

# Cold, Crimea & China: Transient supports to gold prices

Commodities Research

## Cold, Crimea & China: Transient supports to gold prices

The 2014 gold rally brought prices to their highest level since September before a more hawkish-than-expected March FOMC pushed prices sharply lower. Three distinct and in our view transient catalysts have driven this rally: (1) a sharp slowdown in US economic activity which we believe was weather driven, (2) high Chinese credit concerns, although ultimately bearish for gold demand through lower financing deals if realized, and (3) escalating tensions over Ukraine. While further escalation in tensions could support gold prices, we expect a sequential acceleration in both US and Chinese activity, and hence for gold prices to decline, although it may take several weeks to lift uncertainty around this acceleration. Importantly, it would require a significant sustained slowdown in US growth for us to revisit our expectation for lower US gold prices over the next two years.

## Re-acceleration in US activity will push gold prices lower

While we see clear catalysts for the recent rally in gold prices, this move has been large relative to US real rates which are a key input into our forecasts and benchmarking of gold prices. As a result, we see potential for a meaningful decline in gold prices towards the level implied by 10-year TIPS yields, which our rates strategists expect to rise further this year, and reiterate our year-end \$1,050/toz gold price forecast. More broadly, we believe that with tapering of the Fed's QE, US economic releases are back to being a key driving force behind gold prices. As a result, we expect that the decline in gold prices will likely be data dependent, in contrast to our 2013 bearish gold view which was driven by the disconnect between stretched long gold speculative positioning and stabilizing US growth.

## Indian and Chinese gold demand unlikely to surprise to the upside

Weak Indian gold imports and surging Chinese imports were the most important shifts in EM gold demand last year, although these trade statistics likely overestimated shifts in local gold demand given reported gold smuggling into India and the use of gold in Chinese financing deals. While we see potential for these shifts to reverse in 2014, we estimate the net impact will not be meaningful to our gold outlook as: (1) India's potential easing of gold import tariffs will likely remain modest given how much lower gold imports have contributed to its improved trade balance, (2) we expect a gradual unwind of gold backed financing deals.

### Damien Courvalin

(212) 902-3307 [damien.courvalin@gs.com](mailto:damien.courvalin@gs.com)  
Goldman, Sachs & Co.

### Jeffrey Currie

(212) 357-6801 [jeffrey.currie@gs.com](mailto:jeffrey.currie@gs.com)  
Goldman, Sachs & Co.

Investors should consider this report as only a single factor in making their investment decision. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to [www.gs.com/research/hedge.html](http://www.gs.com/research/hedge.html).

## Cold, Crimea and China: Transient supports to gold prices

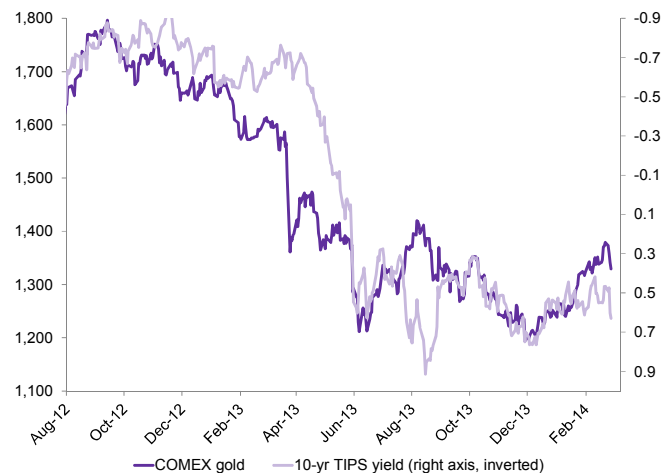
The year-to-date gold rally brought prices to their highest level since last September, at \$1,379/toz, before a more hawkish-than-expected March FOMC and lack of significant escalation since Russia’s annexation of Crimea brought prices back down to \$1,330/toz. Three distinct – and in our view transient – catalysts have contributed to this rally: (1) a sharp slowdown in US economic activity, with concerns that its magnitude extends beyond the impact of very cold winter weather, (2) weak Chinese activity indicators compounded by credit concerns, and (3) escalating tension between Russia and the G7 over Ukraine.

Our base-case forecast remains for a sequential acceleration in both US and Chinese activity, and hence for gold prices to decline. While we believe that it may take several more weeks to lift the uncertainty around this acceleration, the more hawkish-than-expected March FOMC is likely to weigh on gold prices in the short term. Admittedly, a rebound in US and Chinese growth this spring is a consensus view and a disappointment in either would lead us to delay our expected decline in gold prices. **However, it would require a significant sustained slowdown in US growth for us to revisit our expectation for lower US gold prices over the next two years.**

As has historically been the case, escalating geopolitical tensions could provide further support to gold prices and cannot be ruled out. Interestingly, while gold prices rallied sharply into last weekend’s referendum in Crimea, they sold off early this week as sanctions introduced so far fell short of expectations despite Russia’s annexation.

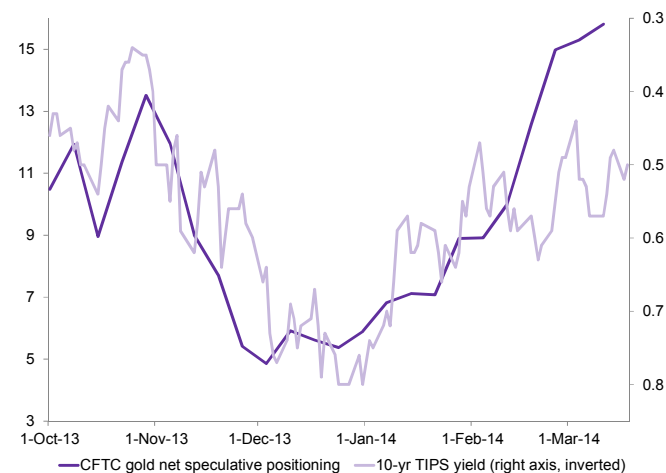
Ultimately, while we see clear catalysts for the recent rally in gold prices, this move has been large relative to US real rates which are a key input into our forecast and benchmarking of USD denominated gold prices. As a result, we see potential for a meaningful decline in gold prices towards the level implied by 10-year TIPS yields with confirmation of our expected acceleration in activity further pushing gold lower/rates higher. In turn, if we are wrong on this acceleration, we would expect lower US real rates to close the gap to potentially even higher gold prices.

**Exhibit 1: The rally in gold prices has occurred despite stable US real rates...**  
 \$/toz (left); % (right, inverted)



Source: COMEX, FRB.

**Exhibit 2: ... with COMEX gold net long speculative positioning elevated vs. our real rate benchmark as well**  
 mtoz (left); % (right, inverted)



Source: CFTC, FRB.

## The US economy hasn't caught a cold

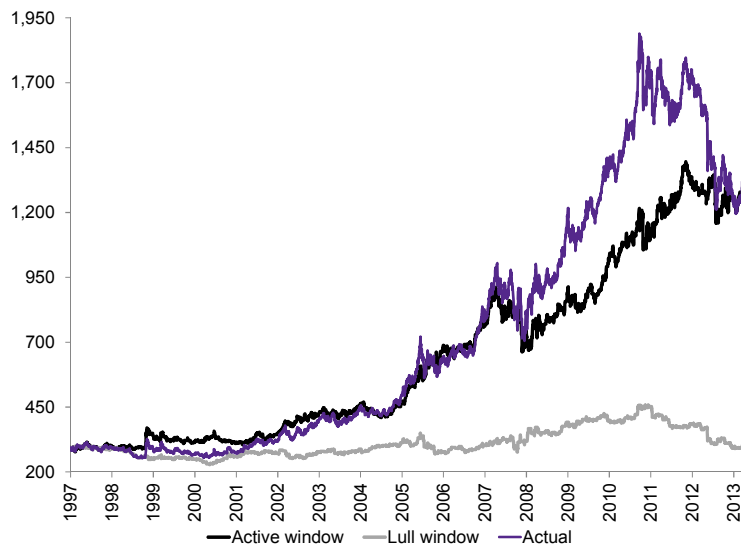
US economic data has weakened in 2014 although our economists see this as mostly weather related and expect that growth will accelerate for the remainder of the year. Nonetheless, uncertainty on the pace of economic growth will likely linger until we get confirmation of this rebound as: (1) a very cold first half of March will likely impact monthly economic indicators, (2) some data releases such as the January and February payrolls, were either weak in sectors typically not associated with weather or featured smaller weather impacts than expected, and (3) the strength in 4Q13 GDP growth was in part attributable to inventory accumulation and favorable trade data. As a result, it may take several more weeks, and until April economic data starts to be released, to get confirmation that the underlying pace of economic growth is indeed accelerating.

In the very short term, this near-term uncertainty is likely to be offset by the hawkish March FOMC which suggested that the Fed's path to a less accommodative monetary policy stance may occur faster than previously expected. More broadly, we believe that with the progressive tapering of the Fed's QE, economic releases will return to being the driving forces behind gold prices. Specifically, work from our economist Jose Ursua published last year<sup>1</sup> suggests that it is in fact the "active" window for US economic data releases – releases that feature meaningful new economic information – that will be the key drivers of gold prices as was the case before 2008. We illustrate this in Exhibit 3, breaking down the historical performance of gold prices between lull and active windows of US economic releases (which include scheduled FOMC releases). For the month of March, this window starts today (March 20) with the release of the Philly Fed Survey and will last for the next two weeks.

As a result, we expect that the decline in gold prices will likely be a data driven "grind lower" as we get progressive confirmation of the US growth acceleration. From a price action perspective, this stands in sharp contrast to our 2013 bearish view on gold prices which was driven by what we estimated was a disconnect between stretched long gold speculative positioning and stabilizing US growth with low inflation.

### Exhibit 3: The determination of gold prices will likely go back to being driven by US economic releases

Gold prices (\$/toz): Actual vs. active and lull windows of economic releases



Source: COMEX, Goldman Sachs Global Investment Research.

<sup>1</sup> See *Global Economics Weekly - The lull is dull: Getting the view right at the right time pays off*, March 20, 2013

## A Chinese slowdown is not necessarily bullish for gold prices

The uncertainty on the macro outlook has extended to China over the past few weeks with a softening of growth indicators at a time when credit concerns are already at the fore. Specifically, with little boost from exports and efforts to slow credit growth and curb corruption/pollution crimping domestic demand, our economists estimate that sequential growth in 1Q14 has weakened to 5%. However, our economists again expect an acceleration driven by stronger internal demand, the recent easing of financing conditions and the DM growth recovery.

Importantly, potential support from China to gold prices hinges on the impact that a sustained Chinese growth slowdown would have on domestic gold demand and US activity. We expect, however, that the impact on gold demand and prices will be limited given:

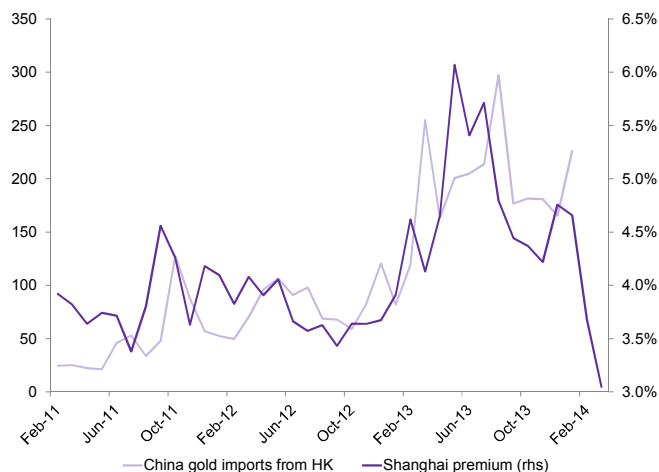
- Weaker Chinese economic growth could slow the expected recovery in US activity and ultimately delay a decline in gold prices/rise in US real rates. However, our economists view this pass through as limited, absent a hard landing, given the limited impact of weaker Chinese imports on US exports. In fact, the potential negative commodity price impact from weaker Chinese growth could support the US recovery.
- Our base case is for a gradual unwind of Chinese Commodity Financing Deals, which we estimate are actively implemented with gold as collateral<sup>2</sup>, based on: (1) gradually rising US rates, and (2) higher Chinese FX volatility which increases the cost of currency hedging and closes the interest rate arbitrage. Continued CNY depreciation in the short term could in fact trigger some deals to be unwound now and hence place downside risks to Chinese gold import.
- While January trade data pointed to strong gold imports from Hong Kong into China, the Shanghai over London LBMA gold premium has weakened significantly since then, pointing to sharply lower imports since (Exhibit 4). We further find that over a longer time horizon the Shanghai premium is strongly inversely correlated to COMEX gold prices, weakening on price rallies (Exhibit 5). This suggests that, as is the case for most EM gold demand and DM jewelry demand, Chinese gold demand remains very price sensitive with the 15% ytd rally in CNY denominated gold prices ultimately weighing on domestic gold demand.

On net, we believe that the pass through of weaker Chinese growth, absent a hard landing, would likely be modest both on our expected US acceleration as well as on Chinese gold demand. In fact, recent weakness in the Shanghai gold premium points to sequentially weaker domestic gold demand instead.

---

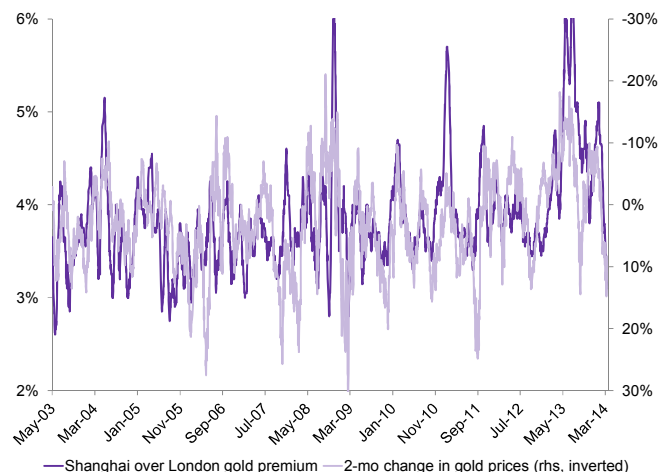
<sup>2</sup> *Metal Detector - Days numbered for Chinese commodity financing deals*, March 18, 2014

**Exhibit 4: The sharp decline in the Shanghai gold premium points to sharply weaker sequential imports**  
HK exports to China (tonnes, lhs); cash premium (% , rhs)



Source: UNComTrade, SGE, LBMA.

**Exhibit 5: Chinese gold demand is price responsive: the Shanghai premium is inversely correlated to gold returns**  
cash premium (% , lhs); 2-mo gold return (% , rhs, inverted)



Source: COMEX, SGE, LBMA.

Beyond US and Chinese economic activity, escalating tensions between Russia and the G7 as well as a potential easing of India’s gold import restrictions have contributed to the recent positive sentiment. We take no view on the former and indeed believe that further escalation could provide additional support to gold prices, however we believe that a gradual easing on India’s gold imports would likely only occur later this year and remain modest, limiting the upside to local gold demand.

**Further escalation between Russia and G7 could support gold**

As has historically been the case, gold prices have rallied on rising geopolitical tensions, this time between the G7 and Russia. In particular, recent acceleration in the gold rally coincided with the rally in wheat and corn prices, the two commodities potentially most impacted by disruptions in Ukraine<sup>3</sup>.

While gold prices rallied sharply into last weekend’s referendum in Crimea, prices sold off this week as the scope of EU sanctions introduced so far fell short of expectations despite Russia’s annexation of the region (visa bans and asset freezes). This price action suggests that further escalation in tensions between the G7 and Russia would likely be required to further support gold prices.

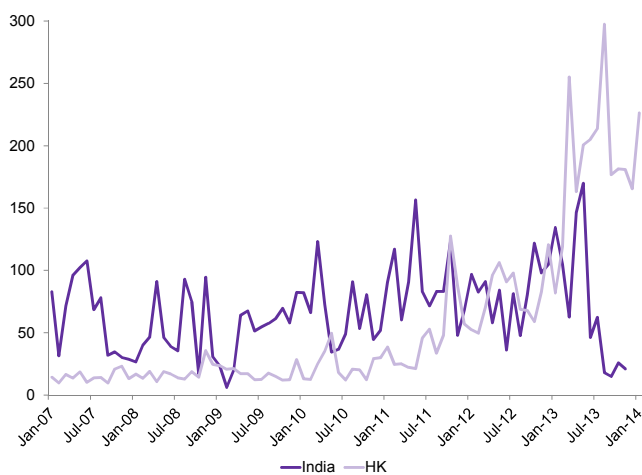
**A gradual easing in India’s gold import tariff likely**

Some of the countries that saw the largest currency depreciations last summer, India and Indonesia, have implemented broad measures aimed at stabilizing their currencies which sharply reduces risks of weaker local gold demand. This has in turn raised the question whether the Indian government would ease its gold import tariff which has led to a 80% decline in reported gold imports, although the decline in gold demand is likely smaller given reported gold smuggling into the country. Our expectation remains that it is unlikely that the government significantly eases these constraints, with no decision until June:

<sup>3</sup> Agriculture Update - Assessing the agriculture spillover from Ukraine, March 4, 2014

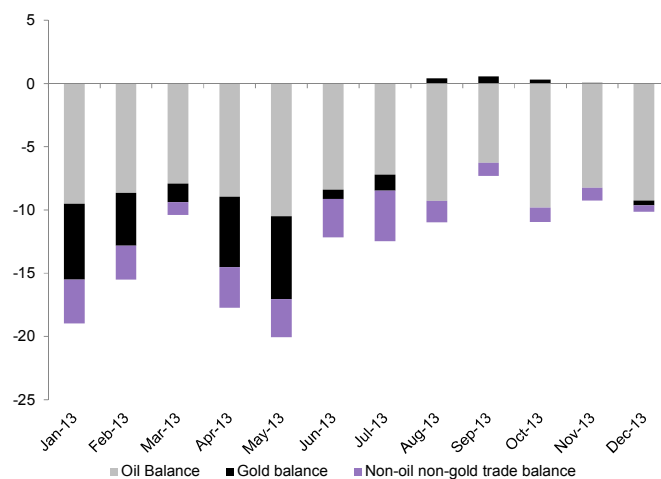
- Such decision could only be taken after mid-May as the government cannot make any policy changes during the election period (“the election code of conduct” policy).
- The decline in gold imports following the introduction of such measures has alone accounted for roughly 2/3 of the narrowing of the trade deficit since May 2013. As a result, an easing of gold import restriction would likely require a combination of a better macro backdrop or other measures to improve India’s trade balance and further enhancements to fiscal and monetary policy.
- While we believe that there ultimately will be an easing of such tariffs to help limit gold smuggling, the timing will be important. Specifically, GFMS jewelry data for India shows a statistically significant seasonal increase in gold jewelry demand in 2Q (April-June), ahead of the Fall wedding season. As a result, an easing post the election would likely occur too late to significantly raise 2014 Indian gold demand.

**Exhibit 6: The introduction of import tariffs last year led to a collapse in official gold imports into India**  
Monthly gold trade (tonnes)



Source: UNComTrade.

**Exhibit 7: Lower gold import following the introduction of tariffs were a significant contributor to a lower CA**  
India’s monthly trade balance (million USD)



Source: Haver.

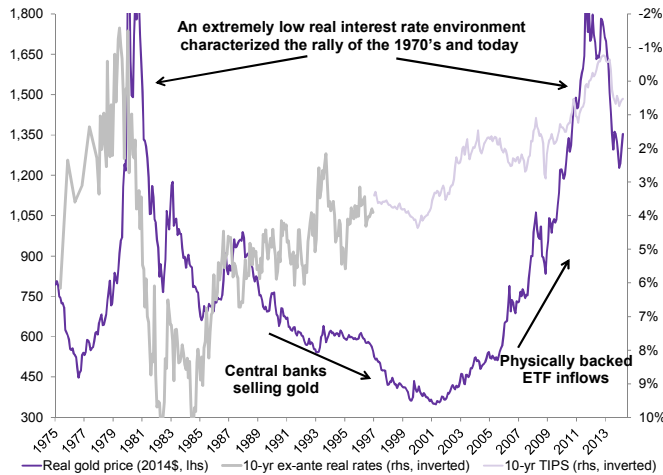
### Our 2014-15 gold outlook in fourteen charts

Beyond near-term uncertainty on the pace of US growth, our base case forecast remains for a sequential acceleration in US activity. As a result, we reiterate our bearish outlook for gold prices in 2014 and 2015 and our year-end forecast of \$1,050/toz. While the first quarter slowdown in activity creates risk that our expected price decline is delayed by one quarter, the more hawkish March FOMC which pointed to a potentially more aggressive path to less accommodative monetary policy is an offsetting risk.

With our gold forecast and framework unchanged, we illustrate and summarize the key drivers to our gold price forecast in our favorite charts below. For detailed discussion of our gold modelling, please refer to *Gold cycle set to turn on improving US recovery*, December 5, 2012 and *Neutral gold prices near-term but still expecting new lows in 2014*, September 16, 2013.

**Exhibit 8: Our gold modeling is based on US real interest rates and monetary physical gold demand (ETF and central banks)...**

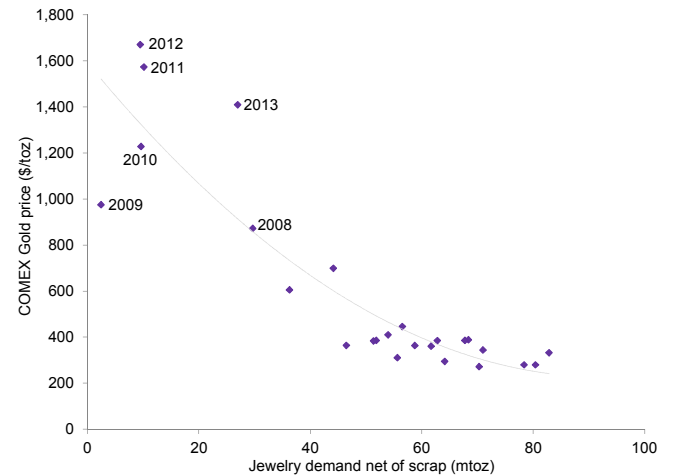
Gold prices in 2014 \$ (lhs), 10-yr US real rates (rhs, inverted), prior to 1997 to 1997 calculated as 10-yr US treasury yield less inflation expectations from University of Michigan Survey)



Source: COMEX, FRB, Goldman Sachs Global Investment Research.

**Exhibit 9: ... as we view retail demand for gold as responding to prices rather than setting prices. It should continue to grow as prices decline**

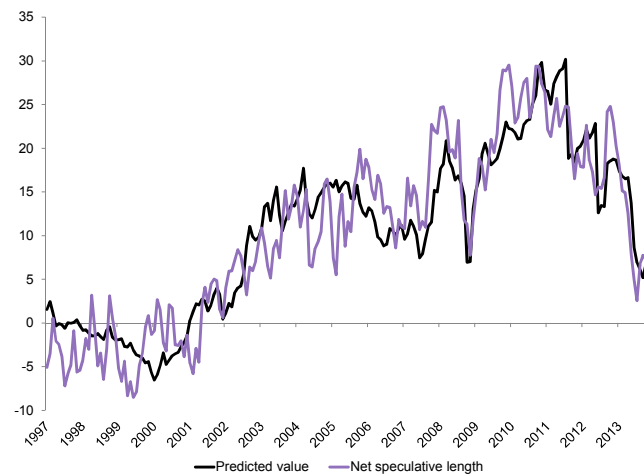
Annual average gold prices (\$/toz, vertical axis); Annual global jewelry demand net of scrap (million toz)



Source: GFMS, COMEX.

**Exhibit 10: For example, COMEX gold net speculative positioning is well explained by real rates and quantitative easing by the Federal Reserve...**

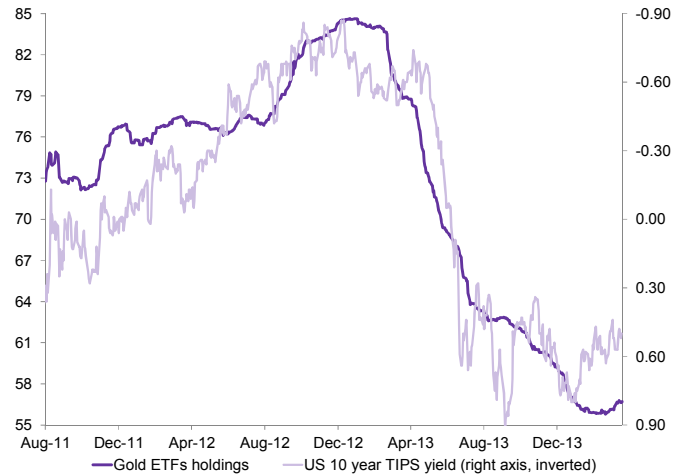
CFTC net speculative positioning (million toz)



Source: FRB, CFTC, Goldman Sachs Global Investment Research.

**Exhibit 11: ... with ETF holdings also tracking US real rates after their initial ramp up**

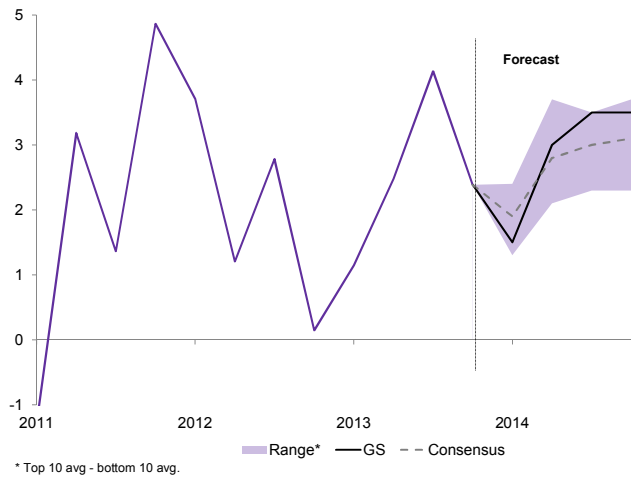
million toz (left); % (right, inverted)



Source: Bloomberg, FRB.

**Exhibit 12: Our economists forecast strong US GDP growth in 2014...**

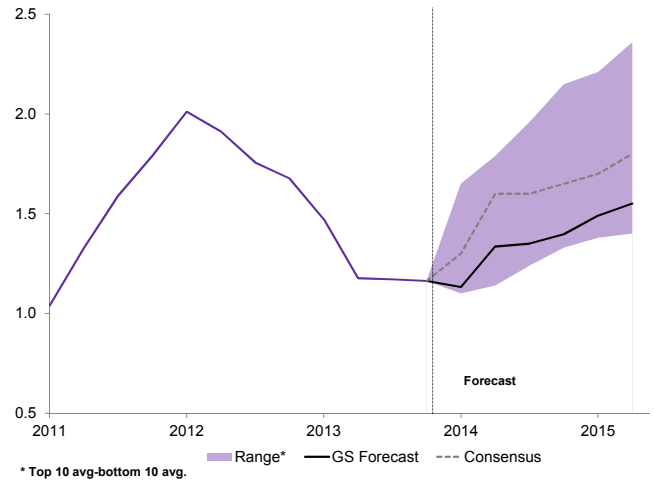
Real GDP growth (Ann. % chg.)



Source: Goldman Sachs Global Investment Research, FRB.

**Exhibit 13: ... coupled with low inflation**

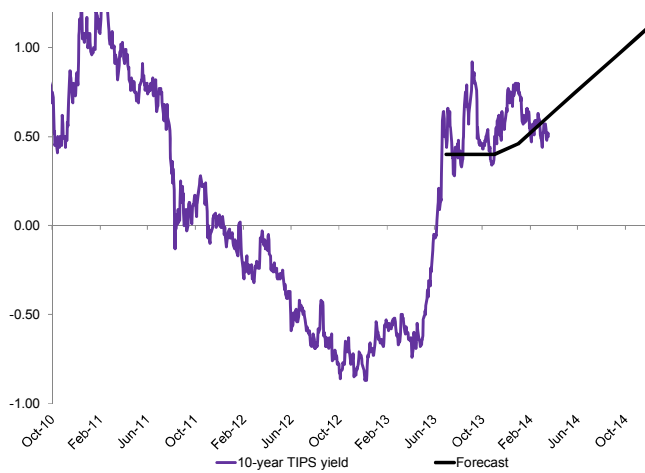
Inflation (Core PCE); Percent change, year ago



Source: Goldman Sachs Global Investment Research, FRB.

**Exhibit 14: This outlook points to higher US real rates...**

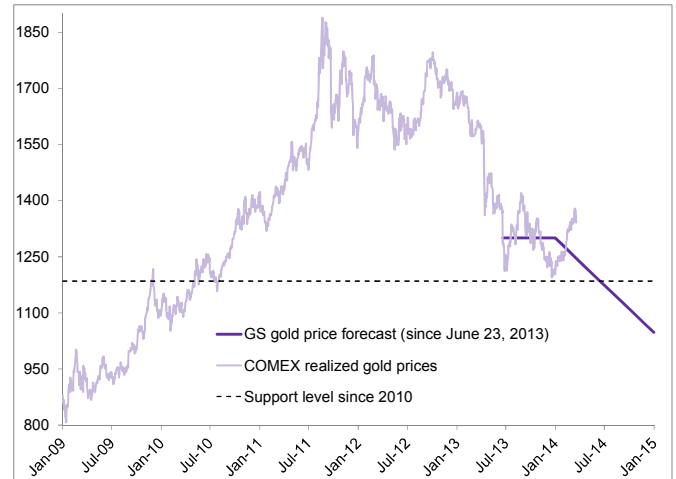
%



Source: Goldman Sachs Global Investment Research, FRB.

**Exhibit 15: ... and lower gold prices once economic data shows an acceleration in growth**

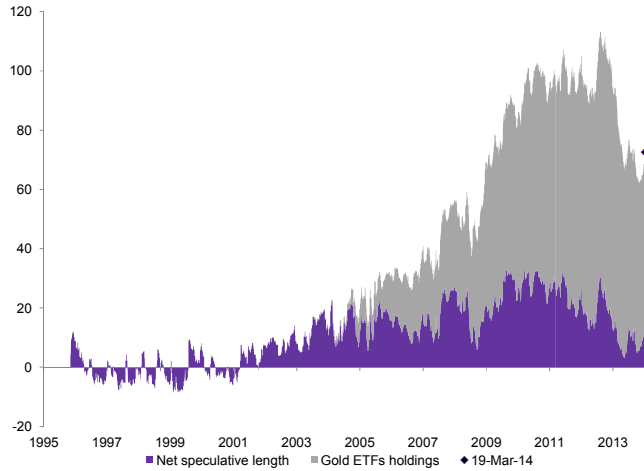
\$/toz (left); % (right, inverted)



Source: FRB, COMEX.

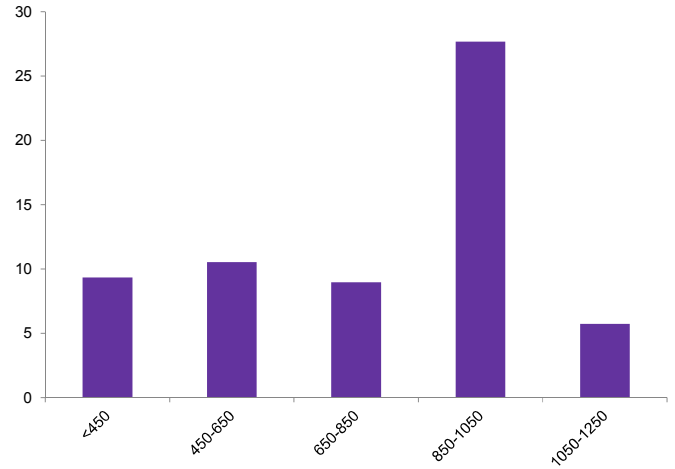


**Exhibit 16: Combined net long gold positioning is off its highs but offers sufficient ammunition for another leg lower...**  
million toz



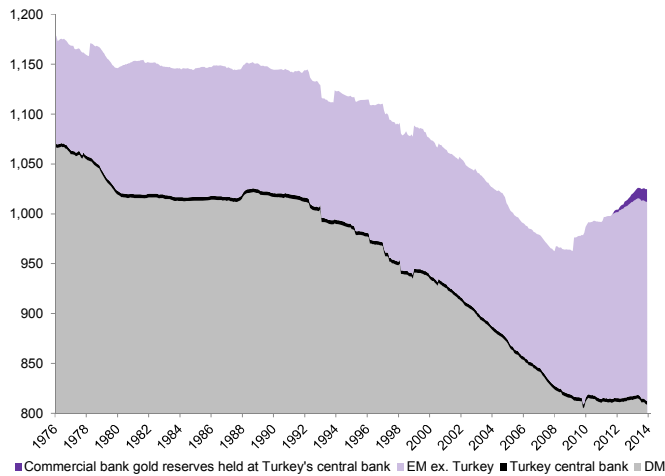
Source: Bloomberg, CFTC.

**Exhibit 17: ... with 10% of ETF gold holdings bought between \$1,050-1,250/toz**  
million toz



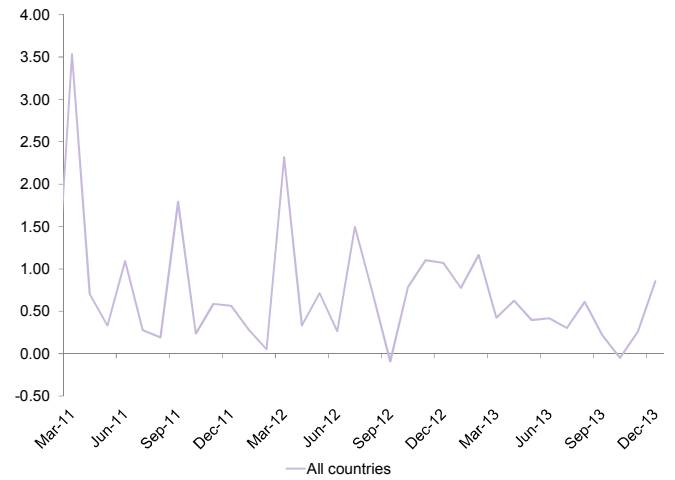
Source: Bloomberg.

**Exhibit 18: While EM central banks have become steady gold buyers and DM holdings are stable...**  
Central bank gold holdings (mtoz)



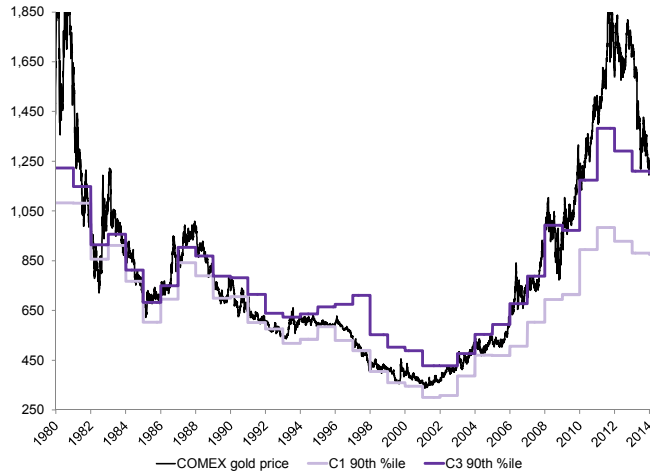
Source: IMF.

**Exhibit 19: ... EM central bank gold purchases have slowed in 2013 as gold prices declined**  
Central bank gold holdings (mtoz, monthly changes)



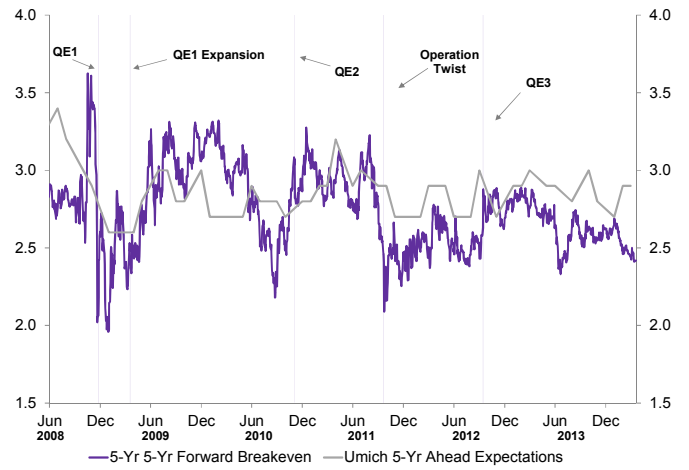
Source: IMF.

**Exhibit 20: Our year-end \$1,050/toz gold price forecast is below current marginal fully allocated production costs but the 1990s gold bear market suggests marginal cash cost is a more likely floor**  
 Real gold prices in 2014 \$/toz



Source: Wood Mackenzie, COMEX.

**Exhibit 21: The long-term gold outlook is dependent on the potential for strong inflation following significant Fed balance sheet expansion**  
 %



Source: FRB

## Price actions, volatilities and forecasts

	Prices and monthly changes <sup>1</sup>			Volatilities (%) and monthly changes <sup>2</sup>				Historical Prices						Price Forecasts <sup>3</sup>		
	units	19 Mar	Change	Implied <sup>4</sup>	Change	Realized <sup>4</sup>	Change	3Q 12	4Q 12	1Q 13	2Q 13	3Q 13	4Q 13	3m	6m	12m
<b>Energy</b>																
WTI Crude Oil	\$/bbl	100.37	↑ 0.07	18.0	-0.67	19.7	5.3	92.20	88.23	94.36	94.17	105.81	97.61	<b>96.00</b>	<b>95.00</b>	<b>90.00</b>
Brent Crude Oil	\$/bbl	105.85	↓ -3.23	16.5	-0.68	16.1	3.1	109.42	110.13	112.64	103.35	109.65	109.35	<b>105.00</b>	<b>105.00</b>	<b>100.00</b>
RBOB Gasoline	\$/gal	2.87	↑ 0.06	18.1	-0.18	32.6	14.8	2.95	2.73	2.99	2.83	2.91	2.66	<b>2.70</b>	<b>2.60</b>	<b>2.60</b>
NYMEX Heating Oil	\$/gal	2.90	↓ -0.18	17.6	-0.48	17.7	-18.7	3.00	3.05	3.04	2.89	3.05	2.99	<b>3.00</b>	<b>3.00</b>	<b>2.90</b>
NYMEX Nat. Gas	\$/mmBtu	4.48	↓ -0.73	30.4	-4.05	76.5	-11.9	2.89	3.54	3.48	4.02	3.56	3.85	<b>4.50</b>	<b>4.50</b>	<b>4.00</b>
UK NBP Nat. Gas	p/th	56.57	↓ -1.89	15.5	4.31	44.9	24.4	56.92	66.12	67.58	65.08	65.45	70.16	<b>70.60</b>	<b>72.00</b>	<b>77.60</b>
<b>Industrial Metals<sup>4</sup></b>																
LME Aluminum	\$/mt	1,739	↓ -7	16.3	0.91	17.7	3.4	1,950	2,018	2,041	1,871	1,828	1,815	<b>1,700</b>	<b>1,700</b>	<b>1,750</b>
LME Copper	\$/mt	6,553	↓ -597	15.9	1.34	19.3	9.9	7,721	7,924	7,958	7,190	7,098	7,169	<b>7,000</b>	<b>6,600</b>	<b>6,200</b>
LME Nickel	\$/mt	16,325	↑ 2075	21.9	-0.65	15.8	-2.8	16,396	17,025	17,375	15,035	14,019	13,978	<b>14,500</b>	<b>15,000</b>	<b>16,000</b>
LME Zinc	\$/mt	1,980	↓ -62	16.0	-0.37	15.4	2.2	1,905	1,978	2,054	1,876	1,897	1,932	<b>2,000</b>	<b>2,050</b>	<b>2,100</b>
LME Lead	\$/mt	2,078	↑ 22	16.2	0.84	14.8	1.8	1,989	2,200	2,308	2,065	2,115	2,136	<b>2,050</b>	<b>2,150</b>	<b>2,300</b>
<b>Precious Metals</b>																
COMEX Gold	\$/troy oz	1,341	↑ 22	15.2	-0.59	14.7	0.4	1,654	1,719	1,631	1,417	1,328	1,274	<b>1,215</b>	<b>1,150</b>	<b>1,050</b>
COMEX Silver	\$/troy oz	20.8	↓ -0.6	26.7	-0.31	23.6	-0.6	29.9	32.6	30.1	23.2	21.4	20.8	<b>20.3</b>	<b>19.2</b>	<b>17.5</b>
<b>Agriculture</b>																
CBOT Wheat	cent/bu	716	↑ 117	26.7	3.31	33.7	11.5	871	846	739	695	650	655	<b>610</b>	<b>560</b>	<b>575</b>
CBOT Soybean	cent/bu	1,411	↑ 103	18.7	2.50	16.0	2.2	1,677	1,484	1,450	1,468	1,407	1,304	<b>1,400</b>	<b>1,050</b>	<b>1,050</b>
CBOT Corn	cent/bu	488	↑ 43	26.6	6.00	22.1	10.9	783	737	716	661	514	430	<b>450</b>	<b>400</b>	<b>400</b>
ICE Cotton	cent/lb	93	↑ 4	18.8	-1.35	19.5	0.9	73	73	83	86	86	81	<b>75</b>	<b>75</b>	<b>75</b>
ICE Coffee	cent/lb	185	↑ 45	46.8	19.84	69.6	25.8	172	152	143	132	118	110	<b>130</b>	<b>130</b>	<b>130</b>
ICE Cocoa	\$/mt	3,025	↑ 91	23.9	0.65	14.8	-4.9	2,438	2,421	2,175	2,278	2,420	2,734	<b>2,700</b>	<b>2,700</b>	<b>2,700</b>
ICE Sugar	cent/lb	17.3	↑ 1.7	22.9	3.74	44.3	19.0	21	20	18	17	17	18	<b>16.5</b>	<b>17.5</b>	<b>17.5</b>
CME Live Cattle	cent/lb	146.1	↑ 3.5	8.6	0.35	13.3	2.6	122	127	128	122	124	132	<b>138.0</b>	<b>133.0</b>	<b>135.0</b>
CME Lean Hog	cent/lb	124.2	↑ 37.6	16.3	1.29	41.1	29.5	83	82	84	92	94	87	<b>90.0</b>	<b>100.0</b>	<b>80.0</b>

<sup>1</sup> Monthly change is difference of close on last business day and close a month ago.

<sup>2</sup> Monthly volatility change is difference of average volatility over the past month and that of the prior month (3-mo ATM implied, 1-mo realized).

<sup>3</sup> Price forecasts refer to prompt contract price forecasts in 3-, 6-, and 12-months time.

<sup>4</sup> Based on LME three month prices.

Source: Goldman Sachs Global Investment Research.

# Disclosure Appendix

## Reg AC

We, Damien Courvalin and Jeffrey Currie, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

## Disclosures

### Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; in Canada by either Goldman Sachs Canada Inc. or Goldman, Sachs & Co.; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman, Sachs & Co. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

**European Union:** Goldman Sachs International authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman Sachs AG and Goldman Sachs International Zweigniederlassung Frankfurt, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also distribute research in Germany.

### General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. Goldman, Sachs & Co., the United States broker dealer, is a member of SIPC (<http://www.sipc.org>).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, our proprietary trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

The analysts named in this report may have from time to time discussed with our clients, including Goldman Sachs salespersons and traders, or may discuss in this report, trading strategies that reference catalysts or events that may have a near-term impact on the market price of the equity securities discussed in this report, which impact may be directionally counter to the analyst's published price target expectations for such stocks. Any such trading strategies are distinct from and do not affect the analyst's fundamental equity rating for such stocks, which rating reflects a stock's return potential relative to its coverage group as described herein.

We and our affiliates, officers, directors, and employees, excluding equity and credit analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at <http://www.theocc.com/about/publications/character-risks.jsp>. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research or data available on a particular security, please contact your sales representative or go to <http://360.gs.com>.

Disclosure information is also available at <http://www.gs.com/research/hedge.html> or from Research Compliance, 200 West Street, New York, NY 10282.

© 2014 Goldman Sachs.

**No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.**