

# Report on Large Short Trader Activity in the Silver Futures Market

Commodity Futures Trading Commission  
Division of Market Oversight  
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## Executive Summary

During the past 20 to 25 years, the Commodity Futures Trading Commission (CFTC or Commission) has received numerous letters, e-mails and phone calls from silver investors alleging that the price of silver futures on NYMEX has been manipulated downward.<sup>1</sup> In 2004, Dr. Michael Gorham, Director of the Division of Market Oversight (Division) addressed silver investors' concerns in an open letter (2004 Silver Letter)<sup>2</sup> that considered the plausibility of a long-term short-side manipulation of the silver futures market and provided an analysis of activity in the silver futures market. That letter concluded that the existence of a long-term manipulation was not plausible and that an analysis of activity in the silver futures market did not support the conclusion that the market was being manipulated.

Recently, silver commentators and a group of investors that rely upon them have reasserted their allegations that the silver futures market is being manipulated downward by a small group of traders on the short side of the market. As a result, DMO staff decided to revisit this issue by taking a fresh look at activity in the silver futures market.

The analyses included in this report consider recent price movements in the silver market vis-à-vis prices of other metals; the relationship between the price of NYMEX silver futures and spot silver prices; concentration of futures traders' positions; the composition of large short-position silver traders; the relationship between trader concentration levels and silver futures prices; and the relationship between the positions held by large short silver futures traders and silver futures prices. The analysis draws the following conclusions:

- There is no evidence of manipulation in the silver futures market.
- Silver cash and futures prices have risen dramatically between 2005 and 2007, with silver outperforming the gold, platinum and palladium markets, suggesting that silver futures prices are not depressed relative to other metals prices.
- NYMEX silver futures prices tend to track closely the price of physical silver.
- Concentration levels for the top four short futures traders in the silver futures market are comparable to those observed in the gold and copper futures markets, and generally are lower than the levels seen in the platinum and palladium futures markets.

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<sup>1</sup> Prior to 1994, silver futures were traded on the COMEX exchange. NYMEX and COMEX merged that year, and silver now trades on the COMEX Division of NYMEX.

<sup>2</sup> Available at [www.cftc.gov/files/opa/press04/opasilverletter.pdf](http://www.cftc.gov/files/opa/press04/opasilverletter.pdf)

- The composition of the traders comprising the top four short futures traders, in terms of net positions, changes over time. These traders represent a diverse group, and their futures positions are driven by an even more diverse group of customers.
- There is no observable relationship between short-futures-trader concentration levels and silver prices.
- There is a slightly positive relationship between the total net position of the large short futures traders and silver prices; this suggests that larger short futures positions are associated with higher, not lower prices.

This report, for background purposes, first summarizes the analysis and conclusions of the 2004 Silver letter, and then proceeds with an analysis of activity since that time. The conclusion reached based upon these analyses is that there is no evidence of manipulation of the silver futures market.

### **The 2004 Allegations and Staff Findings**

On May 14, 2004, Dr. Michael Gorham, issued the 2004 Silver Letter in response to a large number of commenters who expressed concern that the futures price of silver was being manipulated downward as a result of collusion by a handful of traders on the short side of the futures market. The allegation raised at the time was that, because the consumption of silver had exceeded supplies available from new production and recycling for many years, silver futures prices should have been much higher to reflect the ongoing production deficit. The fact that prices had not risen appeared to convince a number of commentators and investors that the futures market was being manipulated by a small group of traders holding very large short futures positions that did not serve a legitimate hedging purpose. Proponents of this theory also maintained that this manipulative scheme had been ongoing for more than 20 years.

Analysis by staff at that time found no evidence that such a short-side manipulation was in progress. With respect to the production deficit, staff concluded that the gap between silver production and consumption had been filled over the years by the drawdown of existing silver stocks. That is, while a production deficit existed, there was no supply deficit. In effect, the demand for silver was being met by a combination of current production and recycled silver plus the drawdown of existing silver stocks. While some of these stocks are publicly known, there also exists a large indeterminate amount of silver available to supply the market. As noted in a July 26, 2002 letter from Dr. Gorham, silver has been mined for millennia and accumulated in public and private stores as bullion, sterling, jewelry, bulk coins, silverware, ornaments and scrap.<sup>3</sup> Even today, no one knows with certainty how much silver in these forms exists or at what prices owners of this silver will decide to liquidate their holdings. Nonetheless, these supplies continue to act as a buffer to higher silver prices in that, as prices rise, holders of the silver are induced to reintroduce the metal into the marketplace.

Staff in 2004 also examined the relationship between NYMEX silver futures prices and cash market silver prices to determine whether NYMEX prices appeared to be unusually or significantly out of line with cash prices. The analysis showed that, during the period 2000

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<sup>3</sup> Available at [www.cftc.gov/files/opa/press04/opatedbulter07-26-02.pdf](http://www.cftc.gov/files/opa/press04/opatedbulter07-26-02.pdf)

through mid-2004, the average price of silver on NYMEX was essentially equal to prices on the London Bullion Market (LBMA) and the U.S. cash market (Bloomberg composite). This analysis demonstrated that, whatever factors were impacting NYMEX futures prices, these same factors were also affecting the underlying silver cash market. Thus, the positions of short futures traders on the NYMEX did not appear to cause futures prices to decouple or move independently from the cash market.

The analysis also considered the plausibility and rationale of a long-term manipulation of silver prices. In terms of plausibility, the analysis noted that there is unrestricted access to the silver cash and futures markets. If prices of silver were in fact artificially low, there would be nothing to prevent a well-capitalized trader, or even many small traders, from entering the markets to buy cash silver or futures contracts at what they believe to be bargain prices. This openness of the markets tends to render the claim that silver futures prices had been manipulated downward for more than 20 years implausible. In this regard, there is no logical explanation as to what, during those 20 years, has prevented traders from buying cash silver or silver futures and thereby driving prices up to what those making the manipulation argument would regard as a reasonable price.

In addition to the implausibility of a long-term manipulation, advocates of the manipulation argument have also failed to explain how the alleged manipulators have profited, or will profit, from such a manipulation. As the 2004 letter noted, traders successfully manipulating a futures price downward could profit by buying back their futures positions at a lower price. Proponents of the manipulation argument, however, point to persistent large short futures positions that allegedly have the effect of keeping prices low, without explaining or providing evidence showing how these shorts would be able to profit from such trading activity. If the large short futures traders have never profited from the alleged manipulative scheme, and no viable scenario is postulated explaining how they would profit, staff questions the motive of the futures traders that allegedly are manipulating the market downward.

Finally, the 2004 Silver Letter briefly touched on the motivations of the advocates of the short-side futures manipulation argument. The letter encouraged investors to evaluate the motives of commentators dispensing advice on markets. In this respect, it was noted that market commentators sometimes have financial interests that may conflict with the interests of investors to whom they dispense their market analyses. In the specific case of silver, to the extent that commentators are compensated because of the buying interest they create through their recommendations, commentators have an incentive to argue that silver prices are relatively cheap. While the actual motivation or financial incentives of commentators in the silver market is not known, the argument that silver prices have been, and continue to be, manipulated downward is consistent with a strategy to encourage the purchase of silver.

## Analysis of Recent Activity in the Silver Markets

To update the 2004 analysis, staff examined activity during the period 2005 through 2007 to assess whether there appears to have been any unusual activity in the silver futures market that would suggest that shorts are in some manner manipulating prices, as alleged by certain market commentators. It should be noted that the analysis set forth here is in addition to the routine surveillance of the silver futures market performed by the market surveillance staff of the Division.

The Division's market surveillance effort has not found any evidence to suggest that silver futures prices are being manipulated, either upward or downward. The mission of the market surveillance staff is to identify situations that might pose threats of manipulation in markets and to respond appropriately. Each day, for every active futures or option market, the staff monitors the activities of large traders, key price relationships, and all relevant supply and demand factors in a continuous review for potential market problems.<sup>4</sup> In performing its analysis, the staff looks for evidence of unusual or unexpected price movements or price relationships, or behavior by market participants that does not appear to be economically rational, such as making or taking delivery in the futures market when it would be more economic to do so in the cash market. Staff also looks at the accumulation of positions and market power among traders as contract months approach expiration. Staff's routine analysis of the silver futures market has not revealed any unusual price behavior or untoward trading activity by market participants.

The analysis below focuses on four areas that would be expected to reveal evidence of the existence of a downward manipulation of silver prices. These areas are: overall price trends and relationships; the composition and behavior of shorts in the silver market; the relationship between large short trader concentration and silver prices; and the relationship between short-side open interest and silver prices.<sup>5</sup>

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<sup>4</sup> A key piece of information gathered by staff is the position of large traders in the market. Each day, clearing members, futures commission merchants and foreign brokers must file electronic reports detailing the futures and option positions of individual traders based upon reporting levels set forth in Commission regulation 15.03(b) The current reporting level for silver is 150 contracts.

Each week, market surveillance economists prepare reports on futures and option contracts nearing their expiration periods. If a problem is detected or suspected in the market, the Commissioners are promptly notified and the relevant exchange is contacted to discuss staff's concerns and possible remedies to the situation. When indications of attempted manipulation are found, they are also referred to the Division of Enforcement, where attorneys investigate and prosecute alleged violations of the Commodity Exchange Act or the Commission's regulations.

A more complete description of the Commission's Market Surveillance Program can be found at [www.cftc.gov/industryoversight/marketsurveillance/cftcsurveillance.html](http://www.cftc.gov/industryoversight/marketsurveillance/cftcsurveillance.html).

<sup>5</sup> Silver commentators continue to maintain that the level of short futures open interest in the silver futures market, particularly among the top 4 and 8 traders, is unusually high compared to world production. These commentators often point to the fact that net short open interest far exceeds production as compared to other commodities, specifically with respect to agricultural commodities, crude oil and other metals (though not necessarily gold). The implication by these commentators is that short futures positions should be limited by price exposures linked to mine production. The 2004 Silver Letter addressed this concern in detail. The analysis concluded that the overall exposure to silver price changes far exceeds silver production due to large amounts of silver held in storage, both

## *Silver Prices*

Advocates of the short-side manipulation argument contend that silver futures prices have been manipulated downward for close to 25 years. What these advocates fail to indicate, however, is where prices should be, except to argue that prices should be higher than they have been currently or in the recent past. Economic theory says that, in free markets, prices will rise or fall to an equilibrium level that balances supply and demand. In the physical market for silver, this equilibrium price will be at a level where sellers, in aggregate, are just willing to supply enough silver to fulfill the demands of buyers at that price. If the price is higher than this equilibrium price, there will be more supply than buyers are willing to purchase and prices will tend to fall to induce more buying and less selling in the market. Likewise, if prices are lower than the equilibrium price, there would be an excess of demand for silver and prices would tend to rise to encourage more selling and less buying in the market.

With respect to the claims of silver commentators that prices are being suppressed, it should be noted that these commentators have never articulated a credible explanation as to why, for more than 25 years, buyers have not entered the market to purchase silver (at the supposedly depressed prices), thereby driving up prices to a level that these commentators believe is reasonable. In this regard, no barrier to entry has been identified that would prevent individuals or firms from buying cash silver or entering into long silver futures positions. One answer, of course, is that, in fact, the market is behaving rationally in that both buyers and sellers, individually and in aggregate, have been willing to freely transact silver at the prevailing prices.

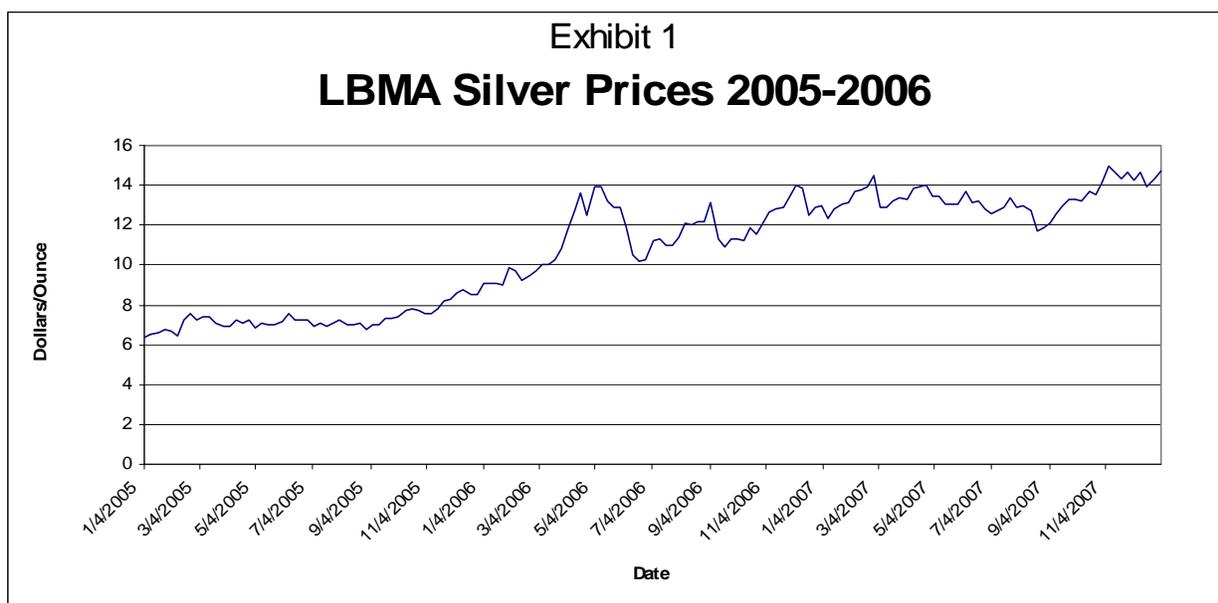
The specific claim by silver commentators that large short traders in the futures market have successfully depressed prices for more than 25 years is difficult to understand. Unlike physical markets, futures markets have a virtually unlimited supply of contracts. The only requirement to create a futures contract is a willing counterparty to enter into the other side of the contract. Futures prices move when there is greater interest in transacting on one side of the market than the other side. If the holders of large short futures positions were unwilling to sell any more futures contracts, a few buyers could easily push prices higher through their willingness to buy cheap silver. Thus, the large shorts would need to continuously add to their position to counter any buying pressure so as to keep prices low. At the same time, the shorts would have to resist buying back their positions, which would cause prices to rise, perhaps precipitously, since this buying would combine with normal buying activity in the absence of the shorts' selling activity. This situation contrasts with the physical markets where, for example, a monopolist or cartel may be able to increase prices by acquiring control over a significant supply of a finite commodity. Once in control, the monopolist or cartel would not have to acquire additional supplies. The argument that a small group of short futures traders could, or would,

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public and private. In this respect, it should be noted that the commodities that commentators compare silver to, such as milk, crude oil, wheat, sugar, soybeans, platinum and palladium, either do not have the storage life of silver or are not held in large quantities in private storage. Interestingly, these commentators note that gold, though to a lesser extent than silver, shares with silver a high short futures concentration to production ratio. As with silver, this is likely due to the large amounts of gold that reside in public and private storage. Because the 2004 Silver Letter dealt in detail with this issue previously, it is not repeated in this report.

continuously depress prices for more than 25 years through the continuous selling of futures contracts is not realistic and, as discussed below, is not warranted by staff's analysis.

In contrast to the silver commentators' allegations, an examination of silver prices over the past three years shows that silver prices have been rising—not falling—suggesting that shorts have not been able to maintain depressed prices. From the mid 1980s through the early 2000s, silver prices remained quite low and stable relative to prices observed during the late 1970s and very early 1980s. During the 1990s, for example, silver prices, with few exceptions, traded within a band of \$4 to \$6 per ounce. Beginning in 2003, however, silver prices began to rise. During 2004, when staff conducted its earlier review, silver prices traded in a range between \$6 and \$8 per ounce. Since the beginning of 2005, silver prices have risen dramatically. In this regard, Exhibit 1 shows that the price of silver on the London Bullion Market (LBMA) was just over \$6 per ounce at the beginning of 2005.<sup>6</sup> By the end of 2007, the price of silver rose to greater than \$14 an ounce and has recently traded above \$20 per ounce.

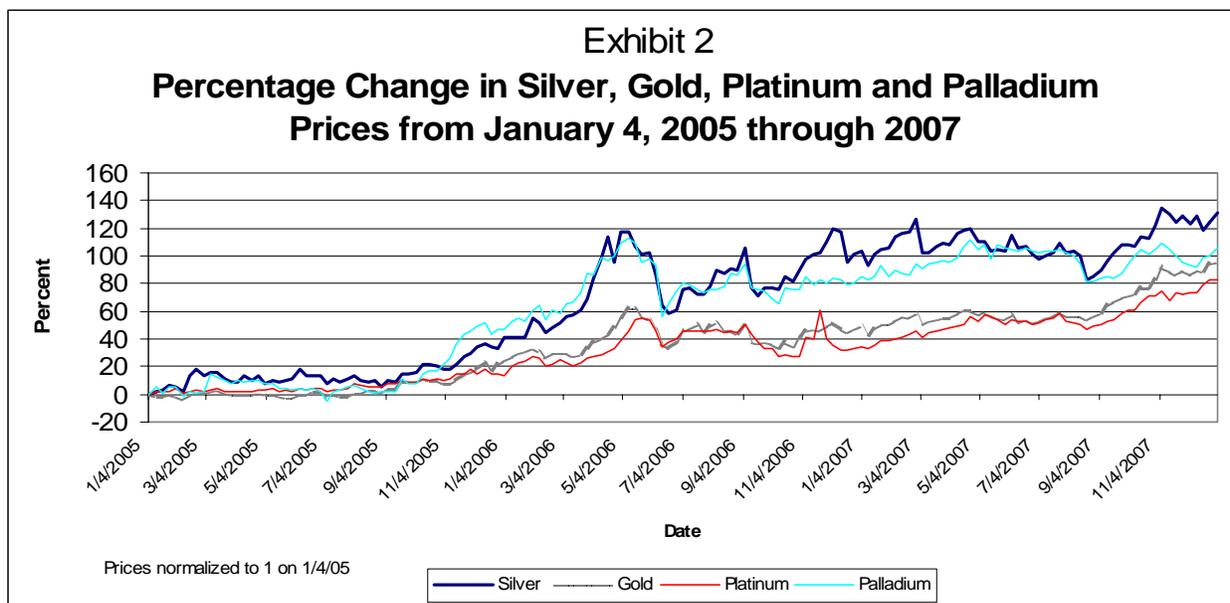


To put the rise in silver prices into perspective, Exhibit 2 below shows that the price of silver at the end of 2007 was about 130 percent greater than it was at the beginning of 2005. This compares with percentage increases in the price of gold of 95 percent, platinum 83 percent, and palladium 106 percent. Moreover, Exhibit 2 shows that the rise in silver and palladium prices over the study period was quite similar, while gold and platinum prices exhibited a closer relationship to each other. Even so, the prices of all four precious metals rose during the period.

<sup>6</sup> A cash price is used to assure that the price series maintains a consistent time component—i.e. that prices always reflect the spot price. Use of a futures price would inject a time component—i.e. a cost of carry element—that would vary with each price in the series. Later in this report the relationship between spot and futures prices will be explored.

The LBMA is the world's largest market for trading physical silver. It is a very liquid market, backed with large silver bullion stocks. Its price is considered to be the benchmark price for trading physical silver.

Given the similarities between price movements in these four metals, it appears that general market forces that have contributed to an increase in gold, platinum and palladium prices have also supported an increase in the price of silver. Moreover, the fact that the price of silver outperformed the prices of the other metals during the period, while not definitively answering the question of whether silver prices have been manipulated, calls into question the contention that silver futures prices have been manipulated downward. In short, there is nothing obvious in the silver price series between 2005 and 2007, when compared to other metals' prices, to suggest that silver prices have been manipulated downward.

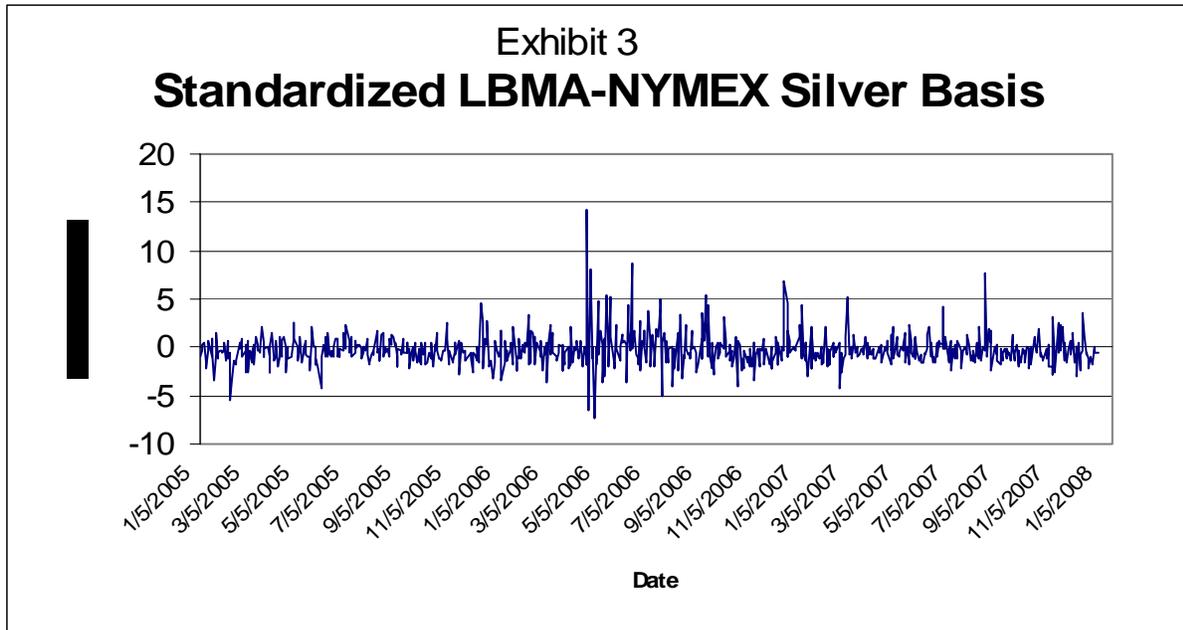


In addition to examining the outright price behavior, staff examined the relationship between the price of the nearby NYMEX silver futures contract<sup>7</sup> and the LBMA cash silver price. If the NYMEX futures price were being manipulated downward, one would expect to see the NYMEX futures price significantly below the LBMA cash price. Exhibit 3 shows the “standardized” basis between LBMA prices and the NYMEX price.<sup>8</sup> As can be seen in Exhibit 3, the NYMEX futures price tracks the LBMA price closely. For the period as a whole, the value of the standardized basis is slightly negative at  $-0.26\%$ , indicating that the NYMEX price averages slightly more than the LBMA price. Thus, for example, if the NYMEX futures price was \$10, the LBMA price would have on average been expected to be \$9.974. For the most part, the basis difference ranged between plus and minus 5% of the NYMEX futures price, although

<sup>7</sup> The nearby NYMEX futures price series is the NYMEX silver price in the delivery month closest to expiration, switching to the next delivery month when the delivery period on the futures contract is approached. For example, on January 22, 2007 the nearby NYMEX price is the February 2007 contract price. On January 23, 2007 the March 2007 contract price becomes the nearby NYMEX price.

<sup>8</sup> The basis is calculated as the LBMA cash price minus the NYMEX futures price. The basis is standardized by dividing the basis by the NYMEX price. This is done to correct the distortion in the basis caused by higher prices in the latter portion of the time series. Without such a correction the basis in the latter portion of the sample will appear higher than the beginning portion simply due to the existence of a higher price.

on a few occasions the basis was as much as 15% of the NYMEX price.<sup>9</sup> This analysis shows that there is not a downward bias in the NYMEX futures price vis-à-vis the LBMA price, which, as noted, is widely regarded as the benchmark value of silver in the marketplace.



### ***Trader Concentration***

An area that has drawn significant attention from silver commentators is the level of concentration among short traders in the silver futures market, as reported in the CFTC’s weekly Commitments of Traders (COT) reports. The COT report provides a breakdown of each Tuesday’s open interest for markets in which 20 or more traders hold positions equal to or above the reporting levels established by the CFTC. The report shows open interest separately by reportable and non-reportable positions. For reportable positions, additional data is provided for commercial and non-commercial holdings, spreading, changes from the previous report, percent of open interest by category, number of traders, and the concentration of positions held by the largest four and eight traders.

Silver commentators have argued that the four-trader net short position reported in the COT reports is unusually high and imply that it is indicative of an effort by a specific group of four or fewer traders to maintain low prices indefinitely. The commentators also imply that the futures positions held by these traders are “naked” in that they are not legitimate hedge positions or otherwise entered into to offset positions in the physical silver market. To evaluate this claim, staff examined the specific traders comprising the top four shorts and their overall futures positions, their motives for holding these positions, how the levels of concentration in the silver

<sup>9</sup> A closer inspection of this data point indicates that the size of the basis was due primarily to differences in the time that prices are established on the LBMA and NYMEX. In this case the NYMEX price dropped significantly after the LBMA price had been set. On the ensuing trading day the LBMA price adjusted downward, eliminating the difference.

futures market compare to those in similar futures markets (*i.e.*, gold, platinum, palladium, and copper), and the relationship between open interest concentration and the level of open interest held by these futures traders to changes in silver futures prices.

The analysis of open interest, collected daily from June 6, 2005 through January 16, 2008—a total of 659 days in the sample—indicates that the composition of market participants among the top four net traders is not static, though certain traders do appear in the top four significantly more often than others. For the period as a whole, there were a total of 10 different traders who at some point were counted among the top four in terms of their net short futures position.<sup>10</sup> Of those 10, three were present in the top four more than 50 percent of the time. The trader most often in the top four was usually ranked number two in terms of net position size among traders, when present. The trader present second most often was typically ranked fourth among the top four traders, and was never ranked first. Finally, the trader showing up third most often was usually the number one ranked trader, holding that position on 356 days of the 475 days in which they were present in the top four. Thus, the Commission’s large trader data shows that, as opposed to the allegation that four traders dominate the market by consistently holding a large concentrated short position, the top four traders at any point in time may involve any of 10 different market participants. Notably, these large traders are not always net short; of these 10 traders, four at times were among the top four net long silver futures traders. These data show that any scheme to manipulate the silver futures market would require involvement of up to 10 traders as opposed to the four that silver commentators suggest. This renders the allegation more implausible, as such a large diverse group would increase the difficulty and complexity of effecting concerted actions while ensuring discipline within the group.<sup>11</sup>

In addition, the top 10 traders are not monolithic and represent a wide diversity of business interests with diverse customer bases. In this regard, staff interviewed five of the largest traders that are included among the group of 10.<sup>12</sup> Based on these interviews and from the Commission’s records, the staff has determined that the entities in this group are involved in the silver markets as dealer/merchants, index traders, swaps/derivatives dealers, money managers, banks and silver depositories. Two of the five traders interviewed indicated the futures positions they entered into were to offset activity that they engaged in with customers situated in the physical silver markets. This activity included buying silver from producers and selling silver to consumers in various manufacturing industries. Few of the futures positions of these two traders represented proprietary trading of the firms. The remaining three traders were less active in the physical markets, but, nonetheless, they primarily established futures positions to offset other obligations, such as over-the-counter swap trades and other financially settled

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<sup>10</sup> By comparison, there were 14 traders in the gold futures market who at one time were counted among the top four net short traders. Of these 14, five traders also were in the list of the top four net short traders in the silver market.

<sup>11</sup> It should be noted that allegations regarding violations of the CEA or Commission regulations often come from parties within the industry, be they company insiders, disgruntled employees or competitors. In the more than 20-year period over which the silver commentators maintain that prices have been manipulated, the Division has not received a single tip or allegation from any of these sources that a conspiracy to manipulate prices downward has been taking place.

<sup>12</sup> Largeness was determined by both the frequency with which a trader appeared among the top four net short futures traders and by the average size of their position when they were in the top four.

contracts, that they had entered into with their customers. For each firm interviewed, their futures trading activities are driven primarily by the desires and needs of the firms' customers to either buy or sell silver or to assume or hedge financial exposure to silver prices.

The interviews also revealed that the customer base of these firms is large and broad. The customer base of the firms was estimated to range from 50 to hundreds of individual traders or firms. Those firms that tended to cater to clients in the physical markets tended to have smaller customer bases than those dealing in financially settled contracts. Of the traders dealing primarily in financially settled contracts, the largest customers of these traders tended to be hedge funds, who, depending on market conditions and trading strategies, take long or short positions against the trader.

The silver commentators tend to rely on the Commitments of Traders reports to portray silver shorts as a group of four—possibly eight traders—intent on suppressing prices. Underlying these allegations is an implicit assumption that those traders listed among the top four net short futures traders are always the same traders and that their futures trading activity represents proprietary decisions. The reality, however, is that there is a larger, more varied group of individual traders that constitute the top four net short traders over time. Moreover, as noted above, the positions of the large futures traders are, for the most part, driven by their customer base. These customers may be involved in buying or selling physical silver, or seeking a long or short financial exposure to silver prices. Little of the overall futures trading done by the five firms interviewed appears to be as a result of proprietary trading decisions of the firms. Thus, with respect to the traders' overall positions across all silver markets, the firms holding the largest net short futures positions are more-or-less market neutral.

The understanding that the largest net short silver futures traders have an overall neutral position in the silver market is confirmed by information collected by NYMEX relating to several of these large traders. In August 2007, NYMEX contacted several of the largest short silver futures traders requesting specific information regarding their activity in the silver cash and OTC markets.<sup>13</sup> The exchange found that these firms generally held significant forward purchase and sales agreements that, overall, left the firms with a net long silver exposure. The short futures positions on NYMEX were approximately offset by their long cash exposure. This means that, contrary to the silver commentators' allegations, the largest net short traders in the NYMEX silver futures markets are not "naked" shorts, as the firms' overall exposure in the silver markets (considering their futures, cash and OTC positions) is approximately neutral.

Silver commentators have also expressed a concern that the silver futures market is vulnerable to a major disruption should the four largest shorts either default on their obligations or be forced to liquidate their positions. Such a default or liquidation, they contend, would result in a large spike in silver futures prices.<sup>14</sup> For reasons explained below, neither of these scenarios is likely to occur.

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<sup>13</sup> Four of the firms contacted by NYMEX were among the five firms interviewed by Commission staff.

<sup>14</sup> Silver commentators have also expressed the opinion that a potential for severe disruptions in the silver market exists, should industrial silver users panic in an attempt to secure supposedly scarce supplies of silver. These commentators have noted that a recent spike in demand by retail silver investors has led to tight supplies in the availability of Silver Eagle Coins produced by the U.S. Mint. This tightness, however, appears simply to reflect a

In terms of controlling default risk, the clearinghouse of a futures exchange uses a sophisticated margining system to protect itself and to discourage traders from defaulting on their positions. To reduce the likelihood of a default, the NYMEX clearinghouse requires each of its clearing members to post margin against the positions it is clearing. These clearing members, in turn, require brokers to post margin to the clearing members, while brokers require their customers to post margin to cover the positions they hold open. The margin that clearing firms, brokers and customers are required to post is intended to cover losses on a position that might occur in a short period of time. If the equity in a customer's account drops to the level of what is known as the maintenance margin, the customer will receive a margin call to restore the customer's equity back to the initial level. Typically, margin calls are issued daily based on the settlement price of the contract. In situations where prices become very volatile, the clearinghouse may issue intraday margin calls. In addition, as prices rise or become more volatile the exchange will increase margin level requirements to cover the additional price risk inherent in a contract. The practice of placing upfront margin requirements on traders makes them less inclined to default on a contract because the margin they posted has already covered all or most of the potential loss on the contract. Moreover, if a customer fails to post additional margin, the broker has the right to take over the customer's positions and liquidate them as it desires to limit further losses.

The case of a sudden forced liquidation also does not appear to be likely, and if it occurred would not necessarily result in a sustained price rise. As noted above, the positions of the large net short futures traders generally offset cash and forward silver price exposures held by these traders. Thus, any rise in silver prices that would tend to reduce the value of the short futures positions would tend to increase the value of the firms' cash and OTC silver commitments. As a result, these traders do not currently appear to be under any undue market risk that would likely cause them to either default or unwind futures positions in a manner that would destabilize the futures market.

It is not clear where prices would settle following a sudden liquidation of the large short futures positions. Clearly, in the short-run, a massive unilateral liquidation of short futures positions would be expected to increase futures prices due to a strain on liquidity in the market. Over a longer period, the rise in prices would be expected to draw more sellers to the futures market, thereby exerting a downward pressure on prices. Of course, the liquidation of the large short futures positions would leave these traders exposed on the long side of the market due to their other non-futures commitments. Since these traders attempt to stay neutral in the market, the closing of their short futures positions likely would be accompanied by closing their long non-futures positions. The liquidation of those positions would create downward pressure on silver prices in the non-futures markets. Thus, in the short term, a significant liquidation of the

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spike in retail demand relative to the Mint's production schedule, rather than a sign that there is any shortage of silver available to produce coins. Moreover, the demand for silver to make coins and medals averages about 5% of demand for overall silver use. Given the large demand for silver in other industrial sectors, it is not clear why any shortage of silver would not have shown up in these other sectors as well. Thus, the conclusion that a production shortfall of certain silver coins is indicative of a general shortage of silver stocks appears tenuous.

large short futures position would likely cause prices to become more volatile, but not necessarily lead to higher overall prices.

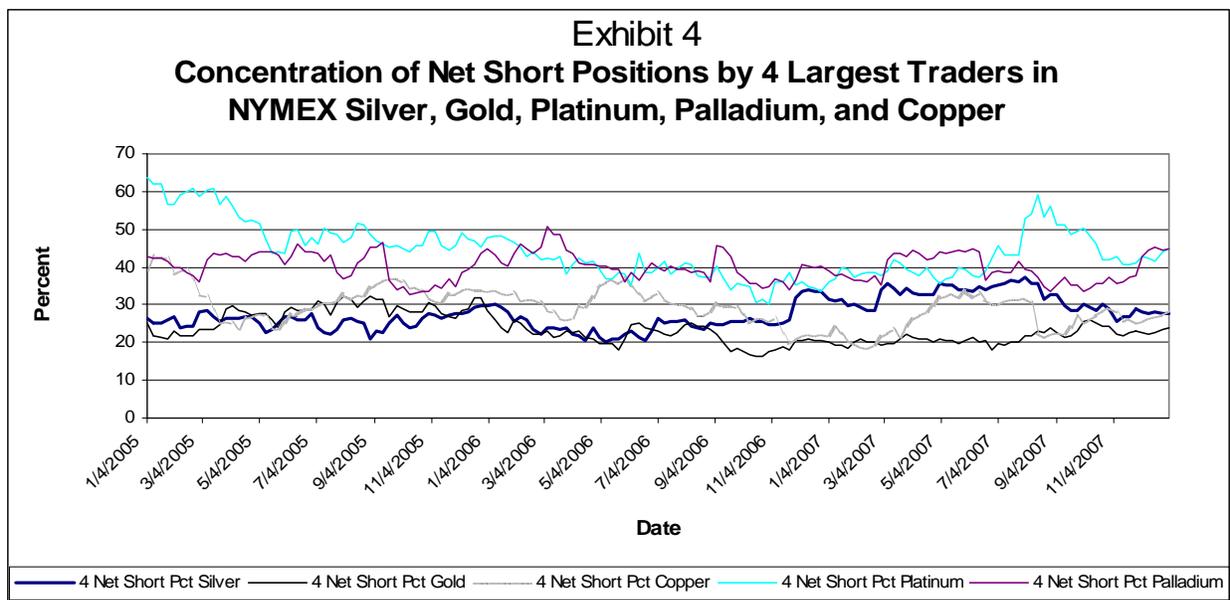
Silver commentators have compared the current position of the large net short futures traders to the long futures position of the Hunt brothers in the late 1970s and early 1980s, which they contend was significantly smaller in absolute terms than the aggregate position held currently by the large shorts. However, the current situation in the silver futures market contrasts sharply with the situation involving the Hunts when silver prices were very high -- caused in part by the Hunts' manipulative trading. In that situation, the Hunts held significant long positions in both the physical silver market and in the silver futures markets. As prices began to fall, the Hunts were forced to sell their physical silver holdings to meet the margin calls on their long futures positions and to sell futures contracts to attempt to stem their losses on their futures positions. Ultimately, the selling of silver in both markets led to a precipitous collapse in prices. By contrast, today, the net positions of the large shorts in the silver futures market appear to be market neutral, as opposed to the overwhelmingly long position held by the Hunts. Therefore, liquidation by the large shorts today would not be expected to have the same overall impact on prices that was experienced at the time of the Hunts' liquidation.

To see how concentration of short traders in the silver futures market compares to that in other futures markets, Exhibit 4 shows the weekly four-trader net short concentrations in the silver market along with that in the gold, platinum, palladium, and copper markets as reported in the CFTC COT reports. Overall, the concentration levels in the gold and silver futures markets are comparable, while copper, though exhibiting concentration figures at the same general level as gold and silver, tends to exhibit a more independent pattern from the two. Trader concentration levels for the platinum and palladium futures markets are consistently greater—and usually much greater—than the level of concentration seen in the silver futures market. As is clearly seen in Exhibit 4, short concentration levels in the silver futures market are not unusually high as compared to levels in the other metals futures markets, and, in fact, tend to be lower than the levels observed in the other futures markets.

In conclusion, in comparing the silver futures market to other metals futures markets, the level of concentration of short silver traders does not appear to be unusually high nor does it exhibit any unusual patterns that would suggest manipulation or illegal activity. Moreover, even though concentration levels in the silver futures market increased during 2007, this coincided with a period in which silver prices maintained their strength against other metal prices, as was seen in Exhibit 2.<sup>15</sup>

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<sup>15</sup> The relationship between concentration levels and price movements will be further examined in the next section.

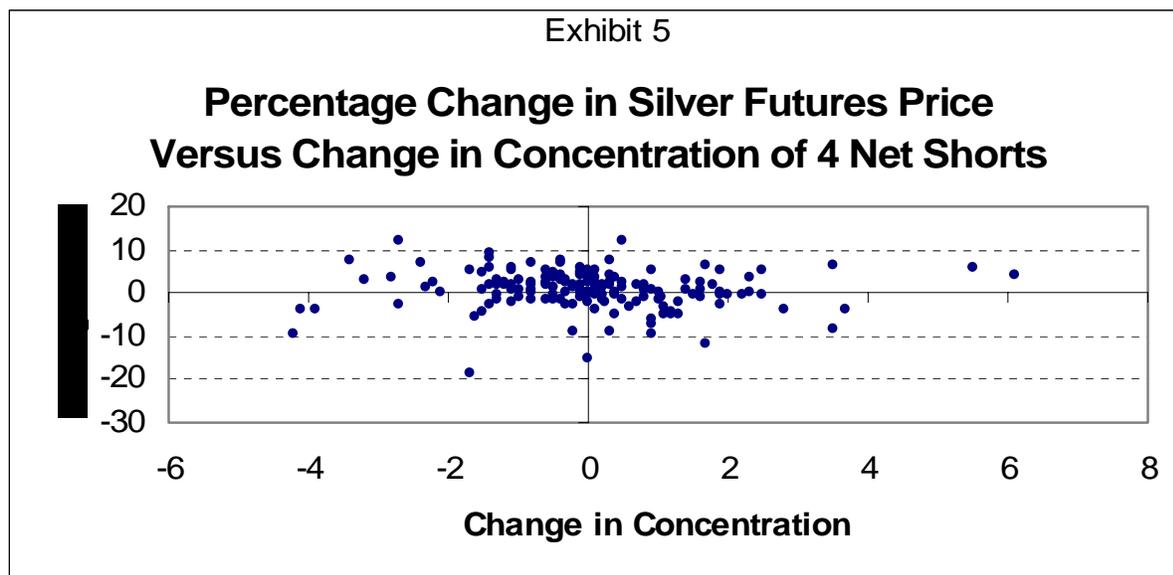


In addition to the observation that position concentration levels in the silver futures markets do not appear to be unusually high, it should be noted that, in and of itself, a highly concentrated short future position(s) does not necessarily raise concerns about potential manipulation. To the contrary, it is large or concentrated long positions that tend to be of greater concern, particularly where the position(s) of the traders is large relative to deliverable supplies. This is especially so where the long traders either control the deliverable supply or when those supplies are very limited. In such cases, it is possible that the large longs could hold deliverable supplies off the market while standing for futures delivery by the shorts. Such actions would tend to raise price levels for the commodity. In contrast, high levels of short futures open interest suggest possible manipulation when shorts threaten to dump unwanted supplies of a commodity onto the market through the delivery process. This usually results when contract terms are flawed so that there is a strong disincentive for longs to take the commodity on delivery since they cannot resell it at its economic value. There is no evidence that the terms of the silver futures contract are flawed, that long traders are averse to taking delivery, or that excess deliveries have been made in the silver futures market. Moreover, the silver commentators have not alleged that any of these occurrences has taken place.

***The Correlation between Concentration and Prices***

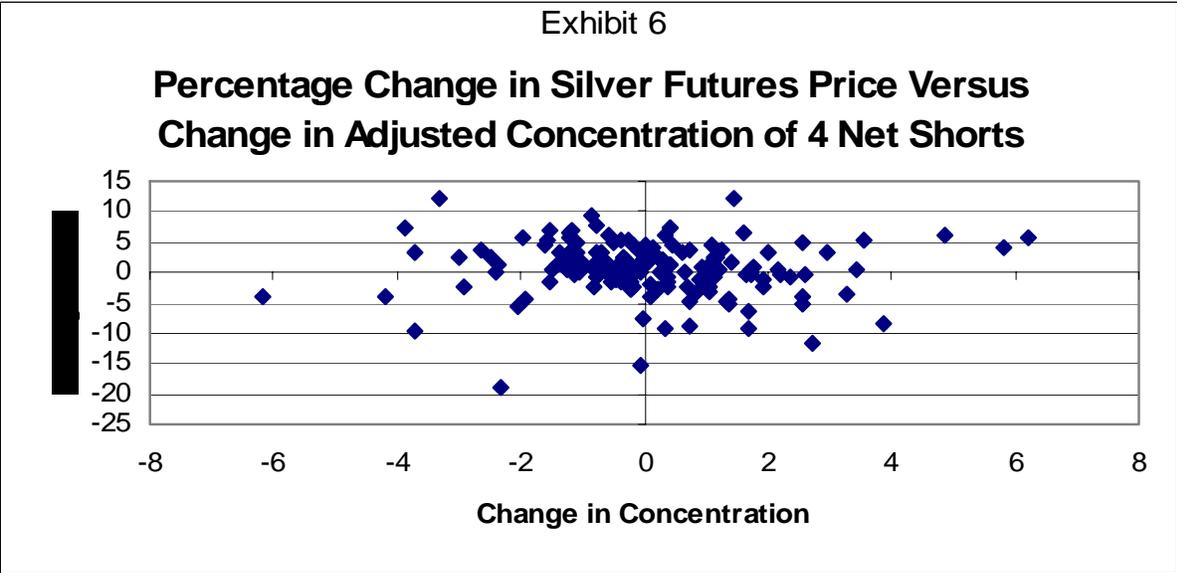
While the concentration levels of shorts in the silver futures market are not unusual, it is, nonetheless, informative to analyze whether the observed concentration levels have been associated with a downward bias in prices. To assess this, staff analyzed the relationship between silver futures prices and both the four-trader net short concentration level and the overall combined position of the four largest short traders in the market. In addition, silver commentators maintain that net concentration levels are underreported in the COT reports because spread positions are included in the overall open interest totals. To address this concern, the analysis also examines the relationship between an adjusted four-trader net short concentration level and silver futures prices.

Exhibit 5 contains a scatter plot of the weekly percentage price change in silver compared to the change in concentration of the four largest short traders. As the chart shows, there appears to be little, if any, relationship between changes in concentration levels and price changes. This is confirmed by a correlation coefficient of  $-.067$  between concentration changes and price changes.<sup>16</sup> Thus, four-trader short concentration levels appear to have had no appreciable impact on price levels.

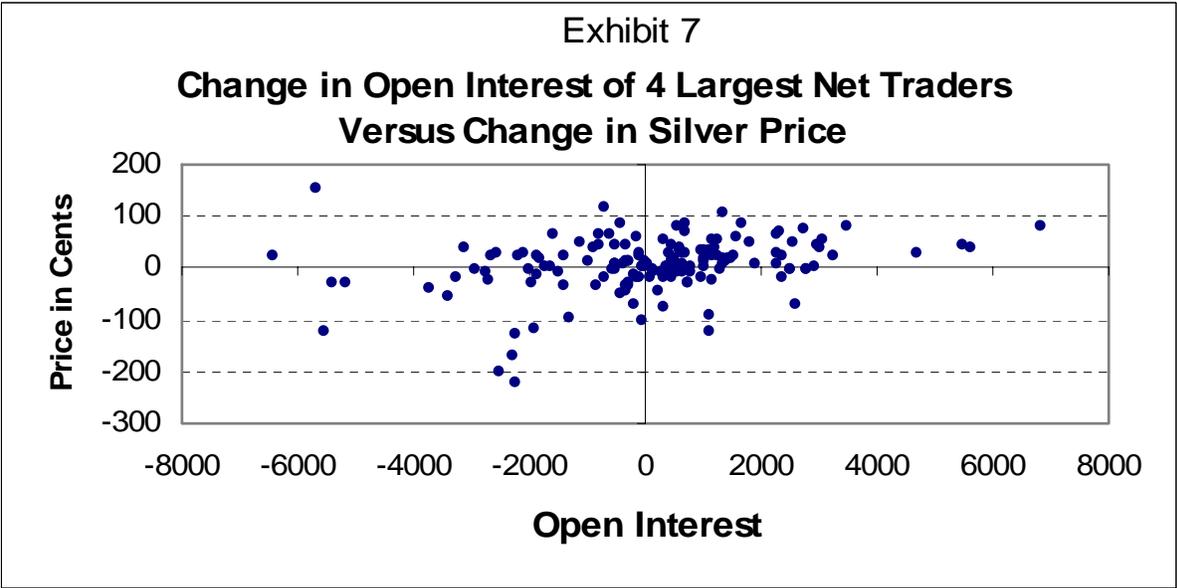


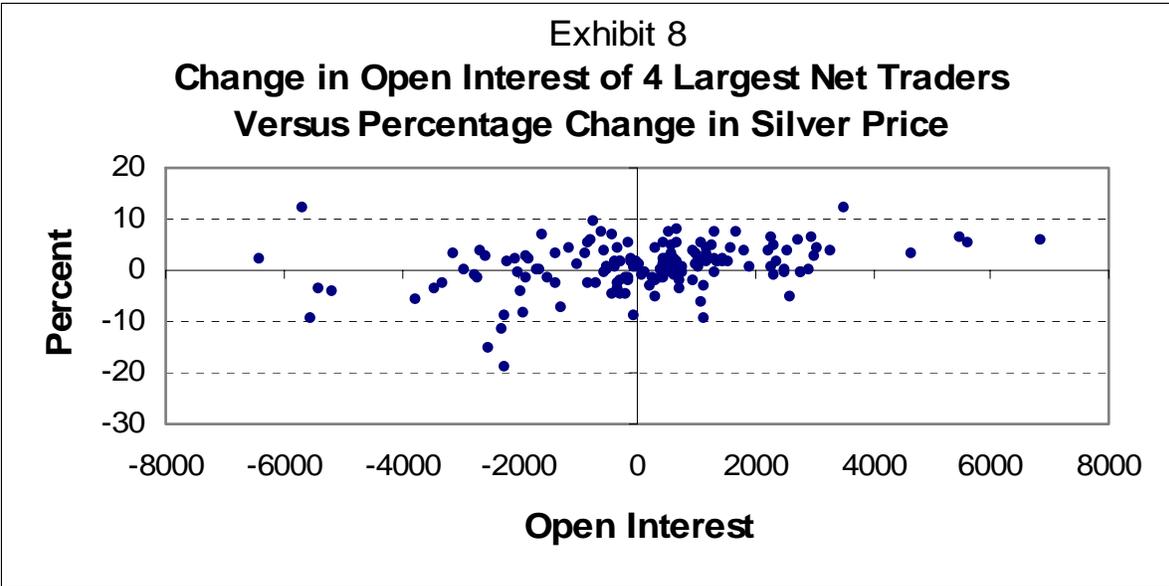
As noted above, silver commentators have argued that the concentration levels reported in the COT reports understate concentration levels because spread traders are included in the overall open interest totals. To control for this, the analysis above is repeated using adjusted concentration figures, where the open interest used to calculate concentration is reduced by the amount of the spread positions on each day. Exhibit 6 is a scatter plot of the adjusted concentration levels against the weekly percentage change in silver futures prices. As with the previous analysis, there is no apparent relationship between short concentration levels and price changes. A correlation coefficient of  $-.0052$  between the adjusted concentration levels and percentage changes in silver price confirms the absence of a relationship. Based on these analyses of concentration levels and prices, the conclusion must be drawn that no appreciable relationship exists between silver futures prices and short futures concentration levels.

<sup>16</sup> The correlation coefficient measures the tendency and direction by which two variables move with each other. A correlation coefficient of one indicates that the two variables move exactly together in the same direction. A coefficient of negative one indicates that the two variables move exactly opposite to each other. Finally, a coefficient estimate of zero indicates that the variable move independently of each other.



While short futures concentration levels do not appear to appreciably affect prices, it may be that the level of the futures open interest itself that is held by these traders could be related to price changes. To investigate this, a scatter plot of changes in the open interest of the four largest short futures traders from week to week against weekly changes in price is constructed. Exhibit 7 shows this relationship for outright price changes, while Exhibit 8 shows the relationship for percentage price changes. In each case there appears to be a slight positive relationship between the open interest held by the four largest short traders and prices. That is, the position of short traders increases as prices rise and decreases as prices fall. Estimates of the correlation coefficients confirm this, with the coefficient associated with outright price changes equal to .30 and that for percentage changes equal to .34. Thus, a larger overall position of the large shorts is associated with higher prices -- not lower prices.





**Conclusion**

As with the analysis of the silver markets in 2004, staff again concludes that there is no evidence to support the argument that silver futures prices are being manipulated downward. An analysis of price movements from the beginning of 2005 to the end of 2007 shows that, in fact, silver prices have moved significantly upward, rising on a percentage basis more than gold, platinum, or palladium. This upward movement is likely due to the robust nature of world economies and, perhaps, a decrease in the overall supply of silver in both observed and unseen stockpiles. Further, analyses of trader concentration levels and relationships between short open interest levels and prices also fail to reveal a significant downward influence on silver futures prices caused by short futures traders. Nevertheless, while staff has not found any evidence indicating that the silver futures market has been manipulated, or is being manipulated, downward, consistent with the silver commentators' concerns, staff continues its routine surveillance of the silver futures market, including daily evaluation of the positions of large traders, to detect and deter any illegal trading activity.