

Developments in the Hedge Fund Industry

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Ladies and Gentlemen,

Let me begin by thanking the organizers of the Finance Forum for the opportunity to be on today's outstanding program. It is not often that a Swiss central banker gets to speak after a Nobel laureate. Both the gratification and the risks involved in doing so are self-evident. I will enjoy the former and try to ignore the latter.

Adding value to the rich debate about hedge funds is a difficult task. It is generally recognized that hedge funds have made an important contribution to the transfer and diversification of risk through innovative asset management skills and techniques. They are a positive force in rendering global financial markets more liquid and therefore more flexible. My comments today will focus on those aspects of the hedge fund industry that strike me as particularly relevant with regard to the need to preserve and enhance liquid financial markets.¹

After some general remarks about hedge funds and the hedge fund industry, I will explore the question of whether hedge funds can materially influence market volatility. I will also refer to one of the key characteristics of hedge funds – the use of leverage – and examine how such leverage might affect overall financial market stability. Finally, I will offer some reflections on the regulation of hedge funds.

Definitions surrounding hedge funds and the hedge fund industry can give rise to confusion. In many ways, the word “hedge” has little definitional value.² Hedge funds are best understood as potentially leveraged private investment vehicles deploying a wide range of largely unconstrained investment strategies with the aim of achieving high absolute rates of return.

Hedge fund managers typically invest a share of their personal wealth in their own funds in order to align their incentives with the interests of the external investors. Hedge funds usually have a dual fee structure. The investor pays an annual management fee of 1% to 5%. In addition, most hedge fund managers charge incentive fees on capital gains. These

¹ A more detailed study on hedge funds will be published in the forthcoming Quarterly Bulletin of the Swiss National Bank (March 2005).

² Alfred Winslow Jones is credited for the creation of the first hedge fund in 1949. His strategy consisted in combining long positions in undervalued stocks and short positions in overvalued stocks, in an attempt to minimise the influence of overall stock market moves. To magnify his portfolio's return, Jones added leverage.

incentive fees vary between 20% and 50%. Many hedge funds impose investment lock-in periods of anywhere from one to three years. During these lock-in periods, principal and in many cases profits cannot be withdrawn.

During the last decade, the hedge fund industry has steadily grown in size. In 1990, there were an estimated 2000 hedge funds managing around USD 40bn. In less than 15 years, these numbers have increased dramatically. Current estimates suggest that approximately 7500 hedge funds manage assets totaling close to USD 1000bn (graph 1).³ Remarkably, according to the CSFB/Tremont Hedge Fund Index, there have been only a few quarters with net outflows since 1994.⁴ These figures demonstrate that the hedge fund industry has matured at an extraordinary rate and today constitutes a non-negligible component of the global asset management industry.⁵

Until the second half of the nineties, the hedge fund industry capital base was largely one of high net worth fortunes. Part of the acceleration of inflows throughout the second half of the nineties can be attributed to pension funds, endowments and other institutional investors who have begun to allocate small percentages of their asset base to hedge funds. More recently, funds of funds have become an important source of new inflows to the industry. The largest share of the industry's total client base continues to be private wealthy individuals either as direct investors or through funds of funds. Industry flows data suggest, however, that assets from institutional investors have recently grown more rapidly than the overall industry asset base.

A major factor contributing to the flows of new money into hedge funds has been the high relative rates of return (graph 2). The average return on the CSFB/Tremont hedge fund index over the past 10 years is 11%. Dividing the excess return over cash by the realized

³ According to Hedge Fund Research Inc., 7436 Funds managed USD 973bn of assets at the end of 2004. Other sources may come up with different figures.

⁴ The CSFB/Tremont Hedge Fund Index is the largest asset-weighted hedge fund index. The CSFB/Tremont Index is broadly diversified, encompassing around 400 funds across ten style-based sectors, and representative of the entire hedge fund industry. Assets included within the CSFB/Tremont Hedge Fund Index amounted to USD 615bn in September 2004. Performance is calculated net of fees.

⁵ Not included in these figures are significant pools of capital held in privately managed accounts run by hedge fund managers as well as capital managed by the proprietary desks of global investment banks. Though typically not formally structured around hedge fund vehicles, these assets closely mirror the investment activities of hedge funds.

return volatility, hedge funds achieved a Sharpe ratio of 0.8. This is high compared with the 0.2 achieved by equities and the 0.5 achieved by US bonds since 1994. Admittedly, such aggregate return data need to be interpreted carefully.⁶ Nonetheless, the available industry databases are useful in identifying broad trends within the hedge fund industry.

Hedge Funds and Market Volatility

Throughout the last twenty years, it has become conventional wisdom to associate hedge funds with extreme market volatility. The premise is that hedge funds push market prices temporarily away from their equilibrium, either in the short- or the medium-term. The traditional counter-argument sees hedge funds fundamentally as stabilizing market participants who identify arbitrage opportunities, take profits as these inefficiencies get eliminated and provide the market with liquidity.

A survey of available analytical work suggests it is difficult to conclude that hedge funds decisively and adversely affect market volatility. This raises the question of whether direct observation of market price action can provide us with additional clues. One area worth examining is the macro and the managed futures segment of the hedge fund industry where recent inflows have been substantial. A number of markets that hedge funds in these strategies are typically engaged in have recently become more liquid as demonstrated, for example, by the increase in turnover and rise in non-commercial positions in the gold and oil futures markets (graphs 3 & 4).

Market observations also suggest that many technically driven hedge funds appear to hold similar positions on the basis of trading systems, driven by related trigger points. At least ex-post, one might therefore expect to be able to identify crowded technical points in the market. Analytically, such points reflect moments of extreme market tension. An acceleration of an upward trend in prices, or a sharp reversal, can be a potential precursor to a new market equilibrium.

A combined review of speculative positions in the market place, news flows and various hedge fund performance figures provides tentative evidence that heightened market

⁶ There is no definitive source for hedge fund data. Most vendor databases collect data that hedge funds voluntarily disclose. Many large hedge funds that are closed to new investors do not report to the data vendors. In addition, hedge funds that perform poorly often stop reporting to the vendor databases as their performance deteriorates, leaving the series exposed to the problem of 'survivor' bias.

volatility can at times be related to clustering patterns in the hedge fund industry. The following example provides a potential illustration of this dynamic.

During the May to June 2003 period, speculative positioning in the US bond market appears to have been very long, based on the assumption that the Federal Reserve would have to cut interest rates below 1% because of deflationary risks. Long positions were further encouraged by market speculation that convexity hedgers such as Fannie Mae, Freddie Mac would eventually be forced to buy more duration and therefore drive interest rates lower. Ten-year Treasury yields promptly rallied more than 80 basis points until mid-June. This strongly trending market helped a number of hedge fund strategies generate exceptional returns during the month of May 2003. The combination of a smaller-than-expected 25 basis point interest rate cut by the Federal Reserve on 24 June 2003, together with a discernible turn in language in the accompanying FOMC statement, took the market by surprise. A sharp sell off in the bond market followed immediately. Generally negative hedge fund performance figures during the month of June are testimony to the gapping nature of the price movements following the Fed's interest rate decision.

It is important to point out that extreme care needs to be exercised when interpreting such examples. First of all, any number of factors can cause markets to move to new equilibrium points. Second, price action is often shaped by overall liquidity conditions in a specific market segment. Sharp price movements are more likely to occur in markets where trading activity is light. Third, the nature of market participants engaged at any particular time will impact the nature of price movements.

Analyzing price action is not a precise science. Indeed, I strongly suspect it never will be. Nonetheless, the previous example suggests that in some specific cases, it is at least plausible that large asset pools have recently been deployed in related strategies which have contributed to cases of heightened market volatility. Performance correlation figures in some hedge fund market segments lend some support to such a hypothesis.

The obvious counter-argument is that despite recent inflows, no hedge fund segment is large enough to materially affect price action in today's vast global market place. This argument may be too simplistic for two reasons: First, hedge funds across different strategy segments are often involved in similar trades. Second, it is not sufficient to evaluate the potential impact of various segments of the hedge fund industry by looking at the nominal size of the invested capital base. Market information, as well as survey data, suggests that the managed futures segment, for example, is significantly more leveraged than the overall hedge fund industry. As a result, the capital deployed in a number of

hedge fund segments can exceed by a wide margin what is suggested by the various providers of flow data. Merely considering the nominal asset base of a hedge fund strategy may significantly underestimate its potential impact. Leverage is therefore an important issue in any assessment of how hedge funds affect overall market conditions.

Hedge Funds and Leverage

In the aftermath of the 1998 LTCM crisis, the use of leverage by hedge funds was one of the central points in a wide range of industry and policy discussions. The basic premise was a simple one: The use of leverage is an important investment tool for hedge funds in their quest to generate absolute returns commensurate with their fee structure. At the same time, leverage can magnify market risk, credit risk and liquidity risk.

Given the rapid growth of the hedge fund industry, a natural focal point is the nature of the relationship between record industry inflows, diminishing returns and the potential use of excessive leverage. Again, the basic argument is a simple one: Elevated hedge fund investment returns in the past have tended to attract a large number of new entrants into the hedge fund industry. Increasingly, these new entrants and their activities tend to eliminate market inefficiencies which had, to a large extent, accounted for the past high returns. With diminished returns, hedge funds are finding it difficult to justify their elevated fee structure. In an attempt to preserve returns commensurate with their fees, hedge fund managers might be driven to resort to increasingly elevated levels of leverage.

The data on flows and returns suggest that at least some components of such a dynamic are currently at work. Record inflows to the hedge fund industry during the first quarter of 2004 have indeed been followed by unsatisfactory performances throughout most of the hedge fund industry during the second quarter of 2004. Leverage figures are much harder to assemble and to interpret than flow and performance data. The Bank of England recently concluded that overall leverage in the hedge fund industry had not markedly increased and remained moderate compared with the 1997-1998 period. On balance, however, it is not particularly useful to put too much stock in such cursory assessments of industry leverage. First, the data aggregation problem is significant. Second, leverage can evolve greatly over a short period of time. Third, and perhaps most importantly, there are different forms of leverage, some of which are unlikely to be captured reliably by any aggregate industry data.

The most basic form of leverage pertains to financial intermediaries such as global investment banks extending credit facilities to hedge funds to allow them to invest funds in

excess of their own capital base. Such credit facilities are usually at the root of industry-wide or strategy-specific estimates of leverage in the hedge fund industry. Following the collapse of LTCM, much of the regulatory discussion focused on this type of leverage by attempting to strengthen the relationship between financial intermediaries and hedge funds to improve counterparty risk management.

A second, more recent form of leverage in the hedge fund industry is related to the rapidly growing fund of funds industry. A number of fund of funds managers have begun to leverage their products by either using their own balance sheet or, alternatively, borrow credit facilities from other financial firms with large balance sheets. 2:1 leverage ratios are typical. In some cases, leverage ratios can be as high as 4:1. This form of leverage, though probably still limited, is unlikely to be captured by any industry leverage figures.

Finally, the most complex form of leverage that hedge funds employ is what I would refer to as instrument leverage. This type of leverage is embedded in the use of most kinds of derivative instruments. Extreme leverage could conceivably have systemic repercussions. The hedge fund industry and the investment banks trading with hedge funds no longer calculate and apply the leverage concept in the form it is traditionally used. Hedge funds define a target value at risk (VaR) or capital allocation to each position. Similarly, investment banks trading with hedge funds control the risks involved with the hedge funds by allocating to the fund a VaR limit. All open positions to the fund – mainly derivatives like futures, swaps, swaptions or forwards – are taken into account in the VaR limit. Offsetting positions are usually netted out. The size of the total position the hedge fund can build up is a function of the variables that determine the VaR, such as the volatility of the underlying asset or the correlation with other instruments. As a measure of risk control the VaR of the fund has to be covered with margins, mostly in the form of securities. Generally speaking, the investment banks apply the well known margin system of futures exchanges to the overall business with hedge funds. There exist additional safety procedures. As a result of a large draw down in the net asset value the VaR limit can be reduced automatically, forcing the fund to reduce or close out its positions. Nonetheless, it should be kept in mind that VaR measures have limitations – they reflect price behavior in normal markets and are not well suited for a stressed market environment. Moreover, many of the VaR-based margining models are highly sensitive to recent market data. In an extreme low volatility environment, collateral limits can therefore drop to very low levels which could ultimately impair the bank's credit position.

Hedge Fund Regulation

Against this backdrop, the rapid growth of the hedge fund industry has been accompanied by a noticeable increase in calls for additional regulatory oversight of hedge funds. Prior to engaging in a regulatory discussion, it is important to recognize two aspects: First, hedge funds are already subject to a wide range of indirect regulations. They operate in regulated financial markets, they utilize the infrastructure of regulated financial centers, and – most importantly – they deal with regulated financial institutions. Second, many hedge funds are already subject to direct regulatory requirements.

As far as the necessity for further direct regulation goes, it strikes me as useful to distinguish between three potential regulatory arenas: prudential matters, position reporting and leverage.

Prudential regulation is concerned with the commendable goal of eliminating fraud. Many hedge funds are already subject to registration with regulatory authorities. For instance, efforts undertaken by the FSA in London to ensure proper business structures as well as control and pricing processes have arguably diminished the fraud risks in the industry. For many institutional investors, registration appears to have become an important criterion in selecting hedge funds. I suspect there will ultimately be some need to clarify hedge fund managers' prudential responsibilities vis-à-vis different regulatory agencies operating in different jurisdictions.

Regulatory initiatives in the arena of position reporting strike me as misguided. Position reporting is at best an unrealistic proposition. At worst, it could undermine the integrity of financial markets. It is unrealistic because the timeliness and aggregation problems are virtually insurmountable in an industry which today represents nearly 25% of the total mutual funds industry in the United States. More importantly, it is potentially counterproductive because, amongst other things, position leaks could encourage behavior by market participants which is fundamentally incompatible with a market-based price finding mechanism.

The most complex potential regulatory arena concerns leverage in the hedge fund industry. Extreme levels of leverage are an obvious source of concern for central banks in light of the credit risk nexus between hedge funds and the global banking system. This credit risk nexus could become particularly precarious if a large scale credit crisis were to coincide with a global capital market liquidity crisis. Regulatory initiatives directed at

assessing the degree of leverage in the hedge fund industry should therefore not be dismissed ex ante.

Nonetheless, meaningful efforts to measure leverage in the hedge fund industry are bound to be undermined by complex aggregation problems not dissimilar to those prevalent in the arena of position reporting. Misguided regulatory initiatives will fail to accomplish what they set out to do and thus undermine the credibility of regulation. Ineffective regulation can ultimately undermine the competitiveness of financial centers.

These problems notwithstanding, the question of leverage in the hedge fund industry deserves further study. The primary focus should continue to be directed at the risk management operations and processes of the world's major investment banks. They are the primary trading partners of the hedge fund industry. They are also the most important providers of leverage to the industry. Since the LTCM crisis, the global investment banks have clearly strengthened their risk management operations. On the other hand, the hedge fund business has become a significant source of profit for the big banks. Competition in providing lending and brokerage services to the hedge fund industry is fierce. Some erosion of lending standards is a likely consequence of such an intensely competitive environment. In light of the previously discussed difficulties in measuring leverage, senior bank executives, risk managers and bank supervisors should be particularly vigilant in ensuring disciplined lending frameworks, fierce competition notwithstanding. If the leading global investment banks maintain adequate counterparty risk and liquidity risk management systems and operations, leverage in the hedge fund industry should represent but a marginal risk to the stability of the global financial system.

Fortunately, the global investment banking community is a small and concentrated one. Moreover, adequate bank supervisory structures exist and are currently being modernized. This should facilitate further study of the nexus between the risk taking of individual hedge funds and the risk management systems and processes within the world's most important financial institutions.

Conclusions

Free of narrow constraints embedded in traditional investment guidelines, hedge funds have been an important source of innovation in the asset management industry. Lucrative compensation structures have played an important role in attracting talented individuals to the industry. Admittedly, these same financial incentives have encouraged many lesser

talents to disguise themselves as hedge fund managers. I suspect, over time, investors will only be willing to pay prevailing hedge fund fees for truly outstanding managers.

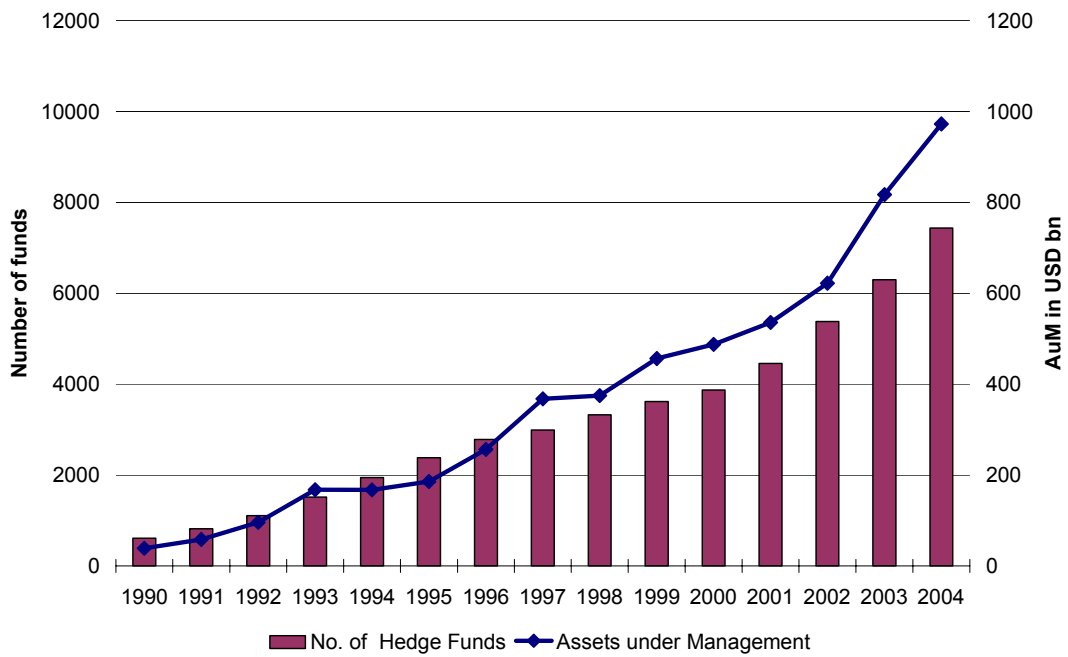
Hedge funds have rendered financial markets more liquid, more efficient and, ultimately, more flexible. Nonetheless, market observation suggests that in some specific cases, certain segments of the hedge fund industry may have recently had some impact on market volatility, either by accentuating existing market trends or by causing sharp price reversals or gapping price movements.

The use of leverage is a central characteristic of the hedge fund industry. Overall industry leverage is extremely difficult to measure. Market and survey evidence suggests that it is currently moderate. However, such leverage estimates must be interpreted with great caution. They are unlikely to capture the real extent of leverage embedded in the hedge fund industry. Leverage matters in a number of ways. One particular concern is that diminishing hedge fund returns in the aftermath of large capital inflows might motivate hedge fund managers to use extreme leverage to generate returns commensurate with the prevailing hedge fund fee structure. Systemic risks could conceivably result from such elevated levels of financial leverage, primarily through large credit risk transfers to the global banking system.

Ultimately, leverage combined with inept asset management strategies will lead to hedge fund failures. These are likely to occur in the future as they have in the past. It is not inconceivable that expansionary monetary policy and the resulting global liquidity boost provide fertile grounds for the rise and fall of hedge funds. In the event of hedge fund failures, investors – for the most part wealthy individuals – will lose money. In some cases, these amounts could be vast. Nonetheless, such losses have no bearing on the stability of the financial system and should be of no concern to policy makers. What financial and economic policy makers must be concerned with are hedge fund failures or hedge fund activities that undermine the stability of the global financial system. Prudent and disciplined risk management methods, operations and processes in the global investment banks provide the most reliable defense against an erosion of lending standards and the potentially hazardous consequences of the use of excessive leverage in the hedge fund industry.

Graph 1

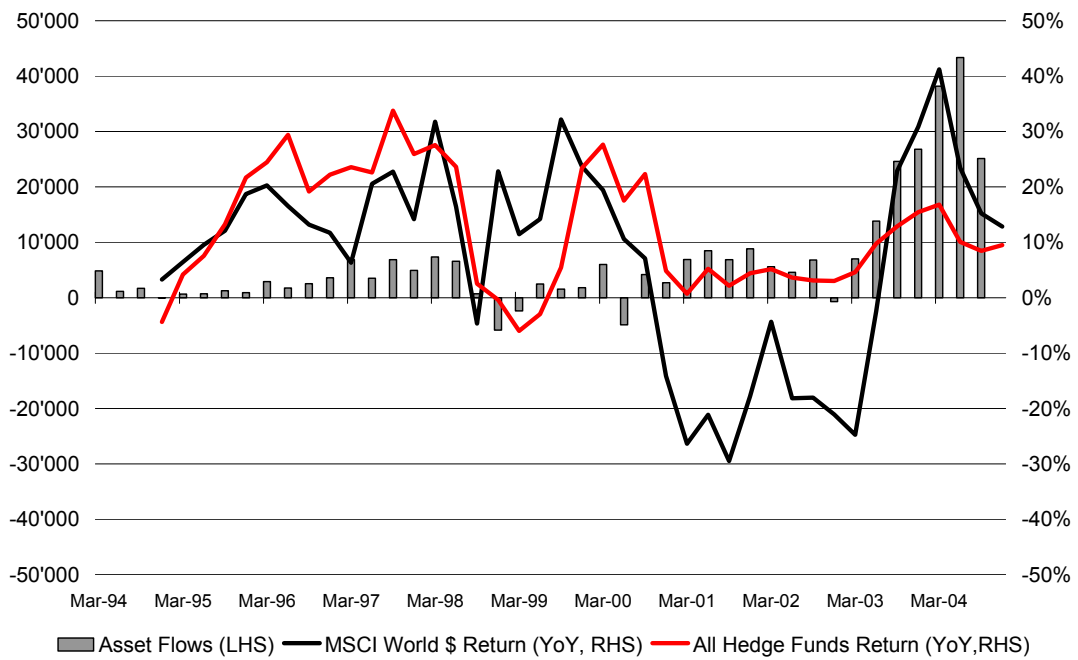
Number of Hedge Funds and Assets under Management



Source: HFRI

Graph 2

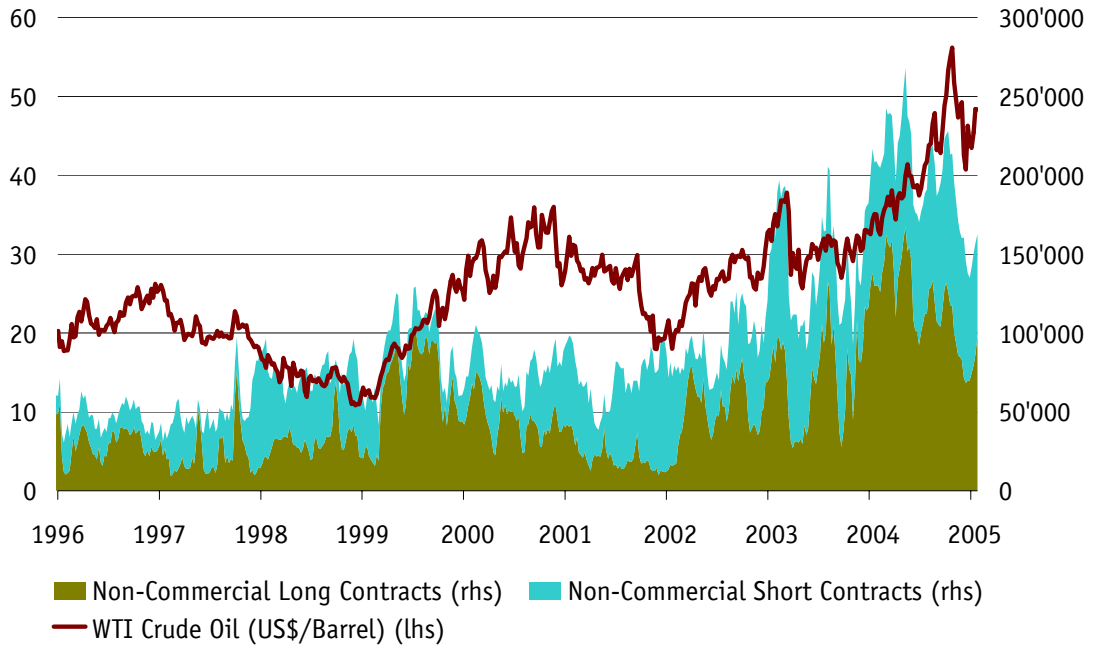
All Hedge Fund Assets Flows and Returns



Source: CSFB-Tremont

Graph 3

Crude Oil Price and Futures Contract Volume (NYMEX)



Graph 4

Gold Price and Futures Contract Volume (CMX)

