

During the production of fertilizers an unwanted side reaction leads to the formation of laughing gas. This greenhouse gas is 310 times more damaging to the environment than carbon dioxide and attacks the ozone layer. In 2005 Heraeus developed a novel multi-stage catalyst which can reduce the formation of laughing gas by up to 90% during the ammonia oxidation process. The key component of this innovation is a secondary catalyst stage which specifically targets the laughing gas present in the gas stream.

Precious Metals Weekly

17 January 2011

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Highlights

- **Precious metals record considerable gains in 2010** – expected year-end portfolio-adjustment to the detriment of precious metals remains absent.
- **But Gold stays below early December peak** – still 2010 a plus of 30 percent and the 10th consecutive year with gains. A correction - somewhat deferred - could now come.
- **Silver records new 30 year high** – and now at critical chart-point. Institutional investors start withdrawing; will the trickle become a tidal-wave? So far buyers of bars and coins unimpressed; their demand continues to grow.
- **Platinum limps far behind** – and that despite a \$ 100 plus in the last four weeks. Investors not responsible: they were on the buying side in 2010.
- **Palladium chasing record** – 2010 a plus of 101 percent! Demand from Investors and Automobile industry drive prices upwards.
- **“Minor” platinum metals mixed** – Rhodium and Iridium record gains; Ruthenium very calm.

Platinum

All prices for the period from 16th Dec. 14th Jan. 2011

PT	US\$/oz	€/oz	€/gram
High	1,826.74	1,379.49	44.35
Low	1,681.50	1,271.89	40.88
Latest	1,810.00	1,355.12	43.50

Like most other precious metals, platinum also gained value in 2010. However its gains were far less impressive than those of gold, silver and palladium.

It was not the investors who were responsible for platinum falling behind. Their stocks in ETFs, though with percentually less gains than palladium, added almost 80 percent to now 38 tonnes. And in contrast to its sister metal the positions on the forward exchanges also recorded gains and at the year-end were at 65 tonnes; a increase of 35 percent compared to a year ago.

Clearly other factors were also in play that have held platinum back. It is most likely that the price of early last week, at times at its highest levels since early 2008, has hindered jewellery demand and also interest from the automobile industry has been lagging. This latter not only

because the most important diesel-motor market – Europe – has regressed but also because more platinum is being substituted by palladium. Additionally, another important factor has been that the automobile industry during the relatively cheap platinum prices phase in 2008 had bought massively on the forward market

Heraeus-Outlook for 2011

High	\$ 1.850
Low	\$ 1.450
Average	\$ 1.600

with the consequence that spot buying last year was respectively lower. It will be at least another two years before this situation normalises.

In the last four weeks platinum has not let itself get influenced by this rather negative fundamental situation and at first rallied strongly. At times it was trading \$100 higher than at the time of our previous report. It peaked last week at slightly above \$1,820 an ounce, at a time when gold and silver were already retracting.

Palladium

PD	US\$/oz	€/oz	€/gram
High	821.47	620.33	19.94
Low	726.47	549.23	17.66
Latest	791.75	592.11	19.10

Palladium price swung massively in the last four weeks. At first it got its impulses from gold, but once the yellow metal slowed down after its initial success early this year, the white metal coupled itself to platinum and just before this weekend even went on to record a nine year high of \$822 an ounce before falling back somewhat.

This last run seems to have temporarily capped the very impressive rally which, in principal, has been on for the past twelve months.

Main factor for the exorbitant palladium price rise in 2010 was not demand from the automobile industry but strong interest from investors. For example, ETF buyers added considerably to their stocks last year, which now stand at 68 tonnes; i.e. almost double that of a year ago.

And the rather more speculative plus positions on the future exchanges have not suffered either; they have remained more or less unchanged. Physical demand for bars and coins should have again been a plus, though the volume certainly well below that of ETFs.

Meanwhile the first automobile sales figures for 2010 have been published. China has further strengthened its position as the largest automobile market. The USA has held its second position; here, as per the first reports, 2010 sales were up 11 percent to 11.6 million vehicles – the

Heraeus-Outlook for 2011

High	\$ 875
Low	\$ 550
Average	\$ 675

success-story of palladium should continue in 2011 also. 3-5 million more petrol-driven vehicles sold would mean up to 15 tonnes increase is palladium usage. Additionally, manufacturers will have to cater to new emission regulations for motor-cycles in the Far East and sinking

supplies from Russian State stocks. The expected, higher recycling-supply will only somewhat balance this out and as such, though we anticipate palladium will be subjected to retracting prices – caused by lower investor demand – amongst the four main precious metals, it will still perform the best.

Meanwhile there has been news from Russia about the ownership structure of Norilsk Nickel; for details please see refer to link on page 4 of this report.

Rhodium, Iridium, Ruthenium

Just before Christmas rhodium recorded a 4 percent gain as it traded up to \$2,400 an ounce. The interest behind this came from speculative buying by funds. After the initial buying-wave interest then ebbed away and not much has changed till now.

In contrast, ruthenium has remained very calm throughout the period and continues to trade unchanged at \$180 an ounce.

Iridium – with annual production of just about 5 tonnes and after osmium the rarest of precious metals – gained again in value in the last weeks. Driven mainly by demand from Asia, the metal is presently trading at \$780 - \$800 an ounce; i.e. \$50 more than at the time of our previous report. However at its current level demand seems to have again calmed down.

Gold

There was no sign of the much awaited profit-taking by institutional-investors as they reallocated their portfolios. We had expected this already in December. Instead the gold price went up, thanks to alarming signals from the European debt situation and sabre-rattling on the Korean peninsula. By 3rd January the yellow metal had traded up to \$1,425 an ounce. Though this was the highest for about a month, it remained below the all-time high of early December.

The price suffered a significant setback with the start of the New Year. Positive economic data from the USA caused a strengthening of the US-dollar and gold itself saw profit-taking at the by-far most important ETF, whose stocks fell to a seven month low. Thereby the price fell within days to a mere \$1,352 an ounce; it's lowest since end November.

Fresh worries about Portugal's ability to meet its financial commitments last week then again saw gold recovering strongly as the price quickly moved towards the \$1,400 an ounce mark. However it did not manage to go over this mark.

After the various European Sovereign bond auctions last week went off better than expected and more signs and comments on positive developments in the US economy were announced, gold again turned around and by Friday evening had fallen considerably. Presently it is trading at \$1,360 an ounce, just above it

A look back - Precious Metals into 2010

Gold	+ 30 %
Silver	+ 80 %
Platinum	+ 18 %
Palladium	+ 101 %
Rhodium	- 18 %
Ruthenium	+ 11 %
Iridium	+ 86 %

Heraeus-Outlook for 2011

High	\$ 1.550
Low	\$ 1.190
Average	\$ 1.325

lowest of the second week of January and should it not hold above the \$1,350 mark, it could again record considerable losses. In such a situation a price of \$1,320 would not come as a real surprise. As long as this mark is held, the upward trend of many months will still remain intact.

Longer-term, i.e. beyond the first quarter, we figure that the gains of the past months cannot be defended without any large setbacks. ETF sales by institutional investors that are being seen are perhaps only the first warning sign.

Investors, who are holding gold personally – i.e. buyers of coins and bars – have so far not been influenced by the doubts creeping in at their professional fund-managers. In the last two weeks also they have bought large quantities of gold bars and coins; so much so that despite higher production, some denominations again already have delivery-time delays.

Positive developments are expected from the Indian gold market: after the setback of 2009 and a mild recovery last year, market observers now expect a considerable jump in demand in 2011. According to the Chairman of the Bombay Bullion Association, if the gold price experiences a correction, demand could go up by up to 60 percent to 500 tonnes.

AU	US\$/oz	€/oz	€/gram
High	1,423.60	1,075.48	34.58
Low	1,352.30	1,015.37	32.64
Latest	1,361.80	1,022.13	32.81

Silver

"Like father, like son".

And so it was in the last four weeks.

During this period silver could not decouple itself from gold, though again its volatility was much high.

As in case of gold, silver was completely spared the expected reversal around the year-end. Instead the metal added to its gains in a very illiquid market and on 3rd January recorded a new 30 year high of \$31.22 an ounce; a good 60 cents above its long-time high of early December.

Eventually silver could not hold on to its gains made around the year-end: as gold started giving up its gains, silver was very close behind. Within only three days the metal almost lost 10 percent to trade down \$28.30 an ounce.

Though it recovered from this setback, an effort to take the \$30 hurdle was met with a fresh wave of selling which brought the metal down equally quickly to its lows.

Meanwhile an important chart-point has built up at this level and should the metal fall below \$28.30 in the coming days, further profit-taking by speculators and consequently lower prices cannot be ruled out. Under certain conditions, as

Heraeus-Outlook for 2011

High	\$ 32
Low	\$ 16
Average	\$ 21

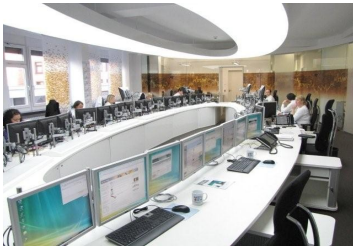
a first step the price of the white metal could fall down to \$27.90 an ounce with the next support at \$26.50. However the medium-term upward trend would still be intact till the price falls below \$25.

In view of the high volatility of silver, investors have behaved differently in the past weeks: a massive demand for bars and coins was observed; the ETF stocks and plus-positions on exchanges on the other hand, at least in the last week, saw considerable profit-taking driven liquidations.

In recent weeks little news came from the mines. Fresnillo, the second largest producer after BHP Billiton, announced a silver production figure of 42.1 million ounces for last year; a plus of 2 percent over previous year. For 2011 Fresnillo forecasts an additional increase – by 5 percent to 44 million ounces. By 2018 production is planned to increase to 65 million ounce; expansion of existing mines as well as new projects are expected to contribute towards this.

The Statistics Bureau in Mexico, homeland of Fresnillo, announced that Mexico produced 9 million ounces (280 tonnes) of silver in October; a plus of 1.7 percent compared to previous year.

AG	US\$/oz	€/oz	€/kilo
High	31.22	23.39	752.10
Low	28.09	21.04	676.74
Latest	28.44	21.31	684.14



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