

SUMMARY

PLATINUM

Global platinum demand rose by 8.6 per cent to 7.03 million ounces in 2007. The autocatalyst sector grew strongly, with gross platinum purchases rising to 4.23 million ounces. The volume of metal purchased by jewellery manufacturers fell only slightly, outperforming market expectations considering the rising metal price. Industrial demand grew, with healthy contributions from the chemical, petroleum and electronics sectors. Investment demand rose substantially due to demand for metal from investors through the new exchange traded funds (ETFs).

Production of platinum fell, however, with lower South African output largely responsible. Safety shutdowns, geological and equipment problems and a difficult labour environment all affected platinum supplies from South Africa: these dropped by 260,000 oz to 5.04 million ounces in total. Combined platinum production from Russia, North America, Zimbabwe and the Rest of the World region fell slightly to a grand total of 1.52 million ounces. Overall, therefore, the platinum market moved from a surplus of 355,000 oz in 2006 to a deficit of 480,000 oz in 2007, driving the price higher throughout the year.

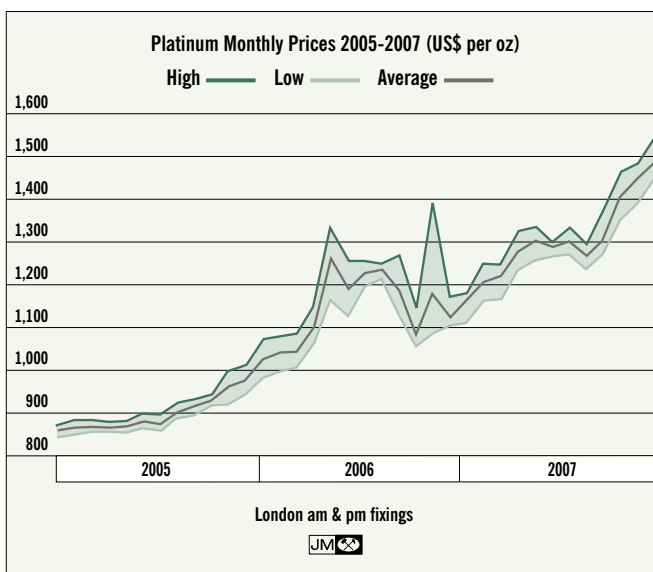
In the automotive sector, growing production of light duty diesel vehicles was beneficial for platinum use. 2006 saw the introduction of new Euro 4 light duty emissions legislation in the key European market. As a result, many of these vehicles now have a platinum-based oxidation catalyst and a platinum-coated particulate filter as standard, boosting average loadings. Ever-tighter emissions legislation applying to the heaviest diesel vehicles around the world required increased use of aftertreatment – much of it containing platinum – on trucks as well.

However, platinum demand was held back, to some extent, by the replacement of platinum by palladium in the autocatalyst sector. Although auto makers have removed much of the platinum from their three-way, or gasoline, catalysts already and replaced it with palladium, this trend continued. Palladium was also increasingly used in diesel catalysts during 2007, limiting growth in platinum autocatalyst demand.

Recovery of platinum from scrapped autocatalysts rose by 30,000 oz with high commodity prices, growing environmental consciousness and legislation all promoting increased levels of recycling. Overall, these trends increased net global platinum demand for autocatalysts by 9.5 per cent to 3.34 million ounces in 2007.

Excluding purchases of scrap, jewellery manufacturers bought 1.59 million ounces of platinum in 2007, marginally less than in the previous year. The high price did have some impact on the market although platinum jewellery retained its lustre as shown by the fact that demand in both China and in Europe grew modestly. While consumer purchasing was not greatly affected in most markets, manufacturers and retailers continued to minimise stock levels due to the rising metal price.

However, the amount of platinum recovered from scrap jewellery – whether from retailers rationalising their stock or from consumers trading-in or selling old pieces – rose substantially. High metal prices provided a strong incentive for companies to source and process this metal and have made consumers more aware of its residual value. We estimate that combined Chinese and Japanese recycling alone may have been in excess of



The platinum price reacted strongly to the South African supply disruptions in the final quarter of 2007.

Platinum Supply and Demand '000 oz			
		2006	2007
Supply			
South Africa		5,295	5,035
Russia		920	910
North America		345	325
Others		270	280
Total Supply		6,830	6,550
Demand			
Autocatalyst:	gross	3,905	4,225
	recovery	(860)	(890)
Jewellery		1,640	1,585
Industrial		1,830	1,940
Investment		(40)	170
Total Demand		6,475	7,030
Movements in Stocks		355	(480)

400,000 oz, with much of this metal being re-used by jewellery manufacturers.

Most other demand sectors were strong. In the electronics sector, the inexorable move towards greater data storage requirements helped increase the market share of perpendicular magnetic recording, or PMR, hard disks, adding to platinum uptake. The spectacular success of LCD televisions is forcing consumer electronics manufacturers to add flat panel glass production capacity, driving platinum demand up in the glass sector. High oil prices and growing demand for oil boosted platinum requirements for petroleum refining. Altogether, industrial purchases of platinum rose from 1.83 million ounces to 1.94 million ounces last year.

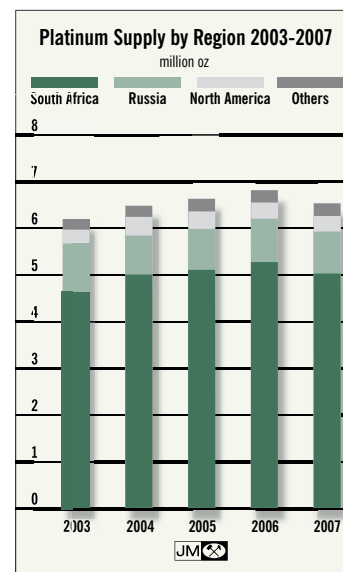
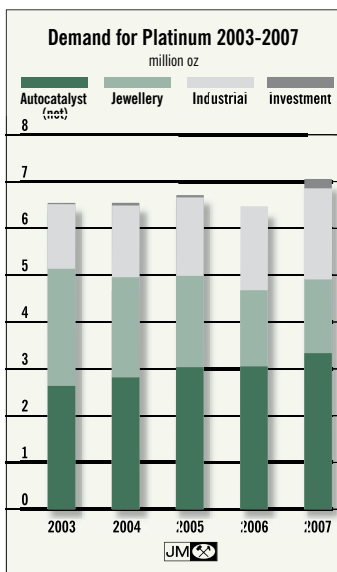
One of the most obvious changes in the platinum market was in the investment sector, where two exchange traded funds, or ETFs, backed by physical metal were launched in the second quarter of 2007. These have demonstrated that there is substantial retail and fund interest in investing in platinum under current market conditions and have made such investments simpler and more attractive for some investors. Largely due to ETF purchases, therefore, total net investment demand for platinum was 170,000 oz in 2007, a sharp increase from the previous year.

Global platinum supplies fell by 4.1 per cent to 6.55 million ounces in 2007 with sales from South Africa, Russia and North America all decreasing. This fall was most marked in South Africa where output dropped despite a ramp-up in production at a number of smaller operations.

The South African mining industry had a very turbulent twelve months in 2007. The year started with the temporary closure of one of Lonmin's smelters for a rebuild following a matte leak, cutting output. The two-yearly wage negotiations between the mining houses and the unions later in the year led to a difficult working environment, in which strike action was common if relatively short-lived. A new safety regime meant extended closures of individual shafts each time a fatal accident occurred, further cutting production. With the usual range of geological challenges present too, supplies fell from 5.30 million ounces in 2006 to 5.04 million ounces in 2007. There were, though, some bright spots, particularly in the form of growth from mines such as Crocodile River, Mototolo and Two Rivers.

Russian platinum supplies were interrupted for the first few months of 2007 due to confusion over the implementation of new export licensing rules, leading to some tightness in the market over this period. However, we believe that all of the Russian primary platinum production – both from Norilsk Nickel and from the alluvial producers – was sold during the year. With primary Russian production declining slightly and State stocks effectively exhausted, platinum sales were just below the 2006 total at 910,000 oz. Total platinum supplies from North America, Zimbabwe and elsewhere fell marginally to 605,000 oz.

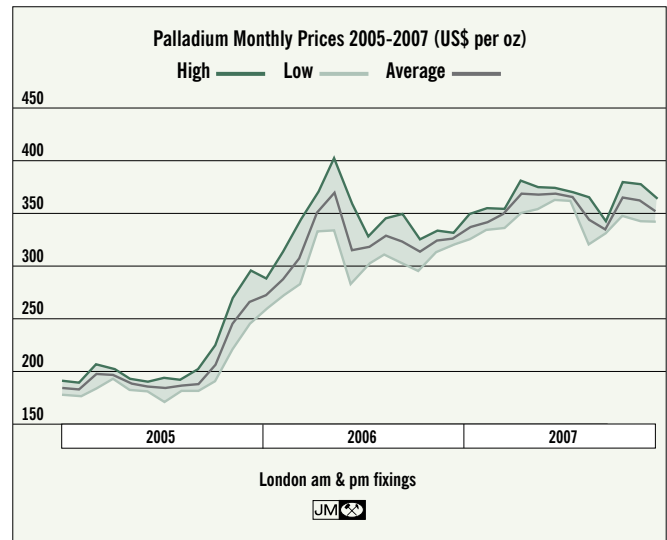
The platinum market therefore moved from a 355,000 oz surplus in 2006 back into a deficit of 480,000 oz in 2007. Unsurprisingly, the price reacted strongly to these tight supply-demand fundamentals, and was further supported by a weakening US Dollar and a strong financial performance from other commodities including gold. Platinum started the year by fixing at \$1,136 and rose almost relentlessly. The rise accelerated later in the year as the South African supply situation worsened. Buying of metal through exchange traded funds intensified at the same time, removing liquidity from the market and adding to volatility and reinforcing the price rises. Platinum reached a series of record highs before closing the year at \$1,529, almost 35 per cent higher than it had been at the start of 2007.



PALLADIUM

Demand for palladium increased by 3.5 per cent in 2007 to a total of 6.84 million ounces. A favourable price ratio between platinum and palladium encouraged automotive manufacturers to use palladium where possible in their catalytic converters – both diesel and gasoline. Production grew strongly in the Rest of the World region, also driving higher palladium purchases. Autocatalyst demand therefore rose by over 10 per cent to 4.45 million ounces. Industrial demand was dominated by a thriving electronics sector which took 1.29 million ounces. Demand for palladium from jewellery manufacturers, excluding the use of scrap, dropped significantly to 740,000 oz, compared to 995,000 oz in 2006, with a fall in purchases by Chinese manufacturers largely responsible. Purchases of palladium by the dental sector climbed by 2.4 per cent to 635,000 oz. Investment demand rose, with the introduction of two exchange traded funds boosting metal purchases to 260,000 oz.

Palladium supply also rose, to a 2007 total of 8.59 million ounces. Sales of primary metal from Russia – production from Norilsk Nickel as a by-product of its nickel output – declined slightly to 3.05 million ounces. Russian supplies from State stocks were substantial: roughly 1.49 million ounces were sold during the year although some of this metal had been recorded as shipped in the final days of 2006. South African palladium supplies edged lower to 2.77 million ounces. Output from North America, Zimbabwe and elsewhere was a little stronger than in the previous year at 1.28 million ounces.



The palladium price was heavily influenced by other precious metal prices and by movements in the currency markets.

Palladium Supply and Demand '000 oz			
		2006	2007
Supply			
South Africa		2,775	2,770
Russia:			
Primary Production		3,220	3,050
State Sales		700	1,490
North America		985	990
Others		270	285
Total Supply		7,950	8,585
Demand			
Autocatalyst: gross		4,015	4,450
recovery		(805)	(1,000)
Jewellery		995	740
Electronics		1,205	1,285
Other		1,195	1,360
Total Demand		6,605	6,835
Movements in Stocks		1,345	1,750

JMI

Palladium purchases for use in autocatalysts climbed by 10.8 per cent in 2007 to 4.45 million ounces, the highest total since 2001. Strong growth in the so-called emerging economies, including China, India and Russia, which produce mainly gasoline vehicles, raised palladium use. In North America and Japan, palladium gained some ground at the expense of platinum in gasoline catalysts. In Europe more palladium was used in diesel oxidation catalysts (DOCs). However, palladium remains the minor pgm component in any individual diesel catalyst and the total worldwide amount used in 2007 was below 300,000 oz.

The progress of the palladium jewellery market was mixed in 2007. In North America and Europe palladium is moving from being an experimental material to a more mainstream jewellery metal. As more manufacturers start to work with this metal and retailers become more comfortable with it, demand has risen, although still to modest levels compared to platinum. A fall in Japanese platinum jewellery demand caused lower palladium demand in that country where palladium is a component of some platinum jewellery alloys.

In China, however, the effects of the rapid early introduction of palladium jewellery were still evident in the market. The supply chain may have been overstocked in some places and large quantities of unsold Pd950 pieces were returned for refining and remanufacture into higher-purity Pd990 in 2007, depressing demand for new metal. Consumer purchasing does, however, appear to have been healthy in some regions of the country, particularly the West and far North-East. Overall palladium jewellery demand in China fell from 760,000 oz in 2006 to 500,000 oz in 2007.

Palladium purchases by the electronics industry grew strongly for the sixth successive year. Demand expanded by 6.6 per cent to 1.29 million ounces in 2007, mainly due

to palladium's use in multi-layer ceramic capacitors (MLCC). The use of a greater number of capacitors per electronic device and ever-increasing sales of electronic goods outweighed continuing miniaturisation and the slow erosion of palladium's share of this market by nickel. It is worth noting, however, that total demand in 2007 was still only sixty per cent of the peak metal consumption seen in 2000.

Dental sector usage climbed by 15,000 oz to a global total of 635,000 oz in 2007. While the palladium price rose, the costs of alternative materials, principally gold, climbed further, providing a boost to the palladium dental market after several years of decline. The Japanese Government subsidy for the Kinpala alloy was favourable for much of 2007, allowing demand to edge higher there. As previously noted in our 2007 Interim Report, we have restated our figures for this market to account for greater scrap recovery than we had previously observed.

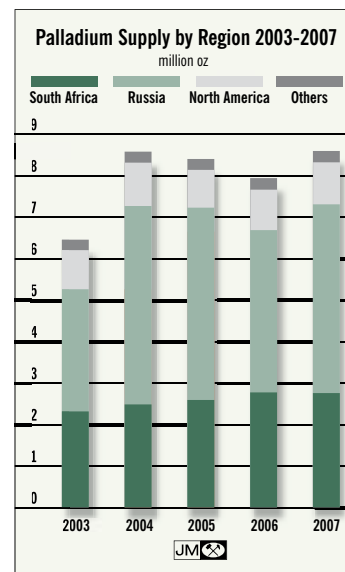
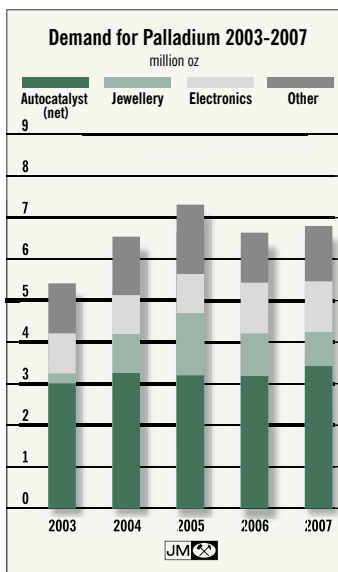
Investment demand rebounded to 260,000 oz in 2007 from only 50,000 oz in the previous year. The launch of two exchange traded funds (ETFs) which were backed by physical metal provided an opportunity for some new classes of investors to gain exposure to palladium. These ETFs were launched in Europe in the second quarter of 2007 and accounted for demand of 280,000 oz over the remainder of the year, with a large amount of this metal bought on behalf of institutional investors such as pension funds. However, demand for other investment products such as palladium coins and bars turned negative as investors in North America sold more of these items back to the market last year than they bought in the same period.

Palladium supplies rose in 2007, climbing eight per cent to a global total of 8.59 million ounces. South African sales of palladium were almost static at 2.77 million ounces. Total sales of metal from Russia rose while output from North America, Zimbabwe and elsewhere also increased marginally.

The amount of primary metal sold by Norilsk Nickel dropped by a few thousand ounces in 2007. Annual nickel production at Norilsk fell by over 4 per cent but palladium output was comparatively stable and fell only to 3.05 million ounces. Russian supplies were boosted significantly by extra shipments and sales of Russian State stocks. Trade data shows that 1.29 million ounces of palladium from this source was shipped to Switzerland in late-December 2006. We do not believe this was priced or sold until 2007 and we therefore include it in our supply figure for last year. Similarly, we do not believe that the 500,000 oz of Russian metal which reached Zurich late in 2007 was sold to the market during that year and we therefore exclude that from our 2007 estimate of Russian palladium supplies.

South African shipments of palladium fell to 2.77 million ounces, a drop of 5,000 oz. As was widely reported, a number of shafts were temporarily closed due to strikes and for safety reasons. Smelter closures also limited palladium output. Other labour issues, principally attracting and retaining skilled staff in an expanding South African economy, proved problematic. Overall, palladium supplies were supported by higher production from new mines and by sales of refined stocks from some established producers. Sales of palladium from North America, Zimbabwe and elsewhere edged 20,000 oz higher to 1.28 million ounces for the year.

Although the palladium market was once again in substantial surplus in 2007, it appears that much of this excess was absorbed by a small number of investors and institutions. The palladium price was therefore well supported, averaging \$355 during the year, 11 per cent higher than in 2006. Palladium started 2007 at \$332 and the price climbed to \$382 in April before falling to its yearly low of \$320 in August. It recovered sufficiently to close the year at \$365.



OTHER PGM

Rhodium

Rhodium demand climbed for the sixth successive year to 856,000 oz. Gross autocatalyst demand alone was 879,000 oz, an increase of 1.9 per cent from 2006. Autocatalyst recycling also grew to a total of 183,000 oz. However, sustained high prices did have an effect on consumers who moved to minimise their usage of this metal. In the autocatalyst sector, this was manifested by an acceleration of thrifting of the rhodium content in an average catalyst. The same trend towards lower rhodium technology was also seen in the glass industry where demand inched lower to 64,000 oz despite growth in manufacturing capacity in Asia.

Over the whole of 2007, rhodium supplies rose by only 20,000 oz to 822,000 oz. South African production of rhodium fell as the reduced tonnage of material mined and processed negated the extra rhodium content in the UG2 ore produced at many of the expansion projects on the Eastern Bushveld. However, the producers did sell more metal from refined rhodium stocks. Russian supplies fell too with lower shipments from State stocks. However, interruptions to shipments of Russian metal early in 2007 had a considerable impact on market sentiment, helping drive the price above \$6,000 early in the year.

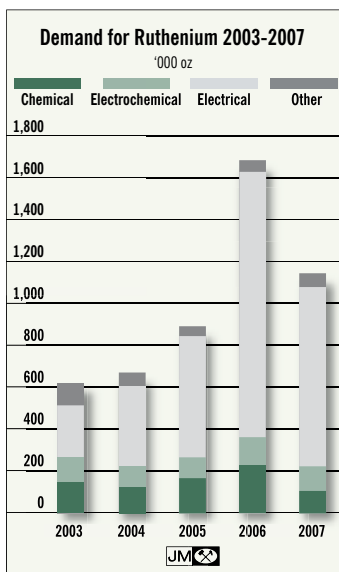
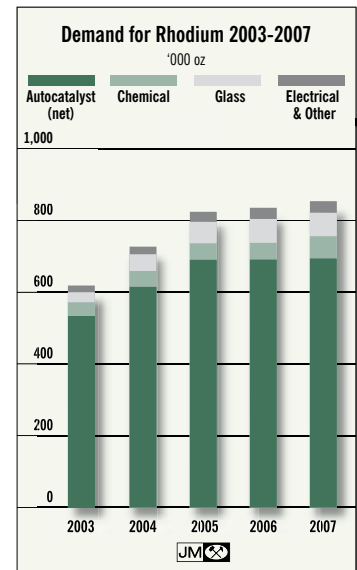
Gross autocatalyst demand grew from 863,000 oz in 2006 to 879,000 oz in 2007. Strong growth in manufacturing volumes in China and in many of the emerging economies in the Rest of the World region drove greater rhodium consumption there. In North America, rhodium purchases rose as a number of medium duty diesel trucks were fitted with NOx trap technology which typically employs high levels of rhodium in the catalyst formulations.

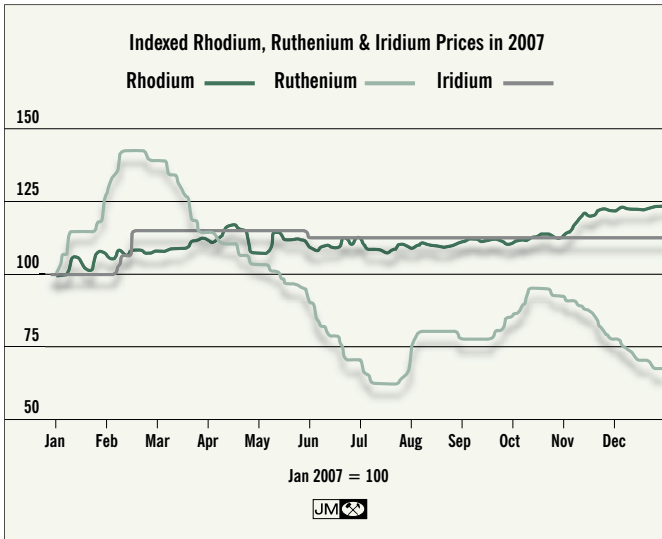
Japanese demand edged lower, though, as car makers there chose to use inventory that had previously been purchased. European rhodium consumption in autocatalysts fell: little if any rhodium is used on diesel vehicles which have taken market share from gasoline cars where rhodium is a constituent in almost every catalyst fitted. A high rhodium price also prompted many of the major auto manufacturers to intensify efforts to thrift rhodium in their autocatalyst formulations, driving average rhodium loadings lower, particularly in Europe. The overall impact of all of these trends on rhodium purchases in 2007 was a slight increase of 1.9 per cent.

Rhodium recovery from end-of-life autocatalysts rose too, reflecting increased loadings of rhodium both per catalyst and per vehicle. Most of the 183,000 oz of metal recycled globally is from the North American market but more metal was recovered in every region. This increase almost balanced the rise in gross rhodium consumption in the autocatalysts sector and net demand rose by only 4,000 oz to 696,000 oz for the year.

Glass sector demand edged only 1,000 oz lower to 64,000 oz in 2007. Some glass production facilities are being closed in North America and Europe but there was good growth in Asian production capacity for fibre glass and flat panel display glass. There was a degree of thrifting, or dealloying, as glass manufacturers sought to reduce rhodium inventories by partial substitution of this metal with platinum.

With supplies only rising marginally more than demand, the rhodium market remained in deficit in 2007 and the price was firm throughout the year. Rhodium started at \$5,550 and upward pressure was immediately applied by the hiatus in Russian exports due to unclear rules on export licences. When these resumed, the price did not soften significantly as industrial buying continued to snap up any market offers. Rhodium spent most of the year above \$6,000 and the concern over lost production in South Africa provided further support to the price in the second half of 2007. The rhodium price strengthened during this period and ended December at its peak for 2007 of \$6,850.





Ruthenium

Ruthenium demand fell to 1.14 million ounces, a 32.1 per cent decrease on the figure for 2006. Consumption of metal in the electronics industry – particularly in the manufacturing of perpendicular magnetic recording (or PMR) hard disks – was the primary driver in this change. Ruthenium remains a key material in the fabrication of this type of hard disk but net demand fell. Signs of price sensitivity were seen in some other applications.

The rise in the market share of PMR has driven gross demand for ruthenium higher. However, despite this, we now believe that the total figure for ruthenium demand for 2007 was significantly lower than previously forecast. High ruthenium prices created

A fourth successive year of deficit in the rhodium market drove the price of that metal higher in 2007. Ruthenium demand slipped and the price fell too. Little excitement was seen in the iridium price.

an intense pressure to reduce working costs amongst end users, encouraging the re-refining of this material. Additional ruthenium refining capacity came on-stream during 2007, allowing much more of this metal to be reprocessed. At the same time, the industry significantly reduced its working stocks to cut costs. The electronics industry was also able to improve the efficiency of the relevant manufacturing processes and to thrift the already low metal content of a hard disk. All of these factors drove net demand lower.

The dizzying rise in the ruthenium price through the second half of 2006 was reflected in thrifting elsewhere. Ruthenium-based pastes are used in the manufacture of plasma display panels. However, the makers of these have been able to cut the ruthenium content of the pastes dramatically, driving demand down by more than fifty per cent within a single year. Other applications such as the use of ruthenium in chip resistors were unaffected, however, with thrifting not technically feasible. Demand in the chemical sector did fall but this was more a return to trend after a spectacular year for demand in 2006 rather than a poor year for this sector.

Ruthenium supplies were hit by the frequent interruptions to mining in South Africa during much of 2007. A large percentage of production of this metal is from South Africa and primary output suffered despite growth in the amount of ruthenium-rich ore mined on the Eastern Bushveld. However, the South African producers were able to sell metal from above-ground stocks, just as in 2006, to meet demand.

Heavy purchasing of ruthenium by the electronics industry at the start of 2007 kept the upward pressure on the price and it climbed to a peak for the year of \$870 in February. However, with more metal being returned to the market from recycled sputtering targets and other electronic materials, buying interest diminished. The price softened and fell back to close 2007 at \$415.

Iridium

Global demand for iridium fell in 2007, dropping 12,000 oz to a total of 119,000 oz. The chemicals industry constructed fewer new factories requiring the use of iridium catalysts in 2007 than it had done in 2006 and demand fell in that sector. The use of iridium elsewhere, such as in automotive spark plugs and in the electronics industry remained steady. Iridium supplies to the market dropped in 2007, affected by a weaker performance by the South African mining industry. However, they remained large enough to meet industrial demand comfortably and the price moved very little during the year.

