

# The Precious Metals Market – review and outlook

Heraeus Metallhandelsgesellschaft mbH

Sales & Marketing/Trading Division

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# Precious metals - the environment



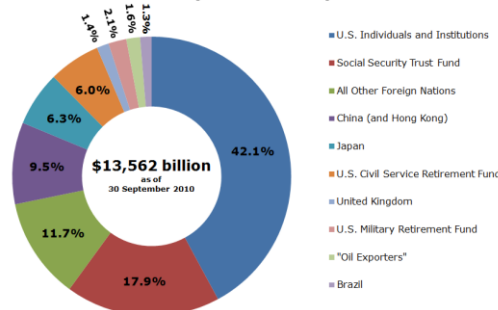
### THE GROWTH CHART

GDP % change on previous year

	2009	2010	2011*	2012*
United Kingdom	-4.9	1.3	1.5	2.3
Germany	-4.7	3.5	3.2	2.0
France	-2.6	1.4	2.1	1.9
Italy	-5.2	-1.3	1.0	1.3
Spain	-3.7	-0.1	0.8	1.6
Greece	-2.0	-4.5	-3.0	1.1
Ireland	-7.6	-1.0	0.5	1.9
Portugal	-2.5	1.3	-1.5	-0.5
United States	-2.6	2.9	2.5	2.7
China	9.2	10.3	9.6	9.5
India	6.8	10.4	8.2	7.8
Japan	-6.3	4.0	-0.7	2.9
Latin America	-1.7	6.1	4.6	4.1

Source: IMF \*Forecasts

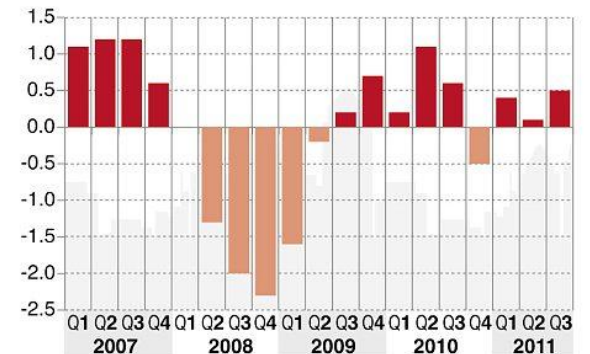
### To Whom Does the U.S. Government Really Owe Money?



Source: U.S. Treasury Department

© Political Calculations 2011

### UK GDP



Press Association Graphic

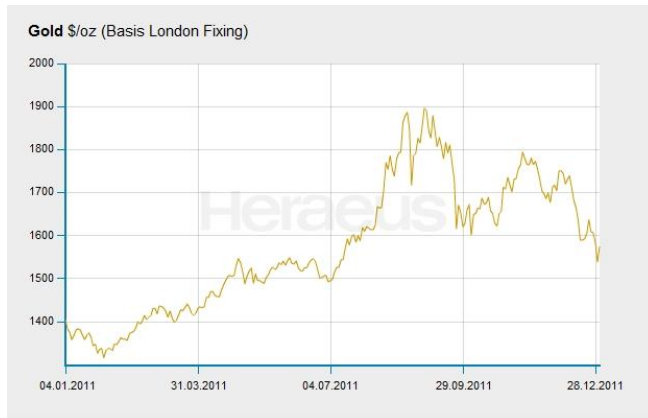
Source:ONS

## Precious metals prices

	Au	Ag	Pt	Pd	Rh	Ir	Ru
2011 <small>last</small>	1,574.50	28.18	1,381.00	636.00	1,400.00	1,085.00	110.00
2010 <small>last</small>	1,410.25	30.63	1,731.00	791.00	2,425.00	780.00	180.00
High <small>2011</small>	1,896.50	48.70	1,899.00	859.00	2,500.00	1,085.00	180.00
Date	Sep.2011	Apr.2011	Aug.2011	Feb.2011	Feb.2011	Aug.2011	Jan.2011
Low <small>2011</small>	1,316.00	26.16	1,364.00	549.00	1,400.00	780.00	110.00
Date	Jan.2011	Dec.2011	Dec.2011	Oct.2011	Dec.2011	Jan.2011	Dec.2011

- Gold reaches new all-time high in September 2011.
- Silver rises to just short of its 1980 record of \$50/ounce.
- Gold has a trading range of nearly \$600, silver more than \$22.
- Platinum: from premium to discount + \$320 / - \$190 relative to gold.

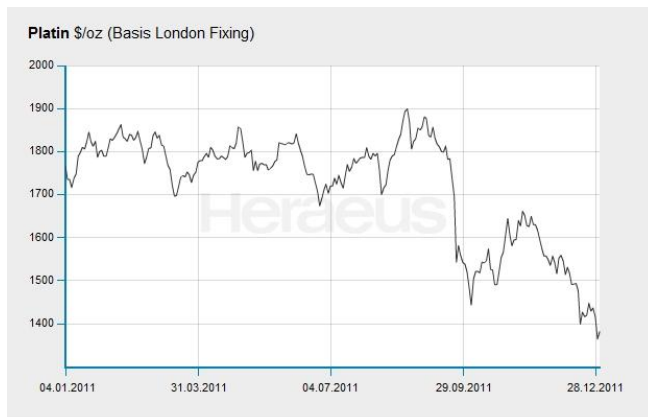
## Price change year to year:



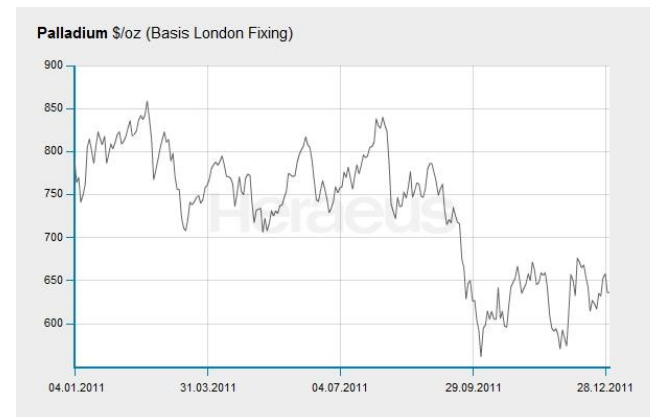
+ 12 %



- 8 %

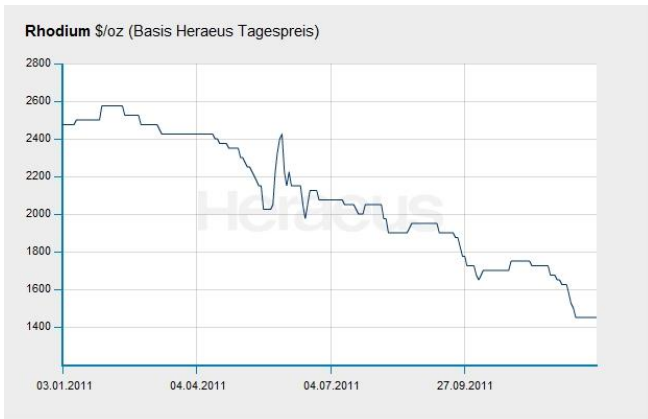


- 20 %

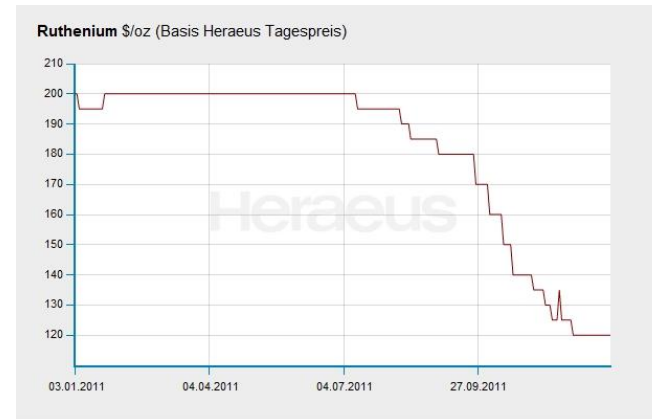


- 20 %

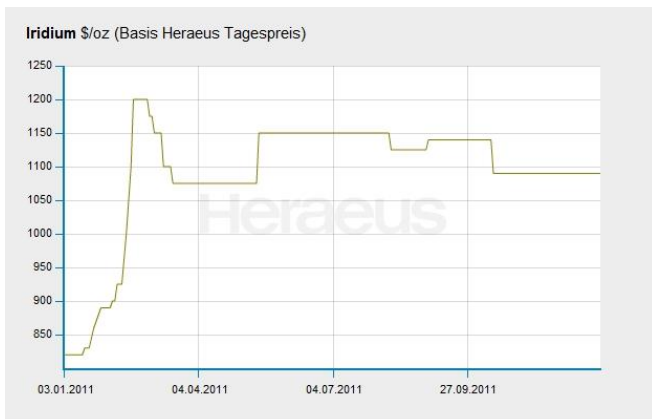
## Price change year to year:



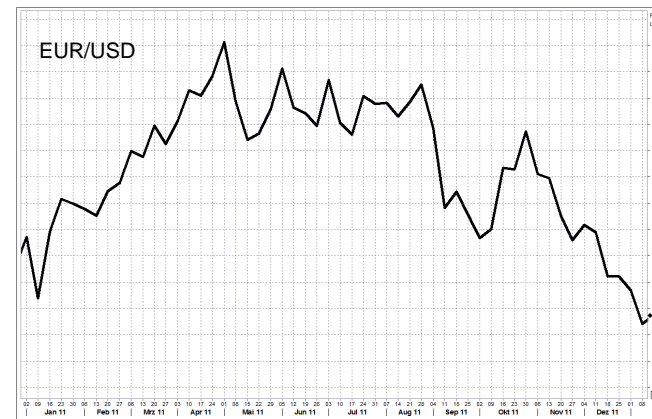
- 42 %



- 39 %



+ 39 %



- 10 %

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## The environment

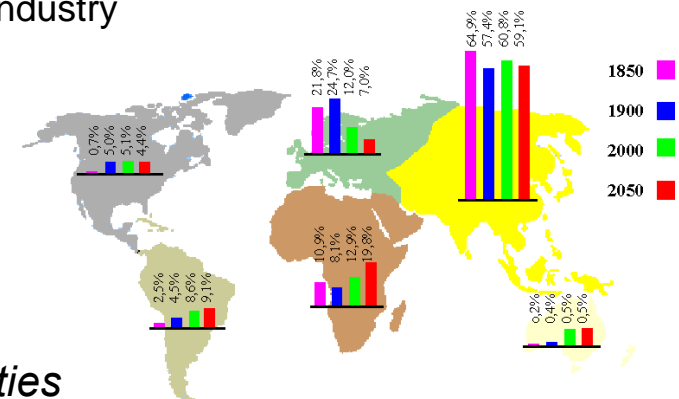
- The global easing of monetary policy since the onset of the financial crisis floods the market with liquidity.
  - Newly industrialized countries are awash in money, which increases inflation; China's inflation rate was 5.5% in October 2011.
- The debt crisis continues to deepen; after Greece, now Italy & Spain etc. becomes a problem.
- USA is in the headlines again, with no agreement on how to deal with its deficit.
- After a temporary recovery, banks are once again in the crossfire.
  - Huge capital requirements as a result of Euro area bond valuations.

*....negative for commodities*

## The environment

### Raw materials, including precious metals, have become an attractive investment class:

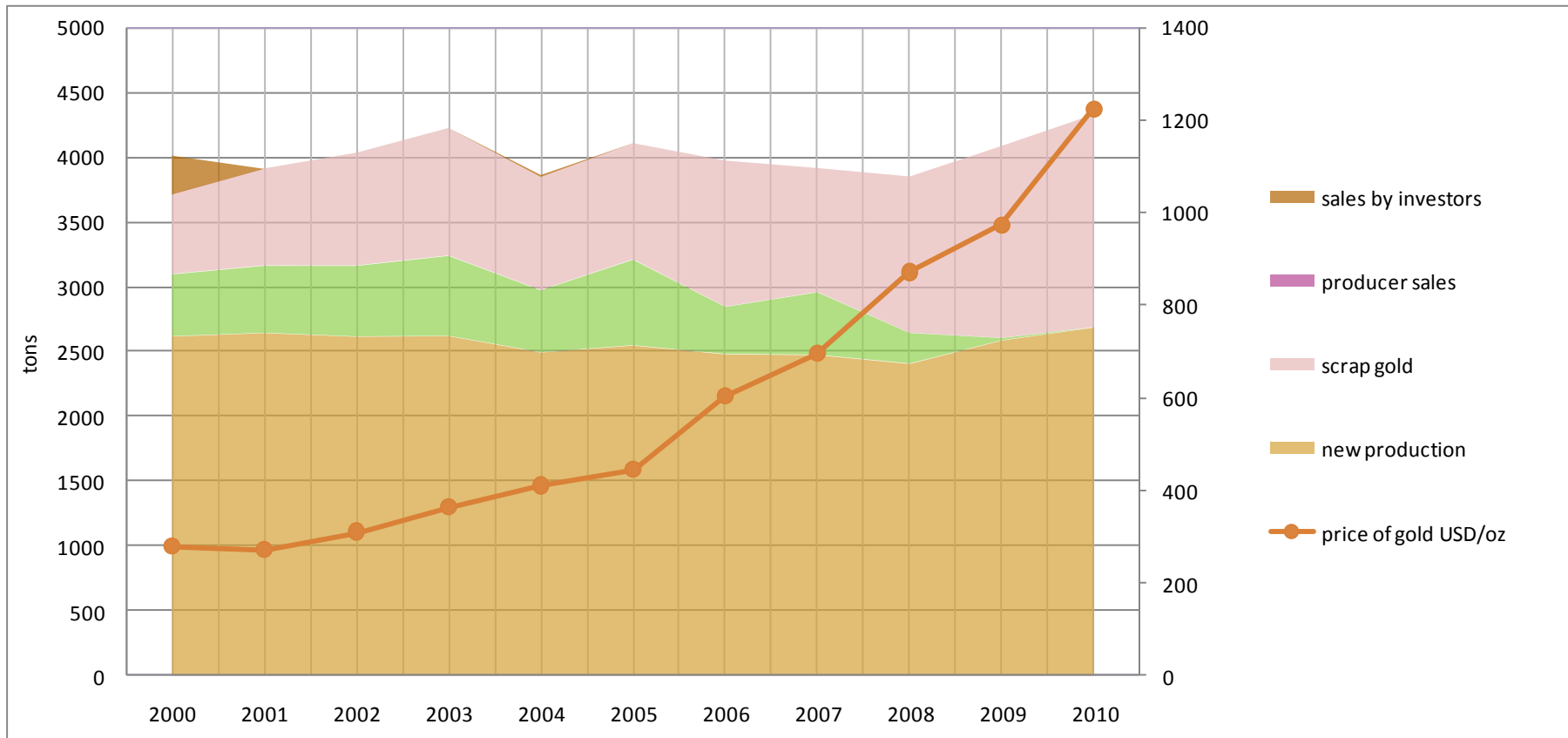
- Economic growth in newly industrialized countries driving the demand for raw materials
- Demographic change
- Expansion of infrastructure
- Demand for consumer goods
- Low interest rates
- Raw materials sector highly attractive to the financial industry
- Low interest rates promote investment in real assets: commodities, real estate, stocks.
- Easy access for investors through a broad range of products: physical products, ETFs, ETCs, certificates, and so on....



....positive for commodities

# Supply and demand for precious metals

# Gold – the supply side



## Gold – primary supply (mines)

- Primary production grew by 4-5% in 2011, to 2,800 tons.
- The increase came from additional production in existing mines as well as from new projects.

### ■ Top producers in 2010:

- |                 |          |
|-----------------|----------|
| ■ China         | 351 tons |
| ■ Australia     | 261 tons |
| ■ United States | 234 tons |
| ■ Russia        | 203 tons |
| ■ South Africa  | 203 tons |



photo: [www.harmony.co.za](http://www.harmony.co.za)

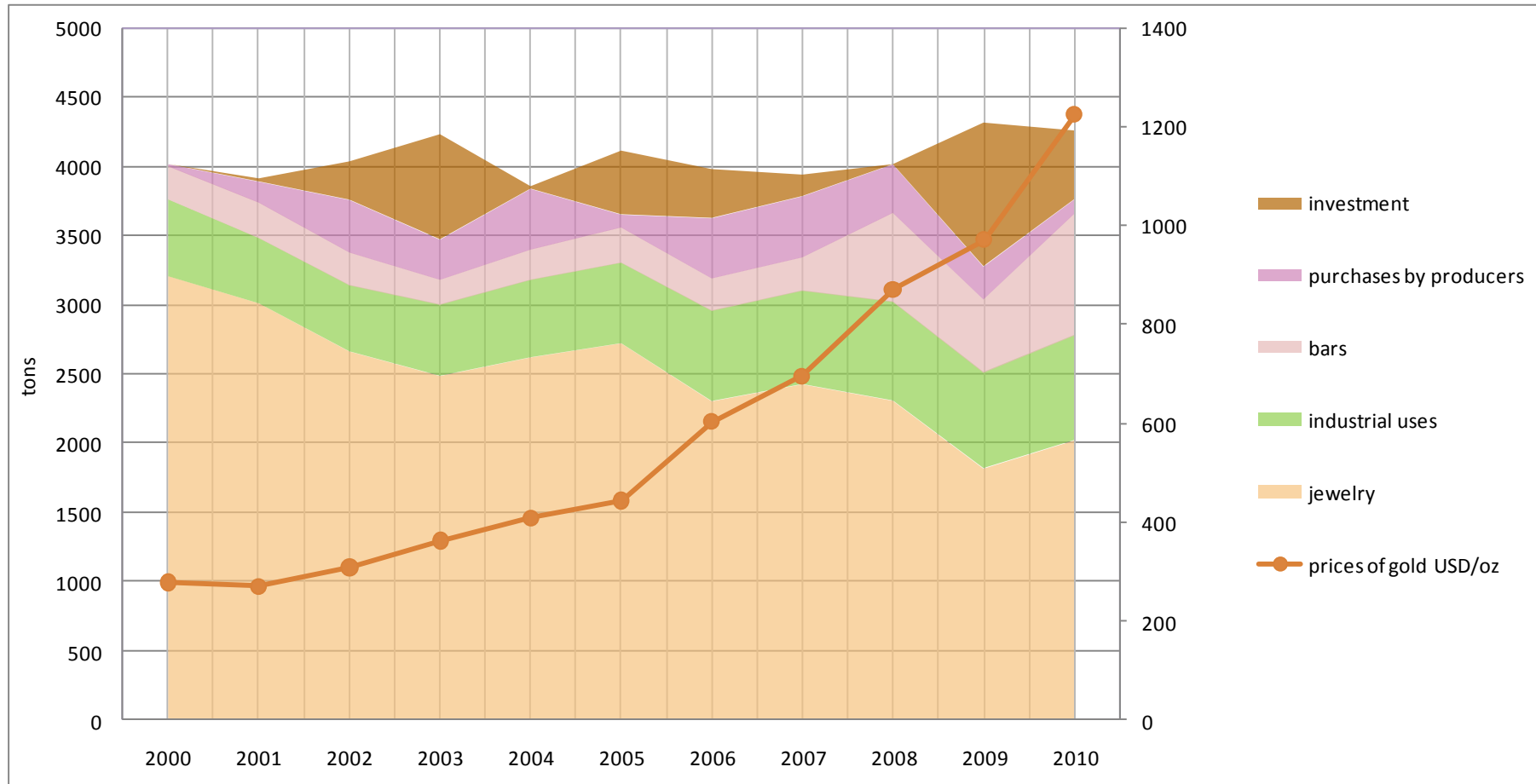


## Gold – secondary supply (recycling)

- Scrap gold remains widely available as the price of gold stays high.
- The global supply rose again slightly in 2011, to 1,700 tons.
- Infrastructure for buying back gold makes it easier for private owners to sell.
- The high price of gold (in euros) and the poor economic climate in southern European countries create an incentive to sell scrap gold.

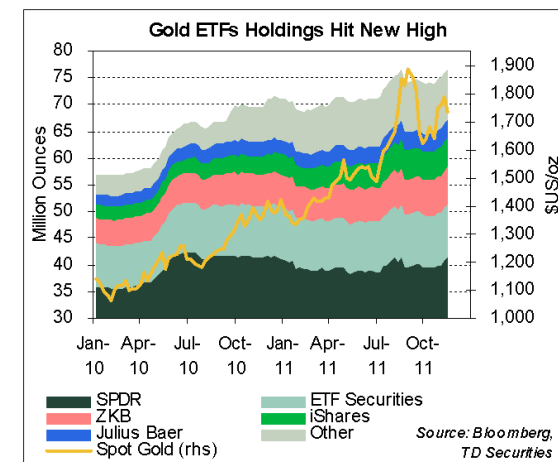


# Gold – the demand side



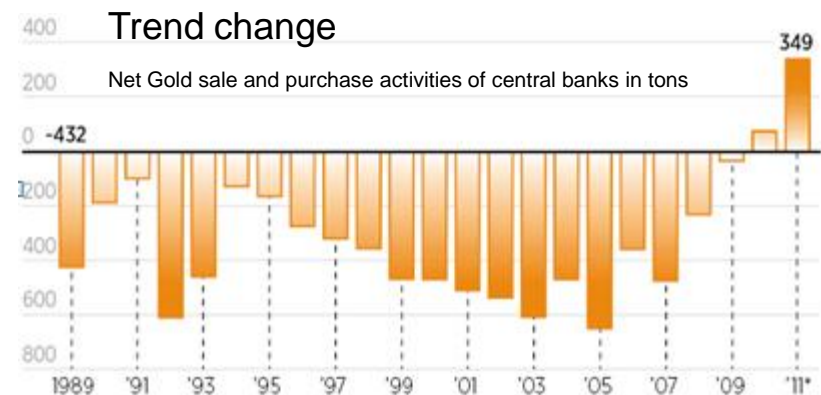
## Gold – demand (investors)

- Investors make the difference and have been the driving force in recent years.
- Gold is a preferred investment in uncertain times.
- About 1,500 tons of gold was purchased as investment in 2010; purchases in Q I–III of 2011 amount to about 1,150 tons.
- In November 2011, ETFs posted a new record at about 2,400 tons.
- China is apparently developing into an important investment market for gold, which became more attractive as limits were placed on investment in real estate.



## Gold – demand (central banks)

- In 2010, central banks became (net) purchasers again for the first time.
- India, Russia, China, Vietnam and recently Turkey have entered the market as buyers.
- Purchases in 2011 will amount to approximately 400 tons.
- There are few if any alternatives.

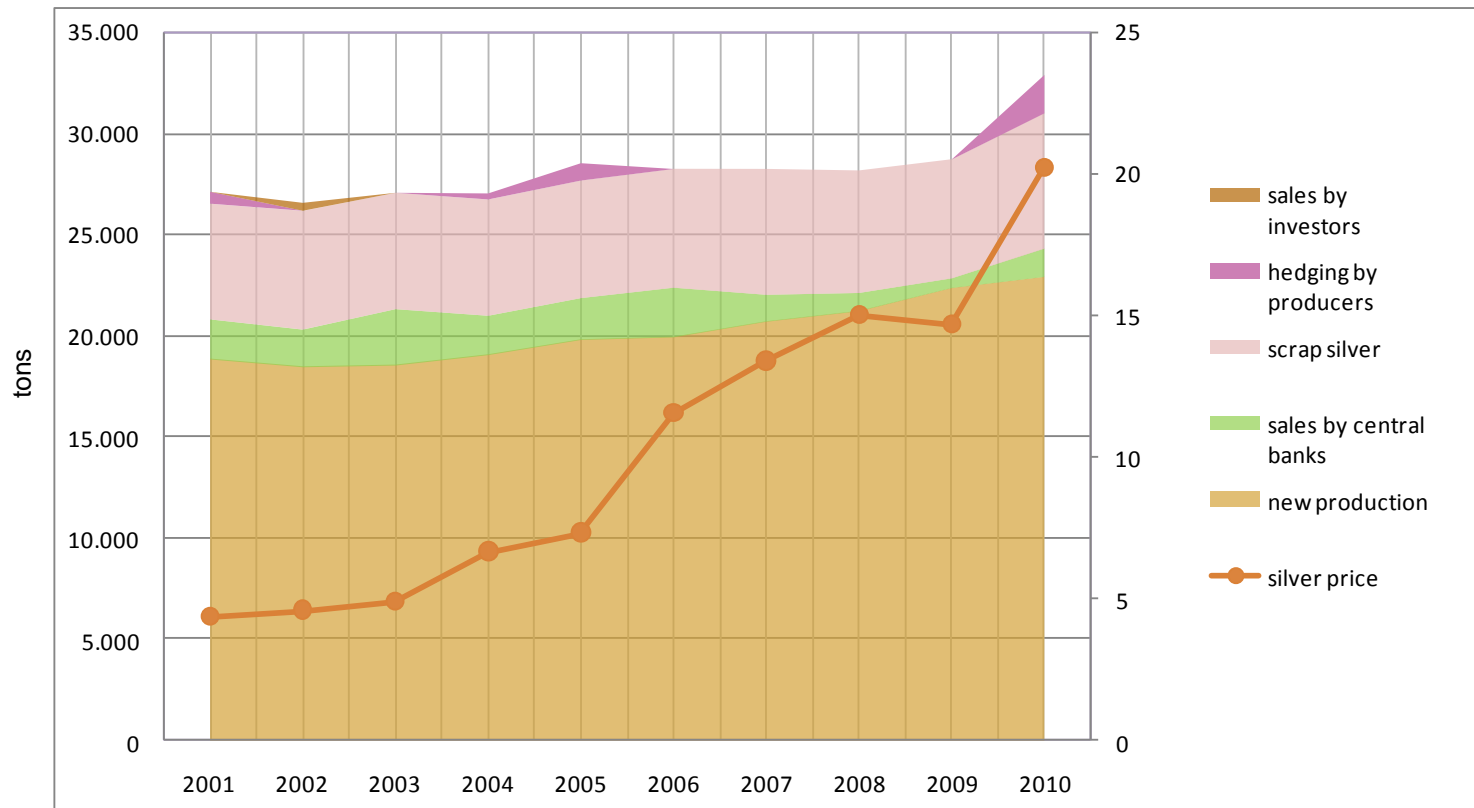


## Gold – demand (industry and jewelry)

- 2,014 tons of gold were purchased for jewelry in 2010; purchases in Q I–III of 2011 amounted to about 1,460 tons.
- India, purchasing 657 tons, still led the jewelry market for gold in 2010; China drew closer, with 452 tons.
- In Q III of 2011, China (131 tons) topped India (125 tons) in jewelry demand for the first time.
- Industrial use held steady at about 750 tons in 2011.
- In the long term, persistently high prices pose a threat to industrial use of gold.



# Silver – the supply side

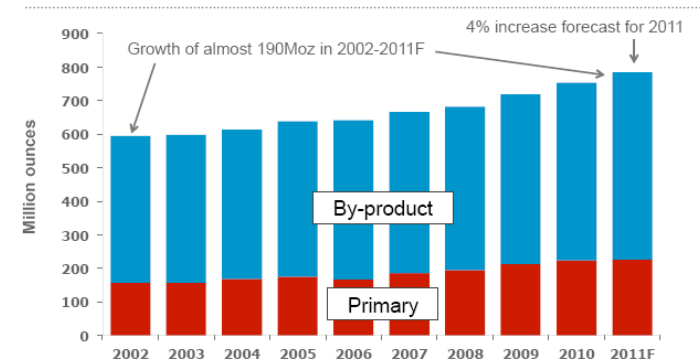


## Silver – supply (mines and scrap metal)

- Approximately 75% of newly mined silver is obtained as a byproduct.
- Supply from primary production shows little price elasticity.
- The amount of silver mined in 2011 grew by 4%, to about 24,000 tons.
- In 2011, recycling rose by about 10% to 7,400 tons, about 20% of the supply.
- Major silver-producing countries:
  - Mexico: 4,000 tons
  - Peru: 3,600 tons
  - China 3,085 tons
  - Australia: 1,860 tons



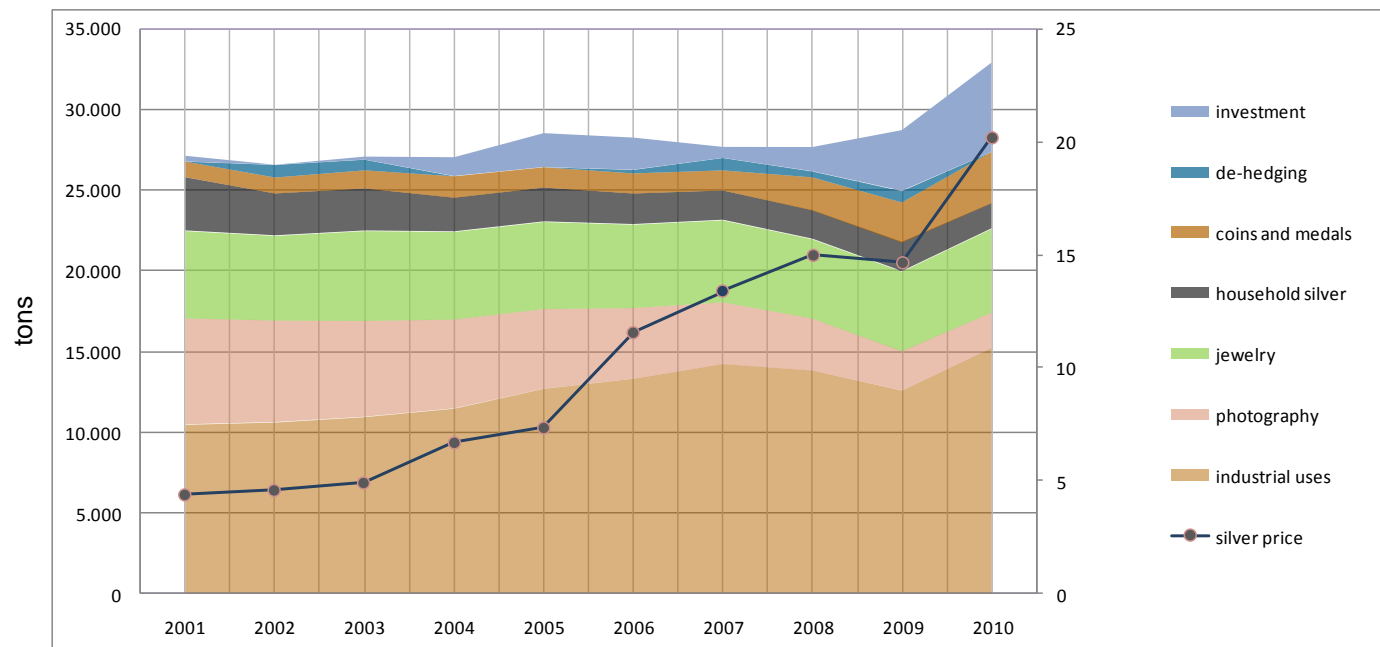
WORLD SILVER MINE PRODUCTION



GFMS

THOMSON REUTERS

# Silver – the demand side

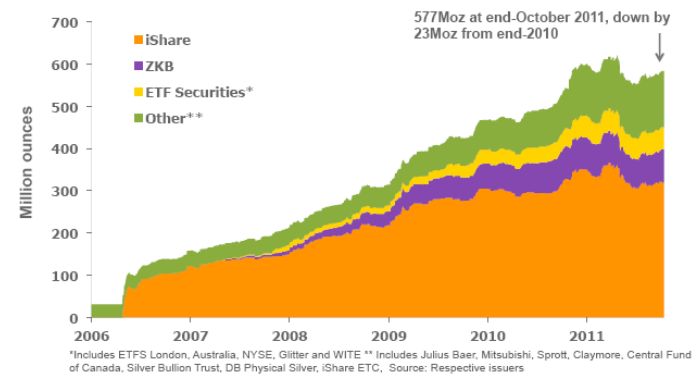


## Silver – demand (investors)

- Physical investment demand in 2011 came to about 8,600 tons; almost the same as in 2010.
- 2011 sales of US Silver American Eagles reached some 35 million coins (1,080 tons) by October, surpassing the total number sold in 2010.
- 2011 saw profit-taking in ETFs, with portfolios below the peak level of early 2011.
- Gold is preferred over silver; in many countries, purchases of physical silver are subject to value-added tax.

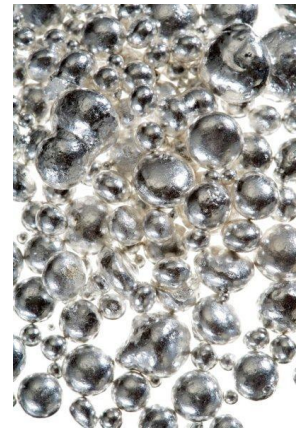


SILVER ETF HOLDINGS

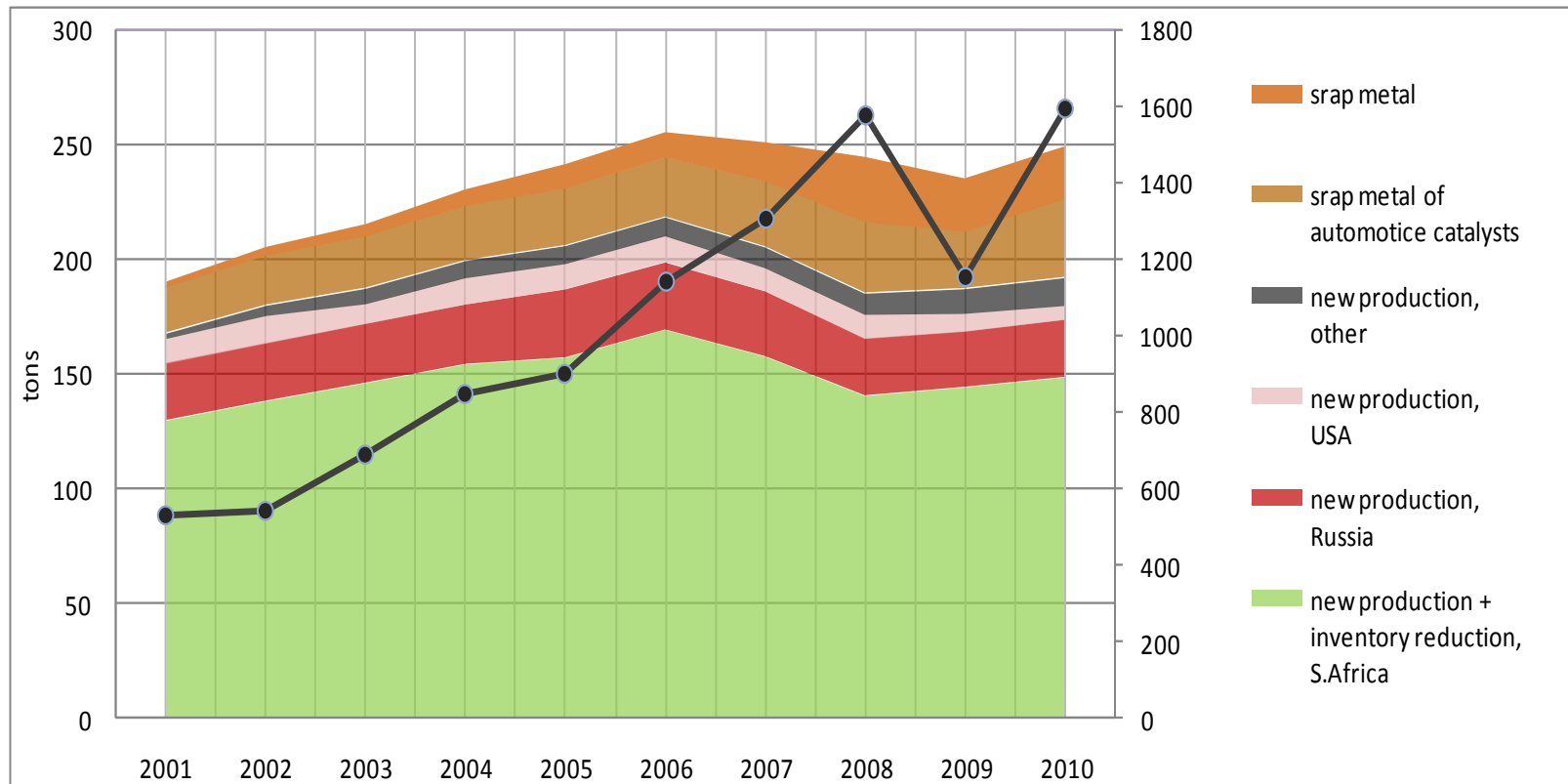


## Silver – demand (industry)

- Industrial demand (including jewelry, household silver, photography) fell sharply in 2009, then rose by about 11% in 2010 to about 24,200 tons.
- 2011 was expected to bring a further 4% increase, to slightly above the pre-crisis level.
- Growth in the photovoltaics sector compensated for declines in other applications; the 1,600 tons used in 2010 and as much as 2,000 tons used in 2011 created a strong surge in demand.
- Other than in photovoltaics, however, no significant growth from new applications is on the horizon.

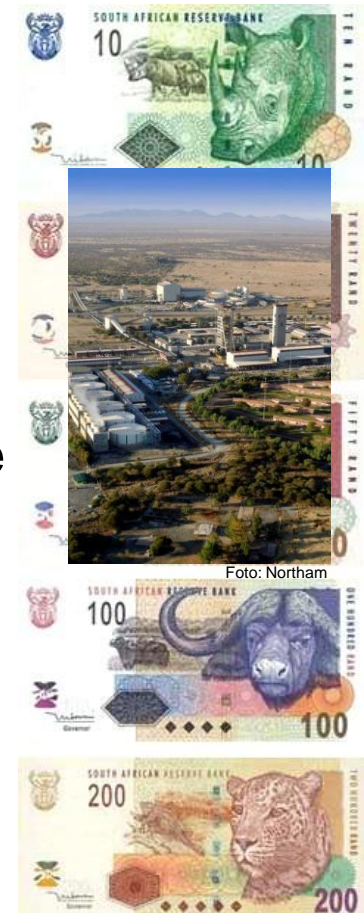


# Platinum – the supply side

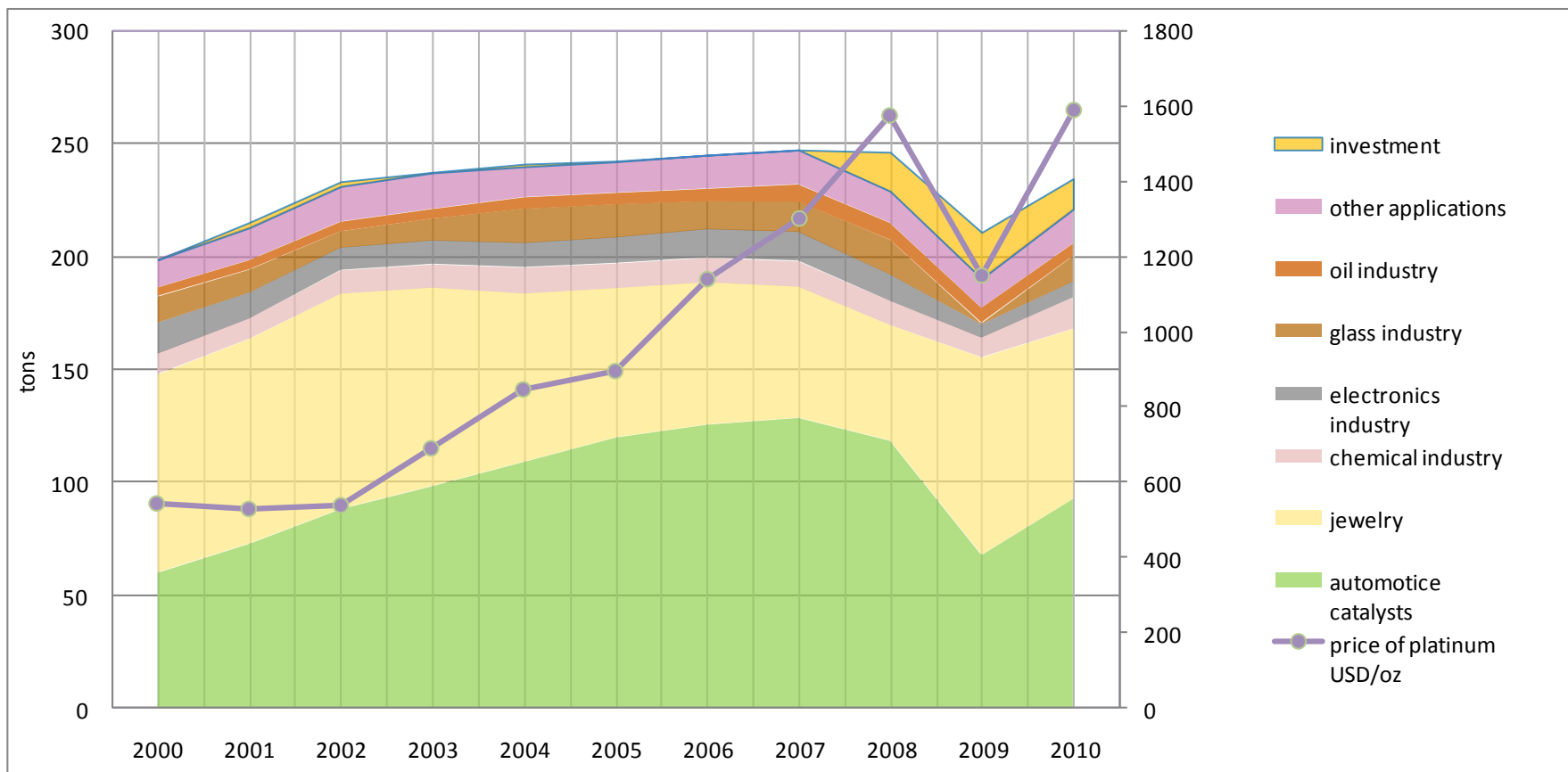


## Platinum – supply

- Global platinum production rose by about 6% in 2011, to about 193 tons.
- Production growth in 2011 occurred largely in North America (6.2 tons → 11.2 tons, up 80%) and Zimbabwe.
- South African production stabilized after falling sharply in 2008, reaching 144 tons in 2010 and 148 tons in 2011.
- South African producers are encumbered by the course of the USD / ZAR exchange rate as well as annual wage increases in the two-digit percentage range.
- Russian production held steady in 2011 at about 26 tons, the same as in 2010.
- Recycling, mainly of automotive catalysts, yielded 58 tons, about 23% of the total.



# Platinum – the physical demand side



## Platinum – demand

- Recovery continued in 2011 as automotive industry demand rose by about 3% to about 98 tons.
- However, a return to the peak of 129 tons in 2007 is unlikely.
  - Palladium has replaced about 30% of the platinum used in diesel vehicles.
  - Growth in automotive markets in newly industrializing countries is largely met with palladium.
- Little change in the jewelry sector, with about 77 tons purchased in 2011.
- Investors were more cautious in 2011, with demand dropping to 15 tons from 20 tons in 2010.

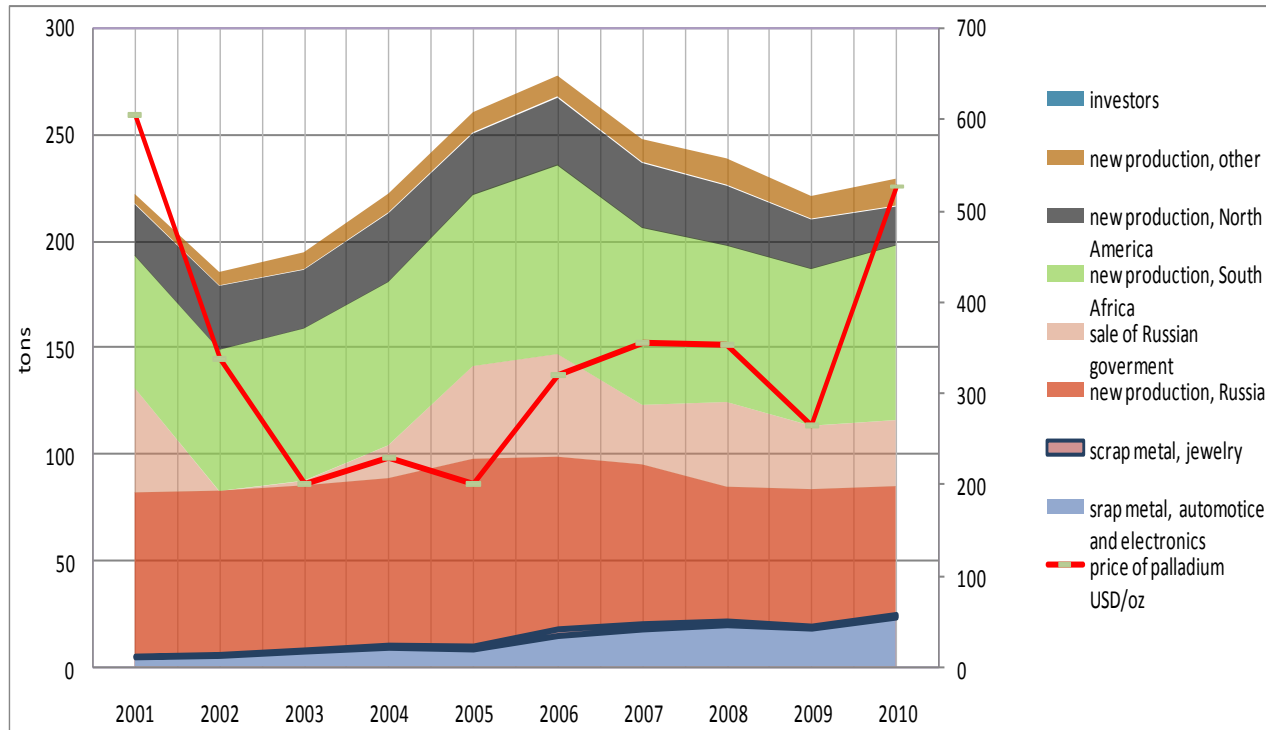


Photo: Daimler AG



Photo: PlatAfrica, Anglo Platinum

# Palladium – supply



## Palladium – supply

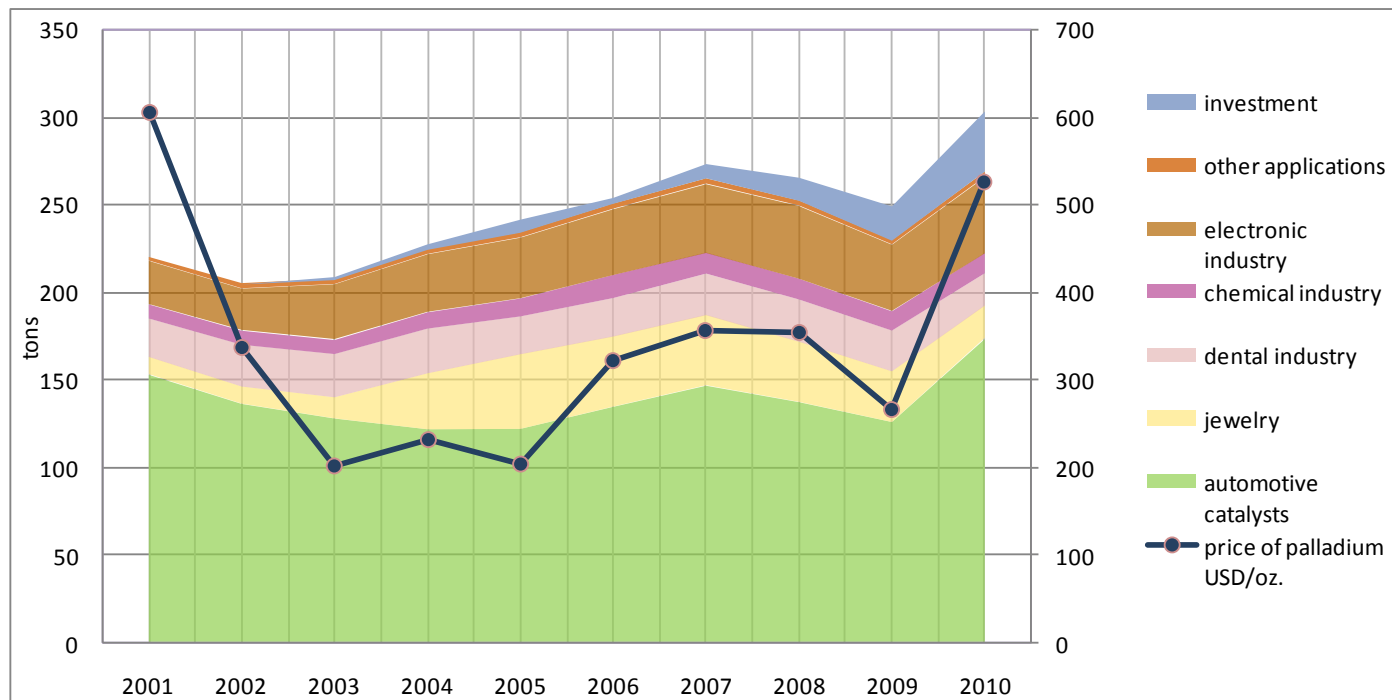
- Primary production in 2011 stood at about 230 tons, almost the same as the year before.
- Conditions are stable for palladium supply, with Russia's dominance fading.
- Primary production has been almost equal in Russia and South Africa since 2010, at about 80-85 tons.
- Sales from the Russian government reserves make the difference:
  - About 31 tons sold in 2010
  - Expected total for 2011 is 24 tons
- The recycling boom continued in 2011, yielding about 68 tons; further growth is expected as high Palladium loaded vehicles reach the end of life cycle.



Photos Norilsk Nickel



# Palladium – the demand side

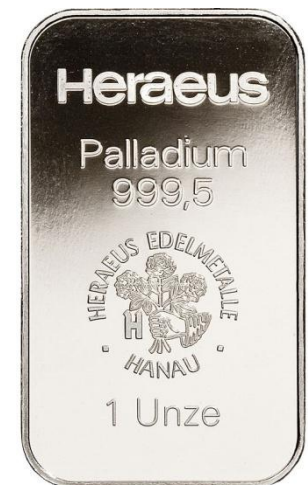


## Palladium – demand

- Industrial use continued its comeback in 2011, reaching 283 tons (up from 269 tons in 2010).
- Consumption in the automotive sector rose by another 6% in 2011, to about 186 tons.
- Growing demand for cars in the newly industrialized world was the key factor.
- Other industrial uses in 2011:
  - Electronics – about 46 tons (+ 5%)
  - Chemicals – about 14 tons (+ 23%)
- Trend reversal for investors:
  - 2011 saw net sales of about 7 tons, following purchases of about 34 tons in 2010.

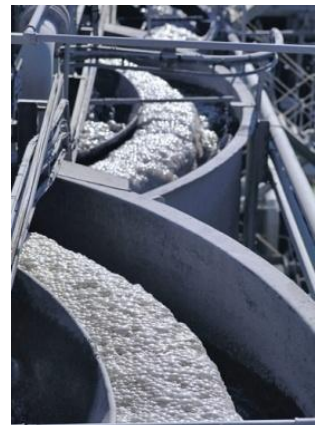


Photo: Audi AG



## Rhodium – supply

- Rhodium is a byproduct of platinum. After plummeting in 2008, primary production has stabilized, amounting to some 24 tons in 2011.
- 85% of output comes from South Africa. Another 10% is mined in Russia and the remainder in Zimbabwe and North America.
- Recycling from scrapped automotive catalysts continues to grow, yielding an additional 8 tons.



Photos Impala Platinum

## Rhodium – demand

- Rhodium consumption in 2011 is expected to total about 28 tons.
- Savings: A rise in automotive sales figures accompanied by a 3% decline in consumption, to 22 tons.
- Strong demand continues in the glass industry. Consumption rose by 25% again in 2011, to 2.6 tons.
- Investment activity is sporadic, with the rhodium ETC only moderately successful.



Photo: BMW AG

## Ruthenium – supply

- South Africa is practically the sole source.
- All ruthenium is a byproduct of platinum mining.
- Recycling of metal from end products is nonexistent.
- Weaker demand in 2008/2009 may have led producers to build stockpiles.



## Ruthenium – demand

- Demand dropped by about 15% in 2011, to about 25 tons.
- The decline of about 5 tons in electronics industry consumption outweighed the slight increase for other applications.
- Chemical and electrochemical applications rose slightly in 2011, with consumption for each totaling 3 to 4 tons.
- Investors play only an insignificant role.

Hard drive



## Iridium – supply

- South Africa is practically the sole producer.
- All iridium is a byproduct of platinum mining.
- Iridium is the least mined of the platinum group metals.
- Production totals only a few tons.
- Increased consumption since 2010 is met from producers' stockpiles.

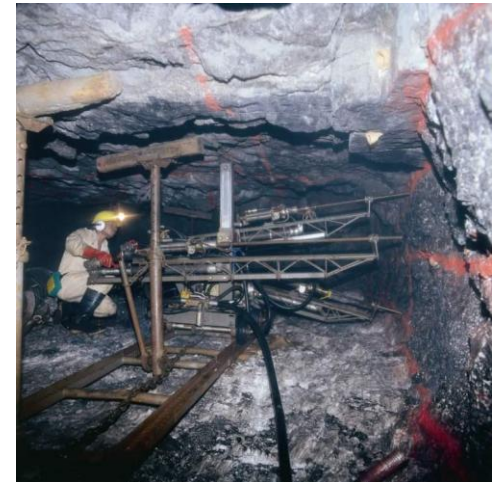
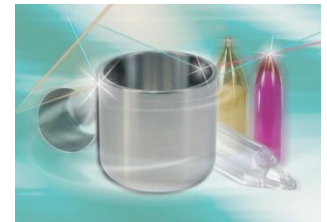
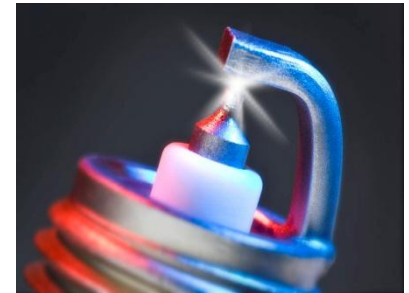


Photo: Northam Platinum

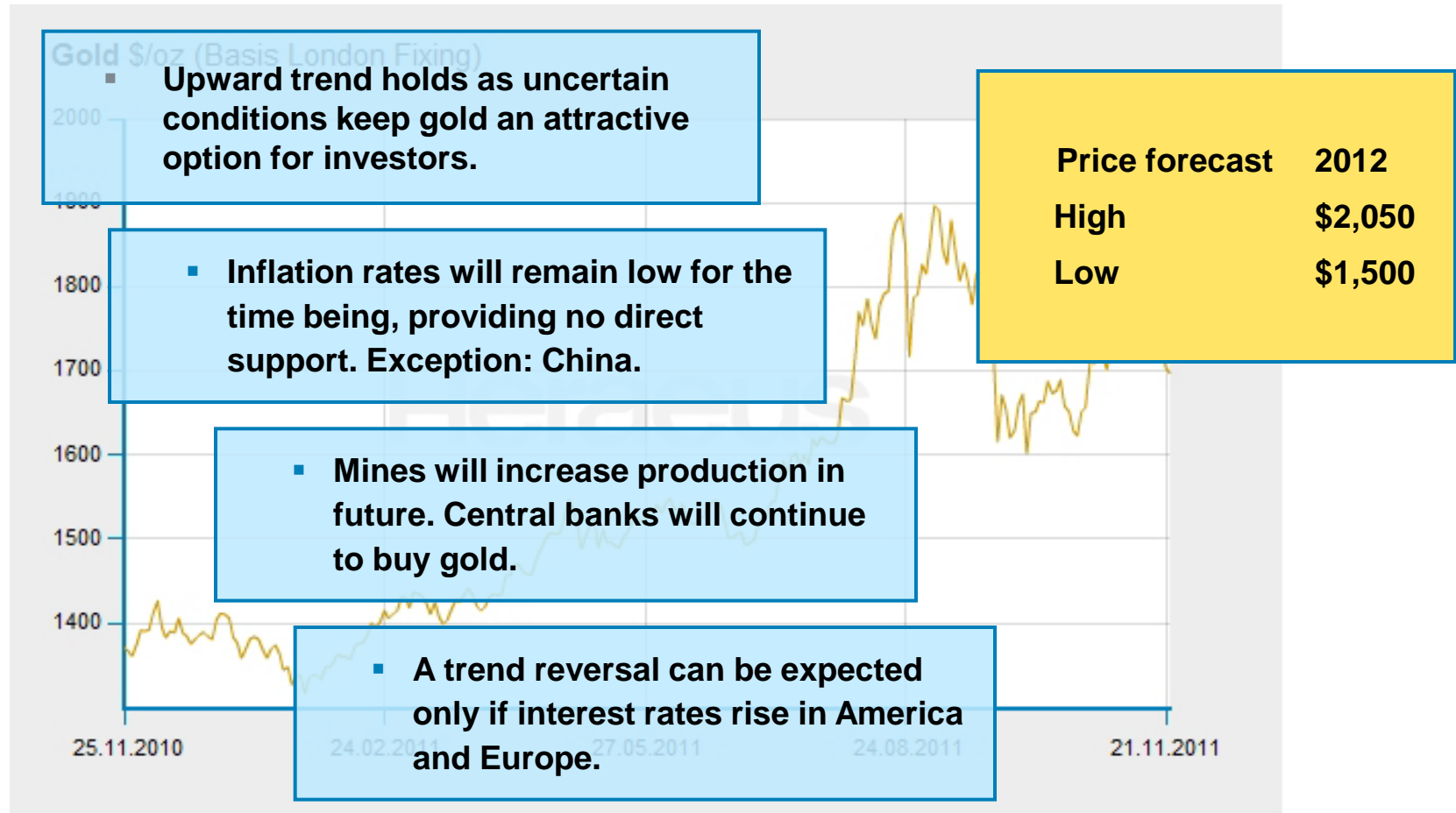
## Iridium – demand

- Demand in 2011 held steady at about 10 tons.
- Top consumer was the electronics industry, at about 6 tons.
- Demand for LEDs drives the need for iridium crucibles for growing single crystals.
- After doubling to more than 2 tons in 2010, consumption in the electrochemical industry remained at that level in 2011.

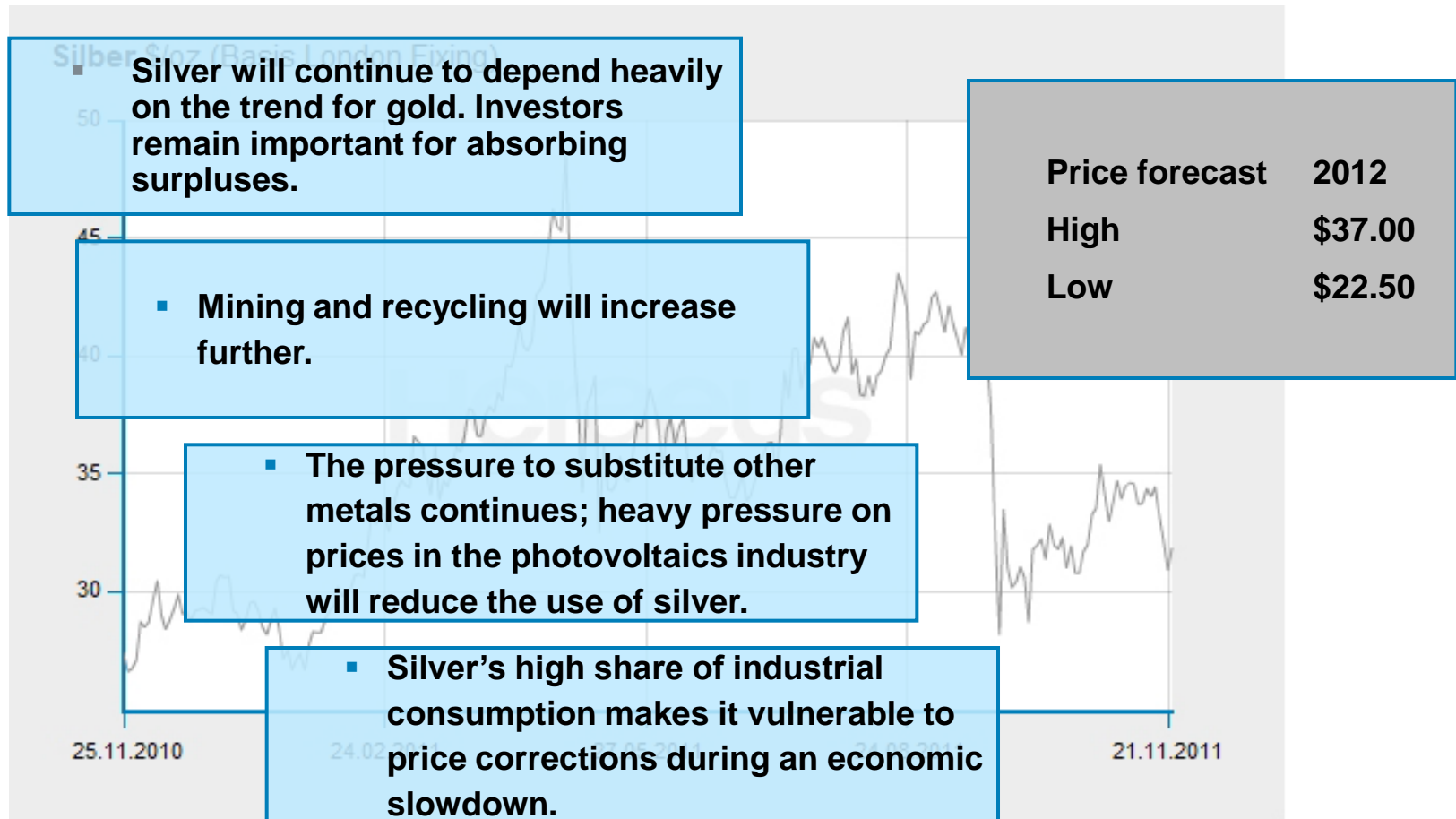


And what lies ahead?  
Prospects for 2012

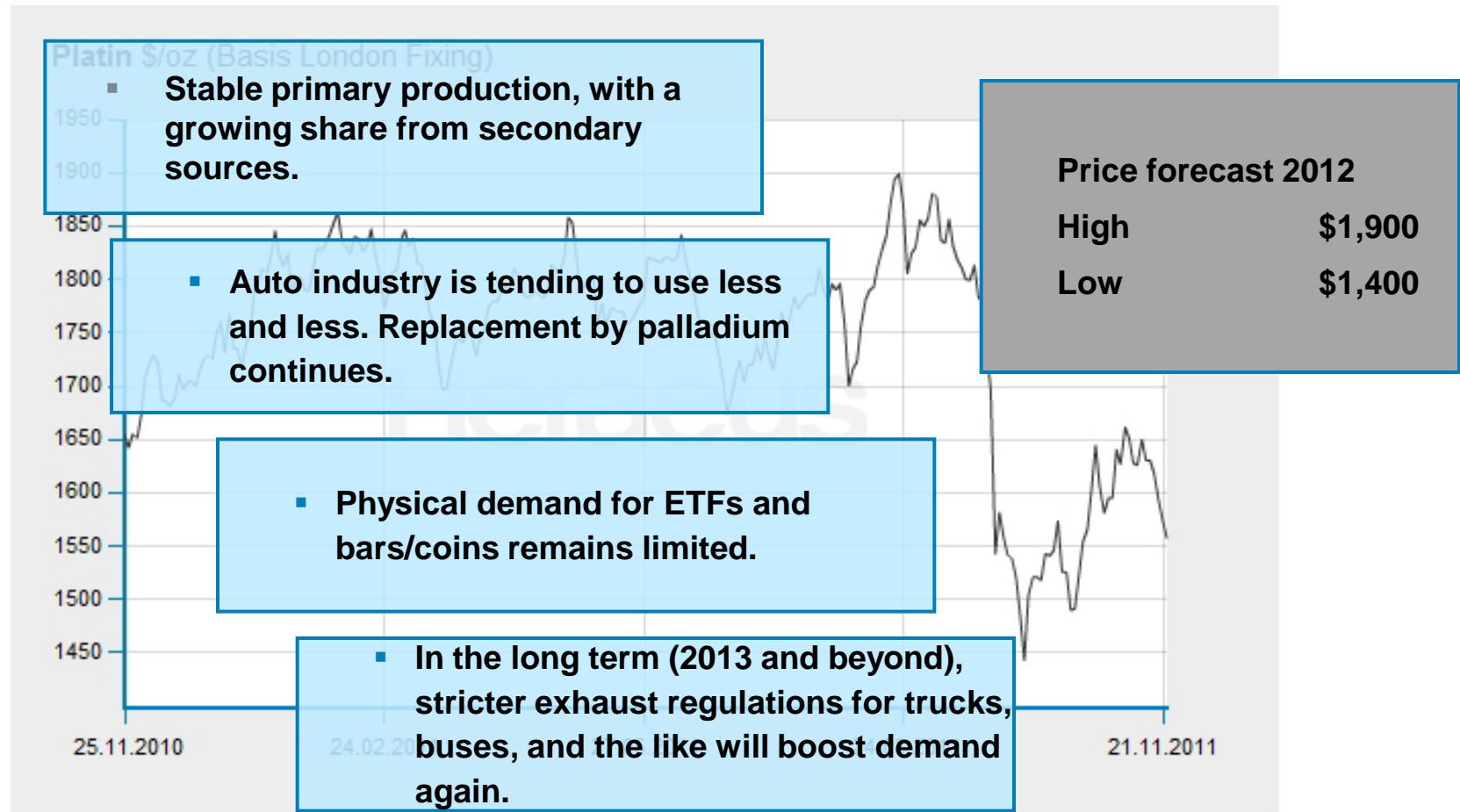
## The Heraeus view: Gold 2012



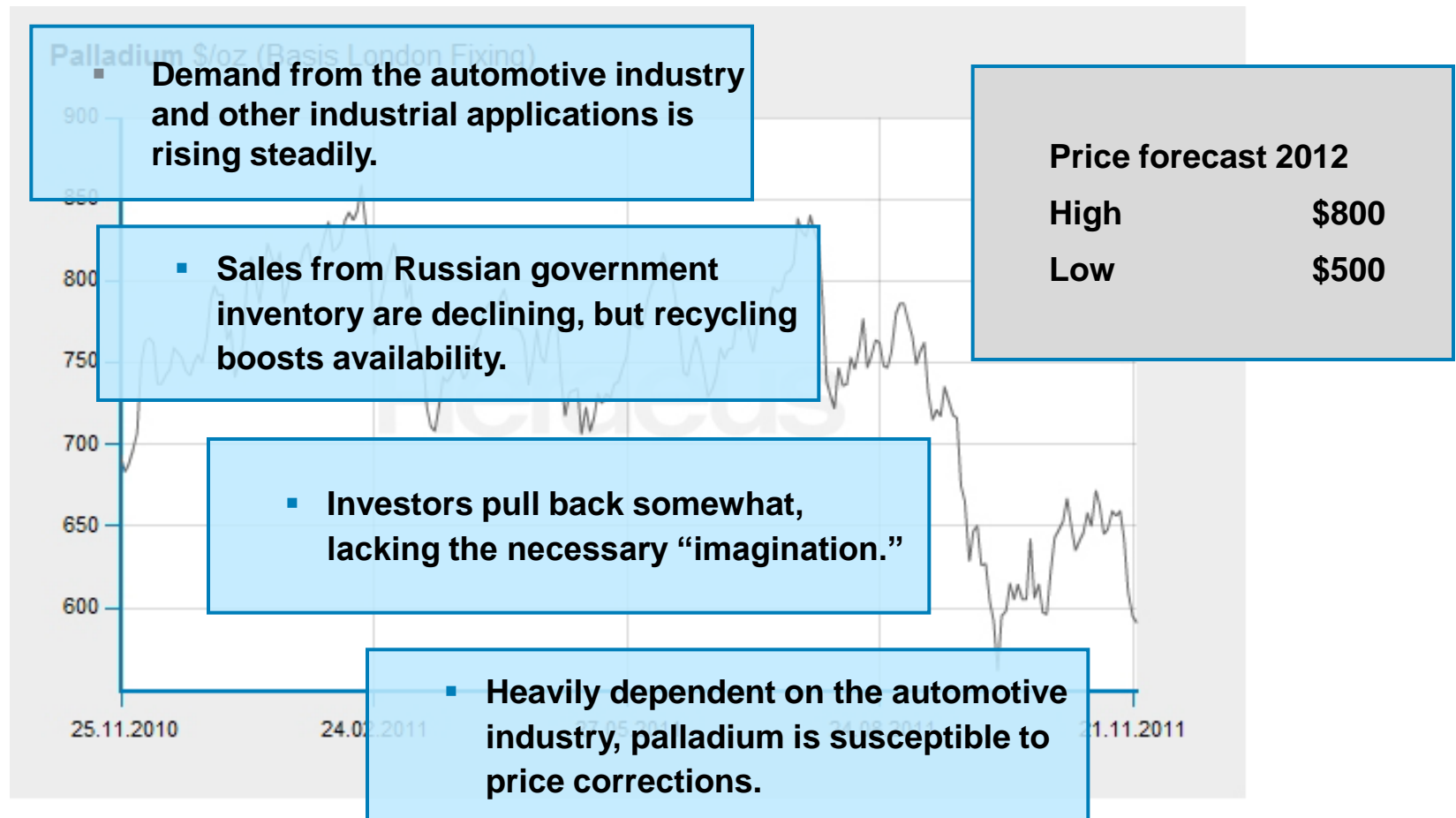
## The Heraeus view: Silver 2012



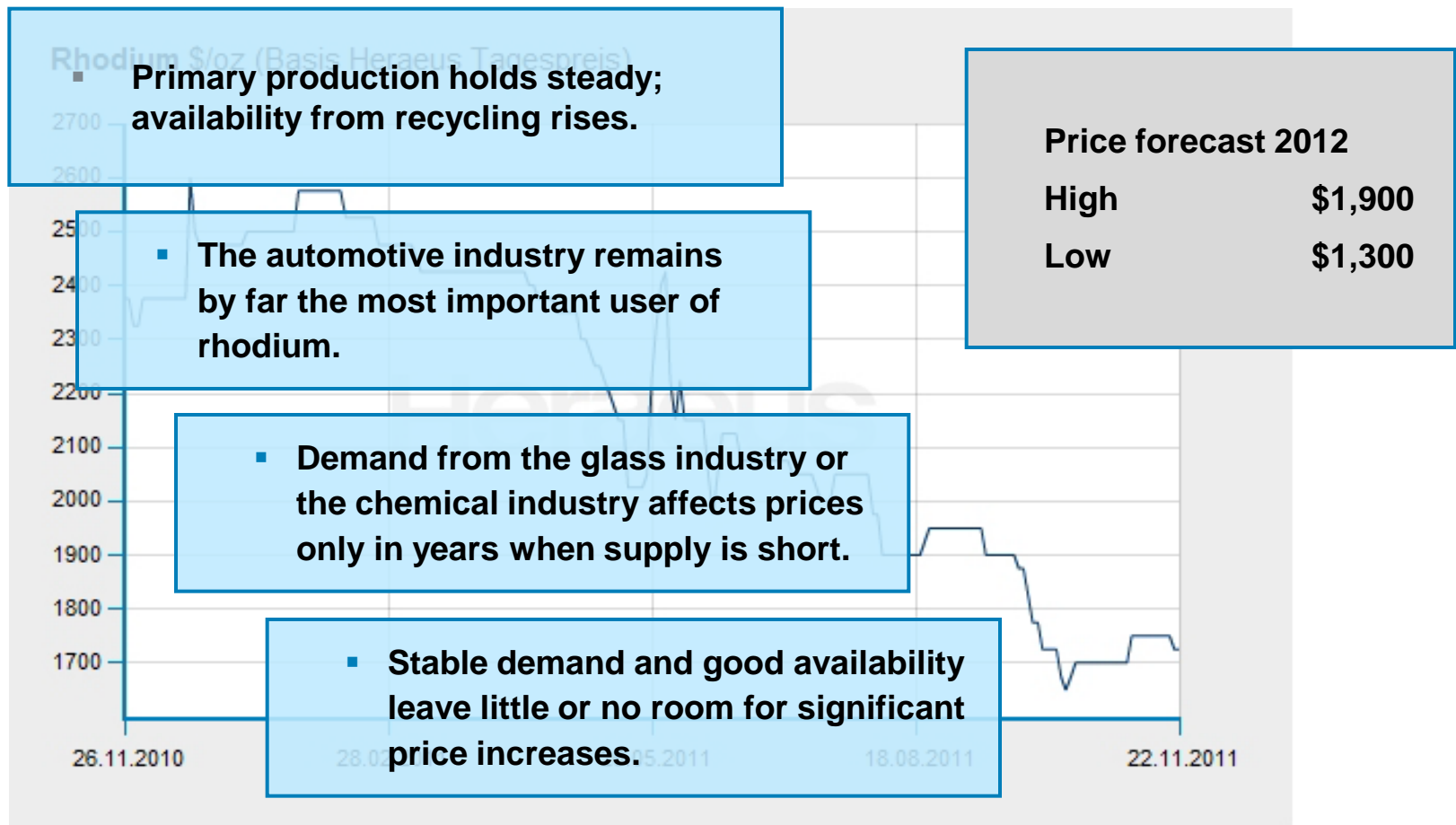
## The Heraeus view: Platinum 2012



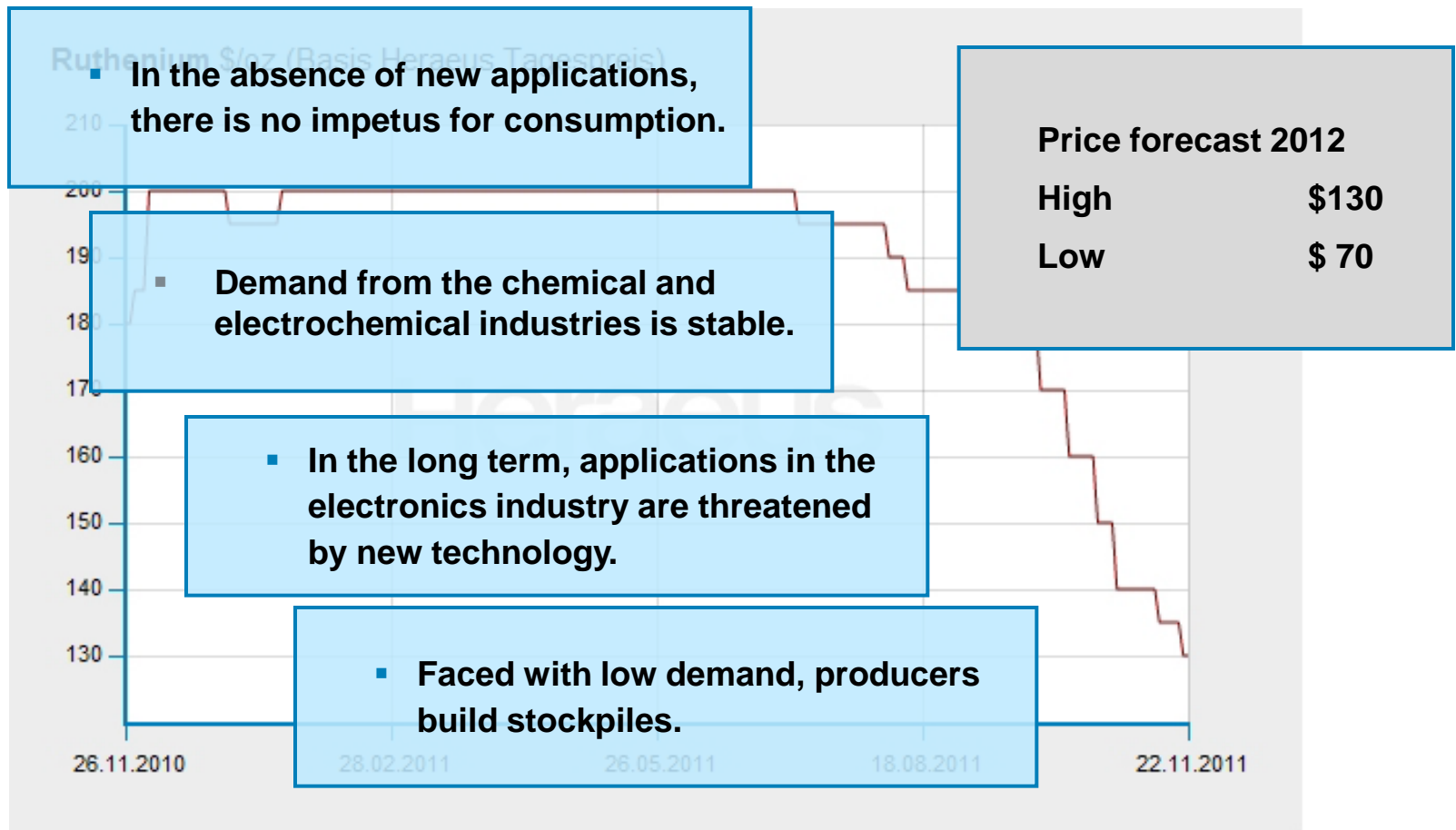
## The Heraeus view: Palladium 2012



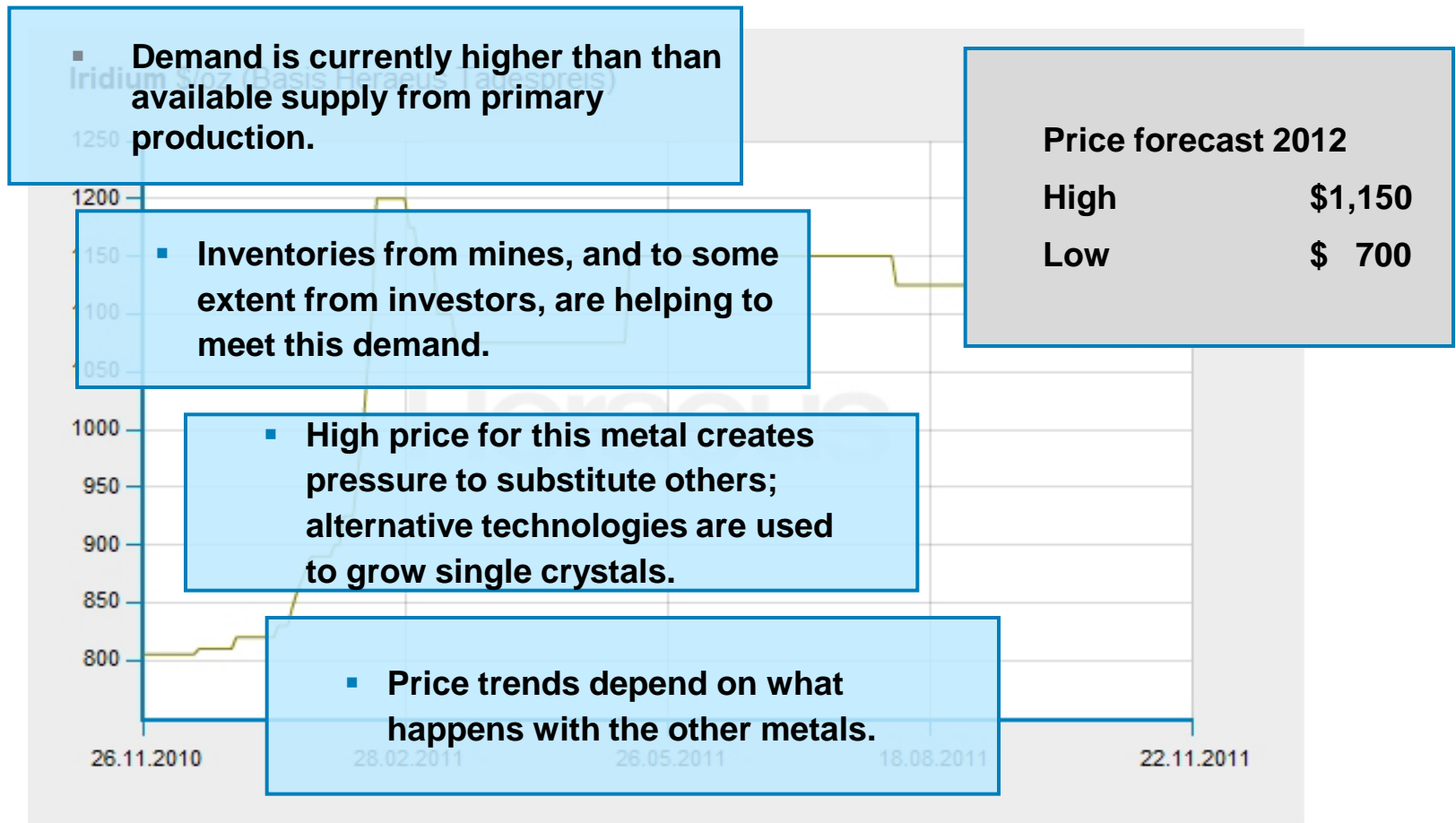
## The Heraeus view: Rhodium 2012



## The Heraeus view: Ruthenium 2012



## The Heraeus view: Iridium 2012



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Supply and demand figures are based on information provided by JM and/or Thomson Reuters/GFMS, London.