Testimony of James J. Angel, Ph.D., CFA
Associate Professor of Finance
McDonough School of Business
Georgetown University
Washington DC

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Summary: Our security faces serious challenges from energy and food price inflation. Various forces are involved in this inflation, ranging from production constraints and developing-country demand to interest rates and the value of the dollar.

The proposal to close the "swaps loophole" would give the CFTC some useful powers to deal with trading abuses involving OTC substitutes for exchange traded contracts. This proposal should be refined carefully. Overly stringent mandates will drive the business underground and offshore, where it will be harder to regulate and monitor.

I have some serious reservations about the other two proposals. It will be too easy for foreign entities such as sovereign wealth funds to merely take the business abroad, where it will be harder to monitor. Banning institutions from holding commodities would deprive pension funds of a useful diversification tool.

For the long run, the best way to cut energy and related prices is for the U.S. to quickly adopt a serious and credible policy to transition permanently away from carbon-based fuels, especially those imported from unstable or hostile regions. This transition would pay large economic, national-security, and environmental benefits.

Good Morning. I thank the Committee for asking for my views on these important issues. I am an associate professor of finance at the McDonough School of Business at Georgetown University. I regularly teach courses involving the use of derivative financial instruments and have been a frequent commentator on financial regulation. I would stress that my views offered here are my own and do not necessarily reflect those of Georgetown University or anyone else. .

The shocking increases in fuel prices are causing serious economic pain to American consumers right now. In addition, the explosion in commodity prices has a strong impact on our homeland security. The cost of imported fuel adds to our trade deficit and further weakens the dollar. The cost of fuel is a major element in fertilizing and harvesting crops, in fishing and logging operations, and in military readiness and operations. Our dependence on imported oil from unstable places is a direct threat to our security. The global political turmoil caused by high oil and food prices also impacts our homeland security.

However, I would be remiss if I did not mention the long-term silver lining in this painfully dark cloud. There is a long-term beneficial offset of high petroleum prices for our homeland security, because they can signal real costs that have not been fully reflected in prices. Another benefit is to prod us to significantly reduce our carbon dioxide emissions in order to avert a catastrophic climate change – also a homeland security issue as it could ignite serious conflicts and massive migrations. Fortunately, both presidential candidates have announced plans for serious reductions in carbon dioxide emissions.

As painful as high energy prices are now, they provide a strong economic incentive for us to move away from fossil fuels. These high energy prices will accelerate our switch to environmentally preferable energy sources such as wind, hydrogen, solar, and nuclear power. To the extent that high energy prices accelerate our switch away from imported fuel, these painfully high oil prices will in the long run enhance our energy independence and our economic as well as military security.

In the world of here and now, however, the distress and disruption inflicted by rapid increases in food and energy prices is intense. We must continue analyzing causes and seeking sensible policies to correct problems or at least mitigate their impacts. If there are defects in the design and regulation of our financial markets we must fix them in order to prevent even worse problems down the road.

There are three basic possibilities to look at the recent increase in energy prices:

**First, maybe the markets are right.** Maybe the value of the next barrel of oil to our society really is $135, and we should not be wasting it on less valuable uses. Extremely reputable scientists such as Dr. David Goodstein from Caltech make a plausible argument that we have mined most of the easy oil and that it will get ever more expensive to find more to feed the demands of the growing world economy. Similarly, political instability in the oil producing regions may also lead to a shortage of oil in the near term.

However, this inflation has affected not just oil and bio-fuel crops, but also many other commodities as well. Perhaps this is an artifact of the rise in oil prices as petrodollars from unstable regions get stored in hard assets such as metals.

**Second, maybe we are in a super-bubble affecting all commodities.** Even though markets have strong financial incentives to find the right price, bubbles sometime occur. Markets are made out crowds of fallible human beings, and crowds sometimes make mistakes. We have lived through the internet and housing bubbles. Could this be another one? If so, is there some defect in market design or government regulation that is inflating the bubble? Or is there some governmental action that should be taken to pop the bubble?

How can we tell if we are in a bubble? Basic economic logic suggests that that the long-term price of a non-renewable resource should be no higher than the price of a renewable substitute. In the short run, prices can go anywhere because it takes time for supply and demand to really adjust to changes in price. I don't have good numbers on the real cost of producing substitutes on an industrial scale because such

production does not yet exist, but I suspect that the cost is somewhere in the neighborhood of current prices.

**Third, maybe the markets have been manipulated.** One of the reasons that the Commodities Exchange Act was passed is that there have been many attempts to manipulate commodity prices. In a classic manipulation, nefarious evildoers quietly buy up the deliverable grade of a commodity as well as the futures, or, in one case, lock up the freight cars needed to deliver the commodity to the delivery warehouse. They then demand delivery and squeeze the sellers who are unable to get their commodity to the delivery warehouse. However, such a classic manipulation leaves lots of evidence behind, as prices in the manipulated contract deviate dramatically from prices of similar grades of material in other locations. This does not appear to be the current case.

It should be noted, incidentally, that even commodity markets that do not have organized futures exchanges have also experienced similar price inflation.

Nonetheless, even some observers who conclude that standard economic factors account for most of the recent price increases must concede the massive growth in non-commercial interest in commodities can affect expectations and thus feed back into spot prices. Senators Lieberman and Collins have floated three proposals to deal with "excessive speculation."

Before I address the specifics of these proposals, I would like to put in a few words in defense of speculation. Speculators – up to a point, at least -- perform three extremely valuable roles in the market:

**First, speculators add liquidity to the market.** Their willingness to buy or sell based only on price makes it much easier and cheaper for hedgers to hedge when they need to. When the order from a pure hedger arrives at the market, chances are there is not an exactly opposite counter-order from another hedger waiting to trade with it. For example, when the farmer goes to sell wheat in advance with a futures contract, chances are there is not a buy order waiting there from a flour mill. The speculators help to fill in the gaps. They profit by providing a smoothing service that makes it easier for the

**Second, speculators bring risk-bearing capacity to the markets, just like insurance companies.**

The willingness of speculators to take positions makes it easier for producers to produce. In many cases, they act like insurance companies selling insurance. For example, higher spot corn prices should encourage farmers to grow more corn. However, some farmers may be unwilling to do so because of the risk that prices will be lower at harvest. By selling the corn in advance to – gasp! – speculators, the farmer can lock in a price guaranteed to produce a decent income. This ability to get rid of risk may induce some farmers to plant more corn. Similarly, the ability to sell oil in long-term forward or futures contracts may encourage the drilling of some wells that otherwise may not be drilled.

**Third, speculators bring their information to the market.** When they take a position, they have a strong financial incentive to get it right. If they don't, they suffer painful losses and should quickly exit the business. This information affects prices, which send signals to producers and consumers. If the speculators push up prices, that sends a signal to producers to produce more and a signal to consumers to

produce less. This helps us get to the socially optimal amount of production and consumption. By making prices accurately reflect the true value to society of an item, speculators are helping markets do their job better.

**Speculation is very different from gambling.** Speculators take on risk with some plausible expectation of making money. Their ability to bear risk that the hedgers don't want is socially useful. Gamblers take on risk for the pleasure of it without a plausible expectation of making money.

**Insufficient speculation may lead to excess volatility**. If there are not enough speculators to take the other side of hedgers' trades, then there will be little liquidity in the market. Small orders may make the price jump around too much. I was therefore pleased to see that one of the proposals for limiting speculation would instruct the CFTC to maintain market liquidity.

**You can have too much of a good thing.** Even though speculators provide many useful functions in markets, they have also been sometimes accused of injecting excess volatility into markets and into manipulating prices. Futures contracts make it easy for anyone to take a position, and to control a large amount of a commodity with a fairly small margin. The high level of leverage involved in futures and other derivatives makes it more likely that speculators who are wrong about the long-term price trend may have a destabilizing impact on prices in the short run. This is one of the reasons why we regulate our markets.

**Not taking delivery does not define a speculator.** There has also been some confusion in the media in which a speculator is defined as anyone who does not take delivery of the physical commodity in a futures contract. There are some good business reasons why a bona-fide hedger may never want to take delivery under a futures contract. Here is an example. Suppose that you are a soybean farmer in the middle of Pennsylvania. You decide to hedge your crop by selling a futures contract on the Chicago Mercantile Exchange. . At harvest time, you have no desire to transport your soybeans all the way to Chicago, so you sell them to the local tofu factory at the market price. You then offset your futures position by buying a futures contract. Your gain or loss on the futures contract, combined with the price you get in the local spot market at harvest time just about equals the price locked in earlier with the futures contract.

Now I turn to the proposals at hand:

**Proposal #1: Closing the "Swaps Loophole"**

This proposal directs the CFTC to set aggregate position limits for speculative positions that include over-the-counter or OTC positions. It also narrowly defines bona-fide hedging to apply only to the hedging of physical positions. The intention is to deal with the impact that large investors using OTC derivatives may be having on the markets. Wall Street derivative dealers sell OTC derivatives to both speculators and hedgers, and then hedge their own exposure on the futures exchanges. For example, a refiner far from Cushing, Oklahoma (the delivery point of the NYMEX West Texas Intermediate crude oil futures contract), may want to lock in the price of a different grade of crude at its refinery. It enters into a

contract with an OTC derivative dealer for the exact grade and location of crude that it wants. The dealer then hedges on the NYMEX. The dealer may also sell OTC derivatives to speculators as well.

**The CFTC should have the power to deal with close substitutes to regulated contracts.**

This proposal explicitly extends CFTC authority to some OTC derivatives and directs the CFTC to gather information on them. This changes the decision Congress made in the Section 103 of the Commodity Futures Modernization Act that exempted certain OTC derivatives from CFTC jurisdiction. This is useful because some OTC derivatives are very close substitutes for, and have a big impact on, exchange-traded and regulated futures contracts. This will give the CFTC authority to gather information and to deal with trading abuses that affect the regulated contract markets.

**Hedging is defined too narrowly.**

OTC derivative dealers serve important economic roles. Basically, they custom tailor risk management and investment products for investors out of the "one-size-fits-all" cloth of the exchange traded products. They are legitimate hedgers, and they need to be treated as such. If the aggregate positions of the end customers are problematic, then regulatory attention should be paid to the end customers, not the dealers.

However, even though regulating OTC substitutes for futures contracts is a useful step, it alone will have limited effectiveness.

**Position limits will be easily evaded offshore.**

U.S. jurisdiction only applies to U.S. markets and U.S. persons. This could help prevent or prosecute malfeasance by U.S. regulated players, but it will have no effect on sovereign wealth funds and other foreign entities.

Foreign entities will be able to take on whatever positions they want in other markets. It would take an unprecedented – and unlikely - level of global regulatory cooperation to impose position limits around the world.

**This proposal ignores the metals markets.**

This proposal only applies to energy and agricultural commodities. The current inflation has affected most commodities, including many strategically important metals, and even many that are not traded on futures exchanges. Given the economic linkages between all commodity markets, it does not make sense to ignore metals. There is no reason to exclude metals from a careful extension of CFTC oversight into the OTC market.

**Proposal #2: Speculative Position Limits**

This proposal would direct the CFTC to set speculative position limits annually for non hedgers "at the minimum level practicable to ensure sufficient market liquidity for the conduct of bona fide hedging activities." I am pleased that this proposal understands the importance of speculators in providing liquidity, but I think it has some problems.

**This standard is extremely vague.**

I am not sure how anyone would be able to figure out exactly what that the minimum level to ensure sufficient market liquidity really is. Indeed, such a minimum level could be quite large, if all production were hedged by selling to buy and hold speculators. When markets are in turmoil, as they are today, the demand for hedging could increase dramatically. At the times of market turmoil, one wants the maximum amount of stabilizing capital in the market as possible in order to smooth prices. However, it is difficult to determine which players act a stabilizers and which players do not.

Fortunately, this standard is vague enough that the CFTC can use its professional judgment to figure out the right level. I have much more respect for the CFTC than I do for many of the hundreds of other financial regulators in our country, and I feel that the CFTC can be trusted to do a decent job with the right resources. They have already taken numerous steps to exercise their existing authority to deal with the current situation.

**Proposal #3: Prohibit Investment in Commodities by Pension Funds and Certain Large Institutional Investors.**

This proposal prohibits ERISA pension funds and governmental entities, including sovereign wealth funds (SWFs), from investing in energy and agricultural futures as well as OTC derivatives on energy and agricultural commodities. It would also prohibit some large institutional investors from investing in "a passively managed and broadly diversified index of physical commodities."

I see many problems with this proposal.

**The institutions are not the only ones to blame for the increase in prices.**

The increase in institutional investment in commodities is but one of many causal factors in the increase in commodity prices. Any buying activity, whether for the Strategic Petroleum Reserve or for an institutional investor will affect the price in the market. Even investors who don't take delivery have an impact on price because their willingness to buy or sell communicates information about value to the rest of the market. However, it is important not to confuse correlation with causality. Other factors are involved as well, such as constraints on short-term supplies and concerns that long-term supplies will be ever more expensive to obtain. Even if institutions have contributed to the current situation through herd-like behavior at the wrong time, it is not clear that a permanent ban is in the public interest.

**There are plausible reasons for institutions to invest in commodities.**

Historically, commodity indices have usually shown a negative correlation with other asset classes such as the S&P500. In short, they have a tendency to go up when stocks go down. This helps institutions to smooth out the fluctuations in the value of their investments. For example, if investors believe that an increase in the price of oil will make the value of the rest of their portfolio decline, then owning some oil can offset some of the pain. Although opinions vary, if you run some plausible assumptions through a typical asset allocation program, you can easily get a 5% or higher allocation to commodities as an asset class.

Prohibiting pension funds and other institutions from using these tools may cause them to experience higher volatility and potentially lower returns, which would harm the participants in the plans.

**Institutions can provide important investment incentives in energy.**

When institutions purchase oil futures and producers are selling them, the institutions help the producers reduce their risk and thus provide an incentive for the producers to produce more.

**The prohibitions are too easy to evade.**

Our financial markets are very good at devising substitute products that evade the spirit but not the letter of the law. If there is a solid demand for a product, then the markets will find ways of delivering that product, either here or abroad. For example, the proposed institutional prohibition only applies to a "passively managed and broadly diversified index of physical commodities." An institution could easily get around this by investing in a non-diversified index, or one that had just enough "active" management to get around the passive requirement.

**The prohibitions will drive the business offshore where it is harder to monitor.**

The U.S. financial markets compete with financial markets around the world. Close substitutes exist for all of the major commodity contracts in foreign markets. The commodity markets are global markets, and the price changes of commodities in foreign countries mirror those in the U.S. If foreign entities are prohibited from doing business here they will simply take their business abroad. This will give a boost to the foreign competitors of the U.S. markets. The exchanges in Dubai, Hong Kong, and Singapore would love the business. It will also put their trading activities even further out of reach of U.S. authorities.

**Closing words: What do I recommend?**

Our country is faced with two interlocking challenges: An untenable reliance on foreign energy along with the prospect of catastrophic climate change exacerbated by our carbon dioxide emissions. What happens if we do nothing? If we do nothing, we will probably see a repeat of the 1980s and 1990s. The increase in prices will naturally induce energy conservation along with an increase in production. Once the new conservation measures and the new energy supplies come on line, the tight energy supply

situation will turn into a glut and prices will fall. Our commitment to conservation and alternative fuels will falter. There will be less conservation and less investment in new energy production. Eventually the glut will turn into a shortage and prices will spike and quadruple again. We will once again hand over our treasury to dictators in unstable lands. And we will continue to poison our planet with even more CO2.

We need to transition away from carbon based fossil fuels. No amount of green exhortations will work as long as fossil fuels are cheap.

But what about now? The pain is real and it is now. It might sound nice in the ivory tower to talk about the incentives from higher fuel prices, but what do we do about the very real economic dislocations that are occurring now? If you believe that the current price of oil is above the cost of alternative fuels, then we should do the following:

**Give the CFTC the powers and resources needed to regulate close substitutes to exchange-traded products.**

If there are abuses going on in the OTC markets that are affecting the regulate markets, our regulators need the powers to deal with it. These powers would include the ability to gather information, provide transparency, as well as set position limits and margin limits when necessary in the public interest. This should apply to all contract markets, not just energy and agriculture. The CFTC should also be charged with considering systemic risks in addition to potential for excess speculation. The CFTC should be asked to study the impact of leveraged hedge funds using leveraged futures contracts on prices. And, as both the Chairman and Ranking Member of this Committee have said, the CFTC should receive the additional budgetary resources it needs for personnel and technology to monitor and police these greatly expanded markets, especially if it is taking on new mandates.

**Pass a credible "Petroleum and Carbon Phase-out Plan" that creates the right incentives for alternative fuels.**

Merely tinkering with CAFE won't fix the problem. A credible plan involves investment in research into alternative energy sources and investment in energy conservation. We need to clear the path for wind, nuclear, geothermal, tidal, solar, and appropriate biofuels. The economic incentive is already here at today's energy prices. Private investment will rush in as long as we can prevent a repeat of the petroleum glut of the 1980s.

**Prices will drop like a rock when we get serious about alternative energy.**

Once the markets see that the U.S. is serious about recovering from its addiction to petroleum and other carbon-based drugs, then the prices of those pollutants will drop like a rock. When the producers see that the consumers are switching away from petroleum to technically sound and economic substitutes, they will try to pump – and sell - all they can while there is still any market left for it.

**The appropriate economic incentive must prevent the price of carbon-based fuels from falling below the cost of secure and environmentally-sound alternatives.**

The temptation to backslide and start guzzling oil again will be huge after prices drop. We need to put a floor on the prices of polluting petroleum based fuels so that they will remain more expensive than more secure alternatives. One way to do this would be to put a conditional tax on oil that would keep the price of oil-equivalents of at least $100 per barrel. For example, if the price is above $100, there would be no tax, but if the price dropped to $80, the tax would be $20. This would provide a good economic incentive for alternative energy producers. In addition, proceeds of the tax could be applied to further eco energy research and to mitigating transitional costs for consumers and businesses. I am also confident that U.S. ingenuity will help to reduce the cost of alternative fuels as we find better and better ways of harnessing other energy sources.