

PLATINUM QUARTERLY PRESENTATION Q4 2018

London

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AGENDA: PLATINUM QUARTERLY: Q4 2018, REVISED 2018 AND 2019 FORECAST

1. Introduction

Paul Wilson, CEO

2. Platinum Quarterly, Fundamentals review

Trevor Raymond

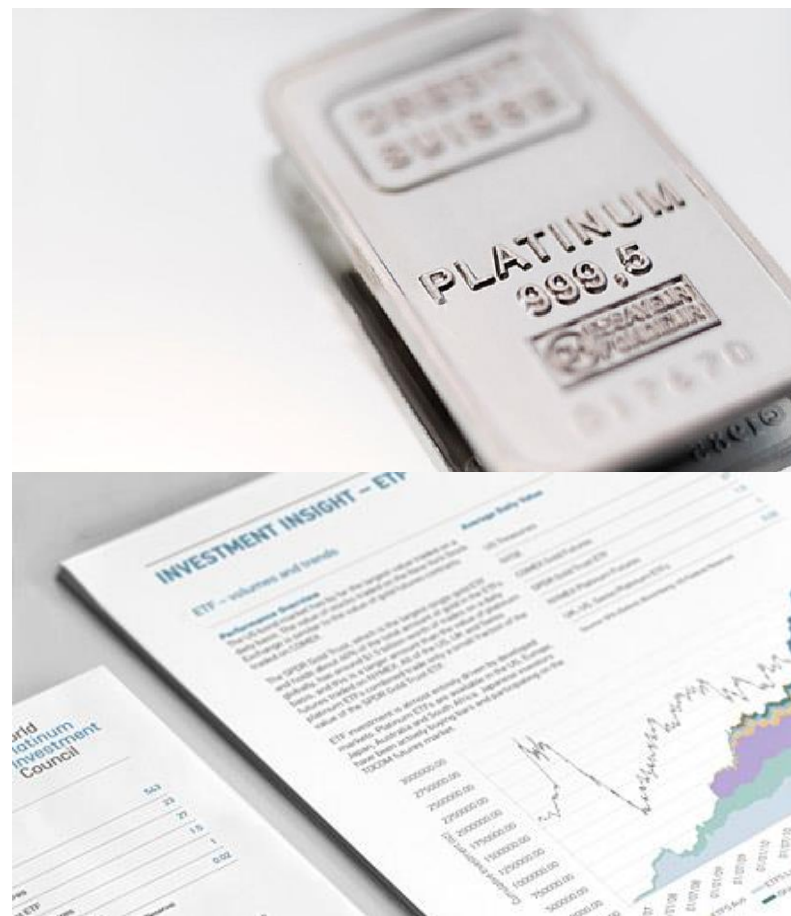
3. Focus on fundamental drivers

Trevor Raymond

4. Questions

Paul Wilson

Trevor Raymond



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- Q4'18 and 2018
- 2019f update

Trevor Raymond, Director of Research

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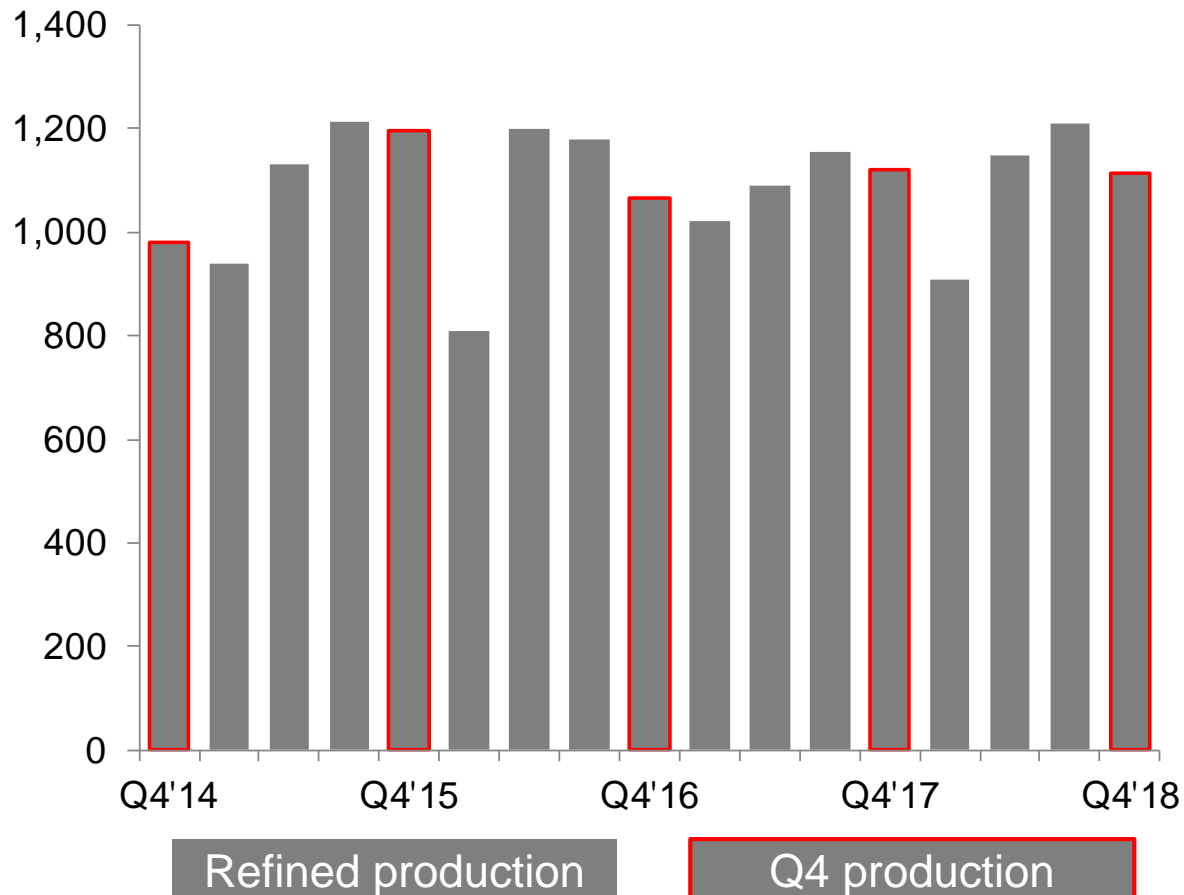
Q4 2018 SUPPLY: BOTH MINING AND RECYCLING DECLINED IN THE QUARTER

SUPPLY	Q4 2017	Q3 2018	Q4 2018
Refined Production	1,590	1,680	1,535
South Africa	1,120	1,240	1,130
Zimbabwe	140	120	120
North America	95	90	100
Russia	190	185	145
Other	45	45	40
Inc(-)/Dec(+) in Producer Inventory	+25	-20	-5
Total Mining Supply	1,615	1,660	1,530
Recycling	505	485	490
Autocatalyst	365	365	380
Jewellery	140	120	110
Industrial	0	0	0
Total Supply	2,120	2,145	2,020

- South African supply steady - up 1%
- Russian supply down 24% due to refinery working inventory build
- Recycling supply down 3%
- Q4'18 total supply down 5%

MINING SUPPLY: SOUTH AFRICAN SUPPLY – Q4 STEADY

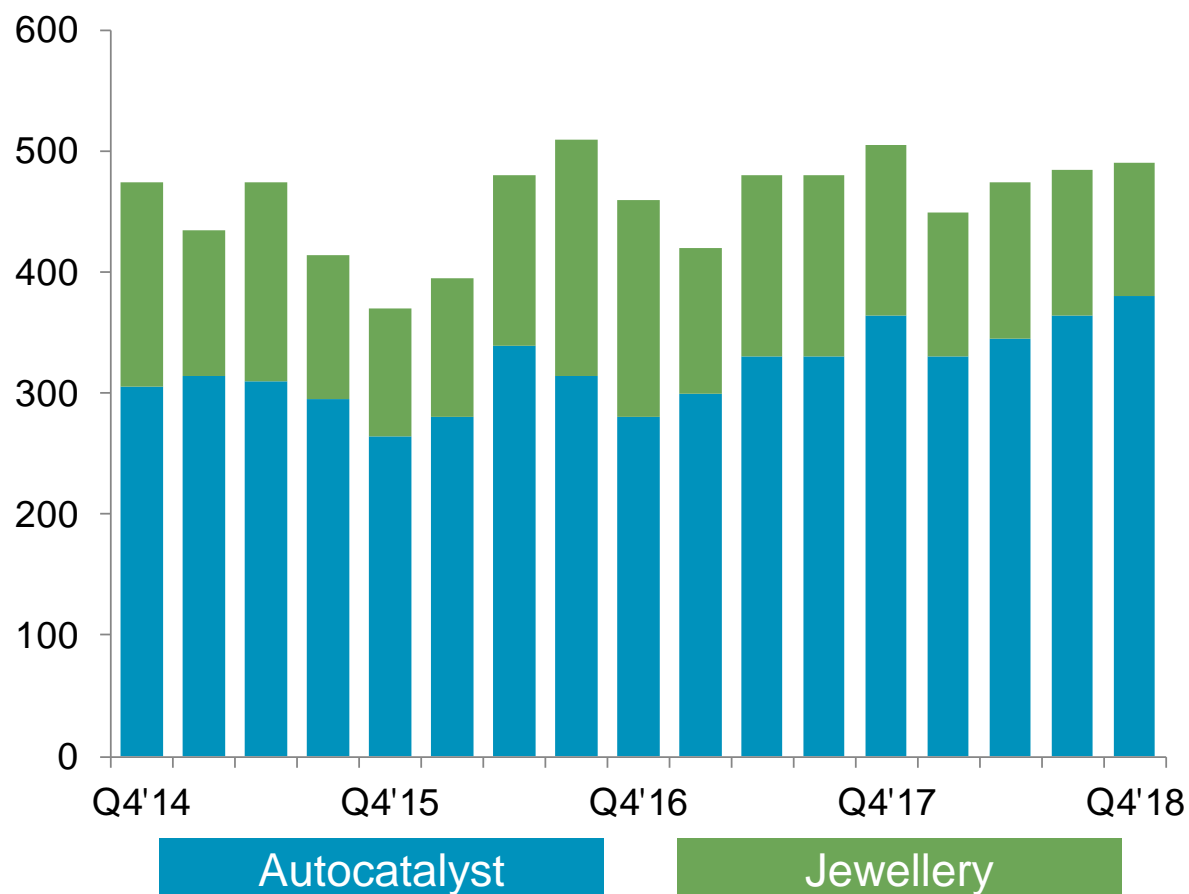
South African quarterly production (koz)



- South African supply steady in Q4'18
- Sustained elevated operating tempo – limited industrial action, fewer section 54 stoppages, higher efficiencies
- Industrial action risk up on developments at gold mines

RECYCLING: Q4 RECYCLING DOWN – AUTOCATALYST UP; JEWELLERY DOWN

Recycling (koz)



- Q4'18 recycling down 3% on Q4'17 - Q2 to Q4 autocat growth
- Healthy steel prices supporting end-of-life vehicle flow to collectors
- Palladium and rhodium prices increasing gasoline and all catalyst recycling
- Jewellery recycling down 21% on low price and soft sales in China

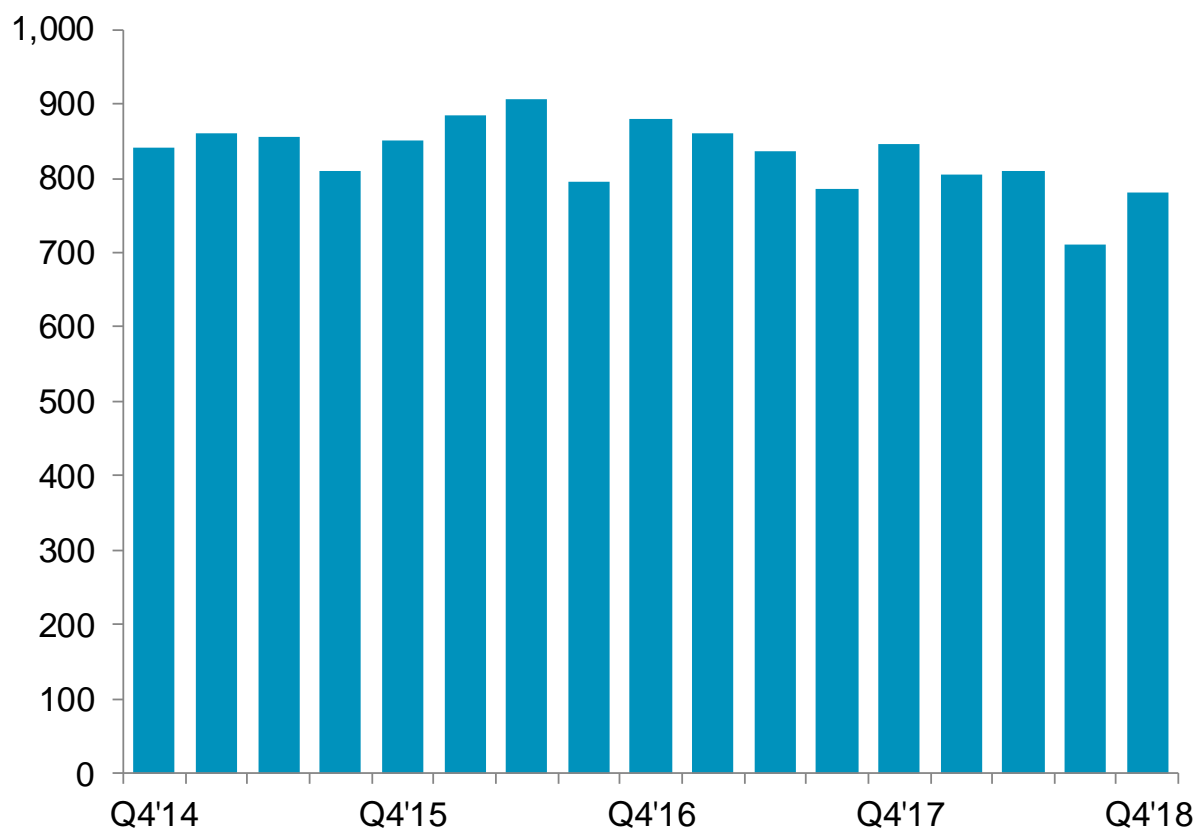
Q4 2018 DEMAND: AUTO, JEWELLERY AND INVESTMENT DOWN – INDUSTRIAL UP

DEMAND	Q4 2017 // Q3 2018	Q4 2018
Automotive	845	710
Autocatalyst	810	675
Non-road	35	35
Jewellery	680	575
Industrial	430	475
Chemical	135	160
Petroleum	25	55
Electrical	60	50
Glass	35	70
Medical & Biomedical	70	45
Other	105	95
Investment	100	65
Change in Bars, Coins	65	70
Change in ETF Holdings	55	5
Change in Stocks Held by Exchanges	-20	-10
Total Demand	2,055	1,825
Balance	65	320

- Automotive demand down 8% (65 koz) YoY but decline in diesel sales softens
- Jewellery down in China, partly offset by growth India and N. America
- Industrial rebound in 2018 sustained in Q4
- Bar and coin demand remains solid; ETF demand fell sharply

Q4 2018 DEMAND: AUTOCATALYST DECLINE CONTINUED BUT SLOWER RATE OF SALES DECLINE

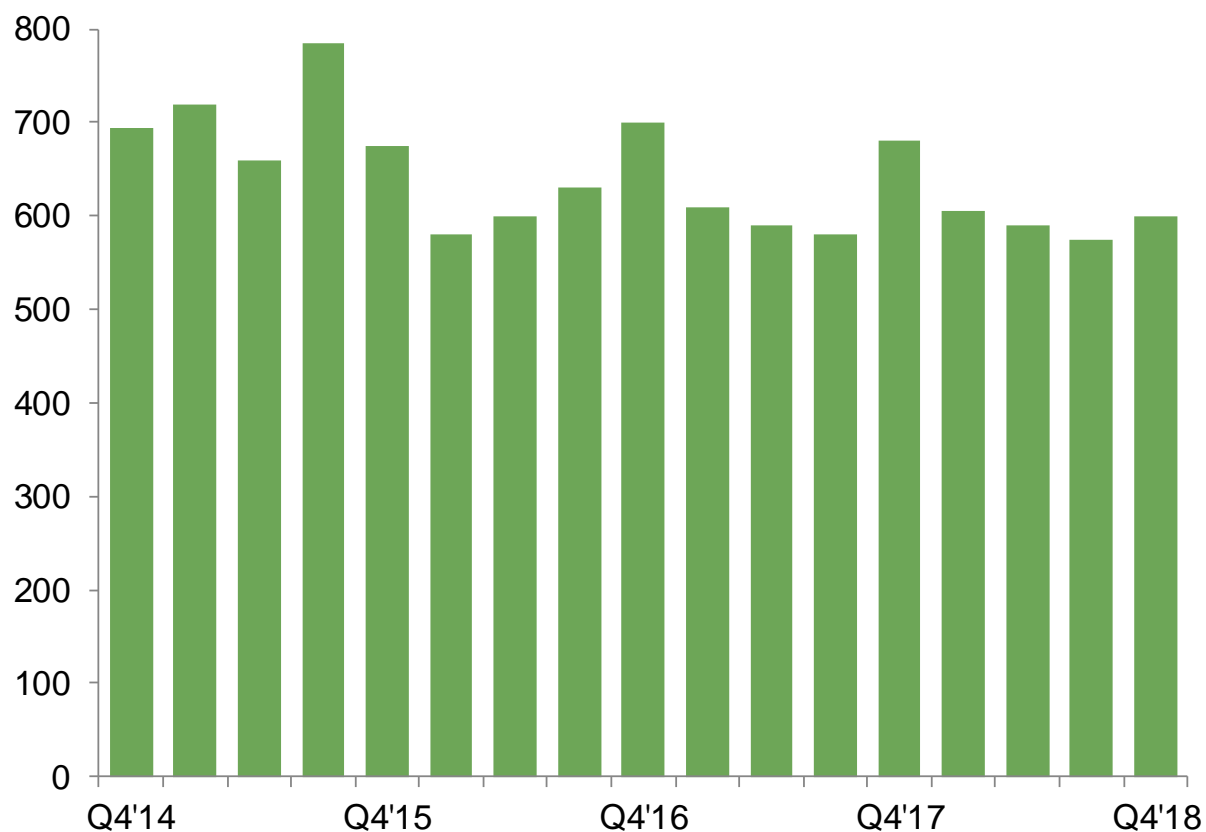
Autocatalyst demand (koz)



- Autocatalyst (excl. non-road) demand fell 9% to 740 koz in Q4'18 from 810 koz in Q4'17
- W. Europe diesel share stabilised in Q4 '18 at 35%
- Automakers' marketing efforts and increased evidence of cleaner diesels, appear to have slowed falling sales

Q4 2018 DEMAND: JEWELLERY REMAINS WEAK IN CHINA - GROWTH IN OTHER REGIONS

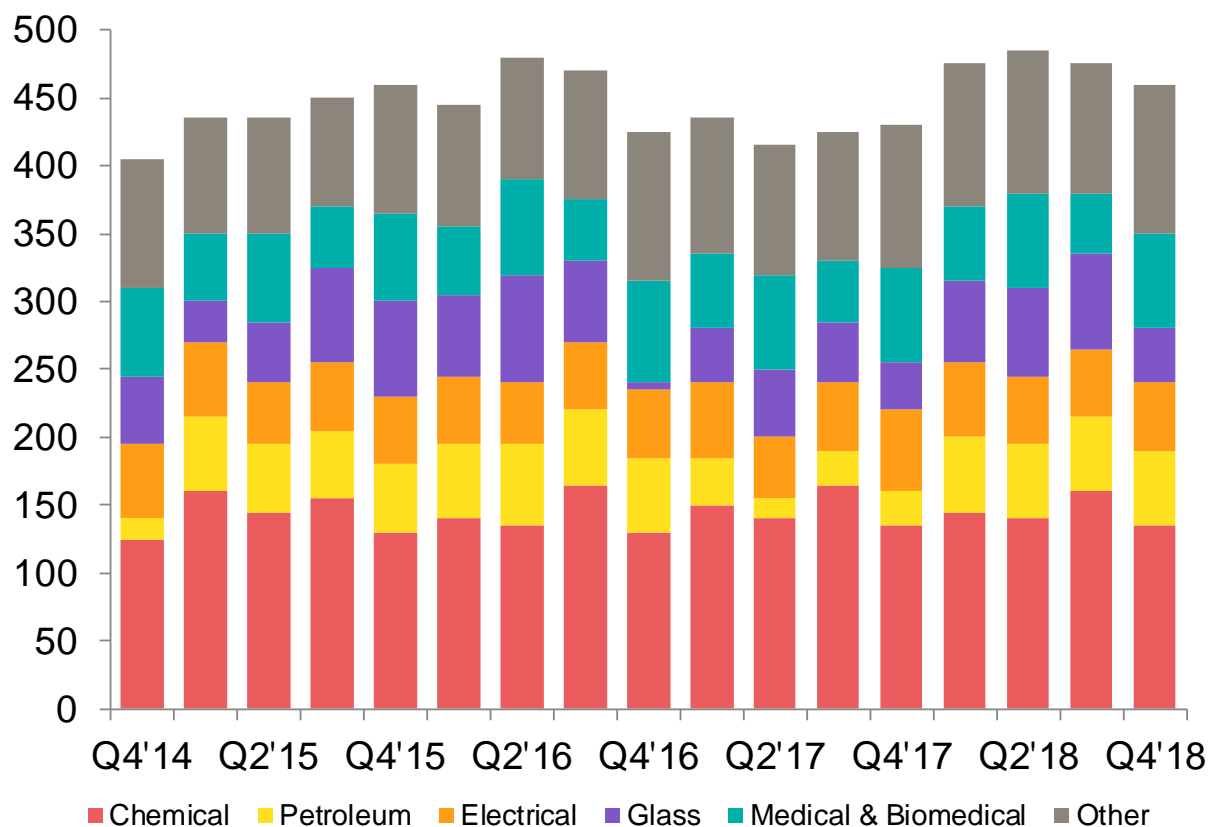
Jewellery demand (koz)



- Jewellery demand was 600 koz in Q4'18, an unusually weak year-end performance
- Gains in N. America and India were more than offset by China weakness
- Platinum purchases on SGE down - reflecting weakness in China retail jewellery

Q4 2018 DEMAND: INDUSTRIAL DEMAND HIGHER ON NET GROWTH IN PETROLEUM AND GLASS

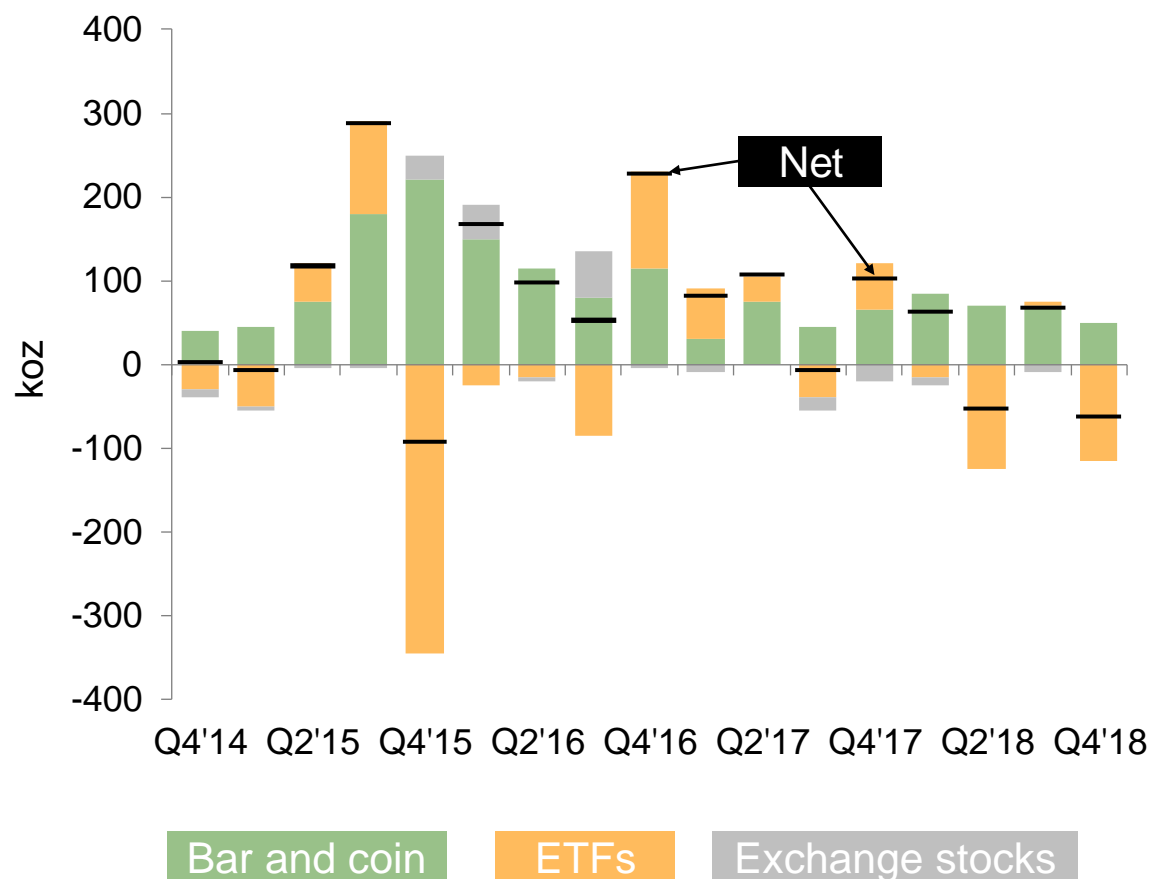
Industrial demand by category (koz)



- Platinum industrial demand was 460 koz in Q4'18, up 30 koz (+7%) YoY
- Petroleum refining strength continues
- Glass capacity growth driven by RoW and W. Europe in Q3'18 but weaker in Q4'18

Q4 2018 DEMAND: INVESTMENT DOWN: ETF DECLINE PARTLY OFFSET BY SUSTAINED FIRM RETAIL DEMAND

Investment demand by category



- Bar & coin demand remained steady, reflecting weak price, discount to gold and increased product offering
- ETF demand in Q4'18 dropped 115 koz YoY
- Exchange stocks were unchanged

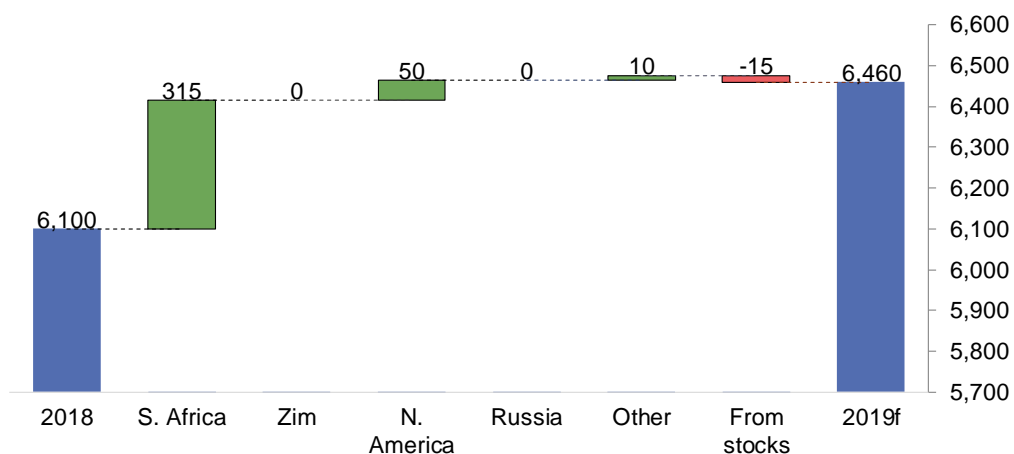
ANNUAL BALANCES: 2019 SURPLUS UP ON 2018 AS SUPPLY INCREASES 35 KOZ MORE THAN DEMAND

SUPPLY	2018	2019f	YoY, oz	YoY, %
Refined Production	6,085	6,460	375	6%
South Africa	4,410	4,725	315	7%
Zimbabwe	470	470	0	0%
North America	360	410	50	14%
Russia	675	675	0	0%
Other	170	180	10	6%
Inc (-)/Dec (+) in Producer Inventory	+15	+0	-15	-100%
Total Mining Supply	6,100	6,460	360	6%
Recycling	1,910	1,960	50	3%
Autocatalyst	1,420	1,495	75	5%
Jewellery	485	460	-25	-5%
Industrial	5	5	0	0%
Total Supply	8,010	8,420	410	5%
DEMAND				
Automotive	3,100	3,000	-100	-3%
Jewellery	2,355	2,325	-30	-1%
Industrial	1,895	1,885	-10	-1%
Investment	15	530	515	3433%
Total Demand	7,365	7,740	375	5%
Balance	645	680	35	5%
Above Ground Stocks	2,815	3,495	680	24%

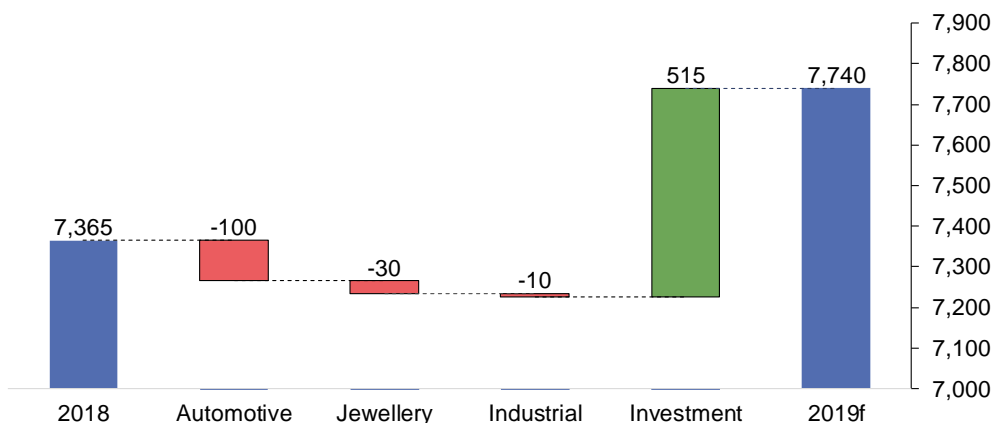
- Surplus in 2019 (680 koz) up from 2018 (645 koz)
- Total supply up 5% (410 koz) in 2019
- S.A. supply up 7% (315 koz) on one-off work in progress release; N. America supply up 12% (50 koz) on a project ramp up
- Total demand up 5% (375 koz) on investment growth, partly offset by automotive decline

2019 TOTAL DEMAND UP 5% - MINING SUPPLY UP 6% FROM ONE-OFF RELEASE - TOTAL SUPPLY UP 5%

Total mining supply 2018 to 2019



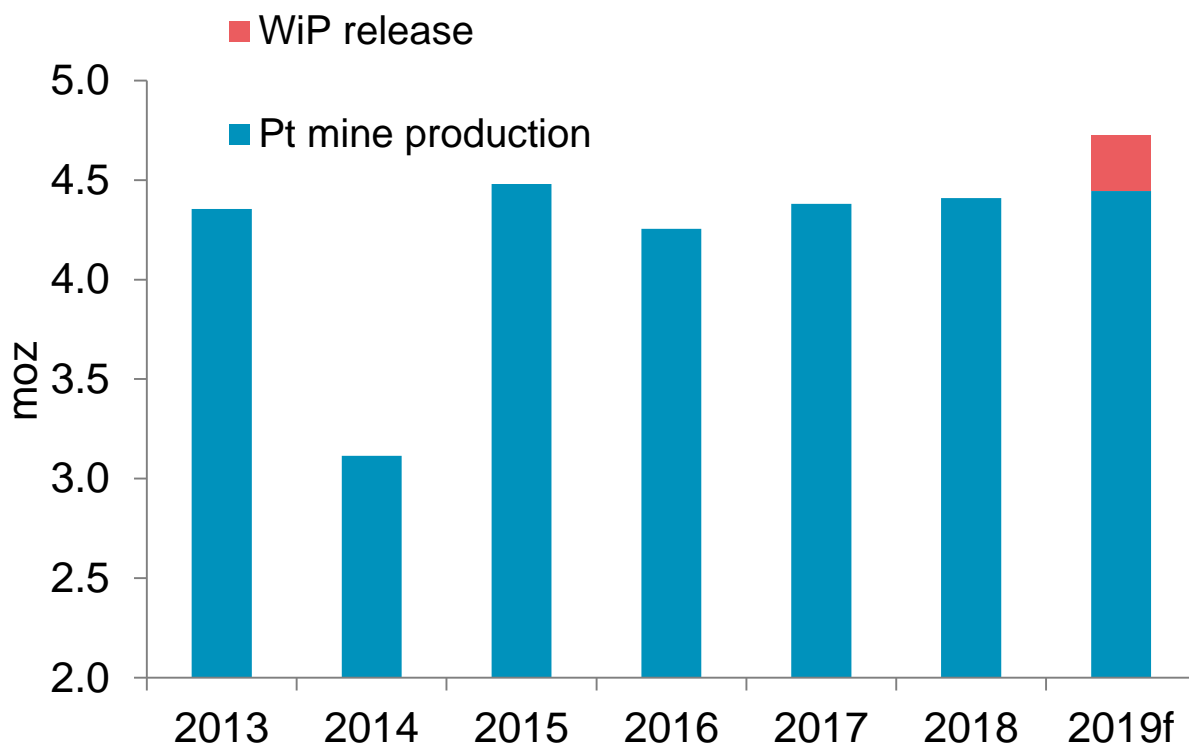
Total demand 2018 to 2019



- Mining supply up 6% - South Africa up on work in progress built up in 2018 and US up on new project
- Total demand up 5% - investment offsets weak automotive and jewellery
- Industrial is down 1% - at similar level to strong demand in 2018
- Investment strength is led by significant ETF buying in 2019 and expected continued steady bar and coin demand

SOUTH AFRICAN REFINED PRODUCTION UP 7% ON ONE-OFF WORK IN PROGRESS RELEASE

South Africa Refined Pt Production



- South African refined platinum production forecast for 2019 is up 7% due to announced one-off releases
- Increased working inventory disclosure by SA producers due to significant changes in PGM prices and major smelter maintenance & commissioning
- Without the Work in Progress release of platinum to be refined and sold (c. 280 koz), global platinum supply growth would be up 2% in 2019

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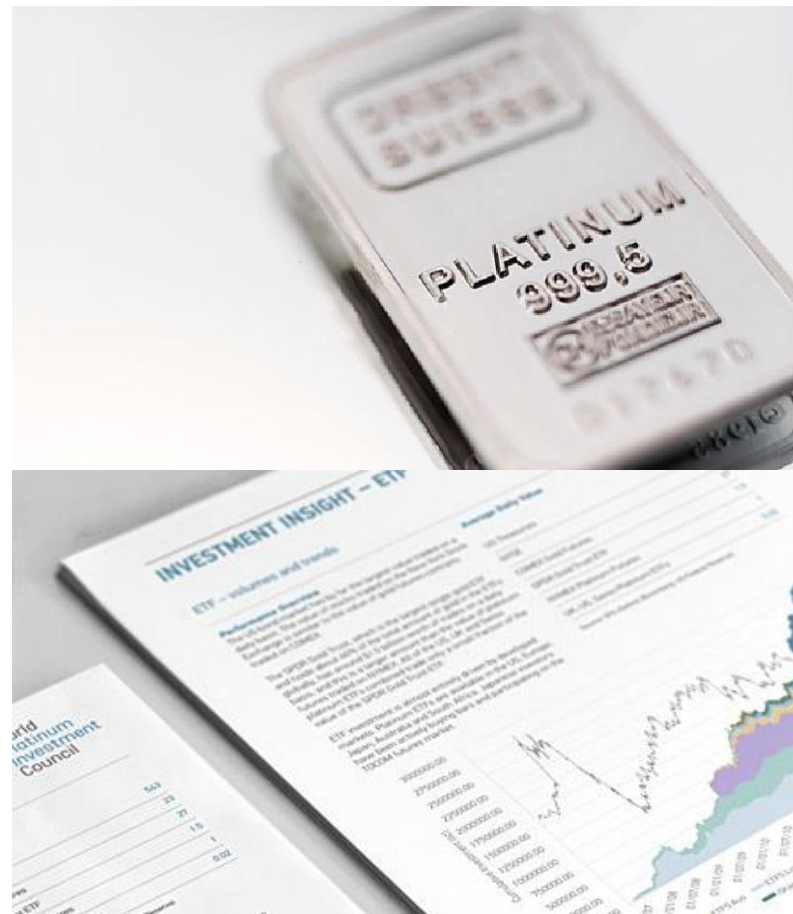
- Diesel stabilisation
- Palladium premium
- Platinum ETFs

Trevor Raymond, Director of Research

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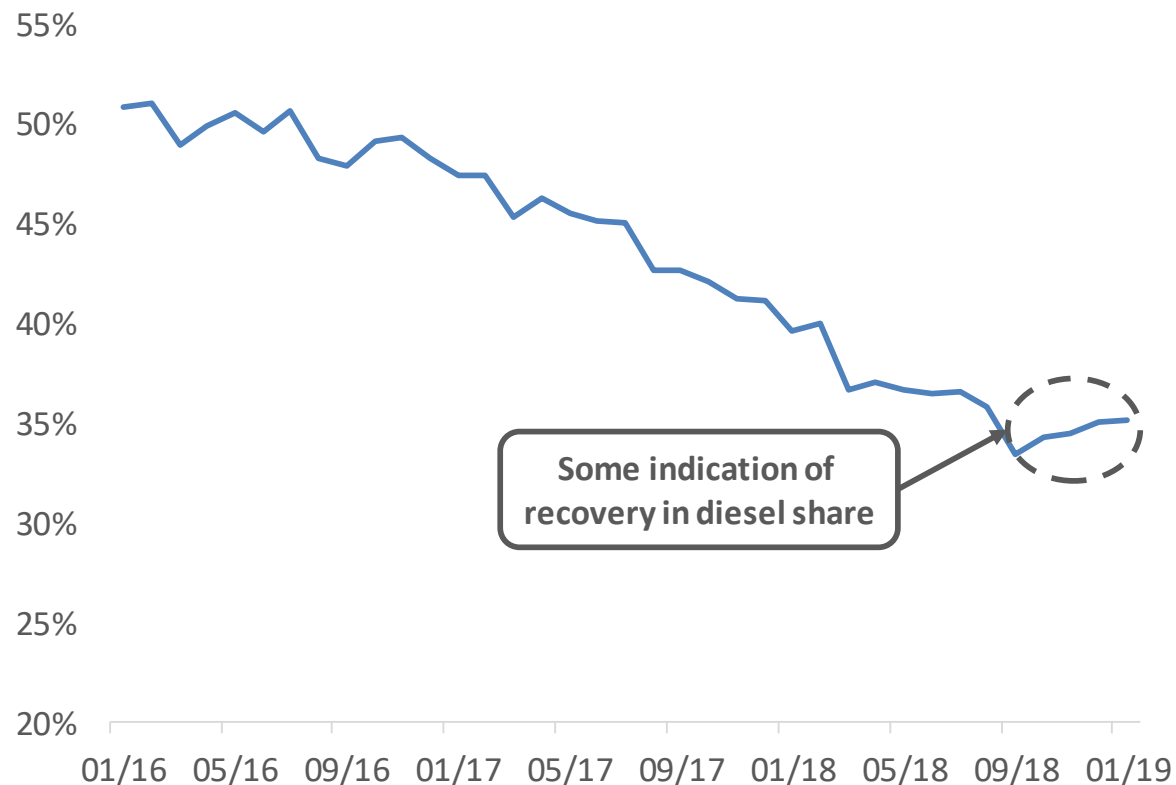
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THE DECLINE IN DIESEL CAR SALES IN WESTERN EUROPE HAS RECOVERED

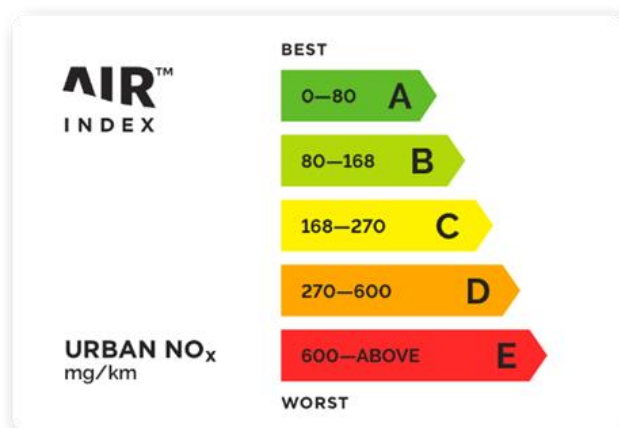
Western European diesel share of auto sales



- W. Europe diesel share over 50% in 2015, prior to Dieselgate
- Recovery from 33.8% in September 2018 to 35.2% in January 2019 (some WLTP impact)
- New models well below Euro 6 NO_x level in on-road (RDE) tests - 1 Sept 2017; all new car sales - 1 Sept 2019
- City bans being addressed to allay consumer fears – access and resale value

DIESEL SALES STABILISING – AUTOMAKERS ADDRESSING POOR DIESEL SALES MAY AVOID SEVERE CO2 FINES

AIR Index launched in February 2019 - Legal framework (CWA*) for improved & fair city policy



www.AIRIndex.org

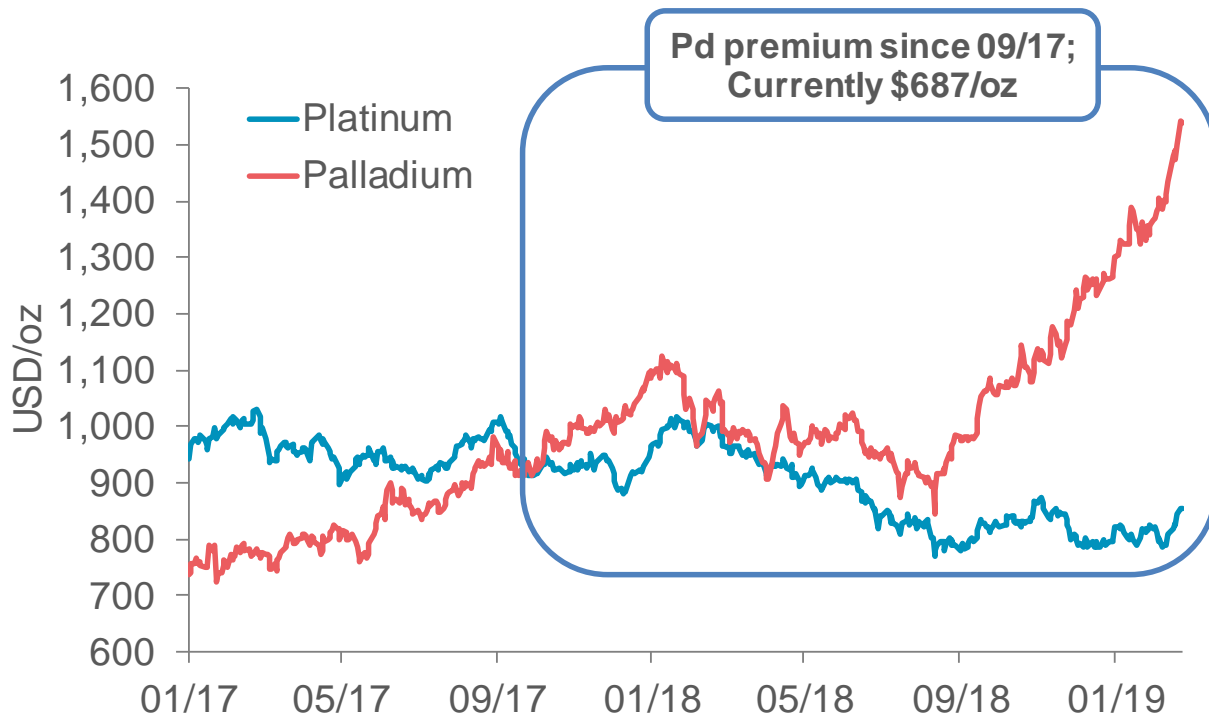
www.allowAIR.org

- German legislation to address city bans can be EU-wide; proof of 270mg/km on-road NO_x level from new index
- Independent rating may address consumer fears & increase diesel sales
- Automakers can now prove ‘clean diesel’ with independent comparable NO_x index

Make	Model	Year	AIR Index Rating	Fuel Type	Official NO _x limit	Euro Standard
Land Rover	Discovery 3.0 TD6	2018	A	Diesel	80 mg/km	Euro 6
Nissan	Qashqai 1.2 DiG-T	2017	B	Petrol	60 mg/km	Euro 6
MINI	Cooper S 3dr 2.0 d	2015	C	Diesel	80 mg/km	Euro 6
Dacia	Duster 1.5 DCI	2018	D	Diesel	80 mg/km	Euro 6
Ford	Focus 1.5 TDCI	2017	D	Diesel	80 mg/km	Euro 6
Renault	Clio 1.5 DCI	2017	E	Diesel	80 mg/km	Euro 6

PALLADIUM PRICE PREMIUM CONTINUES UNABATED

Platinum and palladium price



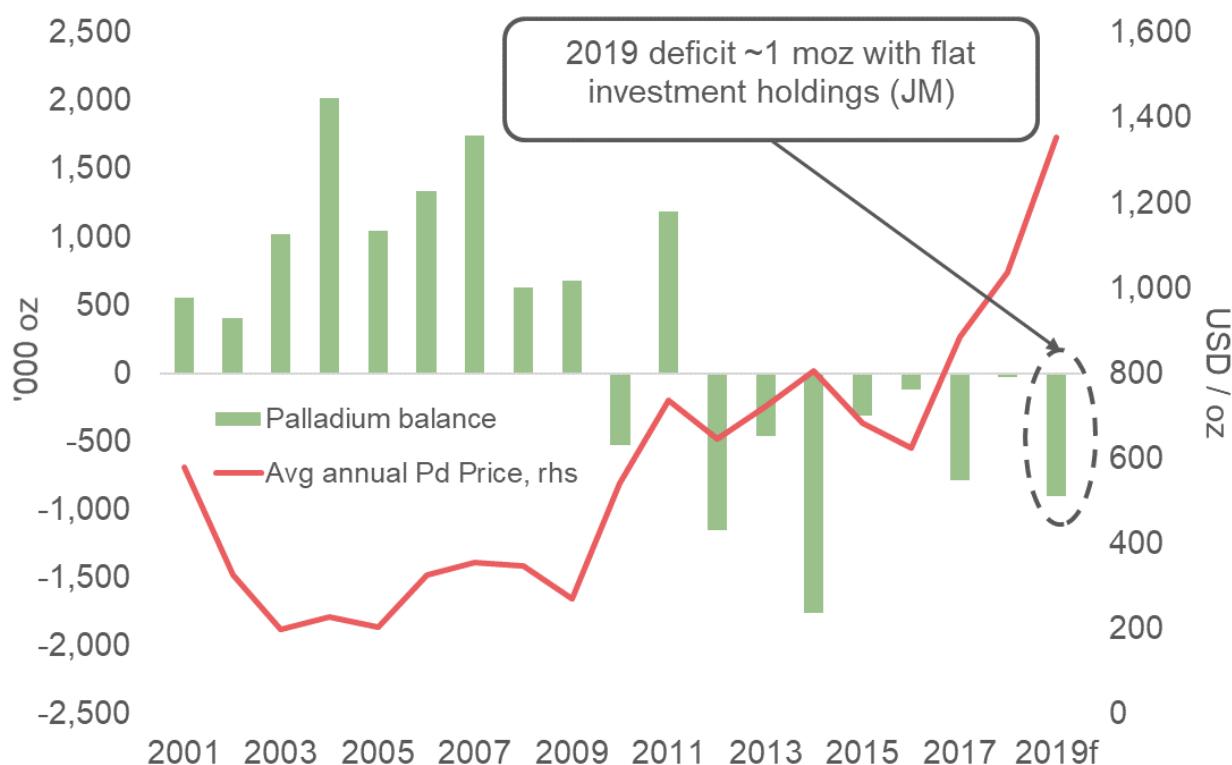
Platinum

Palladium

- Palladium's price first rose above platinum in September 2017, expanding sharply in Q3 2018
- Palladium was \$687/oz above platinum on 25 February 2019
- Palladium in sustained backwardation for over 15 months – shortage of ingot and sponge?

PALLADIUM MARKET IN 8TH ANNUAL DEFICIT; SUPPLY GROWTH UNABLE TO MEET 2019 DEFICIT

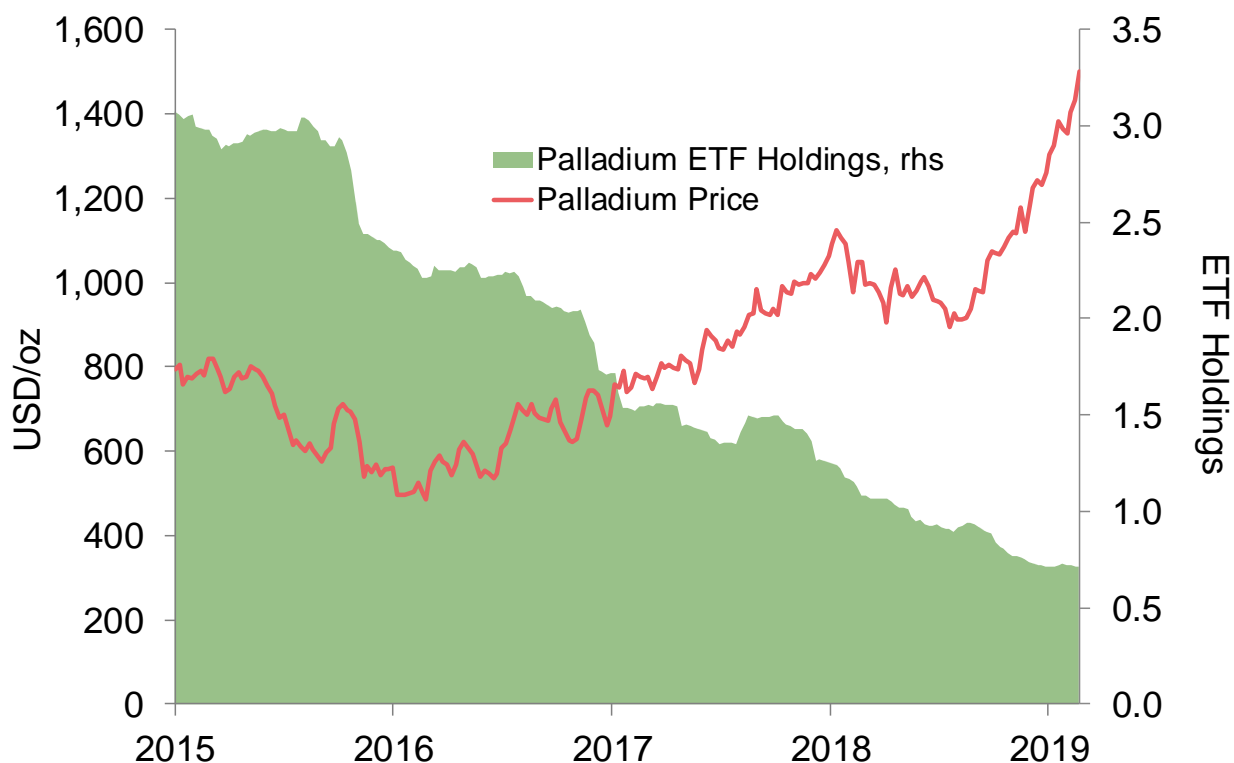
Palladium market balance and price



- Palladium deficit is now in 8th year
- Autocatalyst loadings increasing to meet tighter standards and address compliance risk concerns
- Substantial supply growth is years away
- Some relief possible from opaque stocks, yet, market remains in structural deficit
- Substitution seems the likely solution, though timing is difficult to predict with low levels of disclosure of proprietary, confidential loadings

PALLADIUM ETF HOLDINGS DEPLETED AS A SOURCE TO BALANCE MARKET DEFICITS

Palladium ETFs supplied >2 moz since 2015

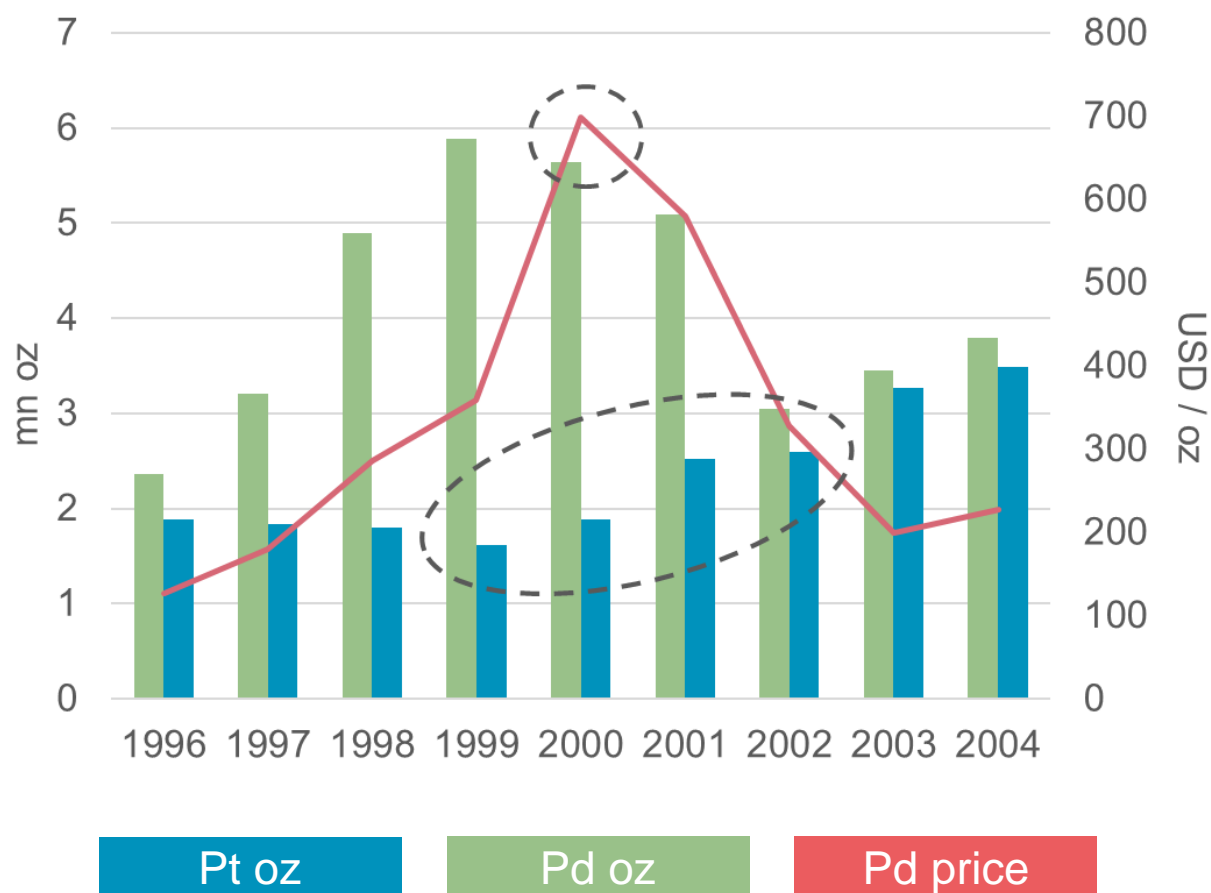


- Palladium ETFs have supplied more than 2 moz since 2015 to help meet market deficits
- Cumulative 2015-2018 palladium deficit was 1.2 moz*
- ETF balance approaching zero unlikely and unable to meet 2019 forecast deficit
- Above ground stock opaque – higher price needed to supply deficits

*Johnson Matthey

SIGNIFICANT PLATINUM SUBSTITUTION OF PALLADIUM HAPPENED BETWEEN 1999 AND 2002

Platinum & palladium autocat demand and price

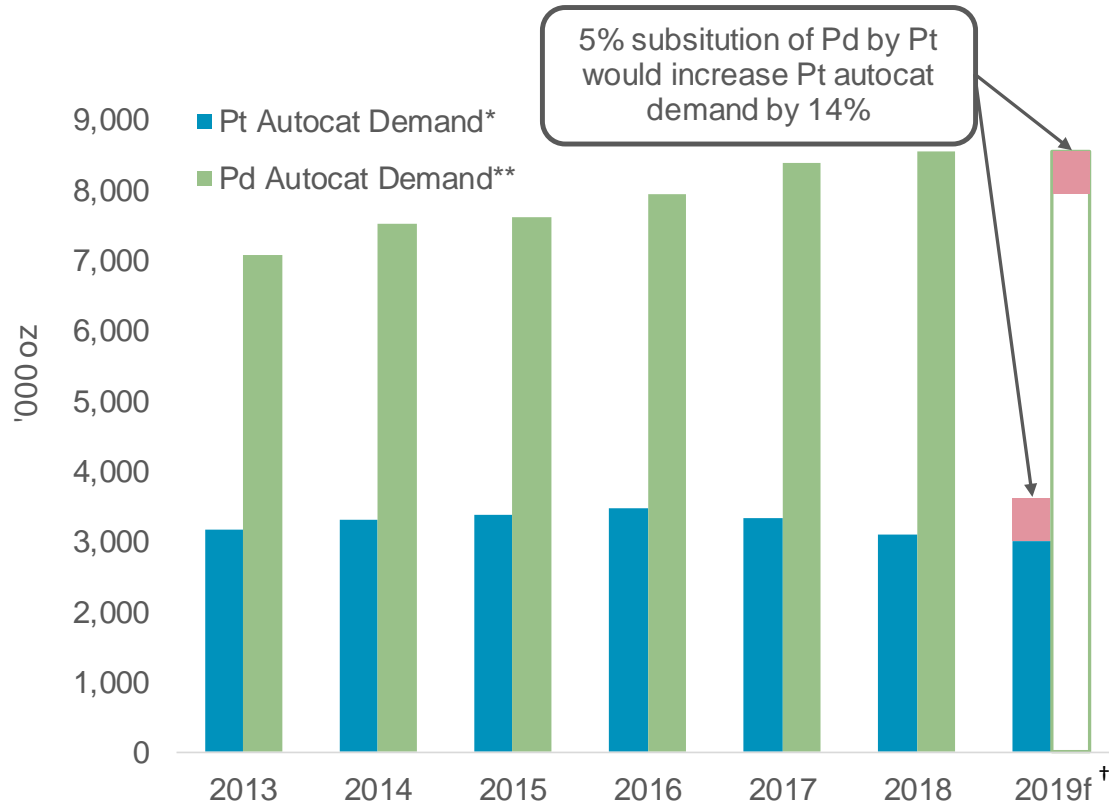


Platinum substituted for palladium in gasoline cars in past price peaks.

- Palladium spiked to \$1,000/oz in 2000
- Platinum demand grew 61% from 1999, to 2002, c. 1m oz per annum
- Substitution ratio was 2Pd:1Pt at that stage due to fuel sulphur level and wash coat instability

IMPACT OF HIGHER DIESEL SHARE AND SOME PALLADIUM SUBSTITUTION – MATERIAL FOR PLATINUM

Platinum and palladium autocat demand



- Diesel share change of 4% is ~100 koz per annum (JM estimate and ~decline 2016 to 2018)
- A relatively small amount of substitution from palladium to platinum (at 1:1 ratio) would be meaningful
- Example using 2018 Pd auto demand: 5% substitution of Pd would increase Pt autocatalyst demand by over 400 koz per annum

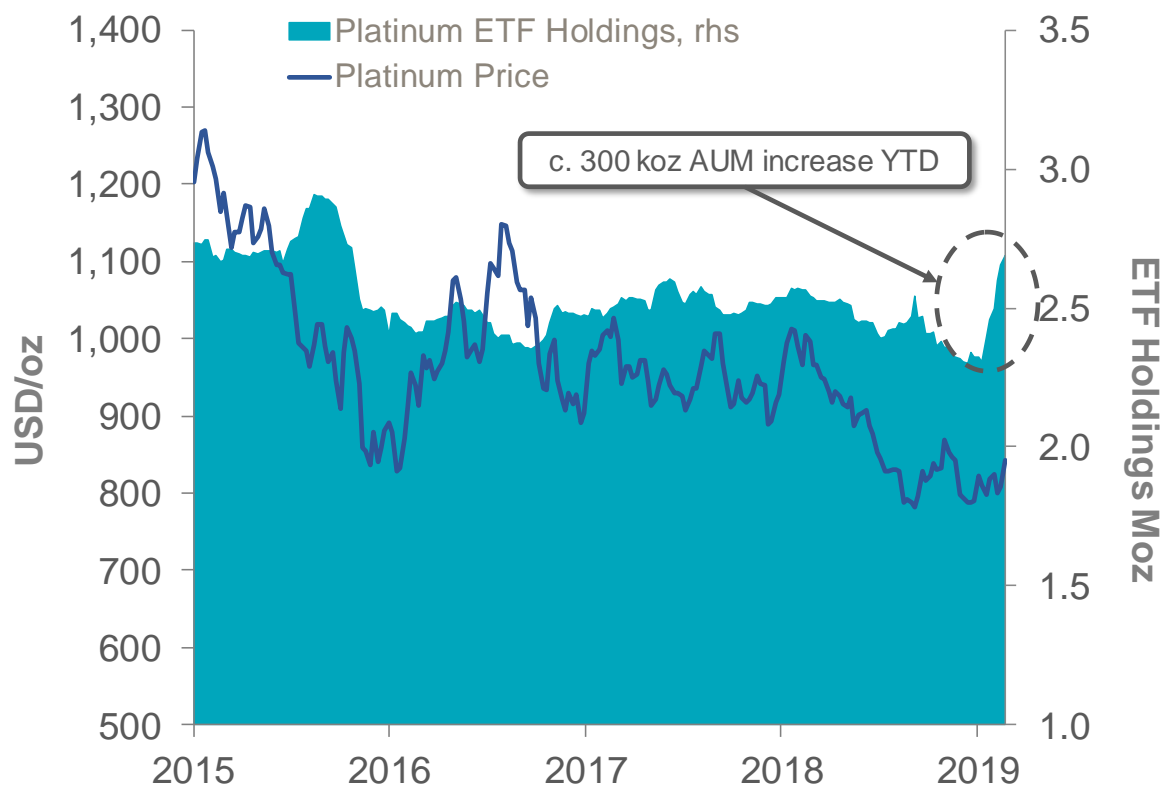
* Platinum data is from SFA Oxford

** Palladium data is from Johnson Matthey

† Johnson Matthey has not published a 2019 palladium autocatalyst demand estimate, for illustrative purposes, our graph shows 2019 demand as equal to 2018

PLATINUM ETF HOLDINGS INCREASED MARKEDLY IN 2019, UNDERPINS FORECAST INVESTMENT DEMAND

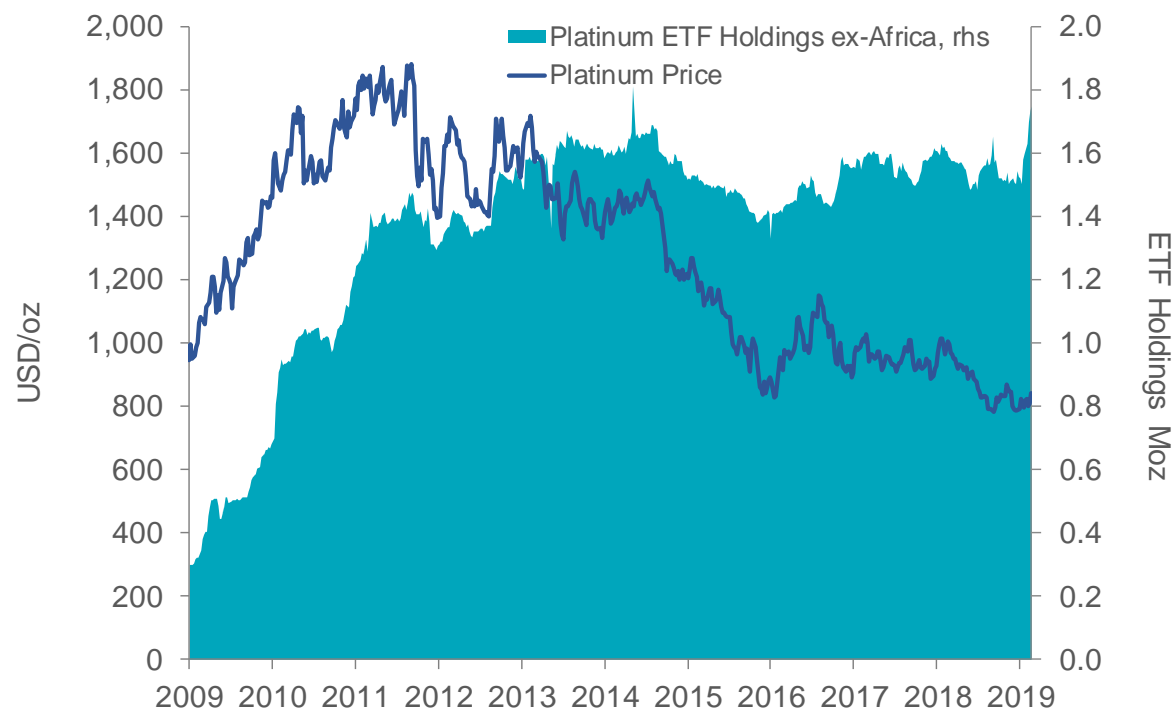
Platinum ETF holdings and price/oz



- YTD platinum ETF growth of c. 400 koz informs 2019 investment demand forecast of 530 koz
- Retail coin and bar demand has been fairly steady and should add the balance

GLOBAL PLATINUM AUM RESILIENT - ETFs STABLE DESPITE PRICE VOLATILITY

Global platinum ETF holdings ex-Africa



- Platinum ETF AUM has historically been fairly stable
- Platinum AUM stability likely during significant price change. Similar sales to palladium ETFs unlikely without extreme price moves
- ETF AUM shown ex-South Africa to highlight global trends

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