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COMMODITIES RESEARCH

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Investment flows in commodities markets and the relationship with prices

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Agenda

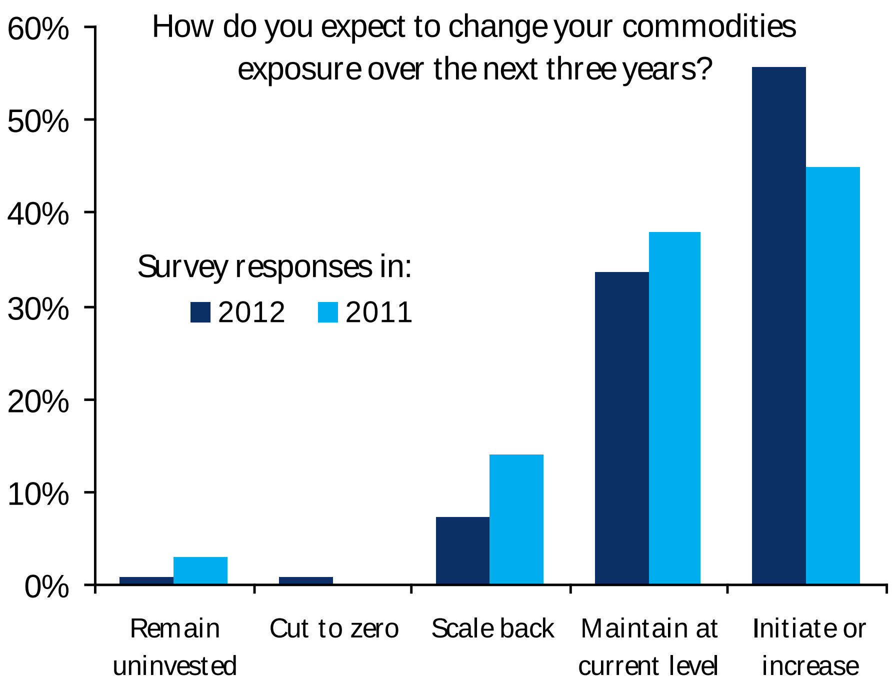
The who, how and why of commodity investments

Commodity investment flows: recent trends

Investment flows: impact on prices

Regulation and the outlook for investment

The who, how and why of commodity investments



Results from Barclays Capital's Annual European Commodity Investor Survey

Market participants

Participants in commodity markets can be classified into two groups: the first includes those such as producers, consumer or merchants with physical risks to hedge. The second comprises investors without physical risks, ie, hedge funds, pension funds or any other type of investor seeking to gain a return from commodity exposure by adding unhedged market risk to their portfolios.

Physical risk hedgers → ***Producers, consumers, merchants***

Non-physical risk hedgers → ***Hedge funds, pension funds, insurance companies, investors***

- ***Institutional investors***
- ***Retail investors***

The who and how of commodity investment

There has been unprecedented interest in commodity investments over the past couple of years. Investor funds have flowed into the commodities space at the fastest-ever rate as the sector has moved to the top of the list of investors' favoured alternative investment exposures. Investment activity in commodities is currently attracting a lot of attention with a particular focus on the new institutional inflows linked to commodity indices.

Retail investors

Institutional investors

- *Insurance companies*
- *Pension funds*
- *Sovereign wealth funds*

Hedge funds

Exchange Traded Products

Trade like regular stock market shares.

Indices

Baskets of different commodity futures. Long only.

Medium Term Notes

Form of corporate debt issuance often made from a pre-packaged investment strategy otherwise known as a structured product.

Mutual Funds

Pool of funds used to invest in securities.

Futures

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The why of commodity investment: inflation hedge

"Commodity futures are positively correlated with inflation, unexpected inflation, and changes in expected inflation. Commodities perform better in periods of unexpected inflation, when stock and bond returns generally disappoint."

Facts and Fantasies about Commodities Futures, Gorton Rouwenhorst, 2004

		Commodity indices			Commodity sub-indices				Equity indices			Other asset classes
	CPI	S&PGSCI	DJ-UBS	CRB	Energy	Ind Metals	Prec Metals	Agriculture	S&P500	Whilshire 5000	Russell 3000	Gov Bond
		Gains over the next 12 months										
Jun-72	104%	45%	n/a	35%	n/a	n/a	n/a	76%	n/a	-6%	n/a	1%
Apr-78	55%	17%	n/a	22%	n/a	52%	41%	6%	n/a	14%	n/a	2%
Jan-87	204%	1%	n/a	11%	-6%	82%	16%	14%	n/a	-9%	n/a	-4%
Oct-89	37%	30%	n/a	-1%	63%	0%	3%	-14%	-6%	-10%	n/a	-1%
Mar-99	87%	47%	27%	-2%	87%	33%	7%	-1%	10%	17%	14%	1%
Feb-04	75%	22%	2%	-1%	35%	9%	5%	-20%	5%	6%	5%	2%
Oct-06	111%	23%	12%	20%	25%	-2%	21%	39%	12%	12%	12%	6%
Average	***96%***	***26%***	***13%***	***12%***	***41%***	***29%***	***16%***	***14%***	***5%***	***3%***	***10%***	***1%***

Source: Ecowin, Barclays Capital

Energy & Industrial metals tend to do well in inflationary environments

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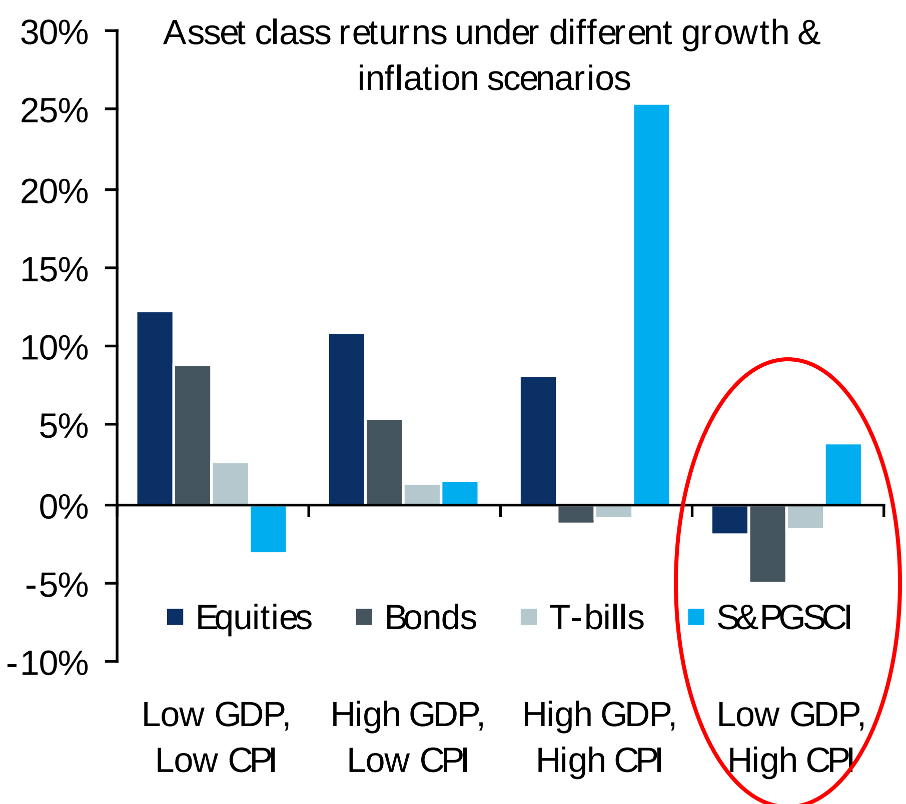
Commodities are amongst the best inflation hedges

Commodity assets usually outperform when growth is low and inflation high

Commodities are more closely correlated with CPI inflation than most other assets



Source: Ecowin, Barclays Capital

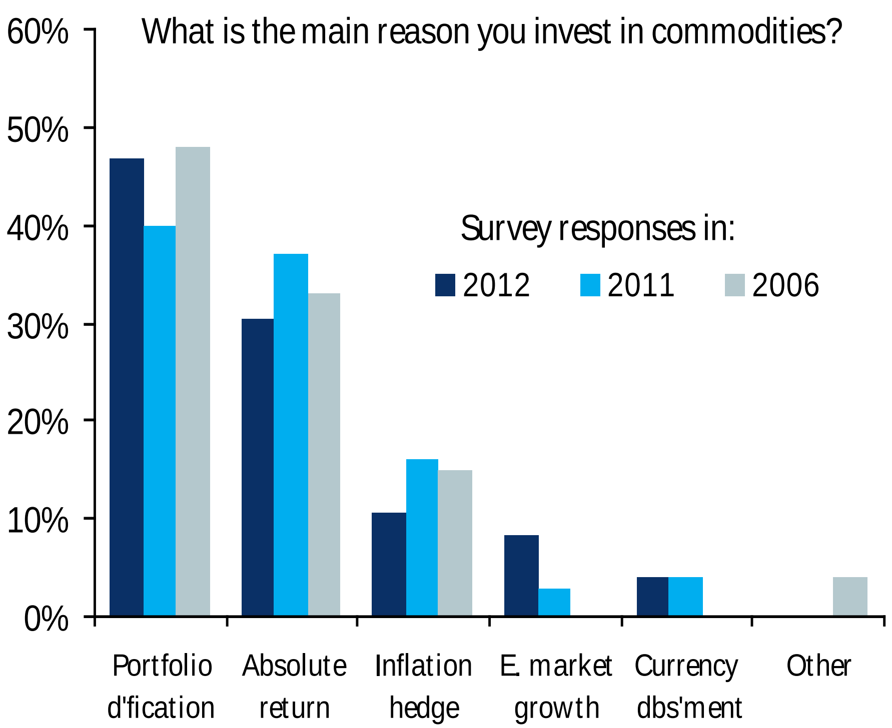
Instrument	**Correlation with US CPI (Y/Y)**
1-3y BEI	81%
GSCI	76%
CRB	75%
Oil	69%
BEI Index	46%
TIPS	34%
Gold	32%
Global Linkers	30%
S&P 500	29%
AUDCADNZDNOK	27%
Short TSY	9%

Source: Ecowin, Barclays Capital

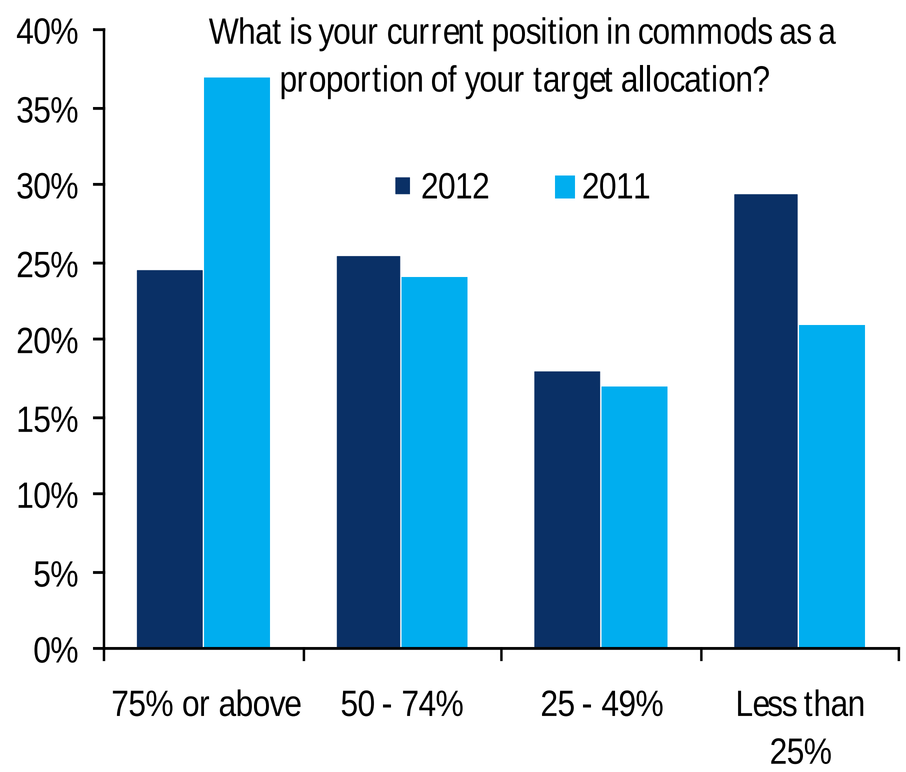
Investors value commodities for portfolio diversification

Portfolio diversification & absolute returns are cited as the main reasons for investing

Most investors are currently a long way below their target commodities allocations



Results from Barclays Capital's Annual European Commodity Investor Survey

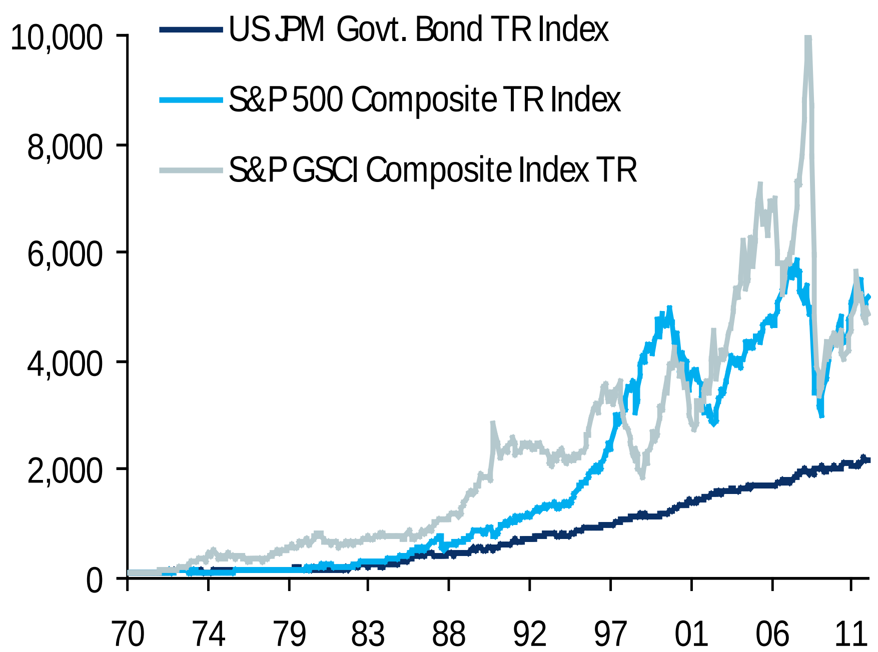


Results from Barclays Capital's Annual European Commodity Investor Survey

Commodities provide equity-like returns…

Commodity index returns have matched equities over the past 40 years…

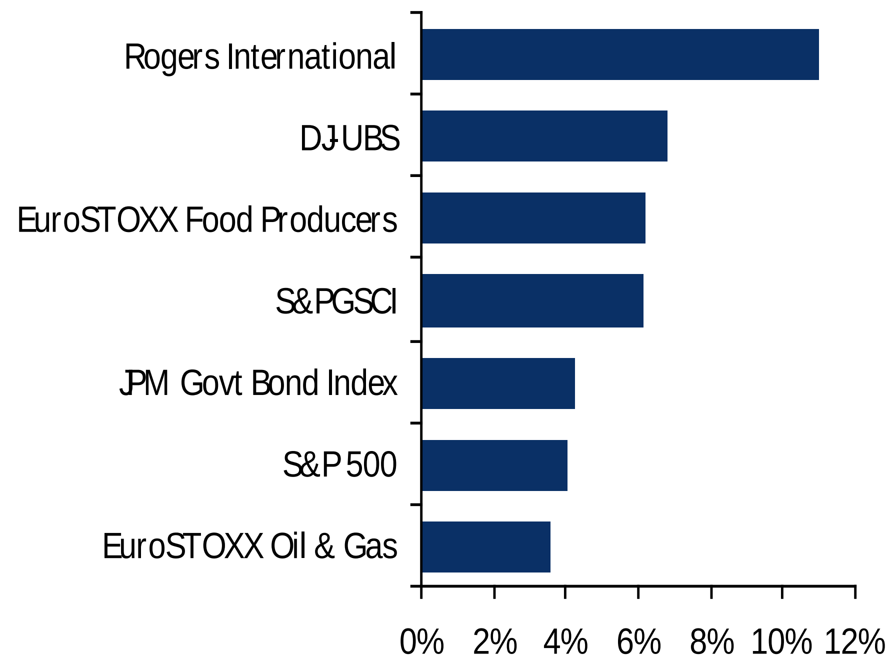
Relative performance of commodity assets



Source: Ecowin, Barclays Capital

…and have outperformed over the last 10

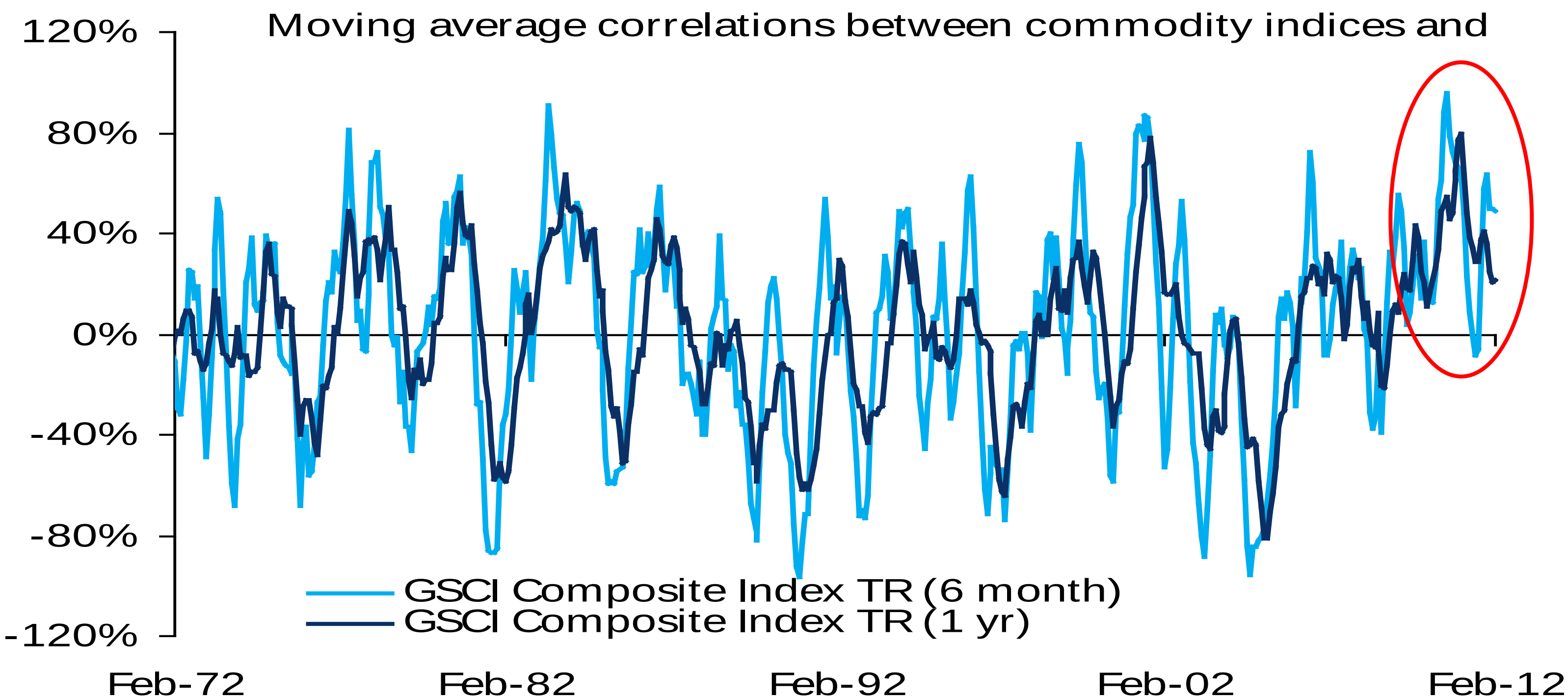
Annualised returns over the past 10 years



Source: Ecowin, Barclays Capital

…..but with a different risk profile

Commodities have traditionally been a good portfolio diversifier due to a lack of consistent correlations with other assets like equities. But from late 2008 onward correlations with other assets, especially equities have been highly positive. We believe that this period of unusually high correlation is a function of extreme economic & financial events. Correlations are returning to neutral again & we believe that over the long term commodities will continue to show no consistent correlation with other assets.



Source: Ecowin, Barclays Capital

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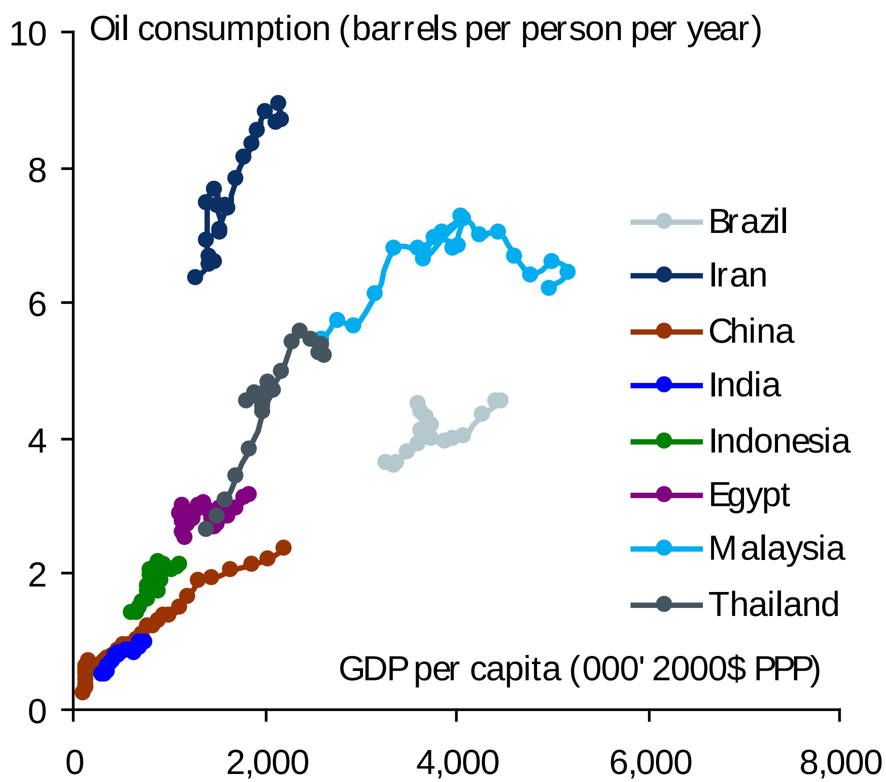
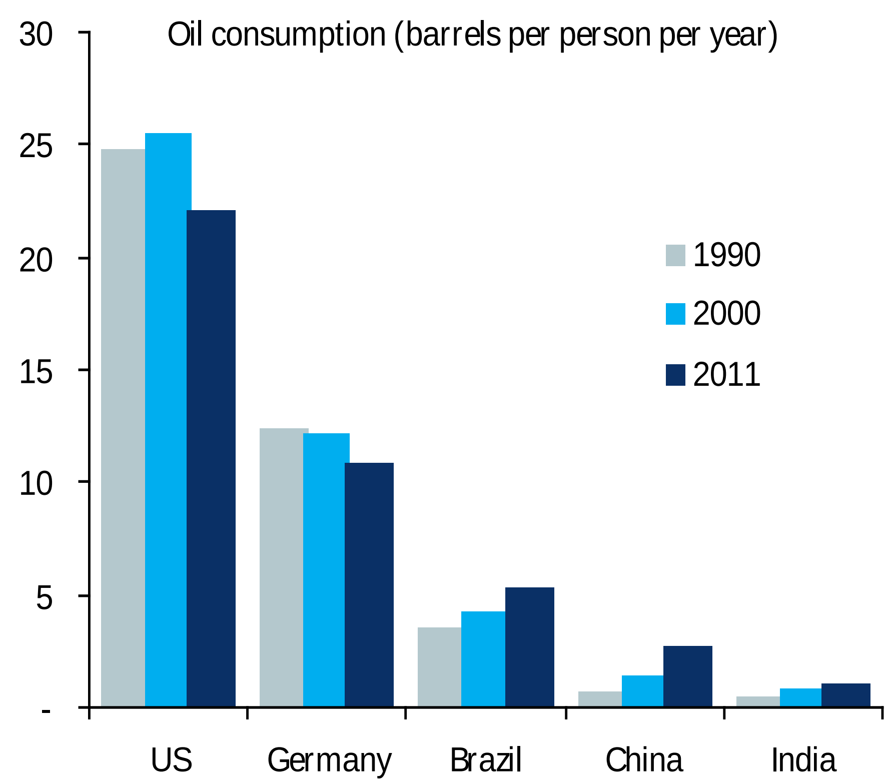
The why of commodity investment: EM demand

Despite the recent market turmoil, emerging economies are still growing very rapidly on an absolute level. These are also countries/ regions that still have a long way to catch up in terms of their per capita commodity demand. In addition, our analysis of price and income elasticities show that countries such as China tend to have a much higher income elasticity of demand and a smaller price responsiveness.



Source: BP statistical review of world energy, Barclays Capital



Source: BP statistical review of world energy, Barclays Capital

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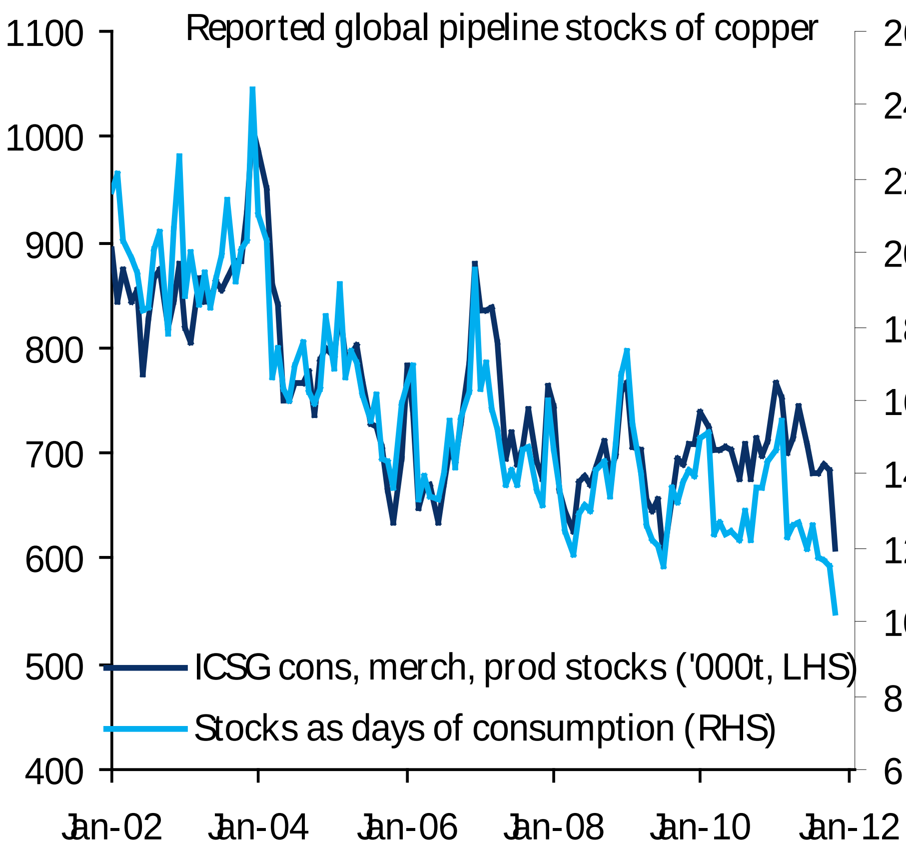
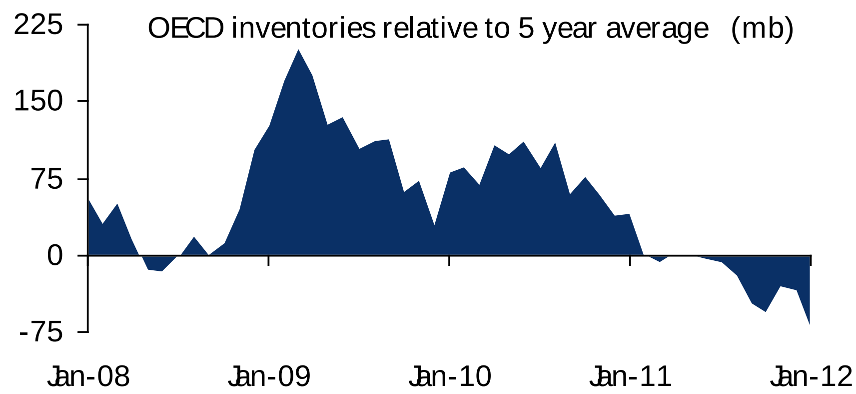
…while supply has not kept up with demand… As a result, there's not currently much less slack in the system

ust ten days of consumption, pipeline sto
of copper are at an all-time low

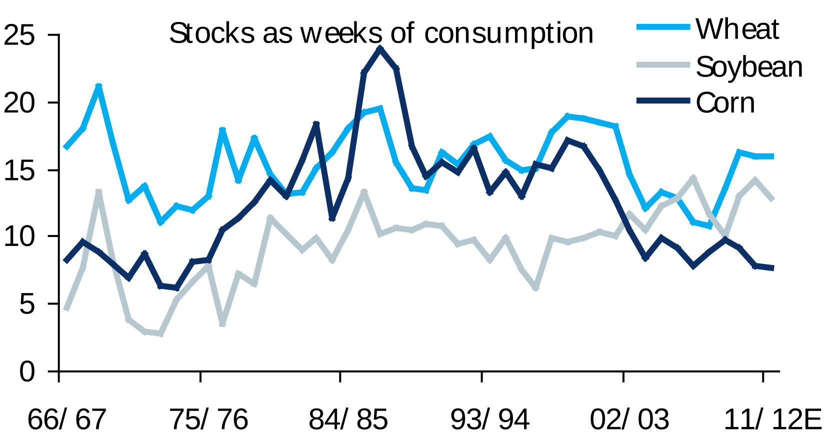


Source: Brook Hunt, EIA, USDA, Barclays Capital

Oil inventories are a long way below seasonal norms



Soybean and wheat stocks look ample but corn still very low



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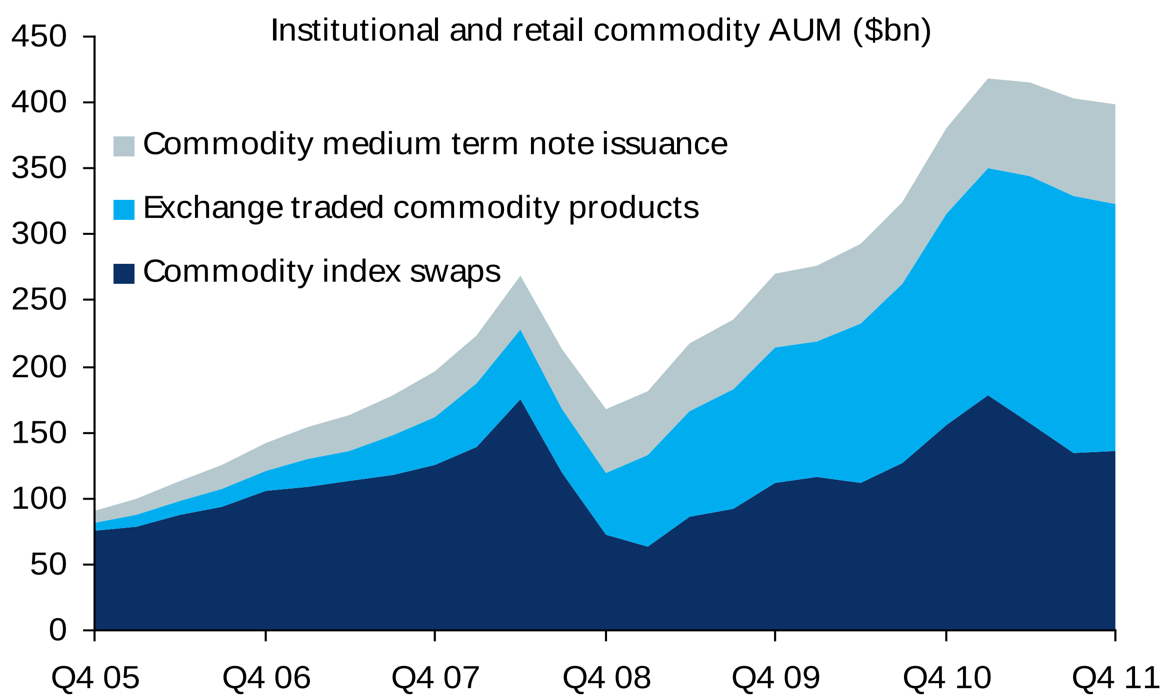
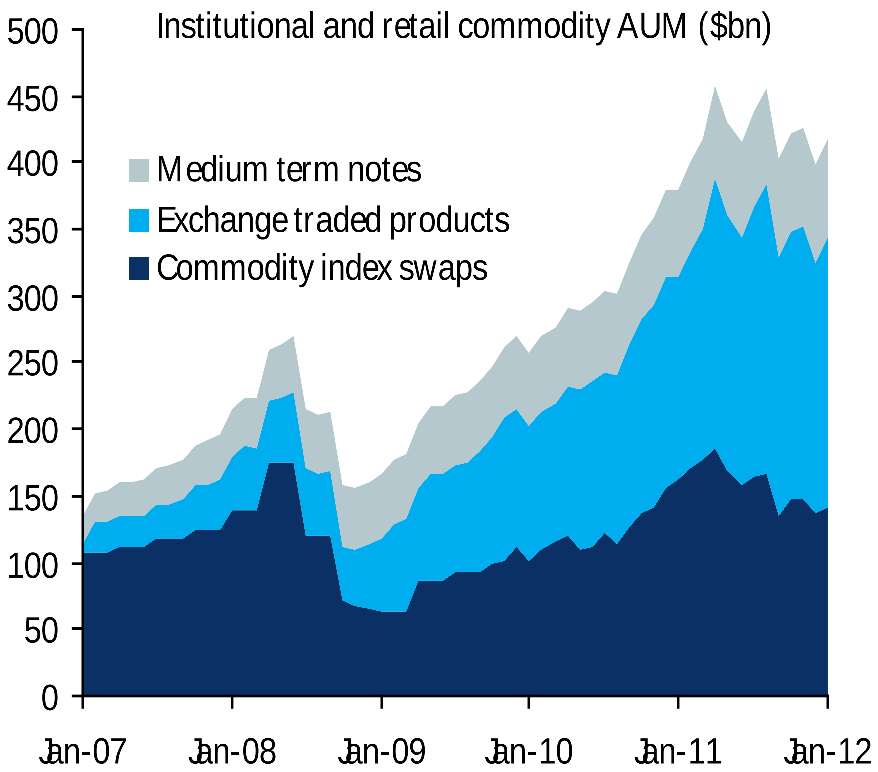
Commodity investment flows: recent trends

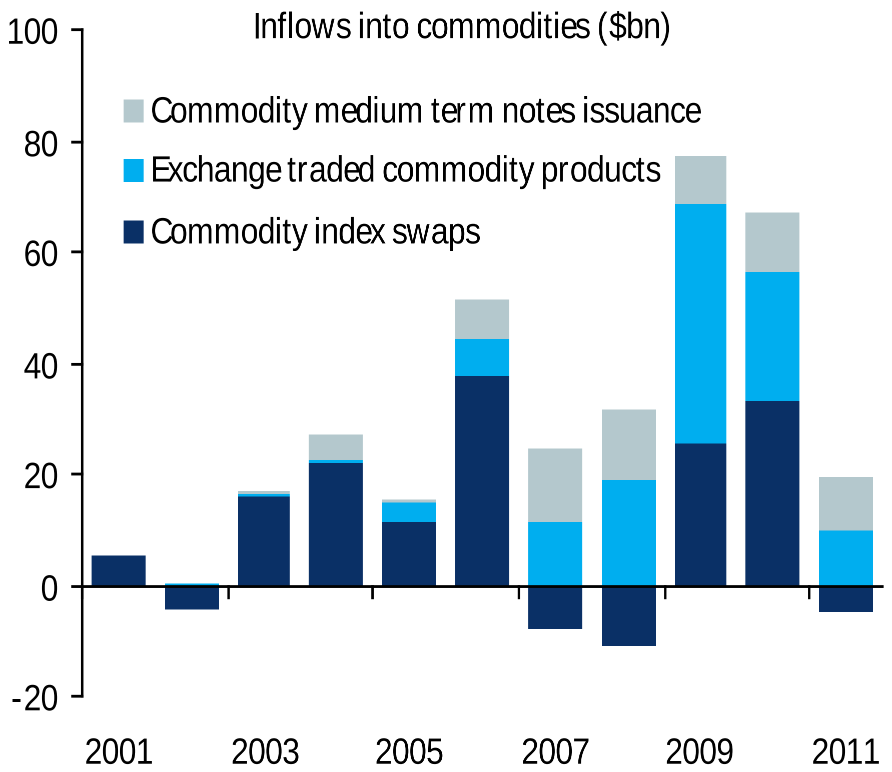


Source: Bloomberg, MTN-I website, various ETP issuer data, Barclays Capital

Commodity flows and Assets Under Management (AUM): a roller coaster story…

Assets under management in commodities have increased almost 40-fold over the past 10 years. Inflows increased particularly over the past 5 years, and reached $77bn in 2009 – an all-time high. 2011 was the weakest year for commodity investment flows since 2002, with only $15bn fresh flows. We expect this year to see a rebound in flows, but not reach the levels of 2009-10.





Source: Bloomberg, MTN-I website, various ETP issuer data, Barclays Capital *Source: Bloomberg, MTN-I website, various ETP issuer data, Barclays Capital*

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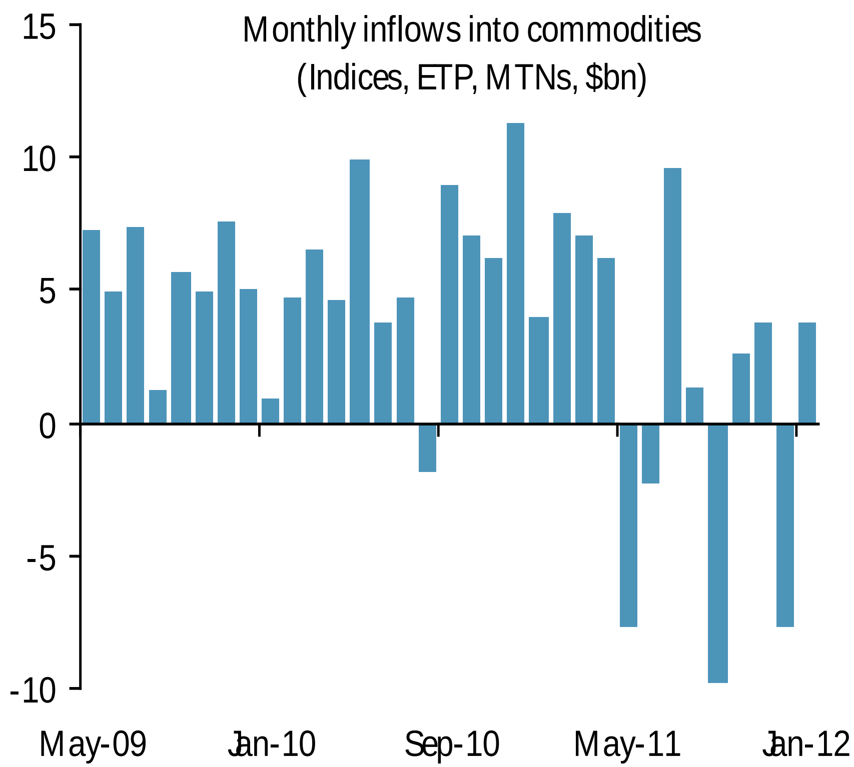
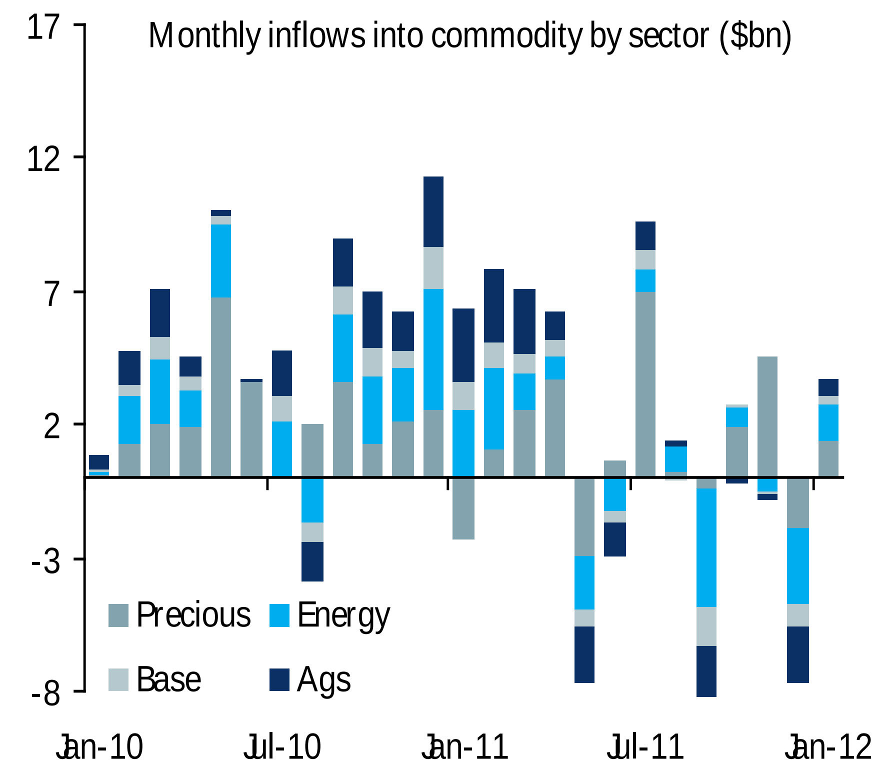
2011 was the most volatile year ever for flows

2011 was the most volatile year ever for flows. Some months saw the largest ever monthly outflows from commodities.

Last year volatility was widespread across products and sectors. Even precious metals saw some months of large outflows.



Source: Bloomberg, MTN-I website, various ETP issuer data, Barclays Capital



Source: Bloomberg, MTN-I website, various ETP issuer data, Barclays Capital

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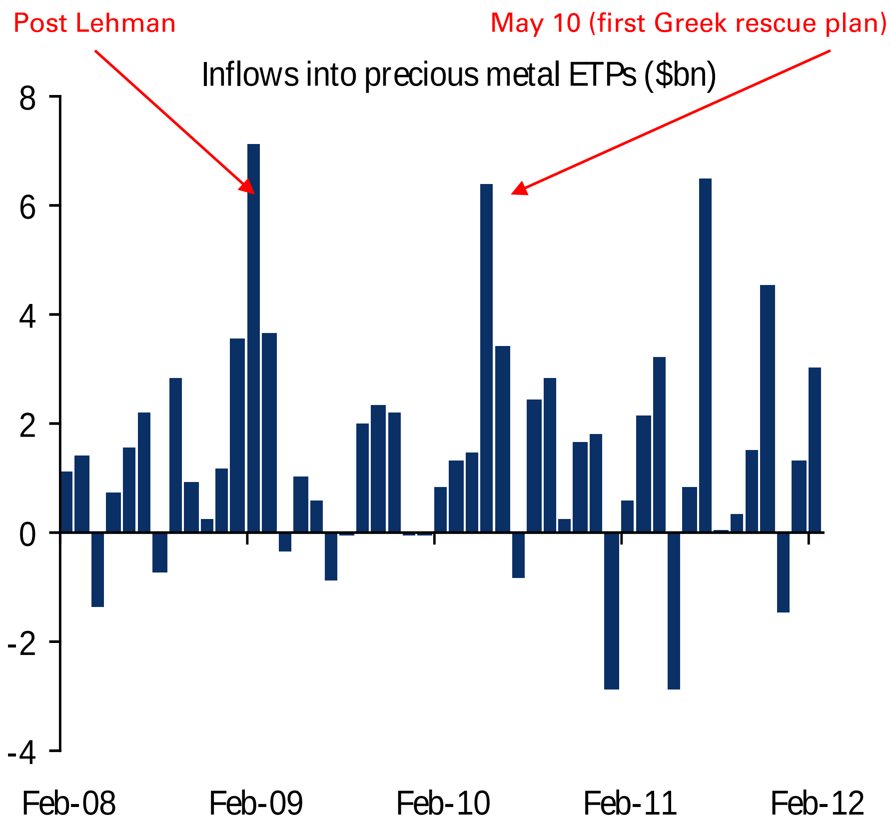
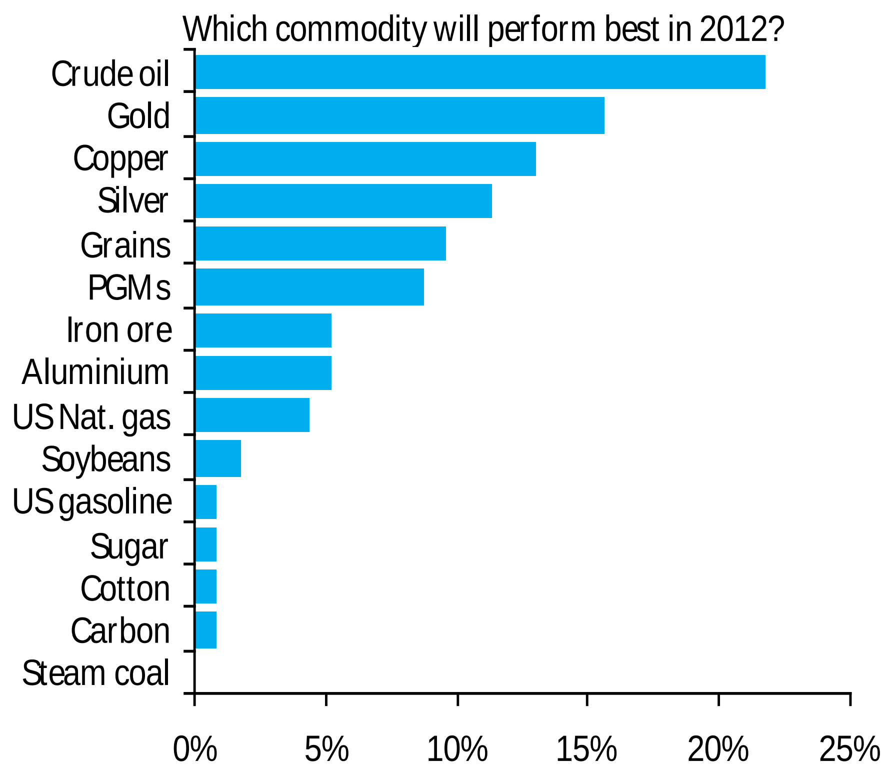
Gold used to be seen as a financial hedge…

Traditionally, periods of high uncertainty attracted large inflows into precious metal ETPs because these are viewed as a financial hedge. But this changed in 2011 as the need for liquidity drove liquidation.

Investors remain divided on gold. In our latest survey of investor sentiment, gold was voted by respondents as likely to be the second best performer and the third worst performer in 2012.



Source: Various ETP issuer data, Barclays Capital



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Investment flows: impact on prices

An extended literature exists on flows vs fundamentals

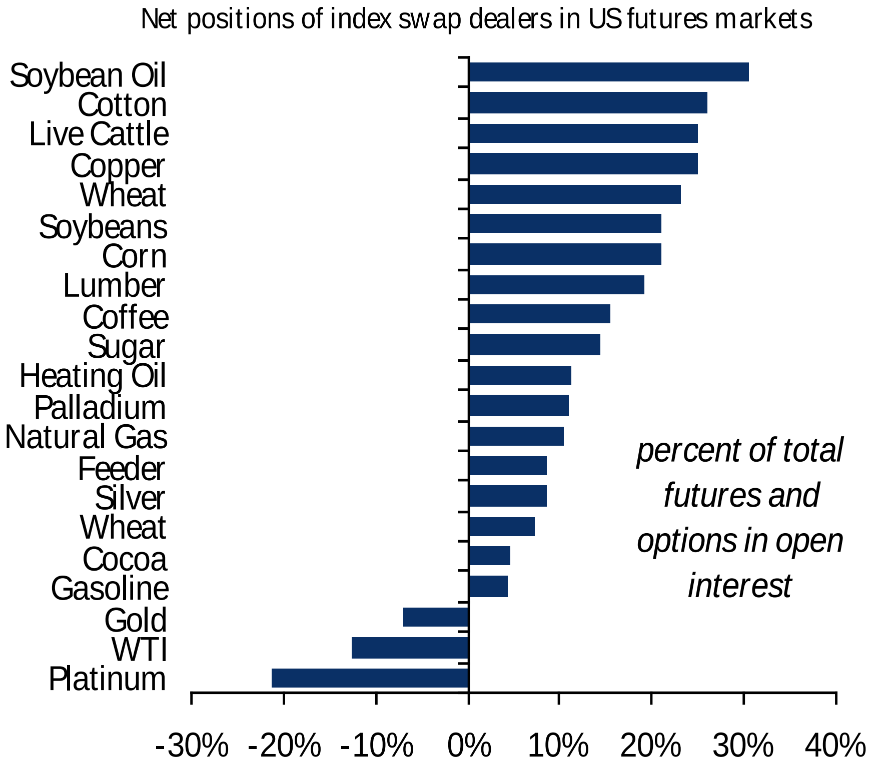
Over the past few years, there has been a vast amount of research into the links between investment flows and commodities prices. None has found strong evidence of any causal and systematic relationship. Here are some example of this research…:

- **Speculation in the oil market. Research Division, Federal Reserve Bank of St. Louis. October 2011**
- **Speculative influences on commodity futures prices 2006-08. United Nations Conference on Trade and Development. October 2009**
- **Do financial investors destabilize the oil price? European Central Bank. June 2011**
- **The impact of index and swap funds on commodity futures markets. OECD. 2010**
- **The role of speculators in the crude oil futures markets. US Commodity Futures Trading Commission. 2009**
- **Speculation and financial fund activity, draft report. Trade and agriculture directorate committee for agriculture, OECD. April 2010**

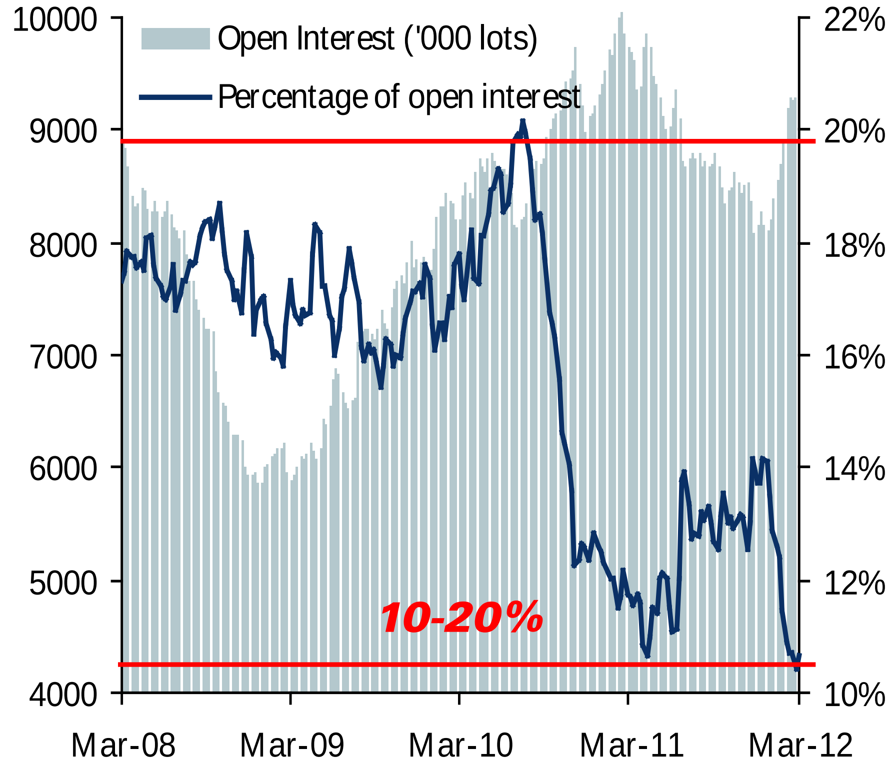
Swap dealer positions are a small part of the market…

Net position of index swap dealers in most major commodity markets remains small

More importantly, as a % of open interest, these positions have fallen sharply recently



Source: CFTC, Barclays Capital



Source: CFTC, Barclays Capital

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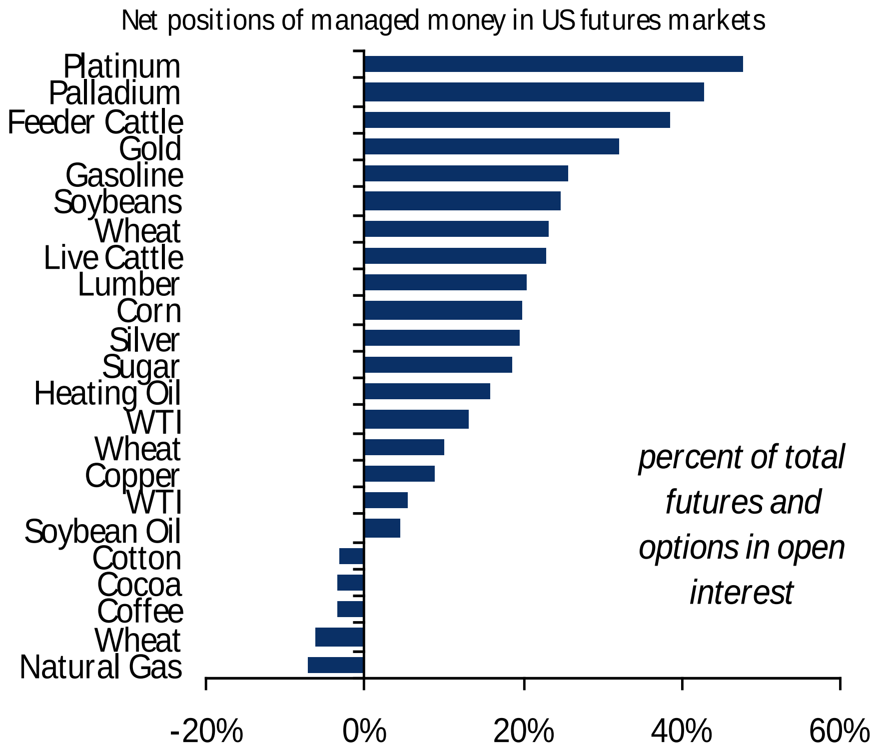
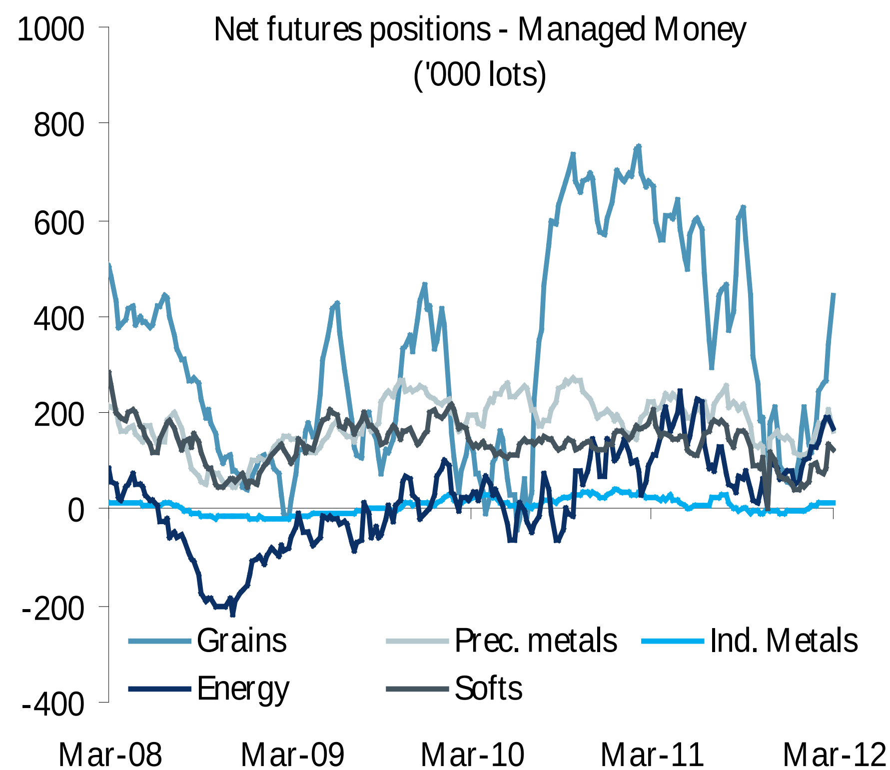
Hedge fund positions are also small…

Managed money positions remain volatile as ever, but overall are small except in some precious metals markets

…and they can influence the direction of short-term prices…



Source: CFTC, Barclays Capital



Source: CFTC, Barclays Capital

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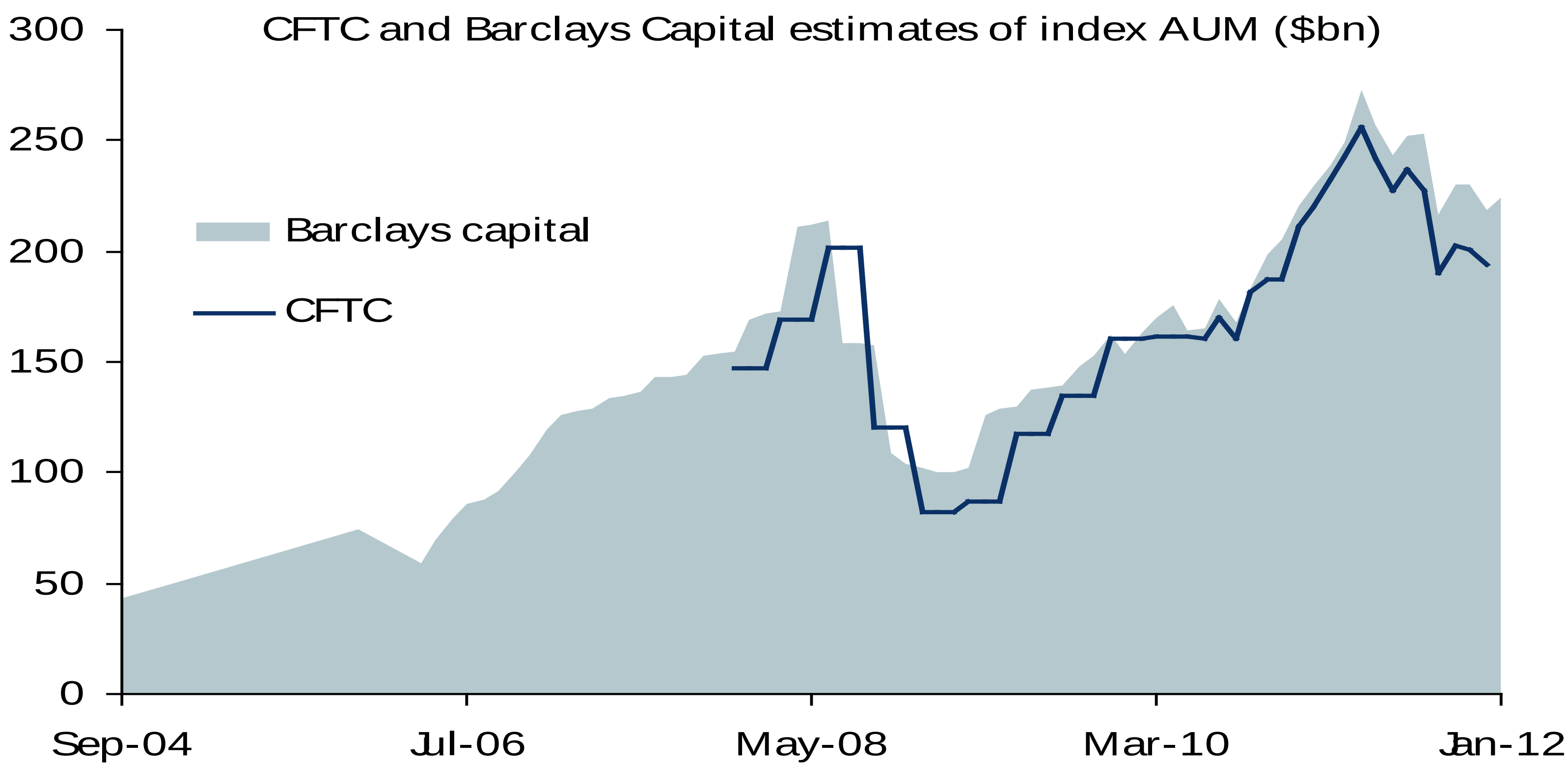
Our estimates correspond very closely to the CFTC's

To provide greater data transparency, the CFTC started to publish a few years ago quarterly index investment data. Our own estimates correspond extremely closely with those of the CFTC, despite being estimated differently, using information from market sources. Both approaches are far more accurate than back calculating the total commodities held by indices using CFTC's CIT data.



Source: CFTC, Barclays Capital

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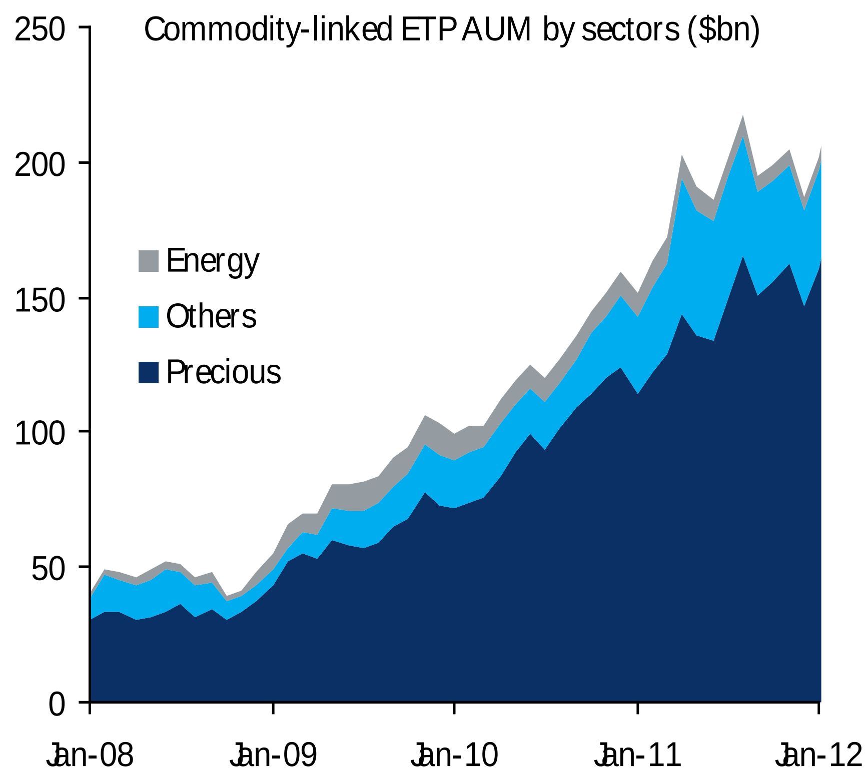
Investment flows: impact on prices…?

ETP inflows remain heavily biased towards physically backed precious metals



Source: *Various ETP issuer data, Barclays Capital*

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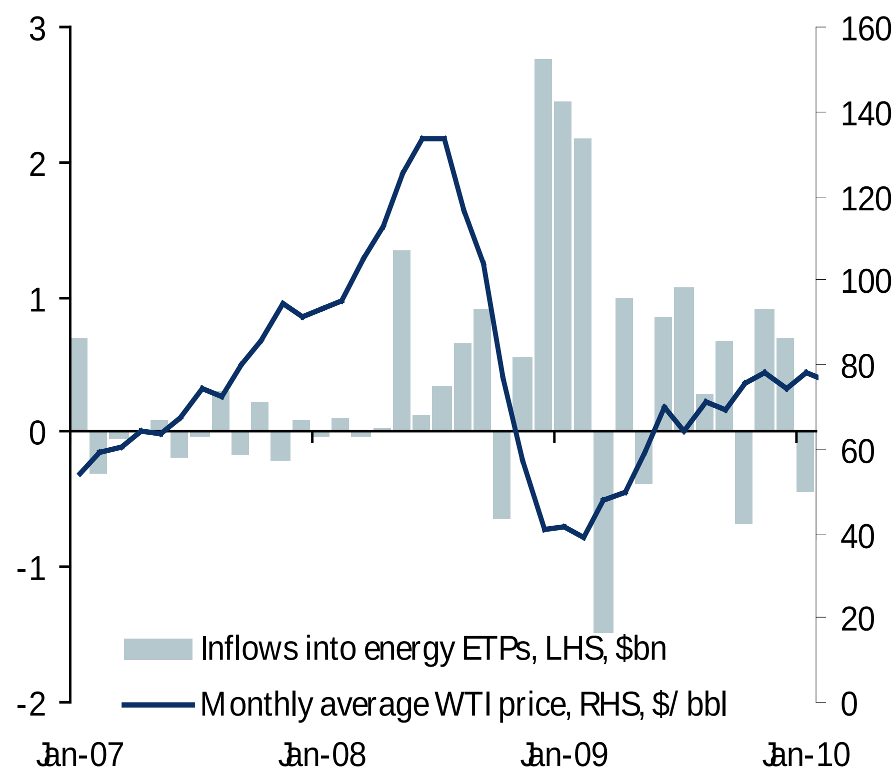


Source: *Various ETP issuer data, Ecowin, Barclays Capital*

…and a tiny proportion of open interest…

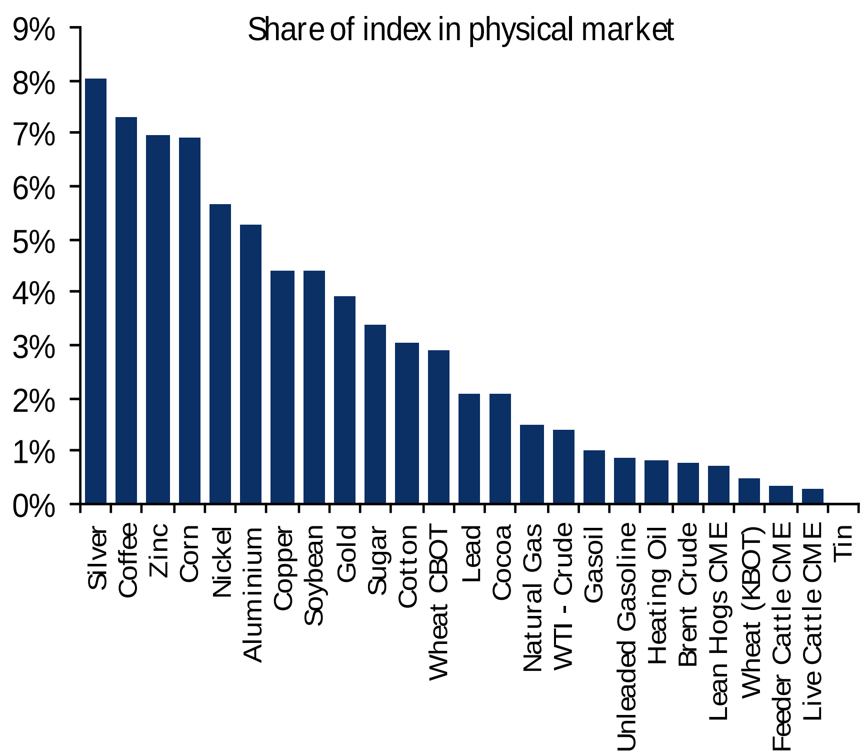
Index positions are less than 20% of open interest in most futures markets, and their share in the physical market is even smaller – never exceeding more than 8%

Market	Share of index in Volume	Share of index in Open Interest	Share of index in physical market
Silver	0.5%	6%	8.0%
Coffee	3.2%	14%	7.3%
Zinc	0.1%	14%	7.0%
Corn	2.4%	14%	6.9%
Nickel	1.7%	14%	5.7%
Aluminium	1.0%	11%	5.3%
Copper	0.5%	11%	4.4%
Soybean	1.5%	11%	4.4%
Gold	0.4%	6%	3.9%
Sugar	3.8%	15%	3.4%
Cotton	5.7%	20%	3.1%
Wheat CBOT	5.0%	29%	2.9%
Lead	0.7%	7%	2.1%
Cocoa	1.5%	6%	2.1%
Natural Gas	2.0%	21%	1.5%
WTI - Crude	1.8%	14%	1.4%
Gasoil	1.4%	21%	1.0%
Unleaded Gasoline	1.7%	13%	0.9%
Heating Oil	1.4%	15%	0.8%
Brent Crude	1.3%	38%	0.8%
Lean Hogs CME	7.9%	22%	0.7%
Wheat (KBOT)	2.9%	17%	0.5%
Feeder Cattle CME	3.7%	10%	0.3%
Live Cattle CME	6.1%	19%	0.3%
Tin	0.0%	0%	0.0%

Source: Various exchanges, Bloomberg, Barclays Capital

Index holdings are very small relative to market size

Institutional and retail holdings of commodity futures are extremely small when considered as a percentage of the total physical market. Indeed, when placed into context, these investments are nowhere near big enough to distort the relationship between prices and market fundamentals.



Source: Various exchanges, Bloomberg, Barclays Capital

- By way of illustrating this point, see the accompanying chart, which shows the scale of index positions in different markets relative to the size of the physical market.
- For example, our estimate of value of index positions in NYMEX oil futures market at the end of February is $42bn, equivalent to around 2% of the value of annual physical oil supply.
- These numbers are slightly higher in agriculture markets because the physical size of these markets is smaller. For instance, our estimates suggest that the value of index positions in CBOT wheat and corn futures market at the end of October is $6.2bn and $9.4bn, which is equivalent to around 4% and 9% of the value of annual physical wheat and corn supply.

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Regulation and the outlook for investment

Regulatory measures: what more is in store?

- ***The CFTC has proposed to set position limits for futures and option contracts in the major energy markets. In addition, the proposal establishes consistent, uniform exemptions for certain swap dealer risk management transactions while maintaining exemptions for bona fide hedging. Essentially the measures are directed towards limiting concentration in any single contract in energy markets.***

- ***OTC regulation***

- ***More data transparency***

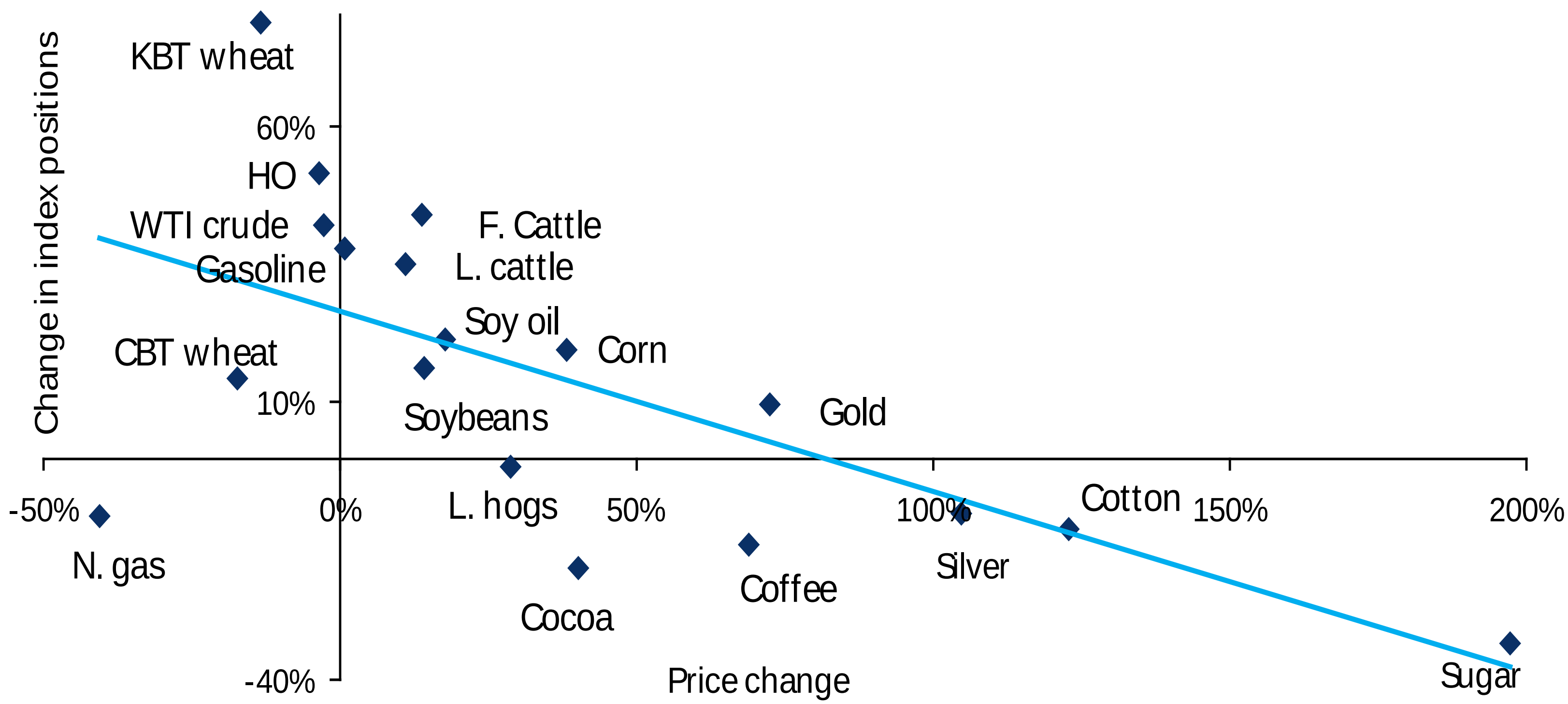
Impact on investment flows – limited?

- ***So far, limited impact on prices***
- ***Migration towards non-US exchanges – (WTI NYMEX vs ICE open interest)***
- ***But volatility may rise if liquidity is hampered***
- ***Resulting in even higher prices***

Regulations are injecting some uncertainty

One of the main wildcards over the next few years is likely to be the effect of regulation on commodity markets. We are concerned that new regulations will increase costs of risk management, reduce liquidity in US commodity futures markets and cut the capacity of commodity market participants to warehouse the large, long-term risks that are an intrinsic element of commodity trading.

Change in index positions Vs. price change in major US commodity markets, Dec 2007-Dec 2010



Source: Barclays Capital

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