

PLATINUM

- Gross demand for platinum decreased by 11.9% to 7.04 million oz in 2009. Net platinum demand fell by 8.5% to 5.64 million oz.
- Open loop recycling returned 1.41 million oz of platinum to the market from scrapped autocatalysts, electronics and jewellery, a decrease of 23.2% from 2008.
- Gross platinum demand from the automotive sector fell by 39.0% to 2.23 million oz in 2009.
- Gross industrial demand for platinum declined by 33.7% to 1.14 million oz last year.
- Gross platinum jewellery demand rose strongly in 2009, climbing by 46.1%, to 3.01 million oz.
- Net identifiable physical investment demand for platinum climbed by 18.9% to 660,000 oz in 2009.

AUTOCATALYST

Due to the weakness in the global economy, gross global automotive sector demand for platinum fell by 39.0 per cent during 2009, to 2.23 million ounces, the lowest level since 2000. European demand was worst hit, falling by just over half to only 970,000 oz. North American, Japanese and Rest of the World demand for platinum also fell, declining by 26.6 per cent to a combined 1.13 million ounces. Despite strong growth in vehicle production in China, demand decreased by 10.3 per cent to 130,000 oz due to replacement of platinum catalysts by palladium ones.

Europe

Light duty vehicle production in Europe fell from 19.3 million units in 2008 to only 16.0 million units last year due to the effects of the global recession. In the first half of the year in particular, consumers delayed purchasing vehicles because of worries over their personal financial situation. The auto makers worked hard to reduce their stocks of unsold vehicles too, leading to production rates falling some way below even the weak sales rates seen during this period.

Gross demand for platinum from the European autocatalyst industry declined by more than half, falling to 970,000 oz compared to 1.97 million ounces one year earlier, as lower vehicle output and a temporary decrease in the market share of the diesel engine took effect. Additionally, the move to destock metal, catalysts and vehicles which took place at the start of the year was not reversed to any significant extent during 2009 and platinum demand was therefore lower than the level of vehicle sales would normally suggest.

However, a number of European governments launched incentive schemes – mostly in the form of subsidies on purchases of new cars provided on scrapping of an older model – from

early 2009. This generated some significant consumer interest and boosted both vehicle sales and production, although this had little positive impact on platinum demand.

The subsidies available to consumers proved to be particularly attractive to purchasers of smaller vehicles. With these small cars generally being powered by gasoline engines, the market share of the diesel engine was driven lower. Fleet sales to commercial organisations – again typically of diesel passenger cars and trucks – were also weak due to poor economic conditions and a lack of available credit, adding to the downturn in the diesel engine's market share and dragging platinum demand lower. The market share of the diesel engine decreased from 52.7 per cent of all new cars sold in Western Europe in 2008 to 45.9 per cent in 2009 (following a slight revival in diesel sales in the final quarter). Production and sales of heavy duty diesel trucks were poor too, as fleet operators delayed replacement purchases, again with a negative effect on platinum demand.

The continued price difference between platinum and palladium led to increased use of palladium alongside platinum in diesel aftertreatment formulations, further trimming European automotive platinum demand in favour of palladium (although platinum remains the dominant metal in diesel catalysts). Around one fifth of the metal used in light duty

Platinum Demand: Autocatalyst						
'000 oz						
	Gross		Recycling		Net	
	2008	2009	2008	2009	2008	2009
Europe	1,970	970	(385)	(290)	1,585	680
Japan	610	395	(60)	(50)	550	345
North America	505	370	(625)	(425)	(120)	(55)
China	145	130	(15)	(20)	130	110
Rest of the World	425	365	(45)	(45)	380	320
Total	3,655	2,230	(1,130)	(830)	2,525	1,400

diesel aftertreatment was palladium compared to roughly one eighth of total light duty diesel pgm demand a year earlier.

One of the few positive developments for platinum demand in this region was the introduction of European light duty Euro 5 emissions rules during 2009. These effectively mandated the fitment of diesel particulate filters (DPFs) to new diesel models from the final quarter of the year. The proportion of vehicles fitted with such filters in addition to diesel oxidation catalysts increased strongly, adding some additional platinum demand.

Japan

Gross platinum demand for use in autocatalysts fitted to vehicles manufactured in Japan declined by 215,000 oz to 395,000 oz in 2009, roughly in line with production of passenger cars which fell by 30.9 per cent to only 6.86 million units.

Following a healthy performance in 2008, the Japanese market was certainly not immune to the effects of the global economic crisis last year. With domestic sales struggling and economic conditions weak in many of Japan's major export markets, output fell sharply at the Japanese car makers, forcing cuts even in domestic manufacturing. Sales and output of the largest vehicles were disproportionately affected by the economic crisis and platinum demand – principally for catalysts fitted to vehicles destined for export – therefore fell by a marginally greater proportion than did vehicle production.

North America

After a difficult year in 2008, last year proved to be even more challenging for the North American automotive sector and platinum demand in the region (comprising the USA and Canada) fell by a further 26.7 per cent to 370,000 oz.

The US economy was especially weak in the early parts of 2009 with consumers worrying about debt repayments and job security. Purchases of "big ticket" items such as automobiles were particularly affected, with a lack of availability of new credit also hitting consumers' ability to purchase or lease new vehicles. With the stocks of unsold vehicles at dealers increasing, the auto makers were forced to slash production to extremely low levels.

The launch of the one-month long "Cash for Clunkers" scrappage incentive scheme finally provided some support for the automotive sector in mid-July by incentivising the sale of almost 700,000 vehicles. A gradual improvement in the economy lifted vehicle sales and manufacturing in the final quarter of the year but light duty vehicle production still fell by

32.7 per cent to 7.1 million units in the region.

The decline in platinum demand was less steep than this. Consumers started to purchase smaller vehicles than before, reducing average catalyst sizes. However, tightening emissions rules raised typical catalyst platinum loadings. The poor short term prospects for the regional economy also hit the heavy duty diesel sector with many fleet operators opting to delay purchases of new trucks. This cut a further 50,000 oz from demand in 2009 and deferred this to future years.

China

Automotive sector demand for platinum in China fell last year, decreasing by 10.3 per cent to 130,000 oz as the auto makers continued to substitute platinum with palladium in three-way (gasoline) catalysts. Additionally, we have downgraded our figure for platinum demand in this market for both 2008 and 2009 due to new information on the use of catalyst aftertreatment in the heavy duty diesel sector.

The Chinese domestic economy performed well throughout 2009, with growth continuing at a high rate. The national government made a number of moves to enhance domestic consumption in an effort to offset the weakness in many of China's industrial export markets. The reduction in sales taxes on smaller vehicles (with engine displacement below 2.0 litres) and the introduction of subsidies for rural purchasers of cars strengthened the market considerably, sending production of passenger cars a sharp 47.6 per cent higher to 8.4 million units, making China the world's biggest producer in 2009.

However, most of the vehicles manufactured and sold in China are gasoline-fuelled and are therefore fitted with palladium-based three-way catalysts rather than with platinum technology. The introduction of Euro 3 and Euro 4 equivalent emissions rules part-way through the year provided local and foreign-owned manufacturers alike with an economically-attractive opportunity to change any platinum-based catalysts fitted to their vehicles to use cheaper palladium-based technology. This eroded usage of platinum in the gasoline sector, depressing platinum demand in this country.

Rest of the World

Automotive platinum demand in the Rest of the World region weakened by 14.1 per cent in 2009, falling to 365,000 oz, although the picture varied from country to country.

In Russia and Mexico, for instance, car output fell substantially and platinum demand, although relatively small



Gross electrical sector demand for platinum fell by nearly a fifth in 2009 due to widespread destocking, despite improving output in the second half of the year.

in both countries, declined as a result. In South Korea, although vehicle production decreased relatively little from 2008, the number of diesel vehicles produced for export to Europe – the source of much of the local demand for platinum – fell further, dragging platinum demand lower.

However, in India the effects of the weak global economy were limited and passenger car production – including diesel vehicles for the domestic market – rose to 2.3 million units, boosting platinum demand, aided by some prefitment in advance of the Bharat stage 4 emissions legislation.

JEWELLERY

Gross platinum jewellery demand (equal to the sum of manufacturing demand and any increases in stocks of unprocessed metal) grew by 46.1 per cent in 2009, rising from 2.06 million ounces to 3.01 million ounces, driven by very strong Chinese purchasing. Gross Japanese demand edged 5,000 oz higher to 535,000 oz. Outside China and Japan, the weak global economy restricted consumer purchasing of platinum, forcing gross demand lower in most regions. Changes in jewellery recycling are discussed in our recycling chapter on page 24.

Europe

The European jewellery sector purchased a gross 185,000 oz of platinum during 2009, a fall of 9.8 per cent from the previous year. Unsurprisingly, the weak state of the regional economy depressed manufacturing demand for platinum jewellery and watches in most European countries.

Within the UK, the sharp fall in consumer spending in the early part of the year hurt demand for jewellery in general. However, the fall in the price of platinum from its mid-2008 peak improved the affordability of platinum jewellery, with the number of pieces hallmarked rising from the levels of the previous year. The market for bridal jewellery remained firm in markets including the UK, Germany and Italy, meaning that demand for platinum rings proved to be remarkably resilient.

Elsewhere in Europe, much jewellery platinum demand is from the luxury sector. Within most of Europe, sales of luxury goods were relatively poor and, although platinum maintained its share of the market, demand slipped lower. The manufacturing of high-end jewellery in Europe for export to Chinese markets did, however, offset some of this weakness. A decline in the production of Swiss platinum watches – almost the archetypal luxury product – led to a fall of 20,000 oz in

platinum demand as manufacturers and distributors minimised stock levels in response to the recession and consumers were unable or unwilling to purchase these items in the difficult economic climate.

Japan

Gross demand for platinum from the Japanese jewellery market climbed by 5,000 oz to 535,000 oz in 2009.

Although Japan’s economy remained weak during 2009, the strength of the Yen against most other currencies meant that the platinum price remained significantly lower than it had been during much of the previous year. Those stores which reduced retail prices earliest were thus rewarded by increased sales of platinum as it captured some share of the bridal market from white gold. However, as the platinum price rose, white gold began to recapture some of its lost market share, leaving consumer demand only marginally higher than in 2008.

Japanese demand did benefit from healthy sales of Kihei “investment” chain and from very strong exports of rings and lighter weight chain to China, a relatively recent trend. Demand within Japan was also supported by purchases made by Chinese visitors to Japan: anecdotal evidence indicates that ten per cent of sales in Tokyo’s Ginza area may be to tourists.

Although there have been some reports of lower-purity alloy pieces on sale in Japan, these remain sporadic.

As we have previously reported, the volume of metal recovered by recycling old jewellery from the Japanese market dropped last year, forcing net jewellery platinum purchases higher. For more details on this, please see page 24.



Within China, plain platinum and gold jewellery is typically priced per gram, with the price displayed on boards such as this.

North America

2009 was a challenging year for the North American jewellery market and gross demand for platinum fell by 32.5 per cent – the sixth successive annual decline – to 135,000 oz.

The North American economy was particularly weak in 2009 and consumers responded to worries over their personal economic situation by reducing their discretionary spending. As expected, this impacted heavily upon the jewellery market, with sales of all types of jewellery falling in response. The poor economic conditions also encouraged manufacturers and retailers to reduce their working stocks of platinum.

Although the bridal sector performed better than most other market segments, even here, price pressures were evident. While the platinum price was lower than it had been for much of 2008, marrying couples still reduced their overall spend on wedding jewellery. This allowed palladium and base metals to gain some market share in men’s wedding bands and also led to a slight decrease in the average weight of pieces sold, further hurting demand. However, sales of platinum jewellery by online retailers showed some growth.

China

Gross purchases of platinum by the Chinese jewellery industry (equivalent to the sum of manufacturing demand plus any increases in unmanufactured metal stocks throughout the supply chain) were extremely strong during 2009, almost doubling to an all-time high of 2.08 million ounces.

With the Chinese economy still in robust health, consumer purchasing of all types of jewellery strengthened. Despite the gains in the platinum metal price throughout the year, the retail price of platinum jewellery remained below the high levels of early 2008 for the whole of 2009, improving the affordability of platinum jewellery in almost every city. Additionally, the rising price of gold narrowed the gap in the relative cost of jewellery

made from these two metals, allowing platinum to recapture market share from white gold, gem-set jewellery. Consumer purchases of platinum jewellery therefore strengthened considerably.

Retailers and wholesalers also took advantage of the lower platinum price at the end of 2008 and the start of 2009 in order to rebuild stock levels which they had previously run down. With sales of all jewellery so strong, retailers added additional space to their existing stores and expanded the number of stores they operated too. This generated some additional consumer purchasing but, as importantly, led to extra demand in order to build inventories. Wholesalers too were driven to increase their working stocks of platinum jewellery.

At the manufacturer level, high demand for platinum jewellery boosted profit margins, encouraging many companies to devote more resources to the manufacturing of platinum jewellery instead of palladium and white gold production. These enhanced potential profits also attracted a number of other organisations to move into this space to start jewellery manufacturing, adding further to the industry’s growing metal inventory.

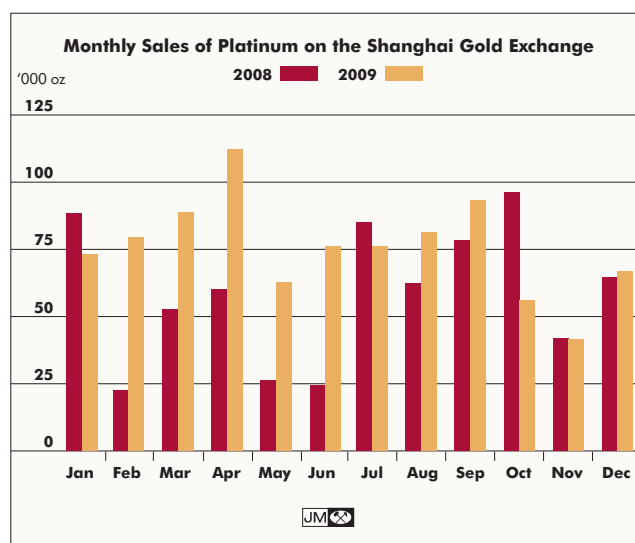
Overall, we believe that at least 300,000 oz of demand for platinum in 2009 was due to the combined stock-build which took place at the manufacturing, wholesaling and retailing levels. A degree of stock rationalisation did occur in the final months of the year at some manufacturers but the rising price seems to have also encouraged stock-building at others and the net impact of the price on metal demand was limited during this period.

For information on the recycling of platinum from jewellery within China, please see page 24.

Platinum Demand: Jewellery						
'000 oz						
	Gross ¹		Recycling ²		Net ³	
	2008	2009	2008	2009	2008	2009
Europe	205	185	(5)	(5)	200	180
Japan	530	535	(475)	(230)	55	305
North America	200	135	(5)	0	195	135
China	1,060	2,080	(210)	(330)	850	1,750
Rest of the World	65	75	0	0	65	75
Total	2,060	3,010	(695)	(565)	1,365	2,445

NOTES TO TABLE

- ¹ Gross demand is equivalent to the sum of platinum jewellery manufacturing volumes and any increases in unfabricated metal stocks within the industry.
- ² Recycling represents the amount of old stock and old jewellery recycled whether the metal is re-used within the jewellery industry or sold back to the market.
- ³ Net demand is the sum of these figures and therefore represents the industry’s net requirement for new metal.



The weight of platinum purchased on the Shanghai Gold Exchange – much of which is used in the jewellery industry – climbed to record levels in 2009.

Strong purchasing of platinum in the form of coins, bars and Exchange Traded Fund positions drove physical investment demand higher in 2009.



Rest of the World

Gross purchases of platinum by the jewellery industry in our Rest of the World region rose by 10,000 oz to 75,000 oz.

Platinum jewellery is produced in a number of countries for export to the USA and the poor state of the North American retail market negatively affected demand from this sector. However, a recent decision to increase the investment in marketing platinum jewellery within India has boosted confidence in this market and generated some additional domestic demand, more than offsetting weak exports to the US market.

INVESTMENT

Identifiable physical investment demand strengthened during 2009, climbing by 18.9 per cent from 2008 levels to 660,000 oz. Purchasing of coins and small bars was stronger than in 2008 and generated demand of some 105,000 oz. Purchases of large bars in all forms decreased to 165,000 oz. However, most importantly, Exchange Traded Fund (ETF) holdings increased by some 390,000 oz.

In the coin sector, the US Mint did not release any of its platinum American Eagle coins for sale until the end of the year due to a focus on meeting high demand for gold bullion. Nonetheless, the underlying consumer appetite for coins remained healthy, leading to the proof coins eventually minted selling their annual production in a very short period after their release. Sales of coins from other mints including the Royal Canadian Mint and the Perth Mint in Australia were also strong as they benefited from unsatisfied investment interest

in precious metal coins. This strengthening of precious metal investing interest by the general public also led to increased demand from the sale of small bars in North America.

Demand for platinum from Japanese retail investors decreased from 385,000 oz in 2008 to 160,000 oz last year. The explosion of the global economic crisis in the final months of 2008 significantly increased the risk aversion of a typical investor, leading to large flows of money into so-called “safe haven” investments such as precious metals. Net purchasing of platinum bars – primarily as over-the-counter investment – soared to historically high levels in the final quarter of 2008 and continued to be strong in the first quarter of 2009. However, as the prospects of a total collapse of the world’s financial system receded, purchasing returned to a more typical pattern for the final three-quarters of the year: net sales by the general public of large bars in over-the-counter transactions and a low level of net buying interest through accumulation plans.

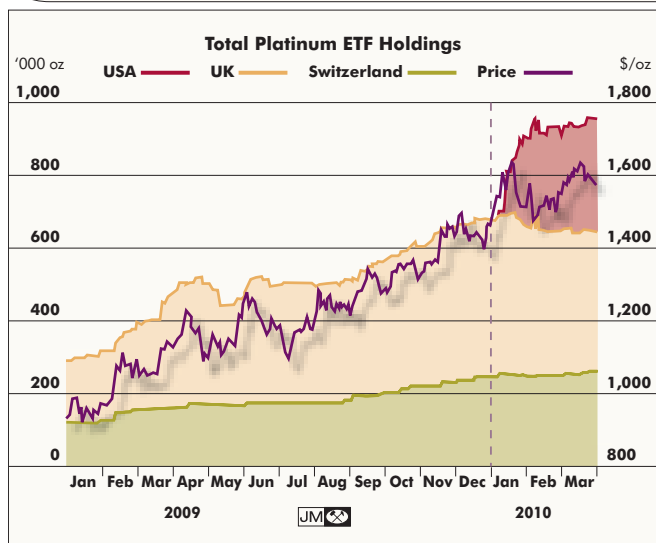
Identifiable physical investment demand within Europe climbed to 385,000 oz in 2009 from 105,000 oz one year earlier, with almost all of this demand attributable to the flows of metal into Exchange Traded Funds based in London and Zurich.

Investors had redeemed large amounts of platinum from ETF positions in the second half of 2008 as the metal price fell, but reversed this behaviour at the start of 2009 once the price had shown initial signs of recovery. Very large amounts of metal were transferred into ETF holdings in the first half of the year in response to the weak US Dollar and rising prices across the precious metals complex. When the gold price started to rise towards record levels in the final quarter of the year and global economic prospects finally began to improve, investment flows into the platinum ETFs returned. With relatively few large redemptions (sales of metal by investors), demand increased dramatically from 2008 levels.

Buying through the Australian ETF generated 5,000 oz of platinum demand. Although the seed metal (10,000 oz) for the launch of the US-based ETF was purchased during 2009, we do not include this in our demand figures for last year.

Platinum Demand: Investment			
	'000 oz		
	2007	2008	2009
Europe	195	105	385
Japan	(60)	385	160
North America	30	60	105
China	0	0	0
Rest of the World	5	5	10
Total	170	555	660

Purchasing of platinum through the European Exchange Traded Funds was strong throughout the whole of 2009.



CHEMICAL

The chemical industry purchased 295,000 oz of platinum in 2009, some 105,000 oz less than it bought in the previous year. The economic slowdown had relatively little impact on the amount of new capacity constructed but less metal was required to top-up current operations than had been the case in 2008.

The construction of a new chemicals facility is often a multi-year process and, where companies had commenced installing new capacity before the economic downturn, most continued this construction last year. One exception, though, was where the expectation of slower medium term growth in global requirements for para-xylene resulted in a delay in the completion of new facilities within Asia. We have therefore downgraded our figure for 2009 demand by some 60,000 oz, although we now expect this expansion to take place in 2010.

However, after several years of strong growth, the chemical sector had, in any case, entered a cyclical slowdown with less new capacity scheduled to be installed than had occurred a few years earlier. Purchases of new metal for plants therefore shrank somewhat from the 2008 figure despite some growth in process catalyst demand in Asia.

As importantly, the financial crisis depressed demand for a number of commodity chemicals and many plants were operated at significantly below their rated capacity. With throughputs limited, catalyst lifetimes were extended and less metal was required to replace in-process losses than was purchased in 2008. This effect was seen in the nitric acid industry where companies worked to minimise their stocks of fertilisers in the first half of the year, severely depressing plant

Platinum Demand: Chemical

	2007	2008	2009
Europe	110	105	70
Japan	55	55	45
North America	95	95	65
China	70	60	40
Rest of the World	90	85	75
Total	420	400	295

throughput. Once this destocking had been completed, nitric acid production improved and platinum demand returned to closer to normal levels for the remainder of the year.

In the silicones sector, where the platinum catalyst is trapped in the final product, a small decrease in demand for silicones for pressure release applications translated into lower platinum requirements. Catalyst manufacturers also continued to thrift the platinum content of their products, further depressing demand. However, a challenging economic environment and a lower platinum price meant that few manufacturers were willing to make the capital investment to upgrade their production lines, limiting the scope of thrifting in the industry and the fall in platinum demand.

PETROLEUM REFINING

Widespread weakness in the global economy in 2009 was reflected in low consumer demand for refined oil products. With destocking occurring in the first half of the year too, net platinum demand from the petroleum refining industry decreased by 14.6 per cent to 205,000 oz last year.

Lower demand for gasoline and most petrochemicals caused many oil refineries to run at significantly below their rated capacity for most of 2009. Although capacity utilisation did improve throughout the year, this low throughput led to extended catalyst lifetimes and reduced the industry's need to purchase platinum to top-up catalyst losses.

Platinum Demand: Petroleum Refining

	2007	2008	2009
Europe	25	30	25
Japan	5	10	10
North America	30	25	15
China	10	10	10
Rest of the World	135	165	145
Total	205	240	205

Uncertainty over the pace of economic recovery also had a negative impact upon platinum demand by delaying expansions of refining capacity in North America and elsewhere. While we expect most of these projects to be completed eventually, many will now generate additional platinum demand one or two years later than had originally been planned.

ELECTRICAL

Gross electrical sector demand for platinum (equivalent to the sum of manufacturer demand and any stock changes) fell by 17.4 per cent to 190,000 oz last year. Over half of total demand was for use in the hard disk sector.

2009 was a better year for the electronics industry than had initially been expected. Although purchases of electronic goods were very weak at the start of the year, they gradually improved as the year progressed with factory utilisation rates rising to more normal levels. For the year as a whole, sales of consumer electronics including personal computers were little

Platinum Demand: Electrical '000 oz						
	Gross		Recycling		Net	
	2008	2009	2008	2009	2008	2009
Europe	20	20	(5)	(5)	15	15
Japan	35	30	0	0	35	30
North America	30	25	0	0	30	25
China	30	20	0	0	30	20
Rest of the World	115	95	0	(5)	115	90
Total	230	190	(5)	(10)	225	180

different from one year earlier although business investment in IT infrastructure remained muted.

Other recent trends occurring in this sector continued into 2009. Further miniaturisation of PCs – as shown by growth in the sales of notebook computers – led to decreases in average hard disk size and a fall in platinum content per disk. However, increases in data-processing requirements boosted the average number of hard disks per device slightly, maintaining platinum demand.

However, the industry did carry out a large amount of destocking in the early months of 2009. With consumer demand weak and credit increasingly challenging to obtain, the industry reduced its inventories at every level (whether of finished goods, hard drives, sputtering targets or raw metal) during this period. Production of hard disks therefore underperformed headline sales, leading to a fall of some 30,000 oz in platinum demand from the hard disk sector.

Platinum Demand: Glass
'000 oz

	2007	2008	2009
Europe	15	(25)	5
Japan	85	65	40
North America	25	(5)	(35)
China	180	85	(90)
Rest of the World	165	195	90
Total	470	315	10

The amount of platinum used in the fuel cell sector rose with the launch of limited edition products such as Toshiba's fuel cell mobile phone charger providing a boost to demand, although demand remains small. The usage of platinum in other electronic applications, including plating, fell due to destocking and low output in areas such as automotive electronics.

For details on recovery of platinum from end-of-life electronics, please see page 24.

GLASS

Net glass sector demand for platinum fell very heavily, from 315,000 oz in 2008, to 10,000 oz in 2009. The fibre glass industry purchased less platinum than in the previous year and the closure of a number of cathode ray tube (CRT) television glass factories returned some platinum to the market. The LCD glass industry also experienced a reduction in platinum demand.

The long term trend of relocating fibreglass production from Europe and North America to Asia continued last year. Although the Chinese economy grew strongly during 2009,



Demand for platinum from the glass sector decreased sharply in 2009 due to slower industry expansion and the closure of some CRT glass plants.

domestic fibreglass production – representing the majority of world output – did not keep pace. Key export markets such as the North American construction industry were weak, limiting demand for Chinese fibreglass. The pace of installation of new capacity thus slowed considerably, with the construction of some plants delayed. The fall in platinum demand in this sector was further exacerbated by a move towards the use of more durable, higher-rhodium, lower-platinum alloys at many manufacturers, particularly in Europe and North America, driven by the low rhodium price.

Flat screen television sets – principally LCD technology – continue to capture market share from conventional cathode ray tube sets. As a result, CRT glass factories continue to close at a rapid rate, particularly within China where most of this manufacturing is situated. The metal previously utilised at these plants is refined and sold back into the market. In previous years, this has been counterbalanced by demand derived from healthy expansion in LCD glass production capacity. Demand for LCD glass weakened substantially in the first half of 2009, leading to delays in plant construction and hence to much lower platinum demand. However, sales of flat screen sets improved to a degree in the second half of the year. The glass manufacturers responded by moving back into expansion mode, installing new capacity and supporting platinum demand to a limited extent.

MEDICAL & BIOMEDICAL

Net demand for platinum from the medical and biomedical sector (including demand from the dental sector) was little affected by economic conditions and increased from 245,000 oz in 2008 to 250,000 in 2009.

Platinum is used in a range of biomedical applications, including stents and pacemaker electrodes, due to its biocompatibility and mechanical and electrical properties. Output of these devices continues to grow but platinum demand fell marginally in 2009 as device manufacturers minimised

Platinum Demand: Medical & Biomedical '000 oz			
	2007	2008	2009
Europe	110	115	115
Japan	15	20	20
North America	80	85	90
China	10	10	10
Rest of the World	15	15	15
Total	230	245	250

Demand for platinum for use in automotive spark plugs decreased in 2009 due to lower global light duty vehicle output.



metal inventories. Consumption of platinum in anti-cancer drugs has increased during recent years as global standards of healthcare have improved and demand for platinum in this application increased once more in 2009.

Platinum demand in the dental sector is highly dependent on the European market. Here, ceramic technology is steadily taking market share from precious metal treatments and platinum demand is slowly decreasing.

OTHER

Demand for platinum from all other applications fell by 100,000 oz to 190,000 oz last year. (Platinum demand for the biomedical, dental and medical sectors is now included in a separate medical and biomedical demand sector rather than in the other demand category for all years.)

The use of platinum in spark plugs and automotive sensors suffered badly due to lower global vehicle production. The weak world economy meant that aircraft utilisation declined, depressing the number of engines refurbished during the year. The number of new engines manufactured fell too and demand for platinum for use in coating turbine blades decreased.

Platinum Demand: Other '000 oz			
	2007	2008	2009
Europe	75	85	55
Japan	30	25	15
North America	135	150	90
China	5	10	10
Rest of the World	20	20	20
Total	265	290	190

THE CHINESE PLATINUM JEWELLERY MARKET

Strong consumer demand, healthy manufacturing output and stock-building of raw materials and finished pieces all contributed to a record performance by the Chinese platinum jewellery market in 2009.

INTRODUCTION

2009 was an exceptional year for platinum jewellery in China with gross demand rising from 1.06 million ounces to a record 2.08 million ounces. In the most general terms, this was due to the twin stimuli of a lower platinum price and a booming domestic economy. The real picture is rather more complex, with the motivations of consumers, manufacturers, retailers and wholesalers all playing their part.

DEFINING GROSS DEMAND IN THE JEWELLERY SECTOR

In previous years, Johnson Matthey has only reported net demand for platinum group metals in the jewellery sector. While recycling remained at low levels, this made sense and the numbers reported reflected the state of the market well. In recent years, though, in markets such as China and Japan, recycling has increased in volume and obscured the underlying trends in consumer and manufacturer purchases.

We have now therefore chosen to report demand as a gross figure, representing the total weight of metal bought by manufacturers from any sources and made into jewellery, plus any increases in stocks of unfabricated metal throughout the industry. Recycling figures – the amount of metal recovered from second-hand jewellery and from any wholesale and retail stock returned for reprocessing – are now reported separately.

To explain the underlying health of the market thus requires a focus on understanding manufacturing output and examining why stock changes take place in this industry.

CONSUMER PULL – PRICE

Consumer purchasing of platinum jewellery strengthened considerably during 2009. Growth in the Chinese economy maintained the positive mindset amongst domestic consumers. The Shanghai Stock Exchange

performed particularly well during the first two-thirds of 2009, augmenting people's perceptions of their own personal wealth. Rising real estate prices also enhanced this "feel-good factor", encouraging higher discretionary spending.

Platinum demand increased by more than this effect alone would suggest, though. Plain platinum jewellery (i.e. pieces which do not contain precious or semi-precious stones) is typically priced by weight in Yuan per gram in China. In a normal year, this retail price – which is prominently displayed in most jewellery stores – would typically move in line with changes in the bullion price. In the first half of 2008, for example, the rising platinum price pushed the retail price of platinum jewellery to ever-higher levels, hurting consumer demand as it became less affordable.

Many retailers were slow to reduce prices in the early part of 2009 as they averaged down metal costs on existing stock. Thus, although the bullion price had fallen, consumer prices were relatively slow to follow. In some cities, retail prices were therefore still falling even as the platinum price rose in the second half of 2009. These lower retail prices improved the affordability of platinum compared to the previous year, releasing a surge of pent-up demand and sending consumer purchasing sharply higher. Imports of fine, lightweight platinum chain from Japan also benefited, helping to increase Japanese platinum jewellery manufacturing demand.

CONSUMER PULL – PLATINUM AND GOLD

The narrowing price differential between gold and platinum also aided platinum demand last year. With the gold price stronger than in 2008 and the platinum price weaker, the differential in price between the two metals shrank. Although the gold jewellery market remains very much larger than the platinum market, this made platinum relatively more attractive to some consumers, with demand

for platinum improving accordingly.

This could readily be seen in the range of gem-set jewellery on display in retail stores. During 2007 and 2008, an increasing amount of white gold could be seen as retailers tried to maintain sales in the face of rising prices for platinum and for diamonds. However, white gold has a lower brand acceptance than does platinum within China. Thus, when the platinum price fell, retailers gladly returned to stocking more platinum at the expense of white gold. Consumers happily bought platinum at these more affordable prices instead of being forced to trade down to the cheaper white gold.

CONSUMER PULL – RISING AND FALLING PRICES

While lower platinum prices have clearly benefited affordability and platinum demand, the longer term impact of price changes and price volatility on consumer perception of platinum is more complex.

Precious metal jewellery in China is both an adornment and an investment. Although a rising price hurts affordability, it may make a material more attractive as an investment. To some extent, a rising metal price reinforces perceptions of the "store-of-value" status of precious metal jewellery as well as actually increasing its value.

For some consumers, the rising price of platinum in 2009 was therefore a positive factor, encouraging purchasing. For others, the precipitous fall in the price of platinum of late 2008 may have damaged confidence in its future value. The balance between these two opposing trends is hard to ascertain but this tension does demonstrate the complexity of consumer thinking in this market.

CONSUMER PULL – CALENDAR EFFECTS

The effects of the Chinese calendar also drove consumer purchasing in 2009. The year of the ox started in January and contained

two Springs (this number can vary due to discrepancies between when the Chinese New Year starts and when Spring begins) and was an auspicious year for marriages. (It is worth noting, however, that some of these marriages took place in the Chinese year of the ox but in calendar year 2010 and therefore will contribute to demand in 2010 rather than in 2009). The 9th of September 2009 also saw large numbers of weddings as the number nine is generally viewed as lucky: 09/09/09 was therefore an especially good day to marry.

Allied to this, the influence of dates in the Western calendar is increasing in China. Valentine's Day has become an increasingly important occasion and now forms one of the key buying seasons in China along with Chinese New Year, Christmas and the May and October National Day holidays. In 2009, Valentine's Day fell on a Saturday and retailers reported hugely positive sales, adding extra strength to an already good retail performance for the year.

MANUFACTURER PUSH

With consumer demand at very healthy levels and retailers and wholesalers increasing stock levels too, manufacturing demand strengthened considerably in 2009.

At various points during the year, latent demand – the amount of jewellery that manufacturers could have sold – was higher than their production capacity. Some companies refocused their production, manufacturing platinum jewellery instead of white gold and palladium. Almost every manufacturer increased capacity, recruiting more staff and investing in larger premises in several cases.

Weakness in manufacturing in the South of China of other goods for export – due to the global recession – contrasted with the rising profits available from platinum jewellery, both in total but also in margin per piece. This stimulated more investment into this sector and brought new companies into jewellery manufacturing. The increasing competition led to improvements in the design and

quality of some of their pieces while many manufacturers started to produce quantities of Pt999 (99.9 per cent purity alloy) jewellery in an attempt to further boost their profits.

CHANGES IN STOCK LEVELS OF FINISHED JEWELLERY

Manufacturing demand in 2009 was further augmented by significant increases in retail and wholesale stocks of finished platinum jewellery in China, driving gross demand upwards at a faster rate than the rise in consumer purchasing.

The consumer preference for platinum over white gold stimulated an increase in the amount of counter space devoted to gem-set platinum jewellery at retailers at the expense of white gold, leading to some of the stock-build which occurred at the retail level. Increases in plain platinum jewellery stock were also seen throughout the industry. Wholesalers expanded their stocks of finished jewellery in order to capture strong interest from the retailers.

In department stores, which account for a large proportion of jewellery sales in China, the store charges a percentage of turnover as commission from the individual concession-holders. A high gold price and good levels of sales of jewellery in general convinced these larger stores to devote more floor space to jewellery. It is questionable how much impact this had on sales of platinum but it did contribute to the increased levels of stock being held throughout the industry.

The ready availability of credit to businesses also encouraged independent retailers to add new outlets alongside their current operations in the larger cities or to expand into smaller, less affluent cities. Even a small store could require 50 oz or more of platinum in the form of initial stock with larger shops needing much more metal to stock their display cases.

Although the Chinese market is not yet saturated in terms of the number of jewellery stores per head of population, expansion of the number of retail outlets has slowed since late 2009. We also see little evidence of increasing

stock-build due to platinum replacing other precious metals in retailer display cases and there have instead been some indications of stock reductions in response to recent rises in the platinum price.

CHANGES IN STOCK LEVELS OF UNPROCESSED METAL

Just as retailers and wholesalers had done, manufacturers had reacted to the rising platinum price of recent years by minimising the amount of metal they owned in raw or finished form or in their in-process inventories. By the time metal prices had reached their peak in the middle of 2008, these stocks had probably fallen close to a practical minimum. As the price fell, therefore, manufacturers bought heavily to rebuild stock levels in late 2008 and early 2009.

In order to increase their output of finished pieces, more metal was required in the form of working stocks at manufacturers. Many manufacturers try to keep their stocks at a flat value in Yuan terms and it can therefore be seen that the fifty per cent fall in the platinum price had a major impact on the amount of physical inventory held. The new manufacturers starting operations in China last year also each required a significant quantity of platinum to begin production.

The stock-build at the retailer, wholesaler and manufacturer levels added several hundred thousand ounces to platinum demand during 2009.

THE OUTLOOK FOR DEMAND IN 2010

Although the underlying health of the Chinese platinum jewellery sector remains fairly good, it is unrealistic to expect another year of such strong demand in 2010. The factors leading to the heavy stock-building of 2009 are unlikely to be repeated. Recent higher bullion prices have started to impact upon the affordability of platinum jewellery and there have been some early signs of inventory reductions in the first part of 2010, suggesting that while demand may be strong by historical standards, it is unlikely to reach the heights of 2009 this year.