Traded Seafood Futures Contracts

Despite the numerous advantages presented by seafood futures contracts, there are some disadvantages that must be taken into account. First and foremost, much of the seafood industry has little to no experience with futures contracts, and the possible risks associated with this lack of education cannot be overlooked. One such risk is the marked-to-market accounting feature of futures contracts. Every day that a futures contract is traded, the price theoretically rises and falls. Having purchased the contract by only posting margin of “between two and 10 percent of the total value of the contract,”¹⁴⁸ each day that the contract increases or decreases in price is marked by a margin call that results in either the long or the short market participant posting more margin. This

148. C.F.T.C., *supra* note 35.

system, which helps to reduce the impact of default by preventing large losses from accumulating without additional capital being posted, can also cause problems for a cash-strapped market participant. Without a proper understanding of the risks involved in futures trading, forced liquidation via margin call could wipe out a fisherman's price hedge and result in negative publicity that could have a devastating effect on the likelihood of seafood futures contract success. Other potential drawbacks to seafood futures contracts could include the possibility of market manipulation, overfishing, and other conceivable unknown or uncertain drawbacks that could pose considerable risk.

1. Market Manipulation

Futures markets have a long history of successful and attempted manipulation.¹⁴⁹ Artificially inflating or deflating prices outside the realm of supply and demand, futures market manipulation can involve spreading false information, cornering the market by controlling a large position in a specific commodity (actual or contractual), or squeezing short sellers by buying more futures contracts than can be actually delivered with the intent to artificially increase price.¹⁵⁰ To prevent against manipulation, both exchanges and the CFTC have rules and regulations that seek to reduce the degree of market manipulation that occurs.¹⁵¹ Exchanges are able to self-police through the use of trade monitoring, position limits, minimum (tick) and maximum (limit) daily price change, and audit trails, while the CFTC has enforcement authority that allows it to conduct market surveillance, raise margin requirements, limit position sizes, and bring enforcement actions under the Commodity Exchange Act.¹⁵² Even with such precautions, the chance that manipulation could infect seafood futures contracts and result in market participation waning represents a considerable threat to a stable contract. With the possibility of such an event diminishing trust in the trading system to the point that market participants refuse to deal in a new contract, such a setback could possibly eliminate the trading of seafood futures contracts.

149. See CORPORATE FINANCE, *supra* note 28, at 746-66.

150. Shilts, *supra* note 131, at 12.

151. See Commodity Exchange Act, 7 U.S.C. §§ 9, 13, 15 (2006).

152. Shilts, *supra* note 131, at 19-22.

2. Incentivizing Overfishing

“[P]rice is the mechanism that . . . alert[s] buyers to buy more or that would alert . . . producers to produce more.”¹⁵³ Supply and demand for seafood creates the potentially problematic environmental concern of overfishing. As it is, “[o]n average, each person on the planet is eating four times as much seafood as [that person would have] . . . consumed in 1950.”¹⁵⁴ Aided by a more transparent seafood marketplace, one negative externality that could theoretically occur from the creation of seafood futures contracts is overfishing from increasing demand for seafood above even the current trend of increased seafood consumption,¹⁵⁵ a result that would cause prices for seafood to rise if catch shares and fish farming fail to keep up with demand.

Should market prices become great enough, fishermen will theoretically fish until there are no fish left. Called the “race for fish,” open access gives fishermen an incentive to fish as fast and efficiently as possible to maximize profit.¹⁵⁶ The resulting “tragedy of the commons” could wipe out fish species if regulatory agencies and fish shares were ignored.¹⁵⁷ As “rents accrue to whoever goes out and catches the fish,”¹⁵⁸ a fisherman that is willing to violate catch-share limits could profit handsomely by selling illegally caught seafood to fishermen that are still within their catch-share limits or by selling to seafood dealers that do not report their purchases to catch share regulators.¹⁵⁹ As a result, the incentive to undertake this illegal activity could be greatly increased should the price of a given seafood increase substantially.¹⁶⁰

153. SUZANNE IUDICELLO ET AL., *FISH, MARKETS, AND FISHERMEN: THE ECONOMICS OF OVERFISHING* 33 (Island Press 1999).

154. BRIAN HALWEIL, *FARMING FISH FOR THE FUTURE* 7 (Lisa Mastny ed., Worldwatch Institute 2008). See also *Rising Wealth of Asians Straining World Fish Stock*, ASSOCIATED PRESS, Jan 24, 2012, at A1 (linking the increased consumption and overexploitation of world fish stocks to the rise in wealth and demand for seafood in Asia).

155. Jennifer Weeks, *Fish Farming: Is it Safe for Humans and the Environment?*, 17-27 CQ RESEARCHER FISH FARMING 627 (2007).

156. IUDICELLO, *supra* note 153, at 35-6.

157. Jonathan H. Adler, *Legal Obstacles To Private Ordering In Marine Fisheries*, 8 ROGER WILLIAMS U. L. REV. 12 (2002).

158. IUDICELLO, *supra* note 153, at 85.

159. See Bill Trotter, *Shrimp Reports Lag; Landings Low*, BANGOR DAILY NEWS, Jan. 12, 2012, at A1.

160. This possible illegal action is somewhat analogous to what occurred when copper prices rose substantially. With scrap copper prices around a dollar fifty per pound, thieves targeted homes, power lines, and industrial sites to obtain copper to sell as scrap. Manny

With the possibility that consumer outcry and seafood industry lobbying could influence regulators to raise catch-share limits, seafood species may become unable to reproduce fast enough to meet human consumption.¹⁶¹ For the fishing industry, higher prices might bring about the destruction of the natural resource on which the industry relies, while at the same time hastening the arrival of widespread fish farming. A competitive seafood futures marketplace by no means guarantees the increase in the price of seafood, but such an increase is a possibility that must be explored. Considering the efficiencies that can be created and the incentives that such a marketplace can create to only fish or harvest fish when the economics make sense, it is conceivable that price will increase and decrease substantially, guided by the invisible hand upon which Alan Greenspan unfortunately relied.¹⁶²

3. Danger of the Unknown

Murphy's Law dictates that what can go wrong, will. To help mitigate the effects of the inevitable problems that will arise, those problems must be identified in advance. For example, there will be a decrease in the flexibility of contractual terms and delivery times as independent contracting between fishermen/fish farmers and middlemen/end users is replaced by "rigid, standardized contracts" involving third-party investors.¹⁶³ Additionally, reputation-based long-term business relationships, which currently permeate the seafood industry, will no longer provide a basis for judging quality because the futures market involves trades cleared by a clearinghouse, where seafood is objectively graded.

Furthermore, output risk (such as engine failure and significant weather events), become all the more damaging when rigid futures contracts are involved—especially where they contain delivery default

Fernandez & Dan Frosch, *In a Summer Heat Wave, Making Off With The Cool*, NEW YORK TIMES, Aug. 11, 2011, available at <http://www.nytimes.com/2011/08/12/us/12heat.html?pagewanted=all>. Causing considerable damage for even relatively small amounts of copper, the rise in copper pricing indirectly caused substantial property theft and property destruction around the United States. *Id.* Taking a cue from the results of the rise in copper prices, creating a transparent cash and futures market in seafood will have unintended consequences, the results of which cannot be fully predicted.

161. This assumes that catch shares are currently set at a sustainable limit.

162. Robert H. Frank, *Flaw in Free Markets: Humans*, NEW YORK TIMES, Sept. 12, 2009, available at <http://www.nytimes.com/2009/09/13/business/economy/13view.html>.

163. Zachary J. Gubler, *The Financial Innovation Process: Theory and Application*, 36 DEL. J. CORP. L. 55, 75 (2011).

clauses. Depending on the contractual language, fishermen or fish farmers might have to buy in the cash market to cover their obligations to deliver seafood should a catastrophic event occur.¹⁶⁴ Although a force majeure clause¹⁶⁵ could be considered, the end result being that the clause frees both parties from their contractual obligation,¹⁶⁶ such a clause is likely ill-suited for a fully functioning futures market due to the uncertainty of performance and delivery that such a contractual clause could create.

Although it is pointed out as a possible benefit of futures contracts, the (perceived) decreased need for legal counsel can also have potential drawbacks and side effects. Beyond the unemployment potential for lawyers, if market participants decide not to consult attorneys before entering into each and every futures contract, such participants might cause problems for themselves as the terms and conditions of certain futures contracts can change as do tax treatment, CFTC regulations, and State and Federal law.

Beyond the aforementioned drawbacks, even the best intentions can lead to unforeseen negative results. Weighing the foreseen benefits against the foreseen drawbacks, seafood futures contracts, on paper, have considerable upside potential. Whether this upside will be realized depends upon the will of the seafood industry and whether an exchange (or individuals willing to start an exchange) recognizes the monetary and social value that seafood futures contracts represent. Lurking in the background is the failure of shrimp futures contracts and the persistent inability of humans to accurately predict future problems that have, or have not, been encountered in the past.

V. SEAFOOD FORWARD AND FUTURES CONTRACTS

Futures contracts often fail due to a lack of liquidity and the failure of the contracts' benefits to outweigh the contracts' drawbacks. For seafood futures contracts to be successful, the fishing industry and end users must accept the value that financial markets can contribute to their self-interest. For this acceptance to occur, a limited rollout of a few seafood futures contracts should occur in a location that produces a sufficient supply of the seafood to meet the demand for physical

164. See PAUL, *supra* note 25, at 4.

165. A force majeure is an event outside of the control of a market participant that makes payment or delivery impossible.

166. See INTERNATIONAL SWAPS & DERIVATIVE ASSOCIATION, ISDA 2002 MASTER AGREEMENT (SAMPLE) 8-10 (2002).

delivery. One place to start might be with lobster futures contracts in New England, where significant marine trapping occurs. Fish produced via fish farming might also provide a supply of seafood to meet demand for physical delivery of certain species of fish. In creating seafood futures contracts, market participant trust, industry acceptance, and a vibrant cash market, are all necessary to obtain sufficient liquidity for a fully functioning futures market.

1. Market Participant Trust

To encourage market participant trust, strict quality-control standards and a program requiring third-party grading of seafood before delivery must be implemented to try and overcome the traditional buyer's desire to inspect the catch as a form of quality control.¹⁶⁷ This program could also be extended to provide consumers and end users with more information about the product they are about to consume and to help create demand for a specific, premium priced seafood.¹⁶⁸

Past futures market failures also must be overcome as that history could undermine belief in the potential success of seafood futures contracts. Although creating seafood futures contracts with valuable underlying seafood is important, the MGE failure indicates that having a valuable commodity does not guarantee success.¹⁶⁹ The MGE failure must be overcome by incorporating MGE mistakes into a new set of contracts.

Although seafood futures contracts should consider non-par delivery because it can promote liquidity within a contract, non-par delivery can also cause severe mistrust within a futures market, as evidenced by the MGE shrimp contract failure.¹⁷⁰ Arbitraging the spread between a non-par delivery penalty and the price of a less valuable size shrimp has the potential to damage trust between market participants. Once bitten, twice shy, the incentive to participate in a market that has failed to provide for the needs of all market participants is diminished even after just one bad experience. Any new market must seek to prevent this from occurring, preferably by utilizing "single delivery contracts . . . that could improve the hedging effectiveness"¹⁷¹ of the futures contracts. Accompanying the

167. ANDERSON, *supra* note 85, at 113.

168. Such labeling could include information about where seafood was caught or farmed and whether farm-raised seafood was "organically" raised. *Id.* at 194-96.

169. *Id.* at 56.

170. *See supra* Part II.B.2.

171. Josue Martinez-Garmendia & James L. Anderson, *An Examination of the Shrimp Futures Market*, in MICROBEHAVIOR AND MACRORESULTS: PROCEEDINGS OF THE TENTH

element of obtaining market participant trust is the requirement that the seafood industry accept the use of futures contracts as a means of doing business.

2. Industry Acceptance

For a successful seafood futures contract, such contracts must be adopted and shaped by both commercial product users and producers like fishermen and fish farmers. Being that “the success of a contract is largely dependent on its liquidity, i.e., the volume and open interest it attracts,”¹⁷² the more participation that can be garnered, the more likely it will be that the futures contract will be successful. Getting a large group of producers and end users to change by beginning to utilize seafood futures contracts presents one of the greatest challenges to the successful creation of the contracts.

Presenting an equally challenging problem is that some of the larger industry consumers of seafood already have long-term pricing programs in place to hedge against price volatility.¹⁷³ These include Darden Restaurants,¹⁷⁴ Tyson, Hormel, Smithfield, Kraft, ConAgra,¹⁷⁵ and Legal Sea Foods.¹⁷⁶ Recruiting large businesses, like those listed above, could lend credibility to seafood futures contracts and lead many smaller businesses to follow the larger businesses into the futures market.¹⁷⁷ The buyer concentration that a few large companies could bring to a new

BIENNIAL CONFERENCE OF THE INTERNATIONAL INSTITUTE OF FISHERIES ECONOMICS AND TRADE 5 (2000), available at <http://oregonstate.edu/dept/IIFET/2000/papers/martinez2.pdf>.

172. FOR WHOM THE BELL TOLLS, *supra* note 38, at 872.

173. Broiler futures contracts partially failed as a result of vertical integration within the chicken industry and the use of long-term forward contracts that reduced the need for futures contracts to manage price change risk. See Hegde, *supra* note 38, at 13-22. Although attempted three times in the United States, broiler future contracts ultimately failed for the third time when the CME delisted the contracts in 1993. *Id.* at 22.

174. See Sanders & Pennings, *supra* note 87, at 413.

175. Rohrllich, *supra* note 62.

176. Weeks, *supra* note 155, at 630 (buying shrimp direct from specific producers via long term contracts).

177. There is worldwide use of, and demand for, derivatives by large companies for currently traded derivatives including futures contracts. A survey performed by the International Swaps and Derivatives Association found that 94% of the 500 largest companies in the world (471 out of 500) use derivatives to hedge price risk in commodities and to limit the impact of currency valuation fluctuations and interest rate changes. See Press Release, ISDA, Over 94% of the World's Largest Companies Use Derivatives to Help Manage Their Risks, According to ISDA Survey (Apr. 23, 2009), <http://www.isda.org/press/press042309der.pdf>.

seafood futures contract market, however, could actually make the market less active (less liquid). Therefore, there is a delicate balancing between the need for liquidity and the need for large industry leaders to utilize the contracts that must occur for the success of a new contract.¹⁷⁸ With the goal of making the use of futures contracts part of doing business in the seafood industry, the ability to offer enough deliverable seafood to support futures contracting is essential to lending credibility to the contract and to getting CFTC approval. To obtain deliverable seafood, fishermen and fish farmers must buy into the benefits of such contracts, and this objective can be furthered by making sure that those market participants who will be using a particular contract have a voice in the creation of the contracts terms.¹⁷⁹

a. The Problem of Getting Fisherman on Board

The seafood industry generally lacks experience with futures contracts and “the success rate of new contracts is rather poor . . . [in] industries that are new to futures trading.”¹⁸⁰ This creates a threshold problem of overcoming tradition, and possibly stubbornness, when it comes to attempting to get market participants to adopt seafood futures contracts as a common business practice.¹⁸¹ Although, if properly hedged, fishermen could take considerable price risk out of their business equations. It is possible that some fishermen will refuse to participate in a forward or futures contracting market due to the hope of obtaining higher prices in the cash market at a later time. Furthermore, expecting fishermen to add additional business responsibility to their workload without clearly established economic benefit is unrealistic. Thus, education about the benefits of seafood forwards and futures contracts as well as increased profitability with less risk must be offered. A large-scale recruiting program should be put in place that offers zero or very low transaction costs for a short period of time. Complementing such a program, a top-notch customer service center must be in place that sponsors educational workshops and handles questions posed by individuals looking for information on the futures contract offerings.

178. See Brorsen & Fofana, *supra* note 71, at 138.

179. Gray, *supra* note 86, at 117-19.

180. Sanders & Manfredo, *supra* note 5, at 506-07.

181. “The usual seafood trading practices in the cash markets may suggest that a large segment of the participants are not interested in, or aware of, the beneficial aspects of transparent cash markets and futures contracts.” Martinez-Garmendia & Anderson, *supra* note 72, at 988.

One way that Fish Pool ASA gets around members' lack of education with futures contracts and electronic trading is by working closely with those members and allowing members to place orders by calling or emailing Fish Pool ASA.¹⁸² Pairing customer service and educational programs with an easy-to-use electronic trading platform run by a fully operational exchange and clearinghouse will create an end product that will seek to gain the trust of market participants and serve as a bottom-up web of producers that can support fully functioning delivery options.

b. Fish Farmers

“[Y]ear-round availability, consistent quality, and [a] relatively predictable supply of aquacultural products has expanded the market and reduced some of the volatility associated with the seafood trade.”¹⁸³ With a predictable catch, more control over the process, and ownership rights,¹⁸⁴ aquaculture presents a possibly sustainable resource of food and a deliverable product that could be contractually traded. But fish farming is not without its problems.

Although human control of farmed seafood might seek to replicate human control of domestic meat animals like chickens, cows, and pigs, there are still numerous risks for seafood farmers.¹⁸⁵ Fish farming narrows the “base of genetic diversity” making fish “increasingly susceptible to disease.”¹⁸⁶ Disease can affect seafood prices worldwide¹⁸⁷ and can destroy fish farmer profitability, a possibility that leads to the use of antibiotics that could have a negative effect on humans who consume the farmed seafood.¹⁸⁸ Like domesticated land-based animals, fish can create an enormous amount of waste pollution, with one salmon farm possibly producing as much fecal matter as 65,000 people.¹⁸⁹ Another risk of fish farming is the potential for escape of non-native

182. ECONOMIC BULLETIN, *supra* note 47, at 36.

183. ANDERSON, *supra* note 85, at 45.

184. *See* Adler, *supra* note 157, at 19 (discussing the efficient maximization of resources as a result of private ownership).

185. *See* J. Tuomisto, The Risks and Benefits of Consumption of Farmed Fish, in IMPROVING FARMED FISH QUALITY AND SAFETY 3, 26 (Oyvind Lie, ed., 2008).

186. HALWEIL, *supra* note 154, at 5.

187. ANDERSON, *supra* note 85, at 49.

188. S. Gräslund et al., *A Field Survey of Chemicals and Biological Products used in Shrimp Farming*, 46 MARINE POLLUTION BULL. 81, 87 (2003).

189. Weeks, *supra* note 155, at 631.

farmed fish competing with native fish for food,¹⁹⁰ causing damage to already stressed ecosystems that could, at least theoretically, lead to liability for fish farmers.¹⁹¹ Also presenting a problem is the contamination of farmed fish with chemicals or toxins ranging from a spill in the area of open ocean container fish pens to industrial waste discharge. This raises the risk that an entire “crop” of fish could be destroyed.¹⁹² These risks, although diminished if seafood is contained and farmed in pens on land, can have the same potentially disastrous effect that a large storm or engine failure could have on fishermen.

Even though the risks are substantial, with the demand for seafood increasing¹⁹³ and capture fishing limited by natural supply and fishing quotas,¹⁹⁴ aquaculture presents a solution to prevent higher prices and a fish supply problem. Predicted to increase by 70% over the next twenty years,¹⁹⁵ fish farming’s value is illuminated by the changes it has brought to the salmon industry. Whereas wild salmon have fishing seasons that can result in salmon supply gluts, such oversupply and then undersupply problems have been eased by salmon farming.¹⁹⁶ Today, only 5% of the salmon that humans eat is wild caught and 95% is farm raised.¹⁹⁷ Resulting in cheaper prices for consumers and less overfishing of wild salmon,¹⁹⁸ salmon farming has numerous benefits including a stable supply of fish to support seafood futures contracts.

190. *Id.* at 625.

191. See HALWEIL, *supra* note 154, at 15; See also Weeks, *supra* note 155, at 638 (discussing two Maine companies’ failure to obtain Clean Water Act permits for salmon farms that resulted in fines and suspended operations).

192. Fish farmers must follow Seafood Hazard Analysis and Critical Control Point (HACCP) regulations that are enforced via inspections by the Food and Drug Administration. 21 C.F.R. § 123.6 (2010). The regulations provide requirements for fish farmers and fish processors to create preventive controls and procedures to ensure the safety of consumers of fish products. *Id.* These procedures include only using FDA approved animal drugs when providing seafood in fish farms with antibiotics. 21 U.S.C. §§ 351- 360 (2010).

193. Weeks, *supra* note 155, at 633.

194. See Rohrlich, *supra* note 62.

195. HALWEIL, *supra* note 154, at 8.

196. ANDERSON, *supra* note 85, at 63.

197. Rohrlich, *supra* note 62.

198. *Id.*

c. Benefits for Fishermen and Fish Farmers

Like “[a] farmer [is] . . . in the business of growing crops, rather than betting on the price of wheat,”¹⁹⁹ a fisherman is in the business of catching fish, rather than betting on the price of seafood. Locking in profits via futures contracts could provide an added incentive to fish and make for an overall more successful fishing industry. By providing “menu stability,”²⁰⁰ fish farmers and fishermen actually share quite a few similarities with agricultural farmers, who have experience with using futures contracts to bolster their businesses. “Just as farmers bring wheat to market, fisher[men] bring fish to market.”²⁰¹ Both farmers and fishermen sell their goods to support themselves and continue their trades. Owning their own labor, both farmers and fishermen must make large equipment expenditures, buy large quantities of seed or bait, and are significantly affected by the price of oil.

Producing a product that ends up as food,²⁰² farmers, fishermen, and fish farmers all could benefit from futures contracts. However, only agricultural farmers that grow certain commodities have access to corresponding futures contracts in the United States. One reason that this may be the case is that agricultural farmers have a greater degree of control over production as they generally hold property rights to the land on which crops are grown.²⁰³ Fishermen, on the other hand, have no ownership right to the ocean, have a catch-share right to a certain amount of seafood, and have a less predictable amount and quality of final product as a result of having to actually capture fish. Fish farmers overcome this differentiation to a certain extent, as they have property rights and a greater degree of production control that makes farmed fish a more predictable, thus, deliverable commodity. A combination of farming and fishing, the success of fresh farm-raised salmon futures in Norway illustrates the possibilities presented by farmed seafood in the United States.

199. C.T.F.C., *supra* note 35.

200. Weeks, *supra* note 155, at 628.

201. IUDICELLO, *supra* note 153, at 27.

202. *Id.* at 28-29.

203. *Id.* at 35.

3. Vibrant Cash Market

“Seafood trading is a highly disaggregated market in which individual traders’ bids are generally not made public.”²⁰⁴ This structure presents a considerable obstacle for a seafood futures contract as a lack of public pricing information can result in a lack of correlation between cash market pricing of seafood and futures contract pricing of seafood.²⁰⁵ This results in an opaque marketplace where some industry participants possess informational advantages, which can lead to pricing manipulation. Day-to-day pricing based upon what a middleman, distributor, or retail seafood store is willing to pay, can leave many producers guessing as to the fair price of their seafood and does not appear to present the transparent price discovery of a system conducive to a fair and efficient marketplace. Auctions or other competitive bidding marketplaces that do provide a more transparent marketplace do exist in the current state of the seafood industry. But if volume declines at the Portland Fish Exchange serve as any indication,²⁰⁶ this system is not thriving but instead declining.

Since an “active cash market is required for a futures contract to be successful,”²⁰⁷ establishing a vibrant, transparent cash market where one does not exist, is a necessity for bringing about the creation of seafood futures contracts. To do this, an electronic marketplace could provide fishermen, fish farmers, middlemen, and end users access to up-to-the-second seafood pricing. To build such a system, both buyers and sellers would need to be recruited, a potentially time consuming process fraught with uncertainty. Overcoming the traditional seafood buyer’s disposition to inspect the “catch,” and the likely mistrust that will exist of the new and unknown, will be essential.

Despite the current marketplace appearing broken and chaotic, the current market participants might not either agree or want to change. The reality of the current situation for fishermen is that seafood prices will continue to face downward pricing pressure in industries where successful seafood farming occurs.²⁰⁸ This leaves fishermen with three options: (1) continue to fish for seafood that brings a lower and lower price; (2) only fish for seafood that cannot be farmed; or (3) evolve and adopt new ways of doing business. If a vibrant cash market can be

204. Martínez-Garmendia & Anderson, *supra* note 72, at 988.

205. See KOLB & OVERDAHL, *supra* note 18.

206. See Weeks, *supra* note 155, at 627.

207. Brorsen & Fofana, *supra* note 71, at 135.

208. See Rohrllich, *supra* note 62.

established and accepted by the seafood industry, one major obstacle in the path of creating successful seafood futures contracts could be removed.

4. Elements of a Successful Futures Contract

Already established exchanges represent an ideal location for the beginning of trading in seafood futures because they possess resource, reputation, regulatory, and information-based advantages over a newly created trading marketplace. However, the largest of the established exchanges, the CME Group, is located in Chicago, far from the geographic center of seafood-based knowledge, and could suffer some of the same geographic problems that the MGE dealt with when shrimp futures contracts were traded there in the 1990s. NYMEX, located in New York and owned by the CME Group, represents a possible option, but its focus on energy and metals futures makes it less than ideal.²⁰⁹ The other major futures exchange in the United States, the Intercontinental Exchange (ICE), specializes in online futures trading and has a history of experimenting with trading in new futures products.²¹⁰ Consequently, ICE likely represents the best option of the major U.S. exchanges to house a seafood futures contract.

Although in the age of electronic trading the location of an exchange matters little, motivation to create a seafood futures contract and the know-how to make the contracts tradable and desirable to the seafood industry dictates that considerable coastline infrastructure be established for success. In order to launch such a product, an individualized effort that is outside the major exchanges might be required before the major exchanges would consider housing the futures contracts.

In an attempt to follow the success of the Norwegian fresh salmon futures contracts, and avoid the failure that was the MGE shrimp futures contracts, the following prerequisites are generally considered to be factors that contribute to the success of a futures contract and must be present for a successful seafood futures contract: price volatility in the underlying commodity; homogeneity of the underlying commodity; a deep, vibrant cash market; and a well-written futures contract.²¹¹ Even if

209. NYMEX Designated Contract Market, <http://www.cmegroup.com/product-codes-listing/nymex-market.html> (last visited Jan. 24, 2013).

210. *Emissions Overview*, GLOBAL MARKETS IN CLEAR VIEW, <https://www.theice.com/emissions.jhtml> (last visited Jan. 24, 2013) (discussing ICE exchange history including the trading of carbon emissions futures).

211. *Sandor*, *supra note 26*, at 125; *ANDERSON*, *supra note 85*, at 126; *Sanders & Pennings*, *supra note 87*, at 413.

all of these factors are met, success or failure of a contract might simply depend upon whether “hedgers” decide to use, and continue to use, the contracts.²¹²

Following the template established by the plywood futures contract, each seafood futures contract (whether the underlying commodity is salmon, lobster, shrimp or other high value seafood) must be thoroughly researched by an exchange with the know-how and resources to eventually house the trading of the contract. First and foremost, price volatility must be present in the underlying seafood for a futures contract to be needed, let alone be successful.²¹³ Upon identifying seafood that possesses sufficient price volatility, a feasibility study must be undertaken and seafood industry participants and experts must be consulted and solicited. This research and development could take years to weave together a supporting cast of market participants and acceptable contractual details.

Drafting the futures contracts presents a whole host of problems. Every clause from delivery requirements to individual species definitions must be vetted and researched to ensure fairness and increase desirability. Simulations of contract use must be performed to prevent manipulation and the unfair use of particular contract terms that impede the general desirability of the overall contract. After investing time and money in the form of man-hours, attorney fees, and staff research, whether or not a contract may be traded ultimately comes down to whether staff members at the CFTC recommend approval.²¹⁴ Acquiescing to most demands made by the CFTC, the contract, upon approval, can be traded. Despite the fact that the process appears to be completed, the contracts should continue to be tweaked, changed, and re-approved, in an effort to create a contract in which all market participants have trust and confidence in.

By developing a bottom-up (as opposed to top-down) system built with a web of fishermen and end users held together by an electronic trading system, increased price transparency in the cash market can be established. The key will be for buyers, such as end users and middlemen, and sellers, such as fishermen and middlemen, to realize that it is in their best interests to enter the market.

Utilizing aquaculture and the predictability that it can bring in terms of costs and delivered seafood product could bring a greater degree of certainty to the standardization process. The combination of

212. Sandor, *supra* note 26, at 126.

213. *See id.* at 131.

214. R. Anderson, *supra* note 121, at 323-26.

aquaculture's farming mentality with the newer quality of its existence lends itself more readily to the use of long-term contracts. Slowly standardizing forward contracts, backed by a uniform supply of seafood, while attempting to overcome the traditional seafood buyer's disposition to inspect the "catch," the goal will be to establish trust and liquidity in a forward market. With transparency established in the electronic cash market and forward contracting markets, seafood futures contracts become a very real, and possibly very successful, opportunity. Assuming that an exchange can be found or created to house the contracts, and the CFTC approval is obtained, seafood futures contracts could begin to be traded.

VI. CONCLUSION

Seafood futures contracts possess the potential to revolutionize the fishing business from a business that is at the mercy of the ebb and flow of price movements, to a business in which fishermen can lock in profitability before leaving the dock. Futures contracts not only provide an alternative to the cash market, but they also allow producers to reduce their price change risk. The contracts, if properly utilized, have the potential to create a profound, sustained positive effect on the seafood industry that could serve to benefit both consumers of seafood and seafood sustainability. Resulting in improved profitability and the possible conservation of the natural fishing stock by fishing and harvesting seafood only when the economics make sense, the seafood industry, the oceans, and natural resources in general, stand to benefit from the re-introduction of seafood futures contracts in the United States.