

# G F M S

## Platinum & Palladium

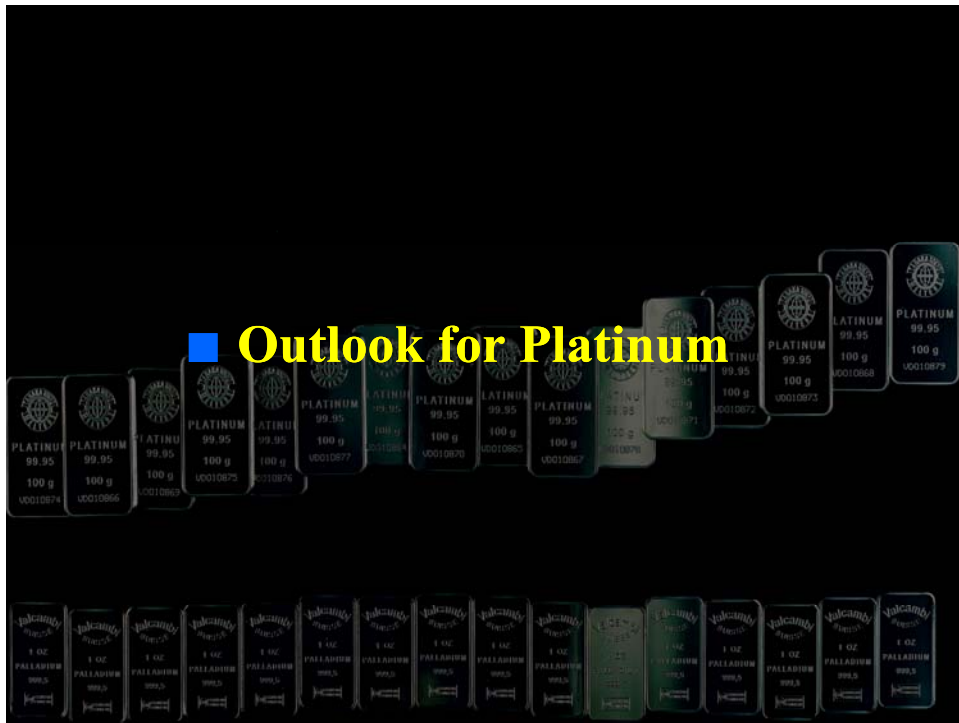
Which Metal is in Surplus?

The Markets in 2008

Paul Walker

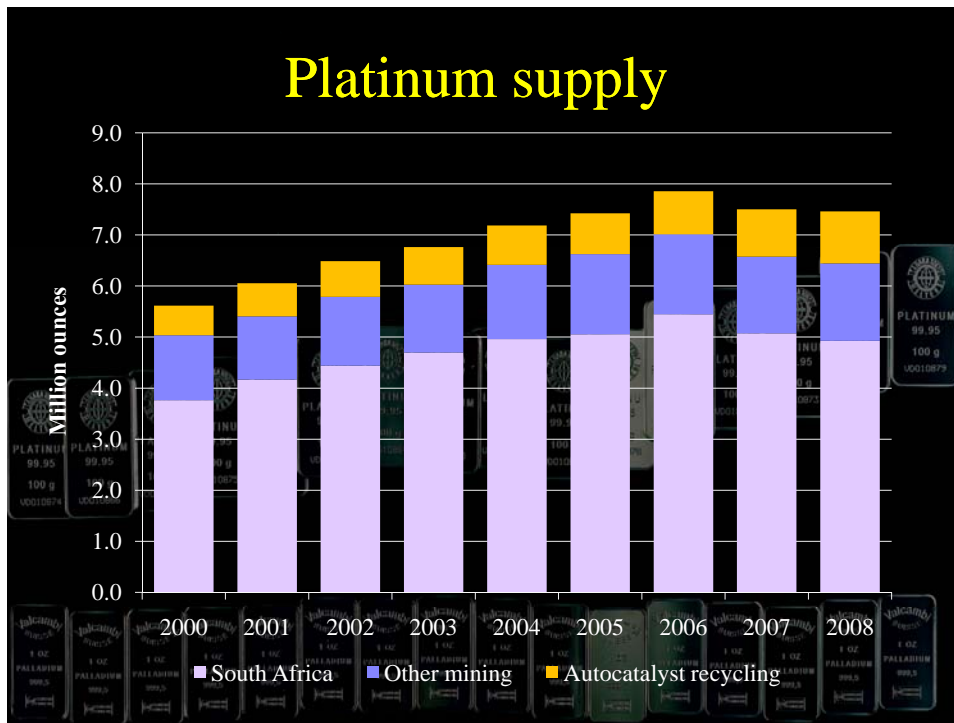


## ■ Outlook for Platinum

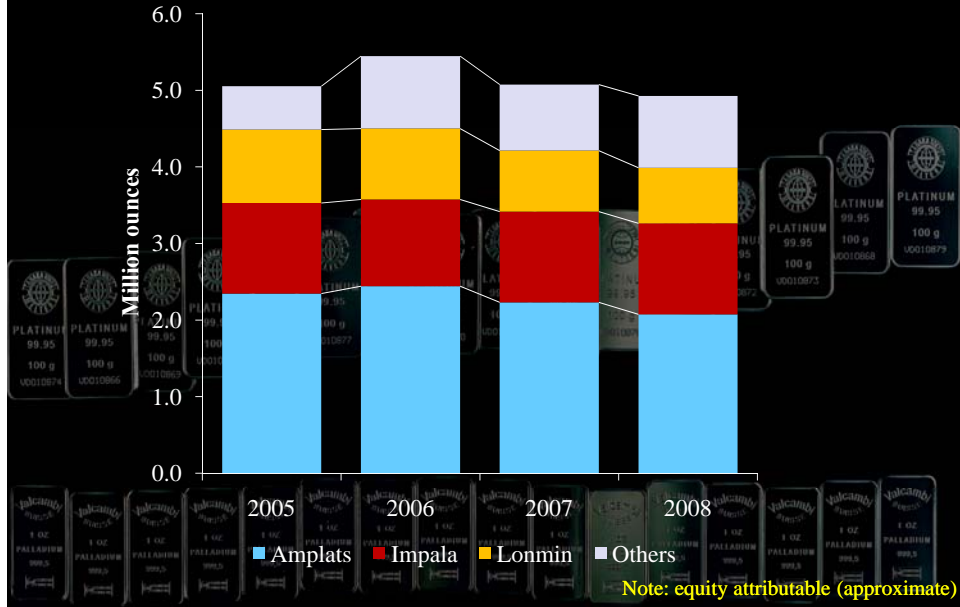


## Platinum – main conclusions 2008

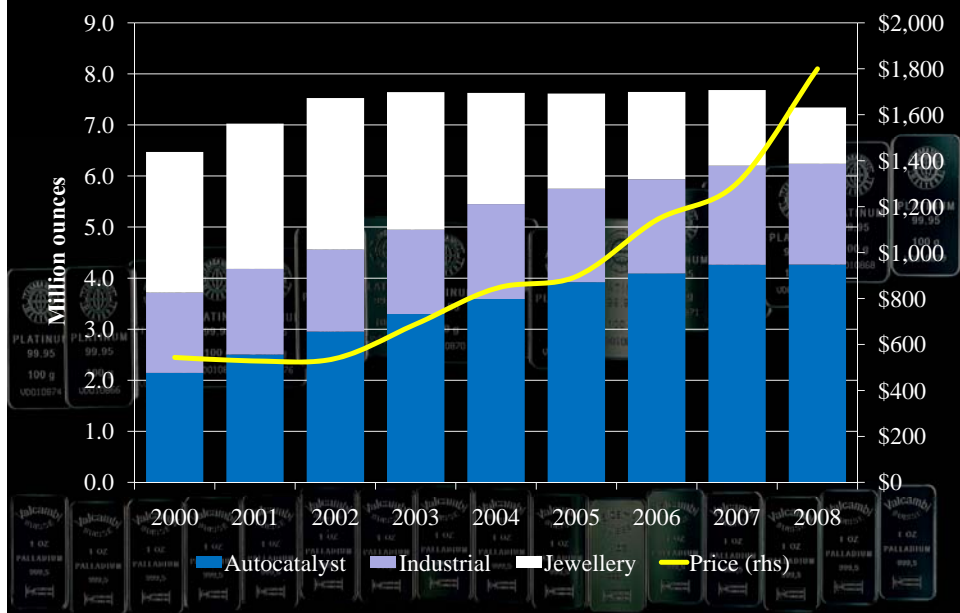
- **After set-backs in 2007 and 2008, we expect growth in South African mine production to resume from 2009.**
- **Ongoing gains in autocatalyst recycling.**
- **Little change in autocatalyst demand with risks to the downside.**
- **Jewellery (net of scrap) to fall sharply in 2008.**
- **Overall, demand to fall this year to 7.3m ozs (7.7m ozs in 2007).**
- **We expect a modest surplus in 2008 (excl ETFs) of 120,000 ozs and anticipate this will rise. Risk are it will be larger.**



## Platinum – South African mine production

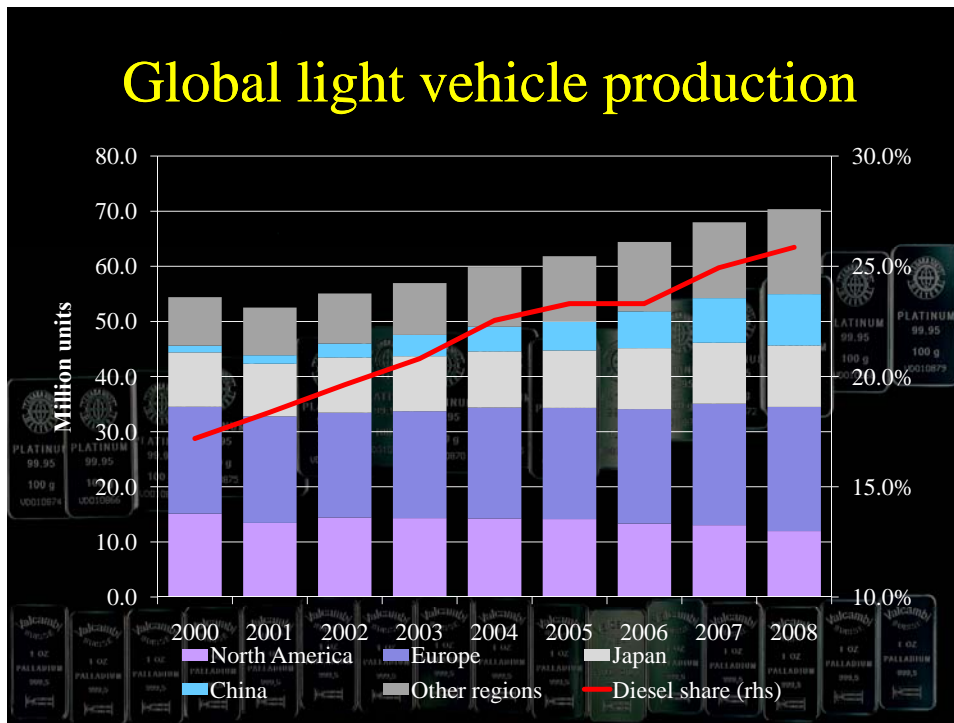


## Platinum fabrication demand

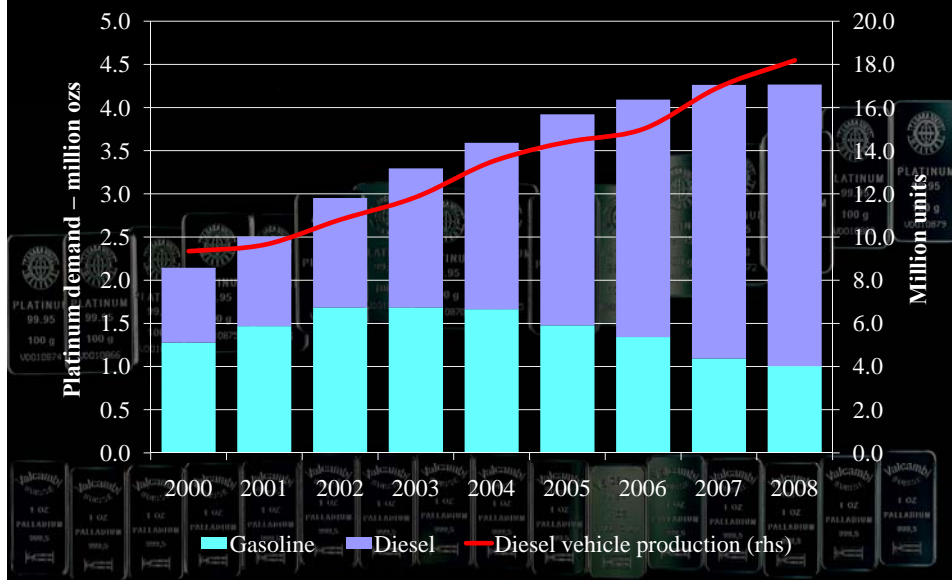


## Platinum in autocatalyst (~4.3m ozs)

- Diesel represents 2/3 of platinum in autocatalyst. Exclusivity now challenged by palladium with up to 30% substitution achievable.
- Substitution of 7% in 2007 and rising. This will counter strong diesel volume growth & limit platinum's gains.
- Europe is key diesel market (2/3 of production) but threatened by weak economy, high diesel prices, improving gasoline efficiency.
- In the US, widespread diesel adoption unlikely due to stricter emissions standards & premium of diesel fuel over gasoline.
- In gasoline, thrifting & preference for palladium continues to weigh on platinum. Demand to ease below 1m ozs from 2009.
- Impact of US auto woes should be offset by emerging market growth. Bigger risk is slowdown in Europe & impact on diesel.



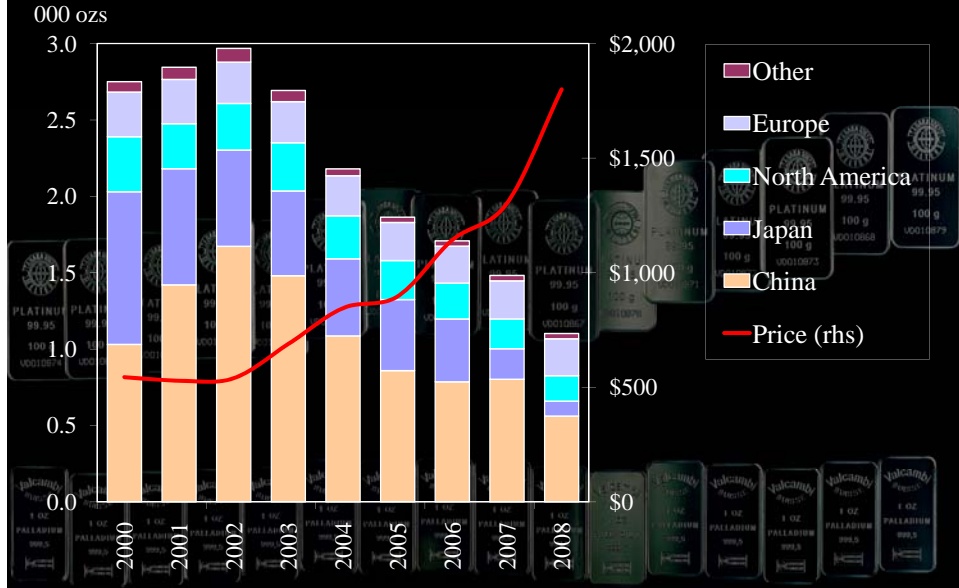
## Autocatalyst: platinum demand by fuel variant



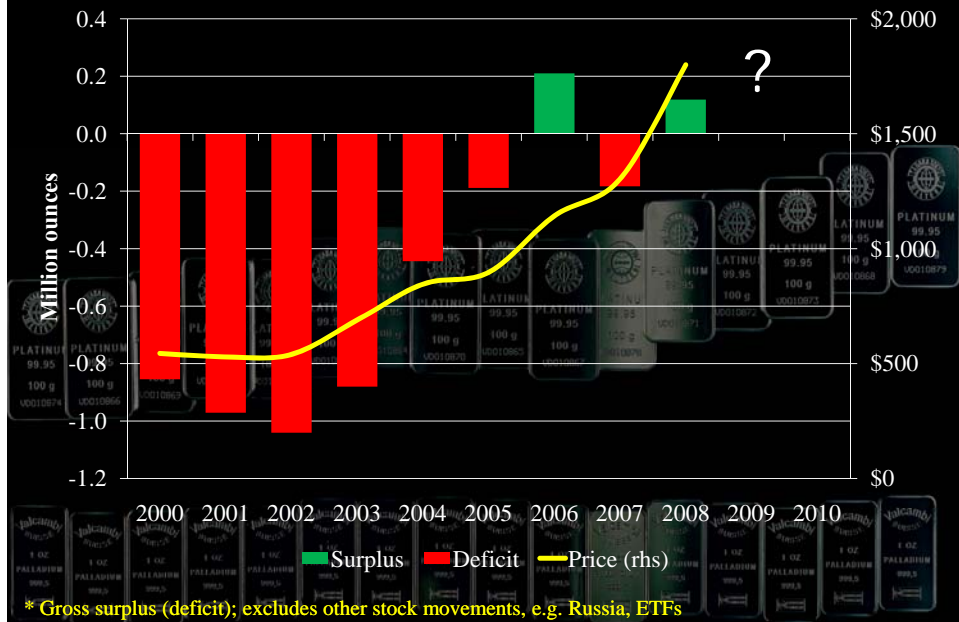
## Platinum in jewellery

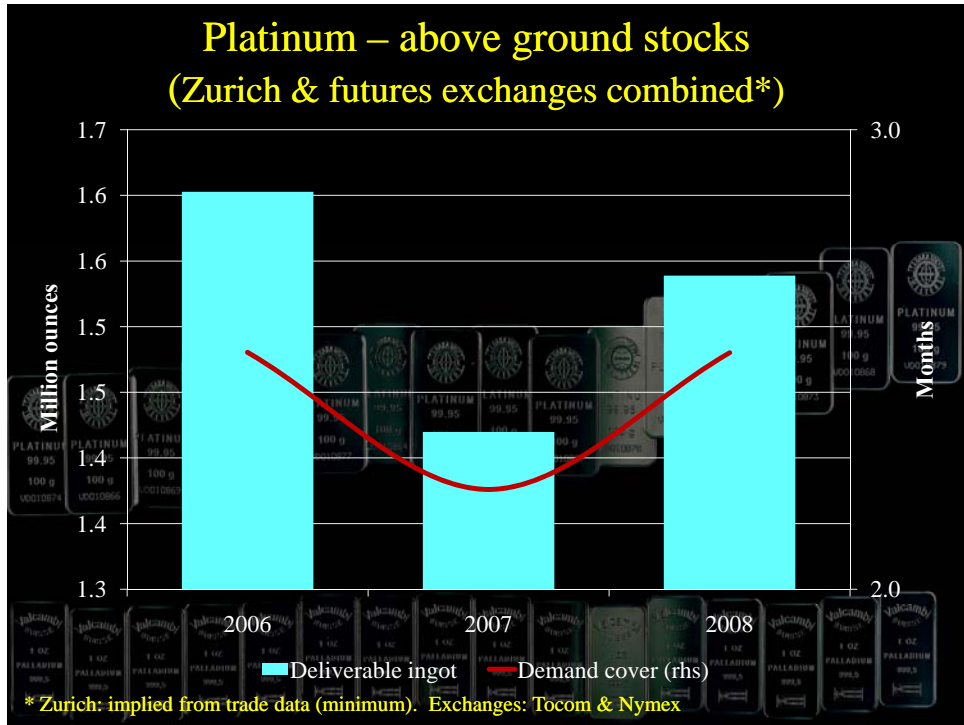
- Demand has halved in 5 years to 1.5m ozs in 2007. Further steep losses in 2008.
- Escalating prices have hit consumer demand and in 2008 have accelerated dishoarding of old jewellery (especially in Japan).
- Global demand (net of scrap) to tumble to only 1.1m ozs this year. Biggest hits in China (the largest market) and Japan.
- Fabricator margins remain pressured. Trend to lower weight pieces continues. Competition from white gold (& palladium).

## Platinum jewellery demand (net of scrap)



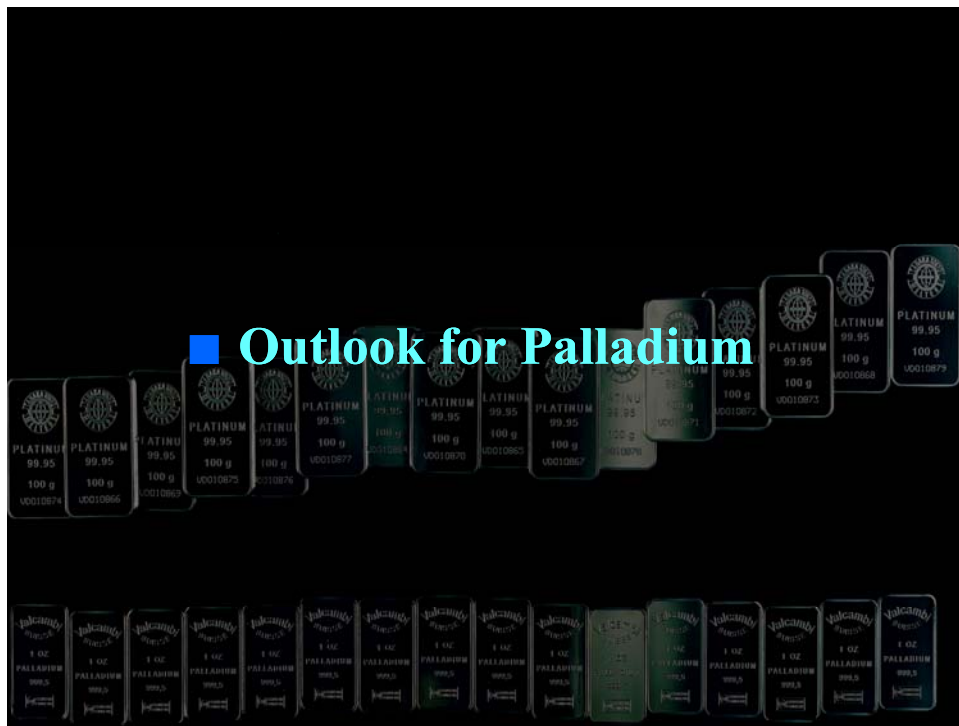
## Platinum – underlying balance\*





### Platinum, supply/demand balance

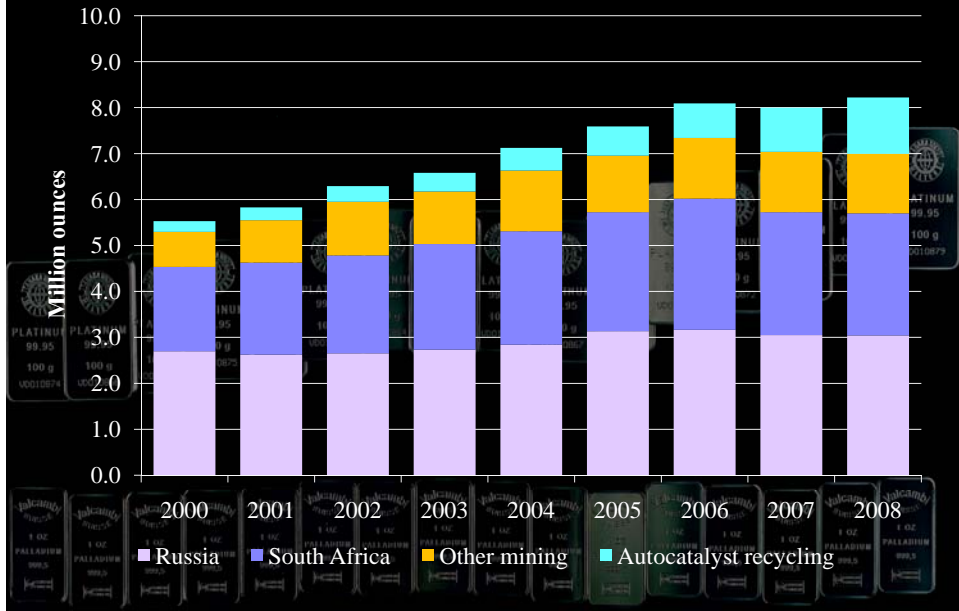
	2007	2008f
South Africa mine production	5.08	4.93
Other mine production	1.50	1.52
Autocatalyst recycling	0.93	1.02
<b>Total Supply</b>	<b>7.50</b>	<b>7.46</b>
Autocatalyst demand	4.26	4.27
Jewellery demand (net of scrap)	1.48	1.10
Industrial demand	1.94	1.97
<b>Total demand</b>	<b>7.68</b>	<b>7.34</b>
<b>Gross surplus (deficit)</b>	<b>(0.18)</b>	<b>0.12</b>
ETF demand	(0.19)	(0.12)
<b>Residual surplus (deficit)</b>	<b>(0.38)</b>	<b>(0.00)</b>
<b>Price outlook (year average)</b>	<b>\$1,303</b>	<b>???</b>



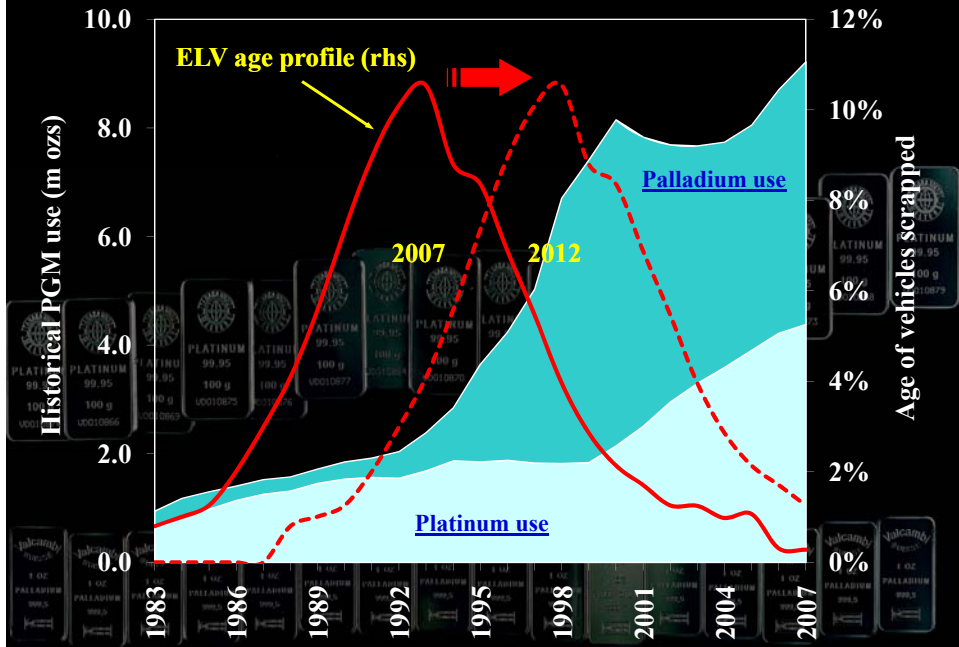
## Palladium – main conclusions

- Supply growth stalls on South African problems. Limited improvement in 2008, growth resumes in earnest from 2009.
- Supply rising but Russian output static. South Africa growing & autocatalyst recycling doubling.
- Strong gains in autocatalyst demand from substitution (gasoline and now diesel) and rising global auto production (gasoline).
- Steady growth in electronics and jewellery, demand in total rising.
- Underlying deficits continue, with some erosion of global stocks.
- Russian stock sales to decline, partly absorbed by ETF demand.
- Residual deficit in 2008.

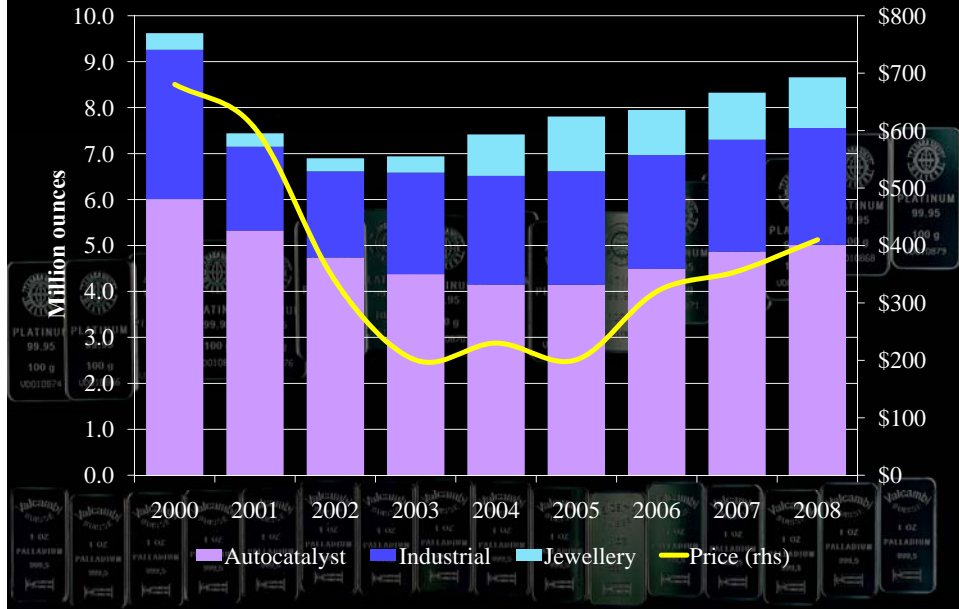
# Palladium supply



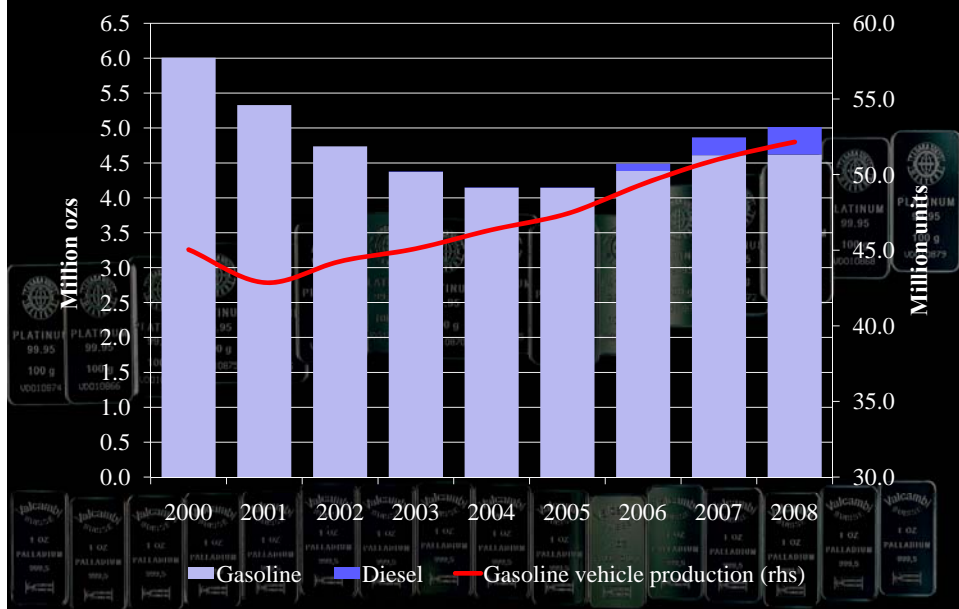
# Autocatalyst recycling



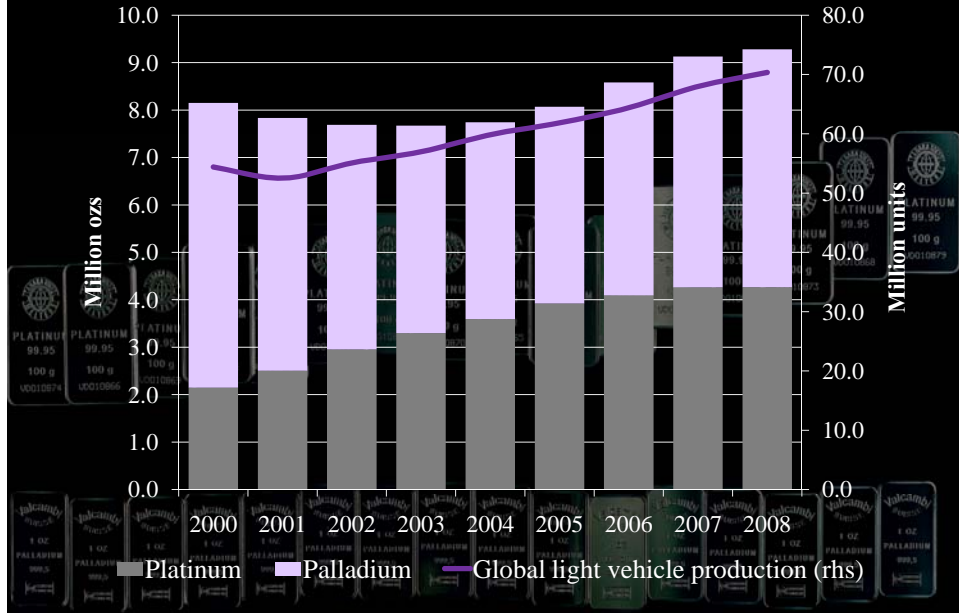
## Palladium fabrication demand



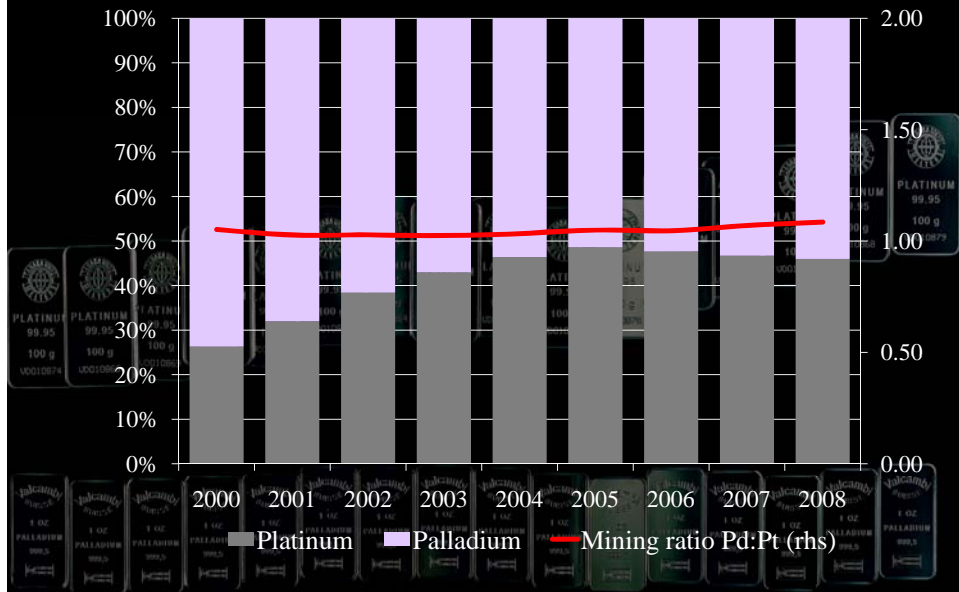
## Autocatalyst: palladium demand by fuel variant



## Total platinum & palladium use in autocatalyst



## Platinum & palladium in autocatalyst, the balance of power

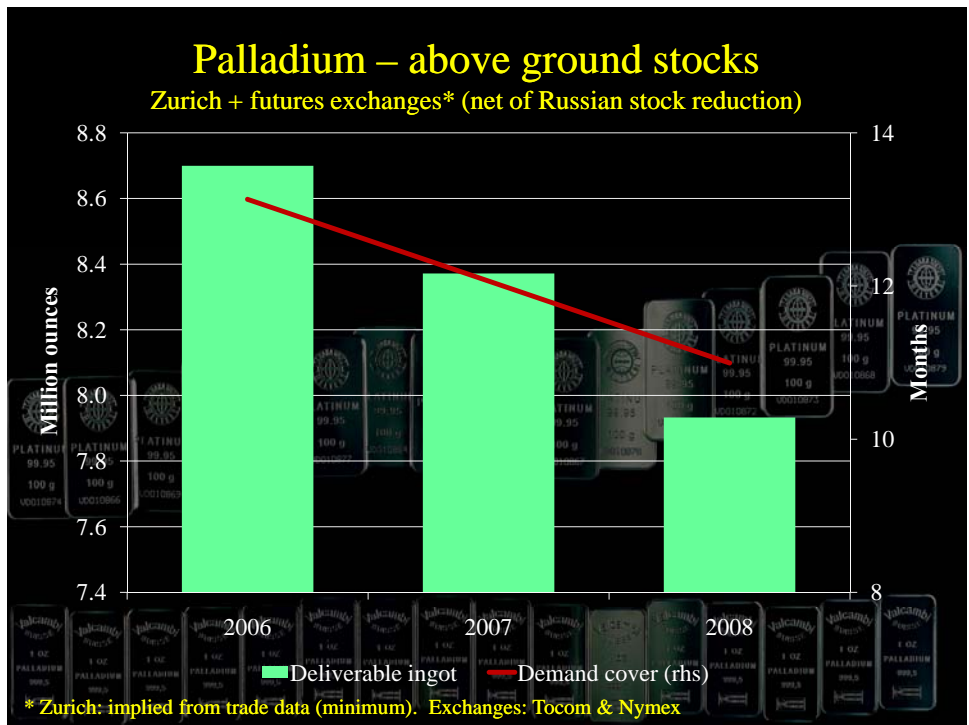
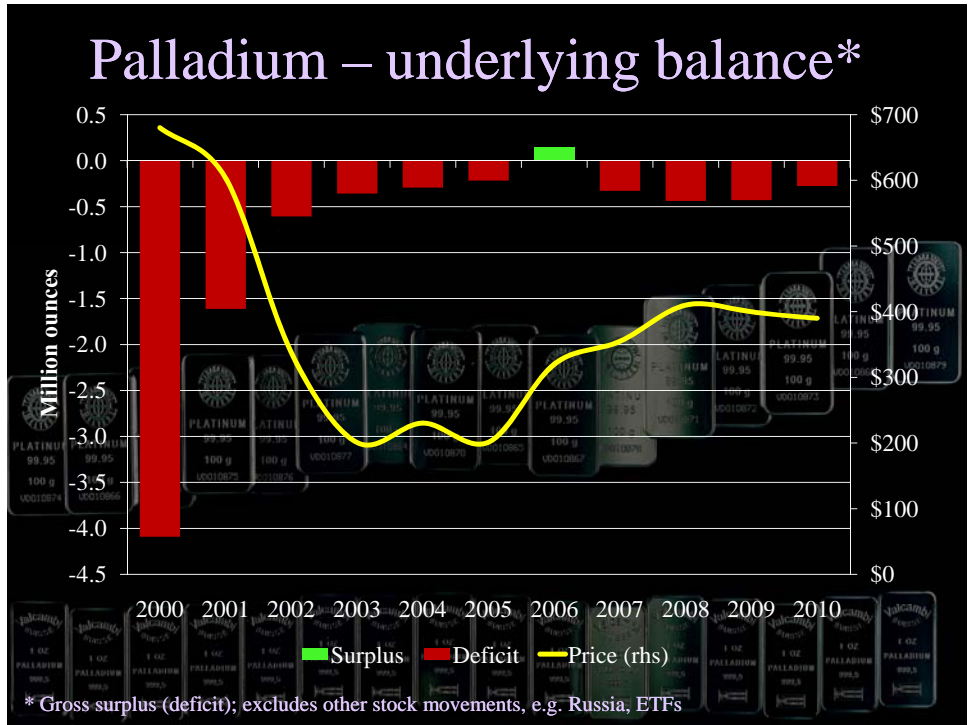


## Palladium – supply/demand balance

	2007	2008f
South Africa mine production	2.68	2.66
Russia & other mine production	4.36	4.34
Autocatalyst recycling	0.96	1.23
<b>Total Supply</b>	<b>8.00</b>	<b>8.22</b>
Autocatalyst demand	4.87	5.02
Jewellery demand (net of scrap)	1.03	1.10
Industrial demand	2.44	2.54
<b>Total demand</b>	<b>8.33</b>	<b>8.66</b>
<b>Gross surplus (deficit)</b>	<b>(0.33)</b>	<b>(0.44)</b>
Russian state inventory sales	0.90	0.70
ETF demand	(0.28)	(0.40)
<b>Residual surplus (deficit)</b>	<b>0.29</b>	<b>(0.14)</b>
<b>Price outlook (year average)</b>	<b>\$355</b>	<b>???</b>

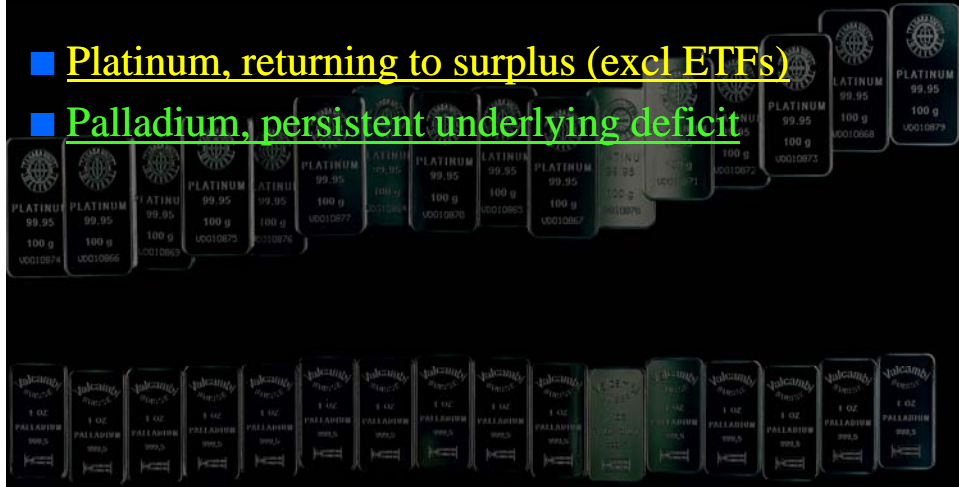
## Palladium balance – conventional view





# Summary

- Platinum, returning to surplus (excl ETFs)
- Palladium, persistent underlying deficit



Thank you !

