

SUMMARY

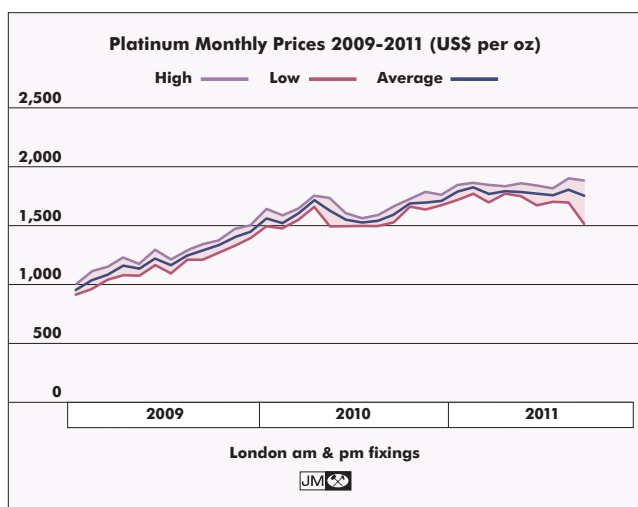
PLATINUM

- The platinum market is forecast to be in a small surplus of 195,000 oz this year.
- Gross demand for platinum is predicted to grow by 175,000 oz to 8.08 million ounces in 2011, the highest level for four years.
- Global supplies of platinum are anticipated to increase by 6% to 6.4 million ounces, while recovery of platinum from recycling is set to rise by 3% to 1.88 million ounces.
- Platinum demand in autocatalysts is expected to total 3.16 million ounces this year, an increase of 3% compared with 2010.
- Industrial demand for platinum is predicted to climb to 1.96 million ounces in 2011, a record high.
- Purchases of platinum by the jewellery sector are set to be slightly higher than last year, at 2.47 million ounces. Investment demand, while positive, will decline.

Gross demand for platinum is forecast to rise to 8.08 million ounces in 2011, close to pre-recession levels, with year-on-year growth in all sectors apart from investment. Despite economic uncertainty, platinum demand in autocatalysts is set to rise by 3% to a three-year high of 3.16 million ounces following a strong performance by the global automotive sector in the first half of the year. Commitments to build or expand capacity in a range of industrial sectors will raise industrial platinum demand by 12% to 1.96 million ounces, a record high. Even the traditionally price-sensitive jewellery sector is set to grow modestly, driven by demand in China, despite rising platinum prices for much of 2011. Physical investment demand is predicted to be lower than in 2010, but still positive at almost half a million ounces. Continuing strong demand is expected to be more than matched by growth in supplies and higher recycling. As a result, we predict that the platinum market will move to a small surplus of 195,000 oz in 2011.

Global supplies of platinum are forecast to rise to 6.4 million ounces in 2011. Most of the growth in supplies will come from North America and Zimbabwe, rather than South Africa. Mine output in South Africa in the first half of the year was disrupted by illegal strikes, poor productivity and a higher than usual number of safety stoppages at some operations. Shipments were maintained in the first half by sales from refined stocks and releases from the refining pipeline. Despite the operational difficulties, in production and sales terms the first half was relatively strong. In the second half of the year, we expect underlying production to show some improvement; overall we forecast that South African supplies of platinum in 2011 will rise by 3% to 4.78 million ounces.

With platinum output in Russia expected to be flat at 825,000 oz, growth in supplies is expected to be highest in North America, rising by 80% to 360,000 oz. Production of platinum at Vale's Sudbury mines is set to rise in 2011 with operations in full production following a year-long strike during 2009 and 2010. Higher output is also expected at Stillwater and North American Palladium. Growth is also forecast in Zimbabwe due to the start of production at the Unki mine.



Platinum traded generally higher in the first nine months of 2011 compared with 2010, but there were notable price dips in March, June and September.

Recovery of platinum from open loop recycling is once again expected to rise, by 3% to 1.88 million ounces. Higher numbers of autocatalysts from end-of-life vehicles are being returned for recycling, driven by a combination of better collection networks, higher pgm prices and higher scrappage rates. Platinum recovery is forecast to rise as a growing number of diesel catalysts enter the refining stream in Europe. Recycling of old platinum jewellery by consumers in Japan is expected to rise, but in China lower levels of manufacturing and retail scrap are predicted to lead to a fall in recycling levels, resulting in less platinum jewellery recycling overall.

Vehicle production worldwide is expected to be higher in 2011. Gross demand for platinum in autocatalysts will increase but the regional picture is mixed. Overall platinum demand in autocatalysts in Europe is forecast to decline modestly as higher

light duty vehicle production, particularly diesels, is offset by further substitution of platinum by palladium. In Japan, disruption to vehicle production from the March earthquake will result in lower vehicle output compared with 2010 with a consequent impact on platinum, which is still used by Japanese manufacturers in light duty gasoline vehicles. Disruption to Japanese manufacturers' transplants will also impact platinum purchases outside Japan. Platinum demand is set to increase in North America as production of light duty diesel trucks picks up. In heavy duty diesel emissions control, platinum demand is predicted to benefit from continued strong production of large trucks as freight operators renew their fleets following the recession. Although economic uncertainty in the second half of 2011 has the potential to impact production of both heavy and light duty vehicles, at the time of writing demand appears to be robust.

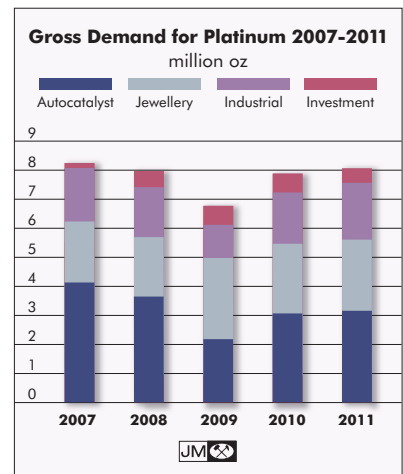
Industrial purchasing of platinum is set to grow to its highest ever level of 1.96 million ounces in 2011. A rise in demand of 13% to 435,000 oz is expected in the glass manufacturing sector as new LCD glass melting tanks are installed. Demand for LCD glass in consumer products such as televisions and mobile devices is driving capacity expansions of platinum melting tanks in Asia. However, overcapacity in the global glass fibre industry should keep demand for platinum in this segment subdued. Demand for platinum in petroleum refining is also set to increase by 24% to 210,000 oz as a result of expansions and new refining capacity. These include a renewable biodiesel plant in Europe which opened in September.

We are forecasting a marginal rise in platinum jewellery demand, by 2%, to 2.47 million ounces in 2011. We expect demand to soften in Europe and remain flat in Japan and North America. In China, we anticipate that plain platinum jewellery manufacturing will be supplemented with a greater range of gem-set pieces. At the consumer level, gold jewellery has been in great demand due to the rising price of gold and the perception of gold as a store of value. Some retailers report that they have reduced the amount of counter space given to platinum jewellery in favour of displaying more gold, and jewellery manufacturers have increased gold output, at the expense of platinum in some cases. However, the price premium of gold over platinum has recently led to some platinum stock building by manufacturers and retailers. As gold has achieved price parity or a premium with platinum, some consumers have also begun to see platinum's price as something of a bargain in comparison with gold. In the Rest of the World region, the Indian platinum jewellery market continues to grow rapidly from a low base. Demand should rise to over 80,000 oz in 2011.

Investment demand for platinum is forecast to be 160,000 oz lower than in 2010 but still positive at 495,000 oz. The Japanese bar market is expected to show net investment this year as buying during downward price movements has exceeded disinvestment during periods of rising prices. Investment in the year to date indicates that the physically-backed platinum exchange traded fund (ETF) market will end the year in positive territory at 385,000 oz of net investment with relatively light redemptions even during periods of severe price drops. There has been limited production of platinum coins this year by the major Mints.

Platinum traded on average at \$1,782 in the first nine months of 2011, some 13% above the level in the equivalent period last year. The price was generally buoyed by strong industrial demand as well as some ETF and speculative buying but fell victim to bouts of investor nervousness related to wider economic and political events, especially at the end of September. Overall in 2011, gross demand for platinum is set to grow by 175,000 oz to 8.08 million ounces, the second highest demand level after the 8.27 million ounces of demand seen in 2007. However, with supplies rising by almost 6% and greater levels of recycling, we anticipate the platinum market will end the year in oversupply.

Platinum Supply and Demand '000 oz			
Supply	2009	2010	2011
South Africa	4,635	4,635	4,775
Russia	785	825	825
Others	605	590	795
Total Supply	6,025	6,050	6,395
Gross Demand			
Autocatalyst	2,185	3,075	3,160
Jewellery	2,810	2,420	2,465
Industrial	1,140	1,755	1,960
Investment	660	655	495
Total Gross Demand	6,795	7,905	8,080
Recycling	(1,405)	(1,830)	(1,880)
Total Net Demand	5,390	6,075	6,200
Movements in Stocks	635	(25)	195



PALLADIUM

- Due to anticipated shipments of Russian state stocks in 2011, the palladium market is forecast to move into a surplus of 725,000 oz.
- Sales of newly refined palladium are expected to rise by 5% to 6.67 million ounces in 2011. In addition, we allow for shipment and sale of 750,000 oz of palladium from Russian state stocks.
- Recycling of palladium is predicted to rise to 2.2 million ounces, an increase of 19%.
- Gross demand for palladium is expected to soften by 9% to 8.89 million ounces.
- Demand for palladium in autocatalysts should increase by 6% to a new record level of 5.92 million ounces. Industrial demand is set to grow by 7% to 2.65 million ounces, the highest since 2005.
- Palladium demand from the jewellery sector is forecast to fall, while investment demand will end the year in negative territory.

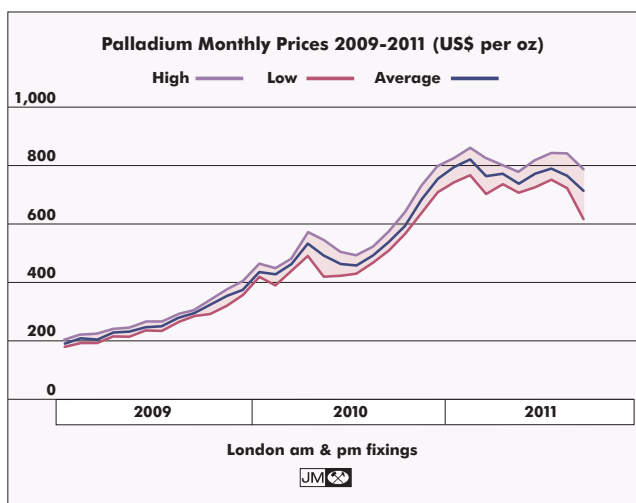
Gross demand for palladium is forecast to grow strongly in the autocatalyst and industrial sectors in 2011. Autocatalyst purchasing is set to reach a record high of 5.92 million ounces, while demand across all industrial applications is anticipated to reach pre-recession levels of 2.65 million ounces. Jewellery and investment demand are expected to fall this year. In contrast with the notable performance of the physical investment market in 2010, demand for palladium in ETFs is expected to remain in negative territory for the full year of 2011, contributing to a fall in total palladium demand of 9% to 8.89 million ounces. Overall the market should be in surplus by 725,000 oz due to the impact of Russian state stock sales. Without shipments of Russian state stocks this year, the palladium market would essentially be in balance.

Supplies of palladium from current mining operations are forecast to rise this year by 5% to 6.67 million ounces. South African output is set to decline slightly as producers generally had a poor first half in terms of underlying production. Supplies were partly supplemented by releases of pipeline material but, unlike platinum, there was no significant net contribution from sales of refined stocks. Russian primary production is expected to total 2.7 million ounces this year, in line with Norilsk Nickel's target and only slightly lower than in 2010. Once again, Norilsk is anticipated to increase mining of disseminated ore to compensate for falling output from richer ore bodies. Following a year-long strike at Vale, which ended in 2010, we anticipate that processing of stockpiled material, plus improved grades at Stillwater and ramping-up at North American Palladium, will contribute to output in North America increasing by 60% to 945,000 oz. We anticipate higher production from relatively high palladium-content ore bodies in Zimbabwe as a result of expanded operations.

We forecast that sales of Russian state stocks of palladium this year will amount to 750,000 oz, a significant contribution to palladium supplies and higher than we anticipated in our May review. This figure is based on our belief that Gokhran, the State Precious Metals and Gems Repository, will have sold stock by the end of 2011.

Recycling of palladium from the autocatalyst, electrical and jewellery sectors is forecast to rise by 19% to 2.2 million ounces this year. Higher sales of vehicles in Europe and North America in the first half of this year are expected to lead to more old vehicles being scrapped, and therefore more palladium-loaded catalysts entering the refining stream. Recovery of palladium-containing electronic scrap is also set to rise, driven by legislation in Europe. In China, recycling of palladium from the jewellery sector is expected to more than double as more manufacturing and retail scrap is returned for refining.

Gross demand for palladium is expected to see another good year in terms of core autocatalyst and industrial purchasing. Palladium demand from the global automotive



Palladium traded higher in 2011 but the price was less volatile than in the previous two years, despite several downward corrections.

sector is forecast to increase by 6% to 5.92 million ounces on the back of impressive growth in vehicle production in the first half of this year in Europe, North America and the Rest of the World regions. In Europe, production of gasoline vehicles, which typically use palladium-rhodium aftertreatment, is set to decline slightly. However, as diesel vehicles take a bigger share of a growing market, overall palladium demand is expected to increase by 12% due to its further introduction into diesel autocatalysts. In addition, the full implementation of Euro 5 in light duty vehicles requires higher palladium loadings on average per gasoline catalyst. In China, in spite of an anticipated slowing of the double-digit growth in light duty vehicle production recently, palladium demand is expected to rise. Manufacturers have increased palladium loadings in order to meet China 4 light duty gasoline emissions legislation, which came into effect this year. Production of vehicles has declined in Japan in the aftermath of the March disaster, thus reducing palladium demand in three-way catalysts (TWCs) used in gasoline vehicles. A return to pre-disaster manufacturing levels of light duty vehicles is expected by the year-end.

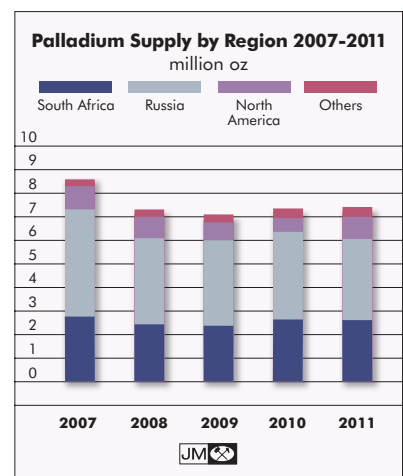
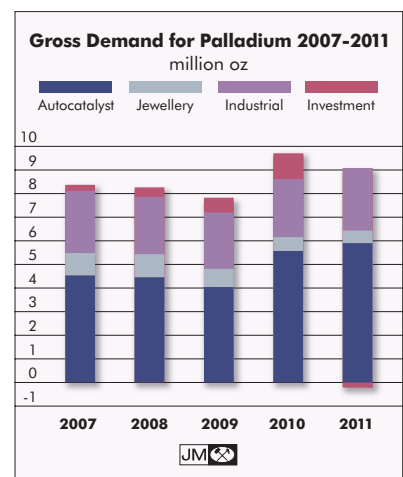
Industrial purchasing of palladium is expected to rise to 2.65 million ounces this year, a return to pre-recession levels. Palladium demand in the electrical sector is set to remain strong at 1.49 million ounces as consumer and business purchasing of new computer hardware stimulates the manufacturing of palladium-containing components. Demand from the chemical industry is forecast to increase with strong purchasing of downstream consumer products such as textiles and packaging, particularly in Asia, which use palladium catalysts in their manufacture. In line with long-term improved dental health trends as well as competition from non-metal alternatives, we expect that palladium demand in the dental sector will remain flat this year.

Only in the palladium jewellery and investment markets do we expect to see declining demand this year. Palladium jewellery demand is forecast to fall by 50,000 oz in 2011 to 545,000 oz. Palladium jewellery has gained ground in Europe and North America in recent years in the men's wedding band sector. However, higher metal prices are expected to keep demand flat in Europe, as lower weight pieces are manufactured to meet certain price points. In North America, a combination of higher prices and competition from cheaper alternatives has led to a softening of demand. In China, the largest market for palladium jewellery, high RMB prices of palladium have lowered consumer demand for a previously affordable metal and led some manufacturers to stop producing palladium jewellery.

The physical investment sector this year has seen a marked turnaround in sentiment compared with 2010, when net inflows into ETFs made physical investment demand the third largest demand sector for palladium overall. Between May and September, palladium ETF holdings were on a generally downward trend, with pronounced periods of liquidation during price corrections related to wider economic circumstances, such as the eurozone and US debt crises and faltering confidence in economic recovery in developed markets. While some of this may have been distress selling, it is notable that many investors would have been in a position to take profit in 2011.

Palladium traded on average 61% higher in the first nine months of 2011 than in the same period the previous year. Although palladium remained supported by strong underlying fundamentals, there has perhaps been a feeling among investors that the metal could not repeat the remarkable price performance of 2010. Continuing weak economic conditions and negative market sentiment lead us to the view that ETF redemptions, as well as some liquidation in the coin and small bar market, will leave physical investment demand in negative territory by the end of the year.

Palladium Supply and Demand '000 oz			
Supply	2009	2010	2011
South Africa	2,370	2,640	2,610
Russia	3,635	3,720	3,450
Others	1,095	995	1,360
Total Supply	7,100	7,355	7,420
Gross Demand			
Autocatalyst	4,050	5,580	5,915
Jewellery	775	595	545
Industrial	2,400	2,465	2,645
Investment	625	1,095	(215)
Total Gross Demand	7,850	9,735	8,890
Recycling	(1,430)	(1,850)	(2,195)
Total Net Demand	6,420	7,885	6,695
Movements in Stocks	680	(530)	725



OTHER PGM

- The rhodium market is forecast to be in surplus once again in 2011, by 123,000 oz.
- Supplies of rhodium are expected to grow by 5% to 768,000 oz in 2011.
- Gross demand for rhodium is set to rise by 18,000 oz to 905,000 oz. Strong purchasing by the glass manufacturing sector should partly offset a decline in autocatalyst demand.
- Recycling of rhodium from scrapped autocatalysts should rise by 8% to 260,000 oz.
- Demand for ruthenium is expected to soften to 811,000 oz with lower purchases by the electrical sector, but robust demand in electrochemical applications will continue.
- Iridium demand should remain solid at 342,000 oz with continuing strong demand for crucibles and in automotive spark plugs.

Rhodium

The rhodium market is forecast to remain in surplus by 123,000 oz in 2011 as increases in primary refined output as well as recycling outstrip growth in gross demand.

Rhodium supplies are forecast to increase by 34,000 oz in 2011 to 768,000 oz, supported by higher refined output by South African producers. Russian production should remain almost flat as output of metals is maintained by Norilsk Nickel despite falling grades. Supplies from North America should rise as producers ramp up to full production following disruptions in 2009 and 2010. We anticipate that additional supplies will come from Zimbabwe in line with rhodium beginning to be produced at Unki.

Recycling of spent autocatalysts is expected to return an additional 19,000 oz of rhodium to the market this year, bringing total recycling in 2011 to 260,000 oz.

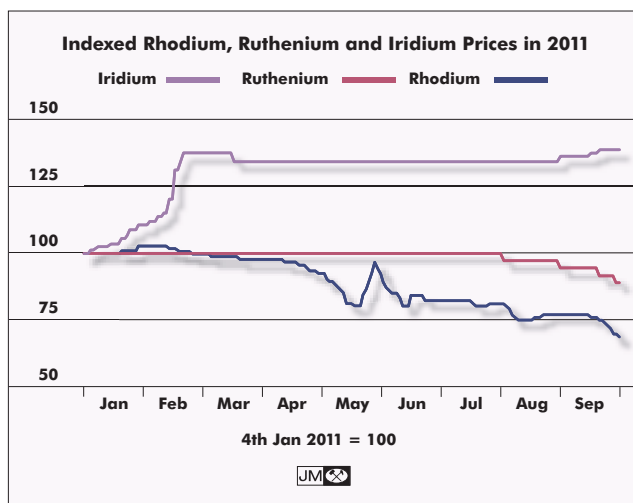
Purchasing of rhodium by the global autocatalyst sector is set to decline by 22,000 oz to 705,000 oz in 2011 as the effects of thriftiness and the Japanese earthquake are felt. Thriftiness of rhodium from gasoline autocatalyst formulations became widespread among vehicle manufacturers in response to rising prices in the years prior to 2008. As a result, rhodium demand is expected to be flat or decrease in most regions this year. Rhodium purchasing for use in Japanese-made vehicles, the largest market for rhodium in autocatalysts, is expected to fall due to lower vehicle output in the aftermath of the March earthquake. In Europe, demand is forecast to decline due to thriftiness as well as a fall in the number of gasoline vehicles produced as diesel output picks up. Only in China do we anticipate slightly higher rhodium demand in autocatalysts as manufacturers roll out China 4 compliant gasoline vehicles in line with national legislation in force from this year.

In LCD glass manufacturing, strong consumer demand for TVs and computer displays will drive purchases of rhodium for new

and expanded glass substrate manufacturing facilities in China, Japan, South Korea and Taiwan. In the glass fibre industry, although expansion is subdued because of overcapacity, falling rhodium prices and rising platinum prices have encouraged manufacturers to switch from 10% rhodium-platinum alloys to higher-durability alloys containing 20% rhodium-platinum. Overall, demand for rhodium in glass making is predicted to rise by a quarter to 85,000 oz this year.

Demand for rhodium in the chemical sector is set to rise by 5,000 oz to 72,000 oz in 2011 due to expansion of oxo-alcohol and acetic acid production capacity, which uses rhodium catalysts. This is mainly driven by downstream demand for paints and adhesives, particularly in China.

With the launch of a rhodium ETF by Deutsche Bank in May this year, a new demand area for rhodium is identifiable



The iridium price reached record highs in the early part of 2011 with strong buying from the electrical sector. Rhodium's price softened, while ruthenium was mostly becalmed.

physically-backed investment. Perhaps due to rhodium's subdued price performance in 2011, as well as rhodium being almost exclusively an industrial metal, additions to the new ETF were modest in the first few months of its operation, with only around 14,000 oz of net inflows in the period to late September. However, purchases of rhodium for the newly-established ETF will account for most of the growth in our 'Other' category this year.

Rhodium traded 13% lower in the first nine months of this year compared with the equivalent period in 2010 as the growing supply-demand surplus impacted the price. Rhodium was less affected by market sentiment than platinum and palladium, however the price did tend to suffer during wider commodity sell-offs.

Ruthenium

Total ruthenium demand is forecast to be 14% lower in 2011, at 811,000 oz, than the previous year due to reduced purchasing by the electrical sector. The ruthenium market will remain adequately supplied from primary mining operations.

Sales of ruthenium-containing hard disk drives in computers and digital television recorders are set to grow again this year. However, demand for ruthenium is predicted to be lower due to improved manufacturing efficiencies which reduce work-in-progress inventories. Higher sales of electronic goods should help drive manufacturer purchases of ruthenium pastes for use in chip resistors and other electronic components.

Demand for ruthenium in the chemical industry is predicted to rise with higher levels of purchasing of ruthenium catalysts for the production of ammonia and acetic acid. In the electrochemical sector, a continuing move towards more environmentally friendly membrane cell technology to replace older mercury and diaphragm technology in the chlor-alkali industry in China is expected to account for some demand, though at a lower level than in previous years. The use of ruthenium elsewhere in the electrochemical sector, such as in salt water chlorination of swimming pools, will grow in 2011.

Iridium

Another strong year for iridium demand is predicted, with total demand set to rise slightly to 342,000 oz in 2011. The exceptional levels of purchasing of iridium crucibles by the electrical sector last year are unlikely to be repeated in 2011, but electrical demand should remain high by historical standards at 204,000 oz. Underlying mine output of iridium is below the current level of demand but we expect the market to be balanced by sales from producer stocks.

Demand for iridium crucibles is expected to be high again as manufacturers continue to build capacity for producing single crystal sapphire, used in the manufacture of LEDs for backlit televisions. However, levels will be lower than in 2010 as capacity expansions are nearing completion in the Japanese industry. The high iridium price is also contributing to a shift to alternative technologies for crystal growing – the price of iridium has traded at historic highs during 2011. The use of iridium in phosphorescent emitter materials in organic light emitting diode (OLED) displays is also expected to account for some additional demand. Electrochemical demand is forecast to remain strong in 2011, mainly from the chlor-alkali industry, though at a slightly lower level than in 2010. As vehicle production is set to perform well this year driven by a strong first half, we anticipate that demand for iridium in spark plugs will continue to grow.

