

GAO

Testimony

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House of Representatives

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COMMODITY FUTURES  
TRADING COMMISSION

Trends in Energy  
Derivatives Markets Raise  
Questions about CFTC's  
Oversight

Statement of Orice M. Williams, Director  
Financial Markets and Community Investment







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# Highlights

Highlights of GAO-08-174T, a testimony before the Subcommittee on General Farm Commodities and Risk Management, Committee on Agriculture, House of Representatives

## Why GAO Did This Study

Energy prices for crude oil, heating oil, unleaded gasoline, and natural gas have risen substantially since 2002, generating questions about the role derivatives markets have played and the scope of the Commodity Futures Trading Commission's (CFTC) authority. This testimony focuses on (1) trends and patterns in the futures and physical energy markets and their effects on energy prices, (2) the scope of CFTC's regulatory authority, and (3) the effectiveness of CFTC's monitoring and detection of abuses in energy markets. The testimony is based on the GAO report, *Commodity Futures Trading Commission: Trends in Energy Derivatives Markets Raise Questions about CFTC's Oversight* (GAO-08-25, October 19, 2007). For this work, GAO analyzed futures and large trader data and interviewed market participants, experts, and officials at six federal agencies.

## What GAO Recommends

As part of CFTC's reauthorization process, GAO recommended that Congress consider exploring the scope of the agency's authority over energy derivatives trading, in particular for trading in exempt commercial markets. In addition, GAO recommends that CFTC improve the usefulness of the information provided to the public, better document its monitoring activities, and develop more outcome-oriented performance measures for its enforcement program. CFTC generally agreed with GAO's recommendations.

To view the full product, including the scope and methodology, click on GAO-08-174T. For more information, contact Orice Williams at (202) 512-8678 or [williamso@gao.gov](mailto:williamso@gao.gov).

# COMMODITY FUTURES TRADING COMMISSION

## Trends in Energy Derivatives Markets Raise Questions about CFTC's Oversight

### What GAO Found

Various trends in both the physical and futures markets have affected energy prices. Specifically, tight supply and rising demand in the physical markets contributed to higher prices as global demand for oil has risen rapidly while spare production capacity has fallen since 2002. Moreover, increased political instability in some of the major oil-producing countries has threatened the supply of oil. During this period, increasing numbers of noncommercial participants became active in the futures markets (including hedge funds) and the volume of energy futures contracts traded also increased. Simultaneously, the volume of energy derivatives traded outside of traditional futures exchanges increased significantly. Because these developments took place concurrently, the effect of any individual trend or factor on energy prices is unclear.

Under the authority granted by the Commodity Exchange Act (CEA), CFTC focuses its oversight primarily on the operations of traditional futures exchanges, such as the New York Mercantile Exchange, Inc. (NYMEX), where energy futures are traded. Increasing amounts of energy derivatives trading also occur on markets that are largely exempt from CFTC oversight. For example, exempt commercial markets conduct trading on electronic facilities between large, sophisticated participants. In addition, considerable trading occurs in over-the-counter (OTC) markets in which eligible parties enter into contracts directly, without using an exchange. While CFTC can act to enforce the CEA's antimanipulation and antifraud provisions for activities that occur in exempt commercial and OTC markets, some market observers question whether CFTC needs broader authority to more routinely oversee these markets. CFTC is currently examining the effects of trading in the regulated and exempt energy markets on price discovery and the scope of its authority over these markets—an issue that will warrant further examination as part of the CFTC reauthorization process.

CFTC conducts daily surveillance of trading on NYMEX that is designed to detect and deter fraudulent or abusive trading practices involving energy futures contracts. To detect abusive practices, such as potential manipulation, CFTC uses various information sources and relies heavily on trading activity data for large market participants. Using this information, CFTC staff may pursue alleged abuse or manipulation. However, because the agency does not maintain complete records of all such allegations, determining the usefulness and extent of these activities is difficult. In addition, CFTC's performance measures for its enforcement program do not fully reflect the program's goals and purposes, which could be addressed by developing additional outcome-based performance measures that more fully reflect progress in meeting the program's overall goals. Because of changes and innovations in the market, the reports that CFTC receives on market activities may no longer be accurate because they use categories that do not adequately separate trading being done for different reasons by various market participants.



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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our recent report on the trading of derivatives for energy commodities, including crude oil and natural gas, and the Commodity Futures Trading Commission's (CFTC) oversight of these markets.<sup>1</sup> The expansion of derivatives trading in energy markets, particularly by participants such as hedge funds, and rapid growth in trading off regulated exchanges have raised questions about the quality and quantity of reporting on and oversight of these trading activities.<sup>2</sup>

Specifically, I will discuss (1) trends in the physical and energy derivatives markets and their effect on energy prices, (2) the scope of CFTC's authority for protecting market users in the trading of energy derivatives, and (3) CFTC's monitoring and detection of market abuses in energy futures markets. I should point out that our review was intended to identify trends in both the physical and derivatives energy markets and to provide information on the current regulatory structure for energy derivatives trading, including analyzing the various perspectives of market participants on these issues. While our report frames issues that need to be addressed, we do not offer specific policy solutions.

During the course of our review, we obtained and analyzed energy futures prices and trading volumes from the New York Mercantile Exchange, Inc. (NYMEX). Specifically, we collected data for crude oil, heating oil, natural gas, and unleaded gas from January 2002 through December 2006. We also analyzed data obtained from CFTC on market participants and the outstanding trading positions of different categories of traders. We reviewed publicly available information, including academic studies and reports and market data. Finally, we interviewed a broad range of market participants and observers, representatives of energy trading markets, and government regulators and agencies involved with the energy markets. This work was done in accordance with generally accepted government auditing standards.

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<sup>1</sup>GAO, *Commodity Futures Trading Commission: Trends in Energy Derivatives Markets Raise Questions about CFTC's Oversight*, GAO-08-25 (Washington, D.C.: Oct. 19, 2007).

<sup>2</sup>Our analysis of energy prices and energy financial markets is generally limited to the time period from January 2002 through December 2006.

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## Summary

Physical and derivatives markets for crude oil, unleaded gasoline, heating oil, and natural gas have experienced substantial changes in recent years. Within the physical market, tight supply and rising global demand, ongoing political instability in oil-producing regions, limited refining capacity, and other supply disruptions all contributed to higher prices. While these changes were occurring in the physical markets, in the derivatives markets volatility of energy prices generally remained above historic averages for most of the period but declined during 2006 to levels at or near the historical average. Moreover, trading volumes for futures increased, at least in part because a growing number of managed-money traders (including hedge funds) began to see energy futures as attractive investment alternatives. Another change occurring during this time was the increased trading of energy derivatives outside the organized exchanges. Trading in these markets—specifically electronic commercial markets and over-the-counter (OTC) markets—is much less transparent than trading on futures exchanges, and comprehensive data are not available because these energy markets are not regulated. Given that the developments in the physical and derivatives markets were occurring simultaneously, determining their effect on energy prices is difficult. Continued monitoring of the various factors that affect market prices, and how those factors are changing, will be important in protecting the public and ensuring market integrity.

Energy derivatives are traded on futures exchanges and off-exchange in exempt commercial and OTC markets.<sup>3</sup> Exempt commercial markets are electronic trading facilities that trade exempt commodities, including energy commodities, on a principal-to-principal basis solely between commercial entities meeting certain eligibility requirements. In the OTC markets, parties meeting certain requirements can enter into bilateral energy derivatives transactions. Unlike the futures exchanges, which are subject to comprehensive oversight by CFTC, exempt commercial markets and OTC markets are not subject to general CFTC oversight, although CFTC can enforce the CEA's antimanipulation provisions and, where applicable, the antifraud provisions. To provide transparency about trading on the futures exchanges, CFTC routinely publicly reports aggregate information on trading by large commercial (such as oil companies, refineries, and other hedge traders) and noncommercial (such

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<sup>3</sup>Energy swap transactions also may be conducted off-exchange if they satisfy the requirements for excluded swap transactions contained in section 2(g) of the Commodity Exchange Act.

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as hedge funds) participants that occurs on the exchanges. However, in the way the data are currently categorized, no distinction is made between commercial traders who use the exchanges to hedge their positions in the physical markets and those commercial traders, such as investment banks, who trade futures to hedge their trading in off-exchange derivatives. Given the developments and growth in the energy trading markets, questions have been raised over whether CFTC needs broader authority over the off-exchange derivative markets, particularly those involving exempt commodities and exempt commercial markets.

At an operational level, we also reported that while CFTC conducts reporting, surveillance, and enforcement activities in the energy markets to help provide transparency to the public, detect fraudulent or manipulative trading practices, and deter abuses, the effectiveness of these efforts is unclear. For example:

- Although CFTC monitors exchange trading activity through its surveillance program and gathers additional information from NYMEX officials, traders, or other sources to determine if further action is warranted, staff did not routinely document the results of these inquiries. Instead, they kept formal records of their findings only in cases in which improper trading was identified. As a result, CFTC may be limiting its opportunities to identify trends and its ability to measure the extent and usefulness of its monitoring activities.
- We also found that CFTC has successfully pursued energy-related cases, but we were not able to determine how effectively CFTC's enforcement activities were in identifying violations and deterring misconduct because the agency lacked meaningful outcome-based measures.

Our report includes a matter for congressional consideration and three recommendations to CFTC. In light of recent developments and the uncertainty over the adequacy of CFTC's oversight, we recommend that Congress, as part of the CFTC reauthorization process, further explore whether the current regulatory structure for energy derivatives, in particular for those traded in exempt commercial markets, adequately provides for fair trading and accurate pricing of energy commodities. To improve the transparency of market activities and the functioning of CFTC's oversight, we recommend that CFTC reconsider how information it publishes in trading reports for energy products could be improved and CFTC has agreed to reexamine the classifications used in these reports. CFTC also agreed with our recommendations aimed at better documenting its surveillance activities and developing more outcome-based

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performance measures and has taken steps to implement them.

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## Background

Energy commodities are bought and sold on both the physical and financial markets. The physical market includes the spot market where products such as crude oil or gasoline are bought and sold for immediate or near-term delivery by producers, wholesalers, and retailers. Spot transactions take place between commercial participants for a particular energy product for immediate delivery at a specific location. For example, the U.S. spot market for West Texas Intermediate crude oil is the pipeline hub near Cushing, Oklahoma, while a major spot market for natural gas operates at the Henry Hub near Erath, Louisiana. The prices set in the specific spot markets provide a reference point that buyers and sellers use to set the price for other types of the commodity traded at other locations.

In addition to the spot markets, derivatives based on energy commodities are traded in financial markets. The value of the derivative contract depends on the performance of the underlying asset—for example, crude oil or natural gas. Derivatives include futures, options, and swaps. Energy futures include standardized exchange-traded contracts for future delivery of a specific crude oil, heating oil, natural gas, or gasoline product at a particular spot market location. An exchange designated by CFTC as a contract market standardizes the contracts. The owner of an energy futures contract is obligated to buy or sell the commodity at a specified price and future date. However, the contractual obligation may be removed at any time before the contract expiration date if the owner sells or purchases other contracts with terms that offset the original contract. In practice, most futures contracts on NYMEX are liquidated via offset, so that physical delivery of the underlying commodity is relatively rare.

Market participants use futures markets to offset the risk caused by changes in prices, to discover commodity prices, and to speculate on price changes. Some buyers and sellers of energy commodities in the physical markets trade in futures contracts to offset or “hedge” the risks they face from price changes in the physical market. Exempt commercial markets and OTC derivatives are also used to hedge this risk. The ability to reduce their price risk is an important concern for buyers and sellers of energy commodities, because wide fluctuations in cash market prices introduce uncertainty for producers, distributors, and consumers of commodities and make investment planning, budgeting, and forecasting more difficult. To manage price risk, market participants may shift it to others more willing to assume the risk or to those having different risk situations. For example, if a petroleum refiner wants to lower its risk of losing money



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because of price volatility, it could lock in a price by selling futures contracts to deliver the gasoline in 6 months at a guaranteed price. Without futures contracts to manage risk, producers, refiners, and others would likely face greater uncertainty.

By establishing prices for future delivery, the futures market also helps buyers and sellers determine or “discover” the price of commodities in the physical markets, thus linking the two markets together. Markets are best able to perform price discovery when (1) participants have current information about the fundamental market forces of supply and demand, (2) large numbers of participants are active in the market, and (3) the market is transparent. Market participants monitor and analyze a myriad of information on the factors that currently affect and that they expect to affect the supply of and demand for energy commodities. With that information, participants buy or sell an energy commodity contract at the price they believe the commodity will sell for on the delivery date. The futures market, in effect, distills the diverse views of market participants into a single price. In turn, buyers and sellers of physical commodities may consider those predictions about future prices, among other factors, when setting prices on the spot and retail markets.

Other participants, such as investment banks and hedge funds, which do not have a commercial interest in the underlying commodities, generally use the futures market for profit. These speculators provide liquidity to the market but also take on risks that other participants, such as hedgers, seek to avoid. In addition, arbitrageurs attempt to make a profit by simultaneously entering into several transactions in multiple markets in an effort to benefit from price discrepancies across these markets.

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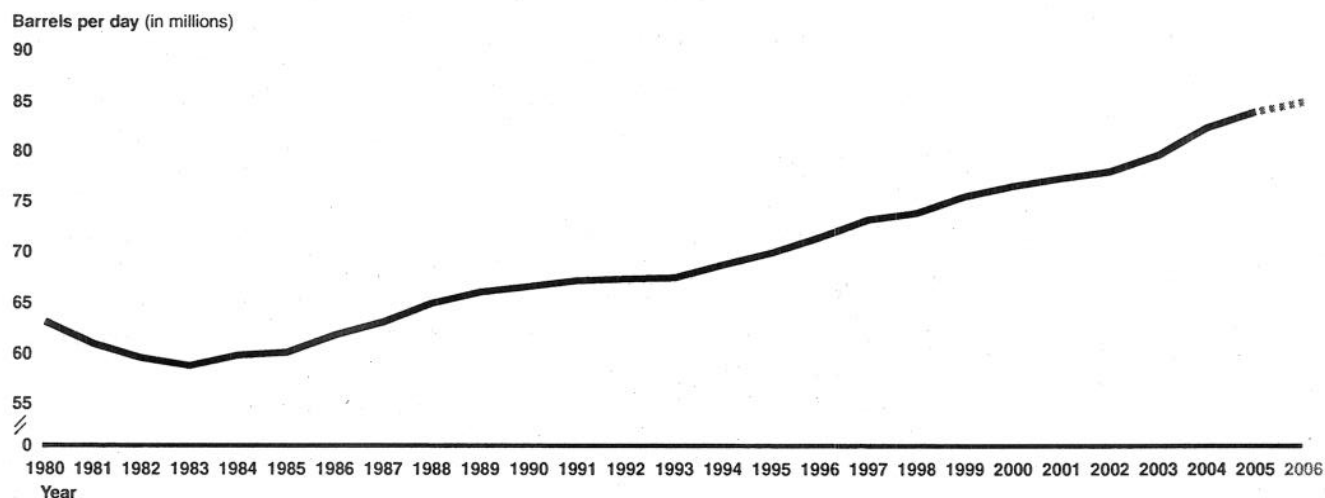
## Several Factors Have Caused Changes in the Energy Markets, Potentially Affecting Energy Prices

The physical markets for energy commodities underwent change and turmoil from 2002 through 2006, which affected prices in the spot and futures markets. We reported that numerous changes in both the physical and futures markets may have affected energy prices. However, because these changes occurred simultaneously, identifying the specific effect of any one of these changes on energy prices is difficult.

## Various Changes in the Physical Market Contributed to Rising Prices

The physical energy markets have undergone substantial change and turmoil during this period, which can affect spot and futures markets. Like many others, we found that a number of fundamental supply and demand conditions can affect prices. According to the Energy Information Administration (EIA), world oil demand has grown since 1983 from a low of about 59 million barrels per day in 1983 to more than 85 million barrels per day in 2006 (fig. 1). While the United States accounts for about a quarter of this demand, rapid economic growth in Asia also has stimulated a strong demand for energy commodities. For example, EIA data show that during this time frame, China's average daily demand for crude oil increased almost fourfold.

Figure 1: Increase in World Demand for Crude Oil (Actual and Estimated), 1980–2006



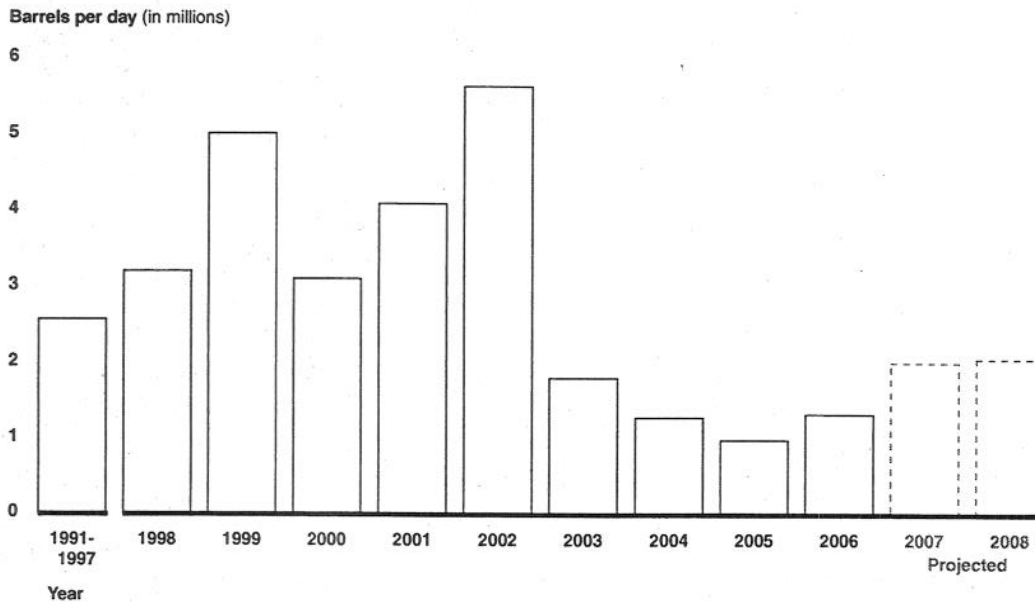
Source: GAO analysis of EIA data.

Note: The world oil demand data for 2006 represent a preliminary estimate.

The growth in demand does not, by itself, lead to higher prices for crude oil or any other energy commodity. For example, if the growth in demand were exceeded by a growth in supply, prices would fall, other things remaining constant. However, according to EIA, the growth in demand outpaced the growth in supply, even with spare production capacity included in supply. Spare production capacity is surplus oil that can be produced and brought to the market relatively quickly to rebalance the market if there is a supply disruption anywhere in the world oil market. As shown in figure 2, EIA estimates that global spare production capacity in 2006 was about 1.3 million barrels per day, compared with spare capability

of about 10 million barrels per day in the mid-1980s and about 5.6 million barrels a day as recently as 2002.

**Figure 2: Estimates of World Oil Spare Production Capacity, 1991–2008**



Source: GAO analysis of EIA data.

Major weather and political events also can lead to supply disruptions and higher prices. In its analysis, EIA has cited the following examples:

- Hurricanes Katrina and Rita removed about 450,000 barrels per day from the world oil market from June 2005 to June 2006.
- Instability in major oil-producing countries of the Organization of Petroleum Exporting Countries (OPEC), such as Iran, Iraq, and Nigeria, have lowered production in some cases and increased the risk of future production shortfalls in others.
- Oil production in Russia, a major driver of non-OPEC supply growth during the early 2000s, was adversely affected by a worsened investment climate as the government raised export and extraction taxes.

The supply of crude oil affects the supply of gasoline and heating oil, and just as production capacity affects the supply of crude oil, refining capacity affects the supply of those products distilled from crude oil. As

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we have reported, refining capacity in the United States has not expanded at the same pace as the demand for gasoline.<sup>4</sup> Inventory, another factor affecting supplies and therefore prices, is particularly crucial to the supply and demand balance, because it can provide a cushion against price spikes if, for example, production is temporarily disrupted by a refinery outage or other event. Trends toward lower levels of inventory may reduce the costs of producing gasoline, but such trends also may cause prices to be more volatile. That is, when a supply disruption occurs or there is an increase in demand, there are fewer stocks of readily available gasoline to draw on, putting upward pressure on prices.

Another consideration is that the value of the U.S. dollar on open currency markets could affect crude oil prices. For example, because crude oil is typically denominated in U.S. dollars, the payments that oil-producing countries receive for their oil also are denominated in U.S. dollars. As a result, a weak U.S. dollar decreases the value of the oil sold at a given price, and oil-producing countries may wish to increase prices for their crude oil in order to maintain the purchasing power in the face of a weakening U.S. dollar to the extent they can.

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### The Effect on Prices of Relatively High but Falling Volatility and a Growing Volume of Trading in Derivatives Is Unclear

As you can see, conditions in the physical markets have undergone changes that can help explain at least some of the increases in both physical and derivatives commodity prices. As we have previously reported, futures prices typically reflect the effects of world events on the price of the underlying commodity such as crude oil.<sup>5</sup> For example, political instability and terrorist acts in countries that supply oil create uncertainties about future supplies, which are reflected in futures prices. Conversely, news about a new oil discovery that would increase world oil supply could result in lower futures prices. In other words, changes in the physical markets influence futures prices.

At the same time that physical markets were undergoing changes, we found that financial markets also were amidst change and evolution. For example, the annual historical volatilities between 2000 and 2006—measured using the relative change in daily prices of energy futures—generally were above or near their long-term averages, although crude oil

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<sup>4</sup>GAO, *Motor Fuels: Understanding the Factors That Influence the Retail Price of Gasoline*, GAO-05-525SP (Washington, D.C.: May 2005).

<sup>5</sup>GAO-05-525SP.

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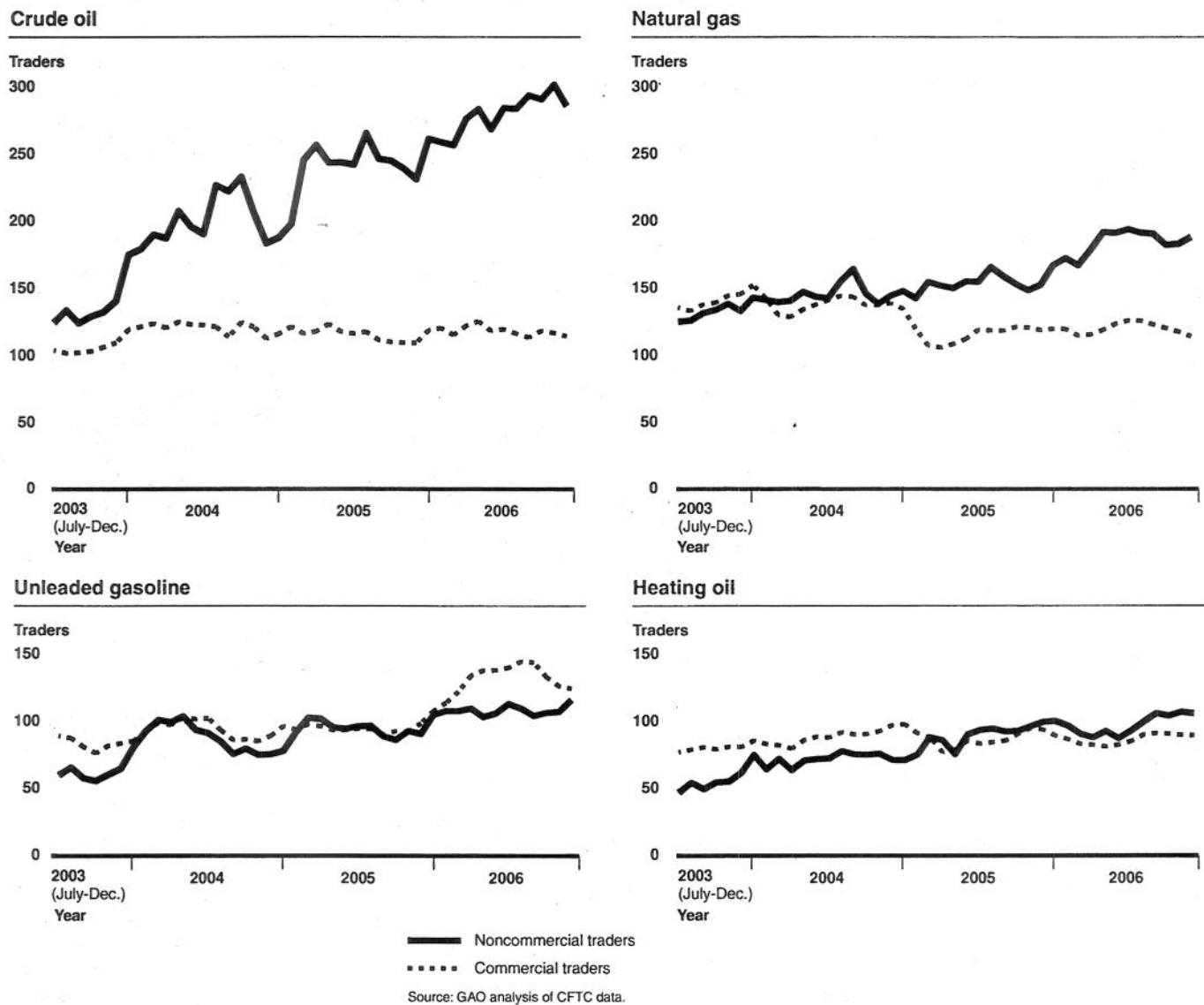
and heating oil declined below the average and gasoline declined slightly at the end of that period. We also found that the annual volatility of natural gas fluctuated more widely than that of the other three commodities and increased in 2006 even though prices largely declined from the levels reached in 2005. Although higher volatility is often equated with higher prices, this pattern illustrates that an increase in volatility does not necessarily mean that price levels will increase. In other words, price volatility measures the variability of prices rather than the direction of the price changes.

Elsewhere in the futures market, we found an increase in the number of noncommercial traders such as managed money traders.<sup>6</sup> Attracted in part by the trends in prices and volatility, a growing number of traders sought opportunities to hedge against those changes or profit from them. Using CFTC's large trader data, we found that from July 2003 to December 2006, crude oil futures and options contracts experienced the most dramatic increase, with the average number of noncommercial traders more than doubling from about 125 to about 286. As shown in figure 3, while the growth was less dramatic in the other commodities, the average number of noncommercial traders also showed an upward trend for unleaded gasoline, heating oil, and natural gas.

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<sup>6</sup>CFTC collects data on traders holding positions at or above specific reporting levels set by the Commission. This information is collected as part of CFTC's large trader reporting system.

**Figure 3: Average Daily Number of Large Commercial and Noncommercial Traders per Month, July 2003–December 2006**



Not surprisingly, our work also revealed that as the number of traders increased, so did the trading volume on NYMEX for all energy futures contracts, particularly crude oil and natural gas. Average daily contract volume for crude oil increased by 90 percent from 2001 through 2006, and natural gas increased by just over 90 percent. Unleaded gasoline and

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heating oil experienced less dramatic growth in their trading volumes over this period.

While much harder to quantify, another notable trend was the significant increase in the amount of energy derivatives traded outside exchanges. Trading in these markets is much less transparent, and comprehensive data are not available because these energy markets are not regulated. However, using the Bank for International Settlements data as a rough proxy for trends in the trading volume of OTC energy derivatives, the face value or notional amounts outstanding of OTC commodity derivatives excluding precious metals, such as gold, grew from December 2001 to December 2005 by more than 850 percent to over \$3.2 trillion.<sup>7</sup>

Further, while some market observers believe that managed money traders were exerting upward pressure on prices by predominantly buying futures contracts, CFTC data we analyzed revealed that from the middle of 2003 through the end of 2006, the trading activity of managed money participants became increasingly balanced between buying (those that expect prices to go up) and selling (those that expect prices to go down). Using CFTC large trader reporting data, we found that from July 2003 through December 2006, managed money traders' ratio of buying (long) to selling (short) open interest positions was 2.5:1 indicating that on the whole, this category of participants was 2.5 times as likely to expect prices to rise as opposed to fall throughout that period, which they did. However, as figure 4 illustrates, by 2006, this ratio fell to 1.2:1, suggesting that managed money traders as a whole were more evenly divided in their expectations about future prices. As you can see, managed money trading in unleaded gasoline, heating oil, and natural gas showed similar trends.

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<sup>7</sup>The Bank for International Settlements is an international organization that fosters international monetary and financial cooperation and serves as a bank for central banks.

**Figure 4: Percentage of Long and Short Open Interest in Futures and Options for Managed Money Traders, July 2003–December 2006**

	Year	Managed money traders	Ratio
Crude oil	2003		2.5:1
	2004		2.0:1
	2005		1.3:1
	2006		1.2:1
Unleaded gasoline	2003		6.6:1
	2004		2.9:1
	2005		2.3:1
	HU 2006		1.7:1
	RB 2006		3.4:1
Heating oil	2003		2.1:1
	2004		2.0:1
	2005		1.2:1
	2006		1.0:1
Natural gas	2003		0.6:1
	2004		0.9:1
	2005		0.9:1
	2006		1.0:1

Short open interest – meaning positions to sell the underlying commodity  
 Long open interest – meaning positions to buy the underlying commodity

Source: GAO analysis of CFTC data.



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Note: Data for 2003 were for July through December. The percentages indicate what portion of long and short open interest was held by managed money traders. For example, in 2004, managed money traders held 14.5 percent of the total long open interest for crude oil and 7.1 percent of the total short open interest. Because data are not included for all categories of traders, the percentages for these three categories within a particular period do not total 100. These data should be viewed as a general overview of managed money traders' positions. They do not provide insights into how traders' individual positions changed over time. Our data for 2006 include contract trading data for NYMEX reformulated gasoline blendstock (RB) and for the NYMEX gasoline contract (HU) that began to replace RB.

Overall, we found that views were mixed about whether these trends put any upward pressure on prices. Some market participants and observers have concluded that large purchases of oil futures contracts by speculators could have created an additional demand for oil that could lead to higher prices. Conversely, some federal agencies and other market observers took the position that speculative trading activity did not have a significant impact on prices. For example, an April 2005 CFTC study of the markets concluded that increased trading by speculative traders, including hedge funds, did not lead to higher energy prices or volatility. This study also argued that hedge funds provided increased liquidity to the market and dampened volatility. Still others told us that while speculative trading in the futures market could contribute to short-term price movements in the physical markets, they did not believe it was possible to sustain a speculative "bubble" over time, because the two markets were linked and both responded to information about changes in supply and demand caused by such factors as the weather or geographical events. In the view of these observers and market participants, speculation could not lead to artificially high or low prices over a long period.

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## CFTC Oversees Exchanges and Has Limited Authority over Other Derivatives Markets

Under CEA, CFTC's authority for protecting market users from fraudulent, manipulative, and abusive practices in energy derivatives trading is primarily focused on the operations of traditional futures exchanges, such as NYMEX, where energy futures are traded. Off exchange markets, which are available only to eligible traders of certain commodities under specified conditions, are not regulated, although CFTC may enforce antimanipulation and antifraud provisions of the CEA with respect to trading in those markets. The growth in trading off exchange has raised questions about the sufficiency of CFTC's limited authority over these markets. These changes and innovations also have brought into question the methods CFTC uses to categorize published data about futures trading by participants in the off exchange markets and whether information about their activities in off exchange markets would be useful to the public. CFTC is taking steps to better understand these issues. Most importantly, it is currently examining the relationship between trading in

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the regulated and exempt energy markets and the role this trading plays in the price discovery process. It is also examining the sufficiency of the scope of its authority over these markets—an issue that will warrant further examination as part of the CFTC reauthorization process.

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**CFTC Has General Oversight Authority over Futures Exchanges, but Information on These Exchanges Reported to the Public Has Not Kept Pace With Changing Market Conditions**

To help provide transparency in the markets, CFTC provides the public information on open interest in exchange-traded futures and options by commercial and noncommercial traders for various commodities in its weekly Commitment of Traders (COT) reports.<sup>8</sup> As we reported, CFTC observed that the exchange-traded derivatives markets, as well as trading patterns and practices, have evolved. In 2006, CFTC initiated a comprehensive review of the COT reporting program out of concern that the reports in their present form might not accurately reflect the commercial or noncommercial nature of positions held by nontraditional hedgers, such as swaps dealers.<sup>9</sup> A disconnect between the classifications and evolving trading activity could distort the accuracy and relevance of reported information to users and the public, thereby limiting its usefulness for both.

In December 2006, CFTC announced a 2-year pilot program for publishing a supplemental COT report that includes positions of commodity index traders in a separate category. However, the pilot does not include any energy commodities. Although commodity index traders are active in energy markets, according to CFTC officials, currently available data would not permit an accurate breakout of index trading in these markets. For example, some traders, such as commodity index pools, use the futures markets to hedge commodity index positions they hold in the OTC market. However, these traders also may have positions in the physical markets, which means the reports that CFTC receives on market activities, which do not include such off-exchange transactions, may not present an accurate picture of all positions in the market place for the commodity. In response to our recommendation to reexamine the COT classifications for energy markets, CFTC agreed to explore whether the classifications should be refined to improve their accuracy and relevance.

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<sup>8</sup>These reports include the number of traders, changes since the last report, and open positions.

<sup>9</sup>71 Fed. Reg. 35627, 35630-31 (June 21, 2006).

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## CFTC Authority over Exempt Commercial Markets and OTC Markets Is Limited, and Views Vary about the Sufficiency of Its Regulatory Authority with Respect to Off-Exchange Energy Derivatives

Now let me address some of the larger policy issues associated with CFTC's oversight of these markets. Under CEA, CFTC's authority for protecting market users from fraudulent, manipulative, and abusive practices in energy derivatives trading is primarily focused on the operations of traditional futures exchanges, such as NYMEX, where energy futures are traded. Currently, CFTC receives limited information on derivatives trading on exempt commercial markets—for example, records of allegations or complaints of suspected fraud or manipulation, and price, quantity, and other data on contracts that average five or more trades a day. The agency may receive limited information, such as trading records, from OTC participants to help CFTC enforce the CEA's antifraud or antimanipulation provisions. The scope of CFTC's oversight authority has raised concerns among some members of Congress and others that activities on these markets are largely unregulated, and that additional CFTC oversight is needed.

While some observers have called for more oversight of OTC derivatives, most notably for CFTC to be given greater oversight authority of this market, others oppose any such action. Supporters of more CFTC oversight authority believe that regulation of OTC derivatives markets is necessary to protect the regulated markets and consumers from potential abuse and possible manipulation. One of their concerns is that, due to the lack of complete information on the size of this market or the terms of the contracts, CFTC may not be assured that trading on the OTC market is not adversely affecting the regulated markets and, ultimately, consumers. However others, including the President's Working Group, have concluded that OTC derivatives generally are not subject to manipulation because contracts are settled in cash on the basis of a rate or price determined in a separate, highly liquid market that does not serve a significant price discovery function.<sup>10</sup> The Working Group also noted that if electronic markets were to develop and serve a price discovery function, then consideration should be given to enacting a limited regulatory regime aimed at enhancing market transparency and efficiency through CFTC, as the regulator of exchange-traded derivatives.

However, the lack of reported data about this market makes addressing concerns about its function and effect on regulated markets and entities

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<sup>10</sup>President's Working Group on Financial Markets, *Over-the-Counter Derivatives Markets and the Commodity Exchange Act* (Nov. 9, 1999). Members of group are the Chairman of CFTC, the Secretary of the Treasury, the Chairman of the Board of Governors of the Federal Reserve, and the Chairman of the Securities and Exchange Commission.

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challenging. In a June 2007 *Federal Register* release clarifying its large trader reporting authority, CFTC noted that having data about the off-exchange positions of traders with large positions on regulated futures exchanges could enhance the commission's ability to deter and prevent price manipulation or other disruptions to the integrity of the regulated futures markets.<sup>11</sup> According to CFTC officials, the commission has proposed amendments to clarify its authority under the CEA to collect information and bring fraud actions in principal-to-principal transactions in these markets, enhancing CFTC's ability to enforce antifraud provisions of the CEA.<sup>12</sup>

Also, in September 2007, CFTC conducted a hearing to begin examining trading on regulated exchanges and exempt commercial markets more closely. The hearing focused on a number of issues, including

- the current tiered regulatory approach established by the Commodity Futures Modernization Act, which amended the CEA, and whether this model is beneficial;

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<sup>11</sup>As stated by CFTC, the purpose of the proposed regulation is to make it explicit that persons holding or controlling reportable positions on a reporting market must retain books and records and make available to the commission upon request any pertinent information with respect to all other positions and transactions in the commodity in which the trader has a reportable position, including positions held or controlled or transactions executed over-the-counter or pursuant to sections 2(d), 2(g) or 2(h)(1)–(2) of the CEA or part 35 of the commission's regulations, on exempt commercial markets operating pursuant to sections 2(h)(3)–(5) of the CEA, on exempt boards of trade operating pursuant to Section 5d of the CEA, and on foreign boards of trade (hereinafter referred to collectively as non-reporting transactions); and to make the regulation clearer and more complete with respect to hedging activity. The purpose of the amendments is to clarify CFTC's regulatory reporting requirements for such traders. 72 Fed. Reg. 34413.

<sup>12</sup>Section 4b of the CEA is CFTC's main antifraud authority. In a November 2000 decision, the 7th Circuit Court of Appeals ruled that CFTC only could use section 4b in intermediated transactions—those involving a broker. *Commodity Trend Service, Inc. v. CFTC*, 233 F.3d 981, 991-992 (7th Cir. 2000). As amended by the Commodity Futures Modernization Act of 2000, the CEA permits off-exchange futures and options transactions that are done on a principal-to-principal basis, such as energy transactions pursuant to CEA sections 2(h)(1) and 2(h)(3). According to CFTC, House and Senate CFTC reauthorization bills introduced during the 109th Congress (H.R. 4473 and S. 1566) would have amended section 4b to clarify that Congress intends for CFTC to enforce section 4b in connection with off-exchange principal-to-principal futures transactions, including exempt commodity transactions in energy under section 2(h) as well as all transactions conducted on derivatives transaction execution facilities.

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- the similarities and differences between exempt commercial markets and regulated exchanges, and the associated regulatory risks of each market; and
  - the types of regulatory or legislative changes that might be appropriate to address any identified risks.

Given ongoing questions about the similarity of products traded on the markets and how and whether exempt markets play a role in the price discovery process and whether existing reporting requirements are sufficient, we recommend that Congress take up this issue during the CFTC reauthorization process to begin to answer some of these questions and the implications for the current regulatory structure in light of the changes that have occurred in this market.

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### CFTC Engages in Large Trader Reporting, Surveillance, and Enforcement Activities, but the Effectiveness of the Activities Is Largely Uncertain

CFTC provides oversight for commodity futures markets by analyzing large trader reporting data, conducting routine surveillance, and investigating and taking enforcement actions against market participants and others. The commission uses information gathered from surveillance activities to identify unusual trading activity and possible market abuse. In particular, CFTC's large trader reporting system (LTRS) provides essential information on the majority of all trading activity on futures exchanges. CFTC staff said they routinely investigate traders with large open positions, but do not routinely maintain information about such inquiries, thereby making it difficult to determine the usefulness and extent of these activities. According to recent data provided by CFTC, about 10 percent of the enforcement actions involved energy-related commodities. However, as with programs operating in regulatory environments where performance is not easily measurable, evaluating the effectiveness of CFTC's enforcement activities is challenging because it lacks effective outcome-based performance measures.

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### CFTC Oversight Includes Surveillance of Energy Futures Trading, but the Full Extent of Follow-up Activities Is Uncertain

CFTC conducts regular market surveillance and oversight of energy trading on NYMEX and other futures exchanges, focusing on detecting and preventing disruptive practices before they occur and keeping the CFTC commissioners informed of possible manipulation or abuse. According to CFTC staff, when a potential market problem has been identified, surveillance staff generally contact the exchange or traders for more information. To confirm positions and determine intent, staff may question exchange employees, brokers, or traders. According to the staff, CFTC's Division of Market Oversight may issue a warning letter or make a referral

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to the Division of Enforcement to conduct a nonpublic investigation into the trading activity. Markets where surveillance problems have not been resolved may be included in reports presented to the commission at weekly surveillance meetings.

According to CFTC staff, they routinely make inquiries about traders with large open positions approaching expiration, but formal records of their findings are only kept in cases with evidence of improper trading. If LTRS data revealed that a trader had a large open market position that could disrupt markets if it were not closed before expiration, CFTC staff would contact the trader to determine why the trader had the position and what plans the trader had to close the position before expiration or ensure that the trader was able to take delivery. If the trader provided a reasonable explanation for the position and a reasonable delivery or liquidation strategy, staff said no further action would be required. CFTC staff said they would document such contacts on the basis of their importance in either informal notes, e-mails to supervisors, or informal memorandums. According to one CFTC official, no formal record would be made unless some signal indicated improper trading activity. However, without such data, CFTC's measures of the effectiveness of its actions to combat fraud and manipulation in the markets would not reflect all surveillance activity, and CFTC management might miss opportunities to identify trends in activities or markets and better target its limited resources. In response to our recommendation, CFTC agreed to improve its documentation of its surveillance activities.

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CFTC Energy-Related Enforcement Actions Generally Involved Allegations of False Reporting and Attempted Manipulation, but Its Program Received a Mixed Rating and Lacks Effective Outcome-Based Performance Measures

CFTC's Division of Enforcement is charged with enforcing the antimanipulation sections of the CEA.<sup>13</sup> The enforcement actions CFTC has taken in its energy-related cases generally have involved false public reporting as a method of attempting to manipulate prices on both the NYMEX futures market and the off-exchange markets. CFTC officials said that from October 2000 to September 2005, the agency initiated 287 enforcement cases and more than 30 of these cases involved energy trading. In the past several months, CFTC has taken a series of actions involving energy commodities, including allegations of false reporting, attempted manipulation of NYMEX natural gas futures prices, and attempted manipulation of physical natural gas prices.

Although CFTC has undertaken enforcement actions and levied fines, measuring the effectiveness of these activities is an ongoing challenge. For example, the Office of Management and Budget's most recent 2004 Program Assessment Rating Tool (PART) assessment of the CFTC enforcement program identified a number of limitations of CFTC's performance measures.<sup>14</sup> As is the case with most enforcement programs, identifying outcome-oriented performance measures can be particularly challenging.<sup>15</sup> However, as we point out in the report, there are a number of other ways to evaluate program effectiveness, such as using expert panel reviews, customer service surveys, and process and outcome evaluations. We have found with other programs that the form of the evaluations reflects differences in program structure and anticipated outcomes, and that the evaluations are designed around the programs and what they aim to achieve.<sup>16</sup> Without utilizing these or other methods to

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<sup>13</sup>Section 9(a)(2) of the CEA prohibits "(a)ny person to manipulate or attempt to manipulate the price of any commodity in interstate commerce, or for future delivery on or subject to the rules of any registered entity, or to corner or attempt to corner any such commodity or knowingly to deliver or cause to be delivered for transmission through the mails or interstate commerce by telegraph, telephone, wireless, or other means of communication false or misleading or knowingly inaccurate reports concerning crop or market information or conditions that affect or tend to affect the price of any commodity interstate commerce...."

<sup>14</sup>The assessment includes a series of questions meant to serve as a diagnostic performance tool, drawing on available program performance and evaluation information to form conclusions about program benefits and recommend adjustments that may improve results.

<sup>15</sup>GAO, *Results Oriented Government: GPRA Has Established a Solid Foundation for Achieving Greater Results*, GAO-04-594T (Washington, D.C.: Mar. 31, 2004).

<sup>16</sup>GAO, *Program Evaluation: OMB's PART Reviews Increased Agencies' Attention to Improving Evidence of Program Results*, GAO-06-67 (Washington, D.C.: Oct. 28, 2005).

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evaluate program effectiveness, CFTC is unable to demonstrate whether its enforcement program is meeting its overall objectives. CFTC has agreed that this is a matter that should be examined and has included development of measures to evaluate its effectiveness in its strategic plan and has requested funding to study the feasibility of developing more meaningful measures.

In closing, I would like to reemphasize the difficulty in attributing increased energy prices to any one of the numerous changes in the physical or derivatives markets. As I have mentioned, our research shows that the physical and derivatives markets have both undergone substantial change and evolution, and market participant and regulatory views were mixed about the extent to which these developments exerted upward pressure on prices. Because of the importance of understanding the potential effects of such developments in these markets, ongoing review and analysis are warranted. As the scope of CFTC's authority is debated, additional information is needed to understand what may need to be done to best protect investors from fraudulent, manipulative, and abusive practices. Such information includes

- how different or similar are the characteristics and uses of exchange and off-exchange products being traded and do these continue to justify different regulatory treatment;
- to what extent does trading in off-exchange financial derivatives affect price discovery and what are the regulatory and policy implications;
- how large of an effect are nontraditional market participants, such as commodity index funds, having in these markets; and
- are the changes in the energy markets unique or are such concerns also worth reviewing for other commodity markets.

By answering questions such as these, CFTC and the Congress will be better positioned to determine what changes, if any, may be needed to oversee these markets.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions that you or other members of the subcommittee might have.



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## GAO Contacts

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## Staff Acknowledgments

Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Individuals making key contributions include Cody Goebel (Assistant Director), John Forrester, Barbara Roesmann, and Paul Thompson.

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