

Physical versus Synthetic Gold: Know Your Gold Exposure

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The [S&P GSCI Gold](#) was up 22% over the first 10 months of 2020. There are a number of drivers behind its upward performance. The global pandemic has persuaded investors that gold is a valuable addition to their portfolios as a hedge against equity returns, near zero interest rates, a depreciating U.S. dollar, and lagging economic growth. Many institutional investors are also using gold as protection against possible deflation or conversely, against an uptick in inflation, the effect of massive fiscal, and monetary stimulus.

Investors have available to them a myriad of vehicles to invest in the performance of gold—from gold bars and mining equities to derivatives and financial products based on derivatives. Two of the more popular gold investment instruments professional investors use are gold futures, including financial instruments based on gold futures, and exchange-traded products (ETPs) based on physical gold. In many cases, both derivatives and ETPs are appropriate choices, but there are noteworthy differences in terms of price discovery, liquidity, leverage, cost structure, counterparty risk, and customization that warrant investigation before any investment decision is made.

Gold bugs may tout holding physical gold as offering protection from a true black swan event, such as the complete collapse of a fiat currency, but there are legitimate questions regarding how practical a few gold bars would be in the aftermath of such an event. Nevertheless, the focus of this paper is to compare the advantages and disadvantages of investment instruments backed by physical gold versus those based on gold derivatives, not on holding physical gold bars and coins (see Exhibit 1).

Exhibit 1: Advantages and Disadvantages of Alternative Gold Investment Instruments

PHYSICAL GOLD ETPs	
ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Backed by physical gold • Highly liquid • Transparent • Ease of execution and management • No specific derivatives experience or execution capability required • Physical delivery possible in some cases 	<ul style="list-style-type: none"> • Counterparty risk may not be clear • London Bullion Market Association (LBMA) pricing mechanism • Investment must be fully funded • Custody highly concentrated • Gold not allocated to individual investors • Produces no income • Difficult or costly to customize • Tracking error to spot gold price
DERIVATIVE-BASED GOLD PRODUCTS	
ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none"> • Highly liquid and large number of market participants • Transparent pricing mechanism • Ability to customize—short, leverage, tenure, multi asset • Capital efficient (not fully funded) • Counterparty risk well understood • Physical delivery possible in some cases • Liquid options market for hedging 	<ul style="list-style-type: none"> • Requires specific derivatives experience and execution capability • Roll yield can detract from performance • Tracking error to spot gold price • Cost of capital efficiency and customization can lead to higher per-unit costs

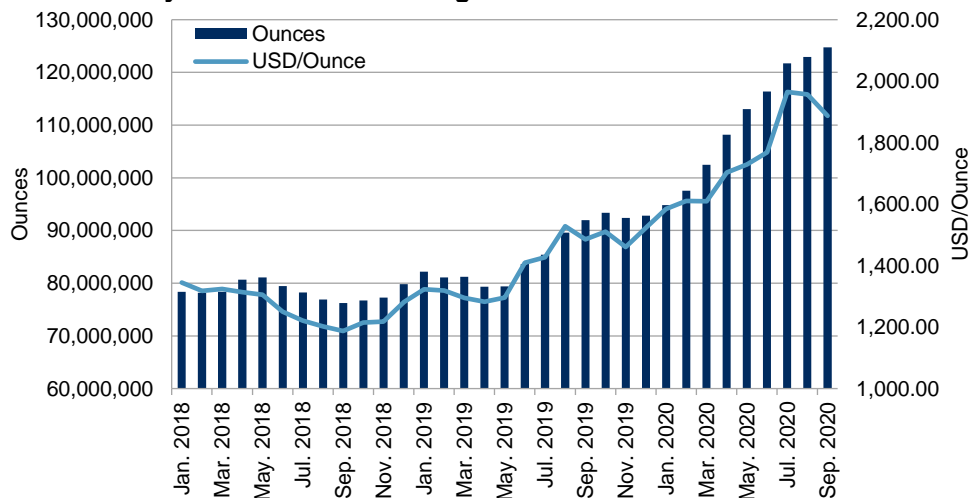
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Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

PHYSICAL GOLD ETPs

Gold ETPs came to market in the early 2000s and claimed at the time to combine the liquidity and tradability of an equity or mutual fund with the attractive store-of-value and diversification characteristics of physical gold. They undoubtedly revolutionized the precious metals market and greatly improved investor access to this unique, investable asset. Much of the recent success of gold as an investable asset has played out in the physical ETP market, where gold held on behalf of physically backed gold exchange-traded funds (ETFs) is approaching 123 million ounces, up 32% YTD (see Exhibit 2).

Exhibit 2: Physical Gold ETF Holdings versus Gold Prices



Source: World Gold Council. Monthly data from January 2018 to September 2020. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

...from gold bars and mining equities to derivatives and financial products based on derivatives.

Popular gold investment instruments professional investors use include financial instruments based on gold futures and ETPs based on physical gold.

In a physically backed gold ETP, the gold is held on behalf of the investor in the vaults of a custodian. ETPs trade in the same way as a stock and potentially offer a similar ease of execution and management. Each ETP is physically backed by allocated gold and provides plain vanilla exposure to the price of gold.

Gold ETPs are highly liquid and offer a tight bid-offer spread. However, their expense ratios can be relatively high, especially in comparison to equity ETPs and in certain cases gold exposure via derivatives. In a sense, an investor is paying for someone else to manage their physical gold exposure when buying an ETP. The world's largest physical gold ETP, SPDR Gold Trust, has an expense ratio of 0.40%.

Physical gold ETP performance is benchmarked to spot gold, specifically the LBMA Gold Price. There are 15 financial institutions that are currently accredited to contribute to the LBMA Gold Price,¹ which is set twice daily based on an electronic auction process.

The majority of gold ETP issuers are structured as special purpose vehicles and their role is restricted to operations and marketing of the product.

The majority of gold ETP issuers are structured as special purpose vehicles and their role is restricted to operations and marketing of the product. Most of the gold held in ETPs is stored in the vaults of a few institutions and stored somewhere in London. Thus, gold ETP custody is highly concentrated, and investors should understand the applicable counterparty risk.

In most cases, an investment in a gold ETP is fully funded. With many government bonds paying investors a negative return, the fact that gold is a financial asset that offers no income has become increasingly irrelevant, though there is still an opportunity cost, especially for institutional investors, associated with having to fully capitalize their gold exposure.

Gold ETPs are required to hold gold assets in accordance with the number of shares they issue, however, in some instances, the ETP manager is permitted to lend out the gold assigned to the ETP to other investors. This can generate income for the ETP manager, which can reduce the cost of managing the ETP, but at the same time may be at odds with the ETP investors' preference for holding a financial instrument backed by a physical asset.

The majority of gold ETPs are not required to allocate gold to individual unit holders; no particular bar of gold belongs to a specific investor, as all investors have a fractional ownership in all the gold that the ETP controls. In most cases, it is not possible for investors to take delivery of physical gold held against their ETP shares. A small number of gold ETFs do offer

¹ <http://www.lbma.org.uk/lbma-gold-price>

delivery of physical gold bullion, subject to certain conditions and delivery costs (e.g., transport, security, and insurance).

By virtue of the asset class, gold (a physical commodity) produces no income. The ETP generates ongoing administrative expenses such as management and marketing fees that must be covered by the sale of gold bullion from the fund, given that there is no income in the form of dividends or coupons to cover these costs. This sale of gold to cover costs diminishes the overall holdings of the ETP and over time will erode its value, which can result in tracking error to the spot gold price.

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DERIVATIVE-BASED GOLD EXPOSURE

Often referred to as synthetic gold exposure, another way to gain exposure to the performance of the gold is via derivative-based financial instruments. Most commonly, these instruments are gold futures contracts, ETPs based on gold index futures and indices, or swaps based on derived gold indices.

In general, futures markets offer market participants an efficient price discovery mechanism within a highly regulated market place. Futures are highly liquid, attract a broad range of participants (i.e., both hedgers and speculators), and standardized contracts. In the case of gold, the volume of gold traded on the exchange or in over-the-counter (OTC) transactions dwarfs the volume traded in ETPs (see Exhibit 3). The price of the gold futures contract is determined by a large number of participants, in contrast to the 15 financial institutions who contribute to the LMBA gold price.

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Exhibit 3: Daily Average Gold Trading Volume (USD Billions)

INVESTMENT VEHICLE	FULL-YEAR 2019	YTD 2020	AUGUST 2020	SEPTEMBER 2020
OTC	78.56	111.59	124.57	117.39
Exchange	65.37	72.36	98.49	76.47
Gold ETFs	1.78	3.43	5.20	3.22

Source: S&P Dow Jones Indices LLC. Data as of Oct. 20, 2020. Past performance is no guarantee of future results. Table provided for illustrative purposes.

Derivative-based gold exposure requires access to and understanding of commodity trading markets.

The fees associated with derivative-based gold exposure need to account for trading costs associated with rolling exposure. The overall cost can depend on instrument sophistication and the size of the investment. However, in most cases, a plain vanilla gold exposure via a futures contract or futures-based indices can be competitive against a physical gold ETP, depending on the length and nature of the investment.

Derivative-based gold exposure does require access to and understanding of commodity trading markets, which differ from equity markets. If executed directly in the futures market, an investor does require a minimum level of futures trading understanding and if executed via an OTC contract, it does require set up with the relevant counterparty.

A key advantage of gold exposure via the futures market is that there is little counterparty risk.

One of the key advantages of gold exposure via the futures market is that there is little counterparty risk; gold futures are traded and cleared on well-established and regulated futures exchanges, and buyers and sellers do not face each other in a transaction. Index-based products still have counterparty risk but, in most cases, that risk is well understood by market participants, with the counterparty known and the contractual relationship well documented. It is uncommon to have multiple layers of counterparty risk.

While physical gold offers no yield or income, this is not the case for derivative-based exposure. Any commodity investment product that uses commodity futures as the underlying instrument must continually reinvest, or roll, from expiring nearer-dated contracts into longer-dated contracts to maintain uninterrupted exposure to the respective commodity. If the futures curve is upward sloping (in contango), the roll yield will be negative. If the futures curve is downward sloping (in backwardation), the roll yield will be positive.

Synthetic gold exposure can be more capital efficient than gold ETPs.

Commodity exposure that uses commodity futures is also not generally fully funded and may therefore be more capital efficient. Investors or asset managers will use a relatively large portion of the allocated assets to buy Treasuries and other fixed income instruments to post collateral for futures contracts. Therefore, a portion of returns may come from the collateral invested in fixed income instruments, most commonly U.S. Treasury bills. However, investors might have to pay for this in a higher per-unit cost of exposure, again depending on the investment time horizon and alternative uses of their capital (see Exhibit 4).

Exhibit 4: S&P GSCI Gold versus SPDR Gold Trust



Source: S&P Dow Jones Indices LLC, Refinitiv. Data from April 29, 2005, to Sept. 30, 2020. Performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

The relative ease of taking long and short positions is greater for derivative-based gold instruments compared to ETPs.

The relative ease of taking long and short positions is greater for derivative-based gold instruments compared to ETPs. While possible, it is far more straightforward to express a negative view on gold prices via a futures contract or futures-based instrument than it is via an ETP. Leverage can also be more easily achieved with derivative-based gold instruments. A liquid gold options market also allows investors to manage risk around a core gold holding or replicate a specific exposure.

Significant customization is possible with derivative-based instruments, albeit at a cost.

Significant customization is possible with derivative-based instruments, albeit at a cost. Exposure can be customized to incorporate characteristics such as long-dated gold, currency hedging, alternative rolling schedules, and alternative collateral yield. It is also possible to combine different tenors of exposure, multi-asset exposure, and exposure across various geographic regions. Other more sophisticated or dynamic strategies, such as incorporating gold in alternative risk premia strategies and multi-asset dynamic allocation strategies, are also possible.

A popular 2020 approach in the CME gold futures market has been to take delivery of gold via the futures market, which has proved a straightforward and cost-effective means of accessing gold bars. This possibility depends on the explicit futures contract specifications.

CONCLUSION

Gold serves a number of investment uses for market participants—whether to speculate on the direction of the price over a relatively short time horizon or to use as part of a strategic asset allocation.

There are two ways to access exposure to gold—via physically backed gold ETPs or gold derivatives—each with its own set of advantages and disadvantages. It may be suitable for sophisticated investors to use so-called paper gold financial instruments from a cost, transparency, counterparty risk, and ease of execution perspective. For investors who would prefer to hold a long-term strategic gold allocation in physical form, it is imperative that they fully understand the mechanics of physical gold ETPs.

Note: This paper has not addressed the taxation implications of the different types of gold investments. Tax considerations will vary based on jurisdiction and individual circumstances. Nor does it address the treatment of different gold instruments by the relevant regulator in each jurisdiction.

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