Platinum and Palladium Availability
By Walter de Wet, Head of Commodity Research, Standard Bank plc

Introduction
Thank you, and thanks for the opportunity to speak at the Conference, it is a real privilege. My title is ‘Platinum and Palladium Availability’ and there is a subtitle: ‘Upside but not straightforward’. In a nutshell, the general market consensus is that the platinum and palladium markets are in deficit. We agree, and we think there will be deficits out to 2017. We forecast deficits for the platinum market of more than 450,000 ounces in 2014, with the deficit decreasing slightly in 2016. Nevertheless, it is structurally a deficit market. We also forecast substantial deficits for palladium of over 1.8 million ounces in 2014 and that the deficits will persist into 2016.

Despite forecasts for relatively large deficits for platinum and even bigger deficits for palladium, the market does not really seem to trade as a tight market. There are several signs of this. Firstly, the PGM basket price is cutting into the cost curve. Secondly, if you look at lease rates, sponge ingot discounts and so on, and you look at where platinum and palladium are trading, one has to ask why this is happening if market consensus is for large deficits in both markets going forward.

We have spent a huge amount of time over the past 12 months analysing above-ground inventory for platinum and palladium. We came to the conclusion that most likely there is more above-ground inventory than the market anticipates. In our view, that is not necessarily bearish from a long-term strategic perspective, because as I have mentioned, we think there will be deficits, but from a more tactical perspective, we think that you probably need to wait longer before you will see the upside.

Signals of metal availability
I will not go through the usual demand and supply balances for platinum and palladium in this session, but instead touch on key themes we think are relevant in platinum and palladium. Below are a few observations from the market and why we think some questions need to be answered.

China demand
First of all, as with many other commodities, what China does remains key. China is the biggest jewellery consumer for platinum, consuming almost 70% of platinum jewellery in the world, and demand from this country is important. Recently, we have been seeing platinum imports into China becoming much more price sensitive than before, and given that jewellery demand is the swing demand for platinum, the growing price sensitivity could cap prices for the time being. China is also a growing user of palladium in autocatalysts. In this regard, when one looks at imports of palladium versus vehicle production data, questions are being raised about how much palladium China recycles.

ETFs
The South African ABSA physically backed ETF was launched in May this year. Since then, we have seen almost 800,000 ounces of platinum being taken out of the market via ETFs, and the platinum price is actually lower now than at the start of May. This is another signal that maybe the market is not yet as tight as we would like it to be. Although we have not seen the launch of a South African physically backed palladium ETF yet, and I guess the jury is out as to what will happen there, the outcome after a few months may be the same as for platinum.

Lease rates
There are other signals in the market that tell us, at least on the consumer side, that there are no major issues about the supply of platinum and palladium yet. One of the areas you can look at is lease rates, which remain near zero. They have not moved at all over the past 24 months, despite large-scale strikes and production losses in South Africa.

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Sponge versus Ingots
We see a lack in tightness in other areas too. For example, platinum sponge has not traded at a premium to ingots for a long while. Palladium every now and then pops into a premium, but...
generally speaking, it remains at a discount to ingots. Once again, this signals industrial demand, or at least industrial users are not necessarily too concerned about this yet.

**Inventory estimates**

As a result of where prices are sitting and what we observe in the market, we have spent a huge amount of time tracking through trade data going back to 1988. We have tried to reconcile import and export data for many countries with actual amounts consumed, mine supply, recycling, etc., to determine if indeed there are inventories around and, if there are any, how much they are and where are the possible locations.

To make a long story short, after a lot of work and data analysis, we came to the conclusion that in terms of days’ consumption, we think platinum above-ground inventories are about 1,000 days, or about three years’ worth of consumption. In general, we believe this is more than market consensus estimates. For palladium, we think it is slightly lower. Nevertheless, we prefer to work with the trade data simply because it gives us much more colour in terms of where inventory potentially is.

**Platinum inventories**

In terms of platinum above-ground inventories, we think in absolute terms that platinum inventories are just over 19 million ounces. Most of it we believe is in the US, although we do think there are sizable amounts in the London and Zurich vaults, and some in Japan. We also think there are some strategic stockpiles in China, and possibly in South Korea too (Figure 1).

For palladium too, we believe most of the inventory sits in the US (Figure 2). A lot of this inventory has come out of Russia since 1995. If you look at how the trade data in the US has evolved over time, a lot of metal, more than 1 million ounces a year, between 1995 and 2003/4 has gone into the US. We think even after accounting for what is being produced and consumed in the US, there is still a lot of metal around.

**Russian stockpiles**

Leading on to the next question that always pops up: how much are the Russian stockpiles? We do not account for Russian stockpiles, palladium stockpiles specifically, for the simple reason that we do not know. However, we do think to a large extent that Russian stockpiles are probably not as relevant as they were in the past, simply because a lot of the inventory is outside Russia already.

To double-check our type of analysis, we have tracked through trade data and actual consumption data and recycling data, and so on. However, we followed a different approach too, where we just built our own demand and supply series since about 1930, going back to various data sources such as USGS data, and we came up with roughly similar numbers, but slightly lower than our official estimates quoted above.

You can argue whether a difference between 16 million and 19 million ounces of inventory, e.g. for platinum, is relevant. I think at least for the time being, 3 or 4 million ounces do not necessarily matter. Of course, five or six years down the line, it might.

**Palladium inventories**

In the case of palladium, we think it is slightly higher in terms of absolute amounts and lower in terms of days’ consumption: around about 890 days and around about 23 million ounces.

This alternative where we built our own supply and demand series over time comes to around 16 million ounces for platinum as opposed to round about 19 million ounces using trade data. For palladium, it is a very similar profile, also slightly lower.

Is it feasible in money terms that this much inventory can be held? We compare our estimates of above-ground inventory for platinum and palladium to the value of ETF holdings for gold. The value of gold ETF holdings at the end of 2012 was $141 billion. In comparison, the total value of our above-ground inventory estimates for platinum at the end of 2012 would be $30.45 billion and for palladium $14.40 billion. To us, it is significant that the total platinum and palladium above-ground inventories in dollar terms are much smaller in value than total gold ETF holdings – and gold ETF holdings are only a subset of gold above-ground inventory.
Who holds the inventory and what is its availability?

The final question is who actually holds this metal. Of course, an investor is not going to tell you 'I own 3 million ounces of palladium', even though we tried to ask some. However, we did quite a lot of analysis on this, speaking to a lot of people. We do think that industry stockpiles, including closed loop metal users such as refineries, glassmakers and so on, do sit on round about a third of the inventory (Figure 3).

Then, there is ETF holdings, which of course have increased quite a bit since the end of 2012, especially on the platinum side. We also believe that there are about 2.6 million ounces of platinum inventory in China, some of which may be strategic stockpiles. We also think there could be more than 3 million ounces in South Korea.

One can argue how much of the inventory is available to the market. Ultimately, all metal is available at a certain price, but generally, we believe the total inventory amount we estimate would not come to the market easily, especially metal that is held as working stock and strategic stockpiles, and of course ETF holdings. This would also imply that the market is perhaps tighter than what our total headline inventory numbers would suggest.

However, irrespective of how much of our estimated stockpiles are available to the market or not, we think from a tactical perspective, one probably needs to wait longer before there will be a substantial, and sustainable, increase in platinum and palladium prices.

The longer-term strategic view

We also have to look at the longer-term strategic perspective. We know that palladium recycling is set to rise given that a large part of palladium demand comes from autocats, but we also think recycling is probably not going to rise fast enough to offset deficits.

Only by 2019 could recycling be high enough to start balancing the growing demand and lack of supply. We should see a lot of palladium recycling coming through by 2019 from China and other EM markets as their current auto fleets start to age. If you feed that into our supply and demand balances, we still get a substantial drawdown in inventories until 2019, irrespective of our high estimate of above-ground inventory.

In terms of absolute numbers, we think we are going to see around 7 million ounces of above-ground inventory by the end of 2019, going into 2020 – down from our current estimate of 23 million ounces. But you really need to look at palladium inventory in terms of days’ consumption to appreciate this number. By 2019, above-ground inventory could then be around 250 to 280 days’ worth of demand given our drawdown profile. The market will only settle in 2020/2021, and we do think that palladium has the potential in 2018/2019 to tighten up quite substantially.

It is also worth pointing out that in terms of day’s consumption, we could be at lower levels by 2019 than the levels of inventory we observed in 2001, when the palladium market was essentially cornered. In 2001, we put the total above-ground inventory for palladium at around 400 days’ worth of consumption.

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Lastly, and we believe very importantly, all of the above estimates assume that technology stays roughly unchanged. But I can imagine that automakers will look at this type of drawdown profile for palladium inventories and see the potential supply crunch coming – even if it is a few years down the line. The tighter the market might get, as an economist, I would say the greater the risk that auto producers work harder at possible technologies to increase the substitution of palladium. We have seen this in other commodities, from rhodium to oil to even metals such as copper, where higher prices ultimately lead to either demand destruction or demand reduction through further substitution.

Apart from high inventories, another reason why we think that palladium might not rally on a sustainable basis as quickly as people anticipate is because we do have questions about the use and recycling of palladium, especially in China. Vehicle production in China is rising, while at the same time, if one looks at palladium import data into China, palladium imports have actually been on a steady decline. China can get its palladium from either importing or recycling. It does not have any mine supply. If one adds imported palladium to recycled palladium in China, and look at how many vehicles it produces, the data implies that either China does not have the loadings in their vehicles that they say they do, which we do not think is necessarily the case, or possibly they are recycling much more than we think. Either way, we think this is the next big question on the table – how much palladium does China recycle – and certainly we will spend a lot of time looking at this in the coming months.

Lastly, even if China recycles more than we think, it is worth pointing out that this is unlikely to change the deficits that we forecast to a degree where the longer-term outlook for the metal changes. However, from a tactical perspective, I certainly think that higher recycling volumes in China might cap upside for the time being.

Turning to platinum, and focusing on China once again, China is important because the country is the biggest consumer of platinum jewellery; it consumes round about 70% of platinum jewellery globally. Jewellery demand does make up round about 35% of total platinum demand. This jewellery demand is typically the swing demand that we get. When the platinum price is low, jewellery demand increases, and when the platinum price is high, jewellery demand declines.

Since early 2012, as the platinum price has risen, imports of platinum into China have generally declined and vice versa when the platinum price has declined. This was not observed before 2012, where import data from China indicated that the country imported platinum irrespective of price. We think this price sensitivity has increased in recent months, because according to our estimates, between 2009 and 2012, China has built some stockpiles that allow the country in general to be more patient in buying metal at lower price levels. As a result, jewellery swing demand may cap upside for platinum prices to
a greater extent than it did before. We also look at recycling and think it too can increase quite substantially in coming years as is the case with palladium. Part of it will be jewellery and part of it will be autocats.

Our estimates of platinum and palladium above-ground inventory are high. And as a result, from a tactical perspective, we believe one needs to be more patient in expecting sustainable upside in both platinum and palladium.

For platinum, in our inventory draw down estimates, in terms of days’ consumption, we do not think the market will necessarily be as tight over the next couple of years, or at least not as tight as palladium. Nevertheless, it certainly looks better a few years down the road than it is looking now. By 2018, we estimate platinum inventory would be around 600 days’ consumption. But once again, keep in mind that we also believe that not all inventory is readily available to the market. That said, as with palladium, we believe one might need to wait longer before one gets very bullish on especially platinum, not only because we estimate above-ground inventory to be high, but also because we have noticed that platinum demand in China has become much more price-sensitive in recent months.

Outlook

Our estimates of platinum and palladium above-ground inventory are high. And as a result, from a tactical perspective, we believe one needs to be more patient in expecting sustainable upside in both platinum and palladium. Strategically, we also point out that not all of the metal is necessarily available to the market and that with our deficit forecasts for both metals pointing to tighter markets, prices will ultimately need to rise. But once again, we don’t see that happening just yet.

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Walter joined Standard Bank in 2007 as Head of Commodities Research. As part of his current duties he interacts with corporate clients, institutional investors and hedge funds across the globe. Together with the rest of the team he performs research and provides strategic advice on the global commodities markets. The team covers base metals, precious metals, bulk commodities and energy. Walter’s specific area of focus is precious metals.

The commodities research team draws substantial knowledge and market insights from Standard Bank’s global presence in the physical commodity markets in both precious- and base metals.

Walter holds a PhD in Econometrics. He is also a Chartered Financial Analyst.

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