ScotiaMocatta

Precious Metals 2015 Forecast

PGM

December 2014

Scotiabank™

GLOBAL BANKING AND MARKETS

Executive Summary

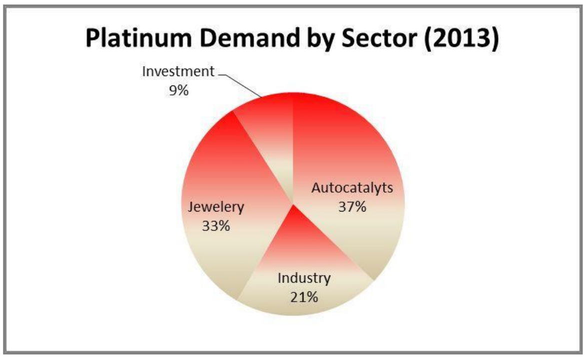
- At the start of the year the market was transfixed by whether unions in South Africa would call for strikes – they did and that set the tone for the first half of the year. With new labour contracts agreed, supply is expected to return to normal.
- Strong and concerted regional auto sales have been good for PGM demand and although economic growth has slowed, auto sales are holding up well so far.
- Relentless weakness in Gold prices has acted as a headwind to the PGMs and once the strikes in South Africa were over, PGM prices fell sharply. Prices are now well supported.
- Fund and investor interest in the PGMs has followed the price action, especially in Platinum. Palladium has been supported by strong ETF interest in South Africa.
- 2015 looks set to be a quieter year; the PGMs face supply deficits, but slower economic growth is likely to dampen sentiment. We expect rangebound trading once prices have recovered from current levels.
- Demand might get a boost if the ECB follows the US model of doing quantitative easing – such a move could boost market confidence considerably.

Platinum

Introduction

Platinum's performance this year has been counterintuitive. Prices did not react on the upside as much as we expected during the prolonged strike in South Africa and then when the strike was over it surprised on the downside by falling to levels not seen since 2009. Strong auto sales, especially with a robust recovery being seen in the European market (to which Platinum is particularly sensitive), combined with an intense strike in the country that produces 72 percent of mined Platinum supply, could have sent prices spiralling higher. In the end prices only rallied 14 percent to $1,488/oz while the strike was on; they went on to peak at $1,520/oz in mid-July. Given the post-strike sell-off that saw prices drop 22 percent to $1,178/oz, it seems with hindsight that sentiment was struggling to be bullish while Gold was under so much downward pressure. Looking forward, with Platinum prices looking supported and back to near parity with Gold prices, we would expect broad based consumer and investor buying interest, especially from jewellery fabricators as jewellery demand does tend to act as an important swing factor in the market. Industrial users may be waiting to see how far prices pull-back before they look to enter the market - the danger is that they may end up having to chase prices higher as they compete with the buying from fund short-covering and investors. Once a base is seen to be in place we expect a brisk rebound from oversold levels to a higher trading range.

DEMAND



Platinum demand climbed 4.9 percent to 8.42 million ounces (Moz) in 2013, according to Johnson Matthey. Unlike Gold, Platinum benefitted from having a diverse consumer base with demand coming from four distinct sectors – the auto industry, jewellery manufacturing, industry and investors. In industry the main users are the chemical, electronics, glass, petroleum and medical industries. This diverse group of buyers provides the Platinum market with numerous swing factors that help to regulate supply and demand during the economic cycle as each group can be motivated by different events. Demand from jewellery manufacturing tends to be price elastic, while demand from industry tends to be inelastic. Investment demand via exchange traded funds (ETFs) remains important; in 2012 it consumed around the same amount of metal as the chemical industry and last year consumed about forty percent more than the chemical industry.

Industrial demand

Within the industrial sector demand from the auto industry is the biggest consumer, accounting for some 64 percent of industrial demand in 2013. The chemical sector accounted for 11 percent, the electrical, glass and medical industries each consumed around five percent, the petroleum industry accounted for around 3 percent and other applications consumed around seven percent. Demand from the autocatalyst sector and petroleum industries declined last year by 2 percent and 24 percent respectively, with the auto industry weighed down by weak growth in Europe, and the petroleum industry seeing less capacity built. Demand from the petroleum and glass industries tends to fluctuate in line with new additions to capacity. Because of Platinum's broad base of uses, there are numerous cross currents affecting demand at any one time, but these can have a smoothing effect on total demand. In 2013, there was a degree of restocking in industry as stocks were built-up in anticipation of industrial action in South Africa in 2014. As the strikes cut into global production, producers fed the supply chain using stockpiled material. Demand in 2014 has been supported by a generally robust auto market and optimism in the first half, with recovery underway in Europe, providing a positive backdrop for industry. In addition, with numerous applications of Platinum being used in rapidly developing new technology sectors (many of which provide environmental functions), it has the benefit of seeing organic growth. Industrial demand, excluding demand for autocatalysts, is expected to see strong growth of around 8 percent in 2014 and apparent demand in 2015 might be even stronger if industrial users take advantage of the weak prices to restock.

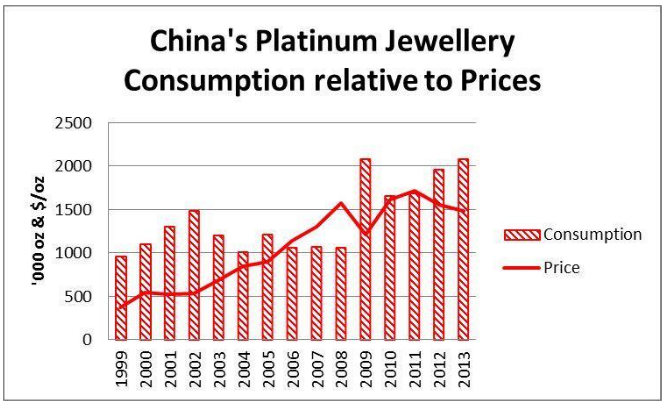
Autocatalyst demand

Platinum's use in autocatalysts accounted for 37% of total demand in 2013. In 2007, before the financial crisis, autocatalysts accounted for 50% of demand. This drop highlights two developments - firstly that global auto sales have not recovered from the boom times seen between 2004 and 2007 and secondly that Platinum's use in autocatalysts is suffering from substitution by cheaper Palladium. Between 2004 and 2007, US vehicle sales were running at an annualised rate of around 17 million units, compared with an average of 15.5 million in 2013 and an average of 16.4 million in the first ten months of 2014. The amount of Platinum used in autocatalysts in 2013, however, was 23% below what was used in 2007, while demand for Palladium from the autocatalyst industry in 2013 was 52% higher than it was in 2007. The change in demand for these two metals is not all down to substitution; demand for Platinum autocatalysts has also suffered due to regional trends. In Europe, diesel vehicles that use Platinum-based autocatalysts have a bigger market share than petrol vehicles and therefore, due to the economic hardship in the region, demand for Platinum autocatalysts has been weak relative to Palladium autocatalysts. However, with a recovery in Europe's auto industry underway, registrations are up 6.4 percent in the first nine months of 2014, demand for Platinum will have picked up significantly given it has a preference for diesel cars, but with the region's growth rate slowing again the recovery in auto sales may be patchy going forward. Global auto sales for light vehicles grew 3.8 percent in 2013 and forecasts are for global sales to increase 3.2 percent in 2014 and 3 percent in 2015, according to Moody's Investors Service. China should continue to see strong growth as it continues to gain market share, that said it is not a large user of platinum based autocatalysts. In 2014, its share of global auto sales was 27 percent, up from 4 percent in 2000. Growth in Europe is likely to weaken from this year's level as it is also likely to do in the US now that pent-up demand from the 2009-2010 slowdown has been satisfied. In addition, interest rate hikes could also start to damage the market for vehicle loans next year– it is estimated that 80 percent of US vehicle purchases are leveraged. Gross demand for Platinum in this industry is expected to grow around 4 percent in 2014, but to ease to 3 percent growth in 2015.

Jewellery demand

China is by far the largest market for Platinum jewellery, consuming around 63 percent of the market, while Japan accounts for 14 percent, North America 10 percent and Europe 8 percent. Jewellery accounted for around 35 percent of total Platinum demand in 2013, according to Johnson Matthey. Not surprisingly, jewellery demand is price elastic so the run up in prices in 2007 and 2008 saw jewellery's share of total demand fall to 25 percent, before recovering as prices pulled back – this year the jewellery industry is expected to absorb 36 percent of global demand. Indeed, given that Platinum prices have fallen to levels not seen since 2009, we would not be surprised if demand did not end up being even stronger than expected. Platinum's price relative to Gold is another important driver for Platinum jewellery demand; when Platinum prices were below those of Gold in 2012, Platinum jewellery surged 12 percent as jewellery buyers, who were buying jewellery as an investment as well, saw extra value. The opposite happened last year when the sudden drop in Gold prices prompted aggressive buying of all things Gold in China and that seems to have impacted on Platinum jewellery demand, which grew only one percent according to Thomson Reuters. Looking forward, even though economic growth in China is slowing, disposable incomes and urbanisation continue. That, combined with multi-year low Platinum prices, is expected to boost demand for Platinum jewellery, especially as falling house prices are making investors nervous of the property market while at the same time Platinum prices are once again level with Gold prices.

Regionally, demand in Japan picked up modestly in 2013 as the economy started to improve, but the weaker yen that 'Abenomics' has brought about will to some extent be dampening demand growth as it boosts local Platinum prices, relative to dollar based prices. This has also been a feature of the market in 2014, with Platinum prices in yen 8.5 percent below the July peak, while in dollar terms prices are 20 percent lower. With Japan falling back into recession in the third quarter, demand for luxury goods is also likely to suffer. Demand is expected to be stronger in North America as lower prices and a more robust economy should boost luxury spending, while in Europe demand dropped ten percent in 2013, which was the sixth consecutive annual decline. With the economic recovery stalling, the outlook is not bright. One area of growing interest is India; the country has a totally established Gold and Silver jewellery industry, so Platinum jewellery has an opportunity to offer something new. The disruptions caused



by import restrictions have affected the local Gold market in recent years, which may well have played into the hands of Platinum, especially as Platinum prices are now fairly level with Gold prices again.

Overall, considering how much of global Platinum jewellery is sold in China and given households' growing disposable income, we feel the outlook for Platinum jewellery demand is robust. As the chart opposite shows, the trend in consumption is upward and with prices falling, there could be another surge in demand as was seen in 2009. At the time of writing, prices are 18 percent lower than the average of 2013.

SUPPLY

Production in 2014 has been hit hard by the five month strike in South Africa that started in January and ran until June. The three big producers, Amplats, Impala and Lonmin, collectively lost around 1.13 Moz as a result of the strike. This equates to around 27 percent of South Africa's 2013 production and around 20 percent of 2013's global production. Given such a significant supply disruption, the fact that prices didn't react more bullishly disappointed investors who anticipated higher prices - from a low of $1,316/oz in December before the strike, prices reached a peak of $1,495/oz during the strike, an increase of around 14 percent. The limited price reaction was due to a combination of users stockpiling ahead of the strike, and producers honouring their contractual sales by running down their stockpiles that had accumulated in previous years during the economic downturn when the market had been in a supply surplus. Considering the loss of production, it is surprising that prices have gone on to fall as far as they have in the second half of the year. In November, prices set a low of $1,178/oz, which is the lowest they have been since July 2009, when prices were rallying off the 2008 lows. Considering prices have fallen below the level where they stood before the strike started and given the fundamentals have tightened in that a significant amount of production has been lost and stocks have been drawn down, it is hard to justify prices around the $1,200/oz level. With the strikes over and a three year labour contract agreed, supply disruption from strikes is likely to be limited now, but production in South Africa still faces many challenges, including tight electricity supply and skilled labour shortages. For 2014, we expect production in South Africa to fall 30 percent, but with production up and running again we expect it to recover in 2015.

Russia is the world's second largest producer of Platinum with an output of 770,000 oz in 2013, accounting for 13 percent of global production. Output has generally been in decline in recent years; production peaked in 2001 at 1.3 Moz, but fell to a low of 785,000 oz in 2009. It recovered to 835,000 oz by 2011, but has since started to fall again according to data from Johnson Matthey, and that weaker trend is expected to continue as ore grades deteriorate. In 2014, data for the first nine months shows production only up 1.6 percent to 511,000 oz. With prices now falling to low levels in the second half and with nickel prices also low (most Russian PGM production is produced as a co-product with nickel and copper), we expect supply from Russia to remain broadly unchanged in 2014, before resuming its slight downward trend in 2015. Despite Russia being hit by sanctions over the situation in Ukraine, this has not affected metals. If the situation deteriorates and sanctions limit PGM exports then the loss of 13 percent of global supply would be a very significant event.

Zimbabwe's production has been climbing at a fast pace in recent years, from 165,000 oz in 2006 to 408,000 oz in 2013. This makes it the third largest producer in the World with some seven percent of production and further expansion is underway, which suggests production capacity will continue to increase in 2014 and 2015. That said, there have been some production disruptions for safety reasons this year, which will see some 30,000 oz of production lost. The country also has ambitious plans to expand and is joining forces with Russia to develop the Darwendale Platinum project, which would have an eventual capacity of 600,000 oz per annum and a production target of 250,000 oz annually within three years. The government is also pushing existing producers in the country to build a refinery and has given miners two years to set it up. There is considerable uncertainty, however, as to whether a refinery will be built in the timeframe the government wants and whether supply in the years ahead will be affected if progress on the refinery is not made.

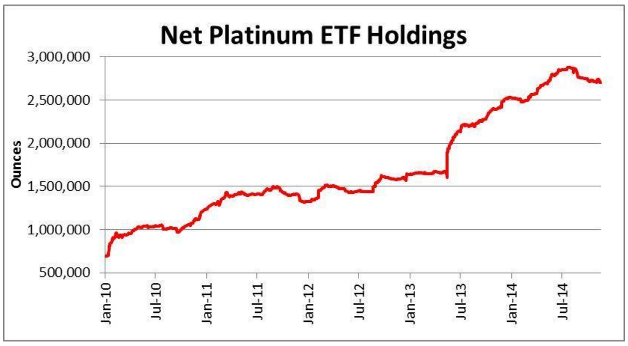
North American output in recent years has amounted to around 345,000 oz and provides five percent of global Platinum production. Output is expected to remain stable - the last main disruption came in 2010 from a long strike at an operation in Canada.

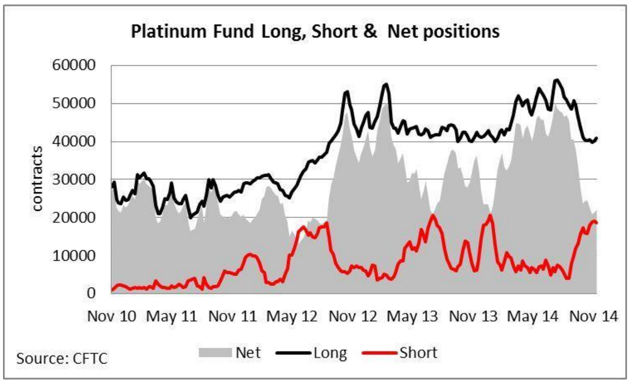
Recycled material

Recycled Platinum comes from old autocatalysts, old jewellery and more recently from recycled electrical equipment. This sector of supply is a growth market as more of the vehicles that are reaching the end of their life-cycles now have autocatalysts and the introduction of new legislation in some countries (which means electrical waste has to be recycled rather than sent to landfill) has also increased the amount of metal returning to the market. Scrap from old jewellery is more price elastic, so the amounts of scrap from jewellery climbed in 2010 and 2011 when precious metals prices were rising strongly, but rates have slipped recently, mainly as a lot of the old jewellery was sucked out of the woodwork when prices were high, but low prices are now making it less attractive to cash-in old jewellery items. Overall, in line with strong auto sales in North America and a recovery in sales in Europe, supply from spent autocatalysts is expected to show steady growth and the recycling of electronic waste is also expected to lead to a steady rise in supply. In 2013, supply from recycling was equivalent to 23 percent of gross Platinum demand and we would expect that to see steady growth this year and next.

Investment demand weakens

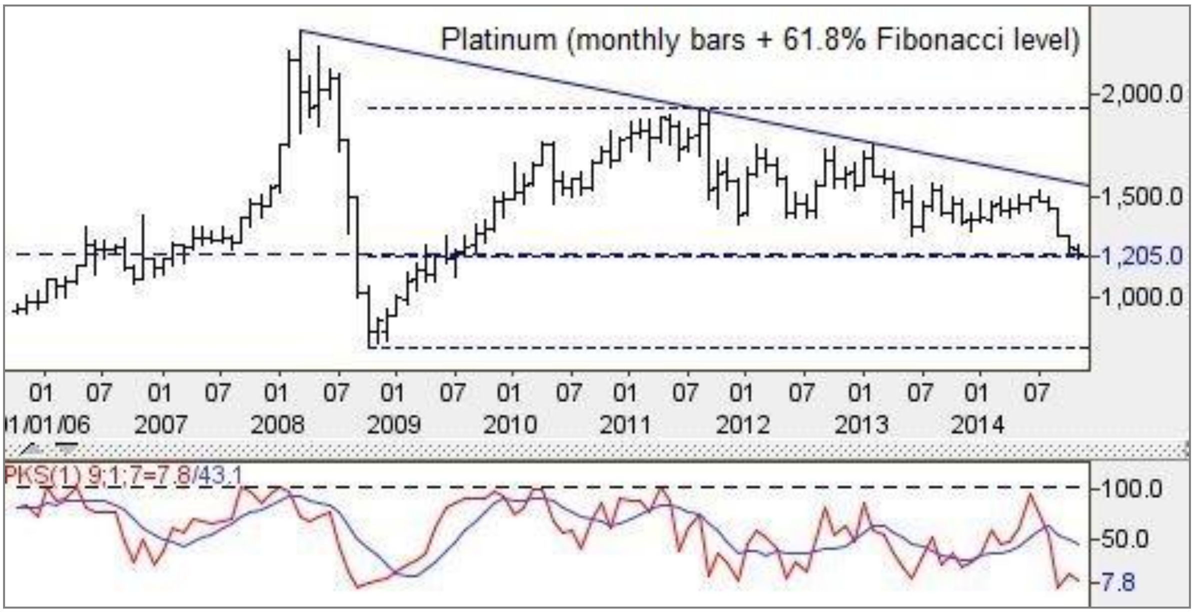
Holdings in the Platinum ETFs have slipped since the summer; in mid-November they stood at 2.705 Moz, after a peak of 2.879 Moz in late July, a drop of six percent. As the chart shows, there have been other instances when holdings have dropped and of late the level of redemptions has slowed as seen by the levelling out of the line in the chart. Given the price drop and weak sentiment across the precious metals generally, it is not surprising that some investors have reduced exposure, but the significant drop in price and generally positive fundamentals for Platinum are likely to spur investment bargain hunting before too long, we feel.





Funds

The net long fund position (NLFP) has fallen sharply in recent months; it stands at 22,133 contracts in early November, down from a peak of 50,152 contracts in early July, which was also the record high. The pull-back in the NLFP has come about as longs have liquidated, which supports the move in the ETFs, and as shorts have increased exposure. The gross short position was last at 18,750 contracts; the record high was 20,672 contracts seen in July 2013. The gross short position is therefore getting close to the top of its previous comfort zone – the sell-off in price suggests the shorts are sitting on open profits. Should prices start to recover we would expect some sharp moves as shorts-cover.



Technical

Platinum prices fell through key support levels from the 2011 and 2013 lows at $1,343/oz and $1,294/oz respectively. The low has been $1,178/oz, which means prices have also retraced more than 61.8% of the 2008 to 2011 mega-rally – the 61.8% Fibonacci retracement level being at $1,192/oz. Prices are now back at levels seen in 2009 when prices were rebounding after the deleveraging rout that the financial crisis brought about. Indeed, prices are now trading in the middle of the range seen in 2006 and 2007 before the financial crisis unfolded. We would expect good underlying support in this former range that ran down to a low of $1,054/oz. For now the stochastics are bearish, so further weakness cannot be ruled out, but overall the market is looking fairly supported. Once this sell-off has run its course we would look for prices to rebound and settle in a range between $1,200/oz and $1,500/oz.

Conclusion and Forecast

There are many cross currents affecting the Platinum market; there is concern about the economic slowdown in China and Europe and how that will affect auto sales, while at the same time lower economic growth is not good for industrial demand. For different reasons, investment demand has waned as the relentless downward pressure on Gold has rubbed off on investor interest in Platinum too. Perhaps given these negative flows the industrial users are in no hurry to buy more than they need, especially as prices have been trending lower, but the lower prices are also likely to be providing good long term buying opportunities.

Although the economic outlook has deteriorated in recent months, the weaker outlook may well end up boosting consumption as governments are forced to take action. Already Japan has boosted its level of stimulus, China has cut interest rates and the ECB seems likely to have to do something before too long if it wants to avoid a ‘lost decade’. China seems to be accepting lower growth, but even seven percent growth in what is now a massive economy still means considerable extra demand per year.

On balance, we expect consumption to show steady growth, but given the low prices we feel there is a good chance that apparent demand picks-up even more as industrial users and investors see the weaker prices as an opportunity to restock/bargain hunt.

We would be surprised to see prices fall much further than the recent lows. That said, should Gold set off on another down leg to $1,000/oz then Platinum may well be dragged lower, but we would view any such development in Platinum as being unsustainable. On balance we feel prices will rebound due to bargain hunting before too long and will spend most of 2015 in the $1,200 to $1,500/oz range, with the risk lying to the upside should there be further supply disruptions.

Palladium

Palladium's fundamentals have been that much tighter than those of Platinum in recent years and as a result Palladium prices reacted more aggressively to the strikes in South Africa at the start of this year. In addition, the strikes coincided with an increase in geopolitical tensions between the West and Russia over the Crimea and Ukraine. With Russia supplying 40 percent of global Palladium, compared with 14 percent of Platinum, and with South Africa supplying 37 percent of the World's Palladium, there was potential for considerable supply disruptions. As such, Palladium prices rallied 32 percent to $911.50/oz in August, from a low of $692/oz in December 2013. With the strikes causing the loss of some 640,000 oz of Palladium and with producers keeping the supply chain primed by delivering from their stockpiles, the market's fundamentals will have tightened up considerably. Given this, it is somewhat surprising that Palladium prices have fallen as low as they have in recent months. The low in October was $729/oz. One possible reason for the price drop may be tied into reports that Norilsk is looking to buy Palladium from the Russian central bank, which has raised concern that Russian stockpiles might not be as depleted as the market thought. If the stockpiles switch to a commercial enterprise then they may be made more readily available to the market which could offset the forecast for a supply deficit. On balance though, it appears that Palladium prices, along with Platinum prices, are also being dragged lower by the general weakness in Gold prices – this we feel is presenting a buying opportunity.

Autocatalysts

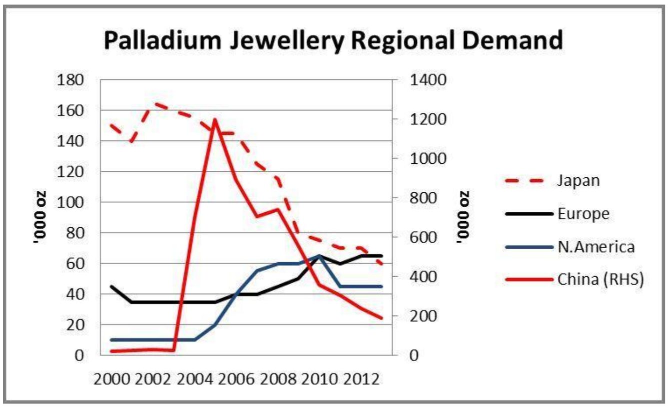
Autocatalysts accounted for some 73 percent of Palladium demand in 2013. The recovery in the auto industry from the 2009 recession and the substitution of Palladium for Platinum in autocatalysts has led to strong growth. 2013 saw a strong recovery in auto sales in North America, sales in China also surprised on the upside and those trends have generally continued in the first half of 2014. In the US, auto sales have averaged 16.4 million units in the first ten months of this year, compared with 15.5 million units last year. Chinese sales were up 9.8 percent in the January to October period, although sales growth rates have eased in recent months with October showing growth of 6.4 percent year-on-year. The degree to which Palladium has won market share from Platinum is shown by the fact that the amount of Platinum used in autocatalysts has dropped 23 percent since 2007, while the amount of Palladium used in autocatalysts has increased 52 percent over the same period. That said, the drop in Platinum's use will not just be down to substitution and thrifting, it will also be due to the fact that the European auto market has been in the doldrums until this year and, with Europe's preference for diesel cars, it means the lower demand for autocatalysts has affected Platinum-based catalysts more than Palladium-based ones. As discussed in the Platinum section, the outlook for the auto industry is for global sales to increase 3.2 percent in 2014 and 3 percent in 2015, according to Moody's Investors Service. In terms of gross demand for Palladium, the auto industry is expected to grow around 4 percent in 2014 and in 2015.

Overall, Palladium should see steady growth from auto catalysts via two avenues, firstly as global auto sales pick-up and secondly as ever tighter pollution control legislation is introduced and spreads globally.

Other industrial uses

Palladium's other industrial uses include electronics, industrial manufacturing including chemicals and pharmaceutical, other emission control equipment for factories and petrol-powered machinery, such as marine engines and garden equipment. In 2013, these industries accounted for 23 percent of Palladium demand. The economic rebound in 2010 saw demand for Palladium from these industries climb seven percent, but demand from these sectors has more recently been falling as Palladium faces substitution by other materials. In 2013 demand fell 5.9 percent according to Johnson Matthey data, and the combination of slower economic growth in Europe and China, plus continuing thrifting, is likely to see these trends continue next year. The main area of substitution is being seen in the electronics market, which is the largest consumer in this group of industries with demand accounting for some eight percent of total demand. Nickel has been substituted for Palladium in some applications, and in others Palladium-nickel alloys are being used to save costs. The chemical industry consumes around seven percent of Palladium and that is largely used to refine nitric acid used in the manufacturing of nylon and polyester. As manufacturing has moved from West to East, new capacity for these materials has been built in China and now the growth market is shifting to India. Another growth area for the metal is water purification, where Palladium is used to clean contaminated groundwater. Palladium's use in dentistry is also in decline as ceramic treatments are becoming more standard. In 2013, 380,000 oz of Palladium was used in dentistry, which is down from over a million ounces in the 1990's.

Although demand is slipping in the electronics industry and in dentistry, medium term we expect other applications, such as water treatment and the tighter emission restrictions for factories and petrol-powered machinery, to lift demand.

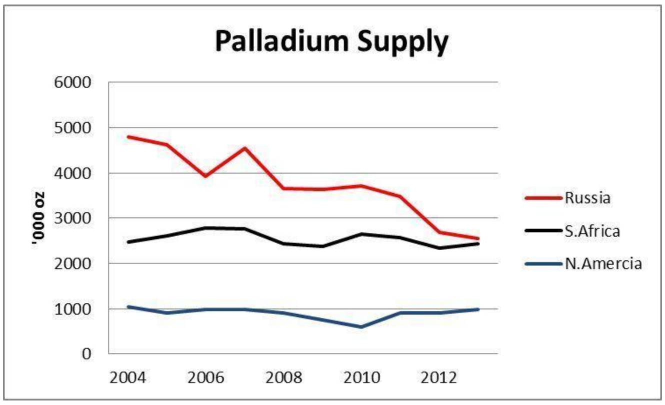


Jewellery demand

Palladium jewellery has had an interesting past ten 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 China is now falling at a fast pace with some jewellers scrapping pieces as they are not selling. In other countries demand has flattened as the metal has carved out a niche market as a metal for men's jewellery. However, Japan's affinity for Palladium jewellery seems to be waning again and that might be happening as Platinum's premium to Palladium has eased. The premium is last at \$430/oz from \$700/oz at the end of 2013 and closer to \$1,000/oz in 2012.

For 2014 and 2015, we expect Palladium demand from the jewellery industry to continue to decline, especially as we would not be surprised to see Palladium prices run up faster than other precious metals when a recovery gets underway.

Supply



Total Palladium supply, including recycled metal, amounted to 9.07 Moz, in 2013. Mine supply accounted for 72 percent and recycled material 28 percent, according to Johnson Matthey data. As the chart opposite shows, supply from Russia is in decline; output in South Africa had stabilised in 2013, but will have dropped this year as a result of the strikes, while in North America production is edging higher.

Russian supply is dropping on two counts. Mine output is falling due to lower ore grades and sales from Russian stockpiles have also fallen. Between 2004 and 2010, sales from stockpile averaged 1.2 Moz per annum. They dropped to 0.78 Moz in 2011, 0.26 Moz in 2012 and 0.10 Moz in 2013 and these are expected to drop to 0.05 Moz (50,000 oz) this year, before possibly being depleted altogether going forward. The amount of Palladium Russia holds in stockpile is a state secret – the general view is that after years of sales from stockpile, the stocks are nearly depleted and the market is now discounting that sales will dry up before too long. That said, there were reports out in September that Norilsk was in talks with the Russian central bank to buy Palladium, which has raised concern that Russian stockpiles might not be as depleted as the market thought. If there are more stockpiles and they switch to a commercial enterprise then they may be made more readily available to the market which could offset the forecast for a supply deficit. Given there is 'no smoke without fire' we would not discount the possibility of such a deal, but would add that Norilsk as a PGM producer would be unlikely to flood the market with Palladium as that would be counter-productive.

Palladium from recycled material is now the second largest source of supply, having overtaken South African production in 2013. It is also a growth market for a number of reasons – the global vehicle population is growing and a higher percentage of vehicles that are now scrapped were originally fitted with Palladium autocatalysts. Palladium should also benefit starting now and in the years ahead from the substitution that has taken place since 1999, where Palladium has gained market share from Platinum in autocatalysts. In time this should mean even more palladium is recycled. This year Johnson Matthey expects 2.68 Moz to be recycled, up from around one million ounces in 2005, and the trend is set to continue climbing.

South Africa accounts for 37 percent of mine supply and the country has the largest resources of PGMs and the most potential to increase supply. The country's producers, however, are struggling to lift supply as safety stoppages and shortages of skilled labour keep production below capacity and low prices across the PGMs are reducing the incentive to invest in the industry. Having had the long strike in 2014, which will have hurt workers financially, we would imagine there will be little appetite for further strikes and therefore we would expect production to recover. Having seen production drop around 640,000 oz this year, output is expected to climb 500,000 oz next year.

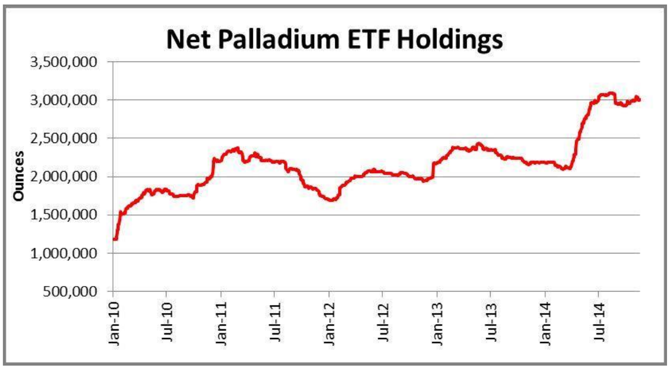
North American supply accounts for 15 percent of total mine production and production looks set to edge higher as most operations seem to be running smoothly. It is noteworthy that North American PGM production is Palladium heavy, with a lot of metal being produced as a by-product with nickel and copper, which is similar to the situation in Russia.

Palladium output in Zimbabwe climbed 23 percent to 310,000 oz last year, but part of the increase was the result of processing stockpiled ores from 2012 that had built up due to unscheduled maintenance at a processing plant. Despite considerable uncertainty in the industry about government interference on matters of ownership and their demand for a PGM refiner, it does look as though producers are getting on with the job of increasing output. We expect these trends to continue, although the low PGM price environment may well squeeze margins. The trend in higher output is expected to continue this year and next.

Total mine production of Palladium in 2013 was around 6.53 Moz, down from 6.56 Moz in 2012 and output this year is expected to fall to 5.8 Moz, mainly as a result of the strike action in South Africa. On top of this, supply from recycled material is expected to be 2.70 Moz this year and added to stockpile sales of 0.05 Moz, this should mean a total supply of 8.55 Moz. This compares with likely gross demand of 10.40 Moz, leaving a supply deficit of 1.85 Moz.

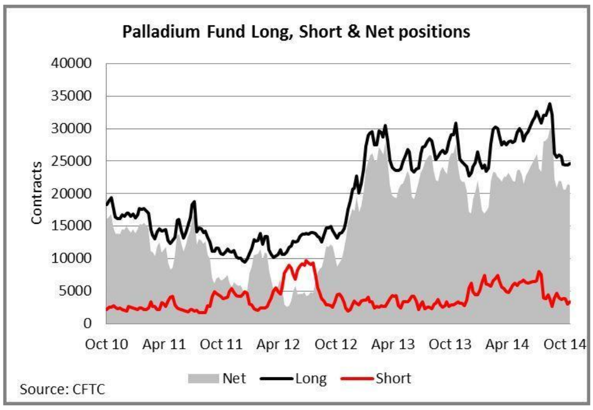
In 2015, Palladium supply is expected to increase by 600,000 oz, with mine output recovering in South Africa, while other regions see slight increases, but these may be countered by the uncertainty of supply from Russian stockpiles, while supply from recycling is expected to rise by around 150,000 oz.

Investment demand slows



ETF investors' interest in Palladium remains robust with holdings in mid-November at 3.01 Moz, down just 2.6 percent from record levels of 3.09 Moz seen in mid-August. From the start of the year, holdings are up 824,000 oz. That said, a break-down of the data shows all the new interest this year has come from the two new ETFs in South Africa that collectively hold 1.19 Moz. The other longer-established ETFs have all seen redemptions ranging between 6% and 25% and totalling some 366,000 oz from the start of the year. As such, some investors have been more spooked than others by the fall in price. Total holdings did dip in September as prices started to sell-off, but buying reappeared in November; again this was mainly due to buying in South Africa. We take some comfort from the fact that investors in South Africa, who are that much closer to the mine-face, so to speak, are still committed.

Funds



In contrast to Platinum, the funds still have a relatively large net long fund position (NLFP) in Palladium. The NLFP in early November stood at 21,276, down from a recent high of 30,090 contracts, but what is interesting is that the decline in the net position has come about from long liquidation, as the shorts have also been cutting exposure (which has the effect of raising the NLFP). The short-covering into the price weakness suggests the shorts do not expect prices to continue lower – this is in stark contrast to Platinum where the fund shorts have been adding to their positions.

Technical

Palladium prices rallied over the first eight months of the year, but then corrected sharply – more recently they have been consolidating above the long term up trend line. The pullback took prices back to the area where they were trading in 2013, which seems to be providing support. The stochastics have also turned higher and are looking bullish. As such, we feel there is a good chance that Palladium prices have found a base and we would look for prices to resume the overall long term up trend from these low levels.

Conclusion and Forecast

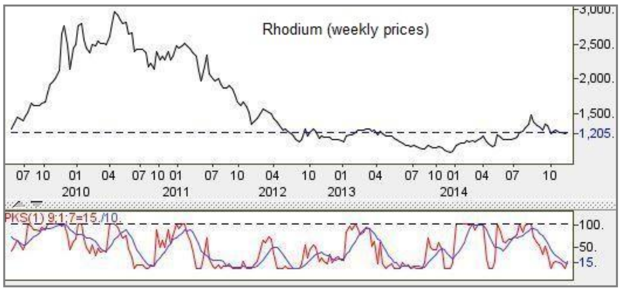
Palladium's fundamentals look strong in that the market is in a supply deficit and this year's lost production from the strikes in South Africa will have reduced stocks, mainly at producers but also at consumers. Prices do seem to have been dragged down by the weakness in Gold and that might well have led to prices becoming oversold. Although the net ETF position has climbed this year, it has not all been one way traffic with the non-South African ETFs seeing 366,835 oz of redemptions since the start of the year, while the South African ETFs have bought 1,190,730 oz. Given the price weakness and the robust fundamentals we expect investor interest to pick-up again. With the strikes in South Africa over and new three-year labour contracts signed, we do not envisage much in the way of supply disruptions, that is unless sanctions escalate to impact Russian exports. Demand is expected to grow steadily for industrial uses, but potential for slower growth in China and Europe is likely to mean growth is subdued. As for investment demand growth, investors may not have the incentive of strikes to fuel their buying, but we feel lower prices and generally firm fundamentals will underpin investor interest. The one area of uncertainty remains the amount of metal that will come from Russian state stockpiles. If Norilsk does buy material from the Russian central bank then that might mean the supply / demand deficit can be fed from two sources - investor stocks and Russian stocks.

For 2015, we would look for prices to trade in the $725/oz to $950/oz range – should prices be dragged down further by gold, then we would expect any potential dips below $700/oz to be short-lived.

In addition, with China focused on tightening up environmental standards, we feel Palladium will be one of the beneficiaries.

Rhodium Outlook

Rhodium prices turned a corner in 2014 with the long drawn out retreat from highs in 2010 of around $3,000/oz to a low around $915/oz in December 2013. This year, the price rallied to $1,475/oz in August on the back of the strikes in South Africa and due to more concerted growth in the global auto industry. Prices have since pulled back to settle around the $1,200/oz level.



As the chart shows, prices had been in the doldrums for a long time as during the financial crisis the slump in vehicle sales had led to an oversupply situation, which meant producers had little option but to stockpile material. Unlike Platinum, Palladium, Gold and Silver, investment demand for Rhodium is limited. There is a Rhodium ETF and investment bars are available, but the metal could not be considered a mainstream investment. That said, the fact there are vehicles to invest in Rhodium may see investor interest pick-up once the fundamentals turn more bullish as investors would no doubt like the fact that Rhodium prices rallied to $10,000/oz in 2008.

Demand

Rhodium's biggest market is autocatalysts where 80 percent of metal is consumed, with chemicals using 8 percent, glass 3 percent, the electrical industry 0.5 percent and other industries using around 9 percent. Although the high prices in 2008 did see demand drop sharply in 2009 to 716,000 0z (from 897,000 in 2008 and 1,036,000 oz in 2007), demand has recovered steadily since. In 2012 demand was 968,000 oz, in 2013 it was 1,006,000 oz and it is expected to reach 1,046,000 oz in 2014, according to Johnson Matthey.

With the market in oversupply between 2008 and 2012 stocks built up, but with the swing into a supply deficit in 2013 and with the deficit enlarged by the strike in South Africa this year, the fundamentals are looking tighter, although with producers having to hold on to most of the surplus in recent years, we would imagine they will be keen to reduce stocks as and when they can, which is likely to stop the deficit from driving prices sharply higher.

The outlook for Rhodium demand in 2015 looks mildly bullish as we expect the global auto industry to continue to grow, albeit at a slower pace than this year. That said, ever tighter environmental standards and their spread geographically should underpin demand. In addition, after years when loadings per autocatalyst have fallen as technology has improved to give the same performance with less metal per unit (a process referred to as 'thrifting') it does look as though there is little scope for further 'thrifting'. Demand should improve in line with auto sales, as well as continued tightening clean air standards which will result in increased rhodium loadings.

Investment interest

Investment interest in Rhodium may well pick-up if investors start to see the market's fundamentals tighten. Whereas before the launch of the ETF in June 2011, it was difficult to invest Rhodium, the ETF has changed that. The ETF holds around 126,000 oz of Rhodium, whereas a year ago it held 94,000 oz.

Supply

Rhodium is mined as a co-product along with Platinum, Palladium and other PGMs, so output cannot easily be tweaked to match demand, hence after the financial crisis the surplus built up as producers were unable to regulate Rhodium mine output on its own. Mine output peaked in 2007 at 824,000 oz, it dropped to 695,000 oz in 2008 when power outages in South Africa hit production (which led to the jump in prices to $10,000/oz), but rebounded to 770,000 oz in 2010, before slipping to 705,000 oz in 2013, according to Johnson Matthey data. Production in 2014 will have fallen further as a result of the strikes in South Africa.

South Africa is the largest producer, supplying 80 percent of mine supply in 2013, or 57 percent of total supply, including supply from recycled material. Russia is the second largest producer accounting for 12 percent of supply, while Zimbabwe is the third largest producer providing 4.5 percent of mine output and North America produces 3.3 percent.

Looking forward, we expect Rhodium supply to recover next year as the new three-year labour contract in South Africa should reduce the chances of labour unrest.

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 now the market has moved back into a deficit and as legislation on the recycling of electronic-scrap means more scrap is recycled. Supply from recycled material accounts for 28% of total supply.

Conclusion

The outlook for Rhodium demand is tied in with the global outlook for vehicle sales, so for next year we would expect only a slight pick-up in industrial demand. The likelihood of another year of supply deficit, plus how this year’s lost production will have firmed up the fundamentals, might well lead to a pick-up in investor interest, which could have an impact given the small size of the Rhodium market. Rhodium supply amounts to some 980,000 oz, including recycled material, which is about 1/12th of the size of the Platinum market. Overall, although demand may not see significant levels of growth, we expect that the combination of supply deficits and a pick-up in prices may well lead to restocking. We envisage prices holding in the $1,000 to $2,000/oz range.

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