Prepared Statement for the Record

Before the U.S. Commodity Futures Trading Commission

March 25, 2010

Kevin Norrish, Managing Director of Commodities Research

Barclays Capital

I am Kevin Norrish and I am a Managing Director for Commodities Research at Barclays Capital, based in London. I joined Barclays Capital in 1998 as a Minerals Economist in the Commodities group with the remit to start up the firm's research for clients in the commodity markets. Prior to Barclays, I was with CRU International, a leading independent research consultant on metals and mining, responsible for research in the industrial metals market. I have been following the commodity markets as a research analyst for the last 22 years, and my expertise lies in both the energy and metals markets. For the past few years, I have also focused on the analysis of commodities as an asset class. During that time, I have witnessed the evolution of the futures markets as a tool for price discovery and risk management, and the rise of commodities as an investment for portfolio diversification and inflation protection.

I appreciate very much the opportunity to present my views to the U.S. Commodity Futures Trading Commission on current trends in commodity markets, with a particular emphasis on metals markets. I should note that I work in the research group at Barclays Capital, and like all of my conclusions, the conclusions presented herein are my own. The Commission is to be commended for its efforts to ensure that we have a full and informed debate on these important topics.

I have been asked to speak about a variety of topics related to the potential application of federal position limits in the metals markets; however, I think that my real role here is to speak about the elephants in the room... the questions of:

- Whether or not so-called "massive passive" investors exacerbate price movements in the metals markets
- Whether or not speculators distort price discovery in the metals markets
- The features of the metals markets which make exchange limits nearly impossible to implement
- What is driving price movements in the metals markets
- What positive elements of today's metals markets may be unintentionally forfeited through the introduction of position limits and the discouragement of investment in commodities markets

My overall message to you is straightforward. U.S. futures markets must continue to play a major role providing transparent and liquid means for discovering prices and hedging risks. Speculation is essential to allow commodity markets to achieve those public interests. Unwarranted limits on speculation will harm not just market liquidity but also the prospects for economic growth in the U.S. and around the world.

I have provided for the record, and attached to this statement, a series of charts and slides that address the key issues related to commodity investments and pricing in commodity markets generally and metals markets specifically. I hope these will be of assistance to the Commission. In this brief statement, I will try to distill out my key points from these slides. Of course, I would be happy to answer any questions you may have.

Investor Impact in the Commodities Markets

There are a number of misconceptions regarding investments in commodities markets which have clouded the debate:

- The scale of investment activity is often exaggerated based on inaccurate estimation methodology and misclassification of investment flows.
- Changes that occur in the value of commodity assets under management caused by variations in the price of the underlying asset are often mistakenly classified as investment flows into or out of the sector, inflating their size & volatility.
- Investment dollars and physical demand are confused when prognosticators misunderstand the structure of commodity investments, and investor absence during the period of physical delivery for the commodity. Futures market open interest held by index investors is often interpreted incorrectly as directly equivalent to the physical demand for a commodity.

Evidence suggests that the intuition of some of these prognosticators is the opposite of what happens in the market. No reliable evidence exists that index funds or related trading have had any measurable impact on prices.

- Investors tend to stabilize prices not exacerbate prices. Index funds buy when prices are trending low and sell when prices are trending high.
- Investor appetite appears to be growing with the commodities markets, not out-pacing them.
- Investor activity seems to be balancing the market, not making it unstable.

Speculation in the Commodities Markets

The question of speculation is a very difficult one because speculation occurs in all aspects of the market. The decision of producers and consumers to hedge or remove hedges, merchants' strategies to hedge inventory or throughput, and hedge funds' decision to engage in spread trading are all forms of speculation. As a research analyst, and not a trader, the only way that I can approach this question is to focus on whether or not the prices in the market reflect the fundamentals of producing metals (mining, refining and/or smelting, and bringing the finished product to market).

Today, commodity prices are driven by the world's supply and demand, not the current supply and demand situation inside the United States. In fact, there is more demand for commodities outside of the US than inside of it; thus, commodities can have an inverse relationship with the US dollar. I have been following the metals markets for 22 years and when I look at the trends in metals prices over the last 10 years, I see:

- The growing influence of China and India
- The under-investment in producing resources
- The increasing marginal cost of production
- The fluctuation of the dollar
- The insensitivity of demand

I do not see any price distortion as a result of speculation. The sheer weight of economic analysis supports this view. As other institutions, including the CFTC, HM Treasury, the IMF, the GAO, and IOSCO, have found in the energy markets, I likewise have found in the metals markets: fundamental factors have been behind price rises in the past few years.[1]

Barclays Capital has a team of 16 full-time commodity market analysts focusing on fundamental analysis and price forecasting. Our fundamentals-based price forecasts made in late 2007 broadly anticipated the big move up in metals prices in early 2008, though not the full extent of the downturn as the financial crisis worsened later on that year. However as fundamentals have recovered, prices for many metals have subsequently regained, or are returning to, the fundamentally justified levels we were forecasting in late 2008, before the financial crisis took a turn for the worse.

Hedge Limits & Unintended Consequences

Hedge limits would be particularly difficult to implement in the metals markets. Most metals markets started outside of the US, and while the US has evolved as an important venue for global price discovery, there is still substantial liquidity outside of the US.

- The primary benchmark for base metals is in London.
- Investor interest has meant that Gold and Silver liquidity has migrated to the US; however, that trend can easily reverse itself.
- The market position of Palladium, which has significant market activity in the US can easily be reversed and become that of Platinum, where US market activity is much more limited.
- While the US' demand for aluminium is second only to China, the COMEX aluminium contract was de-listed last year.
- The straight forward ability to buy physical metals and store them means that commodity investors in the metals markets can easily bypass exchanges.

The unintended consequences of position limits could be many and diverse. I have been in this industry long enough to have experienced illiquid, opaque markets which were ripe for manipulation. It is worth noting that one of the largest manipulations ever to take place in the global metals markets was perpetrated by a Mr. Hamanaka, who worked at an industrial firm, not at a hedge fund, and certainly not at a large, heavily regulated, US or UK financial institution. Over the last 10 years, metals and energy have migrated to more transparent, better regulated markets. However, the wrong implementation could drive both the metals and energy markets back into that more opaque territory.

[1] Please see the following reports: CFTC Inter-Agency Task Force on Commodity Markets – Interim Report on Crude Oil – July 2008; CFTC Staff Report on Commodity Swap Dealers & Index Traders – Sept 2008; HM Treasury Global Commodities: A long term vision for stable, secure and sustainable global markets – June 2008; IMF World Economic Outlook – Oct 2008; GAO Briefing to the House Committee on Agriculture on Issues Involving the use of Futures Markets to Invest in Commodity Indexes – Dec 2008; International Organization of Securities Commission's Technical Committee (IOSCO) Final Report – March 2009

Demand for physical commodities world-wide (especially from China and India) will continue to be strong in the foreseeable future, and supply will continue to be constrained. Huge capital investments will be needed to enhance supply. The IEA, in its 2009 report, estimates $25 trillion must be spent just in energy supply infrastructure between now and 2030. Given the vast scale of capital spending needs, deep & liquid commodity markets are essential to help facilitate the hedging of price risk inherent in those investments, stabilizing cash-flows to support financing and construction.

As commodity supplies become more inelastic, modest changes in commodity demand may be expected to continue to spark major price increases. Commodity price inflation is therefore a greater risk than ever before. For that reason, pension plans and other investors will continue to look to commodity investment vehicles as a means of diversifying their portfolios and managing the risk of inflation.

Investors seeking to hedge their inflation risks are providing much needed capital and liquidity, enabling better management by producers of their investment & price risks, and ultimately a more balanced market. Commodities markets, unlike the deeper and more liquid equity and bond markets, experience periods of illiquidity due to natural asymmetries in the timing and scale of producer and consumer hedging; producers must hedge large volumes over long periods of time to facilitate investment while consumers typically look at much shorter time-frames and smaller volumes. Swap dealers perform a critical risk-warehousing function in these markets to address this natural mismatch, providing long-term liquidity where there would otherwise be none, even for very standard products such as oil and natural gas. Likewise, the data suggests that commodity investments play a valuable role in offsetting producer short positions and are helping to smooth price volatility that this natural asymmetry engenders.

The short hedgers and long investors provide liquidity for each other by using the futures markets to serve their respective interests in an open, transparent and efficient manner. Liquidity will be essential to make sure each can achieve their objective at an efficient price. Artificial limits on that liquidity should not be imposed. There are numerous ways to further the objectives of enhanced transparency and reduced systemic risk that do not involve reductions in much needed liquidity.

In precious metals, producers need investors even more. The balance of commercial market activity in precious metals markets is more heavily skewed to producers than consumers than in most other commodities. This reflects that even though there has been a trend for gold miners to reduce their portion of hedged output recently, producers tend to be much larger than consumers with still significant price risk management/hedging requirements. In contrast the consumer sector is characterised by a very large number of small market participants. Swap dealer and managed money futures market participants therefore play an even more important part in providing an offset to precious metals producer risk management activity than is the case for most other commodities.

For these reasons, I would urge the Commission not to impose limits on speculation and liquidity in U.S. metals futures markets. Based on my analysis, any such limits would likely result in more price volatility, higher prices, less efficient hedging, less investment in commodity assets, and consequently, slower economic growth world-wide.

Commodity Investments & Their Beneficial Impact on Commodity Markets

Kevin Norrish

Barclays Capital Commodities Research

Prepared for CFTC Public Meeting to Examine Futures & Options Trading in the Metals Markets, March 25 2010

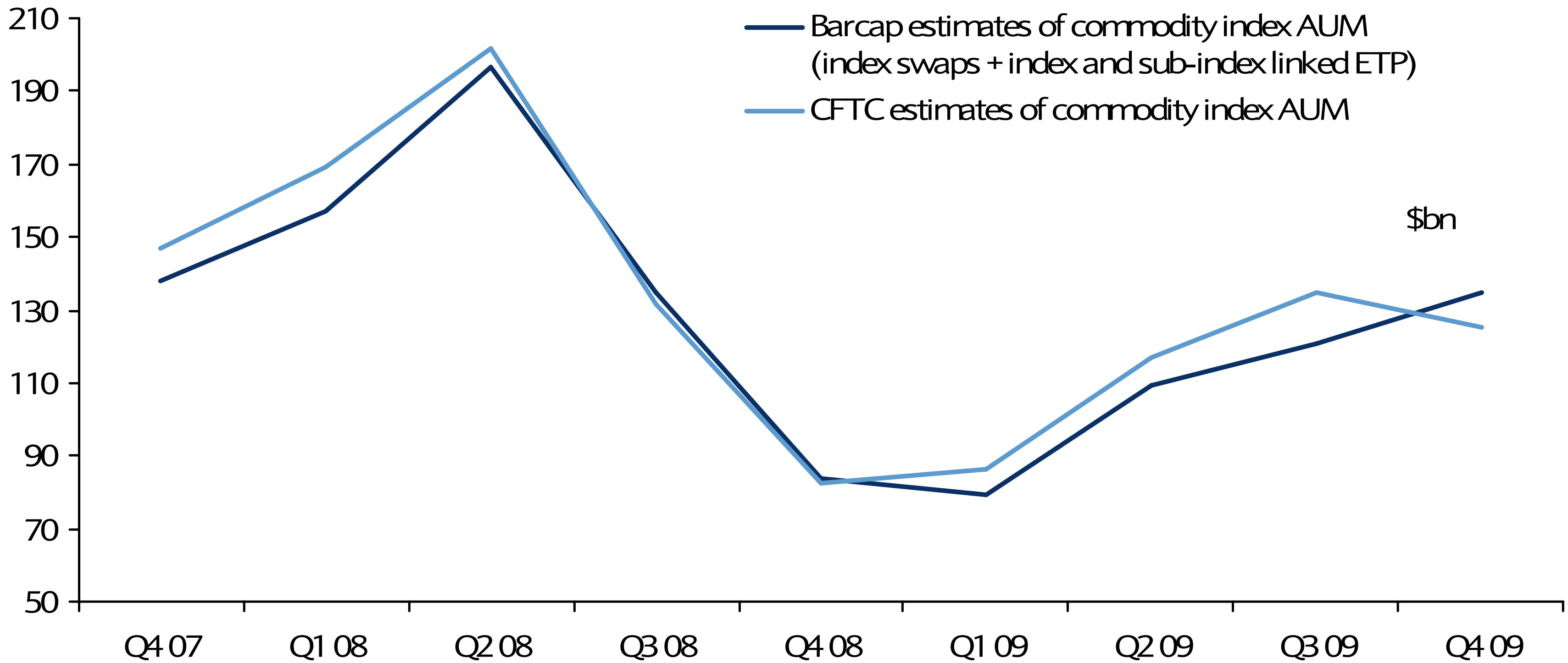
BARCLAYS CAPITAL

Some debate on commodity investments has been based on fiction, not facts

- *The scale of commodity investment activity & its impact is often exaggerated, based on inaccurate estimation methodology & misclassification of investment flows*
- *Changes that occur in the value of commodity assets under management caused by variations in the price of the underlying asset are often mistakenly classified as investment flows into or out of the sector, inflating their size & volatility*
- *Futures market open interest held by investors is often interpreted incorrectly as directly equivalent to the physical demand for a commodity & its impact on prices misunderstood*
- *There is a risk that without a proper understanding of the nature, scale & essential role played by commodity investment activity in offsetting producer risk, any policy measures that seek to limit it could have extremely damaging consequences*
- *Misguided intervention risks interfering with the efficient transmission of price signals to commodity producers, reducing market liquidity & potentially slowing the rate of investment to below the levels required to meet expected future demand. The result could be tighter markets & even higher/more volatile commodity prices in future*

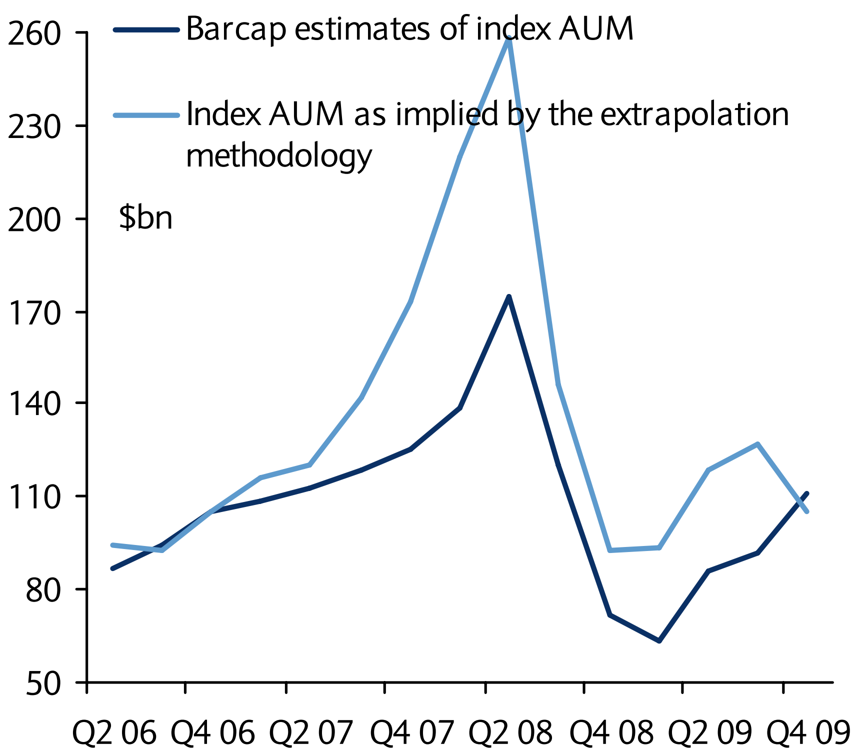
The need for accurate data

In an invaluable initiative to improve market transparency, the CFTC have recently started to publish quarterly index investment data. The Barclays Capital Commodities Research Team has been tracking commodity investments for several years. Our own estimates correspond extremely closely with those of the CFTC, despite being estimated differently, using information from market sources. Both methods show the value of total commodity index investment is a long way below its peak in 2008.

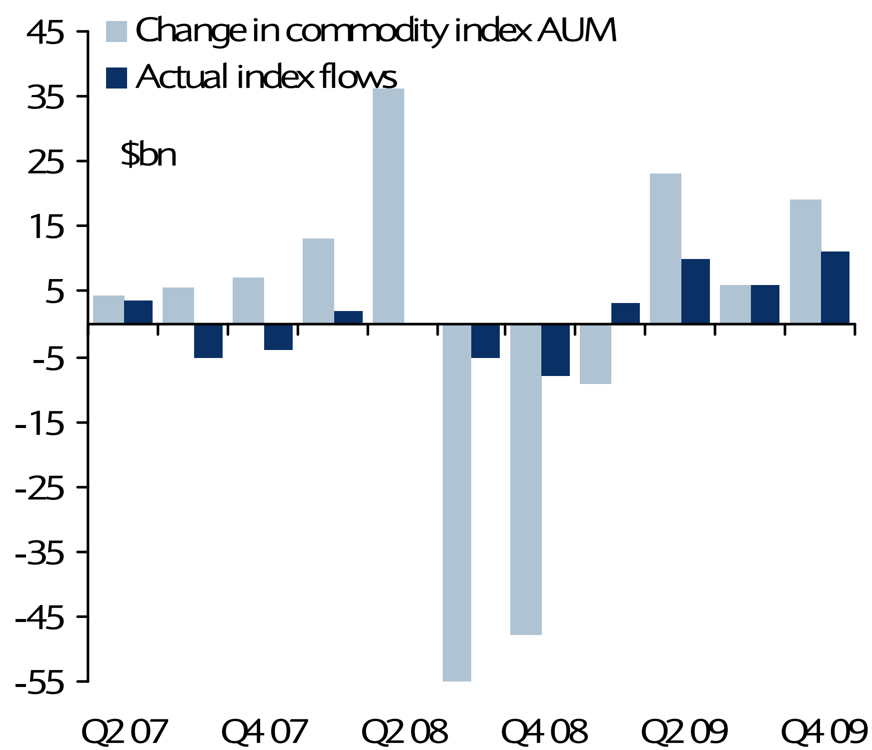


Misclassification exaggerates the scale of investment flows

Scaling up of overall investments from agricultural futures positioning data results in misleadingly high estimates of total index positions



Confusing changes in AUM with actual flows in & out of commodities makes the scale of investment activity appear much larger than it really is

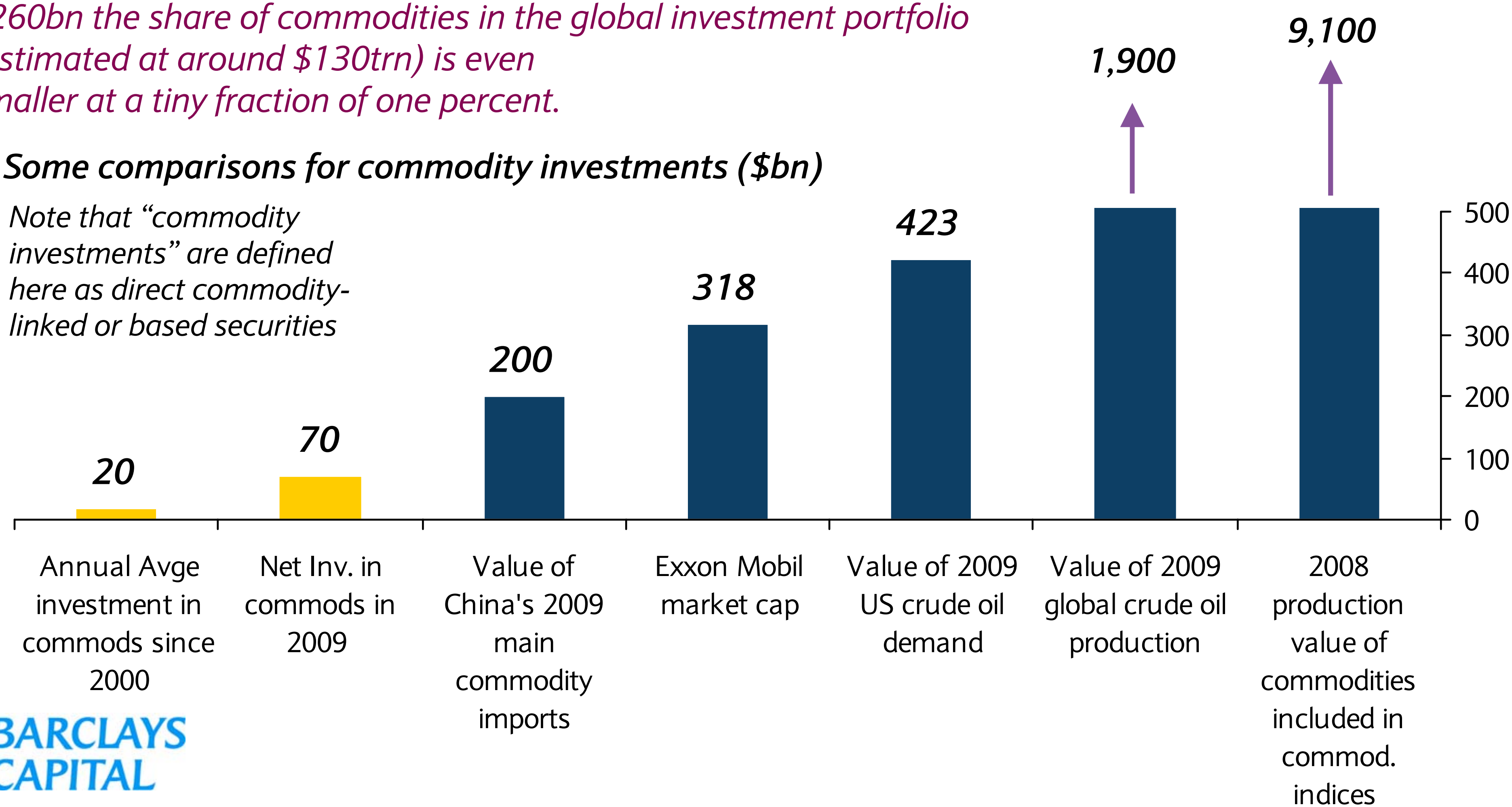


Commodity investments are comparatively small

By any comparative measure commodity investments are extremely small. On average around $20bn has been invested in commodities annually since 2000. This compares with an estimate of the annual total production value of commodities included in indices of around $9.1trn in 2008. The annual value of commodity investments is therefore just a fifth of 1% of the physical market. With total AUM of around $260bn the share of commodities in the global investment portfolio (estimated at around $130trn) is even smaller at a tiny fraction of one percent.

Some comparisons for commodity investments ($bn)

Note that "commodity investments" are defined here as direct commodity-linked or based securities



Commod. investments are not disruptive of futures markets

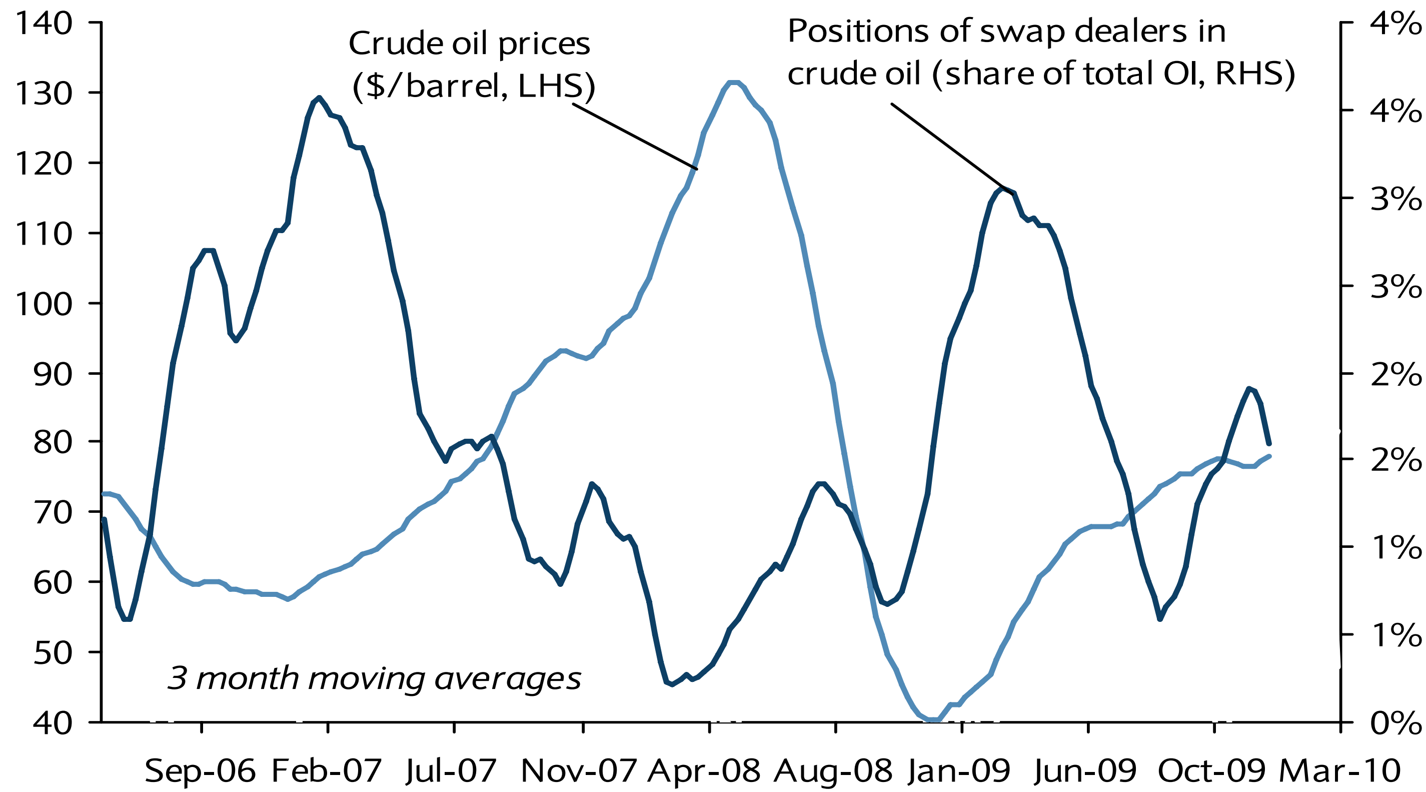
The modest scale of commodity investments means they are not capable of distorting the relationship between prices & fundamentals as some have claimed. Hedging of index positions accounts for only a small share of open interest in most commodity futures markets & is even smaller in its share of traded volumes since positions are typically rolled only once a month or less. Relative to the value of global output, index positions are also very small. Indeed as the need for financing & risk management continues to grow, commodity markets need more investment activity & the liquidity it brings, not less.

Market	Share of index in futures market open interest	Share of index in monthly futures trading volume	Size of index positions relative to annual value of global production	Exchanges referenced in this analysis
Unleaded Gasoline	18%	2.2%	1%	NYMEX
Brent Crude	17%	1.7%	0%	ICE
WTI - Crude	15%	2.5%	1%	NYMEX
Heating Oil	13%	2.0%	0%	NYMEX
Natural Gas	13%	4.6%	1%	NYMEX
Nickel	12%	2.0%	5%	LME
Gasoil	11%	1.5%	0%	ICE
Zinc	10%	1.4%	7%	LME
Aluminium	9%	1.5%	3%	LME
Lead	9%	1.1%	2%	LME
Silver	9%	1.0%	9%	COMEX, LBMA, TOCOM
Copper	7%	0.9%	4%	LME, COMEX (OI only)
Gold	6%	0.4%	5%	COMEX, LBMA, TOCOM

Notes: The approach in this analysis has been to focus on the size of investor positions relative to those futures markets in which positions are mainly hedged. However there are a number of other large commodity exchanges (e.g. the SHFE in China) where there is significant trading volume in several of the commodities examined here. Though we have not done so, inclusion of these exchanges would further reduce the shares of index positions in total futures volume and open interest.
Value of production calculated using supply and average prices in 2008

Commodity index investment is a stabilising influence on prices

Investors allocate only a certain small portion of their portfolios to commodity price exposure for portfolio diversification. So when prices rise they need to need to sell their commodity investments as they push up against their self-imposed portfolio limits. Since investors seek balanced diversification they tend to behave in a way that goes against the price trend, reducing exposure when prices are high and increasing it when prices are low. This behaviour is visible when examining the relationship between swap dealer positions in the oil market and oil prices, which show a clear negative correlation as in the chart below.

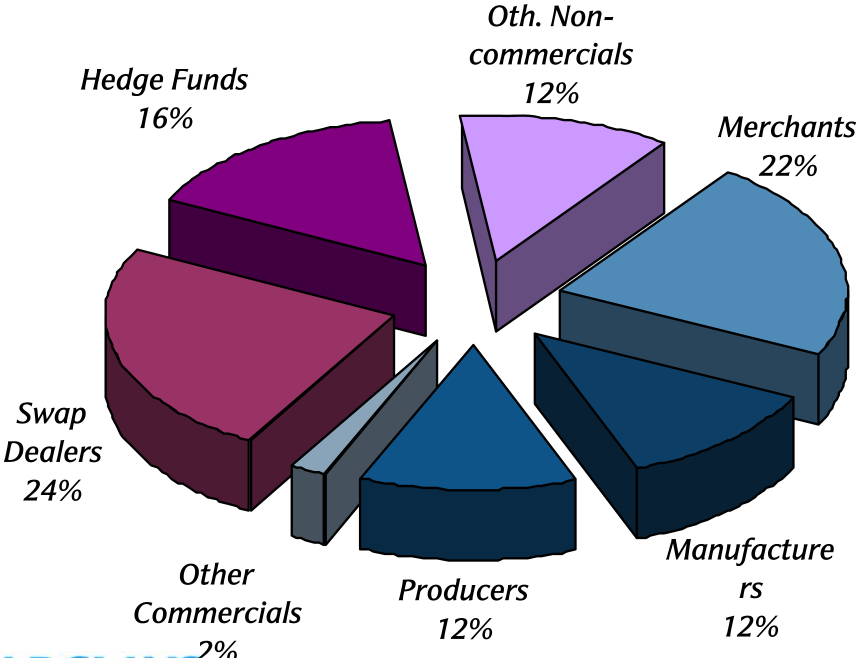


BARCLAYS CAPITAL

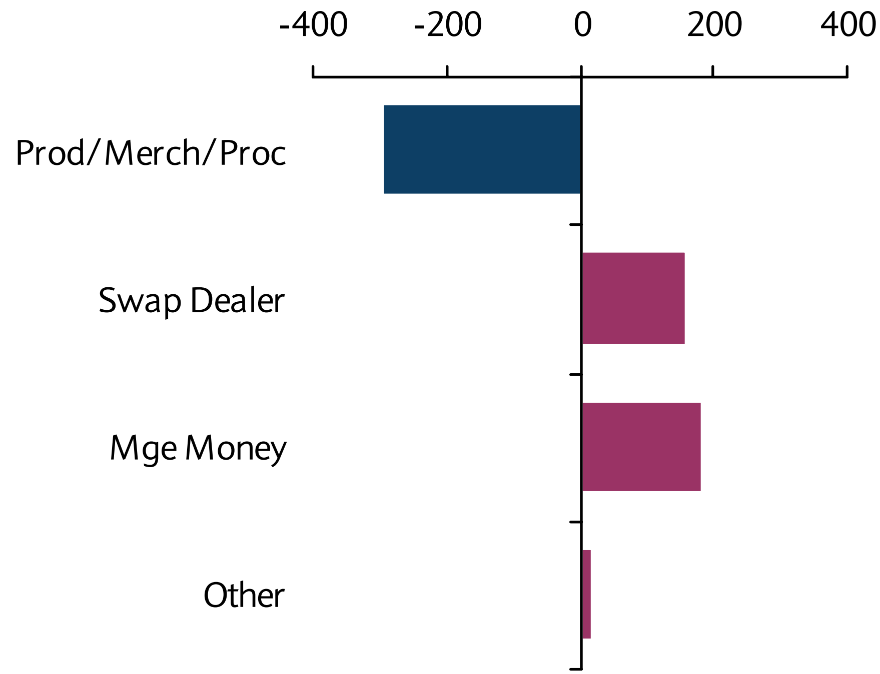
Investors' share of commodity markets are balanced

In 2007 the US CFTC published an analysis of the composition of market participants in NYMEX crude oil futures. In the charts below "non-commercial" and "swap dealer" participants are highlighted in purple shades, commercial participants in blue. In 2006 swap dealers and other "non-commercials" accounted for around 50% of oil futures OI. Currently swap dealer and managed money net length is roughly equivalent to the producer/merchant/processor net short. So there appears to be a healthy balance at present between financial and non-financial market participants in commodity futures markets.

Share of various market participants in crude oil futures open interest in 2006

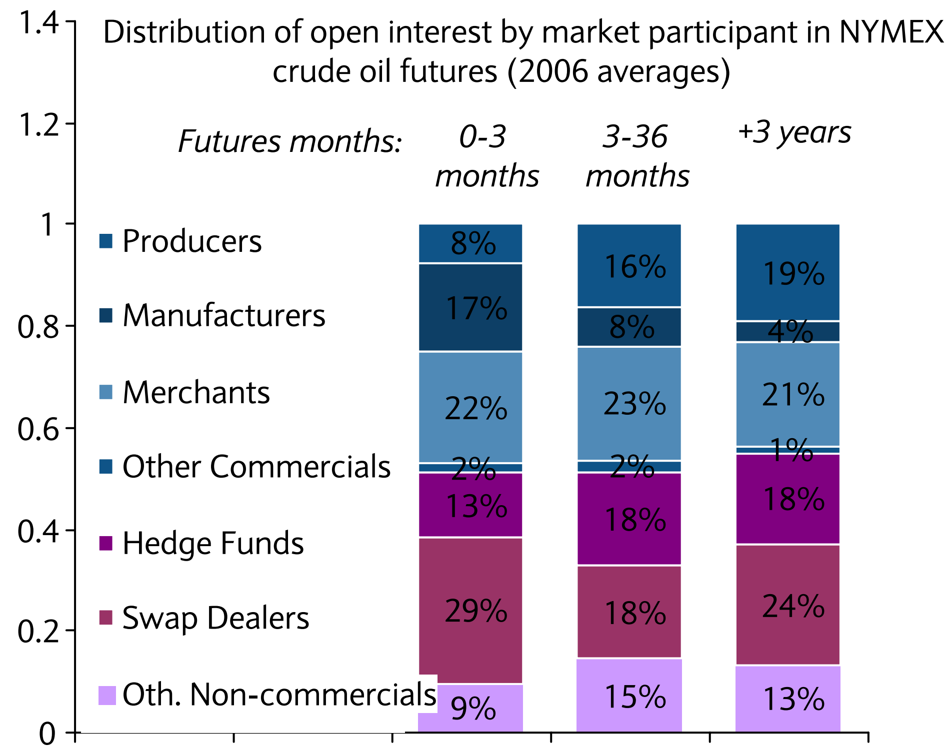


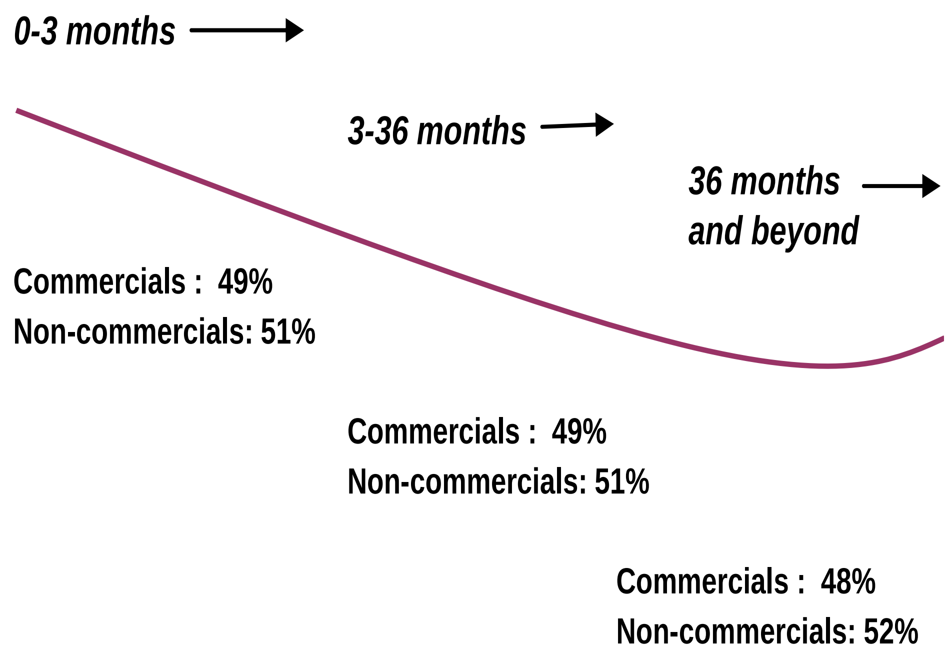
Current positions in ICE and NYMEX crude oil contracts ('000 lots)



Investor positioning: the example of oil

The CFTC study of 2007 also examined the distribution of types of market participant at different points on the curve. The findings suggest a fairly even distribution between investors and industry participants across most of the forward curve for oil.

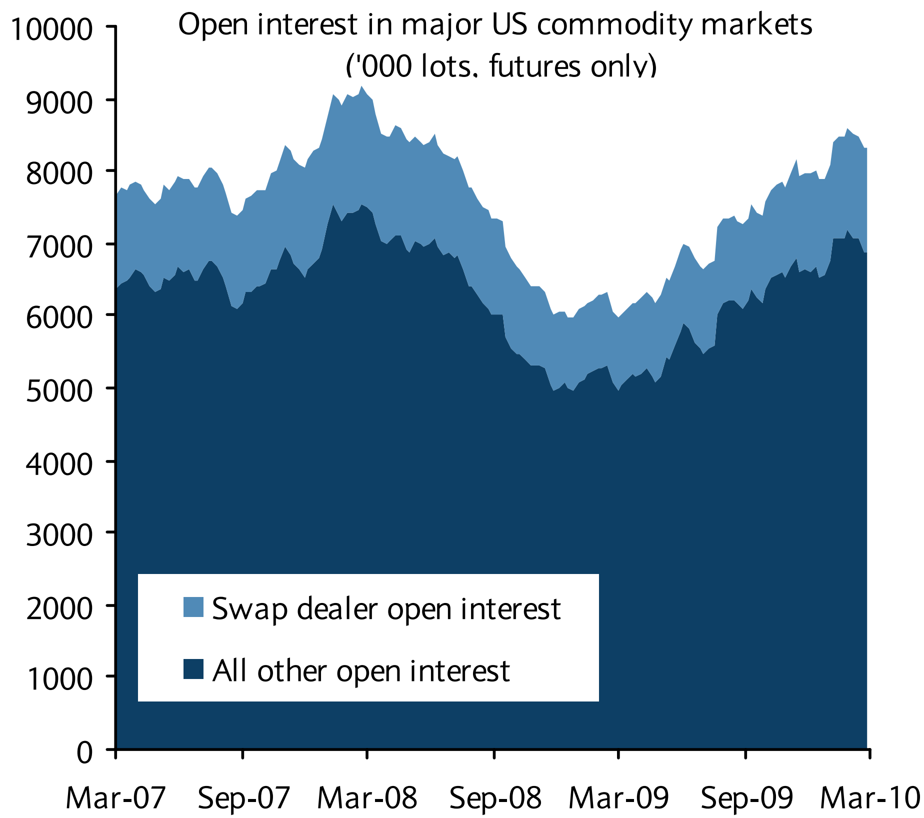




BARCLAYS CAPITAL

Index positions tend to be relatively stable

Index positions account for very little of the variation in total open interest



As a % of open interest, these positions are extremely stable

BARCLAYS CAPITAL

Independent investigations find no evidence that speculators impact prices

A selection of recent reports that have found no evidence of commodity investments driving prices

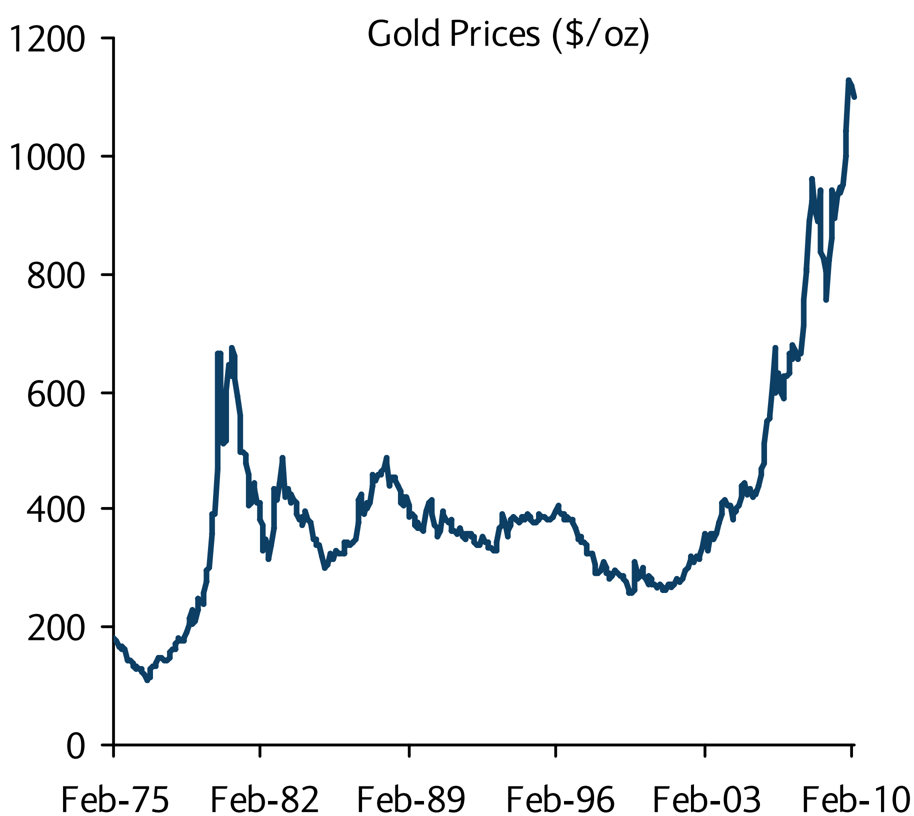
- *CFTC Inter-Agency Task Force on Commodity Markets – Interim Report on Crude Oil – July 2008*
- *CFTC Staff Report on Commodity Swap Dealers & Index Traders – Sept 2008*
- *HM Treasury Global Commodities: A long term vision for stable, secure and sustainable global markets – June 2008*
- *IMF World Economic Outlook – Oct 2008*
- *GAO Briefing to the House Committee on Agriculture on Issues Involving the use of Futures Markets to Invest in Commodity Indexes – Dec 2008*
- *International Organization of Securities Commission's Technical Committee (IOSCO) Final Report – March 2009*

> ***"investment activity in the financial markets is not driving prices…It is more likely that wider uncertainty about fundamentals in the commodities market and tight supply conditions are driving price levels and volatility in the market"***
> ***HM Treasury, June 2008***

BARCLAYS CAPITAL

Recent price trends in gold and silver markets

Gold prices



Silver Prices

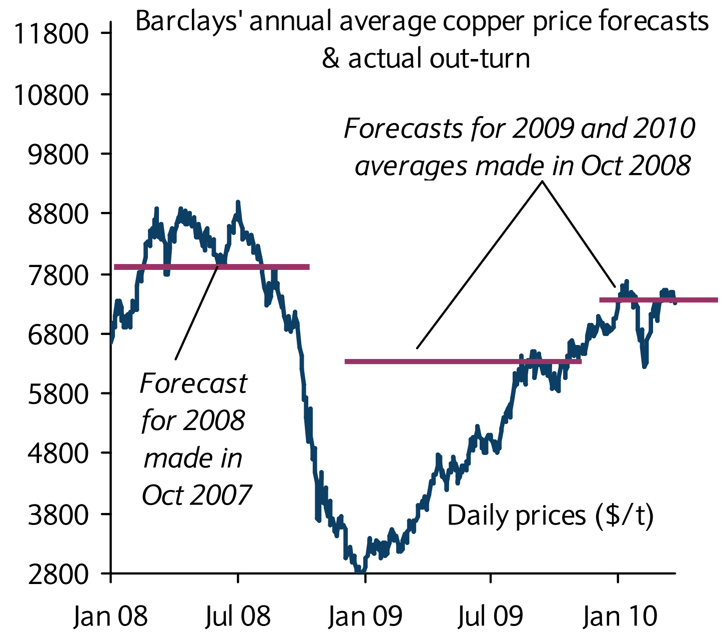
BARCLAYS CAPITAL

Commodity prices are fundamentally, not financially driven

- *Barclays Capital has a team of 16 full-time commodity market analysts focusing on fundamental analysis and price forecasting.*

- *Our fundamentally-based price forecasts made in Oct 2007 broadly anticipated the big move up in metals prices in early 2008, though not the full extent of the downturn as the financial crisis worsened later on that year.*

- *However as the chart right illustrates with copper, prices for many metals have subsequently regained or are returning to, the fundamentally justified levels we were forecasting in late 2008.*



Barclays Capital's Annual Average Commodity Price Forecasts for Selected Commodities

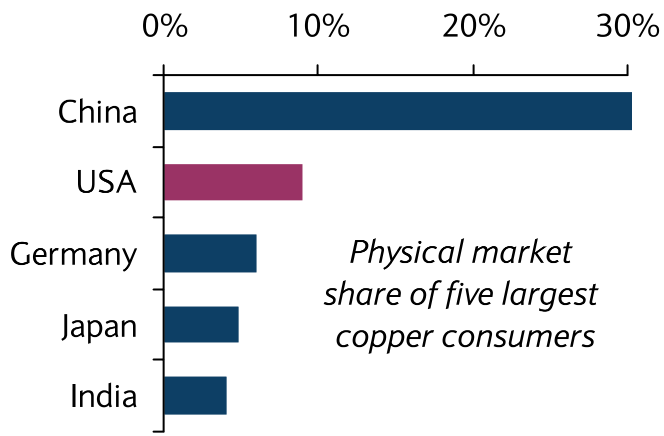
When forecast published:		Aluminium ($/t) Forecast	Aluminium ($/t) Actual	Copper ($/t) Forecast	Copper ($/t) Actual	Gold ($/oz) Forecast	Gold ($/oz) Actual	Silver ($/oz) Forecast	Silver ($/oz) Actual	Platinum Forecast	Platinum Actual	Palladium Forecast	Palladium Actual
Oct-07	2008	*2838*	2573	*7800*	6961	*678*	872	*n.a.*	15	*1210*	1569	*310*	348
Oct-08	2009	*2600*	1664	*6500*	5148	*940*	972	*13.7*	14.6	*1250*	1205	*250*	262
	2010	*3200*	2175	*7500*	7200	*n.a.*	1120	*n.a.*	17	*n.a.*	1570	*n.a.*	440

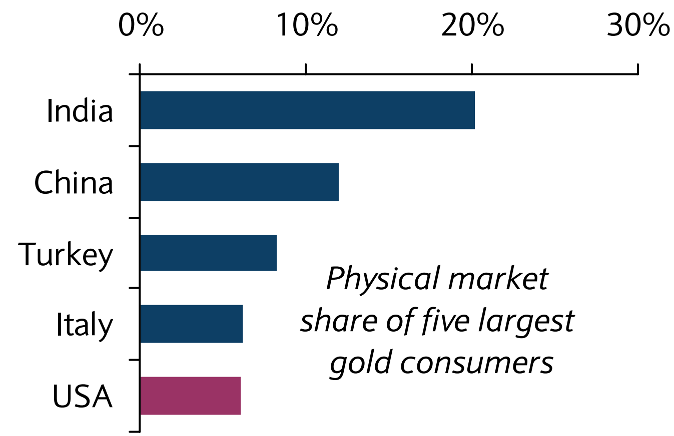
Note: 2010 actual prices are year-to-date averages.

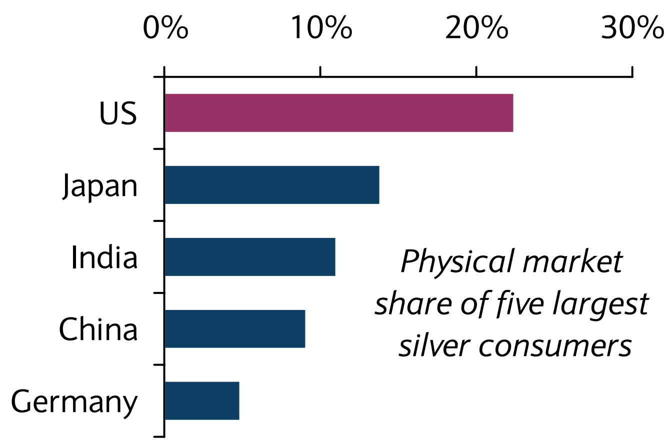
BARCLAYS CAPITAL

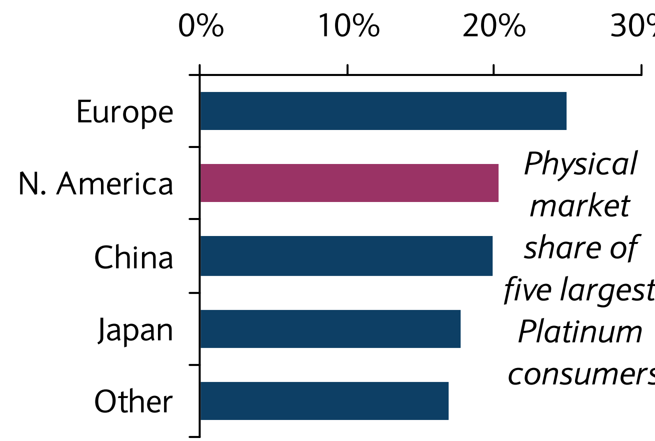
Metals markets are global

Emerging markets like China and India are at a highly metals intensive stage of development with demand growth supported by infrastructure building & rapid growth in ownership of metals intensive products such as autos & consumer durables. This growth is still in its early stages and the share of industrialising economies in global metals demand will continue to rise.







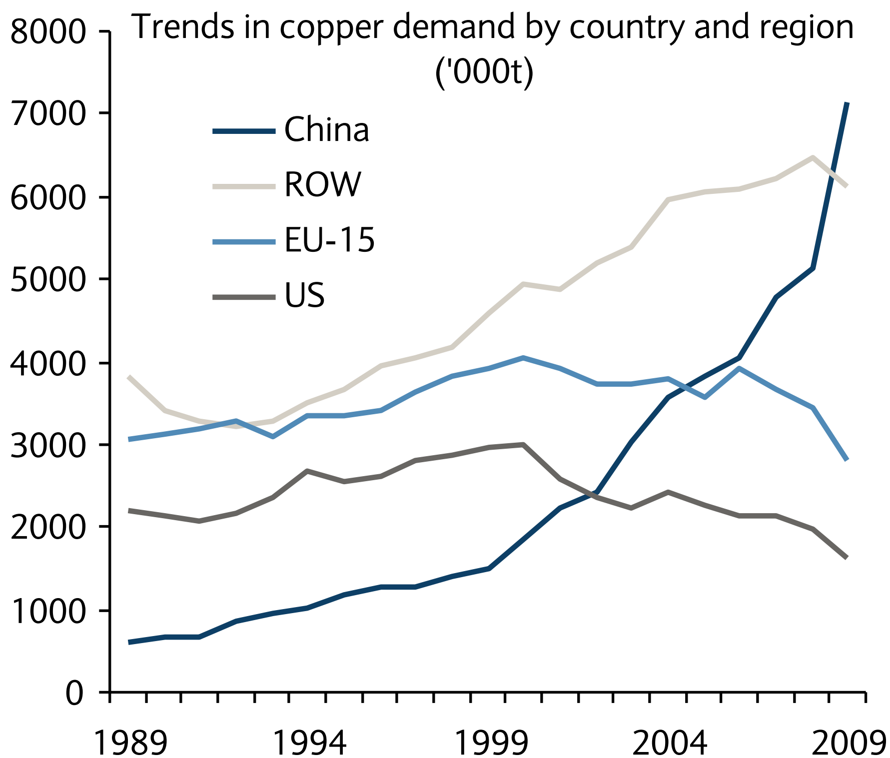


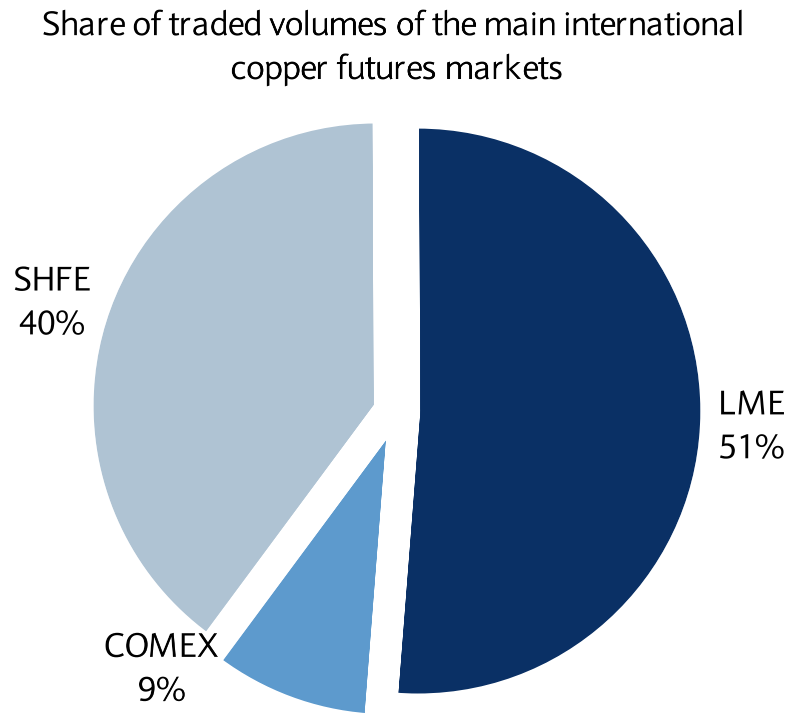
BARCLAYS CAPITAL

Note: this data is for 2009, "physical market share" refers to share of global demand

The centre of physical demand has shifted east in base metals

Of all the commodities it is base metals where demand is now most dominated by Asian markets & especially China. As recently as 2002 the US was still a larger user of copper than China but it is now less than one third its size. Base metals futures trading has traditionally been dominated by the London Metals Exchange, but China's SHFE is growing fast. The difficulties associated with maintaining the critical mass of trading necessary to keep a futures contract liquid and relevant were illustrated by the de-listing of the COMEX aluminium contract in 2009, mainly due to a lack of trading volumes.





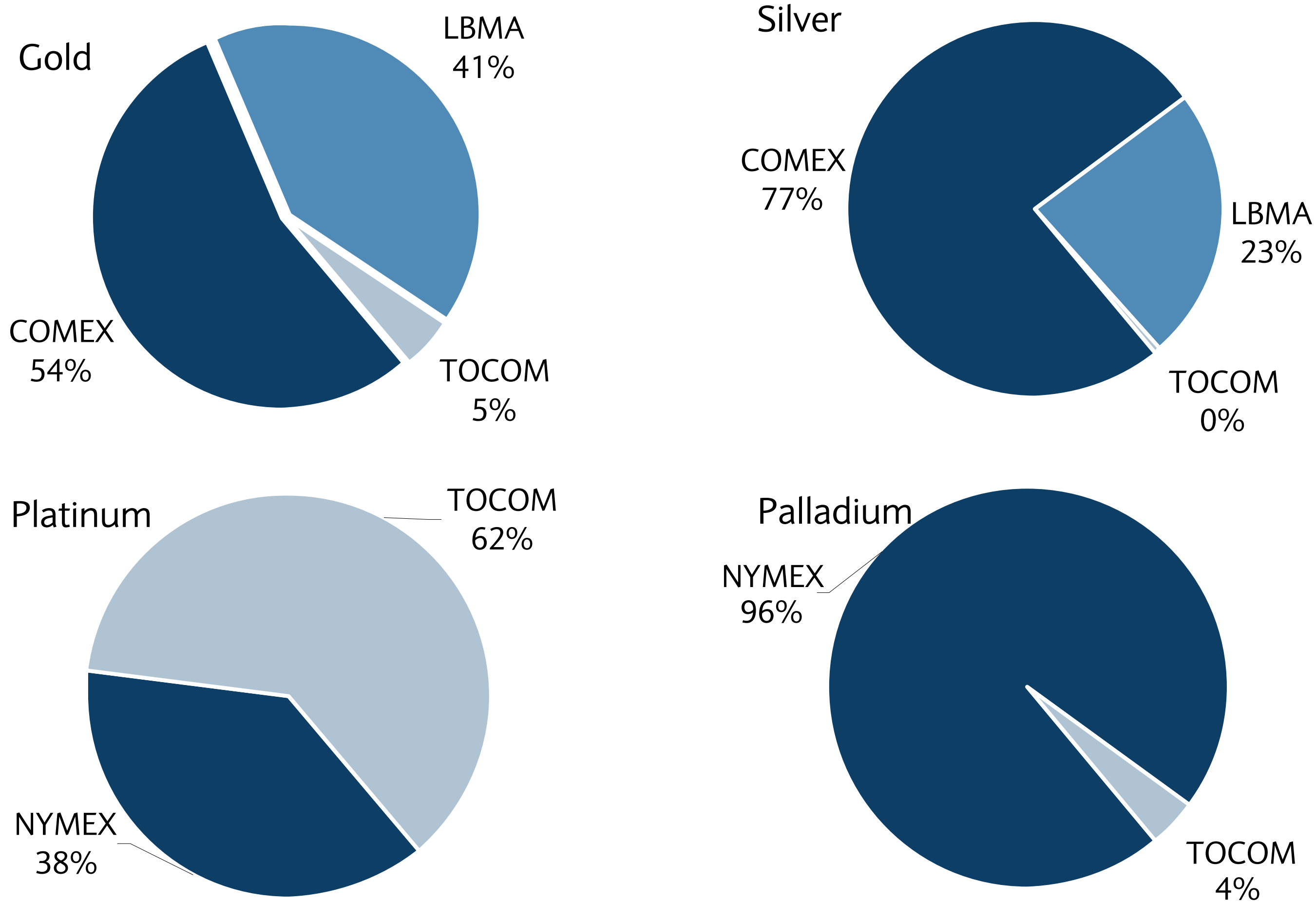
BARCLAYS CAPITAL

US market activity could easily migrate

Precious metals demand is also dominated by overseas markets and it is these that are growing most rapidly. US futures markets still play a vital role in international price discovery and as sources of liquidity to the international metals business, but there are also plenty of alternatives. The risk of imposing position limits is that this will result in the shifting of price discovery to other venues.

Shares of the main futures & OTC markets in global precious metals trading volume.

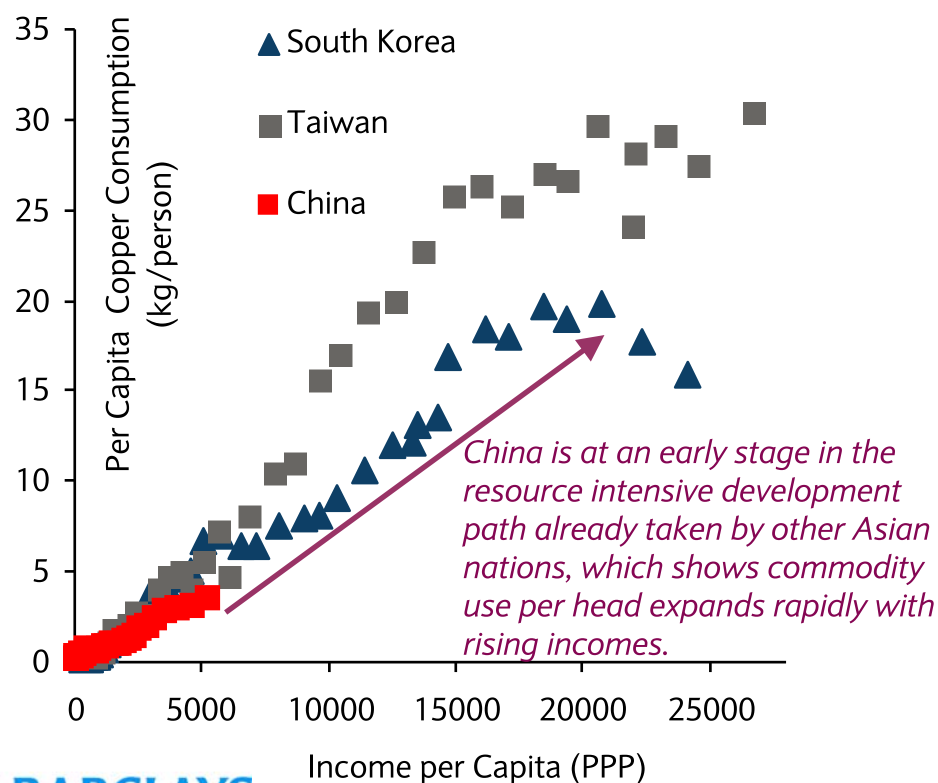
The LBMA is the London-based trade association that represents the wholesale gold & silver bullion markets in London. It publishes monthly clearing statistics, which measure the daily average net amounts of gold and silver that are transferred from one London account to another. Note that the LPPM (the association of platinum and palladium producers) does not publish similar data on OTC trade and so that could not be included in this analysis.



BARCLAYS CAPITAL

We all live in a resource challenged world

The past decade has seen some of the biggest changes in commodity markets in living memory. Demand for commodities in developing countries now dominates global markets driven by rising living standards, infrastructure investment and industrialisation. At the same time supply constraints are emerging in many important commodity markets due to resource depletion, lack of investment in supply infrastructure, shortages of key inputs and a lack of skilled labour.



"If China and India follow the path mapped out by other Asian nations in their per capita consumption of raw materials and energy, global corn production would need to rise by a third, oil production to more than double and copper to triple" over the next 20 years

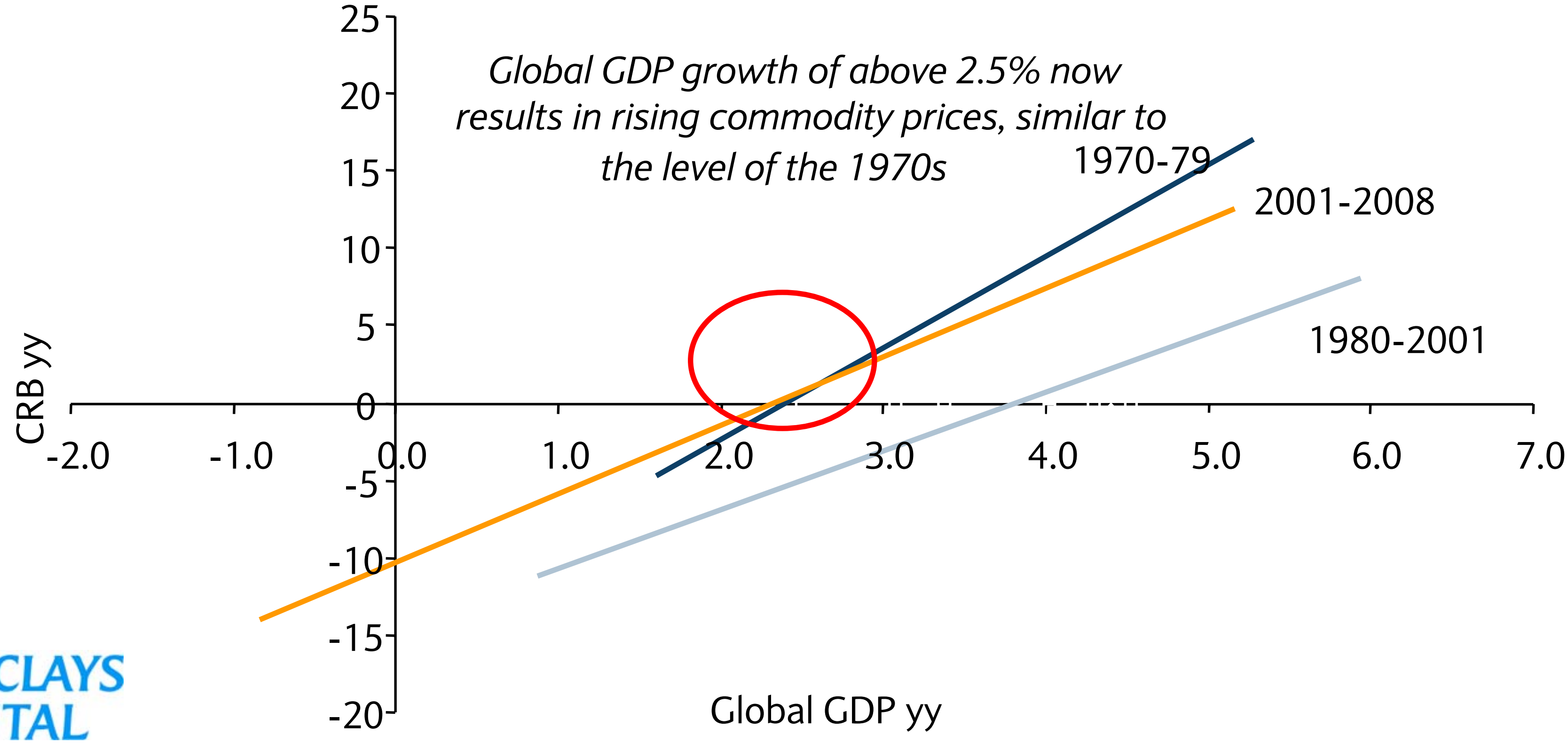
The Barclays Capital Equity Gilt Study - 2008

BARCLAYS CAPITAL

Global growth limits for commodity inflation have fallen

Resource depletion, supply constraints and the greater commodity intensity of global growth mean commodity price inflation is now occurring at a much lower rate of global growth than in the past. Based on relationships of the past ten years the "speed limit" for commodity price inflation is now just 2.5% for global GDP, compared with 4% during 1980-2000. Commodity price inflation is a key driver of broader inflation trends and inflation is a key risk to those charged with managing the pension portfolios of aging western populations.

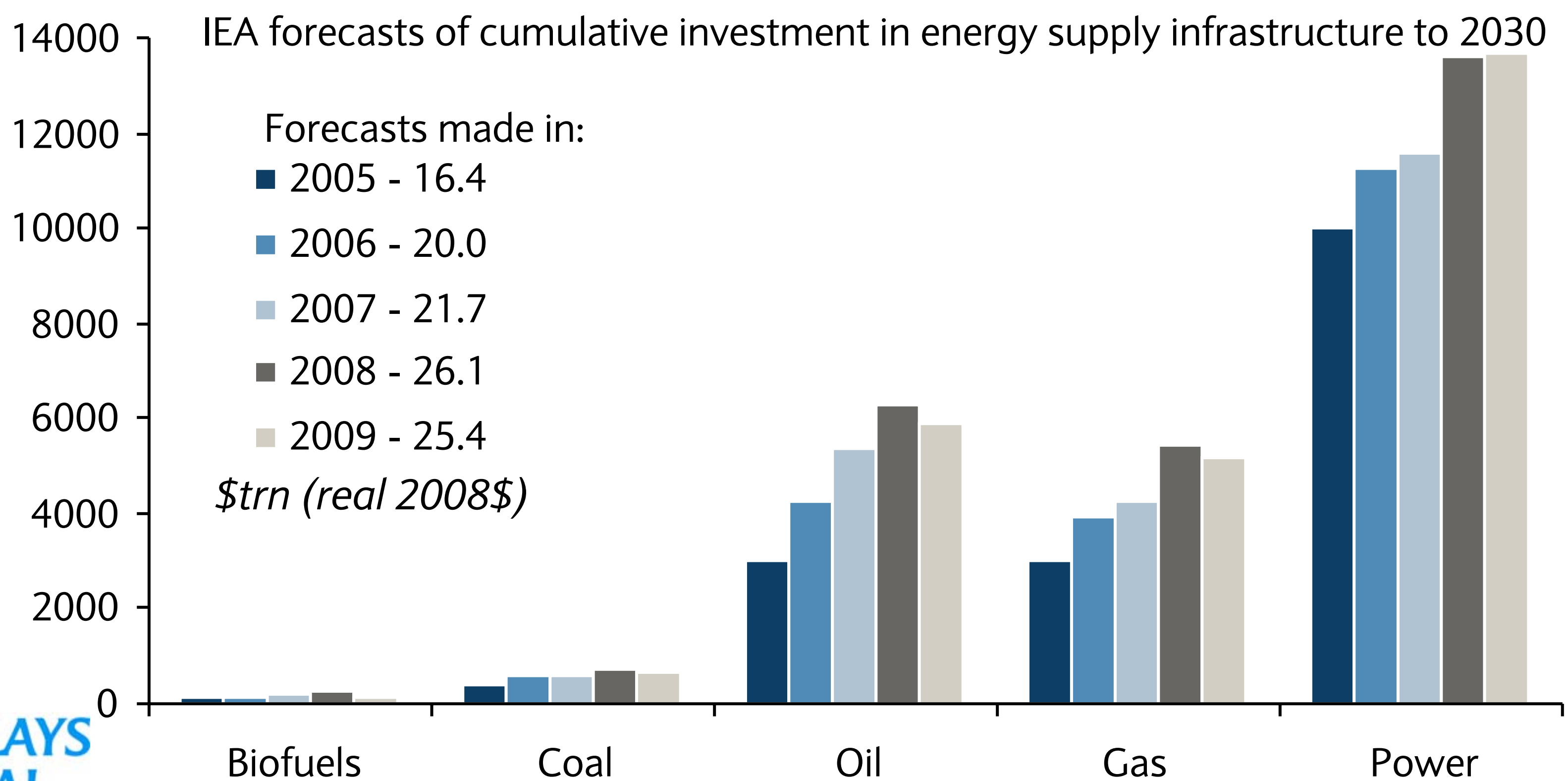
Commodity price inflation is now sparked by more modest growth levels than in the past



BARCLAYS CAPITAL

Financing needs are huge: liquid, transparent markets essential

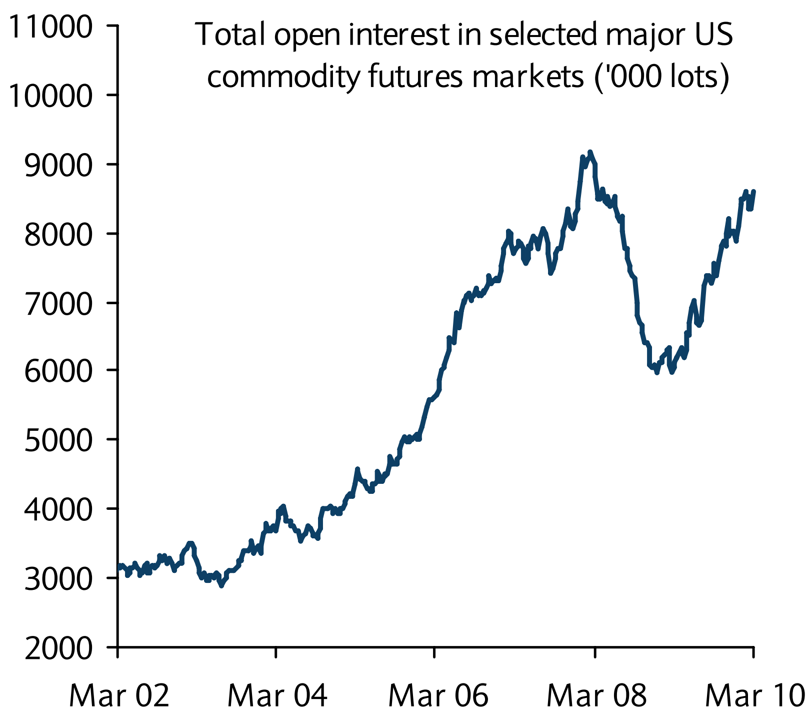
To meet rapidly rising demand & upgrade existing supply infrastructure, requires massive investment in commodity supply over the next 20 years. The IEA in its 2009 report projects that $25 trillion must be spent globally on energy infrastructure between now and 2030. And it's not just the developing world driving these needs. The American Society of Civil Engineers graded US energy infrastructure a D+ in 2009 and said "substantial investment in power generation, transmission and distribution is expected over the next two decades". Given the vast scale of capital spending needs, deep & liquid commodity markets are essential to help facilitate the financing of investments & manage price risks.



BARCLAYS CAPITAL

Commodity futures: bringing together the financial & physical

A key role for commodity futures markets lies in bringing together the interests of commodity producers and consumers that seek to reduce price risk, with those of asset managers seeking exposure to it as a source of inflation protection. The past ten years have witnessed a complementary process whereby market liquidity is boosted by commodity market participants making greater use of risk management tools and also by the participation of institutional investors keen to protect and diversify their equity and bond portfolios.



- *Rapid growth in commodity demand*
- *Rising commodity prices & inflation risk*
- *Huge investment requirements & needs for those that can assume price risk*
- *Futures markets help to manage risks & facilitate investments*
- *Futures market liquidity gets boosted by investors seeking to hedge their own inflation risks*
- *And further growth in liquidity is needed*

BARCLAYS CAPITAL

In precious metals, producers need investors even more

•Precious metals producers need speculators for efficient hedging even more than producers of other commodities.

•This is because the balance of commercial market activity in precious metals markets is more heavily skewed toward producers than consumers than it is in most other commodity markets. This reflects the fact that even though there has been a trend for gold miners to reduce their portion of hedged output recently, producers tend to be much larger than consumers with still significant price risk management/hedging requirements.

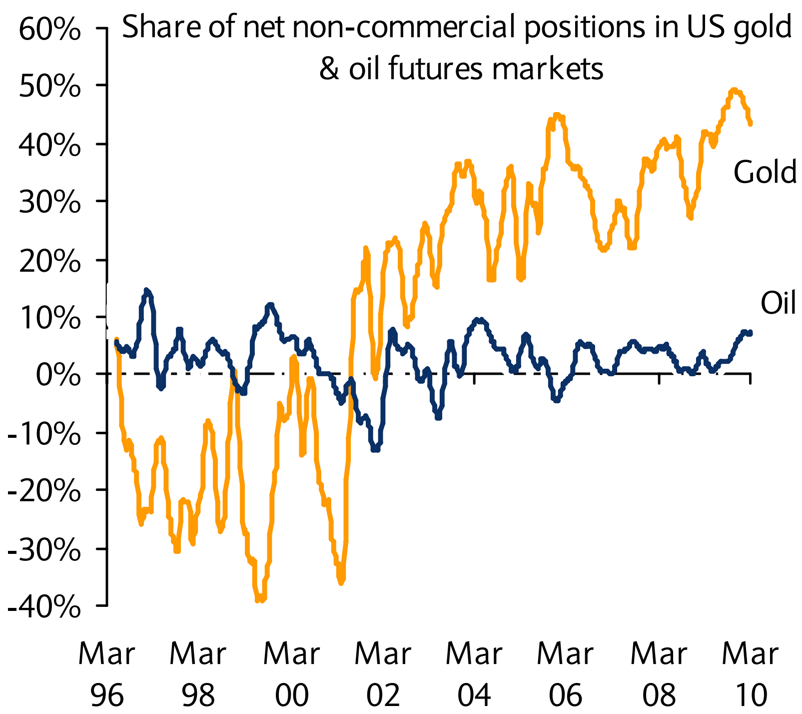
•In contrast the consumer sector is characterised by a very large number of small market participants for which price risk management is less of an issue due to the ability to pass price fluctuations on to the end-consumer, especially in the jewellery, coins & bar sectors.

•Swap dealer and managed money futures market participants therefore play an even more important part in providing an offset to precious metals producer risk management activity than is the case for most other commodities.

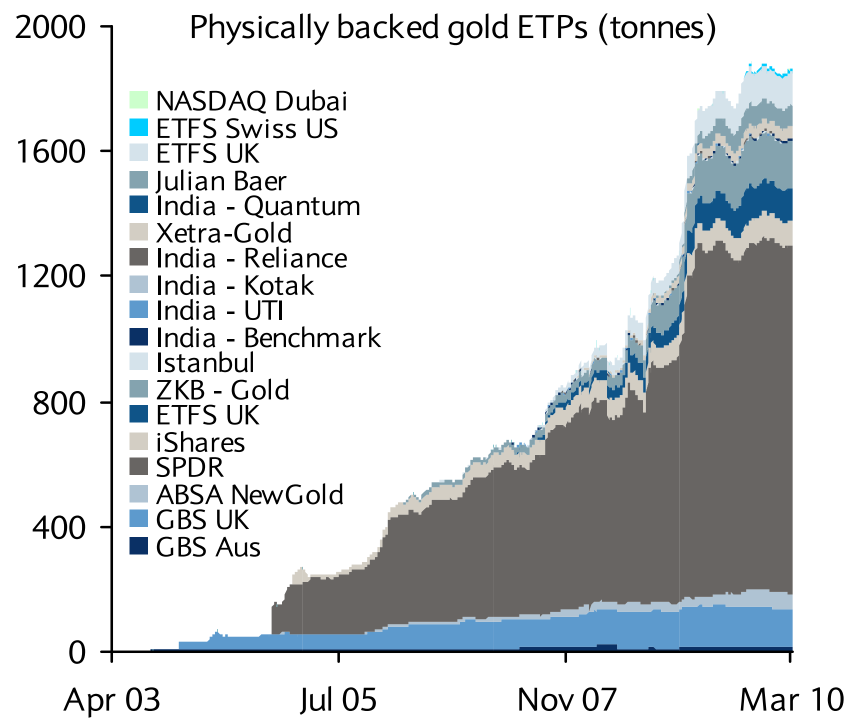
New precious metals investor products reduce costs and lower risk

Precious metals markets, especially gold and silver have always been ones where investors buy and hold. The role of gold as an investment over many thousands of years means the share of investments activity in this market has always been much bigger than in other commodities, both long and short. Investment products referencing futures markets provide an alternative to physical exposure reducing the costs & risks associated with holding gold in physical form.

Investors play a bigger role in gold markets



New products are improving investor access



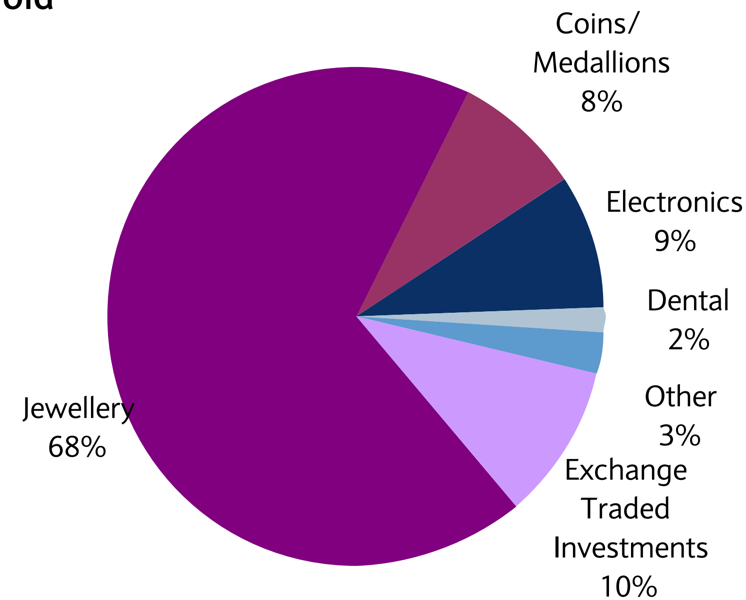
BARCLAYS CAPITAL

Precious metals markets have always been investor-led

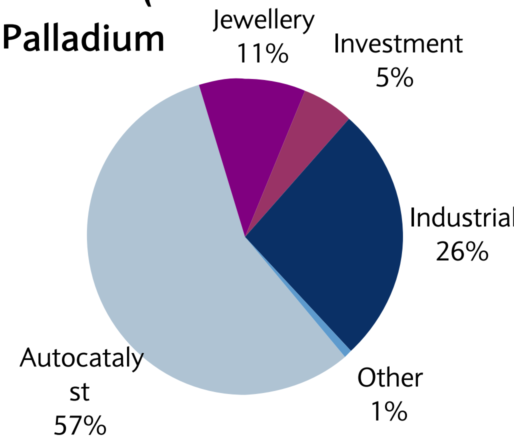
Precious metals markets are very different to other commodities in that throughout history their primary role has been as a store of value, both for the official sector and private individuals. Unlike other commodities very little gold is consumed in industrial applications with roughly 90% of annual output destined for investment in the form of jewellery, coins or to back exchange traded products. Silver and platinum group metals have a larger portion of industrial usage, but even here investment activity has traditionally been and continues to be much more significant than in other commodities.

Global precious metals demand by end-use sector (investment-related demand in purple shades)

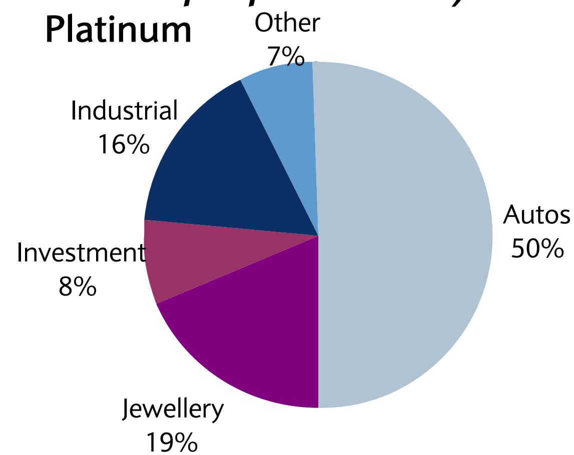
Gold



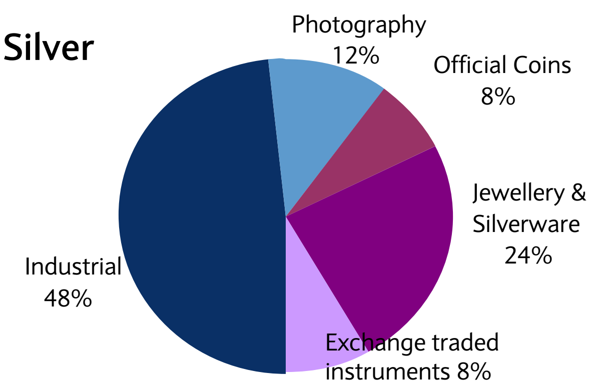
Palladium



Platinum



Silver



BARCLAYS CAPITAL

Physical and financial commodity markets are interdependent

•Huge investments are required in commodity supply over the next decade

•Investors seeking to hedge their inflation risks are providing much needed liquidity, enabling better management by producers of their investment & price risks

•Commodity investments are already playing a valuable role in offsetting producer short positions and are helping to smooth price volatility, more of this kind of liquidity, not less, is needed

•Metals markets illustrate the increasingly global nature of commodities, with China dominating physical demand.

•Metals markets are also experiencing rapid growth in non-US commodity futures market trading

•Some US metals markets still play an important part in international price discovery but others have lost that role. The risk is that imposition of position limits in US metals markets will undermine those that are still important globally

Disclaimer

•The persons named as the authors of this report hereby certify that: (i) all of the views expressed in the research report accurately reflect the personal views of the authors about the subject securities and issuers; and (ii) no part of their compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in the research report.

•For disclosures on issuers in this report see:
https://ecommerce.barcap.com/research/cgi-bin/public/disclosuresSearch.pl

•Any reference to Barclays Capital includes its affiliates.

•Barclays Capital does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that Barclays Capital may have a conflict of interest that could affect the objectivity of this report.

•IRS Circular 230 Prepared Materials Disclaimer: Barclays Capital and its affiliates do not provide tax advice and nothing contained herein should be construed to be tax advice. Please be advised that any discussion of U.S. tax matters contained herein (including any attachments) (i) is not intended or written to be used, and cannot be used, by you for the purpose of avoiding U.S. tax-related penalties; and (ii) was written to support the promotion or marketing of the transactions or other matters addressed herein. Accordingly, you should seek advice based on your particular circumstances from an independent tax advisor.

•This publication has been prepared by Barclays Capital ('Barclays Capital') – the investment banking division of Barclays Bank PLC. This publication is provided to you for information purposes only. Prices shown in this publication are indicative and Barclays Capital is not offering to buy or sell or soliciting offers to buy or sell any financial instrument. Other than disclosures relating to Barclays Capital, the information contained in this publication has been obtained from sources that Barclays Capital knows to be reliable, but we do not represent or warrant that it is accurate or complete. The views in this publication are those of Barclays Capital and are subject to change, and Barclays Capital has no obligation to update its opinions or the information in this publication. Barclays Capital and its affiliates and their respective officers, directors, partners and employees, including persons involved in the preparation or issuance of this document, may from time to time act as manager, co-manager or underwriter of a public offering or otherwise, in the capacity of principal or agent, deal in, hold or act as market-makers or advisors, brokers or commercial and/or investment bankers in relation to the securities or related derivatives which are the subject of this publication.

•Neither Barclays Capital, nor any affiliate, nor any of their respective officers, directors, partners, or employees accepts any liability whatsoever for any direct or consequential loss arising from any use of this publication or its contents. The securities discussed in this publication may not be suitable for all investors. Barclays Capital recommends that investors independently evaluate each issuer, security or instrument discussed in this publication, and consult any independent advisors they believe necessary. The value of and income from any investment may fluctuate from day to day as a result of changes in relevant economic markets (including changes in market liquidity). The information in this publication is not intended to predict actual results, which may differ substantially from those reflected.

•This communication is being made available in the UK and Europe to persons who are investment professionals as that term is defined in Article 19 of the Financial Services and Markets Act 2000 (Financial Promotion Order) 2005. It is directed at persons who have professional experience in matters relating to investments. The investments to which it relates are available only to such persons and will be entered into only with such persons. Barclays Capital - the investment banking division of Barclays Bank PLC, authorised and regulated by the Financial Services Authority ('FSA') and member of the London Stock Exchange.

•*BARCLAYS CAPITAL INC. IS DISTRIBUTING THIS MATERIAL IN THE UNITED STATES AND, IN CONNECTION THEREWITH, ACCEPTS RESPONSIBILITY FOR ITS CONTENTS.* ANY U.S. PERSON WISHING TO EFFECT A TRANSACTION IN ANY SECURITY DISCUSSED HEREIN SHOULD DO SO ONLY BY CONTACTING A REPRESENTATIVE OF BARCLAYS CAPITAL INC. IN THE U.S., 200 Park Avenue, New York, New York 10166.

•Subject to the conditions of this publication as set out above, ABSA CAPITAL, the Investment Banking Division of ABSA Bank Limited, an authorised financial services provider (Registration No.: 1986/004794/06), is distributing this material in South Africa. Any South African person or entity wishing to effect a transaction in any security discussed herein should do so only by contacting a representative of ABSA Capital in South Africa, ABSA TOWERS NORTH, 180 COMMISSIONER STREET, JOHANNESBURG, 2001. ABSA CAPITAL IS AN AFFILIATE OF BARCLAYS CAPITAL.

•Non-U.S. persons should contact and execute transactions through a Barclays Bank PLC branch or affiliate in their home jurisdiction unless local regulations permit otherwise.

•Barclays Bank PLC Frankfurt Branch is distributing this material in Germany under the supervision of Bundesanstalt fuer Finanzdienstleistungsaufsicht.

•Additional information regarding this publication will be furnished upon request. [070425EUD]

BARCLAYS CAPITAL