Platinum and Palladium Update
Emission scandal’s impact on platinum overdone

- Negative sentiment around platinum out of sync with the metal’s positive fundamentals
- Misconception about role of precious group metals (PGM) in nitrogen oxide (NOx) treatment unduly impacts the metals
- Capex reduction by miners to curb platinum supply
- Record US auto sales spur palladium prices higher

The Volkswagen emission scandal revealed on 18 September caused a sharp divergence in sentiment resulting in platinum’s premium over palladium falling to its lowest level in 13 years. Despite an improvement in the demand outlook for platinum from jewellery and investment, negative sentiment for platinum continues to weigh on its price.

Understanding the intricacies of the emissions
The software defeat device used in Volkswagen’s diesel engines cheated on the results of NOx testing, violating the US clean air act. Versions of the Volkswagen’s diesel engines fitted with the Lean NOx trap (LNT) and urea based selective catalytic reduction (SCR) system emitted up to 35 and 20 times the EPAs required limit respectively. The global rollout of stringent regulations are emphasizing NOx reduction in emissions from diesel engines, demanding higher amounts of ammonia and thus increasing the risk of ammonia slippage into the environment. In contrast to the gasoline engine, diesel engines while coping with hydrocarbons (HC) and carbon monoxide (CO) easily, struggle with NOx. A key technological solution is a highly selective ammonia slip catalyst in the final stage of the after-treatment system. The figure below depicts the treatment of the HC, CO, NOx and particulate matter (PM) at different stages of the emission cycle using the SCR system.

HC and CO are oxidised via a PGM based diesel oxidation catalyst while the particulate matter are captured by the catalyzed soot filter, leaving only NOx to be treated. Recent models fitted with the SCR system require a top off of a urea solution on gases exiting the diesel oxidation catalyst. The software on Volkswagen cars sensed when the test mode was active and released urea into the emission gas to neutralize harmful nitrogen dioxide emissions.

No fundamental impact on platinum
Despite having no role to play in the final stage of the after treatment of NOx emissions platinum suffered the brunt of the scandal. It’s worth noting that a recall of cars by Volkswagen will also have no direct bearing on the demand for platinum, since the NOx after-treatment is not impacted by the PGM based oxidation catalyst used for HC and CO. Despite being known to derive 44% of its use in autocatalysts for both diesel and gasoline cars, fears of a consumer shift in preference for gasoline vs diesel cars have weighed on the demand outlook for platinum. While the case for fuel efficiency remains strong for diesel engines it’s hard to determine how long Volkswagen’s deception will curtail demand. The trend of rising European auto sales is diverging from the downward trajectory of platinum prices.
**Gold:Platinum ratio at 19 year high**

Plunging platinum prices have led a sharp rally in the gold to platinum ratio and could help switch investor preference for cheaper platinum jewellery. The onset of the festival season in India coupled with rising platinum imports from China (up 16% year on year) bodes well for Q4 demand outlook.

While platinum backed exchange traded fund holdings increased 4% from January to August this year, the past month holdings have pared back to 2% illustrating investor’s reaction to the news.

**Supply**

On the supply side, improvement in operational and safety performance helped South African platinum mine production rise 21% quarter on quarter in Q2 as reported by the World Platinum Investment Council (WPIC). Scrap supply declined in the second quarter by 5% as falling prices reduced auto catalyst collection rates. Despite a 9% rise in predicted total supply, WPIC have revised the 2015 forecast for the platinum market deficit to 445koz from 190koz in their latest Q2 update on the back of higher investment demand.

**Capex reductions as miners struggle to survive**

Rising costs of production amidst falling prices have forced the world’s largest miners of platinum to slash jobs and idle mines in an attempt to reduce capex. Lonmin, the world’s third largest platinum producer will cut annual platinum production by 100k ounces putting 6000 jobs at risk. While Anglo American platinum sold its three platinum mines in Rustenburg to Sibanye Gold. And its parent Anglo American plans to cut a third of the global workforce over the next few years. The closure of the Eland platinum mine in South Africa that produced 35k ounces of platinum in the first quarter has been confirmed by Glencore. Zimbabwe home to the largest platinum reserves after South Africa has asked miners to reduce power usage by 25% amid a water shortage that’s cut hydropower supply.

We believe platinum prices have been unduly impacted by the emissions scandal and weakness in platinum prices will continue in the short term as negative sentiment pervades fundamentals. However rising auto sales in US and Europe, the onset of the festival season in India and China and moderate speculative investment appetite against the backdrop of cuts in production bodes well for platinum’s long term demand outlook.

**Palladium: Fuelling up on diesel woes**

Palladium known for generating 70% of its use in gasoline auto catalysts, surged to a 3month high $712. Fears of a shift in investor preference to gasoline powered engines coupled with the best US auto sales in more than a decade improved the demand outlook for palladium.

In addition President Li Keqiang’s announcement on 22 September to accelerate construction of electric car charging facilities in China boosted palladium prices. While in reality palladium has no role to play in electric cars, the government’s commitment to clean energy was bolstered, aiding the pollution abating metal.

The rise in Chinese palladium imports of 14% in August closely tracked by rising auto sales of 12% created a favorable environment for palladium’s demand.
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