

# PLATINUM ESSENTIALS

**Jewellery market growth returns as China's decline halts, strong ex-China growth continues and platinum's discount to gold results in price parity with white gold.**



*In this Platinum Essentials, we analyse the jewellery market, explaining the drivers of global demand and future opportunities for platinum. Jewellery is key component of total platinum demand at 25% of total demand.* Within WPIC's data series, the platinum jewellery market peaked at 3.0 Moz in 2014 and has declined to 1.9 Moz in 2023. This erosion is entirely due to a slump in demand in China. **What has gone under-appreciated over the past decade is the scale of growth in ex-China platinum jewellery demand, which is forecast at 1.6 Moz in 2024f compared to 1.0 Moz in 2014.** This growth reflects a combination of gains due to its gold price discount, strong gains for the European-centred luxury brands and the metal's successful introduction in India. The size and growth of the ex-China global platinum jewellery market is now sufficient to offset the annual decline from China, implying global jewellery demand for platinum has already troughed. In our latest two- to five-year forecast ([link](#)), we expect platinum jewellery demand growth of 2.0% CAGR from 2023 to 2028f. **However, in undertaking a deeper analysis of jewellery markets, we believe platinum could gain share from the estimated 1.7 Moz white gold market given the prospects for price-driven switching, emerging risk management tools and technology advancements. Assuming 5% of white gold demand is switched into platinum demand, this would increase total platinum demand by an average of 100 koz or 1.3% p.a. through the years 2025-2028.**

- **Switching:** The rise in gold prices over the past two years has led to a narrowing and convergence of the cost of white gold and platinum jewellery. We estimate that the jewellery trade, that may ordinarily have carried more affordable white gold, may switch to platinum alternatives given margin advantages.
- **Risk management:** The Guangzhou Futures Exchange is expected to launch platinum and palladium futures contracts in China in 2025. We believe that using these derivatives could attract more participants to platinum jewellery in China as they offer an accessible and effective way of reducing the inherent price risk of underlying metals prices particularly as platinum is less liquid than gold.
- **Technology:** There is an inverse correlation between ex-China platinum jewellery fabrication and platinum prices where a 2% reduction in prices supports 1% higher fabrication. The jewellery trade notes the relationship stems from widening margins as retail prices decline by less than raw material input costs, which incentivises more platinum jewellery fabrication. Hence, if technology led production cost savings can similarly support margin uplift, the jewellery trade will likely plan to introduce more platinum into its jewellery mix.

While it may be too early to tell whether or by how much platinum jewellery demand could benefit from switching, risk management or technology advancement, any demand uplift will act to deepen our forecasts for already substantial platinum market deficits out to 2028f. Our base case forecasts are for platinum market deficits to average 712 koz per annum or 9% of annual demand between 2026f and 2028f.

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## Introduction

This Platinum Essentials provides an overview of jewellery markets and factors we identify as having capacity to support incremental platinum jewellery demand. Our analysis examines common trends across the key precious metals used in jewellery; namely gold, silver and platinum. Over the past ten-years gold and platinum jewellery demand has decreased while silver jewellery demand has increased.

Global platinum jewellery fabrication has declined by -4.4% CAGR from 2014 to 2023. Whilst platinum jewellery demand has declined at a faster rate than gold fabrication (-2.7% CAGR from 2014 to 2023), our analysis unpacks the nuances of a platinum market that was overly reliant on China. Excluding China, platinum jewellery demand has increased by 3.9% CAGR from 2014 to 2023 with growth in these markets now typically offsetting China on a year-over-year basis. Accordingly, in our five-year outlook ([link](#)), we forecast jewellery demand growth of 2.0% CAGR from 2023 to 2028f. Whilst our jewellery demand outlook currently suggests mild growth, several emerging factors raise the prospects for additional upside to platinum jewellery demand.

- **Switching:** The rising price of gold has improved the relative affordability of platinum jewellery which should support some switching by the jewellery trade into platinum, and away from the estimated 1.7 Moz p.a. white gold market.
- **Risk management:** China's lack of price-risk hedging has contributed to stifled platinum demand, with price volatility exposing retailers and fabricators to losses during periods of declining platinum prices. To offset price risk, high premiums are applied to platinum sales and high discounts on platinum buy-backs which combine to erode value and dampen demand, The launch of futures contracts in China will offer a mechanism to mitigate the price risk associated with raw materials. If managing volatility proves cost efficient, this could reduce premiums, attract new participants into platinum, and by extension increase fabrication demand.
- **Technology:** Fabrication advancements are lowering costs and improving platinum jewellery quality and designs. Most Platinum jewellery markets outside of China show demand elasticity to prices and so with possible cost savings for manufacturers/fabricators, there is an incentive to increase platinum in the sales mix. An alternative may be that lower manufacturing costs are passed onto customers through lower retail prices, which we believe would similarly support higher demand.

*Jewellery is a core component of platinum markets, accounting for around 25% of total demand.*

*Global platinum jewellery demand is forecast to increase by 2.0% CAGR from 2023 to 2028f, with upside potential.*

Figure 1. Platinum jewellery fabrication could be positively impacted by switching, technology advancements and risk management

Platinum jewellery demand (koz)						
	2023	2024e	2025f	2026f	2027f	2028f
Jewellery demand	1,849	1,951	1,983	1,999	2,019	2,040
Upside potential						
5%				2,099	2,120	2,142
10%				2,199	2,221	2,244
15%				2,299	2,322	2,346
20%				2,399	2,423	2,448

Source: Metals Focus 2023 – 2025f, WPIC research thereafter

## The Jewellery Market

### General Market Overview

Jewellery is a diverse market. Jewellery goes beyond fashion with pieces often holding cultural significance, sentimental value or serving as a store of wealth. The overall jewellery market has an estimated annual value of around US\$350bn with pieces broadly segmented into five categories based on price (Fig. 2). Whilst some non-traditional and base metals can be and are used in the “value segments”, we typically associate gold, silver, and platinum as servicing the mid- to upper end of the price range or the fine and luxury markets.

*Gold and silver are the most widely used precious metals within the fine and luxury jewellery markets.*

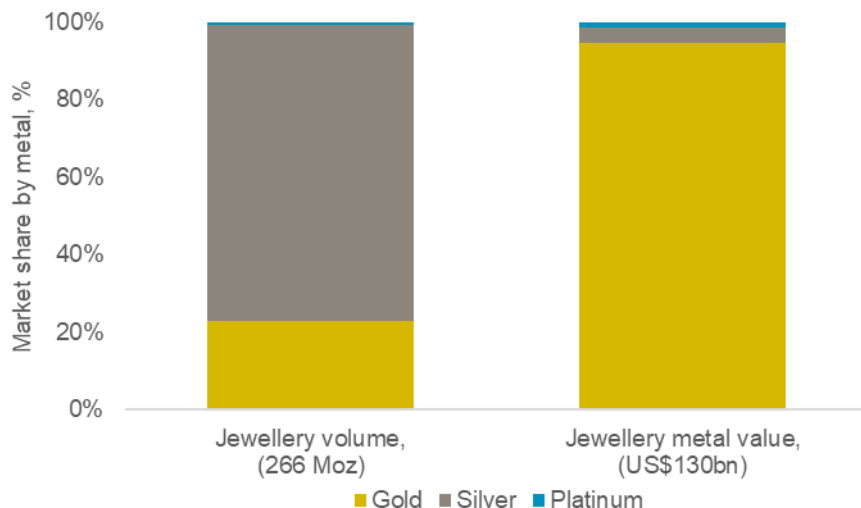
Figure 2. Jewellery market segmentation by price can inform the use of materials such as precious metals or gemstones

Market category	Price	Description
Luxury	Very high	Gold (18k and 24k-quasi investment) and platinum Diamonds (mined) and rare gemstones
Accessible luxury	High	Gold (14k and 18k) and platinum Diamonds (mined & lab-grown) and valuable gemstones
Fine	Medium	Gold (14k), platinum and sterling silver Precious gemstones (sapphires, rubies and emeralds)
Mid-fine	Affordable	Mixed metals, typically gold-plated silver or sterling silver Semi-precious stones (amethyst) and synthetics
Value	Low	Plated base-metals or stainless steel Synthetic stones

Source: WPIC research

In ounce terms, silver jewellery demand of 203 Moz in 2023 accounts for around 75% of precious metal jewellery consumption by weight (Fig. 3). The wide use of silver in jewellery stems from its relatively affordable price which allows it to meet the needs of the larger value market where casual everyday wear is prioritised. In serving the mass market, silver jewellery demand has been resilient over the past decade, averaging 196 Moz pa according to The Silver Institute. Despite its large demand, silver only accounts for 4% of the contained value of precious metals in jewellery markets due to its low price.

Figure 3. Wide price differentials between precious metals results in differing compositions of jewellery's demand and value of metals



Source: World Gold Council, The Silver Institute, Metals Focus, Bloomberg, WPIC research

### Platinum and gold jewellery market headwinds

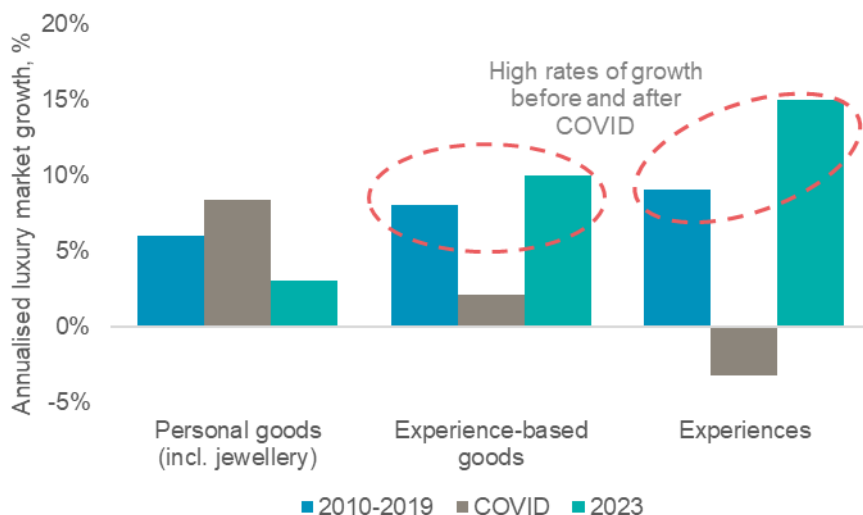
Since gold and platinum serve the middle and premium end of the market, this report hereafter focusses on trends for gold and platinum. Gold and platinum jewellery demand has declined by -2.7% and -4.4% CAGR respectively from 2014 to 2023 (Fig. 6). Jewellery demand has faced headwinds over the past decade, namely from shifting consumer preferences and broader declines in marriage rates.

*Gold and platinum jewellery fabrication have declined since 2013.*

### Consumer preferences:

Jewellery competes with a broad range of consumer discretionary items such as fashion and personal electronics for a purchaser's disposable income. In addition, growth in travel and experience related spending has further raised competition for a share of consumers' wallets. Bain and Co. highlights that the luxury personal goods market (which includes jewellery) recorded revenue growth of 6.3% CAGR from 2010 to 2023f which was outpaced by growth spending on experiences (travel and dining) and experienced-based goods (cars, wine and art).

Figure 4. Experiences and experience-based goods have recorded faster market growth than personal goods since 2010, particularly when normalising for COVID



Source: Bain&Co, WPIC research

Notably, growth in the luxury personal goods market would have probably further underperformed experiences had it not been for COVID-19 where lockdowns shifted spending towards goods away from experiences (i.e. to the benefit of jewellery). That trend has subsequently reversed with growth rates returning to pre-2020 levels (Fig. 4).

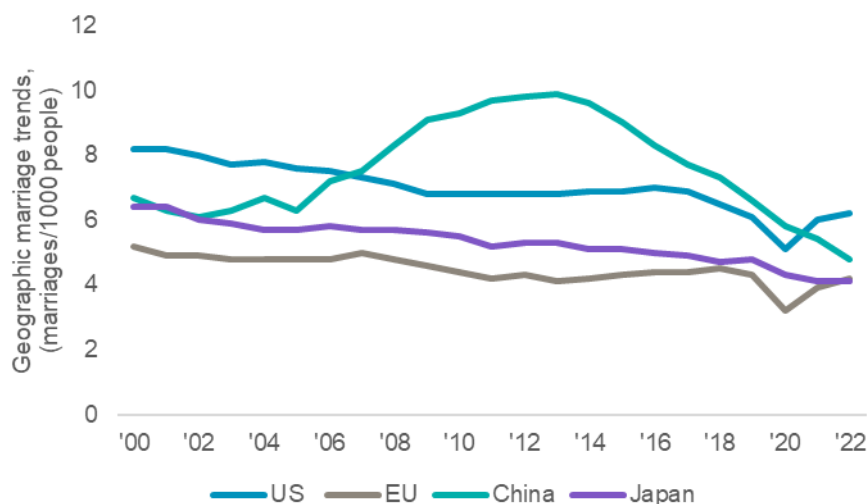
Another element of competition for the consumer’s wallet has been a focus on efforts for value preservation. In China and India, jewellery, in many circumstances, is seen as a proxy store of wealth. It is possible that consumers in these markets have shifted some jewellery precious metals demand directly into investment demand via precious metals investment products such as bars and coins or accumulation plans have become more accessible. Between 2019 and 2023, China’s platinum bar and coin demand (including large bars of ≥ 500g) increased six-fold from 31 koz to 186 koz, while gold investment demand rose from 218 tonnes to 287 tonnes over the same period.

*Jewellery demand has been negatively impacted by shifting consumer habits and declining marriage rates.*

**Declining marriage rates:**

In addition to competition from other consumer markets, jewellery demand has been negatively impacted by declining marriage rates. In the US, Europe, China and Japan marriage rates have declined by between 1.0% to 2.0% CAGR from 2000 to 2022 (Fig. 5). It is worth highlighting that China’s marriage rates have been in a steep decline of 7% CAGR since peaking in 2013. There are several reasons for structurally declining marriage rates, but the general conclusion is that societal pressures to marry have eased due to less gender discrimination across education and the labour force which has led to broader economic inclusion. We note that there has been offsetting compensation of declining marriage from growing purchases linked to such life events as wedding anniversaries or as tokens of commitment within relationships of many shapes and sizes.

Figure 5. Jewellery demand has been negatively impacted by long-term declines in marriage rates

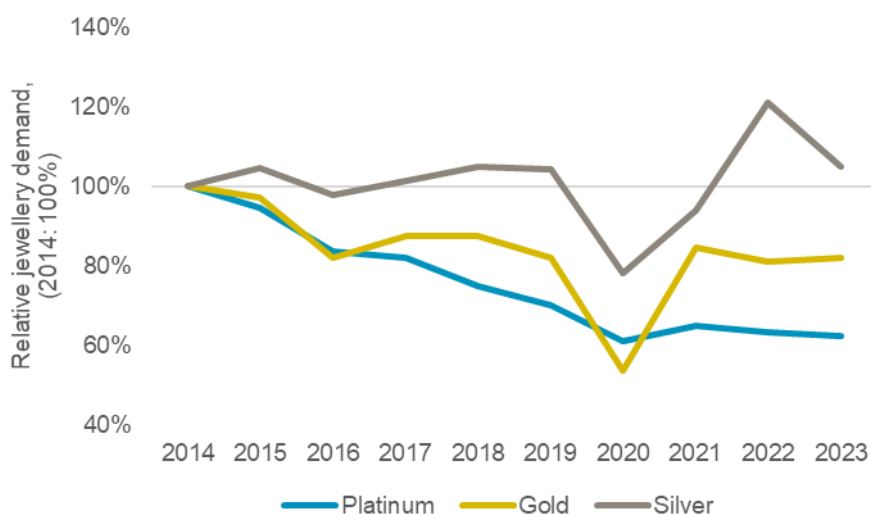


Unpacking geographic trends, highlights that lower platinum jewellery fabrication is due to China whereas ex-China fabrication has increased by 3.9% CAGR between 2014 and 2023.

Source: Eurostat, NHLW, NCHS, China Ministry of Civil Affairs

The implication of greater competition for consumer spend and declining marriages rates have translated to weaker precious metal demand from the jewellery sector. Jewellery demand peaked in 2013 for gold and in 2014 for platinum. As noted previously, global gold and platinum jewellery demand has declined by -2.7% and -4.4% CAGR respectively between 2014 and 2023 (Fig. 6).

Figure 6. Platinum and gold jewellery demand has declined over the past decade due to competition for consumers' disposable income and fewer marriages



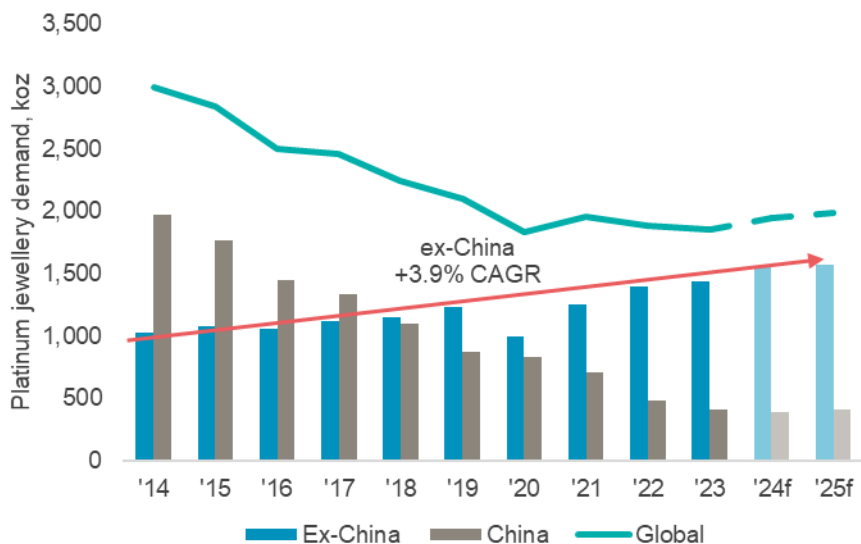
Source: World Gold Council, The Silver Institute, Metals Focus, WPIC research

### Diversifying Platinum Jewellery Demand Beyond China

The decline in platinum jewellery demand from 3.0 Moz in 2014 to 1.9 Moz in 2023 can be attributed to China (Fig. 7). China's platinum jewellery demand has declined from 2.0 Moz to 0.4 Moz over the same period (-14% CAGR). Chinese gold jewellery demand has similarly recorded significant demand erosion of -10% CAGR from 2014 to 2023. In addition to the broader trends discussed in spending habits and marriages, China's platinum and gold jewellery demand would have been incrementally impacted by 1) the government's crackdown on government corruption and gifting and 2) a slow economic recovery from COVID with fears arounds a bloated property sector.

In China, platinum jewellery's underperformance to gold is attributable to several factors including competition from karat gold due to its shorter process time and affordability, diverging prices of the underlying metals (supporting gold's quasi-investment interest), fashion trends including the patriotic consumer trend of "China-Chic" ("Guochao") and platinum jewellery's higher buy/sell spreads.

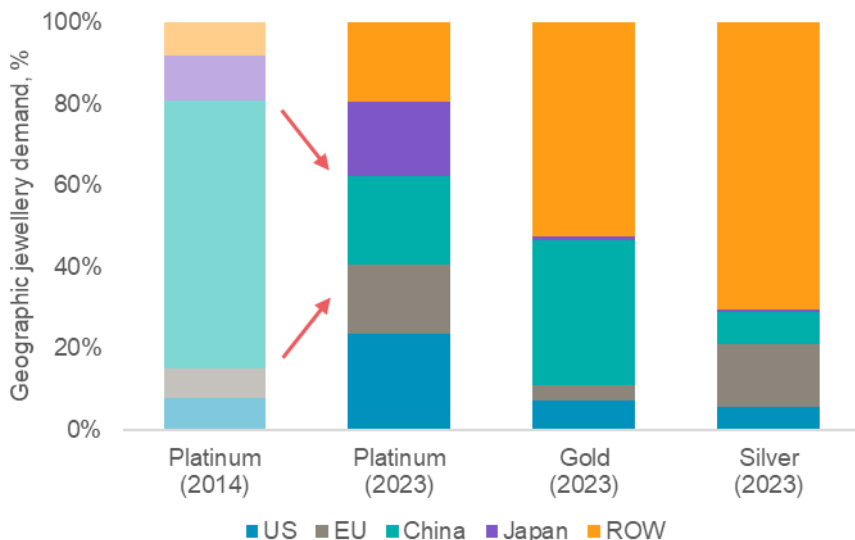
Figure 7. Non Chinese platinum jewellery demand is ~80% of the global market and growth is expected to offset weak Chinese demand



Source: SFA (Oxford) 2014-2018, Metals Focus 2019-2025f, WPIC research

Platinum jewellery has undoubtedly been negatively impacted by a 1.6 Moz decline in Chinese demand over the past decade. However, what is often overlooked is that ex-China platinum jewellery demand has increased by a healthy 3.9% CAGR (2014 to 2023, Fig. 7). Notably, diverging demand trends between China and the rest of the world has led to a rebalancing of geographical diversification within platinum jewellery in 2023 compared to being overly reliant on China in 2014 (Fig. 8). Diversifying demand away from China has led to an inflection in platinum jewellery markets. Total demand has been broadly stable from 2021 to 2023 and is forecast to increase in 2024f and 2025f due to steady ex-China demand growth. The geographic balance in platinum jewellery demand stands in contrast to the gold and silver markets, which are heavily dominated by 'Rest of the World' demand, which is predominantly India.

Figure 8. Platinum jewellery demand is now more geographically diversified having previously been overly reliant on China in 2014



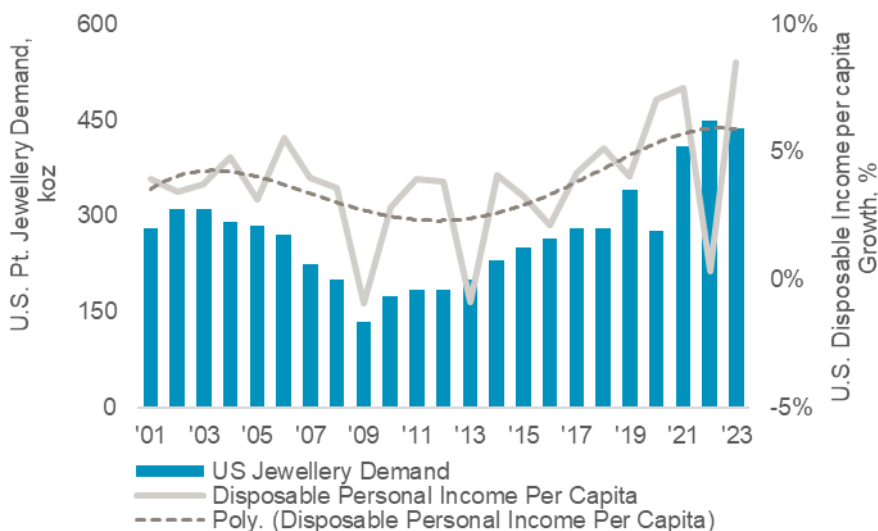
Platinum jewellery fabrication has become geographically diversified.

Source: SFA (Oxford) 2014, Metals Focus 2023, World Gold Council, Silver Institute

There are several factors which have underpinned global ex-China platinum jewellery demand growth. Regionally, we have seen US demand benefit from robust economic growth (Fig. 9) and price differentials with gold, the EU's luxury houses are incorporating platinum into their products (e.g. watches) and in India, market development initiatives and trade agreements have spawned a rapidly expanding market.

Ex-China platinum jewellery fabrication has increased due to US economic growth, adoption by luxury in Europe and the emerging Indian market.

Figure 9. Platinum jewellery demand in the US is closely tied to changes in consumers disposable income



Source: Johnson Matthey (2001-2012), SFA Oxford (2013-2018), Metals Focus (2019-2023), Bloomberg

### The impact of price on platinum demand

Additionally, one of the key factors underpinning ex-China platinum jewellery demand is price. Having highlighted China's outsized importance to historic platinum jewellery demand, it is often overlooked that jewellery fabrication is inversely correlated to platinum prices. Platinum jewellery demand (ex-China) shows a prominent negative relation to price (Fig. 10), and a similar relationship is evident between gold jewellery demand and gold prices. The negative correlation between demand and prices tells us that the jewellery

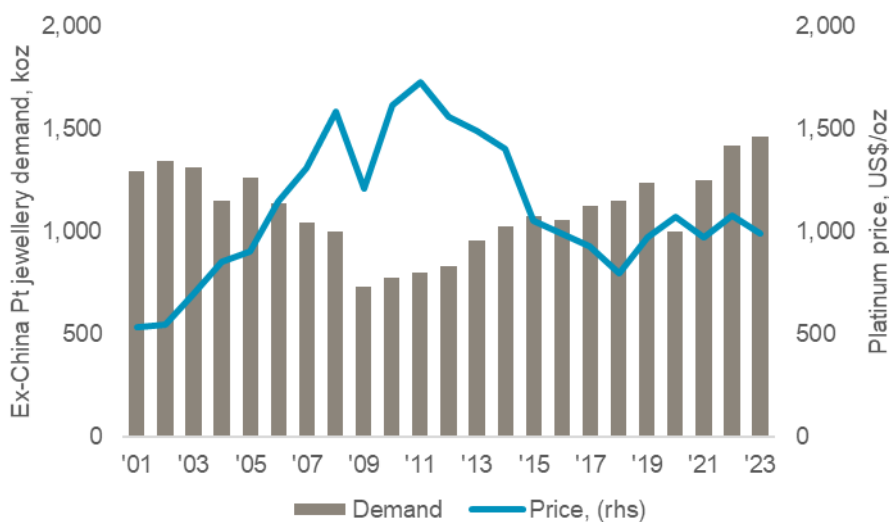


trade is price conscious, with demand decreasing as prices rise, until such time that higher prices are seen as normal and value expectations reset.

One may intuitively assume that changing platinum prices directly correlate to retail jewellery prices, which correlates to consumer demand. This is not strictly accurate. Given the structure of the jewellery trade, changing underlying metal prices should be interpreted as impacting input costs which support either margin expansion (declining metals price) or contraction (rising metals price) assuming more stability in retail jewellery prices.

Hence, when one considers lower underlying platinum prices over the past decade, the ex-China jewellery trade has been incentivised to increase platinum jewellery fabrication due to higher margin opportunities. In contrast, when we consider that gold prices have risen 32% year-to-date compared to a -2% decline for platinum prices, the jewellery trade may switch some of their inventory from gold to platinum due to better relative value and the ability to release working capital.

Figure 10. Platinum jewellery fabrication (ex-China) is negatively correlated to price



Source: Johnson Matthey 2001-2012, SFA (Oxford) 2013-2018, Metals Focus 2019-2023, Bloomberg, WPIC research

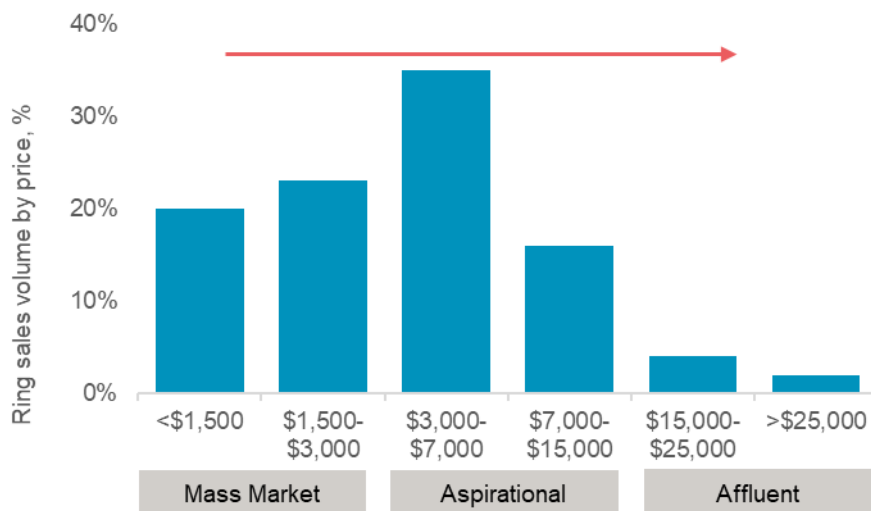
## Switching

The purchasing decision for a wedding/engagement ring considers various factors, each with their own trade-offs. The price of a ring can vary widely. However, the largest incremental factor determining changes in price when one moves into higher price bands are the inclusion and quality of diamonds/gemstones. Therefore, keeping the diamond/gemstone safe becomes the top priority when choosing the precious metal setting for a bridal ring. Yet although consumers tend to know everything about buying a diamond, they know very little about its setting.

In addition, ~75% of bridal ring purchases by volume are prices below US\$7,000 (Fig. 11) which makes the choice of metal for the ring a non-trivial component of the total cost of the ring as it has a bearing on how much of the buyer's budget can be allocated to the stone/s. Hence, the precious metal offered by different settings is a key consumer consideration.

*The choice of precious metal is an important consideration for the mass market bridal segment.*

Figure 11. Within the <US\$7,000 price range, the choice of precious metal for a ring's setting can be a significant component of the total cost



Source: Bloomberg, WPIC research

### Precious metals' characteristics

Bridal rings typically offer the choice of gold, white gold and platinum. The choice between a yellow hued or white hued ring is typically style driven, although there is a longstanding trend of consumers preferring white metals for bridal jewellery. Comparatively, the choice between white gold and platinum is underpinned by their physiochemical properties of the metals, where platinum is,

*Platinum's physical properties make it an attractive precious metal for gem-set jewellery, however, it is more challenging for fabricators to work with.*

- **Less susceptible to fading:** Platinum rings require less ongoing maintenance. Polishing a platinum ring can return its lustre whereas white gold may require recoating in rhodium.
- **Holding diamonds more securely:** Platinum rings are better for setting and holding a stone and are less likely to deform over time.
  - In 2016, Platinum Guild International (PGI) USA commissioned a study on platinum purchasing habits that showed both consumers and jewellers preferences for platinum heads (i.e. the part of the ring which holds gemstones) once they understood platinum offers prestige and holds their diamonds more securely through daily wear: 82% of surveyed consumers showed more interest in a platinum diamond setting once they knew about platinum's qualities, and 94% would be willing to spend more for that option.
- **Harder for fabricators to work:** Gold can be melted, cast and set easily. Platinum's high melting point makes it difficult to work with and requires specialised equipment. Therefore, platinum jewellery fabricators typically order blank pre-cast tubes from a refinery and thereafter use an extrusion process to manufacture the jewellery. This carries risks of greater porosity if the platinum metal blanks had not been set correctly and as platinum is not particularly malleable.
- **More durable than white gold:** Like all fine jewellery, platinum jewellery will scratch. Despite this, platinum rings develop a patina finish (lustre) over time and scratches are found to lose less metal on platinum jewellery than gold.
  - A series wear testing studies from 2016 to 2020 conducted by FEM Research Institute Precious Metals + Metal Chemistry, in

association with TechForm Advanced Casting Technology and PGI proves the long-supported anecdotal evidence of platinum's superiority in wear resistance and gem setting security versus that of gold jewellery: platinum alloys show volume loss up to 3x lower compared to 18K palladium white gold, and a factor of about 2x lower compared to 14K palladium white and both 14K and 18K nickel white gold. This makes platinum settings more durable than white gold settings for a bridal ring, which usually requires daily wear for a long period.

- **Denser than gold:** Platinum's density gives rings a weightier more substantial feel which consumers can perceive as a sign of quality, durability and worth.

### What underpins jewellery prices

The takeaway for consumers comparing platinum and white gold is that platinum has superior physical properties, but it typically has a higher like-for-like retail price than white gold or gold for that matter. The key drivers behind platinum jewellery's higher prices are;

- **Precious metals composition:** Platinum jewellery is typically 95% pure platinum, while 18-karat gold (yellow, white or rose) is an alloy of 75% pure gold and some combination of lower priced silver, palladium and nickel with a rhodium coating. The US market favours 14K gold which has 58% gold content by weight. Lower proportions of pure gold within jewellery helps to reduce prices relative to platinum.
- **Weight:** Precious metals are priced by weight for mass-market designs and since platinum has a higher density than gold, a like-for-like item of the same dimensions would weigh more in platinum than in gold and would therefore cost more relative more in platinum than gold.
- **Fabrication:** Platinum's lower workability means that a like-for-like ring will have higher fabrication costs. Platinum's fabrication costs are said to be 1.5x to 4.0x gold.
- **Retail:** Since the gold jewellery market is ~30x the size (by mass) than platinum, gold inventory turns over more quickly and therefore jewellers can take a smaller margin per piece versus platinum. Platinum's wider margin is also likely accentuated by embedded consumer view that platinum is ranked higher than the subjective "gold, silver, bronze" scale. PGI's 2019 survey of over 1,200 jewellery consumers in China, India, Japan and the US showed that platinum is ranked as the most valuable precious metal compared with gold, silver, and karat white/yellow/rose gold by the highest number of consumers of all four markets. In addition, even when survey participants were informed about the platinum price, which was lower than gold at the time of the survey, over half of the respondents remained willing to pay a premium for platinum jewellery over gold.

*Precious metal commodity prices are only a small component of what makes up retail jewellery prices.*

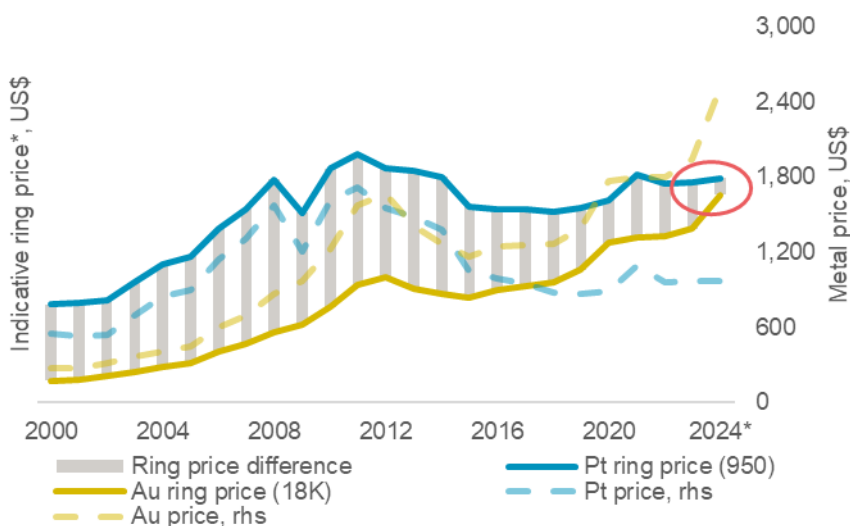
Simplistically translating the above factors, the retail price of jewellery is a function of the value of contained precious metals, fabrication/wholesale and retail costs and margins. Of these variables, retail prices are readily available, and the contained value of precious metals can be calculated for jewellery based on the piece's dimensions, weight and metal prices. Gathering price data from various UK retailers, we estimate that the value of the platinum in a lady's 2mm thick engagement ring constitutes around 10% of the retail price. The same ring in a white gold setting sees the value of precious metals

increase to ~20% versus the retail price. Recognising that the value of contained metal relative to the retail price of UK jewellery is low (<25%), helps explain why the underlying metals' commodity prices are not necessarily indicative of retail jewellery prices. Notably, gold jewellery has had a lower like-for-like retail price compared to platinum despite the underlying price of gold exceeding platinum since 2015.

Based the ratio of retail prices and the value of precious metals (calculated) in a 2mm engagement ring, we can determine a “mark-up” for like-for-like platinum and white gold jewellery. Adjusting today’s “mark-up” for inflation on wholesale costs and a margin on the retail sales, we can show implied ring prices over a period of time (Fig. 12). It is apparent that where the retail price differential between like-for-like platinum and gold jewellery is currently at rough parity, historically there has been a wide price differential between platinum and white-gold.

*Rising gold prices have resulted in white-gold jewellery prices trending to parity with platinum jewellery.*

Figure 12. Higher gold prices has led the price of gold jewellery to the price of a like-for-like platinum equivalent which could support switching to platinum



Source: Bloomberg, Various UK retailer prices, WPIC research, \*Like-for-like ring designs used with prices inclusive of implied fabrication and retail margins

We stress that our desktop analysis (Fig. 12) was done using UK retail price points for like-for-like jewellery design. The fragmented nature of the jewellery trade across regions and designs does mean that there is no single rule of thumb for what jewellery mark-ups are. For instance, in China, mark-ups are lower than Europe given a hyper competitive market. Despite regional and product differences, the underlying take away that retail prices for platinum and white gold are broadly at parity holds true, which we believe supports switching between the metals. Furthermore, where lab grown diamonds are gaining market share, it further frees up budgets for precious metals, likely benefitting platinum.

*When compared to white-gold, platinum offers greater margin opportunity for fabricators and greater desirability for consumers which combined could support switching into platinum jewellery.*

### Opportunity for more platinum

Anecdotal discussions across the industry suggests that white gold jewellery is somewhat regional with no clear global market. In the UK and US, white gold demand is estimated to exceed 20% of gold usage within the rings segment. In continental Europe, yellow gold dominates the mass market. In China, karat gold (K-gold), which includes white gold, has recorded significant demand erosion and accounts for around ~2% of the jewellery market. We estimate that white gold similarly comprises low single digit market share across remaining Rest of World markets. Indicatively, the aforementioned

market shares would imply a global white gold market size of ~1.7 Moz pa that is roughly of similar size to annual platinum jewellery demand.

While we expect consumers would willingly switch from white gold to platinum given like for like retail price parity, any market share shifts would need to be led by the jewellery trade.

### Working capital considerations

Inventory management considerations by the trade, could be a facilitating factor underpinning a switch of gold jewellery with platinum jewellery. Beyond a handful of large jewellery retailers such as Signet in the US and Chow Tai Fook in China and outside of the luxury sphere, the jewellery industry is fragmented. Signet estimates that it has a 30% market share in the US bridal segment, while around 16,000 independent jewellers hold ~48% market share. A large corporate will probably have more financial capacity alongside accommodative banking relationships to help maintain a well-funded balance sheet. However, independent retailers face more acute balance sheet risks.

For a retailer, the cost of the jewellery (i.e. inventory) is an outsized component of the business's assets. Assuming an unchanged ratio of gold and platinum jewellery is stocked, the cost of a jewellery retailer's inventory will have risen alongside sharply higher gold prices over the last two years. However, with jewellery demand being elastic, sales volumes are likely to decline given higher gold jewellery selling prices. The net effect is deteriorating financial ratios such as inventory turnover, quick ratio and return on capital employed.

A retailer carrying the higher financial burden will further incur higher interest expenses (if funded through debt) or lower interest receipts if funded through cash. It is impossible for jewellers to completely isolate themselves from the impact of the high price of gold, but they can reduce the impact in dollar terms by changing the ratio of metal held, rotating some of their gold inventory into other metals, including platinum.

There are growing suggestions that some jewellers are responding to the impact of higher gold prices by reducing the amount of gold jewellery they stock. There has been a converse increase in platinum jewellery stocks. The like-for-like rotation of gold jewellery retail space with platinum jewellery is probably going to reduce the amount of physical products a retailer moves because platinum remains a smaller market. However, platinum jewellery earns a greater margin than gold jewellery which is expected to compensate jewellers for the lower relative sales volumes (versus gold).

While inventory management within the jewellery value chain is being discussed, it is again important to acknowledge platinum jewellery's small scale compared to gold (2.0 Moz vs. 60 Moz pa.). Accordingly, shifts in the mix of precious metals are likely to be at the margin, broadly irrelevant to gold, but beneficial to platinum jewellery volumes.

## Risk management

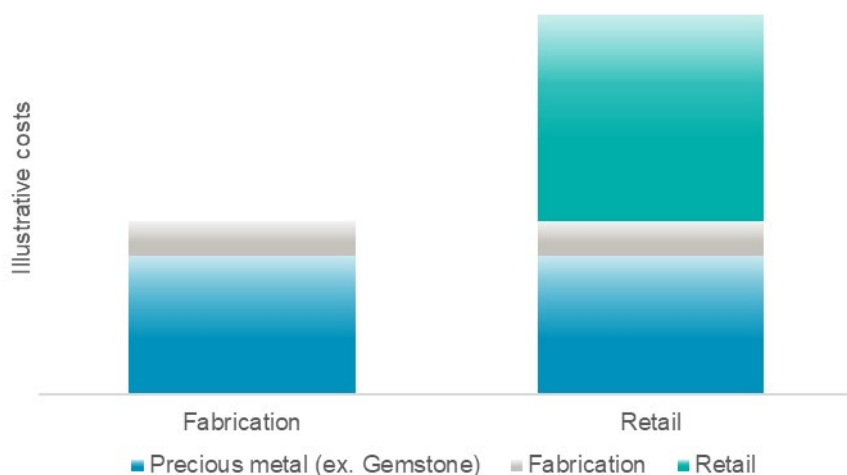
Any shift in a retailer's mix to increase focus on platinum jewellery (albeit off a small base) must be met by a corresponding shift in upstream fabrication (some jewellers have integrated fabrication). Jewellery fabrication is somewhat opaque, but it operates a different business model to that of a jewellery retailer. A fabricator will aim to turn higher volumes to enhance

*The high price of gold and higher interest rates are creating working capital challenges for the jewellery value chain.*

*We estimate the white-gold market is 1.7 Moz and is a direct competitor with platinum jewellery.*

operational efficiency and market competitiveness through economies of scale. Whereas a retailer has the direct access to end consumers to identify their willingness to pay and can enhance product value and realise premium pricing or reduce price sensitivity for higher margins through branding, marketing, and customer service. Retailers sell jewellery to customers typically during some significant life milestone which incorporates a sentimental factor in the purchasing decision. Thus, retailers tie jewellery to sentiment/emotion and, to achieve this, often require a well-positioned retail footprint, advertising and skilled sales consultants which add to the cost base.

Figure 13. Jewellery fabricators are more exposed than retailers to raw material price volatility since metal and gemstones make up a greater proportion of their costs



Source: WPIC research

Given differing operating models, jewellery fabrication is more exposed to price risk. Functionally, price risk is when the underlying precious metal price changes between the time the raw materials are purchased and the time the semi-finished or finished product is sold. Price risk can be beneficial (i.e. the metal price increases over time) or detrimental (i.e. the metal price decreases). Assuming no hedging was utilised, since the start of the decline of the jewellery market (2014) declining platinum prices (on average) would have depressed margins while rising gold prices would have enhanced margins.

*Commodity price risk will impact jewellery fabricators more than retailers and hence risk management tools like hedging could be considered.*

To mitigate volatile precious metals prices, price risk can be reduced through hedging and/or metal leasing. Gold's liquidity allows for generally cost-efficient price risk management while this can be more challenging for the smaller platinum market.

### Leasing

PGM leasing is more prevalent amongst industrial users because the metal is not a core component of their businesses but can be capital intensive to purchase outright. Hence, an industrial company would pay a leasing fee (3% - 6%) to borrow metal to use in a catalyst (e.g. in a chemicals production facility) and once the plant is decommissioned the recycled PGMs are returned to the lender (Fig. 14).

Figure 14. Platinum and other PGM leasing is typically utilised by industrial participants where PGMs may represent an outsized portion of their capital costs whilst not representing a core function of their business

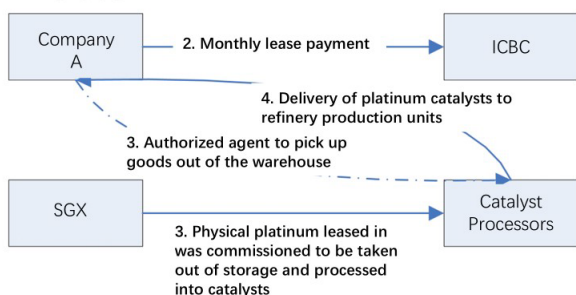
SGX: Shanghai Gold Exchange  
 ICBC: Industrial and Commercial Bank of China

## □ Solution

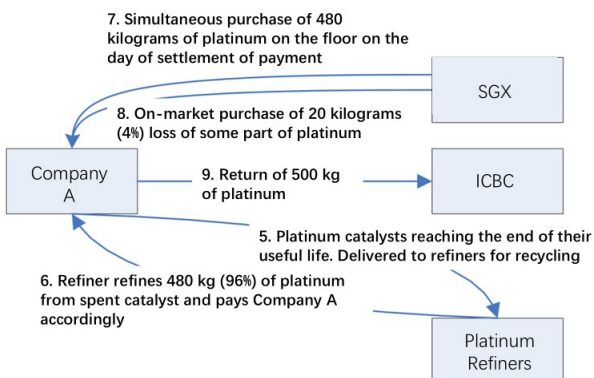
### 1. Beginning Period:



### 2. Duration:



### 3. Expiration:



Source: ICBC presentation, WPIC research

## Derivatives

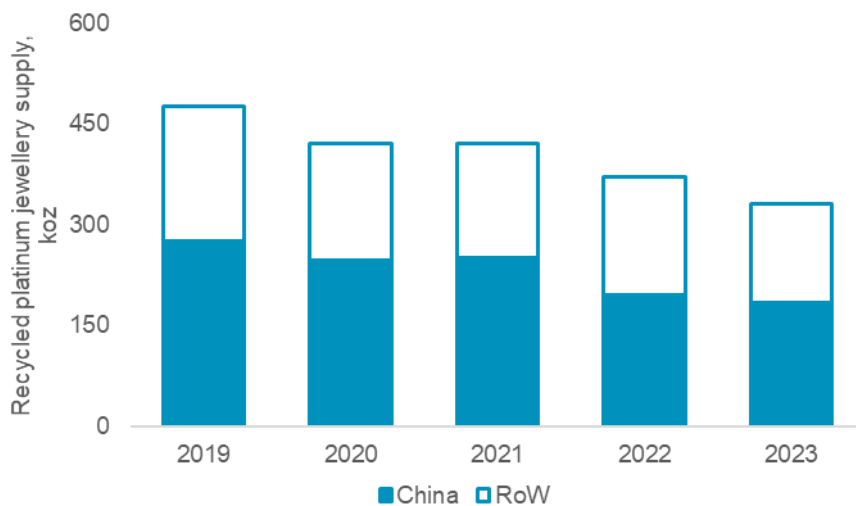
Jewellery fabricators can use derivatives to manage price risk. Fabricators are exposed to metal prices at two points of their business operations, that is buying raw materials and selling the finished product (jewellery) and thus two contracts are required to create a synthetic collar.

- Purchase forward metal at time  $T_x$  to lock in raw material costs, and
- Sell metal forward at  $T_{x+n}$  to lock-in a selling price.

While the principles of hedging are theoretically simple, there can be practical roadblocks. For instance, private businesses in China do not have easy access to derivatives. We have previously discussed how Chinese platinum jewellery demand has declined by 13% CAGR between 2014 and 2023 (Fig. 8). Declining jewellery demand has occurred alongside declining platinum prices. Whilst our jewellery market overview offered some insights into market dynamics, China exhibits an acute relationship between platinum jewellery demand and platinum prices due to its trade-in business and inability to reduce price risk.

In China, jewellery purchases are often funded by trading in old pieces to contribute to the cost of a new piece. Notably, this practice is very much a feature of the market in China, where the country has accounted for an average of 57% of global recycled platinum jewellery supply since 2019 (Fig. 15). Japan is the only other large source of recycled platinum jewellery supply, with RoW contributing low single-digits of supply in percentage terms. Looking forward, as India's platinum jewellery market matures, it will likely become a source of recycled platinum jewellery supply given trade-ins are a prominent feature of its gold jewellery market.

Figure 15. China accounts for more than 50% of global recycled platinum jewellery supply due to consumers trading in older pieces for new purchases



Source: Metals Focus, WPIC research

The outperformance of Chinese gold jewellery demand relative to platinum since 2014 (-10% vs. -14% CAGR) likely, in part, had to do with better underlying gold price performance. Rising prices support value preservation and incentivises consumers “trading up” for new jewellery purchases. Rising prices offer both consumer confidence in the underlying metal, but also jewellers who buy the metal, and this supports both volumes and potentially narrower buyback discounts versus spot prices. However, with lower platinum prices over the past decade,

*With reduced commodity price risk, platinum jewellery’s historically high selling and buy-back premiums could be lowered to the benefit of consumers.*

- Consumers may opt to hold onto older platinum pieces if they’re offered a trade-in price well below their original purchase price, and
- Jewellers may widen the buyback discount because they may want a buffer against potential future price decreases.

The Guangzhou Futures Exchange (GFEX) expects to launch platinum and palladium futures contracts in China over the next twelve-months. The contracts will allow Chinese market participants to hedge against price risk which could allow jewellers and/or fabricators to,

- Increase their platinum inventories relative gold given the increasing balance sheet commitments required to stock expensive gold, and
- Reduce buyout offered to consumers for platinum jewellery trade-ins.

It remains to be seen whether the Chinese jewellery trade will embrace such facilities which makes forecasting any platinum demand impact challenging. However, what we can say is that a narrowing of the selling premium/buyback discount spread, may help recapture some of the 1.6 Moz of demand erosion which has occurred in China since 2014.

## Technology

We have previously discussed the role of shifting consumer preferences and changing demographic trends (i.e. lower marriage rates) in underpinning weaker gold and platinum jewellery demand over the past decade since 2014 (Fig. 6). Furthermore, we had discussed how platinum jewellery demand trends have underperformed gold largely due to weaker Chinese demand (Fig. 8) which declined alongside declining platinum prices.



In addition to robust gold prices, technology advancements in gold jewellery fabrication and design have helped the consumer's shift to gold. New processing techniques are allowing gold to be shaped into more complex designs and facilitate gemstone setting. These richer gold designs are said to be catering to more diverse consumer preferences. Moreover, the fabrication advancements are enabling greater use of 24K gold (100% gold content) designs as opposed to 18K gold (75% gold content) which again caters to Chinese consumer's value preservation requirements where trade-in discounts for 24K gold are smaller than for 18K gold.

### **Innovative alloys**

Platinum jewellery research and development has, similarly to gold, focussed on addressing the metal's fabrication challenges. Newly developed platinum alloys are now available to fabricators which improve workability and reduce porosity without compromising platinum's traditional strengths in gem set jewellery. Practically speaking, improved workability benefits fabricators by reducing the time it takes to set the jewellery and can enable more elaborate and contemporary designs suited to modern consumers. Lowering porosity speaks to achieving greater yields with less likelihood of failure during casting (i.e. less waste). Cumulatively, improving platinum jewellery fabrication should lead to lower costs.

The most prominent example of advanced platinum jewellery alloys is Inoveo Platinum. Established by PGI USA, Inoveo Platinum has been co-developed by the mining company Anglo American and Oxford University materials developer spin off, Alloyed. Inoveo Platinum, featuring ruthenium and a proprietary mixture of metals, is 40% harder than the conventional platinum alloys, and delivers manufacturing benefits including 4x higher production yield, 4x less porosity, 3-4x faster machining, 5-8x longer tool life, as well as brighter, whiter and more durable jewellery. Elsewhere, several Chinese firms have developed proprietary platinum alloys which are advancing jewellery, and this has been seen in the small but growing market for investment grade platinum jewellery (99.5% platinum content versus 95.0%).

We expect demand for platinum jewellery could increase if advanced platinum alloys can improve manufacturing efficiency and increase production yield. This may entice additional manufacturers, who have not previously engaged with platinum, to begin crafting platinum jewellery, leading to a wider variety of product designs and offering retailers greater choices.

Given gold's price transparency and, high levels of market competition it is usually challenging to impose a significant mark-up for gold jewellery, especially plain, mass products. However, market development promoting platinum's properties and emotional value has supported higher average platinum jewellery margins. Therefore, with the use of advanced platinum alloys that lower production costs will offer further margin uplift for both manufacturers and retailers while consumers benefit from improved product designs and a greater variety of options.

### **Demand implications for technology led cost reductions**

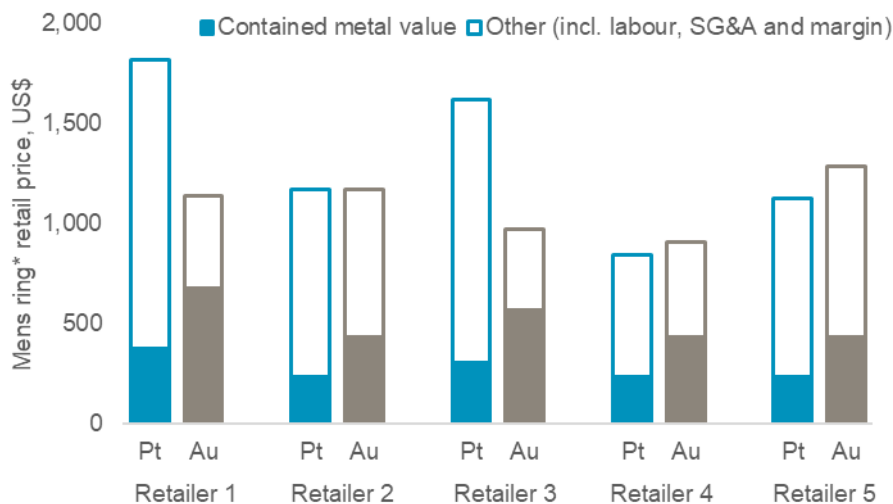
To assess the how technology could benefit platinum jewellery ounces, we again need to recognise that public information on fabrication, wholesale and retail costs and margins are not readily available. However, we are able to compare the retail price of jewellery with the cost of the contained precious

*Replicating the success in gold jewellery markets, platinum jewellery technology developments are improving jewellery properties and production efficiencies.*

*Platinum alloying could lower fabrication costs which may incentivise increase platinum jewellery fabrication.*

metals in the jewellery to provide an indication of “value add” or mark-up. The difference between the retail price and cost of metal can then be ascribed to fabrication, wholesale and retail costs and margins. Assessing several separate UK retailers, the value of contained platinum metal within a plain male wedding band accounts for an average of 21% of the retail price (Fig. 16). Comparatively, the contained value of gold accounted for 47% of the retail price of the same ring design in white gold.

Figure 16. The retail price of platinum jewellery is less reflective of the cost of contained metal than gold, implying higher retail margin achievable



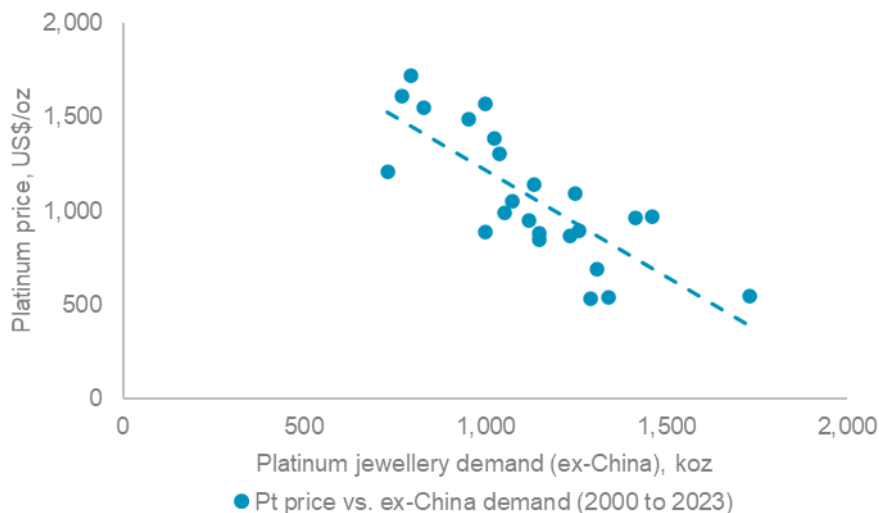
Source: Retailer website listings, WPIC research, \*Ring design: 5mm heavy court, polished finish

It is worth considering that retailers are not obligated to pass on potential fabrication cost savings from advanced platinum alloying to consumers. Retailers opting to maintain their platinum jewellery pricing status quo would benefit from higher margins if their costs are declining. In this scenario, we expect platinum jewellery demand to benefit from the jewellery trade’s incentive to increase its exposure to higher margin platinum.

An alternative to the jewellery trade increasing margins would be to pass on lower fabrication costs of platinum jewellery consumers with lower retail prices (making platinum more cost competitive with gold-based jewellery). Recall, platinum jewellery demand (ex-China) has increased by around 4% CAGR since 2014 which suggests demand elasticity with declining platinum prices (Fig. 17).

*If lower platinum jewellery fabrication costs are passed onto consumers, demand will increase given the inverse correlation to prices.*

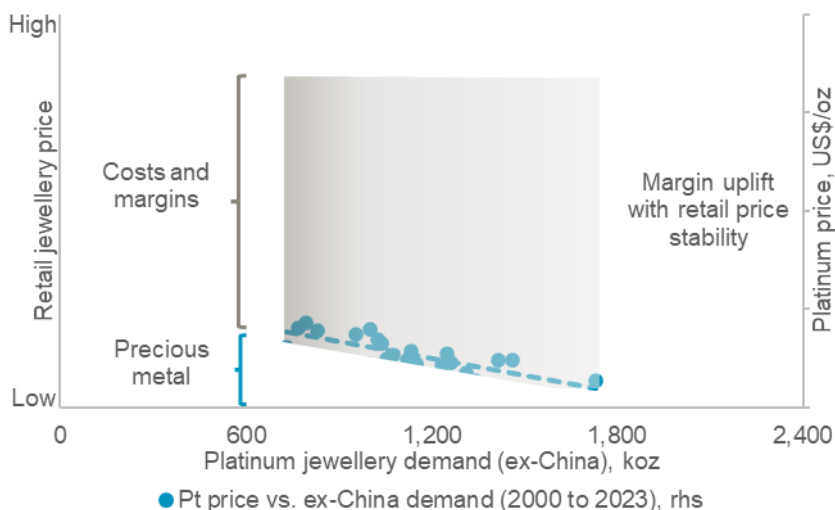
Figure 17. Global platinum jewellery fabrication outside of China is negatively correlated to platinum prices suggesting lower prices support higher demand



Source: Johnson Matthey (2000-2012), SFA Oxford (2013-2018), Metals Focus (2019-2023), Bloomberg, WPIC research

Whilst our data highlights the inverse correlation between ex-China jewellery demand and underlying platinum prices, it is again important to recognise that the jewellery trade (rather than consumers) tends to inform platinum jewellery fabrication trends due to profitability. Accordingly, it is more correct to interpret the inverse correlation between ex-China platinum jewellery demand and platinum price (Fig. 17) as a relationship between prices and platinum jewellery profit margins where declining metal prices reduce input costs and increase margins (Fig. 18) because retail prices tend to be stickier than metal prices.

Figure 18. Platinum jewellery fabrication increases as metal prices decline since this supports margin uplift for wholesalers and retailers



Source: Johnson Matthey (2000-2012), SFA Oxford (2013-2018), Metals Focus (2019-2023), Bloomberg, WPIC research

Notwithstanding the semantics of whether technology driven cost reductions benefit the trade with margin uplift, or consumers with lower prices, the relationship between demand and prices is unchanged in our view. We estimate that each 2% reduction in costs result in a 1% increase in demand.

## Conclusion

The overall perception of the platinum jewellery market is that it is a market in perpetual decline with ongoing erosion of demand. However, within the broader trend of declining demand, it is frequently overlooked that platinum demand ex-China has increased by 3.9% CAGR from 2014 to 2023. The ex-China market is now around 3.5x larger than China and its growth would offset China if that market continued its trend of weaker demand. Our latest *Platinum Quarterly* ([link](#)) reflects ongoing ex-China demand growth. It forecasts that platinum jewellery demand troughed in 2023, and that demand will grow in both 2024f (+5%) and 2025 (+2%).

Looking toward medium-term trends in platinum jewellery, we conclude that demand will benefit from share gains of the estimated 1.7 Moz p.a. white gold market due to switching, technology advancements and risk management actions. Notably platinum's value proposition is improving for both consumers and retailers/fabricators given,

- The rising gold price has narrowed and, in some instances, reversed the historic premium at the retail price level of platinum jewellery compared to gold and white gold. A review of retail prices across like-for-like jewellery pieces in UK markets shows platinum and white gold prices broadly at parity. Considering platinum offers favourable physical characteristics and surveys show holds greater emotional value, we believe switching from white gold to platinum may occur.
- Jewellery fabrication technology advancements could further drive favourable price advantages between like-for-like platinum and white gold jewellery. By reducing manufacturing costs, improving yields and, enhancing product development and offering, platinum demand should benefit and retailers would be incentivised to stock and sell more platinum due to the potential for greater margins. Alternatively, if cost savings are passed onto consumers, demand may also increase.

*Our base case platinum jewellery demand growth rate of 2% CAGR from 2023 to 2028f could incrementally increase if Platinum jewellery can gain market share from white-gold as underlying commodity prices, technology advancements and hedging options combine to increase the relative attractiveness of platinum jewellery.*

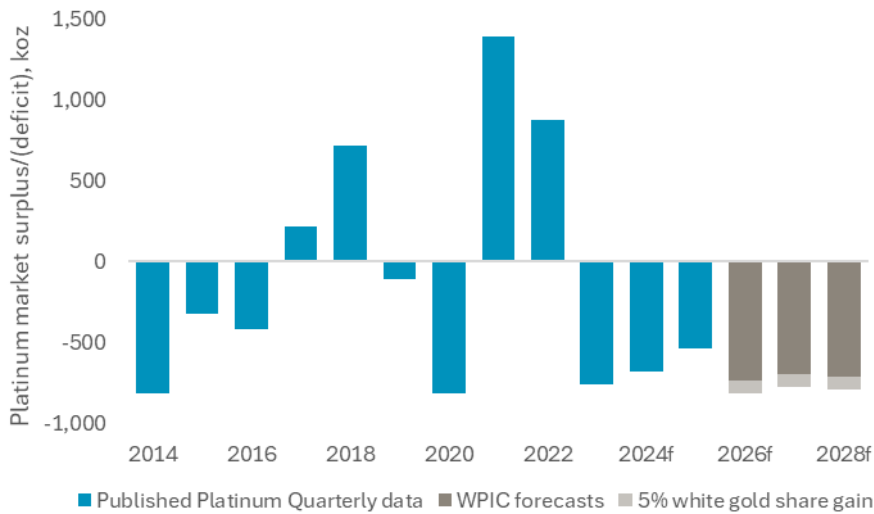
In addition to an improving value proposition, we expect the jewellery value chain's willingness to consider offering more platinum jewellery could materialise from,

- The launch of platinum futures contracts in China via GFEX which could lower price risk by providing greater raw material price certainty, and
- The need to manage operations within set working capital constraints. The rise of gold prices has increased working capital needs for the industry without a commensurate offset of rising revenues as demand has declined. Therefore, early reports have suggested some switching of gold to platinum to ease the working capital burdens of jewellery market participants.

While it may be too early to tell whether or by how much platinum jewellery demand could benefit from switching, risk management or technology advancement, any share gains from white gold have compounding impacts for platinum markets. Our base case forecasts are for platinum market deficits to average 712 koz per annum or 9% of annual demand between 2026f and 2028f (Fig. 19). Accordingly, assuming platinum jewellery gains a modest 5% share of the white gold market, our average platinum market deficits would increase by 12%. Deeper deficits would accelerate above ground stock

depletion, tightening physical platinum markets and potentially support higher prices.

Figure 19. Upside potential to platinum jewellery fabrication would deepen already substantial and consecutive platinum market deficits



While the upside opportunity in platinum jewellery may appear minor against the backdrop of total platinum demand, any incremental volumes have an outsized growth impact on our forecast for ongoing platinum market deficits.

Source: WPIC research, \*Platinum quarterly forecasts were independently produced for WPIC by SFA (Oxford) from 2014-2018 and Metals Focus from 2019-2025f

Figure 20. Platinum jewellery fabrication could be positively impacted by switching, technology advancements and risk management

Platinum jewellery demand (koz)						
	2023	2024e	2025f	2026f	2027f	2028f
Jewellery demand	1,849	1,951	1,983	1,999	2,019	2,040
Upside potential						
5%				2,099	2,120	2,142
10%				2,199	2,221	2,244
15%				2,299	2,322	2,346
20%				2,399	2,423	2,448

Source: Metals Focus between 2023-2025f, WPIC thereafter

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