ScotiaMocatta

Precious Metals 2012 Forecast

PGM November 2011

Executive Summary

- Platinum and Palladium prices continued to climb in early 2011, they then range traded at a high level until concerns over the outlook prompted a correction in September.
- Palladium surprised the market when prices raced up above the 2008 highs on the back of strong demand from the auto industry and on renewed concerns over Russian stockpiles sales.
- The bigger surprise, however, is the extent to which ETF investors have cut their exposure in recent months – we feel the likelihood of lower supply from Russia in the years ahead is potentially very bullish.
- Investor interest in Platinum seems to have held up better than in Palladium, as with Platinum prices falling below those of Gold, the metal is seen as relatively cheap.
- Industrial demand for all metals is expected to weaken in 2012, as the economic outlook deteriorates. The focus of concern is on Europe, but the US and China are in the spotlight too.
- Although we are bearish for the short to medium term, we feel the long term outlook for the PGMs remains healthy and as such, expect dips to attract solid long term buying interest.

Platinum

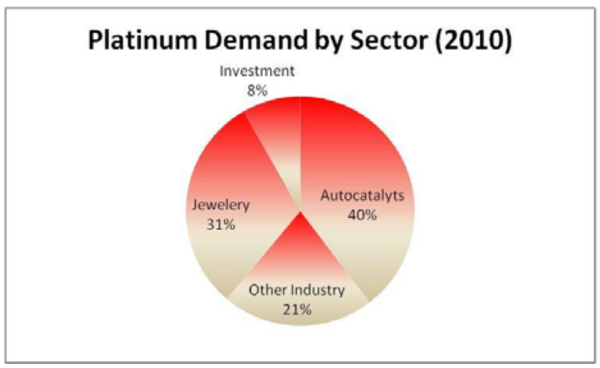
Introduction

The strong rebound off the lows at $745/oz in late 2008, continued until February 2011. After February, the trend turned sideways with prices generally oscillating between $1,660/oz and $1,880/oz - that was until August, when prices pushed higher with a run up to $1,916/oz. However, the rally was short-lived and was followed by a sharp drop to $1,432/oz. Platinum is having an eventful time in 2011 - the ongoing economic recovery kept the bull market alive early in the year, but then the outlook for demand was shaken by Japan's earthquake and tsunami, the fall out from which hit the auto industry hard and tempered demand for Platinum. The quicker than expected recovery in Japan's industrial base prompted a pick-up in demand over the summer and the threat of strike action in South Africa caused supply concerns too. These led to the run up in prices in August, but then concerns over economic growth resurfaced as the EU sovereign debt crisis escalated and economic data started to deteriorate – even manufacturing PMI data for China started to drop towards the 50 level. This turn of events led to destocking by Platinum consumers and long liquidation by funds. Overall, we think the economic outlook has deteriorated and that is likely to impact demand from industry, especially the auto industry. We feel economic hard times lie ahead and expect price weakness in the short to medium term. Much will depend on how investors react. If they feel confident to hold on to their positions and buy in weakness that should cushion the correction, but if they decide to sell then prices could drop sharply - until bargain hunters re-emerge.

DEMAND

Platinum demand comes from three distinct sectors – industry (the main user being the auto industry, but also includes the electronics industry), jewellery manufacturing and investors. This diverse group of buyers provides the Platinum market with numerous checks and balances that help to regulate supply and demand during the economic cycle. A good example of this is how demand from the jewellery industry acts as a swing factor. In 2007, total demand peaked at 8.3 Moz, by 2009 demand had dropped to 6.8 Moz, a fall of 18%. During this period industrial demand dropped 44%, but jewellery demand climbed 33%. In 2010, when the economic recovery was underway, industrial demand climbed 45% and jewellery demand dropped 14%. In addition, lower prices also led to a 290% pick up in investment demand, although that figure is skewed as it coincided with the launch of exchange traded funds (ETFs) that gave a lot more investors access to the PGM markets. However, higher prices in 2010, did see investment demand slow and that has continued in 2011.

Platinum demand has had a volatile time in 2011 - it started off on a strong note as the economic recovery rolled over from 2010, but then after the Japanese earthquake and tsunami struck it soon became apparent that auto production would suffer as Japan was a major global supplier of parts to the auto and electronics industries. As shortages of parts forced a reduction in vehicle production, demand for autocatalysts was hit and this led to a fall in Platinum prices from $1,860/oz at the end of February, to $1,665/oz by late June. A quicker than expected recovery in Japan's auto and parts industries led to a rebound in demand that saw prices rise to $1,916/oz in August. Soon after that, however, the economic outlook started to deteriorate as the debt problems in Europe and sluggish economic data in the Western world started to raise concerns about slower growth. At the time of writing the report in early November, the outlook remains gloomy and prices are around the $1,640/oz level. As such, the outlook for industrial demand is weak, investors seem to be reducing exposure ahead of likely harder economic times ahead and we are now once again waiting to see if the jewellery industry will prove to be the swing factor to underpin demand. That said, as China is also showing signs of slower economic growth, we are concerned as it is the largest consumer of Platinum jewellery, its demand for jewellery might not be as price elastic as it was in 2008 and 2009.



Autocatalyst demand

Platinum's use in autocatalysts accounted for 40% of total demand in 2010. In 2007, before the credit crisis, autocatalysts accounted for 50% of demand. This shows how the auto market has not fully recovered from the boom times seen between 2004 and 2007, when for example US vehicle sales were running at an annulized rate of around 17 million units, compared with an average of 12.6 million units so far in 2011. However, Platinum's use in autocatalysts has also suffered substitution from cheaper Palladium - this trend is likely to continue. With Platinum based autocatalysts used mainly in diesel engines, we do not expect a strong recovery in demand for Platinum from the auto industry until recovery gets underway in Europe. Given the debt situation in Europe and prospects for more austerity, which are likely to rule out another 'cash for clunkers' programme, no meaningful recovery is expected until late 2012 at the earliest. In the US, auto sales are holding up well with annualized sales estimated at 13.3

million units in October, up from an annualized rate of 13.1million units in September. Interestingly, the market is seeing good demand for compact utility vehicles as drivers are focusing on more fuel efficient vehicles rather than the gas-guzzling sports utility vehicles that were popular before the 2008 downturn. However, this change in preference may also be a sign that the market is gearing up for more austerity ahead. As the developed world suffers slower economic growth, we expect Asia to suffer too as there will be less demand for their exports. As such, we expect vehicle sales growth to slow in Asia and there are already signs of this happening. Although sales in China were recovering from a slow start to the year and total vehicle sales climbed 5.5% to 1.65 million units in September, sales for the first nine months of the year expanded only 3.6% and sales in October slowed to just 1.4%. Forecasts by the China Association of Automobile Manufactures for 2011, expect sales to grow less than 5%. In January, their forecast was for growth of between 10 to 15 percent. Considering sales grew 32% in 2010, this is a marked slowdown. We would expect China to lead Asia out of this slowdown in vehicle sales, but we would not be surprised if that did not happen until later in the first half of 2012. Overall forecasts are for 2011 global car sales to increase by about 2.8%, but given the economic outlook we feel 2012 will be a difficult year for the auto industry, especially as we expect government coffers will not stretch to provide further incentive schemes.

Other industrial uses

Platinum is used in an extensive range of other industrial products and applications, which include use in the glass, electronics, petroleum and chemical industries. Collectively these industries accounted for some 21% of total Platinum demand and 35% of Platinum's industrial demand. In 2010, demand from these industries recovered strongly, but some of that would no doubt have been the result of restocking. This sector was growing at a steady 6% per annum between 2004 and 2007, but demand fell 6.7% in 2008 and 34% in 2009 as the recession bit. It recovered 48% in 2010 and is thought to have continued to see good growth in the first half of 2011. However, growth is likely to have slowed in the second half as industry became more cautious. Given the economic outlook, it does look as though this sector is now going through another destocking phase. As our economic outlook for 2012 remains depressed, we do not expect a "V"- shaped recovery next year and therefore we would expect demand to remain subdued in 2012.

On balance, as these industries are all growth industries, we feel they will not suffer the full brunt of the economic slowdown, unlike the auto industry. As such, we would generally look for slower apparent growth in the months ahead as this sector destocks and then for anaemic growth in 2012.

Jewellery demand

Platinum jewellery can be divided into two sectors, bridal and general. The bridal sector tends to be more price inelastic than the general jewellery sector. In 2010, jewellery sales dropped 14% compared with 2009, as prices in 2010 were on average 34% higher than in 2009. With prices in the first ten months of 2011, up by an average of 10% over 2010, jewellery demand is likely to have suffered further. That said, the sell-off after the Japanese disaster did prompt a pick-up in jewellery buying and the weaker prices since September are likely to have encouraged jewellery fabricators to replenish stocks.

China took over from Japan as the main buyer of Platinum jewellery in the early 2000's and in 2010, accounted for around 68% of all Platinum jewellery demand - compared with Japan's

24%. Chinese demand is, however, price sensitive, as in 2009 when prices were at the lows, China's market shared jumped to 74% of global demand. This happened as the drop in prices unleashed considerable pent-up demand following a few years when Platinum prices had been so high and the margins in Platinum jewellery so squeezed that jewellery fabricators turned to making jewellery from white Gold and Palladium. Given the poor economic outlook, we do expect Platinum prices to pull back further and that should see demand from the jewellery sector pick-up again. Once again, the pick-up is likely to be regional and focused on China. During the 2008 and 2009 recession, Platinum jewellery demand in Europe, North America and Japan declined by an average of 32%. As austerity measures bite in Europe and growth in the US and Japan remains anaemic, we expect consumers will have more pressing needs for their money than luxury jewellery. Overall, we would expect global jewellery demand to fall in 2011 and to remain somewhat subdued in the early part of 2012, although it may recover later in the year.

SUPPLY

Whereas the swing factor in Platinum demand comes from the jewellery industry, on the supply side the critical factor is production from South Africa. The country produces around 60% of the world's refined output, so any disruptions can have a significant impact on supply and prices. In 2008, power shortages in South Africa forced the industry to cut production and that sent prices to an all time high of $2,300/oz. This year there have been strikes as workers have demanded pay increases and although some producers have settled wage disputes, others are still negotiating. With the National Union of Mineworkers (NUM) asking for wage increases of around 15% and companies generally settling at around 9%, it is not surprising that producers' margins continue to be squeezed. Power supplies are also tight in South Africa and little new capacity is likely to be added until late 2013. Eskom, South Africa's power utility, reckons power supply should be sufficient for 2012 and 2013, but it will be a tight balancing act. The NUM are also threatening strike action at Eskom if they do not win a 13% wage increase. So there is potential for supply disruptions in South Africa, but with the Platinum market in a supply surplus, and with the demand side of the equation looking weak, we feel supply will be less of an issue in 2012. In 2011, South Africa's mine supply has potential to rise by about 5% as output increases at existing operations. In 2012, lower Platinum prices and potential for a stronger rand, especially if the US embarks on another round of quantitative easing, may well see producers' margins squeezed further and that may reduce the incentive to boost production. As such, we would expect production to remain around the 4.7Moz level in 2012.

In Russia, output has generally been in decline, production peaked in 2001 at 1.3 Moz, but fell to a low of 785,000 oz in 2009. It recovered 5% in 2010, to 825,000 oz, according to data from Johnson Matthey, but is now expected to decline as lower ore grades have an impact on output. Indeed if prices come under pressure in 2012, as we think they are likely to, then production may well fall back further than is currently envisaged as was seen in 2008 to 2009. Generally it is understood that Russia's producers are investing to keep output around current levels, rather than looking to increase production.

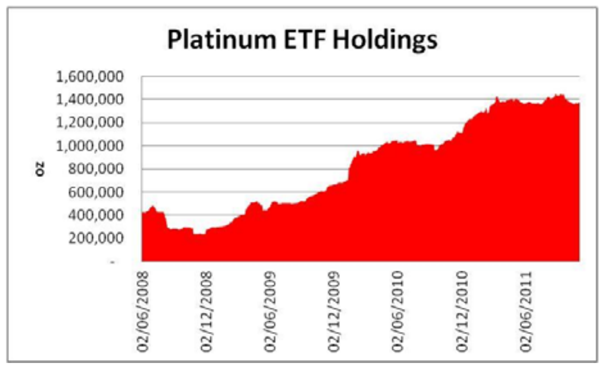
North American production dropped in recent years because of the long strike at Vale's Sudbury operations. This led to North American output dropping from an average of 330,000 oz between 2006 and 2008, to 260,000 oz in 2009 and 210,000 oz in 2010. Output has recovered following the end of the strike and as new capacity has been commissioned and idled capacity restarted. Production is expected to reach around 270,000 oz this year and then climb back towards the 300,000 oz level in 2012. However, should PGM prices undergo another sharp correction, then some production cutbacks could be seen again.

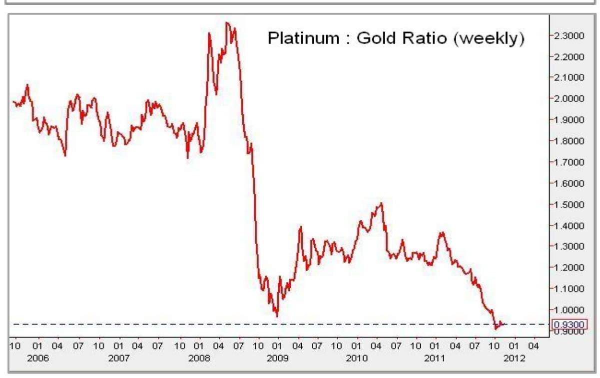
Zimbabwe's production has been climbing at a fast pace in recent years, from 165,000 oz in 2006, to 280,000 oz in 2010 - according to data from Johnson Matthey. With further expansions underway, output is expected to continue increasing. However, changes were made to the law in early 2011, so now indigenous Zimbabweans must hold a majority ownership (51%) of all operations. This is likely to see foreign investment in the mining sector put on hold. So although work in progress is likely to see output continue to rise this year, future output may be negatively affected.

Recycled material

Supply from recycled Platinum is a growth market at present as more and more of the vehicles that are reaching the end of their life-cycles now have autocatalysts. In addition, the world's vehicle population has also taken off in the past ten years with the growth in sales in the emerging markets. More recently, the vehicle 'scrappage' schemes introduced by governments after the 2008-2009 economic slowdown have increased the amount of scrap generated. Higher PGM prices have also led to more jewellery being sold for scrap and new legislation in some countries which means electrical waste has to be recycled rather than sent to landfill, have all increased the amount of metal returning to the market.

Investment demand holds up well



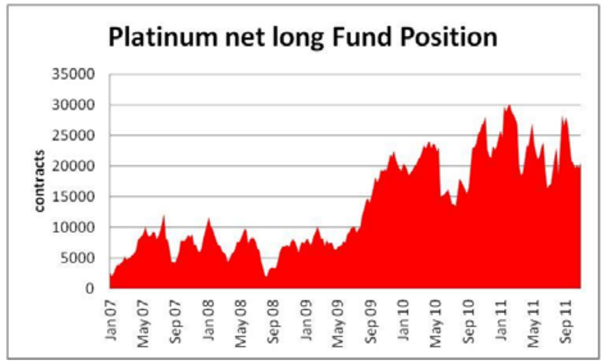


Holdings in the Platinum ETFs peaked at 1.45 Moz in September, they have since dropped to 1.38 Moz, a fall of 4.8 percent. Considering prices have fallen from $1,916/oz in late August to a low of $1,432/oz in early October, a drop of 25%, the level of ETF redemptions seems relatively low. This is especially so when the holdings in the Palladium ETFs have fallen 26%. Indeed, considering the economic slowdown is likely to be most severe in Europe where Platinum-based autocatalysts are more widely used, we would have expected investor interest in Platinum to have suffered more than Palladium. The reason why investors may be holding on to their Platinum holdings is probably due to the fact that Platinum prices have fallen below those of Gold, which suggests Platinum is oversold and is therefore likely to be well placed to rebound. Indeed as the Platinum / Gold ratio chart shows, the ratio has dropped below the lows seen in December 2008. So on the one hand Platinum does look oversold relatively to Gold, but on the other hand you have to wonder whether this is saying the outlook for Platinum is even worse than it was during the last recession.

With the ETFs now holding a large volume of metal, which is extremely liquid, the market needs to be aware that a heavy spell of redemptions could prompt a significant price sell-off.

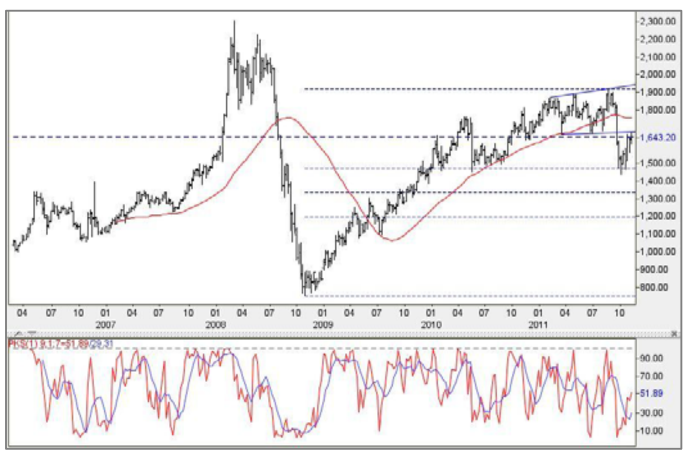
However, it will probably take concrete signs that a double dip recession in the US is underway to trigger such a move. As the credit crisis unfolded in 2008, holdings in the Platinum ETFs fell 50% from a peak of 483,796 oz in July, to a low of 239,884 oz in late August. A similar move today would suggest 0.73 Moz of Platinum could find its way back on to the market. As such, given the economic outlook we would be wary of taking too much comfort from the current situation where ETF investors appear to be holding on for the long term.

Funds' position is erratic



The net long fund position (NLFP) continues to oscillate wildly and seems to be following the news flow regarding the economic outlook. Although price falls have triggered long liquidation, price weakness has encouraged others to buy. Again the fact that the Gold / Platinum ratio has fallen to extremely low levels seems to be giving some investors the confidence to buy. We would, however, be worried that this investor confidence might be based on expectations for another "V"- shaped recovery. However, we fear the economic slowdown may be drawn out as it takes time for EU to sort out its debt problem, deficit cutting in the US dampens growth in North America and growth in Asia suffers from a combination of tight monetary policy in China and weaker growth in the West. Given this economic outlook, we feel the auto industry is set to suffer another hard time in 2012 and with governments strapped for cash there are less likely to be any more 'cash for clunker' programmes. As such, investors may well get impatient and cut their exposure. The result would probably be another spike lower in prices and in turn that would, ironically, then probably lead to some good long term investment buying opportunities.

Technical



The recovery from the 2008 sell-off has been very strong with prices bouncing from a low of $747/oz in October 2008, to $1,916/oz in August 2011 - a move of 157%. However, despite putting in three extra peaks during 2011, none of them attracted follow-through buying and the sell-off after the latest resulted in a steep drop that broke the support line between $1,660/oz and $1,680/oz and went on to breach the 2010 trough at $1,446/oz. This also breached the 38.2% Fibonacci retracement line at $1,468/oz. Prices have since rebounded to test the former support line and are now encountering resistance there. The stochastic indicators are rising so further strength seems probable, but with the 50 week moving average now turning lower and with various support levels already weakened, we feel this rebound will falter before too long and prices will extend to the downside again. Likely areas of support on the chart come from the 50% and 61.8% Fibonacci retracements levels that are at $1,330/oz and 1,192/oz respectively.

Conclusion and Forecast

We remain bullish for Platinum in the long term as we like the demand profile and feel the supply side will tighten. However, in the short to medium term we feel the measures that are being taken to tackle the debt problem will lead to slower economic growth. As such, we expected demand for Platinum to fall and to make matters worse, as the industry restocked in 2010, there is now likely to be room for further destocking that will make apparent consumption look even weaker than it probably is. In turn, this might unnerve investors. Overall, we feel the industrial side of the Platinum market will drive prices and whereas we would expect demand from the jewellery side to pick-up, which no doubt it will, we feel it may not pick-up as much as it did in the past. The reason being that we think Asia is feeling less bullish than it was during the last down turn and therefore spending on luxury items may well be subdued.

Platinum remains a metal with a good future, but it does need a sustained pick-up in economic growth to fuel industrial and auto demand. In recent years, investment interest has provided solid growth, but after years of accumulating metal and now with the market unsure whether an economic slowdown lies ahead, investors seem to have pressed the pause button. They do not want to add to their holdings, but likewise they are not ready to cut exposure.

In the short term, we expect prices to remain range bound between $1,550 and $1,700/oz as the market adjusts to the price drop seen in September and October and as the market waits to see how the debt crisis in Europe unfolds. However, we would say that whatever policy makers decide, debt will need to be reduced, budget deficits will need to be cut and that is likely to lead to economic hardship. The degree of economic hardship is likely to be determined by how well policy makers handle the situation and avoid causing financial shocks. The economic outlook, however, is not just dependent on what happens in Europe; growth in the US is fragile and the outlook remains uncertain, however, potentially more worrying is the increased talk about a slowdown in China.

The recent price drop does suggest the bull-run off the 2009 low has ended, the move down below the 2010 low may well be a sign that prices can correct lower and given the economic outlook and the fact Platinum is in a supply surplus, we feel there is a distinct possibility that prices will move lower. As such, we would not be surprised to see prices move back towards $1,300/oz in the months ahead, but would then expect good support down to $1,200/oz. Overall, we feel Platinum prices will trade in the $1,250/oz to $1,800/oz range over the next twelve months or so. However, if the market was to break out above $1,800/oz we could see a relatively quick run up to $2,000/oz.

Palladium

Palladium prices went into overdrive in the second half of 2010, with prices moving up over the 2008 highs at $592/oz in October last year to reach $862/oz in February 2011. The run higher was sparked by the ongoing recovery in the auto industry and on concerns that sales from Russian stockpiles would soon stop. The heat was taken out of the market by the earthquake and tsunami in Japan, as that dampened demand from the auto industry. Over the summer, prices generally held up well until concerns about the economic outlook in the West started to resurface in late summer. As is the norm in the PGM markets, when the outlook for demand deteriorates, users tend to destock quickly and that led to a sharp drop in prices, but this time around funds and ETF investors were quick to liquidate too. The market is now adjusting to the sharp sell-off, but given the economic outlook remains depressed and the auto industry is likely to suffer further in the months ahead, we feel Palladium prices may well head lower for a while. However, out of all the PGMs we are most bullish for Palladium over the long term and therefore feel price weakness will lead to another good long term investment opportunity in the year ahead.

Autocatalysts

The auto industry is the largest user of Palladium, accounting for some 61% of demand. The recovery in the auto industry in 2010 was a boom for Palladium as the industry consumed more metal and at the same time restocked. Autocatalyst demand peaked in 2007 at 4.55 Moz, it dropped to 4.1 Moz in 2009, before rebounding 35% in 2010, to 5.5 Moz. Demand continued to recover in the early part of 2011, that is until the Japanese earthquake and tsunami struck, which caused significant damage to Japan's manufacturing base. Not only was domestic vehicle production affected, but damage was also done to the industries making parts and components that supplied the global auto and electronics industries. As fewer vehicles were made, demand for autocatalysts suffered. Palladium demand was therefore hit in the second quarter, but a faster than expected recovery in Japan did see demand pick-up as industry restocked in the third quarter. However, other events have now overtaken and it looks as though the gloomier economic outlook, triggered by the EU debt situation and threat of contagion, will now lead to another weak period for auto sales. In anticipation of this, it would appear, judging by the sharp price corrections, that autocatalyst manufacturers have started to destock.

Although the near to medium term outlook for Palladium demand from the auto industry has weakened; the long term outlook remains second to none. Once this economic slowdown has run its course, Palladium demand is expected to grow significantly as the countries leading the growth in vehicle sales are China, other developing Asian countries and Brazil. As these countries have preference for petrol-driven vehicles, Palladium-based catalytic convertors will be in high demand. Palladium is also making inroads into the diesel catalyst convertor market as Platinum-Palladium catalysts are now being used as opposed to Platinum-only convertors, boosting European demand for Palladium.

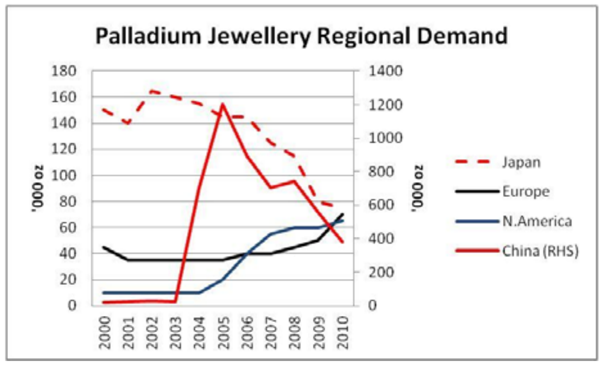
Demand for Palladium in emission control catalysts is expected to end up being relatively flat in 2011 and 2012, with demand in 2012 falling in the early part of the year, but recovering later in the year as the industry restocks in anticipation of a better 2013.

Other industrial uses

Palladium's other industrial uses include electronics, chemicals, glass and other emission control equipment for factories and petrol-powered machinery, such as garden equipment. The economic rebound in 2010, saw demand for Palladium from these industries climb 7% and that rate of growth would likely to have continued in the first part of 2011. However, demand is expected to have been hit in the second half of the year as the economic outlook has deteriorated. As we see no quick fix to the economic woes the West is facing, we expect demand to remain depressed in 2012. In the 2008 to 2009 down turn, Palladium demand in these industries fell 12%, so if recession does unfold in the West then we should not be surprised if demand for Palladium falls again. Indeed, if the West is to tackle its debt situation then we expect economic hardship is likely to be more widespread than it was in 2009. We also fear that this time round there will not be a "V"-shaped rebound as there was in 2009-2010.

Longer term, however, we expect strong demand growth from this sector as the high rate of technological change in electrical equipment and computer industry, plus tighter emission restrictions for factories and petrol-powered machinery, will also mean good growth in demand for non-auto emission control equipment. Between 2004 and 2007, this sector saw average growth rates of 12% per annum, which we would expect to see again once a sustainable recovery is underway - albeit probably not until after 2012.

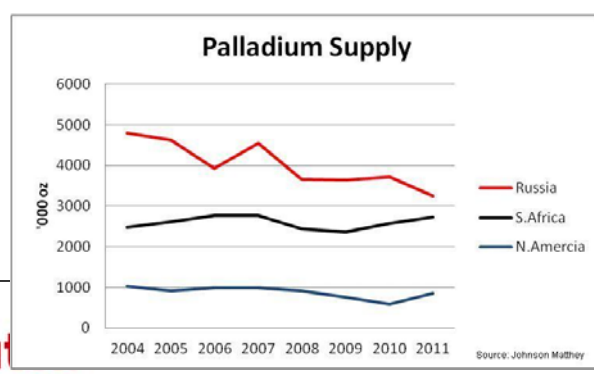
Jewellery demand



Palladium jewellery has had an interesting past eight years or so. Demand took off in 2004 as higher Platinum prices started to squeeze the profit-margins of Platinum jewellery manufacturers. Platinum jewellery has been a swing factor within the Platinum market for years, so when prices started to climb above $850/oz in early 2004, demand for Platinum jewellery started to fall and jewellery manufacturers started to use Palladium, which in early 2004 was trading around $200/oz. The potential profit margins meant demand soared. In 2003, some 250,000 oz of Palladium was used in the jewellery industry, it climbed to 925,000 oz in 2004, 1,425,000 oz in 2005 and then averaged 1,025,000 oz between 2006 and 2008. But as the chart shows, demand in Asia has started to decline, although it continues to grow in the West. There are a number of factors that have dented demand for Palladium jewellery in Asia. Firstly, because higher margins were built into the initial jewellery price, when owners came to sell their jewellery they were disappointed by the resale value. Secondly, higher Palladium prices have increased the financing costs that jewellery stockists have to pay and thirdly, limited marketing has meant Palladium jewellery is still seen in third place to Platinum and Gold jewellery. Demand for Palladium jewellery is also likely to suffer while Platinum prices are below those of Gold, as there will be an extra incentive to buy Platinum jewellery as it will be seen as being a good investment too.

Palladium jewellery in the West continues to grow; being a relatively new concept it has taken manufacturers and retailers time to adopt it, but now it is gaining recognition we expect demand to see continued growth.

For 2011, we expect demand for Palladium from the jewellery industry to decline as the dips in Platinum and Gold prices will have meant they have won back some market share. In 2012, we expect Platinum prices to remain under pressure and its lower price is likely to see it continue to compete with Palladium.



Supply

Russia is the largest source of Palladium; in 2010 it mined 2.72 Moz and sold another 1 Moz from stockpile, according to data from

Johnson Matthey. This compared with South Africa's mine output of 2.58 Moz. However, the trends in supply point to South Africa becoming the major producer before too long. Russia's mine output has been trending lower, while South Africa's has been increasing (see chart). What is more, Russian stockpile sales are expected to dwindle over the next few years. Zimbabwe is a growth area for production - the country has considerable PGM reserves and is ramping up output. However, political issues surrounding ownership may well dampen investment in the mining sector. So although we expect production to increase in 2011 and 2012, production may slow thereafter.

Total mine supply of Palladium in 2010 was running at around 6.29 Moz. On top of this supply from recycled material was 1.85 Moz, giving a combined total of 8.14 Moz. This compared with gross demand of 9.63 Moz, leaving a supply deficit of 1.49 Moz. This deficit was filled by 1 Moz of sales from Russian stockpiles, leaving 0.49 Moz to come from other stocks. This means that sales from stockpiles, particularly Russian stockpiles, were once again needed to balance the market.

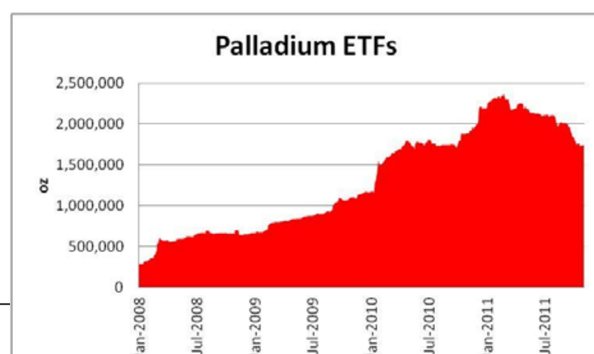
In 2011, Palladium mine output is expected to rise around 8% to 6.8 Moz and then by a further 2% in 2012, to 6.95 Moz. However, the risk of adjustment would lie to the downside, either because lower prices prompt production cutbacks, or political interference in Zimbabwe affects output.

Russian sales from stockpile remain all important

The question as to how long Russian stockpiles will last becomes ever more critical as each year passes as there must be a finite amount stockpiled. In the late 1990s and early 2000s, export disruptions led to a significant increase in price volatility and that may well be on the cards again. Whereas in the past, the supply issues have revolved around export quotas, now the issue is likely to be more fundamental. If stockpiles are close to depletion then a supply deficit could have a big impact on the market's fundamentals. According to a report released in May 2011, an official at the Russian finance ministry said that Russia had enough stockpiled material to continue exports in 2012. Although the run up in prices in the second half of 2010 was to some degree in anticipation that Russian stockpiles sales were going to decline, we would still expect the threat of less stockpile sales to underpin Palladium prices in the months ahead.

Russian PGM stockpiles are a state secret and the size of the stockpile is not in the public domain. However, given that sales from stockpile have been running at a high level for many years, it does seem likely that stocks are being depleted. Given the secrecy the market should be braced for a shock. In addition, as Russia's central bank has been diversifying its foreign exchange reserves by buying Gold, we feel it is likely that they could also decide to stop selling their surplus Palladium stockpiles.

For 2012, we assume that sales from Russian stockpiles will continue, albeit at a slower rate, but we would remain alert for any signs that might suggest they are dwindling. Once that happens, then Palladium's fundamentals are likely to become significantly more bullish.

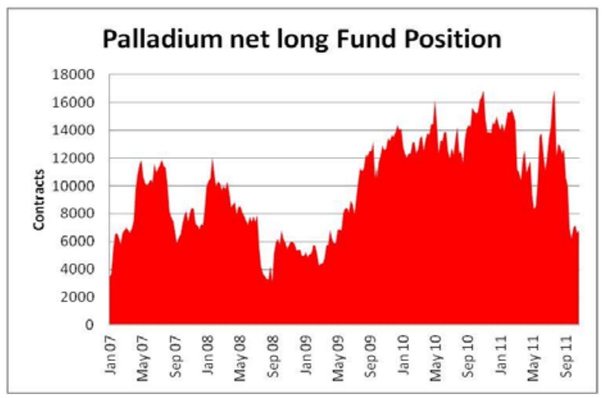


Investment demand weakens

ETF investors' interest in Palladium peaked in February 2011, at 2.37 Moz. This coincided with the $862/oz high in prices. Japan's earthquake and tsunami followed and the negative impact that had on the auto industry dented investors' appetite for Palladium. Although demand from the auto industry recovered as the second quarter progressed, confidence in the precious metals received another hit following the rapid sell-off in Silver prices in late April. This was then followed by increased concerns that the EU debt situation could lead to a double dip recession in the West and that in turn affected investment demand. At 1.75 Moz in early November, the holdings in the Palladium ETFs have fallen 26% from the February high. We would not be surprised to see ETF holdings drop further in the medium term, as we feel there may be more room on the downside for Palladium prices in the months ahead as the economic activity slows and a recession may be seen in the West. However, the long term outlook is good, especially as Russian stockpile sales will come to an end at some stage and then the metal held in the ETFs will be in demand to help fill the supply deficit. When this time comes, investors are likely to demand ever increasing prices to release the metal they hold.

Funds

The net long fund position (NLFP) in Palladium has dropped significantly. The first drop was seen in February when unrest in the Middle East pushed oil prices higher which in turn threatened both the economic recovery and the revival in strong auto sales. Funds' confidence then received a second blow after the Japanese earthquake and tsunami hit the auto industry hard. The earlier than expected revival in the auto industry led to a strong recovery in bullish appetite for Palladium, especially as concerns also focused on the likelihood of lower Russian stockpile sales. But the rebound in fund interest was short-lived and as the dark economic clouds gathered in late summer, industry started to destock and lower prices prompted funds to liquidate. The NLFP stood at 6,777 contracts at the start of November, down from a peak of 16,888 contracts in early August. The recent low in the NLFP was the lowest since May 2009. Once prices have found a base and the outlook has improved, we would expect strong investment buying to return and would expect a good deal of the buying to be focused on the potential for what prices may do when Russian stockpile sales end.



Technical

The first noticeable factor on the Palladium chart is the extent to which prices moved above their 2008 peak. Having spent most of the year above $700/oz, the recent drop to $536/oz does now suggest a large top formation is in place on the chart. Prices have broken the up trend line that started in July 2009 and the 50 week moving average looks to be rolling over to the downside now. Having sold off rapidly in September and early October, prices are rebounding and with

the stochastic indicators looking strong, further gains seem likely. However, overall we would not be surprised if prices were just rallying to test their breakdown level and we expect the down trend will likely resume before too long. There is likely to be considerable supply above $700/oz that we think will cap the upside. Given the weakness already seen, we look for more weakness in the months ahead. The recent sell-off breached the 38.2% Fibonacci retracement line, which suggests a pull back to the 50% line at $510/oz may follow.

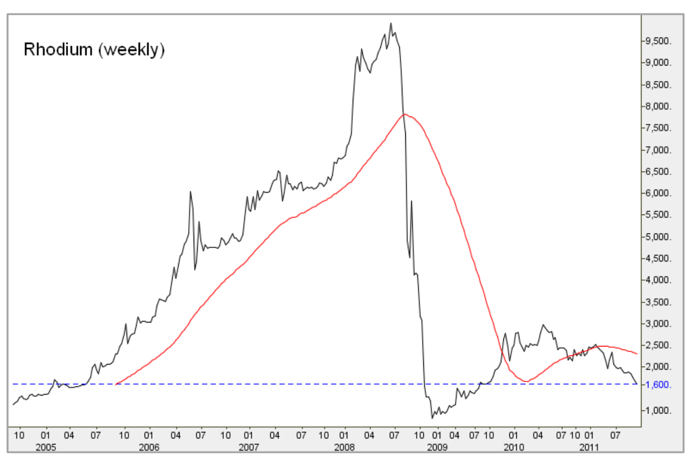
Conclusion and Forecast

Out of all the PGMs we are most bullish for Palladium over the long run. Palladium has a price advantage over Platinum and while that remains the case it means Palladium has potential to win market share from Platinum in the autocatalyst market and to some extent in the jewellery market. However, Palladium's supply fundamentals also look more bullish than Platinum's as the Palladium market has relied on sales from Russian stockpiles to balance the market in recent years. But, reports suggest that these stockpile sales are likely to dry up over the next few years, which would then put the Palladium market in a supply deficit.

Palladium also has the advantage of being the main PGM used in petro-driven vehicles, which happen to be prevalent in Asia, which is likely to remain the strongest regional market for vehicle growth. So, Palladium has a robust demand set-up at present and the fact that supply does rely on sales from stockpile is another factor that at some stage is going to be potentially a very bullish feature.

However, in the short term we feel a broad based correction is underway as the market anticipates further economic hardship. Given we feel more bullish for Palladium's long term outlook than Platinum's we are surprised to the extent funds and ETF investors have cut there exposure to Palladium. If these trends continue and that pushes Palladium prices lower still, then we feel Palladium will become a good long term investment again. Overall we would look for range trading between $575/oz and $775/oz, but would not be surprised to see prices drop back at some stage to the long term up trend line, which as of mid-November is around $480/oz. That said, even if prices do fall back to the up trend line, the overall long term chart picture would still look bullish.

Rhodium Outlook



Rhodium prices recovered from the 2008 low of $800/oz, reaching $2,900/oz in April 2010, but whereas Platinum and Palladium prices extended gains in 2011, Rhodium has not done so. We think this reflects the fundamentals quite accurately, in that throughout the economic rebound since 2009, it has been hard to paint a strong economic picture. You only have to look at US auto sales to show that even at the height of the recovery in 2011, when auto sales were running at an annualised pace of 13.4 million units, the level of sales were still well down on what they had been in the boom times in 2006 when they were either side of 17 million units. The absence of large scale investment interest in Rhodium, plus the fact it does not have the benefit of being used for jewellery, are no doubt some of the reasons why Rhodium prices have under performed Platinum and Palladium. We therefore see Rhodium as a useful indicator and expect Rhodium prices to continue to track real demand, thereby providing a good bellwether as to how the auto industry is performing.

Between 2004 and 2007, Rhodium was in a supply deficit, with the balance made up from inventory and from recycled metal. In 2008, the market showed a supply surplus of 25,000 oz and this leapt to 241,000 oz in 2009 as supply recovered in South Africa after the power related shortages in 2008 and industrial demand slumped 20%. However, the rebound in the auto industry in 2010, saw the surplus shrink to 114,000 oz - according to data from Johnson Matthey.

Demand

Rhodium demand is predominantly focused on the autocatalyst market, which in 2007 (i.e. before the economic slowdown) absorbed around 85% of supply and the glass and chemical industries both accounted for around 6% of global demand. Generally, demand from these industries is price inelastic, but what was noticeable in the glass industry last year was that the recession prompted factory closures, which released Rhodium back into the market. In 2009, Rhodium demand from the glass industry fell to 19,000 oz, down from 34,000 oz in 2008 and an average of 60,000 oz in the period 2005-2007, but it recovered sharply last year to 57,000 oz as industry restocked and as demand for flat screens for TVs, computers and mobile phones, accelerated.

All in all, we expect Rhodium demand to follow the trends in economic activity, with special regard to the auto industry. As we are gloomy on latter, we expect demand for Rhodium to suffer in 2012. The outlook will brighten once the auto industry in Asia, especially China, picks up again, but that might be some wait.

Supply

Rhodium supply peaked in 2007 at 824,000 oz, but then was hit heavily by the power outages in South Africa in 2008, that saw global production drop to 695,000 oz - according to Johnson Matthey data. In 2007, South Africa accounted for 85% of mine production. Although output recovered in 2009, to 663,000 oz, shipments dipped again in 2010 to 642,000 oz as producers built up stocks.

Falling ore grades have led to production decreases in Russia and in North America, where collectively output in 2010 was running 25% below peak production in 2008. Lower prices for Rhodium provide little incentive for producers to target ore grades that have higher concentrations of Rhodium.

Rhodium scrap is mainly collected from recycled autocatalysts and the amount of metal from this source is likely to increase as the global vehicle population grows. With Rhodium prices at a relatively low level, the amount of metal being recycled from electronics is low, but we expect that to change once the market moves back into a deficit. Recycled metal accounts for around 23% of total supply.

Conclusion

The outlook for Rhodium is tied in with economic outlook and therefore it is difficult to get excited about the outlook in 2012. The market is in a supply surplus and has been since 2008, so surplus stock has built up and that is likely to dampen any price rebound initially when a recovery eventually gets going. Overall, we expect Rhodium prices to remain range bound in the $1,200-$3,000/oz area until better economic times are signalled. We would then expect a gradual price climb as stocks are drawn down. There is a Rhodium ETF that was launched in June 2011, and that might well come into play during the next recovery. Although we remain bearish in the medium term, we are aware that there is risk on the upside should there be any disruptions to South African supply.

SCOTIAMOCATTA is a global leader in metals trading, brokerage and finance. As part of Scotia Capital and a member of the Scotiabank Group, clients can access a full range of financial products and services.

To obtain additional information on ScotiaMocatta products and services, call one of the offices listed below.

CANADA
Toronto
Scotia Plaza
40 King Street West
Box 4085, Station ‘A’
Scotia Plaza
Toronto, Ontario
M5W 2X6

Andy Montano
andy_montano@scotiacapital.com
Tel: 1-416-866-7835
Fax: 1-416-866-6897

UNITED KINGDOM
London
201 Bishopsgate
6th Floor
London
EC2M 3NS

David Wilkinson
david_wilkinson@scotiacapital.com
Tel: 44-20-7826-5931
Fax: 44-20-7826-5948

UNITED STATES
New York
One Liberty Plaza
165 Broadway
New York, N.Y. 10006

Tim Dinneny
tim_dinneny@scotiacapital.com
Tel: 1-212-225-6200
Fax: 1-212-225-6248

MEXICO
Mexico City
Blvd. M. Avila Camacho #1,
Piso 11
Col. Chapultepec Polanco
Colonia Polanco 11560
Mexico

Jose Maria Tapia
jose_tapia@scotiacapital.com
Tel: 52 55 9179 5142
Fax: 52 55 5325 3527

INDIA
Mumbai
91, 3rd North Avenue
Maker Maxity
Bandra Kurla Complex
Mumbai 400 051

Rajan Venkatesh
rajan_venkatesh@scotiacapital.com
Tel: 91-22-6658-6901 (Direct)
Fax: 91-22-6658-6911

New Delhi
Upper Ground Floor
Dr. Gopal Das Bhavan
28 Barakhamba Road
New Delhi 110001

Prem Nath
prem_nath@scotiacapital.com
Tel: 91-11-2335-8789
Fax: 91-11-2335-9342

Bangalore
25/2 S.N. Towers
M.G. Road
Bangalore 560001

Mahendran Krishnamurthy
mahendran_krishnamurthy@scotiacapital.com
Tel: 91-80-2532-5325
Fax: 91-80-2558-1435

Coimbatore
Classic Towers
1547 Trichy Road
Coimbatore 641018

Shankara Subramanian
shankara_subramanian@scotiacapital.com
Tel: 91-422-2304-489
Fax: 91-422-2301-596

HONG KONG SAR
21st Floor, Central Tower
28 Queen’s Road Central
Central
Hong Kong

Alice Lam
alice_lam@scotiacapital.com
Tel: 852-2861-4778
Fax: 852-2573-7869

SINGAPORE
1 Raffles Quay
#20-01, North Tower
One Raffles Quay
Singapore, 048583

Swee Kiang Teo
sweekiang_teo@scotiacapital.com
Tel: 65-6536-3683
Fax: 65-6534-7825

UNITED ARAB EMIRATES
Dubai
302, Precinct Building 03
Dubai International Financial Centre
Dubai
UAE

Pramod Mohan
pramod_mohan@scotiacapital.com
Tel: 971 4 371 1555
Fax: 971 4448 4640

This report has been prepared on behalf of ScotiaMocatta and is not for the use of private individuals. The ScotiaMocatta trademark represents the precious metals business of The Bank of Nova Scotia. The Bank of Nova Scotia, a Canadian chartered bank, is incorporated in Canada with limited liability.

Opinions, estimates and projections contained herein are subject to change without notice. The information and opinions contained herein have been compiled or arrived at from sources believed reliable but no representation or warranty, express or implied, is made as to their accuracy or completeness. Neither the Bank of Nova Scotia, its affiliates, employees or agents accepts any liability whatsoever for any loss arising from the use of this report or its contents. The Bank of Nova Scotia, its affiliates, employees or agents may hold a position in the products contained herein. This report is not a direct offer financial promotion, and is not to be construed as, an offer to sell or solicitation of an offer to buy any products whatsoever.

This market commentary is regarded as a marketing communication. It has not been prepared in accordance with legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

The Bank of Nova Scotia is authorised and regulated by The Financial Services Authority.