

# **Gold as an asset class for institutional investors**

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# Executive Summary

Historically, gold not only has 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 Cap equities and Eurozone government bonds, particularly in times of stress. The Conditional Value at Risk, 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 5 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). 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 turmoils or sudden reversals of the ETP issuer's creditworthiness. Also, investors should be aware that certain ETPs' 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, as long as 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 an "other AIF" quota, under which hedge fund and commodity investments are treated equally and are allowed up to 7.5 percent.

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 in order 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.

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. This is particularly challenging in the current low yield environment, with lower return expectations for traditional asset classes.

# Introduction to gold from an investment perspective

## Historical meaning of gold

To understand the current and future role of gold, we have to 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 led 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 U.S. 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 20 U.S. dollars at that time. In 1944, the official gold price was increased to 35 U.S. dollars per troy ounce. In 1944, under the Bretton Woods treaty, as drafted by Keynes, the US started its dominant position of the commodities markets. They arranged that all international commodity transactions were to take place in U.S. 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 U.S. dollar held up due to global demand for commodities. The fixation of the gold price in U.S. dollar terms effectively ended in 1968, although central banks could trade with the US Federal Reserve at a fixed rate of 35 U.S. dollars until 1971, when the gold window was closed. Until the end of the Bretton Woods system, all paper claims (U.S. 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. Over the long run, if fiat currencies persist, we might see the perception of the monetary relationship to weaken as the memory of the gold standard diminishes.

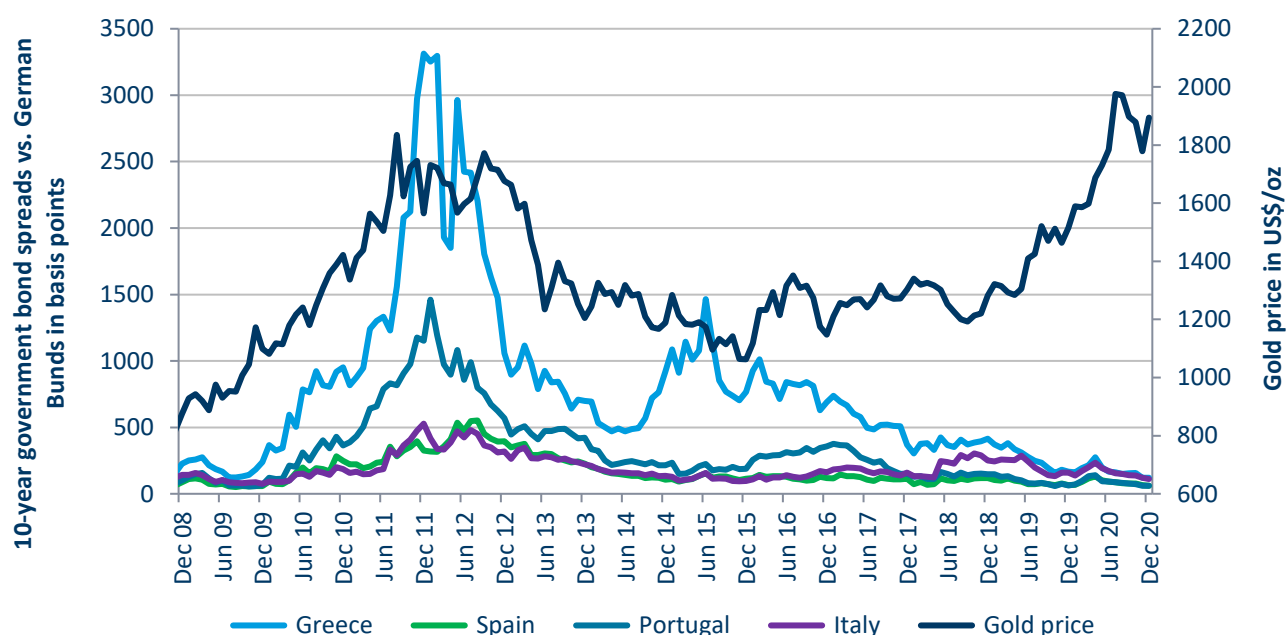
## The role of gold in the Eurozone crisis 2011

The gold price hike during the Eurozone crisis highlights 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 1,000 U.S. dollars to 1,900 U.S. dollars 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 spreads, the gold price remained relatively unaffected over that period. The risk of contagion, thus the possible default of other countries, was already thought to be low by that time as macro-economic data advocated a recovery.

The following chart shows the development of risk premium for sovereign bonds of Eurozone peripheral states and the price of gold in the course of the euro crisis and until the end of 2020:



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 1,000 US dollars to about 1,350 US dollars, 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 1,150 USD by the end of 2016.

In 2017 the gold price rose in USD 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 more 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 USD 2,000 at the beginning of August 2020; the Corona crisis thus reconfirmed the protective function of gold in times of crisis. 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 wake of the Corona crisis and its impact on the financial markets in the first half of 2020, the protective function of gold in times of crisis was reaffirmed.

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

The results of the published study "Gold Demand Trends - Full Year 2020" by the World Gold Council<sup>1</sup> show that gold demand in 2020 fell sharply year-on-year to 3,760 tons, the lowest level in 10 years. The decline can be attributed predominantly to the follow-on effects from the Corona pandemic. The jewelry industry recorded the biggest drop in demand for gold in 2020, with around 700 tons. On the other hand, demand from ETFs and comparable products increased by almost 500 tons. This can be attributed to the fact that gold again lived up to its reputation as a safe haven and protection against inflation in the pandemic. However, at 1412 tons, the bullion industry still represents the largest demand for gold, followed by bars and coins (896 tons) and ETFs and similar products (877 tons). Central bank demand represents the lowest demand (273 tons). In the industrial sector, demand is largely stagnating at just over 300 tons.

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 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.

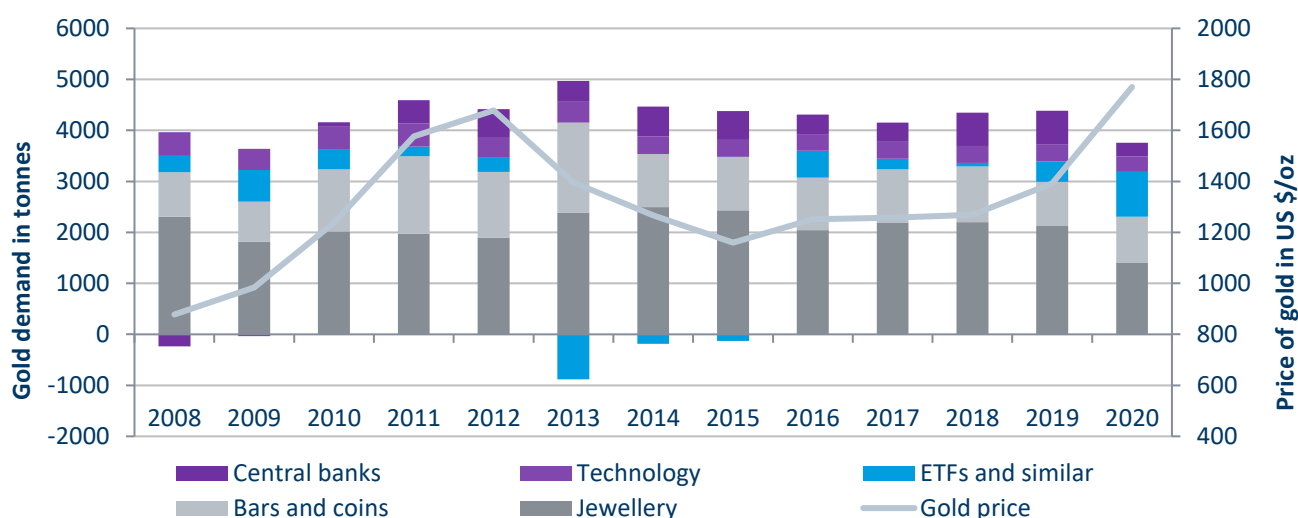
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<sup>1</sup> The World Gold Council is a market development organization for the gold industry with a goal to stimulate and preserve gold demand.



During the European crisis, the price of gold rose in the years 2010 and 2011 by 25.8% and 27.3% 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% in 2010 and by 6.9% in 2011, contributing significantly to the demand for gold.

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.

At the current price level of slightly below 1,800 U.S. dollars per troy ounce, we envisage three main scenarios:

- Scenario 1: Doubts about the global economic system harden and the Corona pandemic triggers a major recession, stagflation or a sharp rise in inflation rates due to the expansionary monetary policy pursued by many developed countries for ten years now. In this scenario, gold would be increasingly viewed as a store of value, with the consequence of rising prices.
- Scenario 2: Certain doubts about the economic system and the aftermath of the Corona pandemic remain in the medium term and the gold price remains at its current level. The gold price may rise in the short term if new investors (e.g. financial investors) continue to buy gold as insurance against short-term market fluctuations.
- Scenario 3: The global economy grows again and the commodity function of gold comes to the fore again. In this scenario, we expect the gold price to fall from its current level to reflect demand from the industrial and jewelry sectors only. There is a risk of a rapid decline in gold prices if the global economy continues on its recovery path. Investors should be aware of this risk.

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. Given uncertainty about the duration of expansive monetary policy in Europe and the uncertainty about trade wars of the USA with other economies, we currently experience a trend of revaluation of the role of gold within an investment context as a value preserving asset.

### 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 DJUBS 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 agreement 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.

Therefore, if gold is being 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, which bars 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:

- *'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?'*
- *'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 Cap stocks 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 closer 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.

Our asset class benchmarks and capital market assumptions are as follows:

### Asset Class Benchmarks for Regime Switching Model

Asset Class	Benchmark	Asset Class	Benchmark
<b>Eurozone Large Cap Equities</b>	MSCI EMU	EUR	Feb 1999
<b>Eurozone Government Bonds</b>	Barclays Euro Government	EUR	Feb 1999
<b>Gold</b>	Gold (spot price)	EUR	Feb 1999

## Capital Market Assumptions

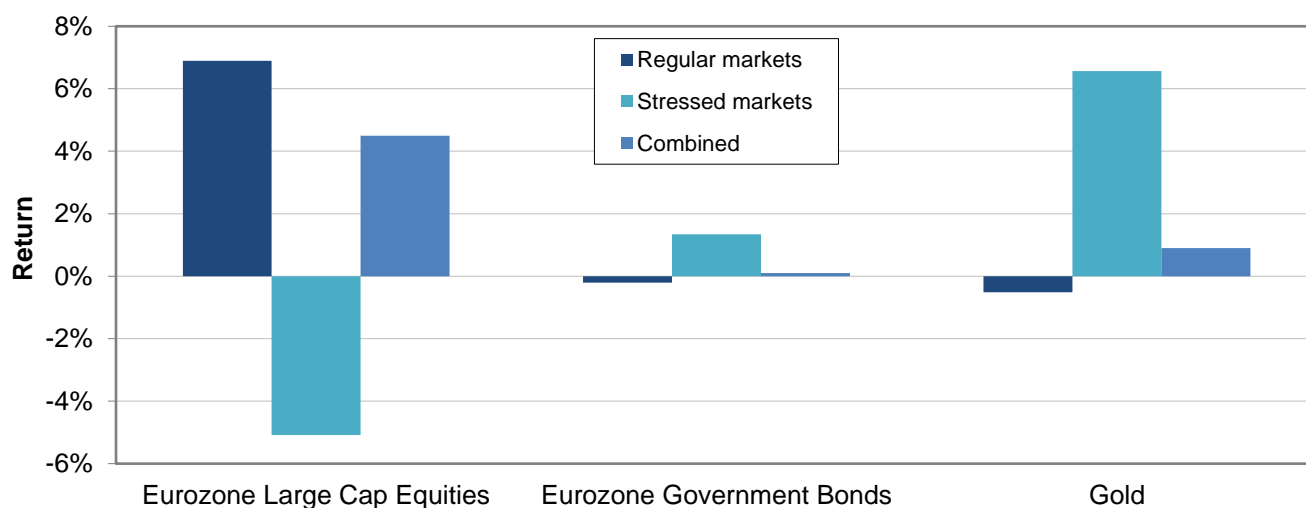
Asset Class	Return p.a.	Volatility	Correlations		
<b>Eurozone Large Cap Equities</b>	4.5%	20.0%	1.00	-0.07	0.40
<b>Eurozone Government Bonds</b>	0.1%	5.4%	-0.07	1.00	0.00
<b>Gold</b>	0.9%	16.0%	0.40	0.00	1.00

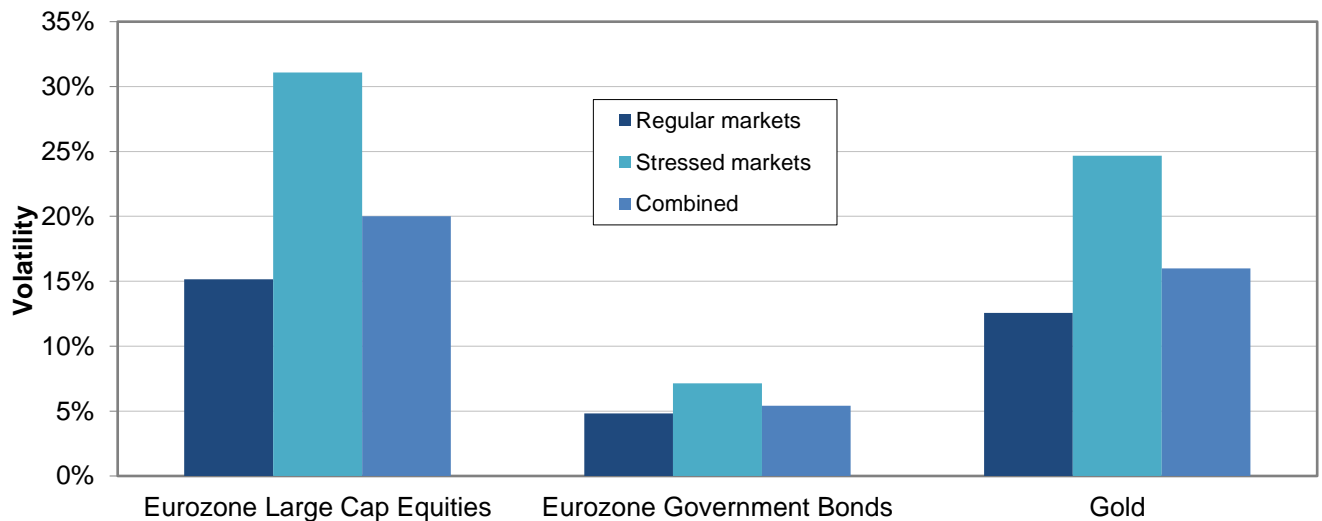
Notes: The correlation assumptions presented are forward-looking estimates as of December 31, 2020.

Return expectations across all asset classes have declined steadily since the end of 2018. Eurozone Large Cap equities and gold were particularly affected, with declines of 2.4% and 1.4%, respectively, over the past two years. Boosted by strong price gains over the past year, future return expectations are lower here. In the case of Eurozone government bonds, the enormous drop in interest rates has also led to a decline in expected returns.

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%)

Asset Class	Return	Volatility	Correlations		
<b>Eurozone Large Cap Equities</b>	6.90%	15.15%	1.00	-0.09	0.58
<b>Eurozone Government Bonds</b>	-0.21%	4.82%	-0.09	1.00	-0.04
<b>Gold</b>	-0.52%	12.56%	0.58	-0.04	1.00

#### Stressed Markets (assumed probability of 20%)

Asset Class	Return	Volatility	Correlations		
<b>Eurozone Large Cap Equities</b>	-5.09%	31.10%	1.00	0.03	0.35
<b>Eurozone Government Bonds</b>	1.34%	7.13%	0.03	1.00	0.00
<b>Gold</b>	6.57%	24.67%	0.35	0.00	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 higher return and a higher level of volatility in 'stressed markets' when compared to 'regular markets'.*



- *Gold exhibits a significantly higher return and a higher level of volatility in 'stressed markets' when compared to 'regular markets'.*
- *The correlations between government bonds and equities and between equities and gold decreases in 'stressed markets'. The correlation between government bonds and gold increases.*

When comparing the potential benefit of adding gold to a portfolio of Eurozone Large Cap stocks and Eurozone government bonds in the two regimes, it becomes apparent that gold is a meaningful addition to the portfolio in times of stress. In these market conditions, gold generated an expected return of 6.57 percent, which is significantly higher than its -0.52 percent expected return in 'regular' markets. Furthermore, the correlation coefficients between gold and equities decreases in the stressed market regime, which confirms gold's assumed characteristic of providing some diversification benefit in times of crisis. In regular markets, however, its return-to-risk ratio is not very advantageous compared to equities and government bonds.

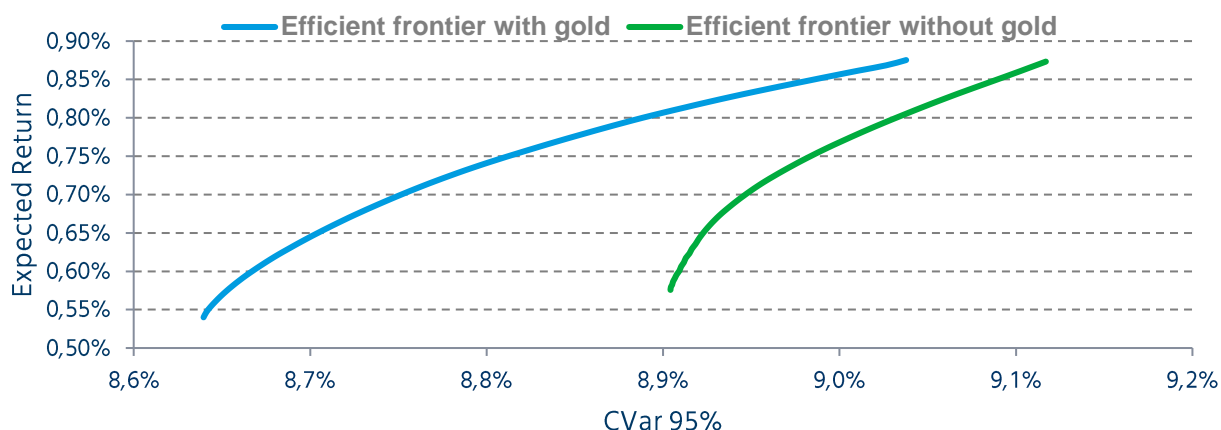
In a portfolio optimization process, based on the results of the regime switching model, two opportunity sets were compared:

- *A first opportunity set, containing only Eurozone government bonds and Eurozone Large Cap equities, with an upper bound for the allocation to equities of 20 percent of total portfolio value.*
- *A second opportunity set, consisting of Eurozone government bonds, Eurozone Large Cap equities, and gold as a third asset class. The upper bound for the allocation to equities remains at 20 percent, while the upper bound for an allocation to gold is set at 5 percent.*

We used a so called 'robust portfolio optimization' process to derive the efficient frontiers. This approach, other than 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 Conditional Value at Risk (CVaR). Conditional Value at Risk 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).

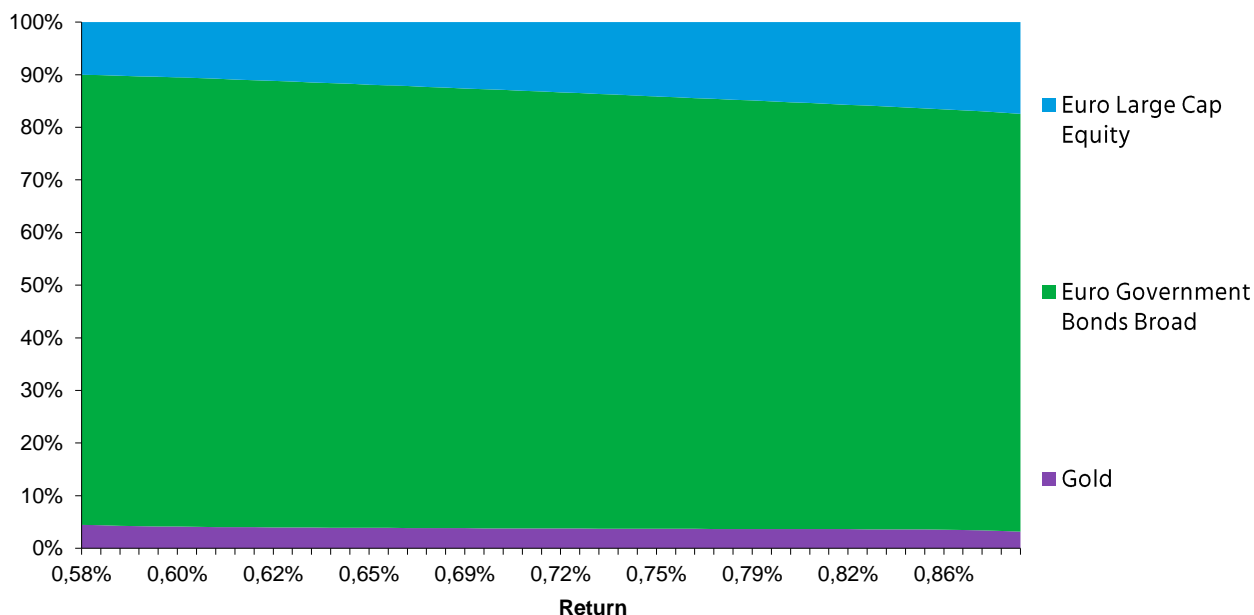
The results indicate a clear benefit of adding gold to a portfolio of Eurozone Large Cap equities and Eurozone government bonds. The efficient frontier representing the second opportunity set (including gold) dominates the efficient frontier of the first opportunity set (without gold) over the entire 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 2.8 to 4.5 percent of total portfolio value. These weights 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.

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 Cap equities and Eurozone government bonds, particularly in times of stress. The Conditional Value at Risk, 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 almost 4.5 percent of the portfolio value.

# Regulatory framework for regulated investors

## Treatment of gold under German VAG

Institutions that are subject to regulation by the German Insurance Regulation Law ('VAG') have for a long time been barred from either directly or indirectly investing into commodities. In 2004, the revision of VAG allowed at least funds being invested in commodity indices or products whose return or repayment is linked to 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 InvG, an update of the legal provisions of the Regulation on the Investment of Restricted Assets of Insurance Undertakings ('Anlageverordnung') was required and was 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%.

In a next step, the Insurance Supervision Act was revised, so that the Investment Ordinance had to be adjusted accordingly. The last version of the Investment Ordinance has been in force since 22 April 2016. It continues to limit "other AIF" to 7.5% 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 European Economic Area or OECD equities uses stress factors of 39 percent, the corresponding stress 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 sizing 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 very favorably under the Solvency II regulation.

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