OUTLOOK

The greatest uncertainty in the platinum group metal industry in 2009 is the weak state of the global economy. While this is expected to affect demand in many of platinum's applications, its impact is likely to be complex.

In some sectors, however, the outlook for demand is fairly clear. For example, purchases of all three major platinum group metals (pgm) by the automotive industry are expected to fall heavily this year as global vehicle production continues to struggle. Most other industrial sectors are also expected to take less metal as demand for their products remains comparatively weak and little new plant capacity is added.

It is important, though, to remember that platinum group metal prices were extremely high for the first half of 2008. In the more price-sensitive applications, therefore, annual demand could strengthen despite the economic downturn. For example, increases in net metal purchases were seen in the investment and jewellery markets towards the end of 2008. Should the current price environment persist, it would support platinum and palladium demand again in 2009.

On the supply side, 2008 had initially been expected to show a rise in platinum group metal supply from 2007. However, these expectations were not met, as supplies from most producing countries fell. South African production was hit by bad weather, geological problems, safety shutdowns, smelter closures and shortages of skilled staff as well as the electricity supply interruptions of early 2008. While we expect to see higher global platinum group metal production in 2009 than in 2008, none of these challenges is likely to disappear and any growth in output will consequently remain quite limited.

With base and precious metal prices having fallen sharply during the second half of 2008, the mining industry has started to cut its output. However, with a mothballed mine costing a substantial amount of money to reopen, relatively few companies have cut any significant capacity so far within the platinum industry. The new lower palladium price has, though, already had an impact on North American production. The main response seen to date in South Africa has been a reduction in capital expenditure. Although this will have little short-term impact on South African platinum group metal production, it will constrain any growth in output over the longer term.

PLATINUM

The global economic slowdown had a negative effect on net demand in many applications during 2008. These effects were felt primarily in the second half of the year in most regions. Consequently, the impact of the continued economic problems on many platinum demand sectors will be greater in 2009 than in 2008. However, there are some bright spots in the market in terms of demand.

In the automotive sector, the outlook for vehicle production remains very weak and gross platinum demand will fall in 2009. A number of manufacturing plants were temporarily closed during the first quarter of the year and output is therefore expected to be well below previous year levels in Europe, North America and Japan. However, recent activity from a number of national governments in the form of lower vehicle taxes (in Brazil and China for instance) or incentives to scrap older vehicles in favour of newer, more environmentally-friendly cars (in much of Europe) may support vehicle demand to some extent.

The fate of the European automotive sector is of particular relevance in terms of platinum demand. Very large amounts of platinum are used in diesel exhaust aftertreatment within Europe and lower vehicle production will depress platinum demand in this region. However, the introduction of Euro 5 light duty vehicle emissions rules will drive the use of diesel particulate filters higher, raising the average platinum content of a European light duty diesel vehicle.

The impact of the frail global economy on industrial platinum demand was relatively limited in 2008. In many of the sectors where platinum is used – including the glass industry and much of the chemical industry – demand is driven by the construction of new manufacturing facilities. A slowdown in requirements for flat panel glass and many commodity chemicals came fairly late in the year. Although output of many of these industrial products was cut back in the final quarter, platinum demand was little affected in 2008. However, the weak economy and a lack of availability of project finance for new construction is likely to cut metal demand in 2009 and in the following few years.

By contrast, we expect net demand for platinum from the jewellery industry to rise strongly in 2009. Although there were very high levels of recycling of second-hand jewellery in China and in Japan in the first half of 2008, the decrease in the metal price since then has driven recycling volumes sharply lower. At the same time, industry participants have increased their previously low stocks of metal and of finished jewellery. Consumer purchasing strengthened in the final quarter of 2008 and remained strong in the first quarter of 2009 in China as the affordability of platinum jewellery improved.

This has been reflected in extraordinarily strong purchasing of platinum through the Shanghai Gold Exchange so far in 2009. While we do not expect net jewellery industry purchases of platinum to continue at this rate for the entire year, increased Chinese platinum demand will easily outweigh the weakness in the North American and European jewellery markets.

Investment demand remains subject to movements in the platinum price and is consequently hard to forecast accurately. However, it is clear that the fall in the platinum price in the second half of 2008 reinvigorated the purchasing of platinum by individual Japanese investors. Purchasing rates in this sector – while still substantial – have since slowed and annual demand might not reach the exceptionally strong figure seen in 2008.

After heavy sales of metal from the European Exchange Traded Funds (ETFs) in the second half of 2008, buying returned in early 2009. If the platinum price continues to rise, we expect that net demand through the ETFs will be higher than in 2008. Moreover, there have also been recent proposals to launch platinum and palladium ETFs in the USA. Although it is by no means certain that regulatory permission will be granted, if this does happen, it is likely to significantly boost physical investment demand.

We currently expect global platinum supplies in 2009 to be marginally higher than in 2008. There will be some limited growth in South African platinum supplies. However, sales of platinum from North America and Russia are forecast to fall. Although the rapid transition from an environment of record platinum prices in mid-2008 to the current one of significantly lower prices has driven many producers to trim their capital expenditure budgets, little production has been cut. This will have only a minor impact on supplies during this calendar year but it will constrain growth in platinum production in the longer term.

Changes in the economic environment and in metal prices during 2008 caused significant disruption to all segments of the platinum group metal markets.

Overall, we expect that supply and demand will be more closely matched in 2009 than during 2008. Automotive demand is expected to remain weak but purchases of physical metal by investors and by the Chinese jewellery industry have been strong so far in 2009. Considerable uncertainty remains as to the precise trajectory of the global economy during the rest of the year and it is unclear how demand will fare. With mining production also hard to forecast, there is no clear prognosis for the balance of the platinum market in 2009.

At the start of last year, strong commodity prices and supply disruption in South Africa pushed the platinum price above $2,000, before falling industrial output and a strong US Dollar – a beneficiary of the economic crisis – combined with investor sales of commodities to send the platinum price below $1,000 only a few months later. Forecasting precious metal prices in an environment of such unprecedented volatility and turbulence is extremely challenging.

However, although we do not see a strong recovery in automotive and industrial purchasing of platinum within the next six months, any concrete signs of improvement in the economy should attract increasing fund investor interest and platinum could strengthen and trade as high as $1,350 during the next six months. The price should derive good support from strong physical buying in Asia and from platinum's good longer-term fundamentals and we therefore believe that platinum should trade above a floor of $950 during the same six month period.

PALLADIUM

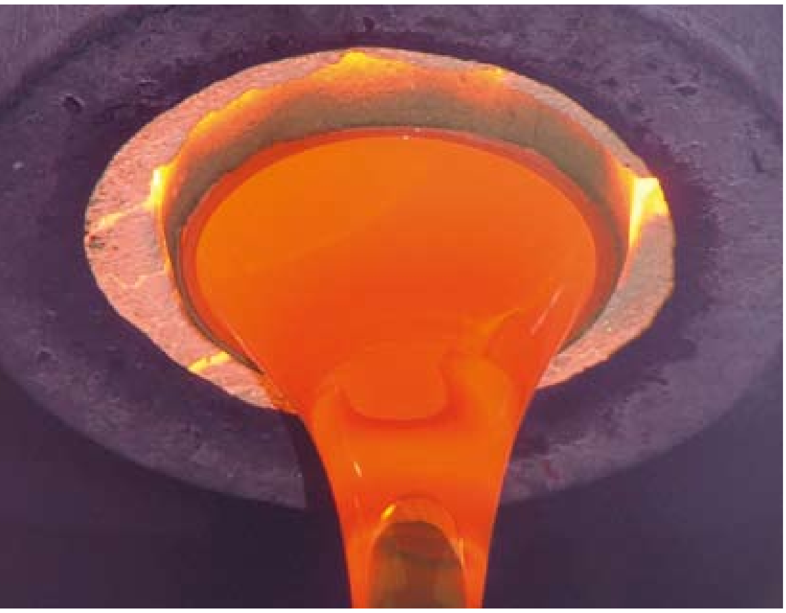
Palladium demand grew by 15,000 oz during 2008 to 6.85 million ounces. However, demand is now being negatively affected by the weakness in the global economy and is expected to fall in 2009.

Purchases of palladium for use in catalytic converters are likely to decline by several hundred thousand ounces due to falling global vehicle production. In North America, there is a possibility that the economy will start recovering during 2009. However, consumer credit remains hard to obtain and any significant recovery in vehicle output is likely to be slow to emerge.

European automotive demand for palladium will find some support from the introduction of new emissions legislation. Palladium will also make further inroads into the diesel sector, where it will be used in an increasing number of catalysts alongside platinum. This will not, however, prevent palladium demand in this region from falling. Palladium autocatalyst demand in Japan and in the Rest of the World region is also likely to decline. Only in China will palladium purchases by the automotive sector rise.

Recovery of palladium from spent autocatalysts was exceptionally strong in early 2008 as high metal prices drove recyclers and refiners to process their stockpiles of these catalysts. However, when prices fell, recycling volumes slumped. Recycling rates remained low in the first quarter of 2009 and we anticipate that they will be lower in 2009 as a whole than in 2008.

Platinum, rhodium and iridium are all used to prolong the life of equipment used in the glass manufacturing industry.



In the electronics sector, consumer demand weakened in late 2008 and remains soft. While the historical trend of increasing complexity of electronic devices seems set to continue, production volumes are likely to remain depressed for much of 2009. Demand from palladium's use in multi-layer ceramic capacitors is likely to fall. However, palladium competes with gold in some other applications such as plating and connectors where the large difference in price between these two metals may drive a slow increase in demand. Palladium use in the dental sector should also benefit from a high gold price, driving the use of lower-gold content, palladium-rich alloys in the USA.

The prospects for the palladium jewellery sector are less clear. In Europe and North America we expect steady growth in demand in 2009. In China, the improved performance of 2008 was partly due to strong manufacturing output in the first half of the year and partly due to decreased rates of recycling of old Pd950 (95 per cent pure palladium alloy) jewellery stock. The fall in the price of palladium in the second half of 2008 prompted strong buying of palladium by the industry too and we believe that stocks of metal rose strongly.

The original Pd950 stock is now effectively exhausted and with relatively low rates of exchange of second-hand jewellery from the public, net demand will mainly reflect Chinese manufacturing volumes and changes in the level of industry stocks of unrefined metal.

However, manufacturing volumes fell in late 2008 in China as some manufacturers switched production from palladium jewellery to platinum as the platinum price fell. Production of platinum jewellery continued to be strong in the first quarter of 2009, limiting the capacity available for the manufacturing of palladium jewellery. If the price of platinum remains close to current levels, this situation is expected to persist and palladium demand would be unlikely to rise significantly above 2008 levels. However, any substantial increase in the platinum price could well translate into additional palladium demand from this sector.

Physical investment demand for palladium is forecast to remain strong in 2009. Investors bought large amounts of metal through the Exchange Traded Funds (ETFs) during 2008 and their behaviour suggests that many are holding this metal in pursuit of longer-term profits. If this is the case, they may view the current price of palladium as a buying opportunity and drive demand higher. Should a North American ETF be approved during 2009, we would expect still stronger physical investment purchasing in response.

Primary palladium production is set to fall in 2009. The closure of North American Palladium's Lac des Iles mine will depress output from North America. South African palladium supplies should rise but we expect Russian mine production to fall.

We estimate that roughly 960,000 oz of palladium were sold from Russian state stocks in 2008, leading to a surplus of 460,000 oz, rather than the deficit which would otherwise have occurred. Trade statistics suggest that much larger amounts of metal were exported from these stocks. However, we believe that some of this metal was shipped in readiness for future sales and that it will reach the market in the next one to three years. If none of this pre-shipped metal is sold during 2009, the palladium market is likely to be in deficit. However, we forecast that stock sales may again be sufficient to keep the market in surplus for another year.

Movements in the price of palladium during 2008 bore little relationship to its market fundamentals. Instead, the price was largely driven by investors and followed trends in the prices of platinum, gold and other commodities and this behaviour can be expected again during 2009. The ratio of the palladium price to the platinum price stands at a multi-year low, which might suggest to investors that palladium is underpriced. A rise in investment in commodities could thus benefit palladium and allow it to trade as high as $280 within the next six months. However, without this investor interest, palladium's weaker current fundamentals could see it further underperform platinum and trade as low as $180 during the same period.

OTHER PGM

The outlook for rhodium demand in 2009 is poor. Demand for this metal is highly dependent on vehicle output which is currently very weak. Also, car makers are reducing average rhodium loadings in catalysts – the result of thrifting programmes carried out at higher metal prices. Although vehicle production is expected to rise from the very low levels of early 2009, gross rhodium autocatalyst demand is expected to fall sharply this year.

The effects of the high rhodium price were also seen in the glass sector last year. Rhodium/platinum alloys are used to prolong the working life of components which are in contact with molten glass. At the highest rhodium prices, the cost savings made by dealloying – the glass industry's form of thrifting – drove the greater use of lower-rhodium alloys and demand for rhodium fell substantially.

However, the glass industry is able to vary its use of platinum group metals quite rapidly. The dramatic fall in the rhodium price from its mid-2008 peak has already prompted many glass makers to revert to using the more efficient, higher-rhodium content alloys and rhodium demand from this sector is thus unlikely to fall during 2009.

The volatility of the rhodium price was also felt in the recycling industry. High metal prices drove the processing of large numbers of spent catalysts in early 2008. Since the rhodium price has fallen, recycling rates have decreased and the weight of rhodium recovered from this source will fall this year.

With South African output of rhodium set to grow, the rhodium market should move into a more substantial fundamental surplus during 2009.

The fate of the **ruthenium** market is closely tied to that of the electronics sector. With consumer and business purchasing of electronic goods currently weak, gross ruthenium demand is expected to soften. Additionally, the sector is likely to be able to meet most of its ruthenium requirements for the production of hard disks by using metal recycled from its own manufacturing processes. At current price levels, it remains attractive to recycle much of the scrap produced in the manufacture of hard disks. However, at prices significantly below this, recycling becomes less attractive than purchasing new metal. If the price falls further, therefore, net demand could rise strongly, providing some support for the metal price.

The outlook for **iridium** demand in 2009 is weak. Demand for iridium crucibles for the growth of high quality crystals started to decrease in 2008 and will decline further this year. Use of this metal in spark plugs and aero engine ignitors is also likely to soften. However, newer technology used in the chlor-alkali process will continue to replace older mercury-based cells, leading to steady iridium demand from the electrochemical industry.