

# Platinum

## Jewellery

The popularity of platinum jewellery in China continues to grow, with demand set to reach 1.3 million oz in 2001. However, high platinum prices and weaker economic conditions have had a serious impact on fabrication levels in the USA and Japan. Overall sales of platinum to jewellery makers are forecast to total 2.52 million oz, down 11 per cent compared with last year.

## Europe

European demand for platinum in jewellery fabrication is forecast to fall by 16 per cent to 160,000 oz in 2001. Further growth in the UK market will be outweighed by weak domestic demand for jewellery in Germany and lower exports of platinum chain from Italy to the USA and China.

UK Assay Office statistics show a 4 per cent increase in the weight of platinum jewellery hallmarked during the first nine months of this year, despite a slight decline in the number of pieces sent for hallmarking. While bridal rings still account for a large share of this market, platinum accessories such as neck chains and pendants are becoming more popular, and this has contributed to an increase in the average weight of platinum jewellery items.

In Germany, weak economic conditions have affected consumer demand for luxury goods, and sales of platinum jewellery have therefore been lower this year.

In recent years, Italian jewellery manufacturers have supplied substantial quantities of very lightweight platinum chain to the USA and China. Exports to these markets are expected to be down sharply in 2001.

## Japan

Sales of platinum to Japanese jewellery makers are expected to plunge by over a third to 700,000 oz in 2001, the lowest level since 1985. High bullion prices have been the principal factor behind this decline, triggering a loss of market share to white gold in the lower price segments of the market, and encouraging the recycling of old stocks of platinum jewellery.

Overall unit sales of precious metal jewellery rose by 5 per cent during the first half of 2001, but platinum sales slumped by 17 per cent, largely due to higher prices. With bullion trading at over ¥2,200 per gram for much of the first six months of 2001, it became increasingly difficult to offer platinum in the lower price segments of the jewellery market. Instead, manufacturers and retailers turned to white gold to satisfy consumer demand for inexpensive white jewellery. As a result, unit sales of white gold products rose by a third in the first half of 2001, eating into platinum's market share, which has fallen from a peak of 35 per cent in 1999 to 27 per cent in 2001.

Fabrication demand is once again expected to fall more sharply than retail sales, as old stocks of platinum jewellery are melted down and the metal either re-used in the manufacture of new products, or sold back to the market. The bankruptcy of a major jewellery company in August 2001 has also added to recycling levels.

## North America

In North America, sales of platinum for jewellery fabrication are forecast to fall by 29 per cent to 270,000 oz. Even before 11th September, the slowdown in the US economy and sharp falls in equity values

## Platinum Demand: Jewellery

'000 oz

	2000	2001
Europe	190	160
Japan	1,060	700
North America	380	270
Rest of the World	1,200	1,390
<b>Total</b>	<b>2,830</b>	<b>2,520</b>



had discouraged consumer spending on luxury items such as jewellery. During the final quarter, the markets for such goods are likely to be severely affected by increased economic uncertainty in the wake of the terrorist attacks.

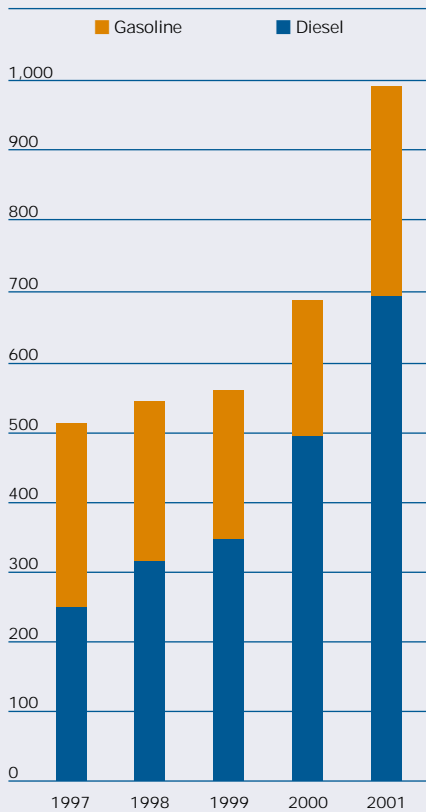
At the retail level, the reaction to declining consumer demand has been to reduce inventories, with the result that orders to jewellery manufacturers have fallen sharply. The decline has been exacerbated by the fact that many retailers began 2001 with unusually high stocks of precious metal jewellery, following weaker than expected sales last Christmas. High platinum prices have also had a negative impact on the market, with manufacturers finding it difficult to offer platinum products in the lower price brackets.

## Rest of the World

This year has seen further significant expansion of the Chinese platinum jewellery market. Sales of platinum for jewellery fabrication are forecast to rise by 18 per cent to reach 1.3 million oz in 2001, making this the world's largest platinum jewellery market by a wide

## European Demand for Platinum in Autocatalysts 1997-2001

'000 oz



margin. Growth could have been even stronger had it not been for high platinum prices, which reduced profitability in the industry, and a series of tax investigations which periodically interrupted production.

Consumer demand for platinum jewellery, formerly concentrated in the areas around Beijing and Shanghai, has now spread to many smaller regional centres of population throughout China. At the same time, the availability of a wider range of designs, often inspired by Japanese products, has encouraged existing consumers to add to their collections of platinum jewellery. White jewellery is extremely fashionable among affluent younger consumers and increasingly among older women too. Platinum remains the metal of choice; there has been some move to white gold in cheaper jewellery, but to a lesser extent than in other markets.

Consumer demand has proved less price sensitive than initially expected, and sales growth has been maintained despite rises in retail prices for platinum jewellery during 2001. These increases have partly restored manufacturers' and retailers' profit margins, which were squeezed towards the end of last year and in the first quarter of 2001.

Elsewhere in the Rest of the World region, demand is forecast to weaken slightly, mainly due to lower fabrication levels in Thailand. Once a major source of jewellery for the Japanese market, Thai manufacturers have been severely affected by the downturn in their principal export market.

## Autocatalyst

At 2.36 million oz, the use of platinum in autocatalysts is forecast to reach an all-time high in 2001, exceeding the previous record set in 1994. This year has seen increased use of platinum-rich catalysts on gasoline models and another sharp rise in consumption in the European diesel sector.

## Europe

In Europe, sales of platinum to auto makers are forecast to rise by 44 per cent to 980,000 oz. Consumption has been boosted by three factors: strong consumer demand for diesel vehicles, tighter emissions legislation, and a switch away from palladium in favour of platinum-rich catalyst systems on gasoline cars. This has more than compensated for a slight decline in total vehicle sales and production, both of which are expected to decline by around 2 per cent this year.

Diesel vehicles continue to increase in popularity and are expected to take around 36 per cent of the market this year. At the same time, platinum loadings on catalysts for diesel engines have increased significantly to comply with European Stage III emissions legislation, which applied to all new vehicles from January 2001. Use of platinum on diesel

catalysts is expected to account for almost three quarters of auto demand in this region.

In the gasoline sector, platinum demand is expected to climb by over 50 per cent this year – the first increase in this market segment since 1993. In response to rises in the palladium price since the late 1990s, some auto makers have started to re-introduce platinum-rich catalysts, although others plan to remain with palladium technology for the time being.

## North America

The North American auto market has slowed sharply in 2001, with vehicle sales falling 5 per cent in the first eight months of the year. Auto production was down 13 per cent: US manufacturers have been drawing on inventories of finished vehicles, which were unusually high at the start of this year, while imports have gained market share.

Despite the contraction of the auto market, the use of platinum in autocatalysts is forecast to rise strongly in 2001. In response to concerns over the availability and price of palladium, some car companies have chosen to increase the amount of platinum in the pgm mix on their catalyst systems. As a result, we estimate that auto makers will consume 36 per cent more platinum this year than they did in 2000. However, demand last

## Platinum Demand: Autocatalyst

'000 oz

	2000	2001
Europe	680	980
Japan	290	345
North America	620	700
Rest of the World	300	335
<b>Total</b>	<b>1,890</b>	<b>2,360</b>
Autocatalyst recovery	(470)	(510)





year was inflated by purchasing of platinum for strategic stocks. With little or no stockbuilding this year, demand by North American automakers is expected to rise by just 13 per cent to 700,000oz.

## Japan

Sales of passenger cars in Japan were up slightly during the first seven months of 2001, at 2.6 million units, and the market is expected to expand by around 1 per cent during the year as a whole. However, exports have fallen sharply – shipments were 9 per cent lower in the January to July period – and we therefore expect auto production to be down by around 5 per cent this year.

Despite the decline in vehicle output, demand for platinum from Japanese auto makers is forecast to rise by 19 per cent to reach 345,000 oz in 2001. The introduction of new emissions standards, which came into force in October 2000 for new models manufactured in Japan, has resulted in a significant increase in average pgm loadings. The legislation will extend to all new vehicles from September 2002. In selecting catalysts to meet the new standards, Japanese car companies have tended to increase the amount of platinum in the pgm mix on

domestic models, thus reducing their reliance on palladium.

## Rest of the World

Demand for platinum in the Rest of the World is forecast to rise by 12 per cent to 335,000 oz in 2001, principally due to stricter emissions legislation in some Asian markets. Following the enforcement of new Korean LEV regulations from January 2001, there has been a significant increase in average platinum loadings on vehicles sold in the domestic market. Indian demand has also been lifted by new regulations: in Delhi and eight other major cities, Bharat II regulations (similar to Stage II European standards) were introduced in late 2000 and early 2001. In China, European Stage I limits have been imposed on all new vehicles since January this year, and incentives are on offer for vehicles meeting EU Stage II limits. As a result, there has been a substantial increase in demand for all the autocatalyst pgm.

## Autocatalyst Recovery

Recovery of platinum from spent catalytic converters is forecast to rise by 9 per cent to 510,000 oz in 2001. In Europe, it was

not until 1993 that all new gasoline cars were equipped with catalysts; post-1993 models are now arriving in scrap yards in greater numbers. At the same time, collection of autocatalyst scrap is becoming more efficient, although it is still mainly confined to Germany with smaller amounts coming from other northern European countries such as the Netherlands, the UK and Scandinavia.

In the USA, recovery of platinum will increase modestly. Higher pgm prices have stimulated the collection and processing of spent autocatalysts, but many models now being scrapped carry palladium-rich systems.

## Industrial

The use of platinum in industrial applications is expected to rise by 3 per cent to 1.52 million oz in 2001, with demand lifted by investment in new LCD glass plants and the construction of new petroleum refining capacity. However, electrical demand has been hit by a downturn in the production of hard disks for personal computers.

Consumption of platinum in the chemical industry will be stable at 285,000 oz in 2001. Lower sales to paraxylene producers will be offset by growth in the use of platinum catalysts in the manufacture of high specification silicones, and increased demand for platinum gauze in the nitric acid industry.

The use of platinum in electrical applications is expected to fall by 16 per cent to 380,000 oz in 2001. This is largely a result of lower consumption by hard disk manufacturers. The current global downturn in the electronics industry means that computer sales are expected to fall by around 10 per cent this year. In addition, improvements in disk storage capacity technology have resulted in fewer disks being required in each hard drive. These negative factors have been partly offset by further small rises in the average platinum content of a disk.

## Platinum Demand: Industrial '000 oz

	2000	2001
Chemical	285	285
Electrical	450	380
Glass	255	290
Petroleum	105	130
Other	375	435
<b>Total</b>	<b>1,470</b>	<b>1,520</b>



Fuel cell development has continued to flourish and this has led to an increased requirement for platinum, although the quantities used are still small. Many of the major automotive companies are now committed to commercialising fuel cell cars. Heavy investment in research and development means that technical barriers are being overcome, but some issues remain to be resolved. One of these is the choice of fuel, with methanol and gasoline emerging as the main contenders. The development of fuel cells for stationary power generation is further advanced, with systems already installed in locations such as hospitals and schools.

The use of platinum in glass production is forecast to rise by 14 per cent to 290,000 oz this year, primarily as a result of investment in the production of high purity glass for liquid crystal displays. The market for this glass, used in devices such as laptop computers, mobile phones and digital cameras, continues to expand, albeit at a lower rate than in recent years. Only a few companies are capable of producing this glass and all are in the process of increasing their production capacities, although some have scaled back their expansion plans. Demand in the glass sector is also being supported by expansions in the fibreglass industry in the Far East.

In the petroleum industry, purchases of platinum for the construction of new refining capacity in the Middle East will lift world consumption by 24 per cent to 130,000 oz. In Europe and North America, demand will remain stable with no major new construction expected.

Other demand for platinum will rise by 16 per cent during 2001 to reach 435,000 oz, with higher consumption in a range of small applications. The largest single increase will occur in the dental sector, where a move away from palladium alloys has boosted sales of gold alloys with a small platinum content.

## Investment

After significant disinvestment in 2000, net demand for platinum investment products is expected to be positive in 2001. In Japan, purchases of large platinum bars have increased since the platinum price began to fall in mid year; this is expected to balance disinvestment during the first half of the year. Lower platinum prices have also boosted sales of bullion coins.

The US Mint's platinum American Eagle programme has again accounted for virtually all new coin sales in 2001; demand for other coins and small bars has been negligible. During the first half of the year, purchases of the bullion platinum Eagle were down 16 per cent compared with the same period of 2000, with investors deterred by high platinum prices. However, demand revived after platinum sank below \$500 in late July. Following two strong months in August and September, sales at the nine month mark were up 13 per cent at 20,350 oz. Unless platinum prices rise sharply during the final quarter, sales of the bullion Eagle this calendar year should exceed last year's total of 27,050 oz.

The US Mint also produces a high-quality proof version of the platinum Eagle, which is sold at a higher premium and is purchased by collectors. This

year's proof coins were launched in June 2001 and assuming that the edition is sold out will account for a further 26,750 oz of platinum this year.

In 2000, investment demand was depressed by the melting down of old coins and bars, with most of the metal being re-used in jewellery fabrication. The rate of recycling has fallen this year, and this has contributed to a slight increase in net demand for coins and small bars, which we forecast will total 50,000 oz in 2001.

In Japan, net demand for 500 g and 1 kg platinum bars is forecast to be zero this year. After steep rises in platinum's yen value last year, the price traded in a ¥2,200 to ¥2,500 range between January and mid July 2001. This discouraged investors from buying platinum, and stimulated further sales back to the market of bars purchased at much lower prices in earlier years. However, these sell-backs were at a lower level than witnessed in 2000.

With the price falling to 16 month lows of under ¥1,700 per gram during August and September, fresh purchases of bars were seen. Unless the price rises significantly we expect new demand for bars during the second half of 2001 to balance disinvestment earlier in the year.

## Platinum Demand: Investment '000 oz

	2000	2001
<b>Coins and small bars</b>		
Europe	0	0
Japan	5	5
North America	35	45
Rest of the World	0	0
	40	50
Large bars in Japan	(100)	0
<b>Total</b>	<b>(60)</b>	<b>50</b>

