THE SILVERINSTITUTE

Silver News

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Global Silver Investment Heightens in 2025

Inflows into Silver-Backed Exchange-Traded Products Already Surpass 2024 Totals

Ongoing geopolitical and economic uncertainties, along with positive price expectations, spurred silver investment in the first half of 2025 driving the metal's price in June to its highest level in 13 years, according to statistics gathered by the Silver Institute.

Silver Price
The average annual silver price rose 25% through the first six months of 2025, only marginally lower than the average gold price, which increased by 26% during the same period. The elevated gold:silver ratio in April and May also made silver appear undervalued from a long-term perspective.

Silver-Backed Exchange-Traded Products (ETPs)
With net inflows of 95 million ounces (Moz) in the first half of 2025, silver ETP investment has already surpassed the total for all of last year.

By June 30, global silver ETP holdings reached 1.13 billion ounces (Boz), just 7% below their highest level since the peak of 1.21 Boz in February 2021. Thanks to firmer silver prices, the value of these holdings hit a series of all-time highs in June, exceeding US$40 billion for the first time. Growth was relatively consistent over the first five months of 2025, before buying surged in June, which alone accounted for nearly half of the gains. As such, this marked the most significant monthly increase since the Reddit-driven silver squeeze in early 2021.

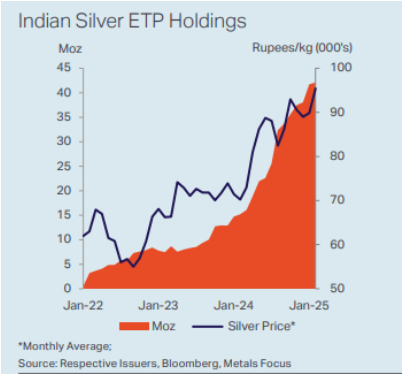
Futures Trading
On the CME, net managed money positions strengthened this year. As of June 24, the net long position was up 163% from end-2024 levels. Institutional investors have demonstrated a strong commitment to silver as a store of value for much of this year. This is reflected in the average net longs over the first six months of 2025, which achieved their highest level since the first half of 2021.

Retail Silver Investment
Retail investment in silver has experienced contrasting fortunes so far this year. In Europe, the recovery that began in late 2024 has continued into 2025. However, this growth stems from a relatively low base, and retail investment (in volume terms) still lags behind the elevated levels seen during 2020–2022. Nevertheless, the market has benefited from a slowdown in secondary market liquidations, which has lifted demand for newly-minted bars and coins.

Indian retail investment demand remains strong, posting a 7% year-over-year gain over the first six months of 2025. This partly reflects ongoing strong price expectations.

This contrasts with the US, where selling back by retail investors remains high. This dynamic, along with weak retail purchases, has weighed heavily on new bar and coin sales as some US investors have been encouraged by multi-year high prices to take profits. Furthermore, the absence of a crisis in the US (like the collapse of Silicon Valley Bank in 2023) has reduced safe-haven purchases. Overall, US retail demand for physical silver is estimated to have fallen by at least 30% so far this year.

Looking ahead, in the coin and bar market, there is potential for strong two-way activity in the months ahead, although demand for newly-struck products may remain subdued. One area of uncertainty, however, is how investors will react should the silver price eclipse at US$40. The market could see a mixture of profit-taking by some, while other investors jump in, expecting further price gains.



"Indian retail investment demand remains strong, posting a 7% year-over-year gain over the first six months of 2025. This partly reflects ongoing strong price expectations."

Gregor J. Gregersen, Founder, Silver Bullion Pte Ltd; The Reserve

Gregor J. Gregersen is a native German who grew up in Italy then California and ultimately settled in Singapore. His passion is understanding cause and effects in complex systems, how events shaped history and comparative economics. We spoke with him about The Reserve, a secure vaulting facility in Singapore, and the future of physical silver as a storehouse of wealth.

Following is an edited interview.

Where did you get the idea to found a vault?
After the collapse of Lehman Brothers in 2008 it became clear to me that direct physical bullion ownership was one of the very few wealth refuges in such a crisis. Physical bullion, stored in a trusted and well-defended jurisdiction, was my preferred way to hedge against such future crises. Silver Bullion Pte Ltd, a member of the Silver Institute, was created to safekeep physical silver – and later gold and platinum – in Singapore.

And this led to your second vault – The Reserve?
By 2020, buoyed by the Covid-19 bullion demand, we were approaching the capacity limits of our existing vault and needed to build something much bigger. The Reserve is now one of the highest-capacity vaults in the world, capable of storing over 30 percent of global annual silver supply. It features a 320-million-ounce silver capacity and 15 UL Class 2 gold vaults in a 180,000 sq. ft. facility.

There is demand by large clients to switch sizable amounts of expensive gold into less expensive silver. For example, if a client sells 450 kg of gold to buy 40,000 kg of silver, we can accommodate this by stacking the silver 12 meters (38 feet) high using only about 5 square meters of space. The Reserve is nine times more space-efficient than our old vault, enabling plenty of capacity at very competitive bulk-vaulting fees.

What are your clients looking for in a vault?
The majority of clients are high-net worth individuals and families that seek longer term, often intergenerational, wealth protection. They view physical bullion as wealth insurance, rather than an investment, and will usually buy and hold for the long term.

The reasons they choose us are:

- Bullion ownership, transparency and on-demand audits;
- Our bullion testing and genuiness guarantee which is normally not provided in the industry;
- We offer "mysterious disappearance" insurance which occurs when there is no explanation for a disappearance (a miscounting of bars, for example) and no police report is available. We offer coverage for up to 1.5 billion SGD (~1.2 billion USD) per incident.

What other services do you offer to clients?
Through a tenant in the facility, we can authenticate, store, and collateralize luxury watches. Also, Helutrans, an art logistic operator for the large art auction houses in Asia, rents a floor in The Reserve. We also offer safe deposit boxes to store valuable items which could include crypto wallets or ledgers.

The Reserve

What do you see ahead?
As the world focuses on physical gold, silver's low relative prices are also set to return to the spotlight. The silver market is 200 times smaller than gold, and silver remains inexpensive relative to gold, and physical silver supplies are dwindling.

As long as physical silver supplies are available and we can continue to ship 20-ton silver containers to Singapore, we expect many more clients to take advantage of the current gold-silver ratio of 88 as they await prices to rebalance towards the 50-year average of around 60.

Silver Increases Life of Lithium Batteries; Diminishes Chances of Short Circuits

Lithium batteries have changed modern life in profound ways from being the 'go-to' power source for electric cars to powering construction tools and consumer products such as smartphones and laptop computers. The list of advantages include high power at low weight compared to conventional lead-acid batteries, long lifecycles, fast charging and low self-discharging when stored for extended periods.

One of the main disadvantages, however, is the formation of 'dendrites' which are microscopic crystal structures that grow in lithium batteries causing dangerous short circuits and shortened lifespan.

Officials at the Korea Electronics Technology Institute (KETI) may have found an answer to the dendrite problem. According to their research paper in peer-reviewed journal *Nature Communications,* a research team added silver nanoparticles to a lithium battery's solid electrolyte. When the battery was charged, the chemical reaction that followed suppressed random dendrite formation. By lessening dendrite formations, lithium particles grew more evenly leading to longer battery life, faster charging and a lowering of chances that short circuits would occur and irreparably damage the battery.

This method would be highly likely to be commercialized. In a prepared statement, Choi Seung-ho, KETI senior researcher, said, "The significance of this silver particle-utilizing method lies in changing the structure of the solid electrolyte itself to be lithium-friendly. As the technology can be directly applied to mass production processes, it will be a new breakthrough in the all-solid-state battery market."

Silver helps lithium batteries last longer.

Silver Nanoparticle Sensor Changes Color in the Presence of Food Gone Bad

When foods go rancid they often produce several acrid gases such as hydrogen sulfide, nitrogen dioxide and sulfur dioxide. Sometimes we can smell these toxic gases ourselves if the food is beyond edible, but what if we could detect food going bad a bit earlier when it's dangerous to eat but we can't quite smell it?

Currently, sensors used to detect rancid food rely on inexpensive "optoelectronic noses" that use color dyes and nanomaterials to detect gases. The 'noses' worked well in most cases but tended to fail in environments with low concentrations, high temperature and humidity.

Silver nanoparticles may hold the key to producing portable, sensitive sensors that can operate in less-than-ideal environments, according to scientists at Guilin University of Technology, Guilin, China.

The idea is to use nanosilver's ability to change color when exposed to certain gases with the hue based on concentration and type of gas. "… silver nanoparticles (AgNPs) are a colorimetric sensing material with huge market application potential, existing unique optical properties and possessing higher extinction coefficient and narrower surface plasmon resonance band than dyes. Therefore, it has better colorimetric response, higher sensitivity and detection," the team wrote in their research paper.

Using silver nanoparticles to detect gases is not new, but this method "used a smartphone paper-based colorimetric sensor using six types of silver nanoparticles to visually detect and distinguish three highly toxic trace nitride/sulfide gases: nitrogen dioxide (NO_2), hydrogen sulfide (H_2S), and sulfur dioxide (SO_2)," the researchers noted. The silver was placed on a water-soaked paper and when it detected gas and changed color, the smartphone used its camera to analyze the color and report which gas was found and its concentration.

In one particular test, they checked chicken and reported: "… the change of chicken freshness indicated by the sensor during the placement process was analyzed, the colorimetric response mechanism generated from the chemically induced silver nanoparticles was explored…" The smartphone sensor was able to show that the chicken was emitting gas thus showing that it was turning rancid.

Silver nanoparticles change color in the presence of rancid food.

Source: Chemical Engineering Journal

'Smart' Windows Use Silver to Save Energy

Keep Occupants Comfortable in Summer and Winter with the Flick of a Switch

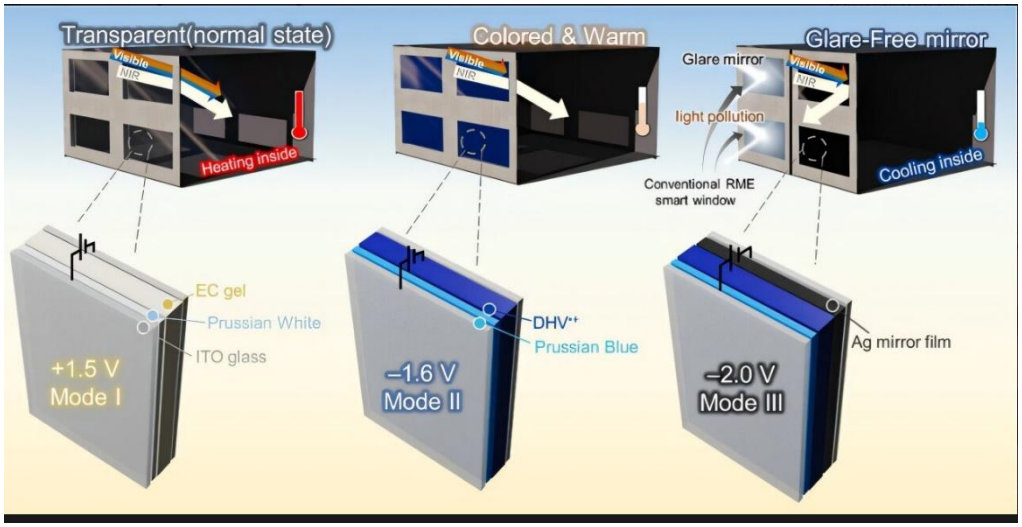
Buildings consume about 40% of global energy, and much of that goes towards heating and cooling to keep occupants comfortable, according to Korean scientists who have developed 'smart' windows that not only block the sun's heating rays but keep cool air from escaping. In addition, these windows that rely on silver also prevent glare that can blind pedestrians and drivers from reflected sun. Glare is a major issue in densely-packed urban areas.

The developers at KAIST (Korea Advanced Institute of Science and Technology) say that their reversible electrodeposition and electrochromic mirror (RECM) system has three modes that control a window's ability to regulate both visible light and infrared heat radiation.

In Mode I, the window is transparent. During the winter, light can enter and retains the inside heat. In Mode II, Prussian Blue – often used in medicine to remove radioactive materials from patients undergoing radiation therapy or accidental radioactive exposure – turns the window dark blue. This allows the window to absorb light letting in very little heat from the sun during the hot summer. An added bonus is that it gives occupants privacy from people outside. In Mode III, the Prussian Blue combines with silver ions in the windows that reflects light and heat. This cuts blinding glare from those looking towards the building. The developers say that the glare is reduced by one-third.

All modes are adjusted automatically according to the time of day and can also be controlled manually with an electric switch. Although full-sized windows have not been built and studied, the researchers have fabricated miniature buildings that show a temperature differential of 81 degrees F (27.2 C) in Mode II between the inside and outside.

Team member Professor Hong Chul Moon of KAIST said in a prepared statement: "This research goes beyond existing smart window technologies limited to visible light control, presenting a truly smart window platform that comprehensively considers not only active indoor thermal control but also the visual safety of pedestrians… Various applications are anticipated, from urban buildings to vehicles and trains."



Silver in 'smart windows' keeps occupants cool in the summer and warm in the winter.

Source: KAIST

Sweat and Silver Tells Tales of Patient Health

Detecting ammonia compounds in sweat has been used for decades to test for metabolic health and hydration. Certain levels can also indicate liver disease and muscle fatigue. The tests often use sensors on membranes attached to skin, but this method has drawbacks, mainly that membranes can be uncomfortable to wear and must be replaced after a short time.

One answer comes from researchers at Amrita School of Engineering Chennai, Amrita Vishwa Vidyapeetham, India who have developed a membrane-free sensor using a silver/copper composite which can be worn by patients for full-time monitoring of ammonia in sweat.

The method is non-invasive and offers full, real-time monitoring. In an era of the Internet of Things patients are often within wi-fi range so results can be sent immediately to doctors, or, in instances where there is no internet, data can be stored in smartphones for later downloading to healthcare workers.

By checking for biomarkers in sweat, doctors can gain valuable insights into a patient's health from a wearable device. "Sweat ammonium levels have been shown to correlate with blood ammonia concentrations, making it an ideal non-invasive marker for assessing the metabolic state," the researchers noted in their report.

Several other metal compounds were considered and investigated for use as sensors including copper oxide, titanium dioxide and zinc oxide by other researchers. However, what worked best in these particular tests was a combination of silver and copper oxide. "[This combination] in artificial sweat samples as proof of concept suggests the potentiality for developing wearable sensors in future… Wearable devices that detect these [ammonia] ions in sweat offer an effective tool for personalized health monitoring, potentially providing early indicators of underlying health issues and enabling timely interventions," the team concluded.

Royal Canadian Mint Offers Silver Bullion Stock Market Coin

The bull and the bear are common symbols of the stock market – the bull depicting an up market and the bear, a selling market – and these avatars are on a new silver bullion coin from the Royal Canadian Mint.

"Both the bull and the bear are a normal part of the investment market's lifecycle. Both animals, ranging in size from the smallest black bear to the larger grizzly and the largest polar bear, are also present throughout Canada, home to over 60,000 cattle farms and ranches," according to Mint officials.

The 62.29-gram coin has two security features: precise radial lines and a micro-engraved lasered maple leaf with the numeral "25" (visible under magnification) to denote the coin's year of issue.

The .9999 silver bullion coin has a face value of CAD$10, and is available from registered coin dealers. There is no fixed mintage.

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