Prices and Futures Markets

Platinum

Solid demand, a widening deficit in supply, and a lack of physical liquidity combined to drive the platinum price upwards in several successive rallies in 2002. After weakening from an opening fix of $481 to the year's low of $449 on the 1st of February, platinum then gained almost $150 over the remainder of the year. The price advanced in a series of successive rallies punctuated by sharp corrections downwards as investors took profits on long positions.

Strong growth in the Chinese jewellery market, supported by increased purchasing from the automobile and industrial sectors, resulted in rising demand for platinum. Growth in supplies, however, failed to keep pace with demand for the fourth year in succession and this shortfall drove the climb in the spot price. Market stocks of metal in Zurich, which were already low at the start of 2002, were further depleted – the net outflow of metal during the year reaching 558,000 oz. With the availability of metal tight, short-term lease rates jumped on several occasions, pushing the spot price upwards.

In addition to the good physical demand for platinum, increased investor and speculative interest in platinum futures was also noted, particularly during the second half of the year. With equity markets in the USA, Europe and Japan all performing poorly, the US dollar weakening, and interest rates generally low, there was greater fund interest in most hard commodities, most noticeably for gold but also for platinum.

Platinum opened 2002 steadily, fixing at $481 on the 2nd of **January**. Once the Japanese market re-opened on the 4th, investors on TOCOM who had benefited from the strong rally at the end of 2001 started taking profits. This, coupled with selling on the London fixings, took the price down to $472. Support in the form of good physical demand was found around this level and the metal largely traded between $470 and $480 through to the 24th. From then on, investor and fund liquidation of long positions, particularly on TOCOM, knocked the spot price backwards. The fall accelerated on the 29th when the TOCOM December 2002 contract fell below ¥1,800 per gram, and on the 31st platinum was fixed at $455.

After slipping to $449 on the first fixing of **February** (the low-point of the year), the platinum price then recovered to $474 by the 8th as US-based funds began opening new long positions and dealers covered short exposures. The rise was aided by gold moving above $300 and by strong purchasing of platinum by a Swiss bank. A period of consolidation between $470 and $480 was followed by further fund buying on NYMEX and the start of short-covering by investors who had accumulated around 225,000 oz of net short positions on TOCOM. With physical demand solid, the price climbed above $490 and ended the month at $493.

Platinum quickly passed the $500 mark in early **March** and continued to rally to reach $526 on the 11th. Prospects for the US economy were increasingly seen as encouraging and strong buying by US funds coupled with further short-covering by individual investors on TOCOM fuelled the rise. Throughout the second half of the month the price traded steadily between $510 and $520, with physical demand providing strong support at the lower end of the range. Little platinum was shipped from Russia during the first quarter of the year as official ratification of 2002 export quotas was awaited. This lack of Russian metal contributed to a tightening of short-term lease rates in February and March, which in turn supported the spot price.

Platinum jumped to $537 on **April** 2nd, driven by continued unwinding of short positions on TOCOM and solid physical demand. After softening to $525 on the 4th on profit-taking, concerns that industrial action at Anglo Platinum could disrupt supplies began to emerge. With spot sales of Russian material still largely absent and short-term lease rates on the increase, the platinum price climbed to $543 on the 15th. One-month lease rates reached 13 per cent and short-covering on TOCOM intensified as the spot price passed $550.

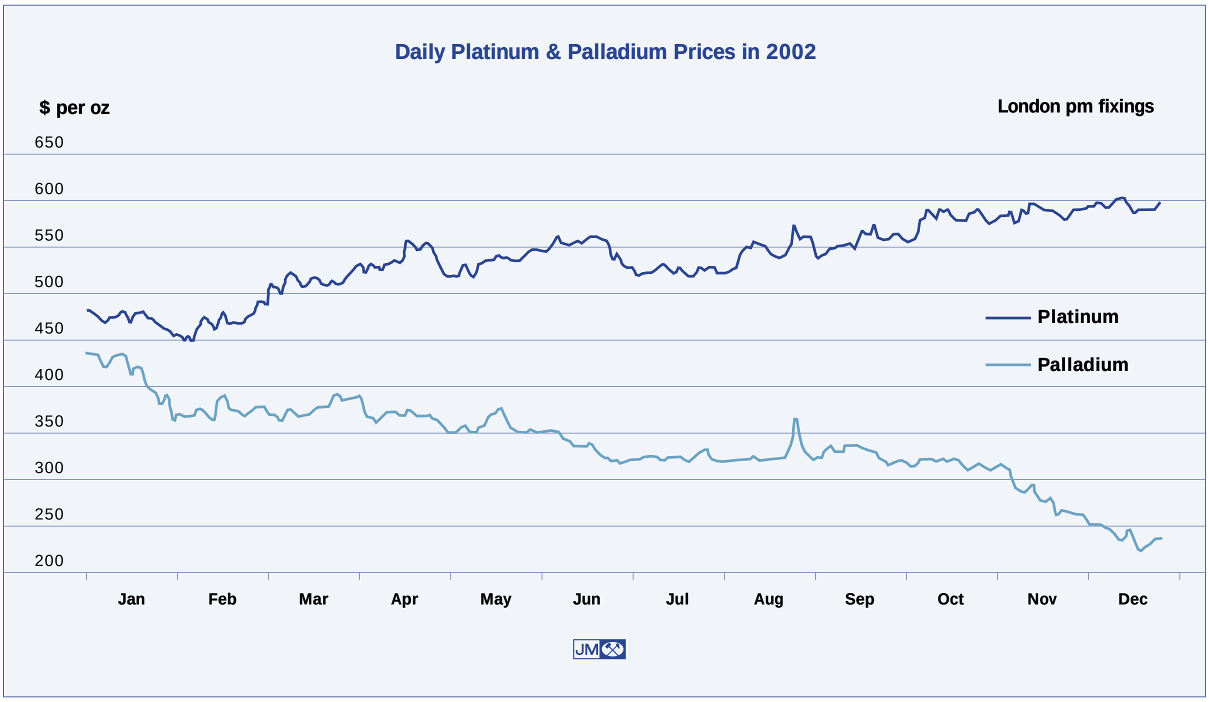
Higher volumes of metal, attributed to renewed Russian spot sales, came onto the market on the 19th and capped the rally before it reached $560. The price initially held firm in the face of the increased flow of metal, trading between $549 and $557 until the 29th. The offers of metal on the London fixings then weighed on the market, lease rates retreated, and as speculative selling came to the fore on TOCOM the price fell to $536 on the 30th.

The combination of physical sales and speculative selling by funds extended into early **May**, the platinum price falling to $519. Physical buying at this level halted

Average PGM Prices in $ per oz

	2001	2002	Change
Platinum	529.02	539.69	2%
Palladium	603.25	337.23	– 44%
Rhodium	1,603.89	838.05	– 48%
Iridium	413.01	293.57	– 29%
Ruthenium	132.11	66.41	– 50%

Platinum and palladium prices are averages of London am and pm fixings. Other pgm prices are averages of Johnson Matthey European base prices.



the slide and fund selling tailed off. Strong sales by the US auto industry, an indicator of underlying demand, and a spurt in the gold price to over $320, then drew the platinum price upwards again. By the 15th platinum had reached $537 and climbed to $546 on the 21st. A degree of dealer profit-taking was seen at this level and platinum consolidated between $537 and $548 for the remainder of the month.

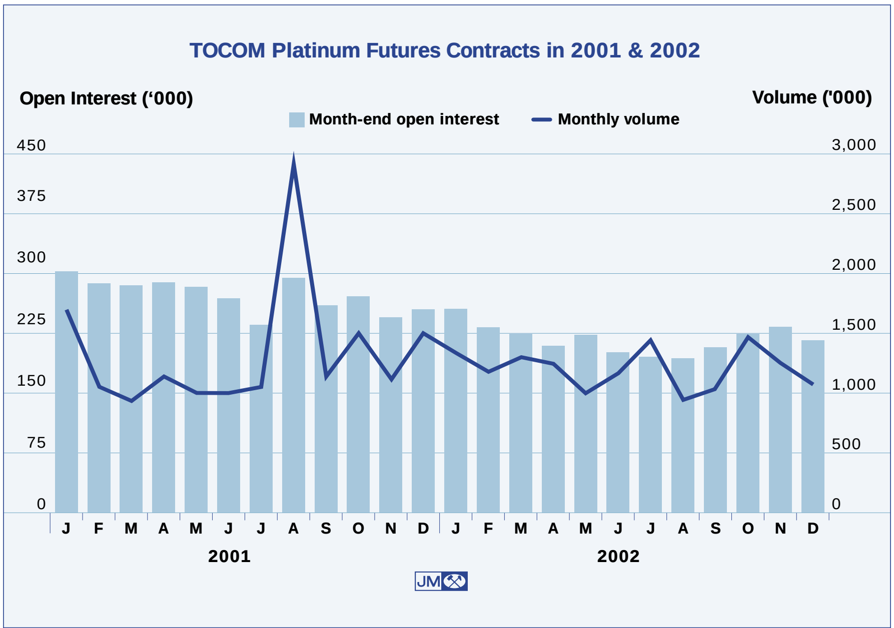
The platinum price passed $550 in early **June**, and then jumped to $564 on the 7th when investors on TOCOM increased their net long positions as gold also rose. After pausing around this level the price edged up again from the 14th as funds sought diversification from poor equity markets, platinum reaching $567 on the 21st. However, bids for physical metal then became lighter, offers on the fixings increased and the price slipped back to $560 on the 24th.

On the 26th the WorldCom accounting fraud broke and sentiment turned bearish. A sharp fall in the dollar against the yen triggered stops on TOCOM as longs moved to protect profits. Spot platinum slid to $539 on the 27th before consumer purchasing of metal enabled a recovery to $545 the following day.

The negative investor sentiment had depressed platinum to $520 by the 5th of **July**, the weakening dollar triggering stop-loss sell orders on TOCOM. The underlying robustness of demand then provided a platform for a moderate recovery, and by mid-month platinum had regained $530. Throughout the remainder of July the London market for physical metal was fairly quiet and the speculative selling on TOCOM abated. Platinum drifted back to $520 on the 24th as gold fell but again physical support proved to be solid, the metal floating between $520 and $530 through to the end of the month.

Platinum trade was thin in early **August** but from the 7th onwards investors, including hedge funds, opened new long positions on NYMEX and near-term borrowing interest increased. This pushed the platinum price to $540 on the 8th and past $550 on the 12th, which in turn precipitated short-covering by the general public on TOCOM. The rally climaxed at $558 on the 14th following Anglo Platinum's announcement that it would fall short of its 2002 production target. Bids for physical metal then waned and with steady volumes being offered the price settled back to fix at $541 on the 22nd.

Platinum was jerked higher in the final week of August by an intense bout of short-covering in the palladium market. When palladium contracts on TOCOM opened up at their daily limit on the 28th, the focus switched to platinum and with dealers struggling to cover short positions the price fixed at $574. The effects, however, were short-lived and by the end of the month the platinum price had slipped back to $564.



At the start of **September**, poor US economic data sparked another futures-based sell-off, with US funds and Japanese dealers taking profits on their long positions. Sizeable offers of metal were also made on the London fixings and platinum dropped to $540 on the 5th. Physical demand and speculative buying halted the fall, and the price edged slowly up to $554 by the 16th.

Substantial short-term borrowing came into the European market on the 18th and 19th. With physical stock in Zurich low, one-month lease rates jumped towards 12 per cent and the platinum price hit $568. Japanese investors were caught short and as they covered their exposure the metal fixed at $570 on the 20th. Further short-term borrowing saw the price reach $574 on the 24th but once this demand was satisfied one-month lease rates dropped back rapidly towards 6 per cent and platinum settled between $560 and $565 for the rest of the month.

An improvement in physical availability took the platinum price down to $557 on the 4th of **October** but this lull proved to be fleeting. Further borrowing between the 8th and the 16th caused sharp rises in short-term lease rates, one-month offers nearing 20 per cent. As Japanese investors scrambled to cover large short positions (contracts equivalent to over 2.5 million oz were traded on the 10th) the spot price surged through the $570, $580 and $590 barriers. The rally peaked on the 16th when spot offers were made over $600 during tense trading in New York. Greater volumes of metal were attracted into the market and, as lease rates eased, platinum dropped back to trade between $580 and $590 for much of the remainder of the month.

This range was maintained throughout most of the first two weeks of **November**, before fund buying of futures initiated another rally. Borrowing swelled again on the 14th, moving lease rates upwards and the following day there was strong general public buying on TOCOM followed by dealer short-covering in London. The scramble to cover positions pushed the morning fixing to $602, the first time that $600 had been breached since May 2001. Buying of futures by investors continued on TOCOM on the 18th but physical demand fell back, particularly from the Chinese jewellery industry. In addition, dealers offered greater volumes of metal and the spot price softened a little to trade between $585 and $595, fixing at $592 on the 29th.

The bullish supply and demand outlook for platinum continued to underpin the market during **December**. US funds bought into the metal at around $590, while another slide in the US dollar against the yen prompted short-covering by Japanese investors. On the 6th the Zurich spot price moved over $600 and platinum fixed at $602 in London on the 9th. Buyers of physical metal were discouraged at this level, allowing a retreat back to $594. A steep year-end rally in gold gave fresh momentum to platinum from the 13th and the metal fixed at $607 on the 17th. Volumes of spot trade, however, were limited and investor profit-taking pushed the price back to $585 on the 24th. Platinum ended 2002 on a firm note at $598, its premium over palladium having grown from only $40 to $365 over the course of the year.

Palladium

Demand from most sectors of the palladium market was weak in 2002, with key customers in both the auto and electronics industries making substantial use of inventories. The resultant pressure on the palladium price was compounded by a growing surplus of metal as primary output in South Africa and North America increased, and production at Norilsk Nickel far outweighed sales. In addition, the US Defense National Stockpile Center sold almost 325,000 oz of palladium during the year.

These fundamentals alone were sufficient to

Platinum Prices in 2002
London am and pm fixings, $ per oz

	High	Low	Average
Jan	482.00	455.00	472.49
Feb	494.00	449.00	471.25
Mar	526.00	486.00	512.15
Apr	559.00	525.00	540.87
May	548.00	519.00	534.56
Jun	567.00	539.00	556.33
Jul	532.00	519.00	526.22
Aug	574.00	522.00	545.54
Sep	574.00	540.00	555.84
Oct	598.00	557.00	580.54
Nov	602.00	577.00	588.20
Dec	607.00	585.00	596.39

depress the price but as investors became increasingly aware of the scale of the market imbalance, short selling of palladium contributed to a fall of over $200 over the course of the year. Trading volumes were generally thin and the decline was interspersed with prolonged periods when the metal traded in tight ranges and by occasional spikes caused by fund activity on the illiquid futures markets.

Palladium fixed at $440 on the morning of the 2nd **January**, the high point of 2002, then spent much of the remainder of the year in decline. Good offers of metal weakened the price to $422 on the 7th but as the selling eased it crept back to $435 on the 10th. Support was then pulled from under the price by Ford Motor Company's decision to take a $1 billion charge against its inventories of pgm and related forward contracts. Palladium plunged to $413 on the 15th as traders speculated that the company would purchase little or no metal during the coming year, and might sell excess palladium back to the market. The price came under increasing pressure from fund selling in New York, crashing past $400 and ending the month $70 below the opening fix at $370.

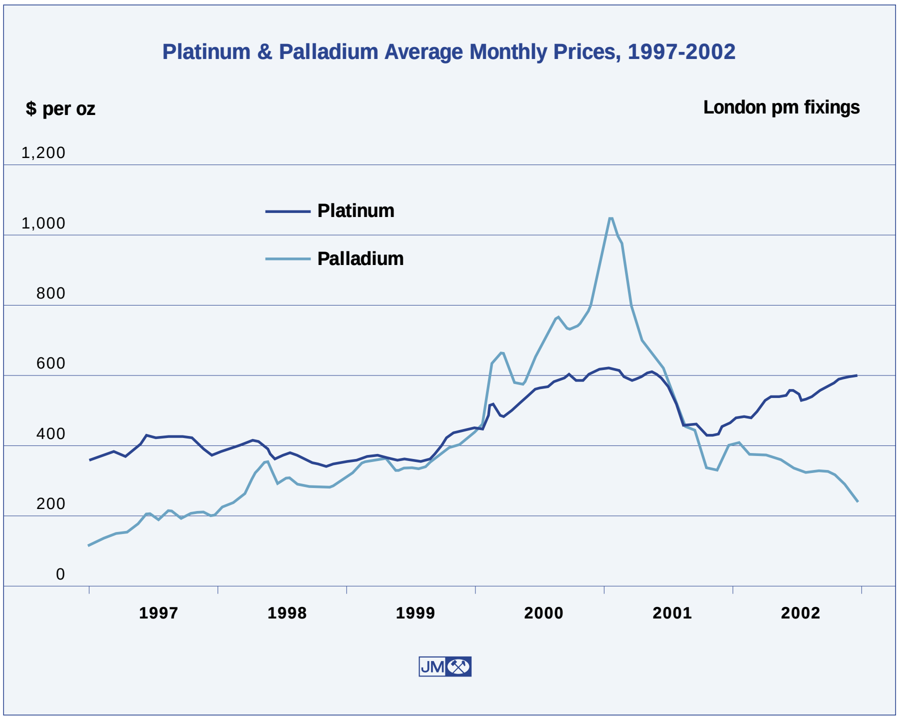
The fall was broken in early **February** as fund attention turned to gold and platinum. The palladium market was quiet for the first 11 days of the month, mainly trading between $365 and $375. On the 12th speculative buying by dealers in New York provided a spur to the spot price and this was followed on the 13th by a surge of borrowing in the USA. As short-term lease rates jumped, palladium fixed at $383. Contracts on TOCOM subsequently rose by the daily price limit on the 14th and the morning fixing in London was settled at $388. However, with physical liquidity good, and no fresh borrowing interest, the rally quickly subsided. The price slipped back to $380 on the 15th and for most of the rest of the month palladium traded thinly between $370 and $380.

Heavy selling on the fixings pushed palladium to a new low of $360 on the 6th of **March** but the price recovered to settle back into a narrow trading range around $370 until the 19th. An improved volume of bids for physical metal lifted the fixing to $380 on the 20th, aided by the continued absence of Norilsk Nickel from the palladium spot market. A small rally developed towards the end of the month when light speculative buying on NYMEX triggered a flurry of dealer short-covering that lifted the price to $393 on the 26th. The effect was transitory and palladium moved back to $386 at the month's final fixing on the 28th.

Confirmation from Ford that it was actively reducing its pgm inventories and would consider selling metal back to the market caused another slump in the palladium price in early **April**. Between the 2nd and 8th the price lost $30, dropping to $362. Although industrial demand remained weak, palladium managed a gentle recovery above $370, largely on the back of the strengthening platinum price. However, when the platinum rally ran out of steam, palladium drifted downwards, ending the month at $360.

The slow decline came to a halt in early **May**, moderate physical demand setting a floor around $350. The price fixed in a tight range of $349 to $357 for the first two weeks of the month with trading subdued. On the 16th, an increased level of bids on the London fixings, coupled with fund buying on NYMEX in a very thin market, pushed the metal to $368 in the afternoon. Persistent buying on the fixings over the next few days drove the rally to a peak of $378 on the 21st but then the weak fundamentals took over and a rapid decline followed. Higher physical sales attracted by the rise in the spot price served to erode the gains and by the end of the month palladium had eased back to $348.

The palladium market turned decidedly bearish in **June** and the price slipped by almost $30. There was



little activity during the first week, spot metal trading between $345 and $356. From the 10th onwards open interest increased on NYMEX as funds opened new short positions and the price scuttled back to $333 on the 14th. Increased interest in physical metal slowed the descent temporarily but once again offers were soon struggling to attract firm bids. Continuing sales of palladium from the US Defense National Stockpile Center and the disposal of excess inventories by some consumers contributed to the fundamental oversupply of metal. By the end of the month palladium was trading either side of $320, a discount of $220 to platinum.

The palladium market was extremely quiet for much of **July**, the absence of selling rather than any significant physical demand holding the price close to $320. Trading on TOCOM was almost at a standstill – only 535 contracts changed hands during the week ending the 12th (equivalent to a mere 25,800 oz of palladium). A small rally evolved from the 23rd to the 29th when purchasing on the London fixings and New York spot market lifted palladium to $332. By the end of the 31st, however, the price had returned to trade around $320.

The inertia continued into **August**, the price virtually static at $320 from the 1st through to the 23rd as traders struggled to generate any interest and volumes remained thin. On the 26th, a single fund decided to liquidate its short position on NYMEX and bought December 2002 contracts to close out its position. In such a thinly traded market this had a domino effect: other investors rapidly started covering their short positions and the December contract rose by $12 to move above $330.

The buying flowed over onto TOCOM on the 27th and further fund activity on NYMEX later in the day fuelled more frantic short-covering, the afternoon fixing in London climbing $12 to $342. On the 28th TOCOM contracts opened up by the daily limit and dealers in London were forced into further buying, squeezing the morning fixing up to $362. When the afternoon fix started at $375, however, over 25,000 oz of palladium were offered and the price quickly moved down to settle at $365.

The speculative rally evaporated over the final two days of August as good volumes of metal were offered, pushing the price down to $330 on the 30th.

The correction back to $320 was completed on the 3rd of **September**, then as the offers dried up, palladium edged up to $331 again on the 6th. For the next two weeks, the palladium market was very quiet, the metal mostly fixing between $330 and $335. Volumes of physical trade were thin, and activity on TOCOM was exceptionally light – a mere 39 contracts (just over 1,900 oz) changing hands on the 13th. By the final week of the month palladium was under renewed downward pressure as pessimism about the short-term US economic outlook resurfaced. With physical demand mediocre the price softened to $315 on the 30th.

Palladium continued to trade torpidly during **October**, with small volumes of physical business nudging the price between $310 and $320 for the most part. Light demand provided a degree of support but palladium was fixed towards the lower end of the range as the month drew to a close.

In **November** the support around $310 was broken and palladium fell steeply, the oversupply and weak demand fundamentals increasingly weighing on market sentiment. The price broke sharply lower between the 7th and 11th of November, dropping $20 to $288 on the London fixing. Persistent offers of relatively small volumes of metal found almost no buying interest and the fall was accelerated by stop-loss selling of futures contracts on NYMEX. By the 19th the metal had lost another $15, fixing at $273 as the selling pressure continued.

The proposed acquisition of a 51 per cent stake in Stillwater Mining by Norilsk Nickel for a combination of cash and 877,000 oz of palladium then further undermined sentiment. By the 25th selling in the Far East and Europe had depressed the spot price to $261 and palladium ended the month close to this level.

There was no respite for palladium during **December**, the price shedding almost another $30. Shipments of palladium from Russia increased dramatically, further adding to the already substantial volumes of metal held in Zurich. On the 4th offers totalling 17,000 oz were made and the price wilted to $255. Additional selling pressure the following day pushed the fixing price below $250 for the first time since March 1998.

The price continued to edge down the following week and when another substantial parcel of palladium was offered on the 16th it plunged to $233. The year's fixing low of $222 was reached on the 23rd and palladium ended December tiredly at $233, a discount of $365 to platinum.

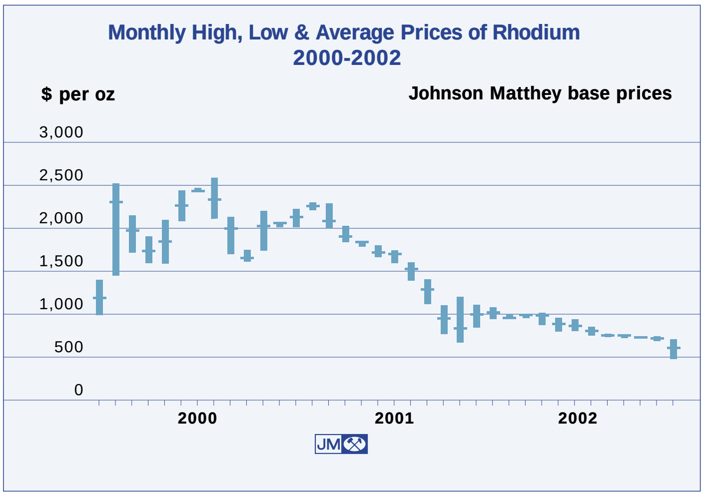
Palladium Prices in 2002
London am and pm fixings, $ per oz

	High	Low	Average
Jan	440.00	365.00	409.91
Feb	388.00	365.00	374.20
Mar	393.00	360.00	374.55
Apr	392.00	360.00	369.86
May	378.00	348.00	356.66
Jun	356.00	318.00	334.82
Jul	332.00	316.00	322.63
Aug	365.00	318.00	324.69
Sep	336.00	315.00	327.74
Oct	322.00	308.00	316.59
Nov	314.00	261.00	285.60
Dec	262.00	222.00	242.63

Other PGM

The price of rhodium was firm from January until almost the end of April, trading between $950 and $1,075 as the market awaited significant sales of metal from Russia. Physical availability then increased as Russian shipments accelerated. With South African production rising on the back of increasing platinum output, and some auto companies utilising inventories to supplement purchases, the price weakened. By the end of November rhodium had slipped below $700, then dropped sharply to $485 during December as offers of metal increased just when most purchasers had largely withdrawn from the market.

Prices for ruthenium and iridium also softened throughout 2002, the inevitable result of plentiful supply and weak demand for both metals.



The Johnson Matthey base price for rhodium edged higher during early January, reflecting steady consumer demand and a lack of Russian selling. However, after reaching a peak of $1,075 on the 11th, the price gradually drifted lower, settling to $960 during the first week of February. The market tightened in March with the continued absence of Russian sales, the JM base price moving up to $995 around mid-month and passing $1,000 in early April.

From the end of April physical availability increased noticeably as Russian selling reappeared. The JM base price slid down to $800 by the 8th May in response, then fluctuated between $800 and $950 through to the end of June as offers and bids of metal waxed and waned at either end of the range.

Rhodium broke below $800 during July as dealer selling found only weak buying interest, then slipped down to $740 in August in thin summer trade. From September through into November the market was very quiet, light trade being conducted either side of $750. From mid-November, however, the JM base price resumed its drift downwards as the volumes offered started to rise, dropping to $695 by month-end.

By early December significant volumes of rhodium were being offered to the market, with much of the metal reputed to be of Russian origin. As sellers competed aggressively for the very limited buying interest, the price fell below $600 on the 17th, hit $500 on the 24th and ended the year under pressure at $485.

The JM base price for ruthenium opened the year at $80 and for the first six months of the year faded gradually to $70. Excess inventories of electronic components, which had depressed demand for ruthenium pastes used in resistors, had largely been worked off by the second half of the year but the price fell faster as demand remained subdued and supplies from South Africa increased. After hitting $54 by the end of November ruthenium then sank to $40 during December as dealers sought to maximise sales volumes and revenues before year-end. The decline continued the metal's correction back from the speculative driven surge of 2000.

The iridium market suffered from an excess of crucible capacity for high-purity crystal manufacture during 2002 as the key electronics markets struggled to recover from the previous year's sharp downturn. With supply more than sufficient to meet generally poor demand, the JM base price dropped steeply from $395 at the start of the year to $125 by the end of December.