Date: Fri, 11 Feb 2011 00:23:55 -0500

To: "Dr. Baruch Fischhoff - Chair, National Academy Committee on Improving Intelligence" <baruch@cmu.edu>, "Dr. Theda Skocpol - National Academy of Sciences" <ts@wjh.harvard.edu>, "Bill Nordhaus - National Academy of Sciences" <william.nordhaus@yale.edu> "Dr. Daniel Goroff - OSTP" <dgoroff@ostp.eop.gov>, "Dr. Christopher Sims - National Academy of Sciences and AEA President-elect" <sims@Princeton.EDU>, "Dr. Robert E. Hall - National Academy of Sciences and AEA-President" <rehall@stanford.edu>, "Dr. Richard Cooper" <rcooper@harvard.edu>, "Dr. David Swensen - National Economic Recovery Board" <david.swensen@yale.edu>, "Dr. Paul Krugman" <pkrugman@Princeton.EDU>, "Dr. David Shaw - PCAST"<dshaw@blackpointgroup. From: Lloyd Etheredge <lloyd.etheredge@policyscience.net>

Subject: 227. <u>Red Team: a 20% drop in world sugar future prices</u> in two days?.Hedge funds and alpha-predator computer programs.

Dear Dr. Fischhoff and Colleagues:

Re my suggestion of a new class of Predator-prey models of financial sector dynamics overlaying and disrupting traditional equation models of the global economy: The World Sugar Committee was reported, yesterday, to have sent a strongly worded letter to the New York exchange that handles the main sugar futures contracts concerning the substantial and destabilizing role in trading now being played by "new, fast, high frequency speculative funds." For example, last week world future prices for sugar were at their highest level in 30 years However in November the raw sugar futures showed the biggest one-day sell-off in thirty years and actually fell more than twenty percent in two days.

A Red Team should investigate - probably with a multi-method design, including spying - to challenge conventional assumptions and develop better forecasting methods.

The attached story (below) provides further details.

-Today "fast" and high volume hedge fund traders are in and out of the market in fractions of a second. The author of the <u>Financial Times</u> main story (below, published on February 9, p. 20) reports views that high prices are associated with high volatility. The causation remains unclear.

The major actors in this kind of Predator-prey dynamic include sophisticated and fast computer programs. Whether the congeries of different programs now actually are creating, and then bursting, larger bubbles in this - and other - global commodity (and other?) markets does not yet appear to have been nailed-down by ANOVA science and/or by spying. However, if the dynamics are being misunderstood, the World Bank and the US government may be paying hundreds of millions of dollars of catch-up, "crisis" funds unnecessarily. And the politically destabilizing prices "slamming across" the Middle East in the past six months (# 222 at www.policyscience.net at II. D) could be arising from Lotka-Volterra processes partly driven by the better, alpha-predator, computer programs. (I.e., inadvertently, or written by smarter hedge funds with these purposes in mind.)

LE

High-speed trading blamed for sugar rises

By Javier Blas in London

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Ten years ago it took the sugar market six months to move 2 cents. In the past three months, it has moved 2 cents in just one day on five occasions. Last Thursday, it moved this much in a single second.

Sugar is not alone. The price of cotton has been extremely volatile too. And the price swings have triggered complaints from the commodities industry, which blames a new breed of speculator: "algorithmic" traders.

Equipped with fast computers, algorithmic or so-called "high frequency" traders go in and out of the market in a fraction of a second, exploiting minute price discrepancies, rather than taking a long-term view.

Their volumes pay handsome fees to the exchanges, which have welcomed them. But some market participants, from conservative trading houses to speculative hedge funds, complain they are distorting prices.

The industry's concerns have been brewing for several months. In November, ICE raw sugar futures prices suffered <u>their biggest one-day sell-off in 30 years</u>, plunging at one point nearly 4 cents in thin trading volumes on the Veterans Day holiday in the US. The rout continued the next day, leading to a fall of more than 20 per cent in sugar prices over two days.

Traders struggled to understand the price move, saying no new information about supply

and demand had emerged. The market suffered similar price moves again in November, in late December and then last week.

Sean Diffley, chairman of the World Sugar Committee, an industry body which advises the New York-based exchange that hosts the main sugar contract, blames algorithmic traders for the volatility.

"Arguably, computer-based traders do not even contribute to the traditional function of the speculator in allowing producers and consumers to transfer price risk, since they do not take price risk home," he wrote to Thomas Farley, president of the ICE Futures US.

"Instead, it would appear that the computer-based traders are parasitic, contributing little to the contract – although they do contribute to the exchange," Mr Diffley, a hedge fund manager, said in his letter. "Their presence only serves to enrich themselves at the expense of the traditional market users."

Algorithmic traders have already attracted the <u>attention of US regulators</u>. After a report on the May 2010 "flash crash" on Wall Street pointed to an unusually aggressive automated or algorithmic trading order from an investor as the initial spark, the Securities and Exchange Commission proposed rules that were influenced by the crash.

The SEC and regulated exchanges such as NYSE, Nasdaq and BATS have since launched test programmes to ban "stub" quotes, have added market-wide "circuit breakers" to slow down gyrations by halting trading in many stocks and exchange-traded funds when prices jump, and have limited direct access to markets by high-speed traders. The WSC is looking for curbs for sugar.

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High frequency trading

Not everyone agrees high-speed traders are to blame for the volatility. The ICE says the market has been orderly in the past three months. Some traders, too, say the increase in volatility simply reflects high prices for sugar. Raw sugar prices last week hit 36.08 cents per pound, the highest level since November 1980. "High prices do bring high volatility," says one veteran sugar trader.

Indeed, the current volatility is similar to a period of volatility between January 1980 and May 1981, when sugar prices rose towards 45 cents a pound.

"Sugar prices are very high and supplies are low, so volatility is very high," says Mr Farley. In 1980-81, and during the super-rise in prices in 1973-75 when volatility also jumped, there were no computers on trading floors, let alone algorithmic trading.

Other soft commodities have been similarly affected. Cotton prices are at their highest level in 150 years and volatility in that market is surging, too.

But the increased volatility in sugar also comes as the exchange has introduced changes, notably shutting down the so-called "implied engine". The engine replicated electronically the work of the old floor brokers, helping to match different bids and offers to keep the market running smoothly.

The sugar industry has asked ICE to bring back the engine, disconnected in 2009 in an effort to attract algorithmic traders. Volatility, though, may be here to stay.

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