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Gold as an asset class for institutional investors

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A business of Marsh McLennan

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Executive summary

Historically, gold not only had a unique role in the development of nations but also represents the precious metal that over the past 50 centuries has been used as money. With the abolishment of the gold standard at the beginning of the 1970s, its formal function as a monetary asset ended and its characteristics as an investment gained in importance. In periods of 'regular' capital markets the price of gold is likely to be driven by commodity fundamentals, whereas in 'stressed' markets, when systemic concerns are prevalent, the market is likely to see gold as a safe haven investment. In that sense, it may be viewed by investors as a form of 'monetary insurance'. The gold price hike during the Eurozone crisis as well as the corona pandemic highlights that view.

The results of our quantitative analysis indicate that an investment in gold provides a meaningful diversification to a portfolio of Eurozone large caps and government bonds, particularly in times of stress. The Conditional Value at Risk (CVaR), which denotes the average percentage loss in portfolio value within the lower tail of a return distribution, can be reduced by allowing an allocation to gold of up to 17 percent of the portfolio value.

For those investors who consider making an allocation to gold, the investment opportunities are manifold. In general, one can invest in gold either directly (e.g., physical gold, a gold account at a bank, an allocated holding of gold), or indirectly (e.g., through gold derivative contracts, gold equities, and exchange traded products). Due to the increasing digitalization also in the financial sector, new digital ways to invest in gold have developed in recent years. Holding allocated physical gold might represent the most logical means for achieving some form of monetary insurance, at least for those investors who are not barred by regulation from holding gold physically. On the other hand, for institutional investors subject to strict regulation, which bars them from purchasing gold physically, exchange traded products (ETPs) might provide the most efficient access to gold. When choosing among the host of ETPs available, investors will need to review the legal structure thoroughly in order to avoid any unwanted settlement risks due to market turmoil or sudden reversals of the ETP issuer's creditworthiness. Also, investors should be aware that certain ETP's market price might exhibit a systematic tracking error to the underlying physical gold price, either due to fees deducted linearly from the ETP's NAV or to market participants' perception of the risk structure of the ETP vs. a direct physical gold investment.

Institutions that are subject to regulation by the German Insurance Regulation Law (VAG) have for a long time been barred from investing into commodities. Amendments of the investment act, however, have significantly widened the scope of commodity investments for those investors. Under the current guidelines, exposure to commodity risk, both through investments in funds as well as commodity-linked securities, is permitted, if the option of physical delivery of the underlying commodity is contractually excluded. Additionally, a further change in the Investment Ordinance in 2015 resulted in the introduction of 'other AIF' quota, under which hedge fund and commodity investments are treated equally and may not exceed 7.5 percent of the guarantee assets.

On the flipside, the treatment of alternative asset classes under the Solvency II scheme, which came into force in 2016, is unfavorable. In a predefined stress scenario for the European Economic Area or OECD, investments in commodities are charged with a comparatively high capital requirement of 49 percent to pass the test. The requirement applies even in the case where the volatility of the commodity investment is lower than the volatility of global equities. High capital charges thus partially offset the positive diversification effect of commodity investments.

With the amendment of Basel III, new rules for treatment of gold entered into force in January 2023, assigning gold either to Tier I or Tier III, depending on the account type of gold.

In summary, the results of our analysis indicate that gold should provide a meaningful protection against an overall loss of confidence in the global economic system. Regulatory changes have improved the environment for commodity investments even for strictly regulated institutional investors. The treatment of alternative asset classes under Solvency II is unfavorable for commodity investments, specifically for those in gold.

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Introduction to gold from an investment perspective

Historical meaning of gold

To understand the current and future role of gold, we must learn from the past. Gold has had a unique role in the development of nations and in trading throughout history. It has been revered for its beauty since the Bronze Age and was from very early on in history used as a monetary asset. Gold is the precious metal that over the past 50 centuries has been used as money. The origin of many words and sayings in our language can be traced back to this phenomenon, for instance ‘worth his weight in gold’ and the golden rule of financing, gold credit cards, or to win the gold medal.

Before the US Federal Reserve Bank was founded in 1913 to finance World War I, the British Pound was the world’s main (precious metal) currency. During the hundred years before and the majority of the past millennia, the money system had been based on gold, because gold was valuable. When paper currencies were first introduced, they were typically structured as promises in lieu of a certain amount of gold. Throughout most of the 20th century, this ‘gold standard’ to global currencies was maintained and gold was not freely traded.

During 1933, in the US under Roosevelt, gold was banned from private ownership and was confiscated by the government. Gold’s market price was US$20 at that time. In 1944, the official gold price was increased to US$35 per troy ounce. In 1944, under the Bretton Woods treaty as drafted by Keynes, the US started to demonstrate its dominant position on the commodities markets, arranging for all international commodity transactions to take place in US dollars. Other countries than the US had to first earn dollars before they could purchase commodities, while the US could simply print them. The wealth in the US rose to great heights. The money supply grew as well, but the value of the US dollar held up due to global demand for commodities. The pegging of the gold price to the US dollar effectively ended in 1968, although central banks could trade with the US Federal Reserve at a fixed rate of US$35 until 1971, when the gold window was closed. Until the end of the Bretton Woods system, all paper claims (US dollar) were honored in gold. In 1971, the US effectively defaulted on its promise to exchange 35 Federal Reserve notes for one troy ounce of gold. It was not until 1975 that US citizens were again allowed to hold gold and it was in that year that gold futures trading started on the New York Commodities Exchange. The end of the gold standard resulted in the origination of the fiat currency system, which was backed by the good faith of governments maintaining or backing the money supply. From 1971 on, the money was printed without underlying value. Money supply could be increased in the form of cash (monetary inflation) or credit (credit inflation or credit expansion).

Gold as a distinct asset class

The abolishment of the gold standard at the beginning of the 1970s clearly changed not only the way gold was valued, but also how it should be viewed as an investment. Its direct use as a monetary asset ended, but is that how it should still be viewed? If it is not a monetary asset, should it be treated as a commodity? The two schools of thought that exist can be broadly summarized as follows:

- Gold continues to have importance as a monetary and therefore financial asset. This theory contends that gold merits a place in an investment portfolio because it will broadly retain its 'value' in real terms while also providing protection against the fear of a collapse to the current fiat-based currency system.

- Gold should be seen as a commodity, with no yield or income stream. As such, prices should be set by the balance between the available supply, and the demand for gold from industry and jewelry as a production input.

In practice we believe that both views have their merits through time. In periods of low systemic risk, the price of gold will be driven by commodity fundamentals. However, when systemic concerns are prevalent, the market is likely to see gold as a safe haven investment. In that sense, it may be viewed by investors as a form of monetary insurance.

Gold is an esoteric commodity, sharing characteristics with both monetary assets and the underlying supply/demand trends arising from its industrial use. It is likely that the price of gold will always be influenced by a combination of both factors, with supply and demand characteristics providing a floor to the price and monetary characteristics dominating in periods of stress. In the long run, if fiat currencies persist, we might see the perception of the monetary relationship weaken as the memory of the gold standard diminishes.

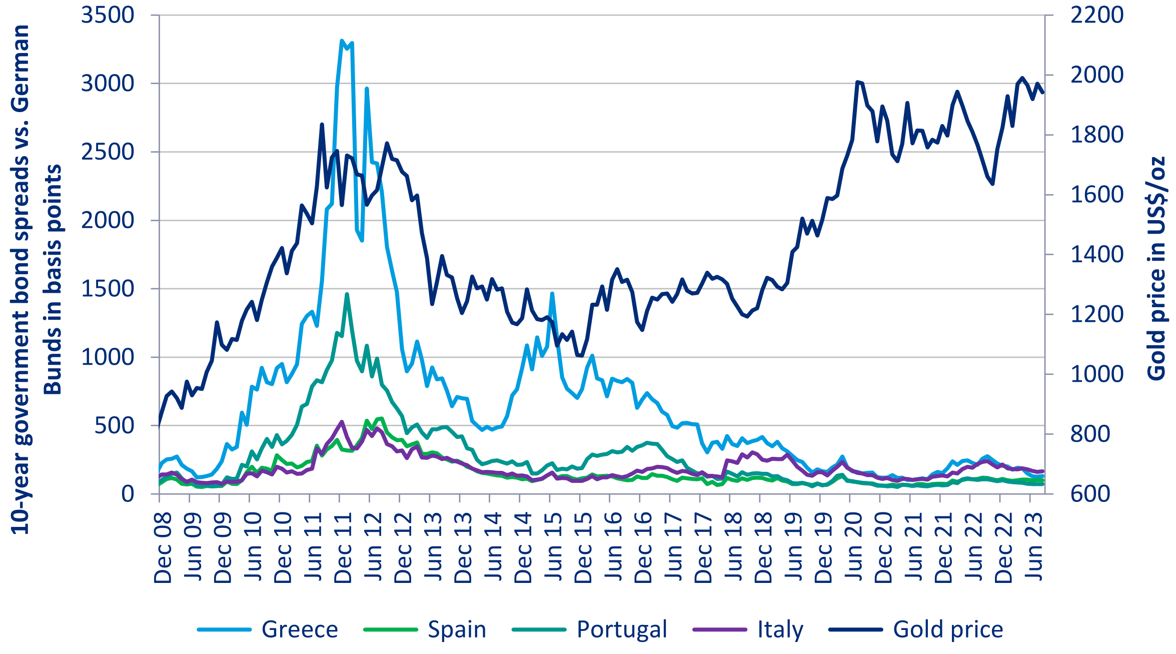
The role of gold in the Eurozone crisis 2011

The gold price hike during the Eurozone crisis highlights the fact that gold continues to be seen as a safe haven asset in times of systemic crises.

The reasons for the Eurozone crisis were manifold, but in essence it can be characterized as a government debt crisis, resulting from a banking crisis as well as from low economic growth and competitiveness in some of the affected countries. With the aggravation of the crisis, some countries in the Eurozone became unable to repay or refinance their government debt without the assistance of third parties. Amidst fears of countries defaulting and leaving the Eurozone or even a break-up of the Eurozone itself, the equity market sold off while the credit risk premiums for government debt of the weak peripheral countries increased dramatically. Against the backdrop of this systemic crisis, the price of gold soared from below US$1,000 to US$1,900 per troy ounce. Following the bailout by the European Commission, the European Central Bank and the International Monetary Fund, the situation stabilized and refinancing conditions improved again. With signs emerging of a moderate improvement of the global economy, there was a rebound of equity as well as fixed income markets globally. Although

Greece was again close to a bankruptcy in 2015, which led to another sharp rise in the credit spreads, the gold price remained relatively unaffected over that period. The risk of contagion, i.e. the possible default of other countries, was already thought to be low by that time, as macro-economic data indicated a recovery.

The following chart shows the development of risk premium for sovereign bonds of Eurozone peripheral states and the price of gold during the euro crisis and until August 2023:



Source: Bloomberg, Mercer

Development of the gold price since 2011

Over the first half of 2016 the gold price rose strongly. The price of an ounce of gold rose from around US$1,000 to about US$1,350, driven by weaker economic growth in China, signs of a less expansive monetary policy in the USA as well as political uncertainties regarding a possible exit of Great Britain from the European Union (Brexit). An economic recovery in China and the vote on a Brexit led to a drop in the gold price to around US$1,150 by the end of 2016.

In 2017 the gold price rose in US dollar terms outperforming most major asset classes other than stocks. This result can be attributed to US dollar weakness as well as to high valuations of many asset classes and concerns about geopolitical instability, especially around North Korea. An appreciating dollar, rising interest rates in the US, and the tax reform of the US administration resulted in rising US stock prices until the fourth quarter of 2018. Over the same period, the gold price has fallen almost to the level of late 2016. Recovery started in October 2018 as geopolitical and macroeconomic risks rose and stock prices fell.

Subsequently, the gold price rose sharply again from the end of 2018. There are two important reasons for this. First, investors appreciate the relatively firm supply of gold as a hedge against the rising inflation risk triggered by the successive expansion of the money supply by central banks. In addition, interest rates are at historically low levels and money reserves and a large part of the bond market with high credit ratings have negative yields from the perspective of a Euro investor. The function of gold as a store of value with inflation protection is therefore becoming increasingly attractive for investors.

In the course of the Corona pandemic, there were considerable stock market losses, a huge drop in interest rates and a flight of investors into supposedly safe assets. This development particularly favored the rise of the gold price and ultimately led to an all-time high of just over US$2,000 at the beginning of August 2020; the Corona crisis thus reconfirmed the protective function of gold in times of crises. However, as the equity markets recovered in the second half of 2020, the gold price also fell again, but continues to remain at a historically high level due to continuing uncertainties regarding the economic impact of the Corona pandemic, low interest rates and a perceived risk of inflation by investors in the medium term. In the course of 2022, the gold price declined in the face of the War in Ukraine and the interest rate hikes by central banks but quickly recovered since the end of 2022 and had reached the all-time high of around US$2,000 by the end of August 2023.

In the wake of the Corona crisis and its impact on the financial markets in 2020, as well as in the midst of geopolitical uncertainties, strong monetary tightening, and an inflationary environment, gold has proven robust against crisis and stable as an asset class.

Demand for gold – at present and over the past 10 years

Already during the European crisis, the price of gold rose in the years 2010 and 2011 by 25.8 percent and 27.3 percent respectively. At that point, the gold demand reached its peak for the past 10 years at 4,590 tons. The demand for bullions and coins as well as the demand for ETFs and similar products rose by 13.3 percent in 2010 and by 6.9 percent in 2011, contributing significantly to the demand for gold.

The results of the study "Gold Demand Trends - Full Year 2022" published by the World Gold Council[1] show that gold demand in 2022 saw a strong increase to 4,741 tons, which almost leveled with record demand in 2011. The strong demand can be attributed to central bank purchases, high demand by retail investors and respectively low outflows in ETFs.

The overall annual demand for jewelry declined modestly by -3 percent to 2,086 tons, of which much can be attributed to declines in China outsizing development in the rest of the world. Investment demand for gold bars and coins was strong with a YoY increase of 2 percent, despite strong decline in China of 24 percent. Holdings of physically-backed gold ETFs declined further by -3 percent in 2022. But in absolute terms, outflows slowed down with about 80 tons less in this asset class compared to 2021.

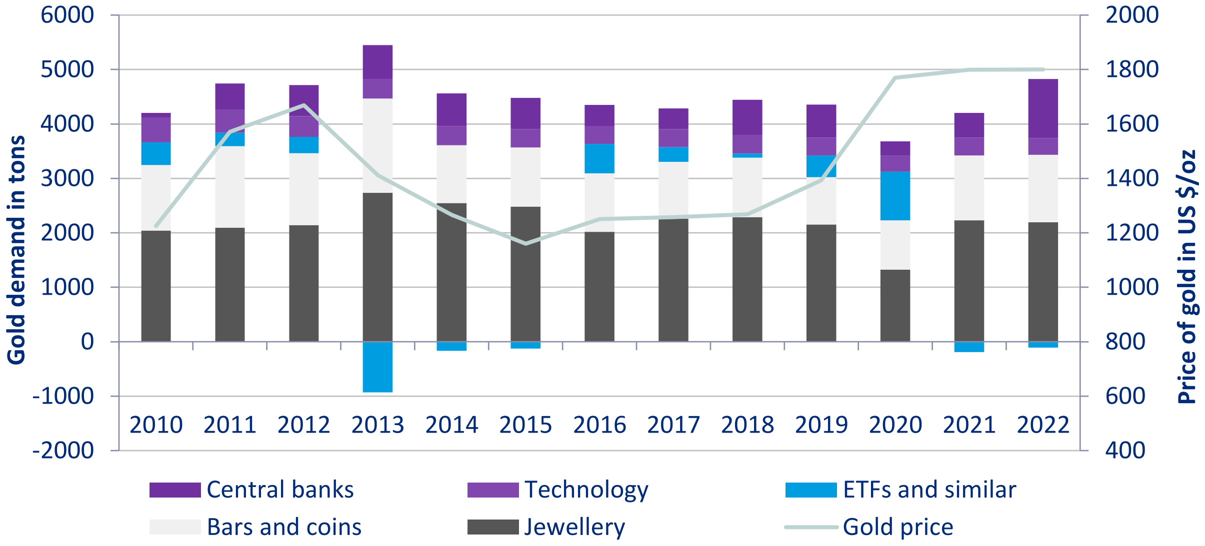
Interestingly, demand from ETFs and similar products fell into negative territory between 2013 and 2015, i.e. redemptions outweighed new investments. In 2015, the redemptions amounted

[1] The World Gold Council is a market development organization for the gold industry with a goal to stimulate and preserve gold demand.

to 128 tons. Since 2016, inflows have been observed for ETFs and similar products. In 2018, these totaled 69 tons, while in the previous year demand was at 206 tons.

The largest fraction in demand for gold can be attributed to central banks' purchases totaling 1,136 tons in 2022. The cause for this record demand can be linked to the geopolitical uncertainties and high inflation in 2022. Emerging markets central banks, e.g., in Turkey or China, showed a particularly strong interest in gold in the observed period.

The following chart outlines the demand trends over the last 10 years:



Source: ICE Benchmark Administration; Thomson Reuters Datastream; World Gold Council, Bloomberg, Mercer.

Current market environment and possible scenarios

When planning to make an investment, the right entry point is crucial. While a gold investment can be expected to provide some hedge against inflation over the long term, doubts about the global monetary and economic system that arise from time to time can play a key role in price formation and move the gold price away from its 'natural' level. In practice, the changing perception of gold as a monetary asset or a commodity, depending on the prevailing condition of the financial system, makes it difficult, if not impossible, to identify a 'fair' value for gold. Moreover, when entering an investment position in gold at a 'low' price level, investors will be buying the protection that gold offers at a time when monetary risks appear minimal or non-existent.

The major threat to gold is from a Volcker-style move by the Fed to crush inflation by steeply raising interest rates. The Fed is already trying to dampen inflation and reiterated that it is willing to risk a recession to achieve this goal. During the last period of aggressive rate rises in 1980s, the gold price fell by 44 percent[2]. This means there is still plenty of downside potential.

And indeed, there are now many signs of gold weakening due to the speed and aggressiveness of hiking moves by central banks, with the PMI in contraction territory in the Eurozone as of September 2023[3] indicating a deepening downturn.

At the current price level of slightly above US$1,950 per troy ounce, we envisage three main scenarios:

- Severe recession/stagnation: In this scenario, inflationary pressures remain as geopolitical tensions spike. Hypervigilant central banks risk overtightening, given the lag of policy transmission in the economy. This results in a more severe economic fallout and stagflationary conditions which would be a considerably tough scenario for equities with earnings hit hard and greater safe-haven demand for gold and the dollar.
- Mild recession: This scenario combined with weaker earning has historically been gold-positive as gold provides downturn protection. In the past, in five out of the last seven recessions, gold delivered positive returns.
- Soft landing: Downside risks also exist for gold via a soft landing, where business confidence is restored and spending rebounds. Risk assets would likely benefit and bond yields remain high – a challenging environment for gold.

While we believe that all scenarios are plausible, it is very difficult to assign probabilities to them. Gold has in fact two ‘faces’: one as a commodity and one as a monetary metal. In that sense, gold is not a ‘regular’ investment. The role of a monetary metal has, since the 1970s, apparently been eclipsed. However, it has not completely disappeared. Because gold’s role as monetary metal has been neglected by many investors, currently only a small proportion of institutional investors is invested in gold.

The vast majority of assets are still stored in paper assets. We believe gold continues to merit a strategic allocation in portfolios: its role as a potential downside protection asset is difficult to replace, especially in stagflationary environments. It may not provide protection in every down market, but in turbulent markets like 2022 it was a safer place than both stocks and bonds.

[2] December 1, 1980 - August 6, 1982. Source: Refinitiv, LBM prices.

[3] A PMI score below 50 is considered a downturn.

3
Investing in gold by means of direct as opposed to indirect exposure

For those investors who consider making an allocation to gold, the investment opportunities are manifold. In general, one can invest in gold either directly or indirectly.

We would like to highlight two means of direct gold investment in particular:

- Physical gold (physical gold in Europe and the US can be purchased directly, either in the form of unprocessed gold or coins).
- A gold account at a bank or at a mint. There are different types of accounts:
  - In an allocated gold account, the investor owns the gold outright. The physical gold is identified and held in the name of the investor.
  - In an unallocated account, the investor has legal right to a certain amount of gold that is part of the financial institution's liquid reserves. The physical gold is often not actually kept in the safe of the bank itself, but with the central bank.

Indirect exposures to gold include:

- Gold derivative contracts: When investing in gold via derivatives, the investor is also exposed to a variety of other market risks such as implied volatility, implied cost of carry and the term structure of future markets. Some derivatives are linked to gold as the only underlying commodity (e.g. gold futures traded on an exchange), others are linked to baskets or indices composed of various commodities (e.g. the DJ UBS Commodities index), resulting in a partial exposure to gold.
- Gold equities (effectively owning gold mining operations): Gold equities have historically provided leveraged exposure to gold, magnifying both price increases and decreases. The main drawbacks of gold equities are the undesirable side-effects of exposure to the business risk of the underlying company as well as general stock market risk.
- Exchange traded products (ETPs), which include:
  - Exchange traded funds (ETFs): Gold ETFs are not available in all jurisdictions, e.g. in Europe regulated funds are not allowed to invest in gold.
  - Exchange traded notes / exchange traded commodities (ETNs / ETCs): These are usually structured as bearer bonds collateralized by physical gold. The details of the collateralization agreements vary considerably, depending on the allocation process and the level of reassurance provided against issuer's default.

Due to the increasing digitalization also in the financial sector, new digital ways to participate in the development of gold arise, e.g. through blockchain / crypto-gold.

Crypto-gold is an emergent digital asset class. There are both government-backed and privately backed operations. The Perth Mint Gold Token (PMGT) was launched in October 2019, and each coin is backed by physical gold in the Perth Mint, with the government of Western Australia guaranteeing the physical gold. Meanwhile, the range of available products has increased. As the asset class is relatively new there are, however, some disadvantages (e.g. liquidity or the issue of safekeeping).

Therefore, if gold is considered as a form of monetary insurance, holding allocated physical gold might represent the most logical means for achieving this objective, at least for those investors who are not barred by regulation from holding gold physically.

On the other hand, for institutional investors subject to strict regulation barring them from purchasing gold physically, ETPs might provide the most efficient access to gold. When choosing among the host of ETPs available, investors will need to review the legal structure thoroughly in order to avoid any unwanted settlement risks due to market turmoil or sudden reversals of the ETP issuer's creditworthiness. Important questions to ask are:

(a) 'Is the product's market price directly linked to the gold (i.e. is the product collateralized by physical gold) or only to the gold price via a formula?'

(b) 'Can a considerable tracking error between the price of gold and the price of the ETP arise, e.g. due to fees linearly deducted from the ETP's NAV?'

4
Evidence from quantitative analysis

In the quantitative part of our analysis, we evaluated the potential benefits of adding gold to a portfolio of Eurozone large caps and Eurozone government bonds in different market conditions using a so-called regime switching model.

A regime switching model assumes that the market can be in several states, such as a 'regular market' or a 'stressed market'. A regular market is characterized by returns that behave like one expects and move within common ranges. In a stressed market, the expected return is significantly different from the expectation for the regular market, accompanied by a strong increase in volatility. The respective regimes and their probabilities are derived from historical time series data and capital market assumptions, using a statistical procedure. Each regime is represented by a single normal distribution. The merged distribution is the regime switching distribution, which is not normally distributed and exhibits a fat left tail.

The rationale behind the regime switching approach is that this model is able to capture economic reality more closely than the classical mean-variance-framework, e.g. skewness and kurtosis are explicitly accounted for as well as different levels of volatility in distinct market regimes.

Mercer asset class benchmarks for regime switching model

Asset class	Benchmark	Asset class	Since
Eurozone large caps	MSCI EMU	EUR	Feb 1999
Eurozone government bonds	Barclays Euro Government	EUR	Feb 1999
Gold	Gold (spot price)	EUR	Feb 1999

Capital market assumptions

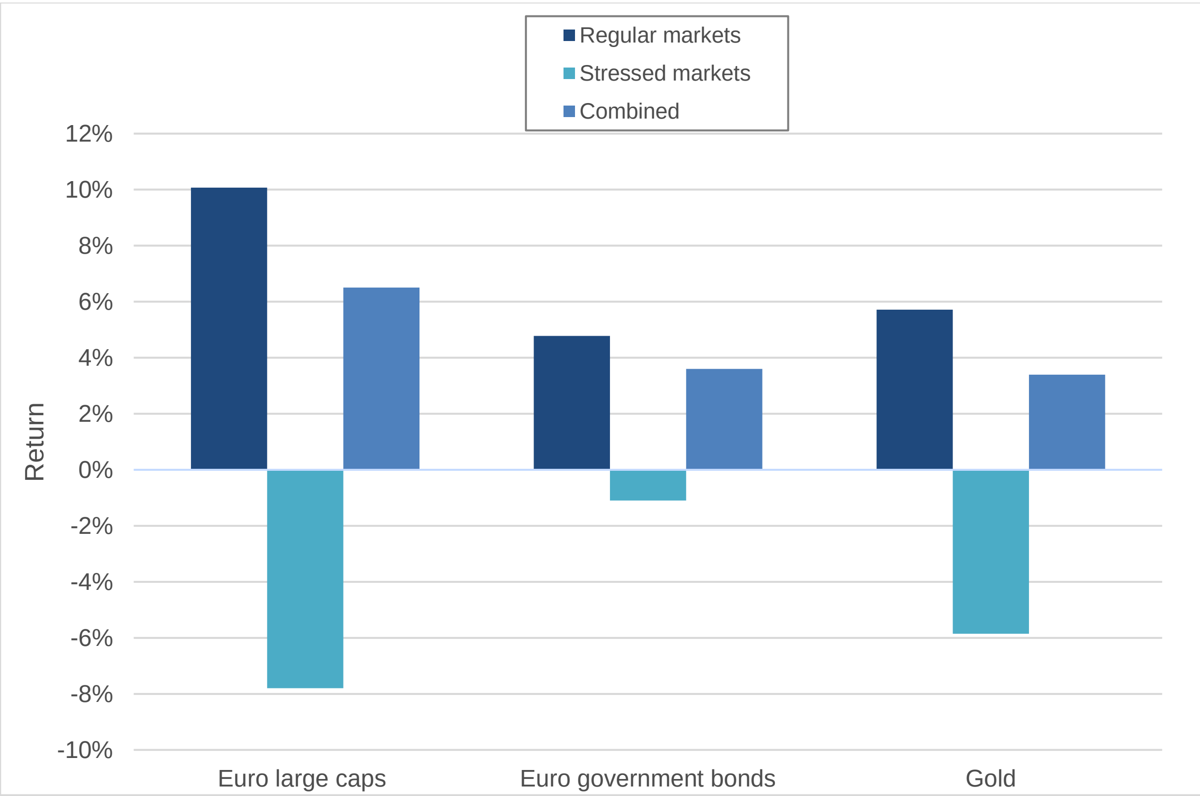
Asset class	Return p.a.	Volatility	Correlations		
Eurozone large caps	6.5%	18.0%	1.00	-0.07	0.40
Eurozone government bonds	3.6%	7.2%	-0.06	1.00	0.00
Gold	3.4%	16.0%	0.40	0.00	1.00

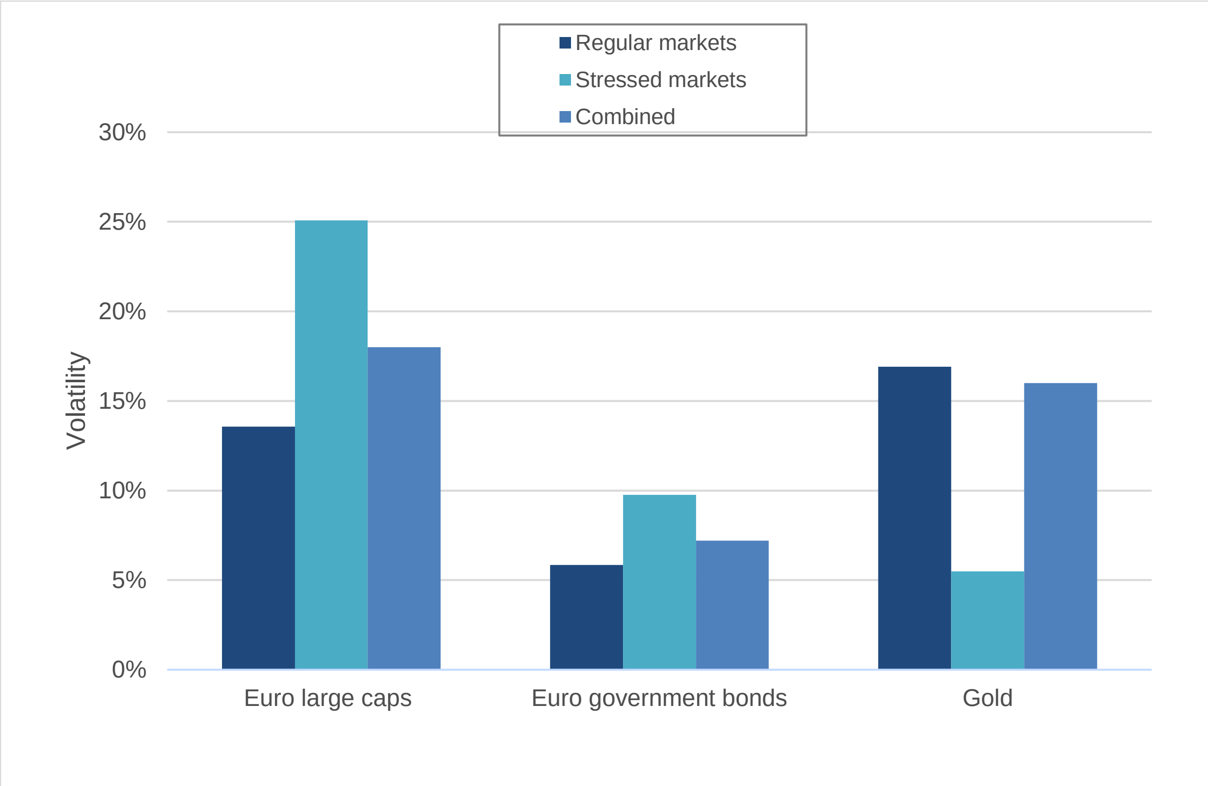
Notes: The correlation assumptions presented are forward-looking estimates as of June 30, 2023.

Return expectations across all asset classes have increased since the end of 2020. Eurozone large caps increased by 2 percent. Eurozone government bonds and gold even increased by 3.5 percent and 2.9 percent, mostly pushed by the strong increase of interest rates by the large central banks.

The assumed probabilities of the two market regimes are 80 percent for a regular market and 20 percent for a stressed market. This means that the capital market is in a regular state 80 percent of the time, while a stressed market occurs 20 percent of the time.

The model results for the two regimes using these inputs are as follows:





Regular markets (assumed probability of 80 percent)

Asset class	Return	Volatility	Correlations		
Eurozone large caps	10.1%	13.6%	1.00	-0.47	0.51
Eurozone government bonds	4.8%	5.8%	-0.47	1.00	-0.10
Gold	5.7%	16.9%	0.51	-0.10	1.00

Stressed markets (assumed probability of 20 percent)

Asset class	Return	Volatility	Correlations		
Eurozone large caps	-7.8%	25.1%	1.00	0.11	-0.40
Eurozone government bonds	-1.1%	9.8%	0.11	1.00	-0.29
Gold	-5.8%	5.5%	-0.40	-0.29	1.00

The model results can be summarized as follows:

- Equities exhibit a significantly lower return and a significantly higher level of volatility in stressed markets when compared to regular markets.
- Government bonds exhibit a lower return and a higher level of volatility in stressed markets when compared to regular markets.
- Gold exhibits a lower return and a significantly lower level of volatility in stressed markets when compared to regular markets.
- The correlations of equities and bonds to gold drops in stressed markets. Correlation of equities to bonds increases in stressed markets.

When comparing the potential benefit of adding gold to a portfolio of Eurozone large caps and government bonds in the two regimes, it becomes apparent that gold is a meaningful addition to the portfolio in times of stress. In stressed market conditions, gold helps to significantly decrease volatility of the portfolio, given its stability in stressed markets. Furthermore, the correlation coefficient between gold and equities decreases in the stressed market regime, which amplifies gold's characteristic quality of providing further diversification, particularly in times of crisis. In regular markets, however, the return-to-risk ratio is not advantageous compared to equities and government bonds.

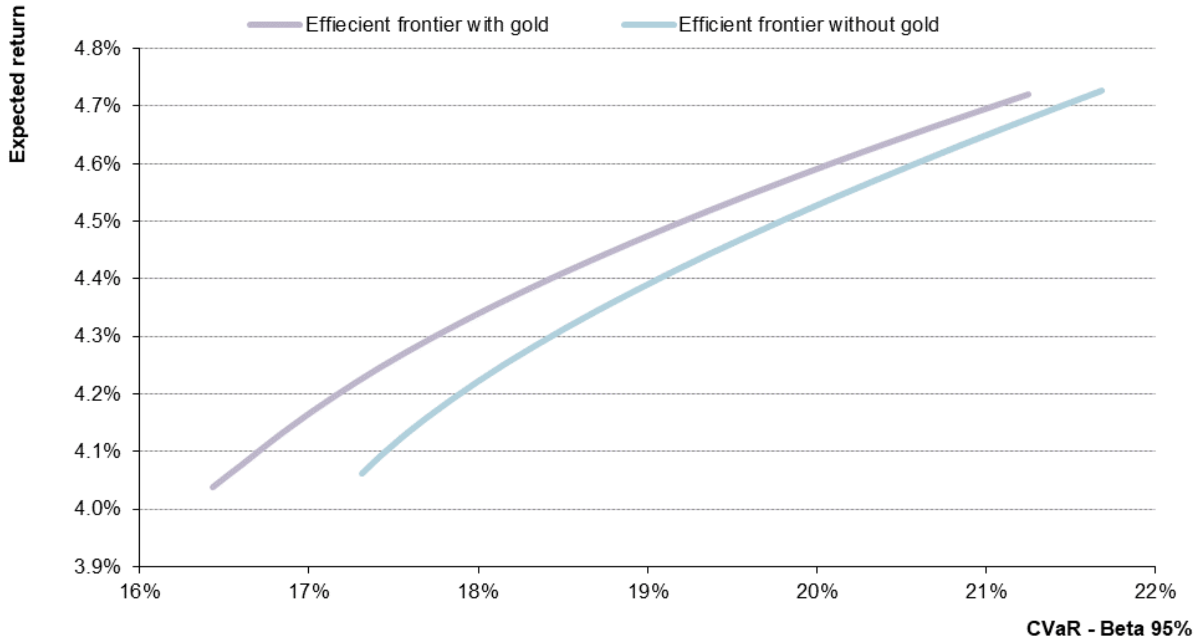
In a portfolio optimization process, based on the results of the regime switching model, two opportunity sets were compared:

- A first opportunity set, containing only government bonds and Eurozone large caps.
- A second opportunity set, consisting of government bonds, Eurozone large caps, and gold as a third asset class.

We used a so called robust portfolio optimization process to derive the efficient frontiers. This approach, unlike the classical Markowitz optimization, explicitly incorporates estimation risk associated with input parameters and generally leads to a higher diversification of portfolios. The respective efficient frontiers were derived with regard to CVaR. CVaR is an extension of Value at Risk (VaR) and denotes the average percentage loss in portfolio value within the lower tail of a return distribution (e.g., CVaR 95 percent is the average loss of the 5 percent worst loss events).

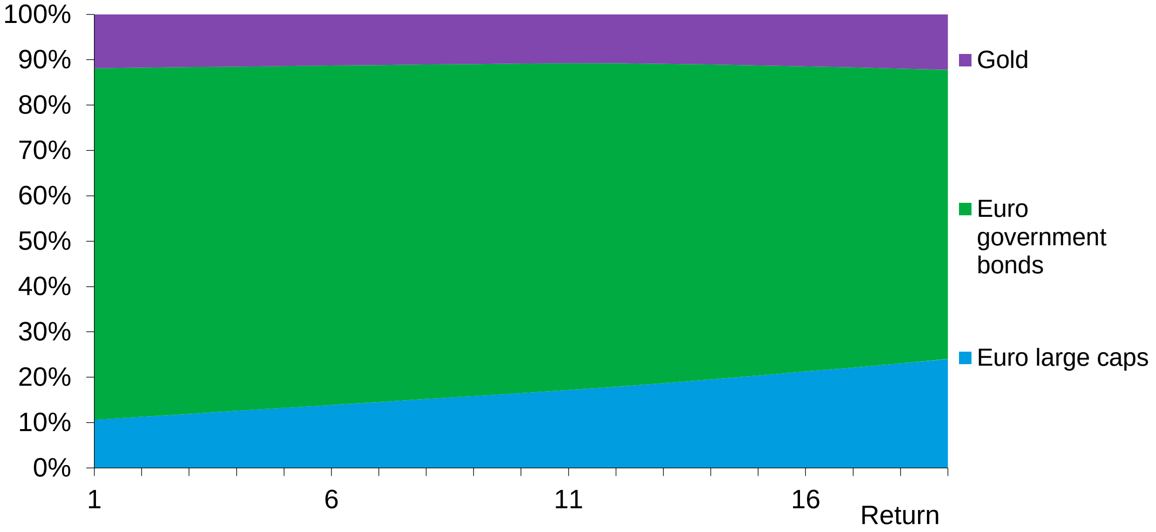
The results indicate a clear benefit of adding gold to a portfolio of Eurozone large caps and government bonds. The efficient frontier representing the second opportunity set (including gold) dominates the efficient frontier of the first opportunity set (without gold) over the entire return spectrum displayed. This means that by adding gold to an investment portfolio, any desired return level can be achieved with a lower level of downside risk (CVaR) or, equivalently, that the return for any desired level of downside risk is higher.

Efficient frontiers for two different opportunity sets (portfolio with gold / without gold):



The above results are based on allocations to gold of 10.7 percent to 17.1 percent of total portfolio value. These weightings result directly from the robust optimization process and vary with the desired downside risk or return level. The below chart illustrates this relationship with respect to different target returns. Here, a key driver of risk-return levels is the admixture of large cap equity.

Portfolio allocations for different levels of target return:



A consolidated view of the results of the quantitative analysis indicates that an investment in gold provides a meaningful diversification to a portfolio of Eurozone large caps and Eurozone government bonds, particularly in times of stress. The CVaR, which denotes the average percentage loss in portfolio value within the lower tail of a return distribution, can be reduced by allowing an allocation to gold of around 1 percent of the portfolio value.

5
Framework for investors subject to regulation

Treatment of gold under German VAG

Institutions that are subject to regulation by the German Insurance Supervision Act (VAG) have for a long time been barred from either directly or indirectly investing into commodities. Since 2004, the revision of VAG allows for indirect investments in commodities via derivatives or ETPs whose performance is linked to broadly diversified commodity indices.

On 22 July 2013, Germany's new Capital Investment Act (KAGB), by which the government has implemented the Alternative Investment Fund Managers Directive (AIFMD), went into effect. It replaced the prior Investment Code (InvG). As the German insurance regulations refer in many places to the terms of the InvG, an update of the legal provisions of the Regulation on the Investment of Guarantee Assets (Anlageverordnung) was required and entered into force in March 2015. The main effect on gold was that a quota 'other AIF' was formed under which commodity and hedge fund assets are now aggregated and limited to a maximum of 7.5 percent.

In a next step, the Insurance Supervision Act was revised, so that the Regulation on the Investment of Guarantee Assets had to be adjusted accordingly. The last version of the has been in force since 22 April 2016. It continues to limit "other AIF" to 7.5 percent and it has to be taken into account for the risk capital quota ("Risikokapitalanlagenquote"). At the end of 2017, the BaFin released circular 11/2017 replacing the previous circular as of April 2011. The new circular does not include any changes with regard to gold investments under German VAG.

Treatment of gold under Solvency II Regime

The Solvency II regulation went into force in the beginning of 2016. Under the Solvency II framework, alternative investments such as hedge funds and commodities are treated similarly to equities. The current technical specification for the calculation of capital requirements suggests that commodity investments are classified under the equity risk bucket, where all equity and equity-like investments are pooled.

While the predefined stress scenario for the European Economic Area or OECD equities uses stress factors of 39 percent, the corresponding stress factor for emerging markets equities as well as for hedge funds, private equity and commodities is set to 49 percent.

In conclusion, investments in commodities and therefore also direct and indirect investments in gold are charged with a 49 percent capital requirement in order to pass the stress test. This rule holds even in the case when the volatility of the investment is lower than the volatility of global equities.

The above represents a significant change compared to the regulation under Solvency I. Under Solvency I, the individual asset classes were not separately covered by capital requirements, but only the entire portfolio was tested against a number of predetermined stress scenarios. As the consideration of alternative investment classes leads to a portfolio that is better under the risk / return aspects of the strategic asset allocation, the commodity investor did not suffer any disadvantages in the stress test. As a result of the regulatory capital required under Solvency II, it has to be considered whether the economic diversification advantages of commodity investing are not at least partially reduced by higher capital costs due to regulatory capital.

In summary, regulated investors have to consider the volume of their planned investments in alternative asset classes. The diversification benefit from investing in commodities is partly offset by the comparatively high capital charge. On the one hand, these investors typically are exposed to defined benefit obligations forcing them to generate a minimum annual yield on their assets under management. On the other hand, allocating a major part of their portfolio to extremely low-yielding government bonds of developed countries is clearly a sore exercise. Gold and other alternative asset classes that should provide good protection against an overall loss of confidence in the monetary system are not treated preferentially under the Solvency II regulation.

Treatment of gold under Basel III

As a result of the Global Financial Crisis in 2007/2008, Basel III rules comprise measures to enhance prudential regulatory standards, supervision and risk management within banks.

On June 27, 2023, the EU agreed on the implementation of the Basel III reforms. By January 1, 2025, banks must have implemented the amendments to Capital Requirements Regulation III (CRR III) and Capital Requirements Directive IV (CRD IV). Specific technical details are not available at the time of publication.

Non-allocated gold assets are currently subject to the required stable funding ratio of 85 percent.

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