Market Talks
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COMMODITIES · BEGINNER · LESSON 10 OF 15

Silver, Platinum and Palladium

Three precious metals that live a double life: part store of value, part factory material. Where they come from, who uses them, and why their prices move so much more than gold

14 min read 8 quiz questions with answer key

COMMODITIES · BEGINNER · LESSON 10 OF 15

Silver, Platinum and Palladium

IN ONE SENTENCE

Silver, platinum and palladium are precious metals, but unlike gold most of their demand comes from industry. Silver goes into electronics and solar panels, while platinum and palladium clean the exhaust of cars. Their supply is concentrated: most silver is a by-product of other mines, most platinum comes from South Africa and much of the palladium comes from Russia. Because these markets are much smaller than gold, prices move faster in both directions. All three set records or multi-year highs in early 2026 and then lost around half of their value by November.

Half precious, half industrial

In Lesson 9 you saw that gold is hardly used up: almost all the gold ever mined still exists, so its price depends mostly on who wants to hold it. Silver, platinum and palladium are also called precious metals. They are rare, they are traded in ounces, and investors buy them as bars, coins and funds. But they live a double life.

Most of their demand comes from **industry**. Silver is the best conductor of electricity of any metal, so it goes into electronics, cars and solar panels. Platinum and palladium are excellent **catalysts**: they speed up chemical reactions without being used up, which is why they sit inside the exhaust systems of most petrol and diesel cars.

This double life shapes their prices. When the economy is strong and factories are busy, industrial demand helps them. When investors rush into precious metals, they move with gold, but more violently. And because a lot of what industry uses ends up in small amounts inside millions of products, much of it is never recovered.

Their markets are also much smaller than gold's. A smaller market means that the same amount of money flowing in or out moves the price further. That is the main reason these three metals are known for sharp swings.

Silver: supply, demand and a five-year deficit

Silver mine production reached **846.6 million ounces** in 2025, up 3% from the year before, according to the Silver Institute's World Silver Survey 2026. Mexico, China and Peru are the largest

producers. An unusual feature of silver is that most of it is mined as a **by-product**: it comes out of the ground together with lead, zinc, copper or gold. A copper mine does not decide how much copper to dig based on the silver price, so silver supply does not react quickly when silver becomes more expensive.

The other source of supply is **recycling**, from old jewellery, silverware, electronics and industrial scrap. Recycling rises when prices are high, because more people sell what they have.

On the demand side, the world used **1,130.6 million ounces** of silver in 2025. Industry took **657.4 million ounces**, close to 58% of the total. The rest went into jewellery, silverware, and bars and coins for investors.

When demand is bigger than supply for a full year, the market is in **deficit**, and the gap is filled from existing stocks held in vaults. 2025 was silver's **fifth deficit in a row**, at 40.3 million ounces, and the Silver Institute expects a sixth in 2026. Years of deficits slowly drained the metal available in London vaults, which helps explain why prices exploded when investors arrived in late 2025.

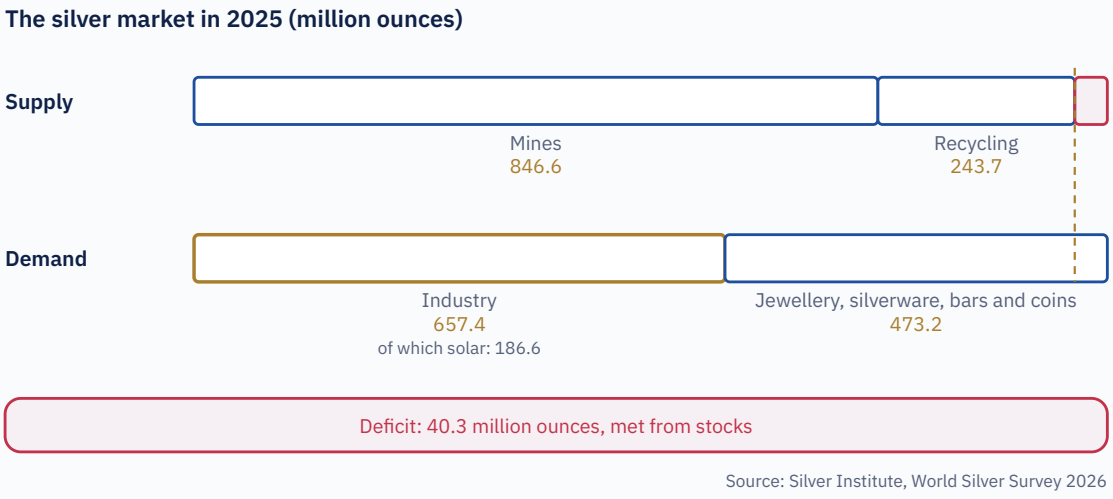


Figure 1. Silver supply and demand in 2025. Demand was larger than supply for the fifth year in a row.

Solar panels and thrifting

For most of the past decade, the fastest-growing use of silver was **solar panels**. Each solar cell carries a thin silver paste that collects the electricity. As the world installed record amounts of solar power, solar demand for silver grew year after year and became its largest single industrial use.

Then high prices started to work against it. When a raw material becomes very expensive, manufacturers look for ways to use less of it. This is called **thrifting**, and replacing it with something cheaper is called **substitution**. Solar makers did both: they made the silver lines on each cell thinner, and they started to replace part of the silver with copper.

The result shows in the numbers. Silver used by the solar industry fell from **197.5 million ounces** in 2024 to **186.6 million** in 2025, and the World Silver Survey 2026 expects it to drop by another 19% to about **151 million** in 2026. Other industrial uses, such as power grids, cars and the electronics behind artificial intelligence data centres, kept growing, but not enough to offset solar.

This is a pattern you will see in many commodities: very high prices often plant the seeds of lower demand later.

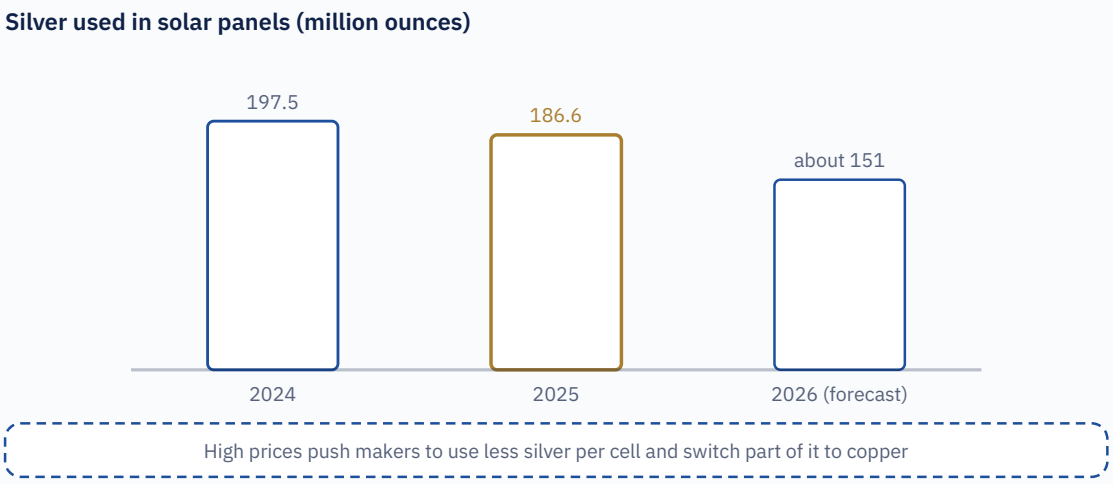


Figure 2. Solar panel makers are using less silver as they cut costs. Years run from left to right.

EXAMPLE: WHY A PANEL MAKER CARES ABOUT THE SILVER PRICE

Emma runs purchasing at a solar panel factory. When silver was around $30 an ounce, the silver paste was a manageable part of the cost of each cell. When silver tripled, it became one of the most expensive materials on her list.
Her engineers redesigned the cell to use thinner silver lines and tested a paste that mixes in copper. Each panel now needs less silver. Multiply that by millions of panels and the change becomes visible in world silver demand. One company's cost cutting, repeated across an industry, is how high prices cool demand.

Platinum and palladium: the catalyst metals

Platinum and palladium belong to a family called the **platinum group metals**, or PGMs. Their most important job is in the **catalytic converter**, the part of a car's exhaust that turns harmful gases into less harmful ones. Autocatalysts take more than 80% of palladium supply. Platinum has a wider spread of uses: car catalysts, jewellery, chemical and glass industries, oil refining, investment, and fuel cells that run on hydrogen.

Supply is even more concentrated than for oil. South Africa produces about **72%** of the world's mined platinum, according to World Platinum Investment Council forecasts for 2026, with Zimbabwe a distant second. For palladium, **Russia** is the largest producer with around 43% of mine output, followed by South Africa with around 35%. In Russia, palladium comes mainly as a by-product of nickel and copper mining.

This concentration is a constant risk. South African mines are deep, old and expensive to run, and they have suffered from power shortages, strikes and closures. Russian metal faces sanctions and trade restrictions. A problem in just one country can move the world price. The other source of supply is **recycling**, mostly from catalytic converters of scrapped cars, which grows when prices are high.

Total platinum mine supply is expected at about **5.55 million ounces** in 2026, roughly flat on 2025. In the same year, the platinum market swung from a record deficit of about 1.44 million ounces in 2025 to a forecast surplus, mainly because investors sold exchange-traded funds, according to the WPIC's report of September 2026.

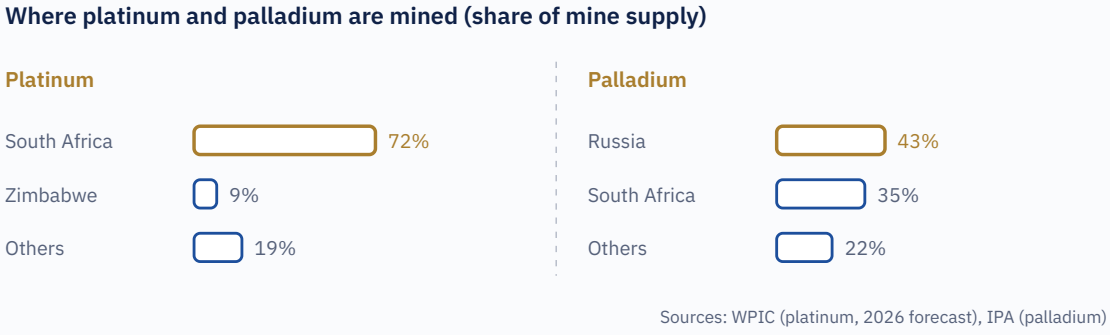


Figure 3. A few countries supply most of the world's platinum and palladium.

WHEN THE TWO METALS SWAP PLACES

Platinum and palladium can partly replace each other in car catalysts. From around 2017, palladium became more expensive than platinum, and in March 2022 it rose above $3,000 an ounce. Carmakers responded by using more platinum where they could. Today the situation is reversed: platinum is more expensive, and some analysts expect substitution to move back towards palladium. Each metal's price is limited by how cheap the other one is.

Electric cars and the long-term question

Because car catalysts are such a big part of PGM demand, the future of these metals is tied to the future of the car. A **battery electric car** has no exhaust and needs no catalytic converter at all. Every petrol car replaced by a battery car removes some palladium demand for good.

A **hybrid** is different. It still has a petrol engine, so it still needs a catalyst, sometimes with even more metal because the engine starts and stops often. In 2025 and 2026, electric car sales kept growing but more slowly than many expected, and the share of hybrids rose. That has extended the life of autocatalyst demand.

Producers are also looking for new uses. Russia's Nornickel, the largest palladium miner, is investing in research into new industrial uses, and platinum producers promote fuel cells and equipment for making hydrogen.

Forecasters do not agree on the balance. Johnson Matthey, a major PGM refiner, expected in May 2026 that platinum would stay in deficit this year while palladium could record a small surplus. Nornickel also sees palladium supply slightly above demand before investment. These views change often, which is why traders read each new report closely.

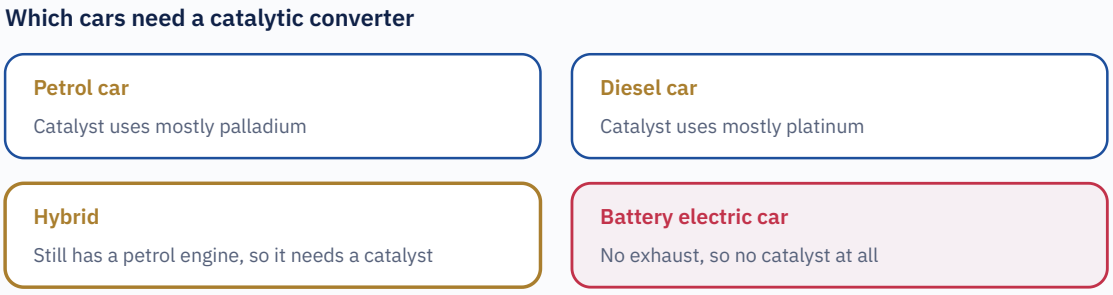


Figure 4. Catalytic converters, and the PGMs inside them, are needed only by cars with an engine that burns fuel.

Record highs and a hard fall

Silver more than doubled in 2025, its best year since 1979. A shortage of metal in London vaults, heavy buying of coins, bars and funds, and a broad rush into precious metals pushed it to one record after another. On **January 29, 2026**, silver reached an all-time high of about **$121.6** an ounce, roughly four times its price at the start of 2025.

Platinum also roughly doubled in 2025 and reached a record of about **$2,900** an ounce on January 26, 2026, breaking its old high from 2008. Palladium rose too, though less, and traded around $2,100 at the end of January.

Then all three fell hard. By mid-September 2026 silver was trading near $66, and by mid-November near **$50**. Platinum was around **$1,400** in mid-November, and at the start of November palladium dropped to levels last seen in 2016, below $1,000. Each of them lost more than half of its value from the January peak, a much bigger fall than gold's.

The lesson is the same as for gold, only stronger: smaller markets move further. These metals can rise several times faster than gold in a rally and fall several times faster when it ends.

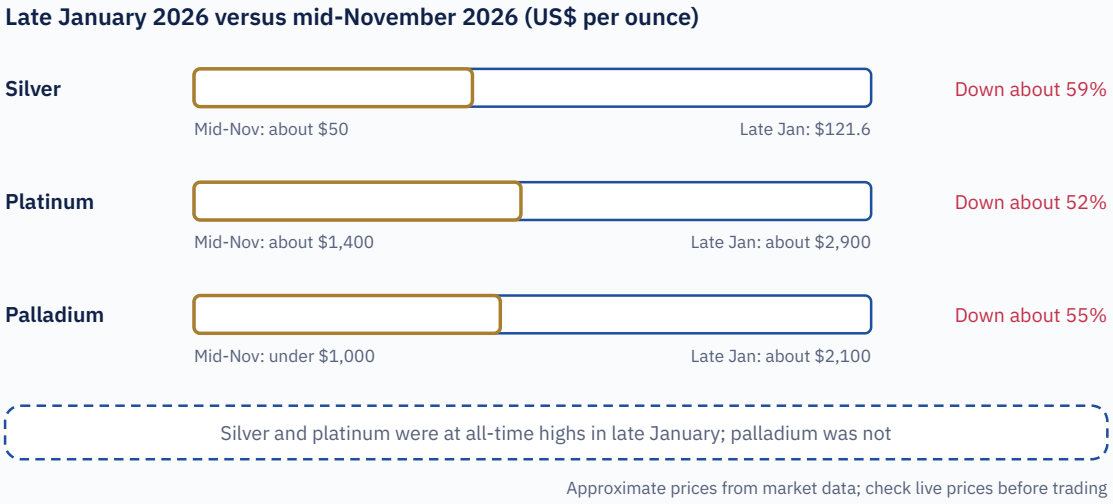


Figure 5. All three metals lost more than half of their value between late January and mid-November 2026.

THE GOLD TO SILVER RATIO

Many traders follow the **gold to silver ratio**: the gold price divided by the silver price. It tells you how many ounces of silver buy one ounce of gold. At the end of January 2026 the ratio fell below 50 as silver raced ahead. By mid-November, with gold near $3,900 and silver near $50, it was close to 80. A falling ratio means silver is beating gold; a rising ratio means silver is lagging.

How traders access these metals

The main futures contracts are traded on CME Group exchanges in New York. As you saw in Lesson 6, each contract has a fixed size and a minimum price step, or tick:

Contract	Code	Size	Tick	Value of one tick
COMEX Silver	SI	5,000 troy ounces	$0.005	$25
NYMEX Platinum	PL	50 troy ounces	$0.10	$5
NYMEX Palladium	PA	100 troy ounces	$0.50	$50

Smaller micro contracts exist for traders who want less exposure. Physical silver, platinum and palladium are also traded over the counter in London, and the spot prices are quoted as XAG/USD, XPT/USD and XPD/USD. Many brokers offer these as CFDs, and there are exchange-traded funds that hold physical metal.

Remember that a $1 move in silver is about 1% to 2% of its price at current levels, and silver can move several dollars in a day. With 5,000 ounces per contract, a $1 move changes the value of one

COMEX contract by $5,000. Position size matters even more here than in gold.

Why this matters for traders

- **Expect bigger swings than gold.** Silver, platinum and palladium often follow gold's direction, but their moves are larger in both directions. Size positions accordingly.
- **Watch the industrial side.** Solar installations, car production, hybrid and electric car sales, and factory activity in China all affect demand.
- **Watch the supply countries.** News from South African mines and Russian exports can move platinum and palladium sharply.
- **Read the annual and quarterly reports.** The Silver Institute's World Silver Survey (April), the WPIC's Platinum Quarterly and Johnson Matthey's PGM market report set the market's view of supply and demand.

Key terms

Precious metals	Rare metals traded in ounces and held as a store of value, mainly gold, silver, platinum and palladium.
Platinum group metals (PGMs)	A family of six related metals, including platinum, palladium and rhodium, mined mostly in South Africa and Russia.
By-product	A metal that comes out of a mine whose main product is something else, such as silver from a lead, zinc or copper mine.
Catalytic converter	The part of a car's exhaust that uses platinum, palladium and rhodium to turn harmful gases into less harmful ones.
Market deficit	A year in which demand is larger than supply, so the gap is met from existing stocks.
Thrifting	Using less of an expensive material in each product, for example thinner silver lines in a solar cell.
Substitution	Replacing one material with another, cheaper one, such as copper for silver or platinum for palladium.
Gold to silver ratio	The gold price divided by the silver price; how many ounces of silver buy one ounce of gold.

Key takeaways

1. Silver, platinum and palladium are precious metals, but most of their demand comes from industry.
2. Most silver is mined as a by-product, so supply reacts slowly to price. In 2025 the world mined 846.6 million ounces and used 1,130.6 million, a fifth deficit in a row.
3. Solar panels were silver's fastest-growing use, but high prices led to thrifting: solar silver demand fell in 2025 and is expected to drop about 19% in 2026.
4. South Africa mines about 72% of the world's platinum; Russia and South Africa together mine most palladium. Car catalysts are the main use of both.
5. Battery electric cars need no catalyst, hybrids still do. The pace of the switch is the long-term question for PGMs.
6. All three metals surged into January 2026 and then lost more than half of their value by November: smaller markets move further than gold.

Test yourself

Circle one answer for each question. The answer key with explanations is on the next page. You can also take this quiz online at markettalks.info and see your score instantly.

1. What is the main difference between gold and silver in terms of demand?

- A Silver has no investment demand
- B Most silver demand comes from industry, while gold demand comes mostly from holding it
- C Gold is used mainly in solar panels
- D Silver cannot be recycled

2. Why does silver mine supply react slowly when the silver price rises?

- A Because silver mines are owned by governments
- B Because most silver is a by-product of mines for other metals such as lead, zinc and copper
- C Because silver cannot be mined in winter
- D Because exchanges limit silver production

3. In 2025, the silver market recorded a deficit of 40.3 million ounces. What does that mean?

A. Prices fell by 40.3%
B. Mine production fell by 40.3 million ounces
C. Demand was larger than total supply by 40.3 million ounces, so the gap came from existing stocks
D. Exchanges ran out of silver

4. Why did silver demand from solar panel makers fall in 2025 and 2026?

A. Solar installations stopped worldwide
B. High silver prices pushed makers to use less silver per cell and switch part of it to copper
C. Solar panels no longer need electricity
D. Governments banned silver in panels

5. Which country produces about 72% of the world's mined platinum?

A. Russia
B. Canada
C. South Africa
D. Mexico

6. What is the most important use of palladium?

A. Jewellery
B. Coins
C. Catalytic converters in cars
D. Solar panels

7. How does a battery electric car differ from a hybrid for palladium demand?

A. Both need large catalysts
B. A battery car needs no catalyst, while a hybrid still has a petrol engine and needs one
C. A hybrid needs no catalyst, while a battery car needs a large one
D. Neither affects palladium demand

8. The gold to silver ratio rises from 50 to 80. What happened?

A Silver performed better than gold

B Silver performed worse than gold

C Both prices stayed the same

D Gold fell to zero

Answer key

1 B

Most silver demand comes from industry, while gold demand comes mostly from holding it

In 2025 industry used about 58% of all silver. Gold is mostly bought to hold, as jewellery, bars, coins and reserves.

2 B

Because most silver is a by-product of mines for other metals such as lead, zinc and copper

A copper or zinc mine plans its output around its main metal, not around the silver price, so silver supply changes slowly.

3 C

Demand was larger than total supply by 40.3 million ounces, so the gap came from existing stocks

A deficit means demand was bigger than supply over the year, and the difference was met from metal already held in vaults.

4 B

High silver prices pushed makers to use less silver per cell and switch part of it to copper

This is thrifting and substitution. Expensive silver gave manufacturers a strong reason to use less of it.

5 C

South Africa

South Africa dominates platinum mining. Zimbabwe is second, far behind.

6 C

Catalytic converters in cars

Autocatalysts take more than 80% of palladium supply, mostly in petrol cars.

7 B

A battery car needs no catalyst, while a hybrid still has a petrol engine and needs one

No exhaust means no catalyst. A hybrid still burns petrol, so it still uses PGMs.

8 B

Silver performed worse than gold

A higher ratio means more ounces of silver are needed to buy one ounce of gold, so silver lost ground against gold.

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