

20 January 2010

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# Gold costs rise again

## And there's more to come

**GFMS estimates world average gold mine production total costs in Q3 09 at \$631/oz, up 11% vs Q1 09. Total costs were only just higher than the \$623/oz of Q3 08 but they show a resumption of the rising trend in costs after a significant decline in late 2008/early 2009. We expect cost pressures on gold miners to continue and supply to remain constrained in the coming years. This underpins our longer-term bullish outlook for gold.**

The hiatus in gold mine production costs in late 2008/early 2009 was no more than that – a hiatus. Power costs (notably oil) worldwide and Eskom-supplied electrical power in S.Africa are on the way up again and the long-term outlook is for much higher costs than in 2009. Furthermore, labour costs are still rising.

Higher by-product credits are likely to offset these pressures to some extent, but by nowhere near enough. We do not expect to see significant further upside to the gold price until 2012; in fact, we expect the gold price to come under pressure in Q2 10 in the face of a stronger US dollar and the prospect of rising interest rates. However, rising production costs and limited supply growth will help to underpin our expectation for gold to average at least \$1,000/oz in 2010. We expect gains in the gold price to resume in 2012, with the price forecast to average \$1,350/oz by H2 13.

Update 2 of the GFMS Gold Survey 2009 estimates a world average gold mine cash cost in Q3 09 of \$492/oz and average total production costs at \$631/oz. This is in fact not far from the cash cost of \$496/oz and total cost of \$623/oz estimated for Q3 08, but it shows an extension of the rising trend in costs that resumed after a fall to \$566/oz (total costs) in Q1 09. (Figures are the average only for mines where gold is the primary product.)

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**Quarterly regional cash production costs – uptrend in world production costs resumes after a hiatus in late 2008/early 2009.**



Source: GFMS, RBS

**Regional variations are substantial**

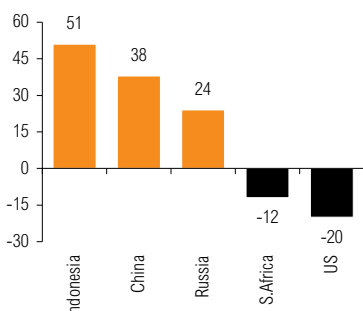
Cost figures are not readily available for China, now the world's largest producer, but the table below shows that South Africa (now only the world's third largest producer with an estimated 222t in 2009, ~9% of total) suffered the largest cost increase. South African cash costs rose by a staggering 45% between Q1 09 and Q3 09). World total production costs rose by 11% versus Q1 09.

**GFMS estimates of cash production costs of four of the major gold mining nations and world cash and total costs – Q3 09 world costs rose by 11% versus Q1 09, South African cash costs rose by a staggering 45%**

	Q1-08	Q2-08	Q3-08	Q4-08	Q1-09	Q2-09	Q3-09	% Ch Q309 vs Q109	2008	% Ch Q309 vs 2008
South Africa	511	492	565	462	444	546	642	45%	508	27%
Australia	518	568	649	552	533	536	571	7%	572	0%
US	469	447	475	488	511	410	525	3%	470	12%
Canada	542	518	483	410	398	432	421	6%	488	-14%
World cash cost	447	463	496	453	443	469	492	11%	465	6%
World total cost	562	581	623	568	566	608	631	11%	585	8%

Source: GFMS, RBS

**Major changes gold mine production in 2009 (t)**



Source: GFMS

**Oil may add up to \$20/oz in costs worldwide over the next three years**

The cost structure varies across the world, but a good rule of thumb is that a **\$1/bl increase in the price of crude oil equates to \$0.50/oz on global average minesite gold costs**. Brent crude averaged \$62/b in 2009, so on the basis of our forecast oil price we can expect, all other things being equal, oil to add \$9/oz to costs in 2010 and a further \$3/oz in 2011. By 2013 oil-related costs may be \$20/oz higher than they were in 2009.

For the South African producers the tale has even heavier overtones as its mines are among some of the world's most power-intensive operations. Local costs in the South African industry registered double-digit increases in every quarter over the course of 2009. The latest two-year pay deal includes pay rises of between 9% and 10.5% in the first year and then consumer price inflation+ 1% or 7.5%, whichever is the higher (latest CPI in South Africa is 7.9%).

**The proposed 35% pa Eskom tariff increases from April 2010 to March 2013 inclusive would be likely to add ~\$160/oz to South African costs, which, taken with a \$100/b oil price, would take costs to ~\$800/oz.**

South African output is further constrained by declining grades and labour cost increases. Labour cost increases have been ~10% pa over the past decade and are likely to continue to increase at a similar rate. They also tend to form a higher proportion of the miners' cost base than elsewhere (notably the open-pit sector where labour costs are between 25% and 35% of total costs).

Looking at 2010, oil and power could add ~\$60/oz in dollar costs to South African producers and labour could add another \$30/oz. All other things being equal, this would lead to South African average costs of ~\$730/oz in 2010.

Scrap supply will be substantially lower in H1 10 than the very heavy flows of H1 09; scrap supply is forecast to be 232t less than in H1 09. GFMS expects the imbalance between supply and demand (prior to investment activity) to be ~500t smaller than in H1 09. Partly due to constraints on mine supply, we expect these imbalances to close sharply between now at 2012.

**The world's five largest gold mine producers, Q3 09**

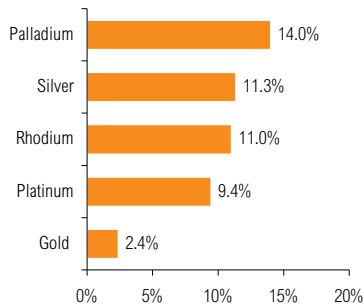
	Tonnes	000oz
Barrick Gold	59	1,900
Newmont Mining	41	1,331
AngloGold Ashanti	37	1,187
Gold Fields	28	906
Freeport	22	708

Source: GFMS

**We expect mine supply to remain constrained and expect investment demand to largely absorb any residual market surplus in the coming years. This underpins our bullish longer-term view on the gold price.**

# PGM ETFs off at a gallop

## YTD price performance; palladium blazing the way in 2010



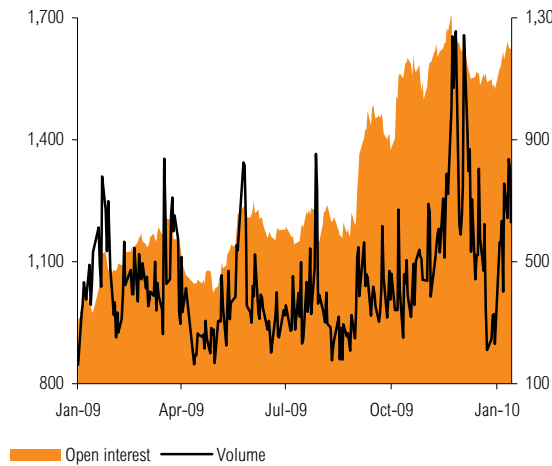
Source: Bloomberg, RBS

Anticipation of the launch of the new platinum and palladium ETFs has provided a lift to the PGMs in early 2010. Any scepticism regarding the sustainability of the rally in platinum and palladium prices after the launch of the funds has been silenced; **strong inflows into the funds have helped to maintain the white metals' price momentum** with both metals surging to fresh 17/18m highs.

**Gold and silver have paused for a period of consolidation after their runs in early January.** The physical gold consumer markets did not like the volatility in price at the start of the year and voted with their feet; since reaching \$1,161/oz on 11 January, gold retreated and subsequently has traded in decreasing ranges. Solid support is now developing between \$1,120-1,130/oz with signs of good physical demand returning at these levels. Initially this interest was just on dips in the price, but now it is building steadily. However, with the EUR/USD breaking through key support at 1.4290, further near term strengthening of the USD would almost certainly put gold under pressure.

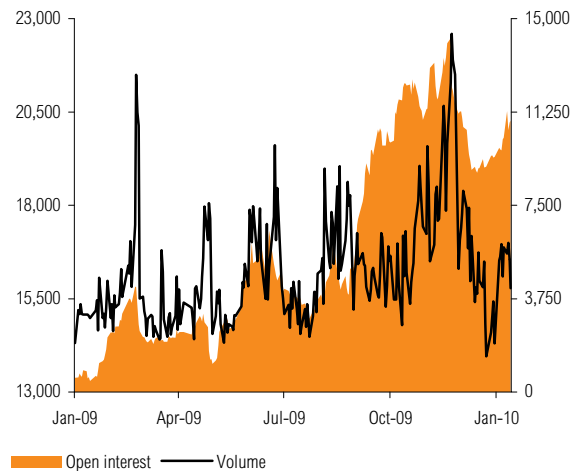
Silver continues to follow a similar pattern to gold, rushing up towards \$19/oz in early January and then dropping smartly, since when it has been building support between \$18.0 and \$18.4, also in an ever-decreasing daily range. Silver is also building physical buying support, and not just on price dips, which is a relatively unusual development - normally the action is more intermittent.

## Gold open interest levels are rising as market activity increases after nervousness in late December... (t)



Source: Bloomberg, RBS

## ... and the story is similar in the silver market (t)



Source: Bloomberg, RBS

## Platinum and palladium still bounding higher and it is physical buying that is important here, too

The bubbling enthusiasm with which the US platinum and palladium ETFs have been greeted has seen buckets of money going into the new funds and given the metals another boost in price. The funds are attracting plenty of press coverage and this is helping boost what is almost, but perhaps not quite, a feeding frenzy. Palladium, the darling of the sector for some while now has scooted up to \$465/oz, the highest level since July 2008.

The longer-established platinum and palladium funds, the ETF Securities London-based ETF and the Swiss-based ZKB fund, and the recently launched Julius Baer platinum and palladium ETFs have been relatively quiet while the new US-based funds have bounced onto the stage.

The new US funds started cautiously, with just 10,000oz of each metal going into the coffers on the first day (this had been foreshadowed by reports the previous week that the sponsor of the fund had bought metal for the initial launch). Thereafter there was no recorded increase in either fund until Thursday 14 January, when platinum added almost 780kg or (25koz) and palladium gained 930kg (30koz). Then things took off, with platinum rising the following day by 1.7t (55koz) and palladium by 1.9t (60koz).

**Physically backed platinum and palladium ETF holdings (t) – inflows into the new US listed ETFs gains space in mid January with plenty of scope for further inflows in the coming weeks.**

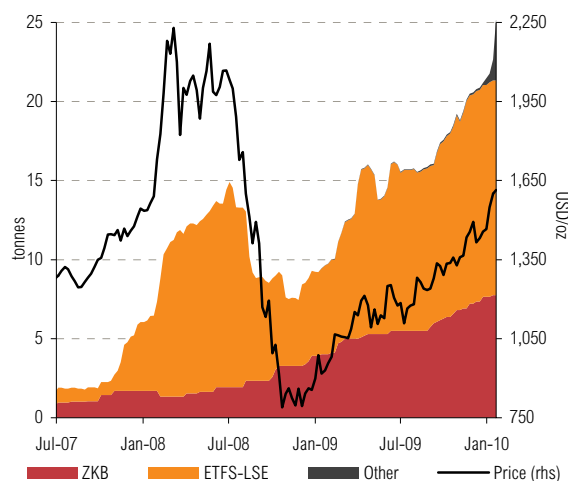
Platinum	ETFS - LSE	ZKB - SWX	ETFS - NYSE	Julius Baer - SWX	ETFS - ASX	Total
24/12/2009	13.4	7.6	0.0	0.0	0.1	21.2
31/12/2009	13.4	7.6	0.3	0.0	0.1	21.5
07/01/2010	13.6	7.6	0.3	0.1	0.1	21.8
14/01/2010	13.6	7.7	1.1	0.1	0.1	22.7
<b>18/01/2010</b>	<b>13.6</b>	<b>7.7</b>	<b>3.7</b>	<b>0.1</b>	<b>0.1</b>	<b>25.3</b>
Palladium						
24/12/2009	20.6	15.5	0.0	0.0	0.1	36.2
31/12/2009	20.7	15.5	0.3	0.0	0.1	36.6
07/01/2010	20.6	15.5	0.3	0.2	0.1	36.8
14/01/2010	20.8	15.5	1.2	0.2	0.1	37.9
<b>18/01/2010</b>	<b>21.0</b>	<b>15.5</b>	<b>3.9</b>	<b>0.2</b>	<b>0.1</b>	<b>40.7</b>

Source: ETF Securities, ZKB, Julius Baer, RBS

In dollar terms the cumulative daily inflows into these funds in their first fortnight have amounted to \$142m and \$43m respectively. This compares with the metal content of the previously existing funds at \$1.1 billion and \$530 million at the end of last week. In tonnage terms the New York funds have augmented the existing instruments by 13% and 9% respectively.

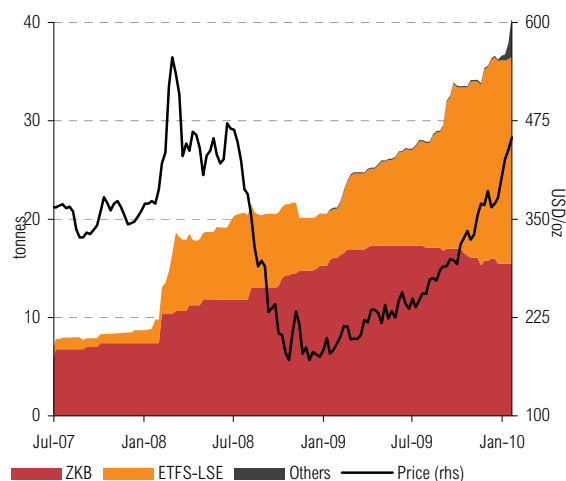
On this basis, it is interesting to note that the platinum funds have taken up 10% less metal than palladium so far (but obviously substantially more in dollar terms), although, in tonnage terms, the palladium market is larger than that of platinum (2009 industrial non-ETF palladium demand was 12% larger than platinum). It is very early days, but as we noted in last week's Precious Metals Review, there is scope for considerable uptake in these funds.

**Platinum ETF holdings and the platinum price – combined holdings are up by 3.8t 18% in 2010**



Source: ETF Securities, ZKB, Julius Baer, RBS

**Palladium ETF holdings and the palladium price – combined holdings are up by 4.1t 11% in 2010**



Source: ETF Securities, ZKB, Julius Baer, RBS

**Gold and the US\$ index – stronger USD would pressure gold**



Source: Bloomberg, RBS

Despite potentially looking a little overextended with palladium reaching \$465/oz and platinum breaching \$1,650/oz, investor sentiment towards the PGMs remains positive. It is important to note that the platinum and palladium markets are very small compared, not only with other commodity markets, but more importantly with the buying power of the investment community. **Provided investor sentiment remains supportive towards the PGMs and ETF inflows continue we still see further potential near term upside for platinum and palladium prices and expect them to outperform silver and gold.**

**Gold and Silver – a sharply stronger US dollar is a near term concern**

Despite some supportive signs from the physical market in early 2010 a sharply stronger US dollar would certainly put gold and silver under pressure near term. EUR/USD broke through its 200 day moving average at 1.4290 on 19 January, technically pointing to a potential move below 1.38 in the coming weeks.

**Holdings in the gold ETFs have been coming down over the past few weeks, while “grass roots” consumers have been busy – although local Indian market prices have remained at a small discount to the international market.**

At the start of the year the major funds held a combined 1,763t; since then they have come down to 1,744t with the vast majority of the falls coming in the main SPDR fund, which has shed almost 21t. With little annual industrial consumption (~10% in electronics), gold has less leverage to the economic recovery compared with the PGMs or silver. The decline in gold ETF holdings may reflect a rotation by precious metal investors out of gold ETFs and into PGM ETFs.

As far as the physical markets are concerned, the fact that gold (and silver) demand has returned relatively quickly is encouraging for the bulls in the short term. However, the GFMS Gold Survey Update 2 suggest that supply will exceed jewellery and fabrication demand by more than 500t in H1 10. This is equivalent to almost 40% of forecast fabrication and bar hoarding demand, which is a daunting prospect and means that the market may have to work hard to keep non-dollar prices, at least, at current levels.

Trading conditions have been actually been reasonably lively, with trading volumes on COMEX registering some 12% more than the average for the whole December. The attrition in the ETFs has been in slight contrast to the action among COMEX speculators, who have increased their net long positions on COMEX very slightly, from 868t as the start of the year to 879t in mid-January, with both long and short side positions increasing.

**The gold:silver ratio has narrowed to below 61 in mid-January from more than 65 at the start of the year.** This is partly a reflection of fresh grass roots investor physical interest in silver, combined with renewed speculative interest in the professional market. It does appear, though, that the “trade” has withdrawn as prices have moved again towards \$19/oz. Lease rates are flat, however, and COMEX figures suggest that some trade users of the market may have been hedging some inventory into price strength while others have been taking cautious forward cover.

Although **silver’s fundamental position remains weak** (particularly relative to the PGMs), with a significant underlying surplus forecast for 2010, its exposure to the industrial sector provides silver with more leverage to the economic recovery than gold, which may attract some investor attention.

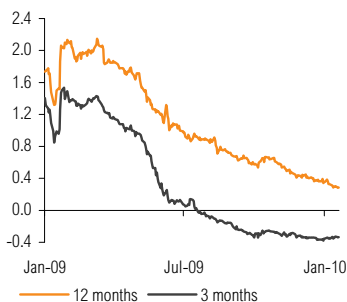
**In the short term the silver picture is looking relatively robust; the ratio is attracting attention as it approaches 60 and the technical picture has picked up. We do not see significant near term upside for silver but its industrial exposure may allow it to hold up better than gold in the coming weeks.**

**The silver price and the gold silver ratio – ratio approaching 60:1**



Source: Bloomberg, RBS

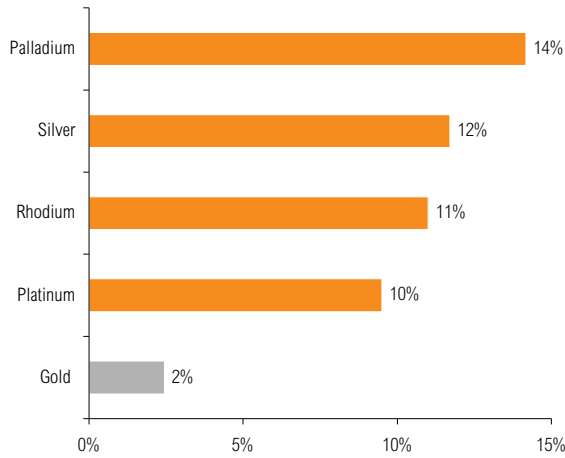
**Silver 3 month and 12 month lease rates, %**



Source: Thomson Reuters, RBS

Appendix of some of our favourite precious metal charts

Precious metals price performance in 2010 ytd – gold still the laggard



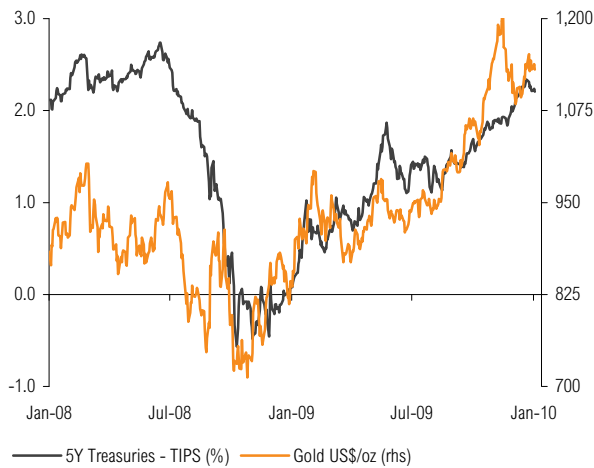
Source: Bloomberg, LBMA, RBS

Gold vs the DXY index – inverse relationship remains intact. Weaker USD is usually good for the gold price



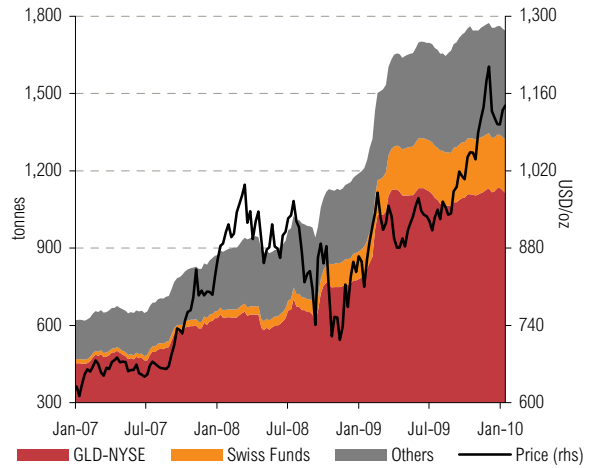
Source: Bloomberg, LBMA, RBS

Gold vs US inflation expectations – 5 Year treasuries vs TIPS – Treasury inflation protected securities (%)



Source: Bloomberg, LBMA, RBS

Gold ETF holdings – holdings edging away from record levels



Source: WGC, RBS

Gold in Indian Rupee and Turkish Lira – India and Turkey accounted for 28% of 2008 fabrication demand.



Source: Bloomberg, LBMA, RBS

Silver price and the gold silver price ratio – gold:silver ratio falls towards 60:1 as silver outperforms gold



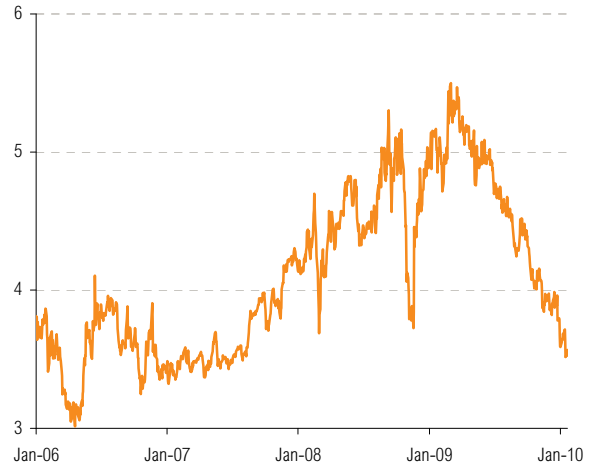
Source: Bloomberg, LBMA, RBS

**Platinum gold premium (US\$/oz) – despite recent gains, platinum remains cheap relative to gold**



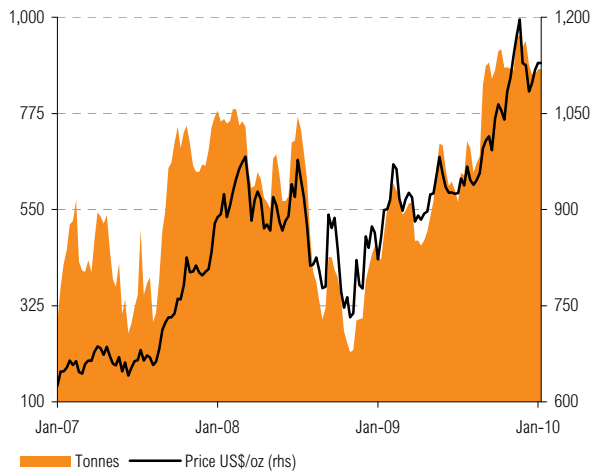
Source: Bloomberg, LBMA, RBS

**Platinum:palladium ratio – palladium outperformed platinum in 2009, we expect this to continue in 2010**



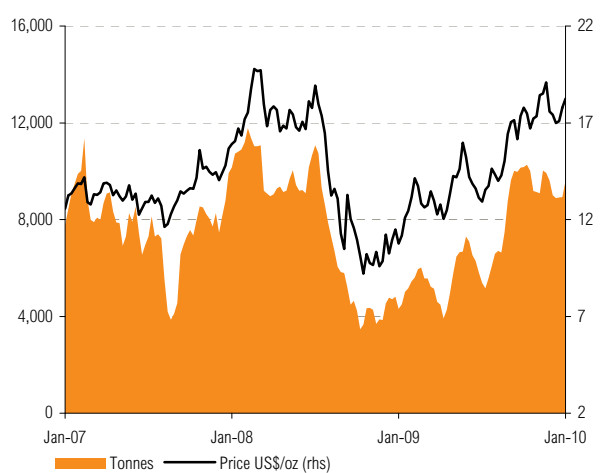
Source: Bloomberg, LBMA, RBS

**Gold: price and net speculative position on COMEX**



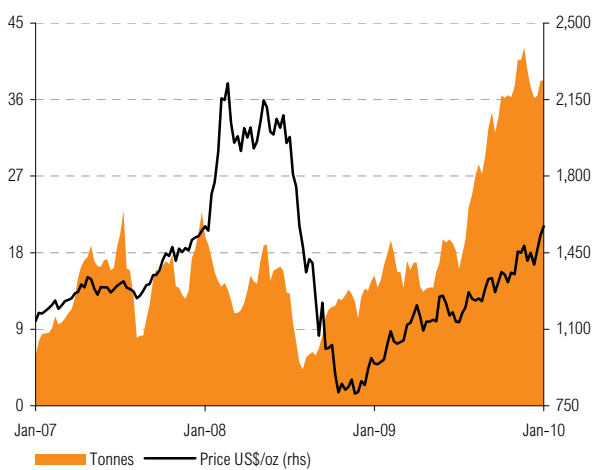
Source: CFTC, Bloomberg, RBS

**Silver: price and net speculative position on COMEX**



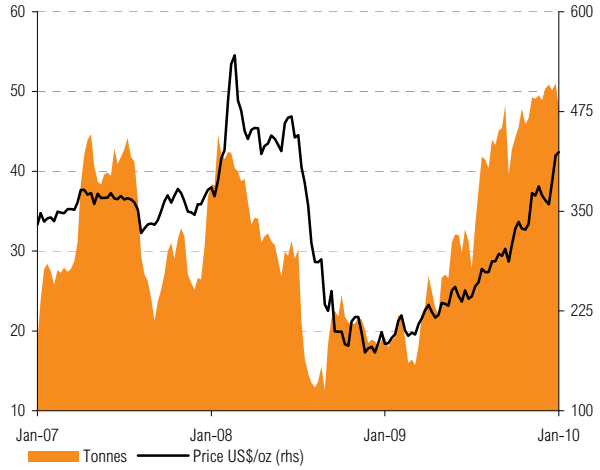
Source: CFTC, Bloomberg, RBS

**Platinum: price and net speculative position on NYMEX**



Source: CFTC, Bloomberg, RBS

**Palladium: price and net speculative position on NYMEX**



Source: CFTC, Bloomberg, RBS

## Key precious metal data – average prices and ETF holdings

## Monthly average gold prices and physically backed ETF holdings

	Monthly Average Prices			Physically backed ETF holdings -end month tonnage and value (US\$m )					
	2007	2008	2009	2007		2008		2009	
				Volume	Value	Volume	Value	Volume	Value
Jan	631	890	859	619	12,939	897	26,622	1,295	38,278
Feb	665	922	943	652	13,923	916	28,604	1,515	46,377
Mar	655	<b>968</b>	924	658	13,991	943	28,306	1,648	48,566
Apr	679	910	890	669	14,570	882	24,701	1,646	46,748
May	667	889	929	648	13,730	904	25,735	1,677	52,603
Jun	655	889	946	654	13,673	948	28,358	1,694	50,911
Jul	665	940	934	690	14,766	1,010	29,796	1,656	49,992
Aug	665	839	949	715	15,439	989	26,478	1,673	51,386
Sep	713	830	997	791	18,907	1,093	31,093	1,733	55,470
Oct	755	807	1,043	824	20,909	1,130	26,540	1,738	58,123
Nov	806	761	1,127	834	21,006	1,145	29,993	<b>1,763</b>	<b>66,642</b>
Dec	803	819	1,189	872	23,362	1,190	33,087	1,753	62,221
<b>Average</b>	<b>696</b>	<b>872</b>	<b>975</b>	<b>719</b>	<b>16,434</b>	<b>1,004</b>	<b>28,276</b>	<b>1,649</b>	<b>52,276</b>

## Monthly average silver prices and physically backed ETF holdings

	Monthly Average Prices			Physically backed ETF holdings -end month tonnage and value (US\$m)					
	2007	2008	2009	2007		2008		2009	
				Volume	Value	Volume	Value	Volume	Value
Jan	12.84	15.96	11.29	3,642	1,565	5,837	3,141	9,113	3,665
Feb	13.91	17.57	13.41	3,920	1,803	6,068	3,827	9,829	4,174
Mar	13.18	<b>19.50</b>	13.12	4,104	1,762	6,357	3,677	10,215	4,305
Apr	13.74	17.50	12.51	4,209	1,827	6,606	3,498	10,407	4,226
May	13.15	17.05	14.03	4,329	1,844	6,833	3,702	10,434	5,206
Jun	13.14	16.97	14.65	4,392	1,771	7,016	3,981	10,860	4,867
Jul	12.91	18.03	13.36	4,631	1,925	7,314	4,110	11,040	4,838
Aug	12.36	14.69	14.35	4,522	1,737	7,610	3,367	11,032	5,157
Sep	12.83	12.37	16.39	4,724	2,073	8,147	3,395	10,948	5,790
Oct	13.67	10.44	17.24	4,911	2,261	8,070	2,408	11,094	5,910
Nov	14.70	9.87	18.94	5,101	2,334	8,081	2,629	11,882	<b>6,930</b>
Dec	14.30	10.29	17.67	5,297	2,514	8,253	2,863	<b>12,066</b>	6,591
<b>Average</b>	<b>13.38</b>	<b>14.99</b>	<b>14.75</b>	<b>4,482</b>	<b>1,951</b>	<b>7,183</b>	<b>3,383</b>	<b>10,743</b>	<b>5,138</b>

## Monthly average platinum prices and physically backed ETF holdings

	Monthly Average Prices			Physically backed ETF holdings -end month tonnage and value (US\$m)					
	2007	2008	2009	2007		2008		2009	
				Volume	Value	Volume	Value	Volume	Value
Jan	1,148	1,586	950	-	-	7.4	409	9.8	311
Feb	1,205	2,000	1,036	-	-	11.1	765	11.9	404
Mar	1,219	2,046	1,081	-	-	11.6	763	14.6	528
Apr	1,278	1,988	1,163	0.15	6	12.3	765	15.7	552
May	1,301	<b>2,055</b>	1,130	1.30	54	13.4	865	14.3	540
Jun	1,286	2,038	1,218	1.64	67	14.6	971	15.2	581
Jul	1,303	1,904	1,162	1.85	77	13.3	751	15.7	601
Aug	1,265	1,489	1,245	1.77	72	8.9	423	16.0	641
Sep	1,308	1,223	1,289	1.86	82	8.6	277	17.5	724
Oct	1,411	913	1,333	2.44	113	7.5	197	19.0	808
Nov	1,449	840	1,401	4.95	229	7.5	210	20.4	947
Dec	1,485	839	1,444	6.05	297	9.2	267	<b>21.1</b>	<b>992</b>
<b>Average</b>	<b>1,305</b>	<b>1,572</b>	<b>1,204</b>	<b>2</b>	<b>111</b>	<b>10.5</b>	<b>555</b>	<b>15.9</b>	<b>634</b>

Source: LBMA, LPPM, WGC, ETF Securities, Zurcher Kantonalbank, ishares, RBS



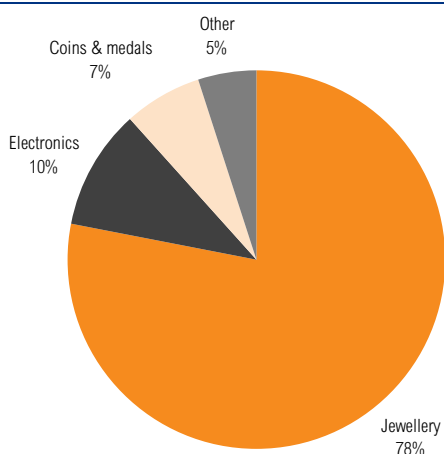
Monthly average palladium prices and physically backed ETF holdings

	Monthly Average Prices			Physically backed ETF holdings -end month tonnage and value (US\$m)					
	2007	2008	2009	2007		2008		2009	
				Volume	Value	Volume	Value	Volume	Value
Jan	337	374	188	-	-	9.8	122	21.3	134
Feb	342	469	206	-	-	16.6	304	24.5	153
Mar	350	<b>489</b>	202	-	-	17.9	256	24.8	172
Apr	369	446	227	0.5	6	18.0	243	25.9	181
May	367	435	230	4.8	54	19.2	265	26.3	200
Jun	369	450	246	6.4	67	19.9	298	27.3	219
Jul	366	426	249	8.0	77	20.4	250	27.7	228
Aug	343	316	276	7.7	72	20.4	198	28.9	269
Sep	335	248	293	7.9	82	20.6	132	33.5	316
Oct	366	191	322	8.4	113	21.7	138	34.0	354
Nov	363	207	352	8.5	229	20.1	121	35.5	411
Dec	351	176	374	8.7	297	20.6	121	<b>36.2</b>	<b>468</b>
<b>Average</b>	<b>355</b>	<b>351</b>	<b>264</b>	<b>6.8</b>	<b>111</b>	<b>18.8</b>	<b>204</b>	<b>28.8</b>	<b>259</b>

Source: LPPM, ETF Securities, Zurcher Kantonalbank, RBS

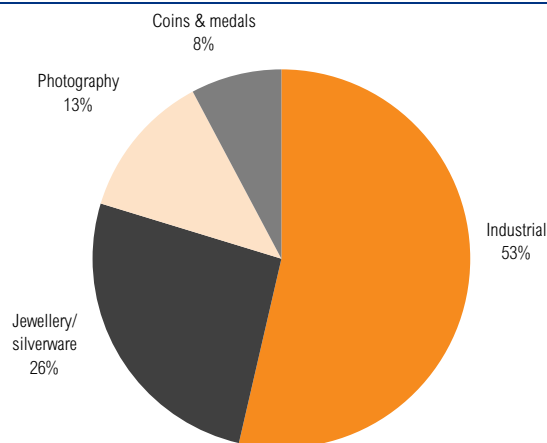
Precious metal offtake by key end use sector

Gold – 2008 global metal fabrication = 2,850t



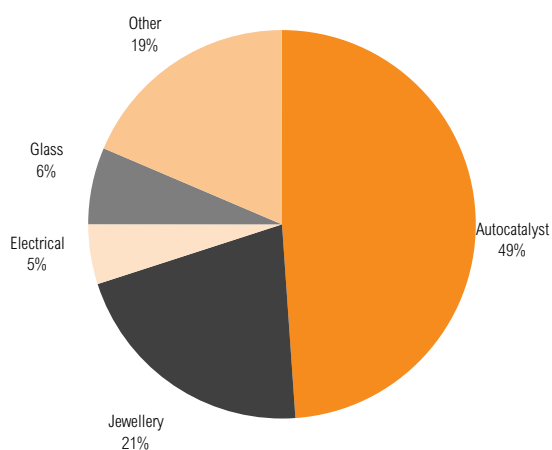
Source: GFMS – Gold Survey 2009

Silver – 2008 global metal fabrication = 25,896t



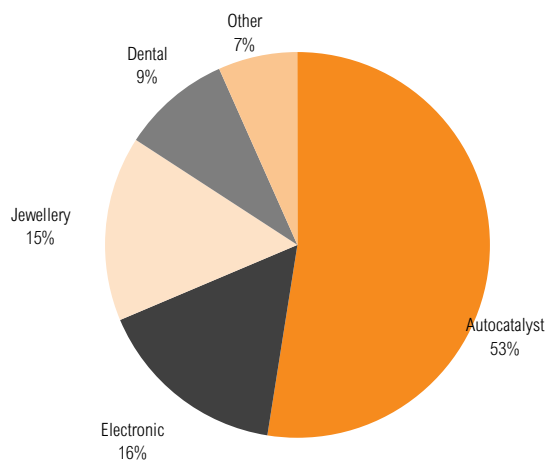
Source: GFMS –World Silver Survey 2009

Platinum – 2008 global consumption = 242t



Source: GFMS - Platinum & Palladium Survey 2009

Palladium – 2008 global consumption = 261t



Source: GFMS - Platinum & Palladium Survey 2009

## Precious metals – five year historical view of top producers and consumers

### Top gold producers and consumers ranked by 2008 market share

Global Gold Mine Production (tonnes)								Global Gold Fabrication Demand (tonnes)							
	2004	2005	2006	2007	2008	%Mkt.	5yrs %pa		2004	2005	2006	2007	2008	%Mkt.	5yrs %pa
China	217	230	247	281	292	12%	6.7%	India	618	695	633	684	578	20%	1.4%
USA	260	262	252	238	235	10%	-3.6%	China	236	258	270	327	342	12%	10.2%
South Africa	363	315	296	270	233	10%	-10.1%	Turkey	285	303	242	277	237	8%	-1.0%
Australia	258	263	247	246	215	9%	-5.3%	Italy	315	284	227	218	180	6%	-11.6%
Russia	182	175	173	169	189	8%	0.7%	USA	224	219	211	180	176	6%	-4.8%
<b>Global</b>	<b>2,494</b>	<b>2,550</b>	<b>2,485</b>	<b>2,478</b>	<b>2,416</b>	<b>100%</b>	<b>-1.6%</b>	<b>Global</b>	<b>3,172</b>	<b>3,291</b>	<b>2,936</b>	<b>3,076</b>	<b>2,850</b>	<b>100%</b>	<b>-1.0%</b>

Source: GFMS, RBS

### Top silver producers and consumers ranked by 2008 market share

Global Silver Mine Production (tonnes)								Global Silver Fabrication Demand (tonnes)							
	2004	2005	2006	2007	2008	%Mkt.	5yrs %pa		2004	2005	2006	2007	2008	%Mkt.	5yrs %pa
Peru	3,060	3,191	3,456	3,502	3,680	17%	4.7%	USA	5,808	5,891	5,778	5,604	5,807	22%	1.3%
Mexico	2,569	2,896	2,970	3,135	3,241	15%	4.8%	Japan	3,826	3,860	4,097	4,155	4,151	16%	2.8%
China	1,967	2,084	2,342	2,451	2,575	12%	7.1%	India	2,163	2,850	2,575	2,770	2,868	11%	-2.8%
Chile	1,360	1,378	1,602	1,928	1,397	7%	1.3%	China	1,835	1,917	2,166	2,358	2,351	9%	7.5%
Australia	2,222	2,407	1,729	1,879	1,925	9%	0.6%	Germany	1,257	1,260	1,275	1,249	1,264	5%	0.8%
<b>Global</b>	<b>19,319</b>	<b>19,816</b>	<b>19,947</b>	<b>20,659</b>	<b>21,178</b>	<b>100%</b>	<b>2.5%</b>	<b>Global</b>	<b>25,830</b>	<b>26,348</b>	<b>25,945</b>	<b>26,136</b>	<b>25,896</b>	<b>100%</b>	<b>-0.2%</b>

Source: GFMS, RBS

### Top platinum producers and consumers ranked by 2008 market share

Global Platinum Mine Production (000oz)								Global Platinum Fabrication Demand (000oz)							
	2004	2005	2006	2007	2008	%Mkt.	5yrs %pa		2004	2005	2006	2007	2008	%Mkt.	5yrs %pa
S Africa	4,961	5,054	5,447	5,074	4,671	76%	-0.1%	Europe	2,226	2,432	2,566	2,608	2,493	32%	4.6%
Russia	840	960	948	917	835	14%	0.0%	Japan	1,743	1,677	1,512	1,255	1,341	17%	-2.6%
N America	374	358	366	328	342	6%	4.0%	N America	1,472	1,440	1,381	1,391	1,253	16%	-5.3%
Others	238	252	263	264	303	5%	7.1%	Others	2,325	2,262	2,392	2,707	2,707	35%	1.7%
<b>Global</b>	<b>6,413</b>	<b>6,624</b>	<b>7,024</b>	<b>6,583</b>	<b>6,151</b>	<b>100%</b>	<b>0.4%</b>	<b>Global</b>	<b>7,766</b>	<b>7,811</b>	<b>7,851</b>	<b>7,961</b>	<b>7,794</b>	<b>100%</b>	<b>0.4%</b>

Source: GFMS, RBS

### Top palladium producers and consumers ranked by 2008 market share

Global Palladium Mine Production (000oz)								Global Palladium Fabrication Demand (000oz)							
	2004	2005	2006	2007	2008	%Mkt.	5yrs %pa		2004	2005	2006	2007	2008	%Mkt.	5yrs %pa
Russia	2,841	3,133	3,164	3,049	2,712	43%	-0.1%	N America	2,204	2,331	2,350	2,421	2,180	26%	-1.2%
S Africa	2,468	2,591	2,857	2,678	2,366	37%	0.6%	Japan	1,688	1,608	1,785	1,853	1,866	22%	2.6%
N America	1,039	930	1,024	983	908	14%	0.4%	Europe	1,662	1,597	1,676	1,792	1,804	21%	1.2%
Others	282	300	310	340	395	6%	9.3%	Others	1,759	2,228	2,349	2,471	2,549	30%	19.1%
<b>Global</b>	<b>6,630</b>	<b>6,954</b>	<b>7,355</b>	<b>7,050</b>	<b>6,381</b>	<b>100%</b>	<b>0.7%</b>	<b>Global</b>	<b>7,313</b>	<b>7,764</b>	<b>8,160</b>	<b>8,537</b>	<b>8,399</b>	<b>100%</b>	<b>4.6%</b>

Source: GFMS, RBS

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