

PLATINUM QUARTERLY PRESENTATION Q1 2019

London

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AGENDA: PLATINUM QUARTERLY Q1 2019 AND 2019 FORECAST

1. Introduction

Paul Wilson, CEO

2. Platinum Quarterly, Fundamentals review

Trevor Raymond

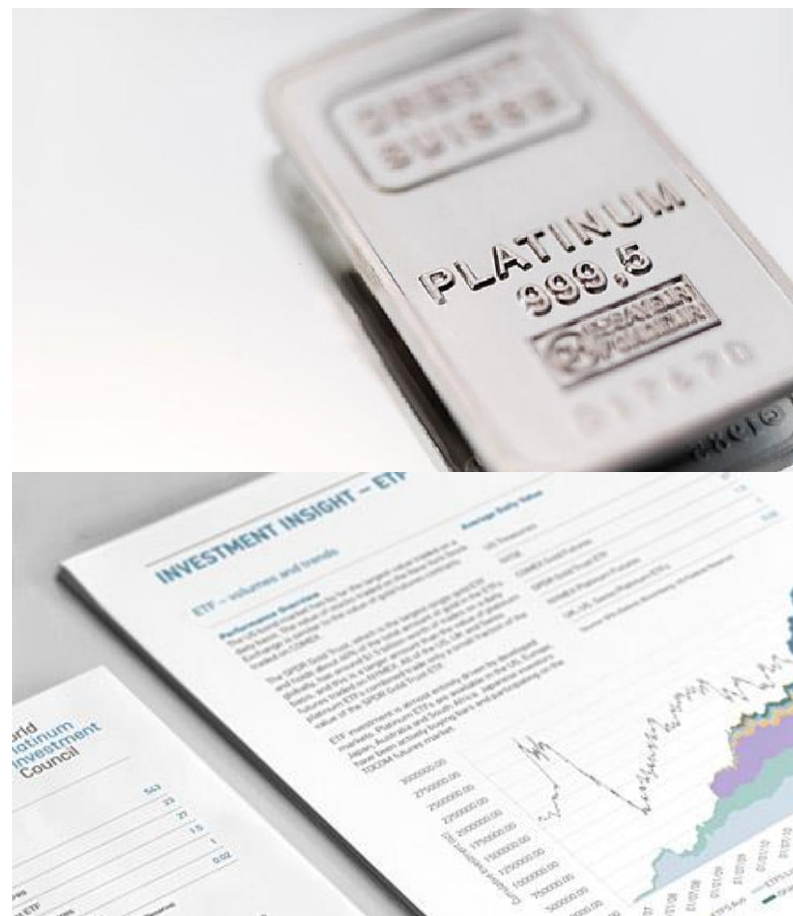
3. Focus on fundamental drivers

Trevor Raymond

4. Questions

Paul Wilson

Trevor Raymond



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Supply, demand and balance: Q1'19, 2019f

Trevor Raymond, Director of Research

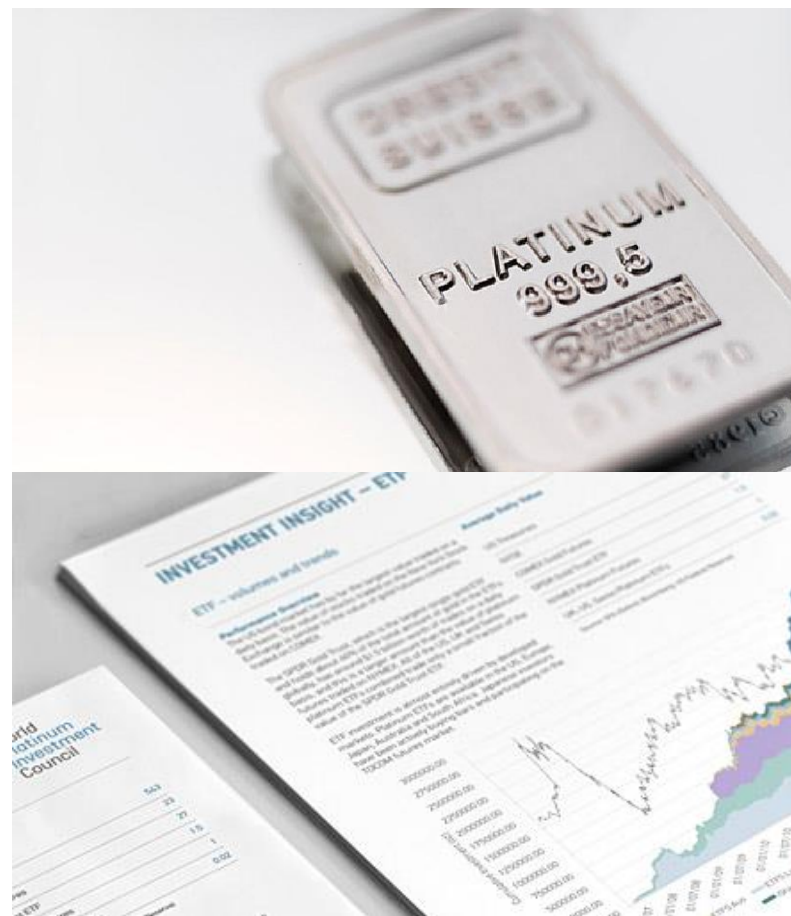
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Q1 2019 SUPPLY: SA MINE SUPPLY UNSEASONALLY STRONG, AUTOCATALYST RECOVERY FIRM

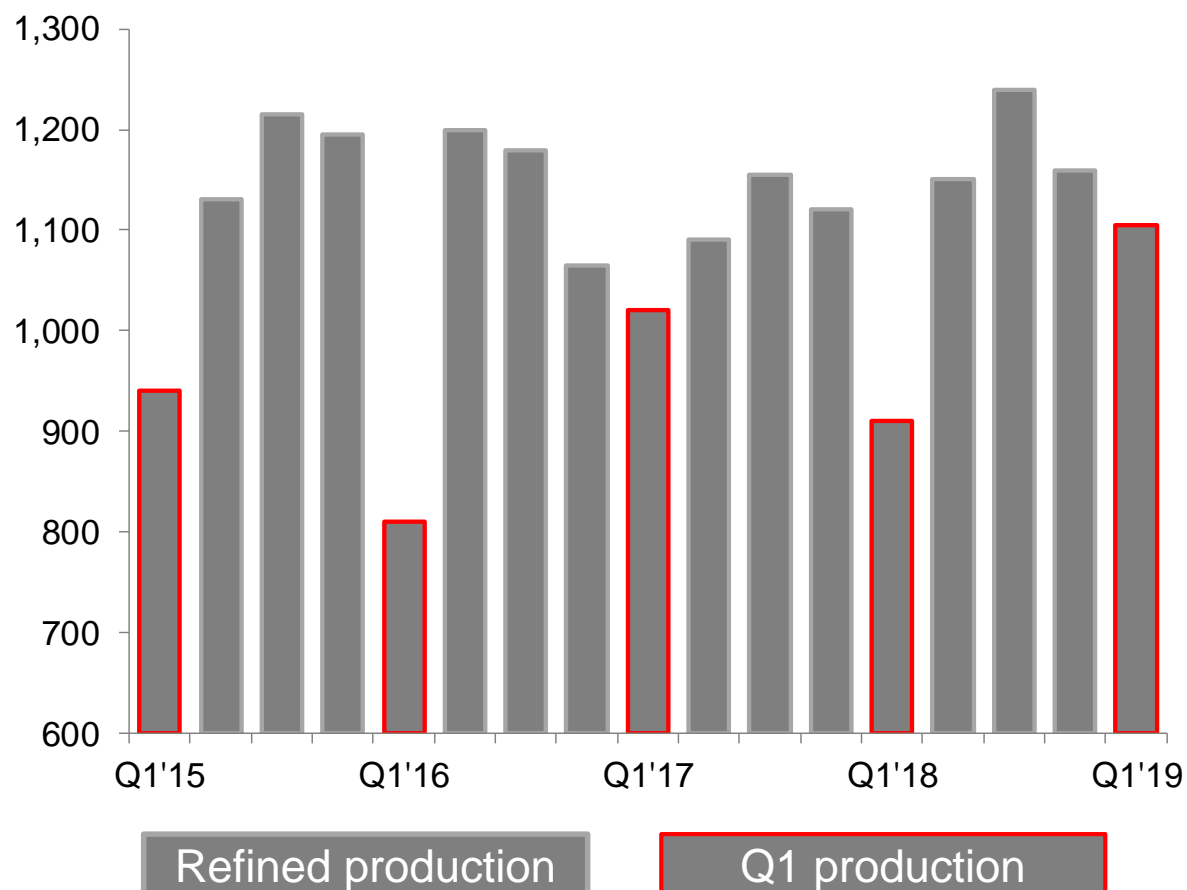
SUPPLY	Q1 2018 // Q4 2018		Q1 2019
Refined Production	1,295	1,560	1,525
South Africa	910	1,160	1,105
Zimbabwe	115	120	110
North America	90	95	100
Russia	140	145	165
Other	40	40	45
Inc(-)/Dec(+) in Producer Inventory	-10	-20	+5
Total Mining Supply	1,285	1,540	1,530
Recycling	460	495	480
Autocatalyst	330	380	355
Jewellery	130	115	125
Industrial	0	0	0
Total Supply	1,745	2,035	2,010

- South African mining supply up 21% YoY in Q1'19 from process lock-up release
- Russian supply up 25 koz YoY on planned rise in 2019 output
- Recycling supply up 4% YoY:
 - autocatalyst +8%
 - jewellery -4%
- Q1'19 total supply up 15% year-on-year

MINING SUPPLY: SOUTH AFRICAN SUPPLY

POWER DISRUPTION AND LABOUR ACTION RISKS

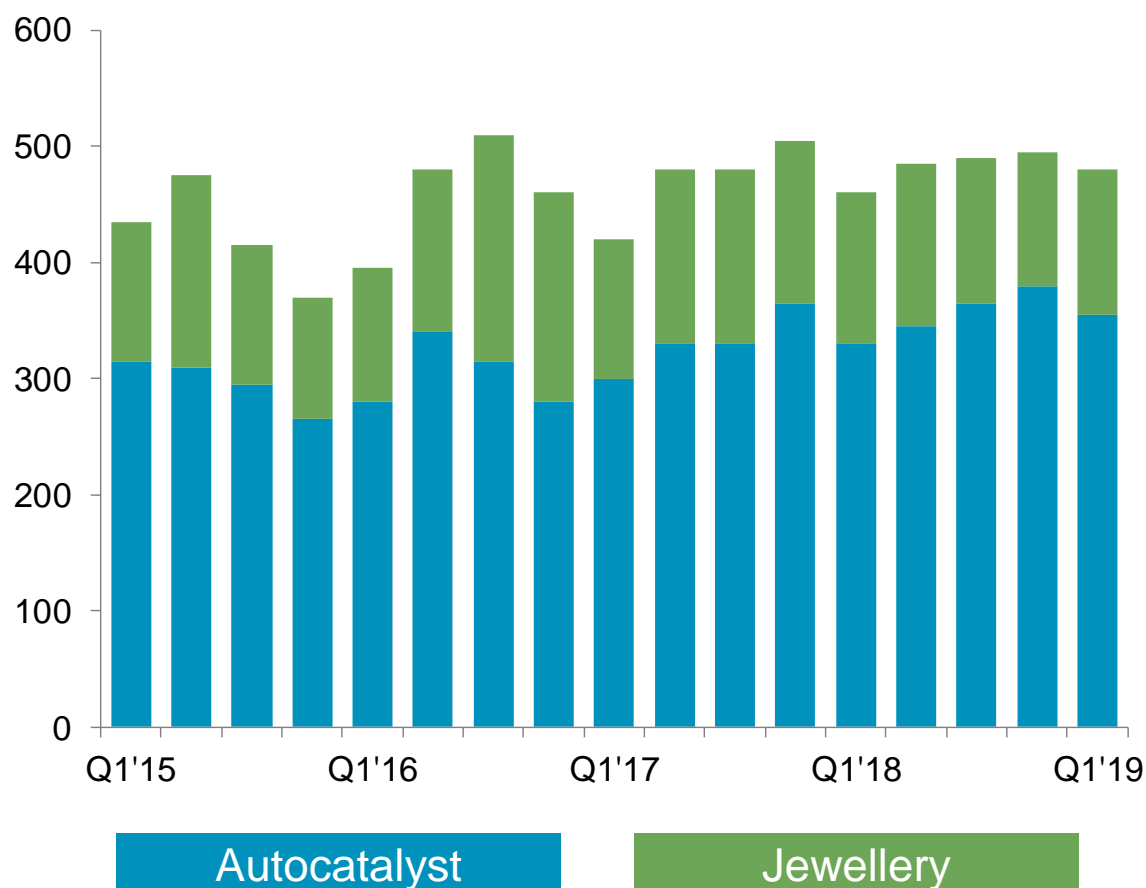
South African quarterly production (koz)



- South African mining supply against seasonal trend of weak Q1 due to release of smelter pipeline stock
- Power disruptions in Q1'19 crimped refined production and remains an ongoing risk (Eskom “load shedding”)
- Industrial action risk heightened in H2'19 due to wage negotiations with AMCU

RECYCLING: Q1 RECYCLING UP, AUTOCATALYST UP, JEWELLERY DOWN

Recycling (koz)



- Q1'19 autocatalyst recycling up 8% on Q1'18 – down 7% on record Q4'18
- Palladium and rhodium prices increasing gasoline and all catalyst recycling
- Jewellery recycling down 4% YoY on low platinum price and soft sales in China

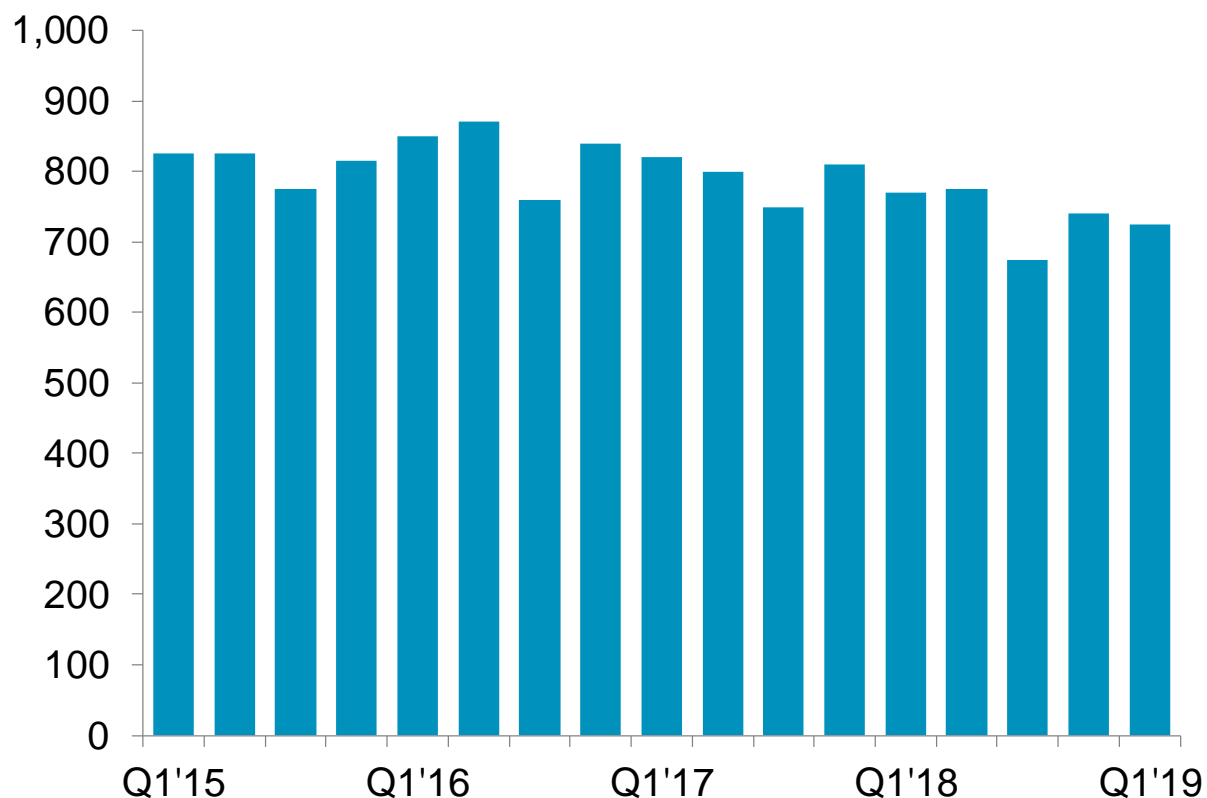
Q1 2019 DEMAND: STRONG INVESTMENT MORE THAN OFFSETS LOWER AUTO AND JEWELLERY

DEMAND		Q1 2018 // Q4 2018	Q1 2019
Automotive		805	780
	Autocatalyst	770	740
	Non-road	35	40
Jewellery		605	600
Industrial		475	470
	Chemical	145	135
	Petroleum	55	55
	Electrical	55	50
	Glass	60	45
	Medical & Biomedical	55	70
	Other	105	115
Investment		60	-65
	Change in Bars, Coins	85	50
	Change in ETF Holdings	-15	-115
	Change in Stocks Held by Exchanges	-10	0
Total Demand		1,945	1,785
Balance		-200	250

- Automotive demand down 5% (40 koz) YoY but decline in diesel sales slows
- Jewellery down in China, partly offset by growth in all other regions
- Industrial stable
- ETF demand surges to record high, supported by solid bar and coin purchases
- Q1'19 total demand up 32% YoY
- Market deficit also highest ever

Q1 2019 DEMAND: AUTOCATALYST DECLINE CONTINUED BUT SLOWER RATE OF SALES DECLINE

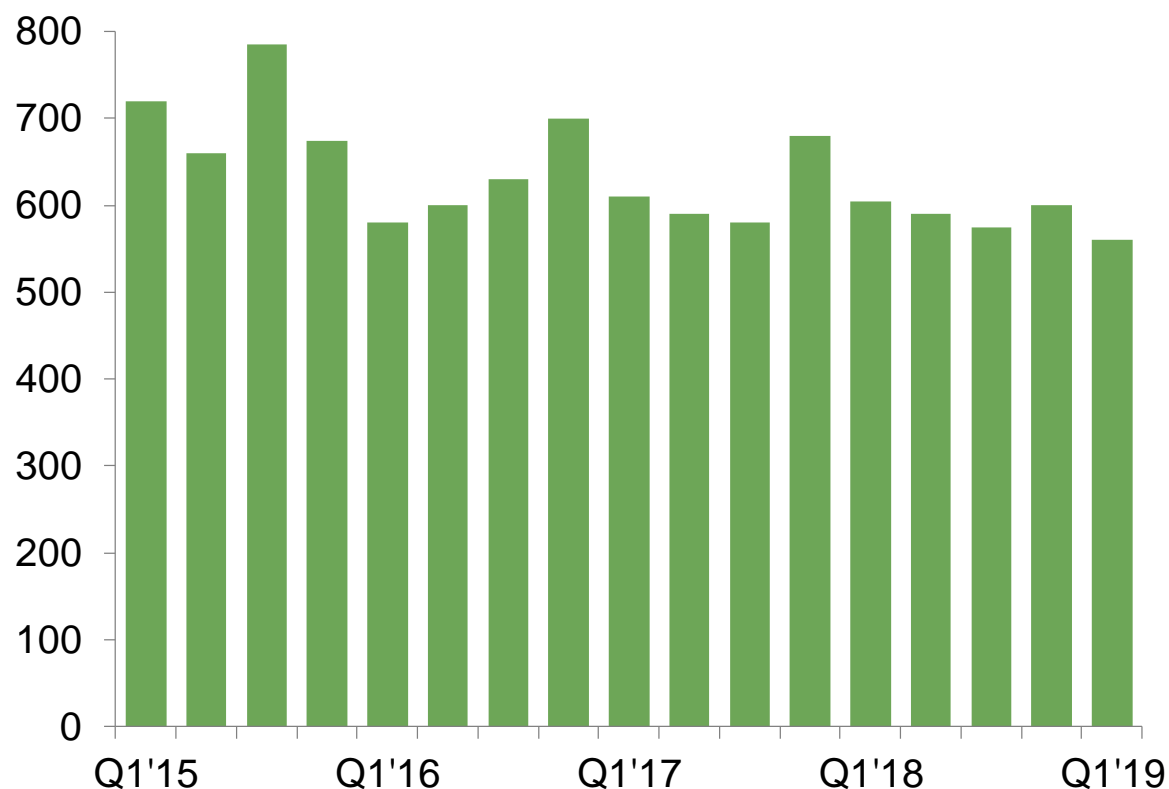
Autocatalyst demand (koz)



- Autocatalyst (excl. non-road) demand fell 6% to 725 koz in Q1'19 from 770 koz in Q1'18
- W. Europe diesel share declined slowed on increased evidence of cleaner diesels
- Diesel vehicles still have vital role in meeting CO₂ targets and avoiding heavy fines

Q1 2019 DEMAND: JEWELLERY REMAINS WEAK IN CHINA - GROWTH IN ALL OTHER REGIONS

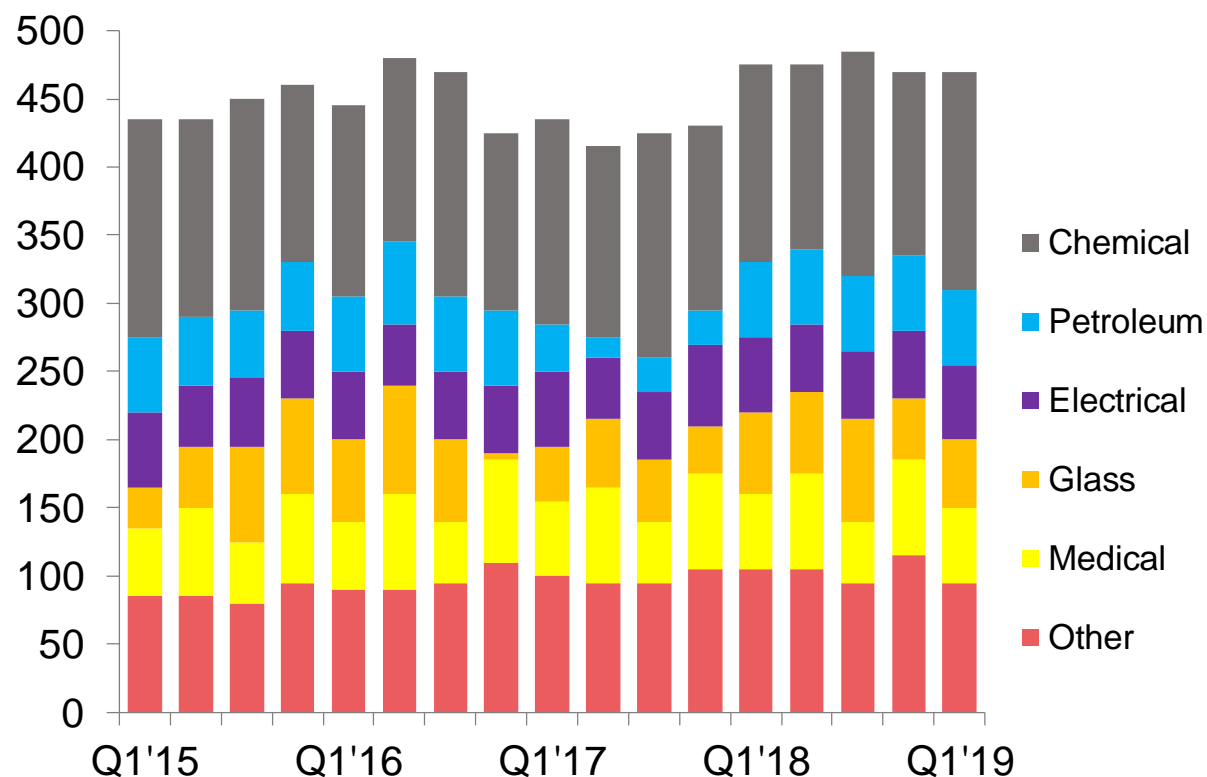
Jewellery demand (koz)



- Jewellery demand was 560 koz in Q1'19, down 7% as Chinese demand fell sharply again
- Gains in all other regions were more than offset by China weakness
- Platinum purchases on SGE down - reflecting weakness in China retail jewellery sales

Q1 2019 DEMAND: INDUSTRIAL DEMAND STABLE, CHEMICAL UP, GLASS AND OTHER DOWN

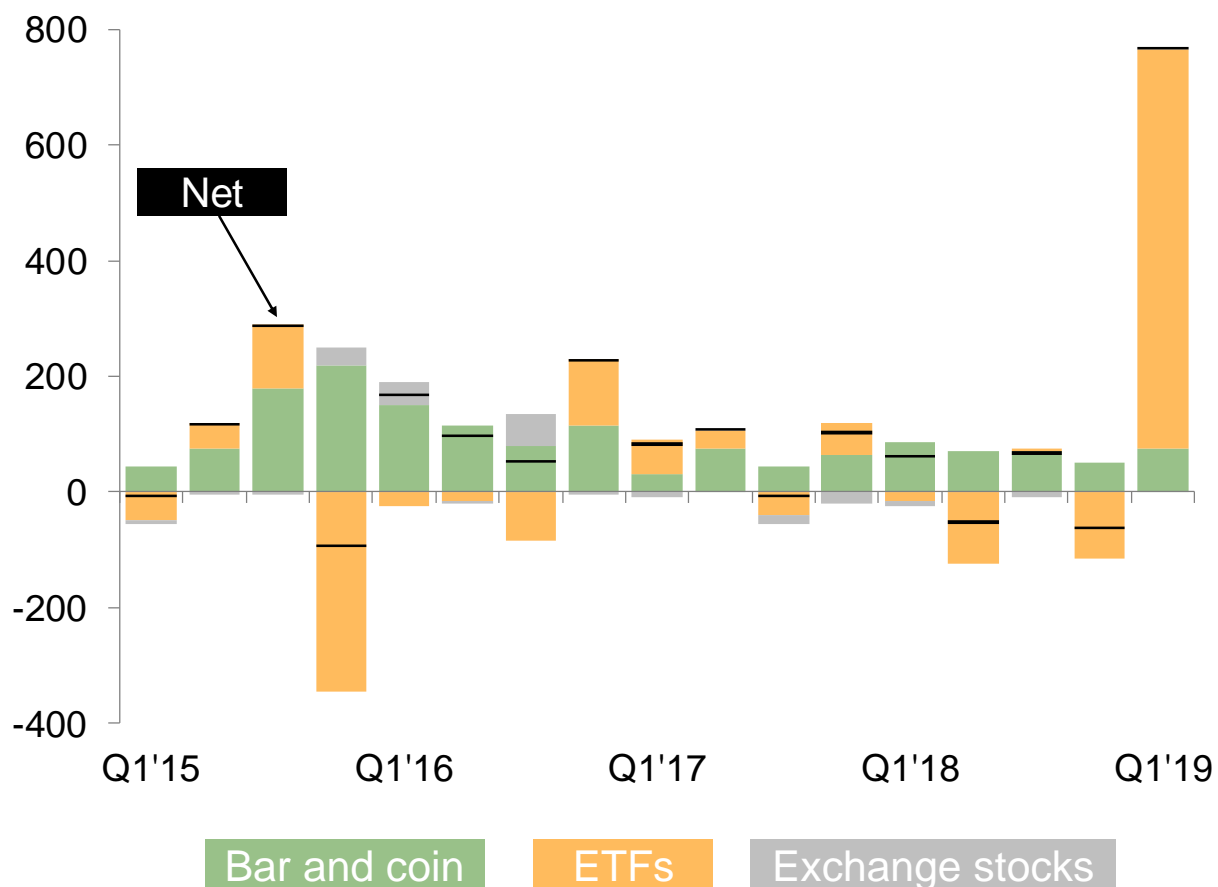
Industrial demand by category (koz)



- Platinum industrial demand was 470 koz in Q1'19, down 5 koz (-1%) YoY, flat QoQ
- Increase in new catalyst purchases by the chemical sector in China
- Construction of fewer new glass fabrication facilities in China reduced new metal demand for tooling
- Other - lower consumption in automotive sensors and fuel cells

Q1 2019 DEMAND: INVESTMENT SURGE ON RECORD ETF INFLOW AND SOLID BAR & COIN PURCHASES

Investment demand by category (koz)



- ETF demand in Q1'19 surged 690 koz, largest ever rise in Pt ETF holdings
- Bar & coin demand at 75 koz with strong US coin purchases, lacklustre Japanese bar purchases
- Exchange stocks unchanged
- Net investment demand of 765 koz, swings market to 550 koz deficit in Q1'19

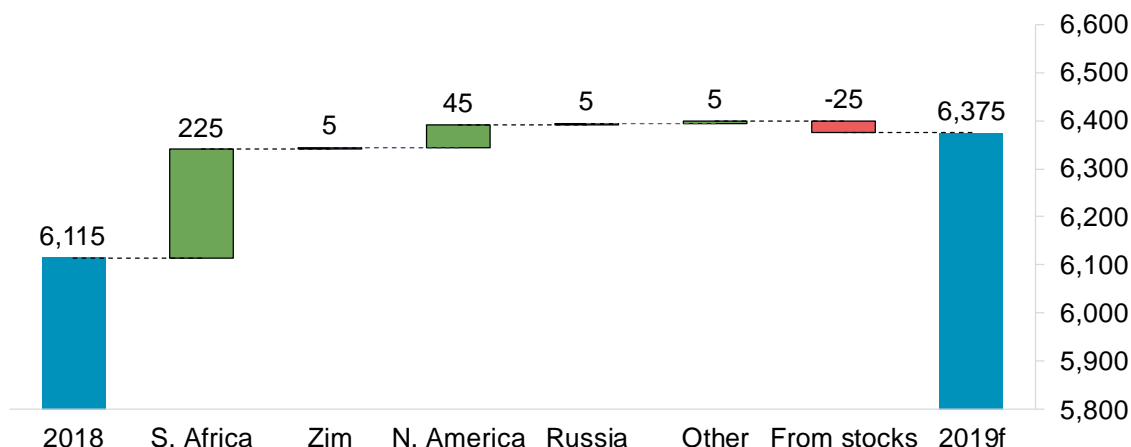
ANNUAL BALANCES: 2019 SURPLUS DOWN ON 2018 AS DEMAND INCREASES 295 KOZ MORE THAN SUPPLY

SUPPLY		2018	2019f	YoY, oz	YoY, %
Refined Production		6,115	6,400	285	5%
	South Africa	4,460	4,685	225	5%
	Zimbabwe	465	470	5	1%
	North America	355	400	45	13%
	Russia	665	670	5	1%
	Other	170	175	5	3%
Inc (-)/Dec (+) in Producer Inventory		+0	-25	-25	
Total Mining Supply		6,115	6,375	260	4%
Recycling		1,935	1,995	60	3%
	Autocatalyst	1,420	1,495	75	5%
	Jewellery	510	495	-15	-3%
	Industrial	5	5	0	0%
Total Supply		8,050	8,370	320	4%
DEMAND					
	Automotive	3,105	3,010	-95	-3%
	Jewellery	2,355	2,310	-45	-2%
	Industrial	1,905	1,890	-15	-1%
	Investment	15	785	770	N/M
Total Demand		7,380	7,995	615	8%
Balance		670	375	-	-
Above Ground Stocks		2,845	3,220	375	13%

- South African supply up 5% (225 koz) on one-off work in process release; North America supply up 13% (45 koz) on a project ramp up
- Recycling up 3% (60 koz) on higher autocatalyst offset by lower jewellery
- Total supply up 4% (320 koz) in 2019
- Total demand up 8% (615 koz) on investment demand surge, partly offset by small automotive, jewellery and industrial declines
- Surplus in 2019 (375 koz) narrows from 2018 (670 koz)

2019 TOTAL SUPPLY UP 4% - SA MINING SUPPLY UP 5% WITH DOWNSIDE RISK - TOTAL DEMAND UP 8%

Total mining supply 2018 to 2019 (koz)



- Mining supply up 4% - South Africa up 5% on work in progress build-up in 2018 and US up on new project
- SA mine supply risks elevated due to constrained Eskom power supply and labour tension (wages/job losses)

Total demand 2018 to 2019 (koz)



- Total demand up 8% - investment offsets weak automotive and jewellery. Industrial is down 1% - but 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

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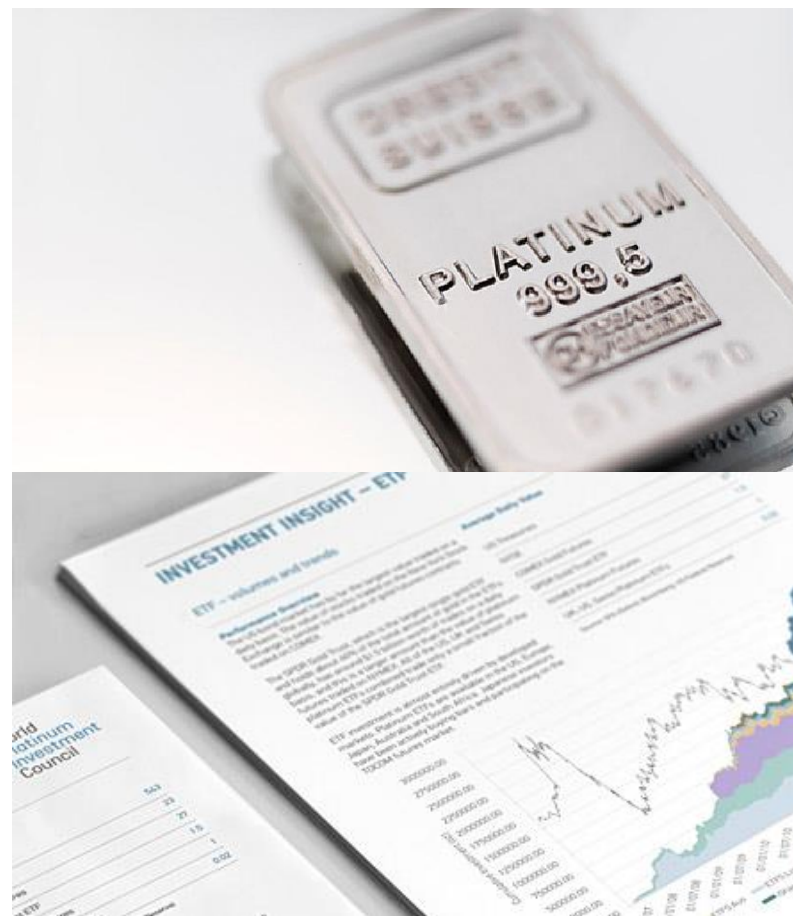
- Platinum ETFs
- Diesel stabilisation
- Platinum in gasoline catalysts

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

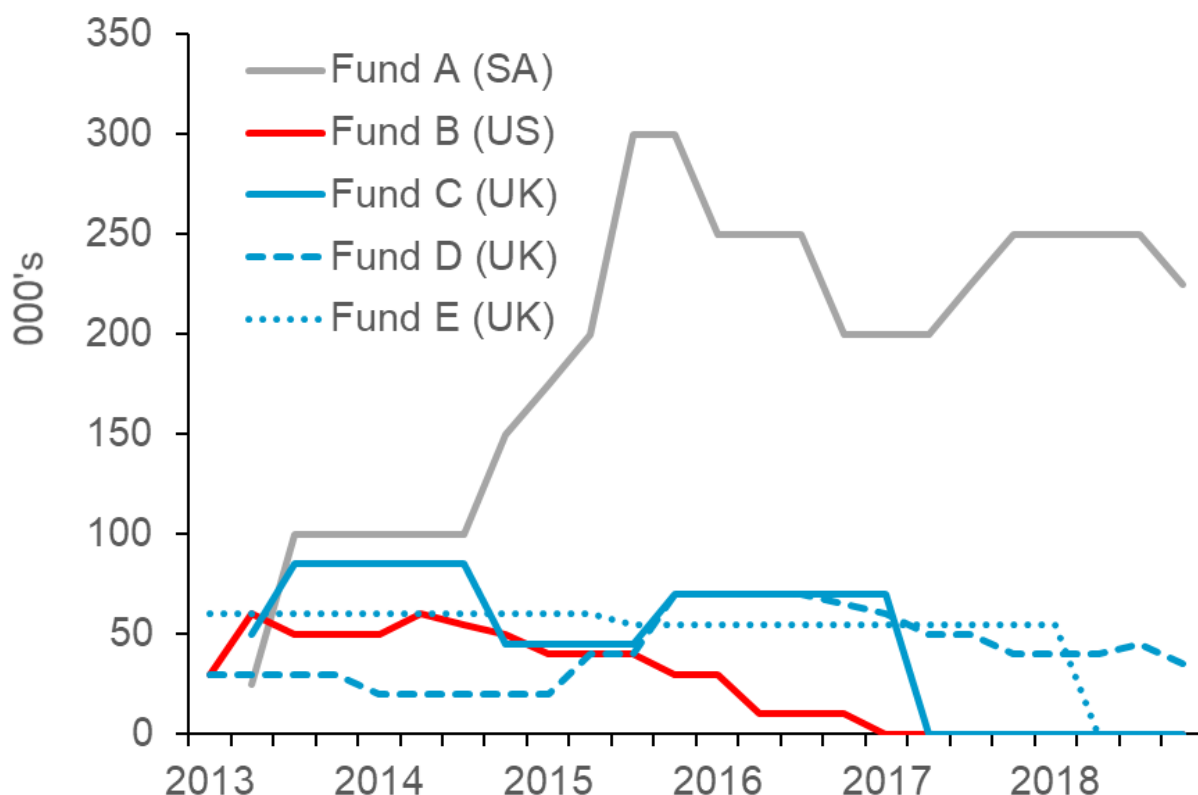
Platinum: ETF holdings and price



- Q1'19 platinum ETF growth of 690 koz informs 2019 investment demand forecast of 785 koz
- Major growth in South Africa (418 koz), EU (196 koz), US (77 koz)
- First major institutional positioning growth since 2014 – a combination of factors required to outweigh long-standing negative sentiment and price decline

ETF GROWTH IN Q1'19: LARGE INSTITUTIONAL HOLDERS, MULTI-YEAR POSITION, TIGHTER MARKET

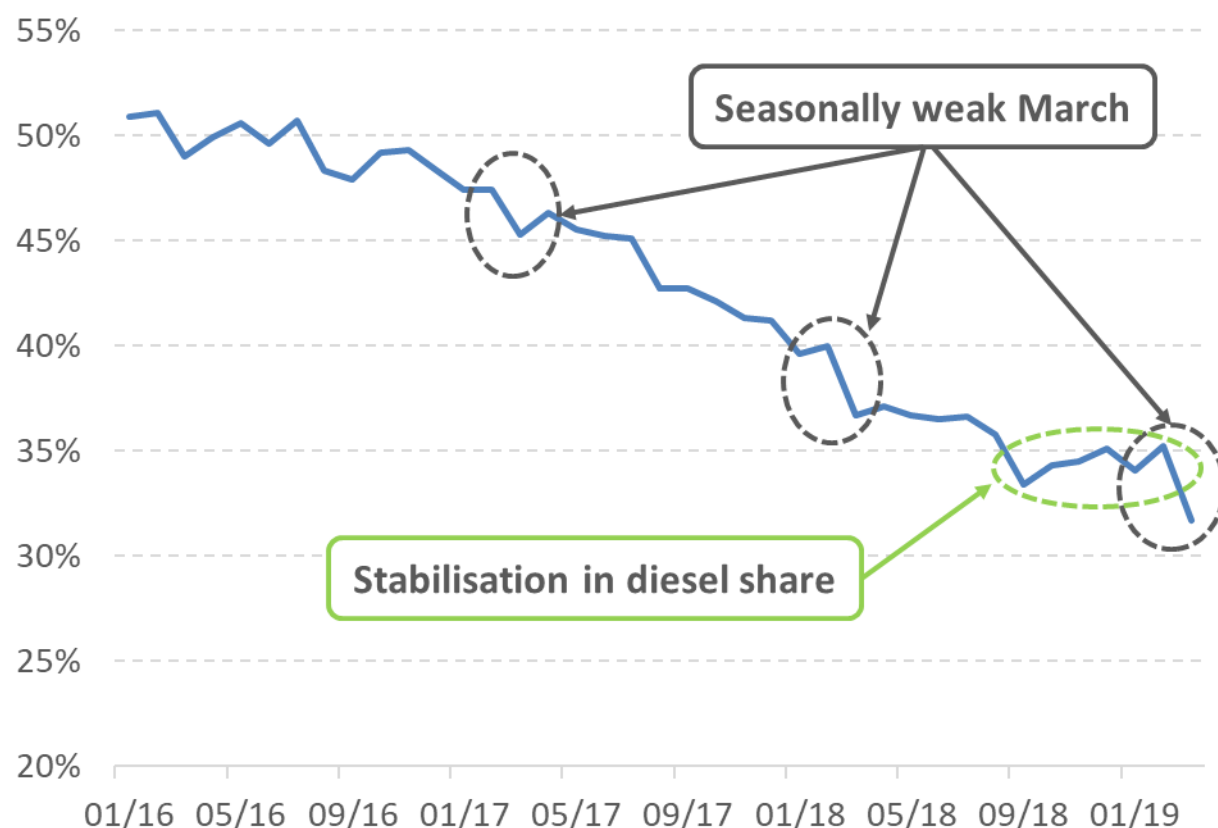
Selection of large institutions' Pt ETF holdings (oz)



- Institutional holdings of platinum ETFs typically multi-year (3 – 5 y)
- Chart examples SA, US and UK(3) – voluntary quarterly reporting
- Highly likely that 690 koz are institutional positions with multi-year view
- Tight market enhances investment case for new entrants

DIESEL CAR SALES IN WESTERN EUROPE STABILISING, SEASONALLY WEAK MARCH EXPECTED

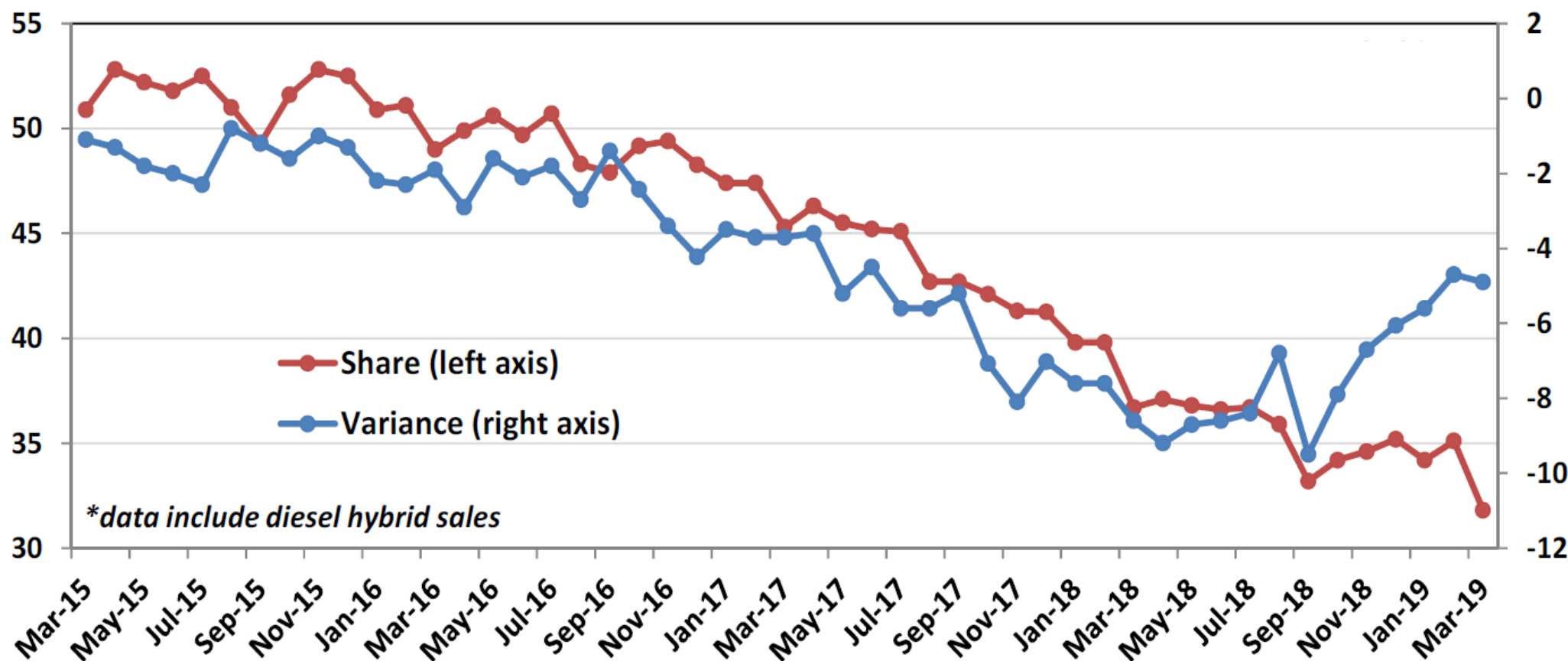
Western European diesel share of auto sales



- W. Europe diesel share over 50% in 2015, prior to Dieselgate
- 33.8% in Sept'18 to 35% in Feb'19 and 31.7% in Mar'19
- Expected weak March - worse in UK: politics and new London LEZ
- New models well below Euro 6 NO_x level on-road, all new car sales RDE from 1 Sept 2019
- City bans being addressed to allay consumer fears – access and resale value

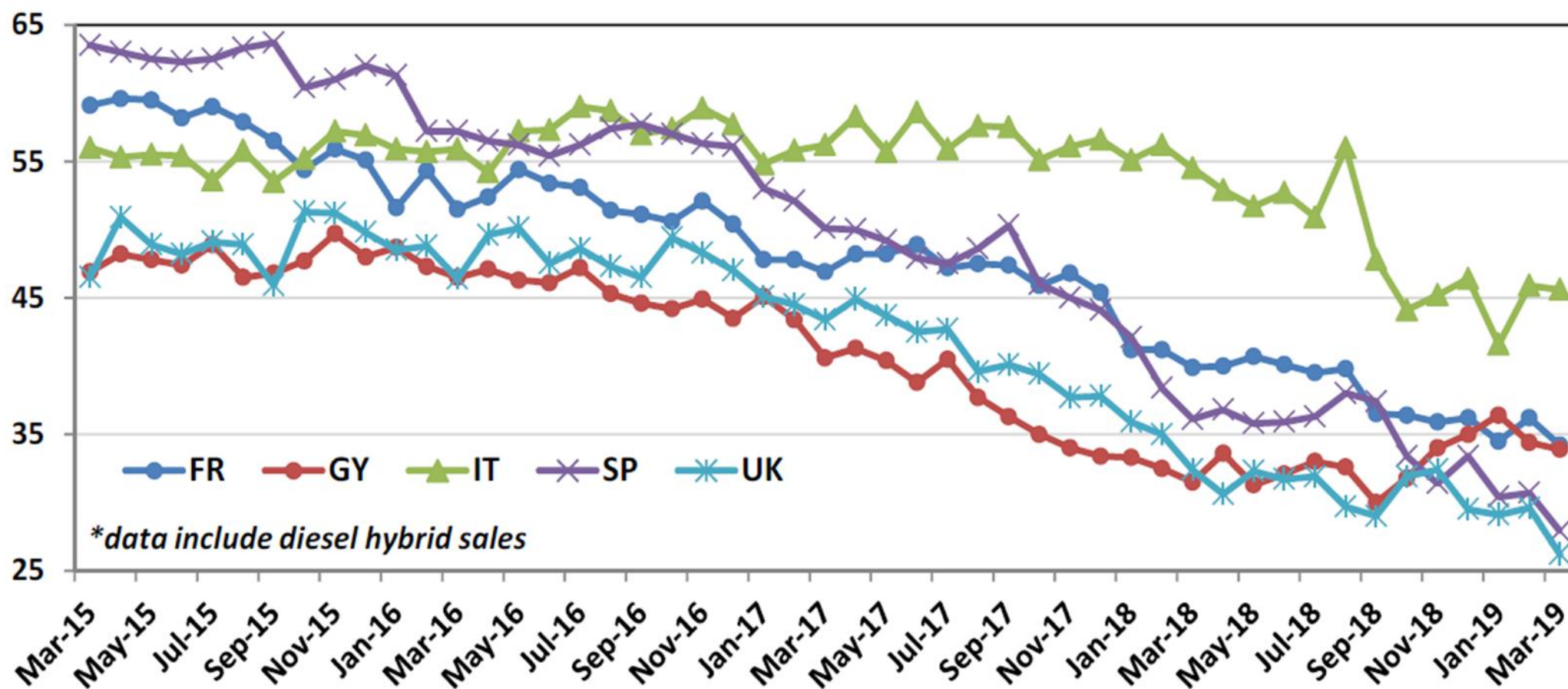
DIESEL CAR SALES IN WESTERN EUROPE STABILISING, RATE OF DECLINE DOWN STEADILY FROM SEPT'18

Western European diesel car share % (lhs), Monthly YoY variance % (rhs) (LMC)



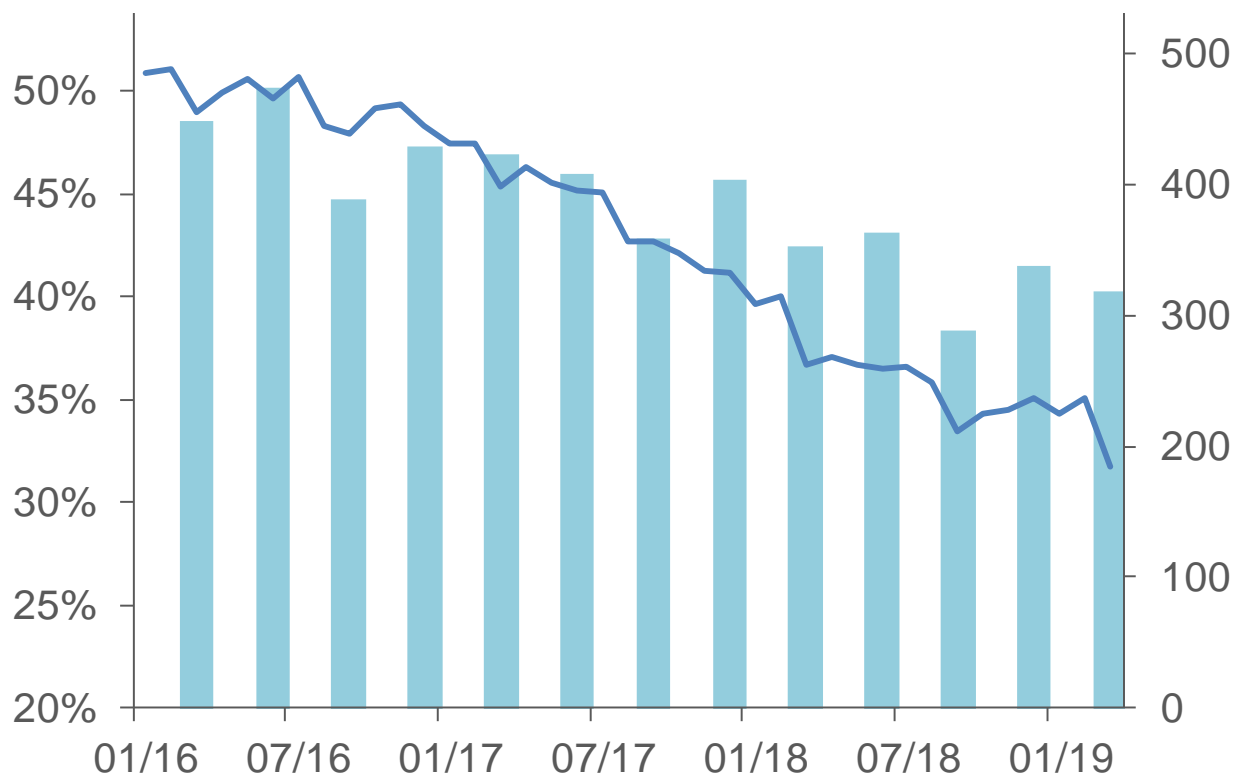
DIESEL CAR SALES IN WESTERN EUROPE STABILISING, WEAK MARCH – UK WORSE, GERMANY FIRM

Western Europe Big 5 diesel car share % (LMC)



WESTERN EUROPE DIESEL PORTION – MOVING FROM PLATINUM DEMAND LOSS TO DEMAND GAIN?

Western Europe diesel share (%), automotive demand (koz)

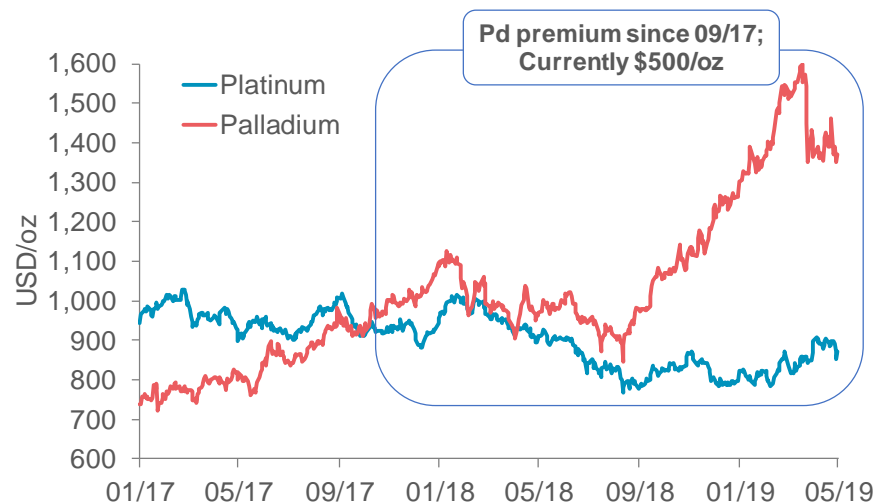


- Diesel share declined from 50% in Q1'16 to 34% in Q1'19 (source: LMC)
- Autocat demand fell from 1.7 Moz in 2016 to 1.3 Moz in 2018, a 400 koz loss
- Recent strong automaker statements on vital role for diesel in CO₂
- All diesel cars 'clean' from Sept 2019 with independent proof
- A 4% recovery over 2 years = c. 100 koz of added Pt demand, but likely more

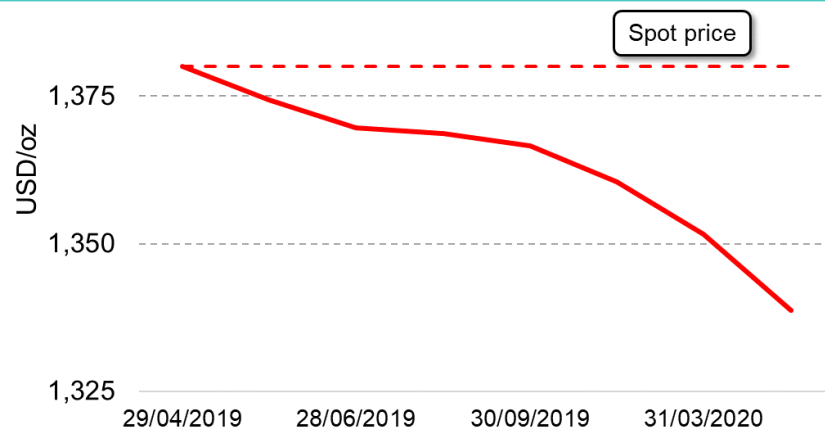
1% change in EU diesel share = c.25kozpa autocat demand

PALLADIUM PRICE PULL-BACK, TEMPORARY? SUSTAINED METAL SHORTAGE, NO SUPPLY RESPONSE

Platinum and palladium price



Palladium futures curve



- Palladium in 8th consecutive deficit
- Cumulative deficit 4.6 moz
- 2 moz from Palladium ETFs – balance from OTC / above ground stocks
- Palladium above platinum from Sept'17, expanding sharply in Q3 2018
- Peak Pd / Pt premium \$743/oz
- Palladium in sustained backwardation for 18 months – shortage of ingot and sponge

PALLADIUM SUBSTITUTION – PROVEN TECHNOLOGY

A SMALL PORTION IS VERY MATERIAL FOR PLATINUM

2013 JM study: Gasoline Pt:Pd ratio is 1:1

Catalyst tested	Catalyst PGM content in g/ft ³			
	Total	Platinum	Palladium	Rhodium
A: Pd, Rh	30	0	25	5
B: Pt, Rh	30	25	0	5
	Catalyst emissions in mg/km			
	Hydrocarbon (HC)	Non-methane HC	CO	NO _x
A: Pd, Rh	66	51	245	38
B: Pt, Rh	65	50	228	35

Regional impact of Pt replacing Pd (koz)

(koz)		
<i>Substitution</i>	<i>5%</i>	<i>10%</i>
Europe	94	188
Japan	43	86
N. America	102	204
China	106	212
RoW	88	176
Total	433	866

- 2013 Johnson Matthey study on 'in-service' Euro 5 gasoline catalyst shows:
 - Substitution ratio of 1:1
 - No performance risk, no re-tooling
 - No additional (new model) certification
- A relatively small amount of substitution from Pd to Pt (at 1:1 ratio) is meaningful
- Using 2018 Pd auto demand, 5% substitution of Pd would increase Pt autocatalyst demand by over 400 koz pa
- Market acceptance of WHEN not IF

IMPACT OF POTENTIAL PALLADIUM SUBSTITUTION – FORD F-SERIES (GASOLINE) SALES IN US

Ford F Series (F150 – F450) sales

Year	Jan	Feb	Mar	Total
2019	71,537	71,537	71,537	214,611
2018	58,937	68,243	87,011	909,330
2017	57,995	65,956	81,330	896,764
2016	51,540	60,697	73,884	820,799
2015	54,370	55,236	67,706	780,354
2014	46,536	55,882	70,940	753,851



- Ford c.32% of segment ~1m per annum
- Total market segment of ~3m
- Easy win for palladium substitution:
 - Low temperature gasoline engine
 - High palladium loading 7 – 14g / vehicle*
 - High margin large vehicle
- Only 20% substitution (i.e. 2g of 10g) will increased platinum demand by 180 koz per annum – *one segment only!*
- New models could substitute >>20%

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