PLATINUM PERSPECTIVES

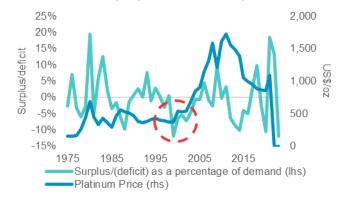
How to solve an almost 1 Moz platinum market deficit

Our latest <u>Platinum Quarterly</u> highlighted a forecast record platinum market deficit of almost 1 Moz in 2023. Given the inelasticity of platinum supply, this shortfall has to be met from alternative sources such as above ground stocks. However, it is not known what platinum price will be necessary to attract the portion of above ground stocks required to meet the shortfall or indeed what impact having almost 80% of those above ground stocks locked-up in China will have on metal flows and price.

Although we commonly talk about commodity markets being in surplus or deficit, what we really mean is that material is being added to, or supplied from above ground stocks. If, in the case of the market being in deficit, flow from above ground stocks is insufficient to balance the market, then the commodity price would typically be expected to increase to a point sufficient to either attract new supply into the market, or to price demand out of the market (which is unlikely in the case of platinum). With the platinum market expected to be in a significant deficit, which scenario can be expected to play out this year? After all, as shown in the left hand chart, the platinum price has responded to meaningful deficits in the past.

We think the likelihood of a supply response to price is extremely low. South African mine supply is constrained by electricity shortages as well as the long lead-time for new production, while Russian supply has downside risk due to sanctions. If anything the risks to mine supply are to the downside at present. Recycling is an area where higher prices could attract more scrap into the market, but we don't think this would be meaningful in terms of the 1 Moz deficit.

The platinum price has reacted to deficits in the past, highlighted is the start of the platinum price run in the 90's, the exception is the post super-cycle price decline that affected the majority of commodities post 2011.



Source: WPIC Research, Johnson Matthey supply/demand balance pre-2013, SFA (Oxford) 2013-2018, Metals Focus 2019-2023f

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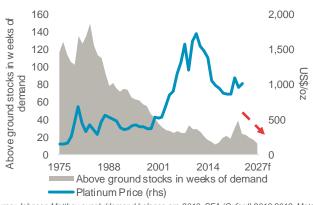
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Above ground stocks in weeks of demand, have risen fourfold since 2016, but are expected to fall precipitously this year, and with no change to supply/demand fundamentals, continue to fall in 2024 and beyond.



Source: Johnson Matthey supply/demand balance pre-2013, SFA (Oxford) 2013-2018, Metals Focus 2019-2023f, WPIC Research 2023 onwards and above ground stock estimate pre-2012

While there are significant above ground stocks of platinum, estimated to be ~5 Moz at the end of 2022 (right hand chart), this level only equates to 39 weeks of demand and is expected to fall precipitously over the next few years, absent any material changes to supply/demand fundamentals. Additionally, the <u>significant flow of metal into China</u> in recent years has resulted in >80% of all above ground stocks now being held there and effectively unavailable to the rest of the world (fig 4). This means that the rest of the world stocks will be at only six weeks of demand by the end of 2023 (fig 5). The question is at what level of above ground stocks do end users of platinum start to get nervous about the security of supplies and start looking to add to buffer inventories, potentially further exacerbating the shortage of metal?

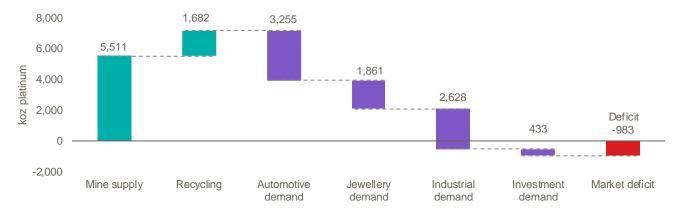
Above ground stocks have risen in recent years, but are expected to fall by almost 1 Moz in 2023 and further thereafter.

At a projected six weeks of demand by the end of 2023 (world ex. China), at what point do market participants become nervous about the security of supply being sufficient to meet demand?

Platinum's attraction as an investment asset arises from:

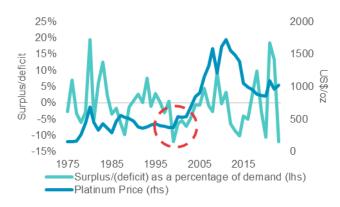
- Supply severely constrained for three more years despite some new investment in mining capacity
- Platinum price remains historically undervalued and significantly below both gold and palladium
- Automotive PGM demand growth should continue due to increasingly restrictive emissions rules
- Market balance and price mismatches between palladium and platinum drive substitution
- Investment demand is softer after two record years, but price and fundamentals remain attractive

Figure 1: The platinum market is forecast to be in a record deficit of almost 1 Moz in 2023 as a result of strong 28% year-on-year growth in demand, in combination with a constrained outlook for supply. If anything, challenges facing supply due to the electricity shortage in South Africa and sanctions against Russia mean risks are to the downside.

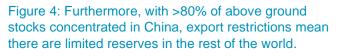


Source: Metals Focus, WPIC Research

Figure 2: The platinum price has reacted to deficits in the past, highlighted is the start of the platinum price run in the late 90's, the exception is the post super-cycle price reset that affected the majority of commodities.



Source: WPIC Research, Johnson Matthey supply/demand balance pre-2013, SFA (Oxford) 2013-2018, Metals Focus 2019-2023f



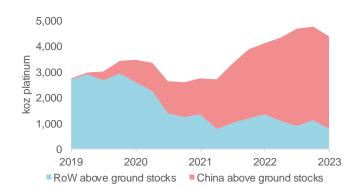
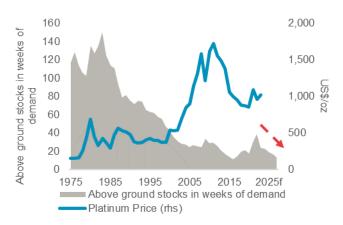


Figure 3: Above ground stocks in weeks of demand, have risen fourfold since 2016, but are expected to fall precipitously this year, and, with no change to supply/demand fundamentals, continue to fall in 2024 and beyond.



Source: Johnson Matthey supply/demand balance pre-2013, SFA (Oxford) 2013-2018, Metals Focus 2019-2023f, WPIC Research 2023 onwards and above ground stock estimate pre-2012

Figure 5: Rest of the world above ground stocks are projected to fall to only 6 weeks of demand by the end of 2023 if there is no change to buying trends from China.



Source: SFA (Oxford) 2013-2018, Metals Focus 2019-2023f, WPIC Research

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