

January 27, 2011

Mr. David A. Stawick
Secretary
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, D.C. 20581

Re: RIN 3038-AD15 and 3038-AD16 Position Limits for Derivatives

Dear Mr. Stawick,

I have been an active member of the global commodity markets for over thirty years and an interested party who stands to gain financially and professionally from the health and vitality of the markets regulated by the Commodity Futures Trading Commission (the "Commission"). I am grateful for the opportunity to comment on the proposal to set hard position limits in energy markets. The opinions and observations that I state are my own and not necessarily those of my employer.

Background

The Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank") charges the Commission with the obligation of determining whether "excessive" speculation has or will cause damage to the markets that it regulates and provides the Commission with discretionary powers to prevent, mitigate and stop such excessive speculation.ⁱ The Act neither makes a finding of excessive speculation nor does it prescribe specific remedies if the Commission finds excessive speculation.

Those claiming excessive speculation as the cause of the run up in energy prices note that prices and non-commercial positions were both trending up from 2005 to 2008. They tell us that it is "common sense" that the influx of money into the commodity markets, especially through the presence of exchange traded funds, caused energy prices to uncouple from the natural forces of supply and demand and rise into a speculative bubble. They then generally describe the terrible, unnecessary damage caused by these high prices. One cannot deny the opening and closing elements of these statements. Prices did run up significantly in 2008 and those high prices were a terrible burden for many. The cause of this however deserves careful examination, not supposition.

While there have been numerous complaints to the Commission of excessive speculation in commodity markets for many yearsⁱⁱ there has yet to be a credible study that indicates a causal relationship between the actions of speculators (e.g. "non-commercial market participants") and the price and/or volatility of North American energy prices.

The lack of credible evidence indicating a causal relationship between speculative activity and energy prices and volatility is not due to a lack of published research. To the contrary there have been numerous studies by government, academic and commercial institutionsⁱⁱⁱ. There has also been at least one broad survey of economists to determine the reason for the spike in crude oil prices in the summer of 2008^{iv}. All of these studies have concluded that: a.) there is no evidence of speculative activity causing energy prices to fail to reflect fundamental forces; b.) and that in fact the energy markets, while volatile, continue to reflect the fundamental influences of supply and demand.

Fundamental Explanation for Crude Oil Price Spike in 2008

If speculators did not cause the run up in energy prices in 2008, then what did? Noted economist and oil industry expert Dr. Philip Verleger^v offered the following explanation^{vi}:

- In 2008 Europe implemented a new requirement for ultra-low-sulfur-diesel-fuel (ULSD)
- Light, sweet crude oil is the principle feedstock for ULSD
- While “crude oil” was perceived as relatively unconstrained in the first half of 2008, there was a lack of light, sweet crude oil needed for production of ULSD
- The global refining capacity for ULSD was unable to meet the new demands for ULSD
- Europeans pay for their energy in euros not U.S. dollars
- The U.S. dollar declined in value substantially relative to the euro causing the U.S. dollar price of ULSD to rise
- The U.S. DOE continued to purchase light sweet crude oil in the spring of 2008
- Nigeria, a major global supplier of light, sweet crude experienced violent disruptions of production

This explanation is all the more remarkable because it was given by Dr. Verleger in testimony to the U.S. Senate on December 11, 2007^{vii} – well in advance of the 2008 spike in crude prices. Again, in July, 2008, at the height of the spike in energy prices, Dr. Verleger reiterated these fundamental causes of the crude oil price spike of 2008.^{viii}

It is also important to recognize that from late 2008 to present long non-commercial positions have moved largely inversely to energy prices (i.e. speculators were selling when the price rose and buying when the price fell)^{ix}. This indicates that energy speculators in aggregate have been responding to rather than driving changes in price and further undermines the claim that speculators have been responsible for an energy price bubble.

Finally, it is important to remember that the extreme volatility and high commodity prices of 2008 did not occur in a tranquil and prosperous time. It occurred in the midst of what many feared to be the catastrophic destruction of the global financial system. Warren Buffett may have summed it up best when he said “In my adult lifetime, I don’t think I’ve ever seen people as fearful.”^x

Given all the extraordinary upheavals in geopolitics in the past thirty years I think that the energy markets have functioned remarkably well. No oil company needed bailing out. No utility. No producer. No company with a primary business in energy required a tax payer bailout. Given that vast quantities of crude oil are produced in unsettled regions, often governed by those whose sympathies are not with the United States, given that a successful operating cartel still controls an estimated 77% of the world's proven reserves of crude oil and 44% of its daily production, given that there have been three recent wars in the world's largest oil producing region, given that the currency unit in which crude is denominated has undergone and continues to undergo tremendous volatility I think that the U.S. energy markets have worked well.

Dodd-Frank Does Not Require the Commission to Impose Position Limits

On December 15, 2010 Chairman Gensler and Commissioner Chilton testified before the House Agriculture Committee^{xi}. Committee members repeatedly emphasized that Congress did not find that excessive speculation existed nor did Congress direct the CFTC to impose position limits but rather charged the CFTC with the mission of determining if excessive speculation existed and if the Commission finds excessive speculation to use the CFTC's new broad, discretionary powers to mitigate the effects as necessary. In particular Ranking Member Lucas noted that the position limits regime in the Dodd-Frank Bill *"is a cautious approach which provides the Commission with the appropriate discretion to address what I believe is a political problem and not necessarily a problem driven by artificial volatility or distorted supply and demand."*

The Commission's Apparent Final Word on the "Excessive Speculation" Debate

In reply to the charges that the Commission has no evidence of excessive speculation causing unwarranted market fluctuations and prices the Chairman has stated the following in the notice of proposed rulemaking to establish position limits *"The Commission is not required to find that an undue burden on interstate commerce resulting from excessive speculation exists or is likely to occur in the future in order to impose position limits. Nor is the Commission required to make an affirmative finding that position limits are necessary to prevent the sudden or unreasonable fluctuations or unwarranted changes in prices or otherwise necessary for market protection. Rather, the Commission may impose position limits prophylactically, based on its reasonable judgment that such limits are necessary for the purpose of "diminishing, eliminating, or preventing" such burdens on interstate commerce that Congress has found result from excessive speculation. A more restrictive reading would be contrary to the congressional findings and objectives as embodied in section 4a of the Act."*^{xii}

It appears from this statement that the Commission, having been unable to find any evidence of excessive speculation, has ended the debate by declaring that the Commission is not required to find evidence of a problem before implementing a cure. While I am sure that the Commission views this as "preventive medicine" I fear that it could in fact be a prescription of chemotherapy for a one in whom no cancer can be detected.

Unintended Effects of Position Limits & Commodity EFTs – The “Massive Passives”

In seeking to prohibit excessive speculation the Commission is choosing to deal with all non-commercial traders as a single class. While it is my experience that there are many types of speculators – in fact even most hedgers engage in some degree of speculation – I will address two broad classes – the commodity ETFs and the traditional large trader.

Commodity ETFs such as the United States Commodity Funds operate exchange traded funds “that are designed to track the movements in the prices of different commodity futures.”^{xiii} They have been referred to as “massive passives.” “Massive” because of their size (\$7.4 billion in the U.S. Commodity Funds as of January 18, 2011) and “passive” because they do not attempt to “beat the market.” They only seek to replicate the market for their shareholders. Critics complain that their presence distorts prices because they take and hold long positions for long periods of time. Critics describe them as single large monoliths (“massive”) whose presence must be restrained in order to make markets safe for their originally intended beneficiary – the commercial hedger. In his testimony before the Commission on August 5, 2009^{xiv}, John Hyland, Chief Investment Officer of United States Commodity Funds contrasted the monolith characterization with an explanation that his funds provide its approximately 600,000 shareholders with a low cost vehicle for obtaining price exposure to energy commodities. Mr. Hyland reiterated the point that his crude oil ETF was a seller when prices were rising and a buyer when prices were falling demonstrating the impossibility of the assertion that his fund was pushing up crude oil prices.

Deliverable Commodity Contracts are Fundamentally Different Instruments From Non-Deliverable, Cash-Settled Contracts.

I am not opposed to position limits. Position limits are, in my opinion, valuable and necessary for the fair and smooth functioning of physically deliverable commodity markets. In contrast I do indeed believe that position limits on cash-settled contracts are disruptive, dangerous and of no positive value.

Cash-settled contracts never end in anyone making or taking delivery of a commodity – never. One cannot use cash-settled contracts to hoard – you can buy a trillion dollars worth of cash settled swaps and it will not entitle you to take delivery of one thimble full of oil, one spark of electricity or one whiff of natural gas. A cash-settled contract does not create additional demand or additional supply. If carried to settlement a cash-settled contract always ends with one party paying the other party cash. This is why they are called “cash-settled contracts.” In his testimony before the CFTC on August 5, 2009^{xv}, John Arnold made a compelling case for the need to distinguish between and apply different regulatory standards to contracts that may result in physical delivery and those that cannot. He proposed progressively tighter position limits to be scaled in as the delivery date approached for physically delivered contracts in order to facilitate the orderly liquidation of open interest in those contracts. In his testimony he offered statistically significant evidence of the success of precisely this type of progressive limit in reducing excessive volatility in the NYMEX physically deliverable natural gas contract as it approached settlement. Mr. Arnold further stated that “*The exchange conducts a*

continuous auction every trading day. Every trader, from individuals to large companies, competes only on the basis of price. The auction identifies the best buyer and the best seller for each contract. If the proposed position limits take effect, the commercial hedger would no longer transact with the best buyer/seller, but instead with the best buyer/seller among narrower universe of participants.” In this way Mr. Arnold said, “Position limits on financial contracts would increase transaction costs and volatility...”

By limiting the size of position that a non-commercial market participant can hold in cash-settled swaps, the Commission will, to some degree reduce the influence of the large trader and increase the influence of the small trader. I understand that this is by design – to provide for a greater breadth and plurality of views expressed in the prices of the affected commodities. I understand the desire to do this and I have no doubt that it is entirely well intended. I do have some concerns however that I would like to share in connection with this policy that I believe merit consideration.

Small Futures Traders are Generally Buyers not Sellers of Commodity Contracts

Small commodity traders are almost always long. At least this is the only conclusion that could be drawn from 520 weekly samples of the Commission’s Commitment of Trader Reports. Again, in his testimony of August 5, 2009 Mr. Arnold provided vivid graphical representation in Appendix 3 of his presentation of the bias of the small commodity trader. Drawing from the most current sample of ten years of weekly data compiled by the CFTC Mr. Arnold found that small traders in aggregate were net short in only one week out of a total of 520 consecutive weeks. In 99.8% of all sample periods over a continuous ten year period the net position of all small traders was long. In continuing our examination of the CFTC data we find that over this ten year period the aggregate effect of the small trader has grown increasingly bullish as indicated by the clear upward sloping trend line. This data comports with my direct experience of 30 years. In apparent contrast to ETF energy investors, small energy traders in aggregate often run as a pack, exacerbate rather than mitigate volatility, are not liquidity providers and do not write options. I believe that by limiting the influence of large traders who do mitigate volatility, provide liquidity and write options the Commission will inadvertently introduce a bullish bias into energy prices and generally increase volatility.

ETF Shareholders Pay Full Price

While all leverage is not equal (e.g. 20:1 leverage applied to short duration U.S. Government Bonds is very different than 20:1 leverage applied to natural gas futures) there can be little disagreement that one of the largest causes of the near collapse of the global financial markets in 2008 was the extreme level of aggregate leverage present in these markets. If leverage generally had been lower the danger of a financial collapse would have been less. In contrast to levered energy futures and swaps market participants (which is just about everybody) ETF shareholders pay the full notional value of the commodity represented by their shares in the ETF. I cannot think of another participant in the futures or swaps markets that pays the full price. As such, it is a mathematical certainty that the presence of

the commodity ETFs reduces the average leverage employed in the futures markets thereby rendering these markets less volatile and less likely to be a source of systemic risk to the global financial system.

ETFs Are a Vehicle for Small Traders

While they have been described as “massive passives” I believe that they are better described as “mass transit.” Exchange traded funds are equity vehicles that enable small investors to gain exposure to commodity prices. A family of exchange traded funds with 600,000 shareholders is the opposite of a large trader with a tightly concentrated locus of decision making. Such a fund is more analogous to an omnibus account. Limiting the size of ETF positions at the entity level contradicts the Commission’s intention of encouraging a greater plurality of market participants. Placing an entity level position limit on exchange traded funds would be like the Department of Transportation banning busses and trains because they are too big.

Those Who Exclusively Trade Cash-Settled Futures and Swaps Never Make or Take Delivery of the Underlying Commodity

Comparing the activities of any trader of exclusively cash-settled swaps, especially the ETFs, to the activities of the Hunt Brothers in the 1970s (who hoarded huge amounts of physical silver) is misleading. ETFs in particular are never present at the point of price formation (i.e. the spot market). A long ETF can however influence the shape of the forward curve although I regard this influence as benign and explain why in the next section.

U.S.-Based Long Commodity ETFs Further a Critical Strategic Objective of the United States Government

When someone buys a share of an ETF the ETF manager will in turn buy a proportionate share of a futures or swap position. Who sells that futures or swap to the ETF? It could be another speculator. It could be a producer. It could be virtually any type of market participant. In a market with a sufficiently steep contango and the availability of storage capacity those with access to physical supply and the means of storage could buy the cash commodity, store it and lock in a riskless back-to-back profit by selling the forward futures or swap contract to the ETF buyer. This results in the distant month purchases of the ETF inducing those with the ability to build commercial storage to do so. Such a building of stocks has been a strategic objective of the United States Government for over 35 years. The U.S. Strategic Petroleum Reserve currently holds approximately 700 million barrels of crude oil in salt domes in the Continental United States^{xvi}. It has been argued by Dr. Verleger et al. that the presence of the commercial energy stocks accumulated in meaningful measure as a response to the forward long positions held by energy ETFs significantly mitigated a price spike in heating oil in December 2009 and January 2010.^{xvii} Dr. Verleger also points out that cash and carry stocks accumulate near delivery points. The implication of this is that by forcing ETFs out of the United States the commercial stocks that they indirectly stimulate will follow them – to the benefit of the new host country.

ETF Summary

- ETFs are vehicles that allow the small investor to economically gain commodity price exposure
- ETF investors pay the full notional value of the commodity, they employ no leverage
- ETFs reduce aggregate leverage employed in the futures markets
- Since late 2008 ETF investors have had a moderating effect on energy market volatility

Imposing entity level position limits on ETFs is equivalent to the making following statement to small commodity investors:

NOTICE TO ETF INVESTORS: IF YOU WANT TO BUY SHARES OF A COMMODITY ETF IN YOUR STOCK BROKERAGE ACCOUNT AND PAY THE FULL NOTIONAL VALUE OF THE COMMODITY YOU ARE NOT WELCOME HERE. WE SUGGEST YOU COME BACK AFTER YOU HAVE OPENED A PERSONAL FUTURES ACCOUNT AT WHICH TIME YOU WILL BE WARMLY WELCOMED AS A PREFERRED MEMBER OF OUR FUTURES TRADING FAMILY (YOU WILL VERY LIKELY PAY FAR HIGHER FEES FOR EACH TRADE SINCE YOU WILL LOSE THE BENEFIT OF THE LOW EXECUTION AND CLEARING RATES NEGOTIATED BY THE ETF MANAGER AND YOU WILL HAVE TO MANAGE YOUR OWN ROLLS. ON THE OTHER HAND YOU WILL BE ALLOWED TO TRADE WITH A GREAT DEAL OF LEVERAGE).

It seems unlikely to me that this is how the Commission really wants to treat small commodity investors.

You Are Going Too Fast For Us

In describing his impression of the Commission's work to meet the Dodd-Frank deadlines in the House Agriculture Committee Meeting on December 15, 2010 Ranking Member Lucas said *"I do not envy you in the least. It's a huge task. Perhaps too big to be done in the timelines provided. As this fragile economy attempts to get back on its feet we ought not to be throwing regulatory hurdles in its way costing even more jobs and higher prices. I fear that is what will happen if the most sweeping reform of our nation's derivative markets is done hastily and without all due deliberation. I'm not pressing for a perfect rule but we have to have a good rule. I stand ready and willing to consider easing of statutory deadlines to insure that rules don't end up further distorting markets and costing American jobs."* Congressman Marshall further stated *"I think from your testimony Mr. Chairman that it's quite clear that the CFTC has gone the extra yard in so many different respects to try to comply with these deadlines. My conclusion is that these deadlines are simply too aggressive. That we simply weren't reasonable in trying to pick these periods of time... Nobody wants to screw up these markets by prematurely taking positions, literally imposing position limits across the market and causing problems in any number of respects- diminishing liquidity, enhancing the problems if there are such problems caused by the massive passives. Driving people overseas..."*

If I could say it better I would. While none of us want to continue to operate absent the regulatory certainty that the Commission is seeking in all haste to establish, we all need more time to consider the implications of these critically important proposed regulations.

Recommendations

1. Withdraw the proposal to establish position limits on all cash-settled energy contracts.
2. Adopt the progressively tighter position limits proposed by Mr. Arnold for physically delivered energy contracts as they near expiration/delivery.
3. Please give us time to read, understand and respond to these proposed rules. 60 days is not enough. I suggest 120 days. There are literally hundreds of pages of proposed regulations to review and respond to.

In his dissenting opinion to the CFTC staff report of September 2008 Commissioner Chilton wrote *"In sum, smart people can disagree on this issue. Accordingly, until we have a comprehensive, unbiased study of this issue, we should not be making declarative judgments as to causation or effect."*^{xviii} I warmly concur with Commissioner Chilton about smart people disagreeing on this issue. I am blessed to live in a country where I can openly disagree with certain of the views of those in power who I nevertheless respect and admire.

Sincerely,

Michael Cosgrove
Managing Director
GFI Group, Inc.

ⁱ Dodd-Frank Wall Street Reform and Consumer Protection Act. Page 941. Sec. 737. Position Limits.

ⁱⁱ e.g. *Crisis Regulation: Reacting to High Energy Prices*. Sharon Brown-Hruska, Commissioner, Commodity Futures Trading Commission. Speech to Global Energy Management Institute, Bauer School of Business, University of Houston. January 25, 2005. "As an example of the kind of pressure the Commission comes under from various interest groups, in May of 2004 the Commission took the unusual step of posting a letter on its internet site. The letter addresses the concerns of many small, but vocal, silver investors who were, and probably still are convinced that we are in the midst of a 20 plus-year short manipulation of the silver market. Prior to posting this letter, the Commission had received over 500 letters from these investors expressing this concern."
<http://www.bauer.uh.edu/centers/uhgemi/documents/DrSharonBrown-Hruska.doc>

ⁱⁱⁱ *Interagency Task Force on Commodity Markets* (lead by the CFTC and including staff from the Departments of Agriculture, Energy and the Treasury, the Board of Governors of the Federal Reserve, the Federal Trade Commission and the SEC), July 2008 found "The Task Force's preliminary analysis, based on the evidence available to date, suggests that changes in futures market participation by speculators have not systematically preceded

price changes. On the contrary, most speculative traders typically alter their positions following price changes, suggesting that they are responding to new information – just as one would expect with an efficiently operating market.”

<http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/itfinterimreportoncrudeoil0708.pdf>

International Energy Agency – Medium Term Oil Market Report – 2009 Edition concludes that while speculation plays a role in price formation “A multitude of factors are at play in oil price formation, although the fundamentals still seem to provide a reasonably plausible account of the first jump and, to a lesser extent, the subsequent fall of the oil price.” <http://www.iea.org/papers/2009/mtomr2009.pdf>

International Monetary Fund Staff Analysis September 2006 World Economic Outlook (page 18, box 5.1) concludes “... the results for the five commodities in the sample provide little support for the hypothesis that speculative activity (as measured by net long noncommercial positions) affects either price levels over the long run or price swings in the short run.” <http://www.imf.org/external/pubs/ft/weo/2006/02/pdf/c5.pdf>

U.S. Government Accountability Office, *Issues Involving the Use of the Futures Markets to Invest in Commodity Indexes*, Jan 30, 2009 concluded that “... all of the empirical studies we reviewed generally employed statistical techniques that were designed to detect a very weak or even spurious causal relationship between futures speculators and commodity prices. As result, the fact that the studies generally did not find statistical evidence of such a relationship appears to suggest that such trading is not significantly affecting commodity prices at the weekly or daily frequency. <http://www.gao.gov/new.items/d09285r.pdf>

Staff Report on Commodity Swap Dealers & Index Traders with Commission Recommendations September 2008 found that index traders were reducing their positions by approximately 11% in the OTC crude oil “futures equivalent” swaps at the same time that prices were increasing. <http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/cftcstaffreportonswapdealers09.pdf>

A speculative bubble in commodity futures prices? Cross-sectional evidence by Dwight R. Sanders and Scott H. Irwin concludes that “Therefore, even though the arguments made by bubble proponents are intuitively appealing to the noneconomist, they do not stand on a firm empirical footing... Legislators and public policy commentators would be well served to let this evidence guide their actions.”

<http://onlinelibrary.wiley.com/doi/10.1111/j.1574-0862.2009.00422.x/pdf>

^{iv} *Bubble Isn't Big Factor in Inflation*, WSJ, May 9, 2008. Phil Izzo summarized the survey of 53 economists who concluded that “The global surge in food and energy prices is being driven primarily by fundamental market conditions, rather than an investment bubble...” <http://online.wsj.com/article/SB121026120931177437.html>

^v <http://www.pkverlegerllc.com/who.html>

^{vi} *Comments on “The Accidental Hunt Brothers – Act 2” a paper by Michael W. Masters and Adam K. White*. September 10, 2008. <http://www.pkverlegerllc.com/080910%20PKV%20On%20Masters.pdf>

^{vii} “Prepared Statement of Philip K. Verleger, Jr. to the U.S. Senate Permanent Subcommittee on Investigations of the U.S. Senate Committee on Homeland Security and Governmental Affairs and the Subcommittee on Energy of the U.S. Senate Committee on Energy and Natural Resources,” *Joint Hearing before the Permanent Subcommittee on Investigations of the Committee on Homeland Security and Government Affairs, United States Senate, and the Subcommittee on Energy of the Committee on Energy and Natural Resources, December 11, 2007* (Washington, D.C.: U.S. Government Printing Office 2008).

^{viii} *Explaining the 2008 Crude Oil Price Rise*. Philip K. Verleger, Jr. <http://www.pkverlegerllc.com/TIE0807.PDF>

^{ix} See Appendix A for a chart of non-commercial open interest overlaid on price of first month WTI.

^x http://www.telegraph.co.uk/finance/comment/ambroseevans_pritchard/3141428/Germany-takes-hot-seat-as-Europe-falls-into-the-abyss.html

^{xi} <http://www.c-spanvideo.org/program/LawandCom>

^{xii} 17 CFR Parts 1, 150 and 151. RIN 3038-AD15 and 3038-AD16. *Position Limits for Derivatives. Notice of proposed rule making.* Page 9.

<http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/federalregister012011.pdf>

^{xiii} <http://www.unitedstatescommodityfunds.com/>

^{xiv} Testimony of John Hyland, Chief Investment Officer, United States Commodity Funds LLC Before the Commodity Futures Trading Commission Concerning Energy Position Limits and Hedge Exemptions.

http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/hearing080509_hyland.pdf

^{xv} CFTC Hearings to Discuss Position Limits, Hedge Exemptions and Transparency for Energy Markets. Testimony of John D. Arnold, Managing Partner, Centaurus Energy Advisors, LLC. August 5, 2009.

http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/hearing080509_arnold.pdf

^{xvi} Japan also has maintains the second largest SPR at just under 600,000 barrels. China is building an SPR with a capacity of 685,000 barrels.

^{xvii} *First Do No Harm. Speech to the Futures Industry Association.* Boca Raton, FL. March 11, 2010. Philip K. Verleger, Jr. <http://www.pkverlegerllc.com/100311FIASpeech.pdf> and *Notes at the Margin. Volume XIV, No.2.* January 11, 2010. Philip K. Verleger, Jr. <http://www.pkverlegerllc.com/nam100111.pdf>

^{xviii} *Staff Report on Commodity Swap Dealers & Index Traders with Commission Recommendations September 2008* found that index traders were reducing their positions by approximately 11% in the OTC crude oil “futures equivalent” swaps at the same time that prices were increasing.

<http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/cftcstaffreportonswapdealers09.pdf>

Appendix A

