

A Central Banker's Guide to Gold
as a Reserve Asset
Second edition



About the World Gold Council

The World Gold Council is the market development organisation for the gold industry. Our purpose is to stimulate and sustain demand for gold, provide industry leadership, and be the global authority on the gold market.

We develop gold-backed solutions, services and products, based on authoritative market insight, and we work with a range of partners to put our ideas into action. As a result, we create structural shifts in demand for gold across key market sectors. We provide insights into the international gold markets, helping people to understand the wealth preservation qualities of gold and its role in meeting the social and environmental needs of society.

Based in the UK, with operations in India, East Asia and the US, the World Gold Council is an association whose members comprise the world's leading gold mining companies.

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Foreword



Professor Adam Glapiński
Governor, Narodowy Bank
Polski

One of the key tasks entrusted to Narodowy Bank Polski – Poland’s central bank – is managing the country’s FX reserves to ensure the safety of foreign exchange operations and Poland’s external payment liquidity. At the end of July 2021, the official reserve assets of Narodowy Bank Polski stood at US\$ 163 billion, of which roughly 8.3% was our strategic allocation to monetary gold. While some in the investment community look down on gold and recall John Maynard Keynes’s famous warning against the “barbarous relic,” we see a very special role for gold in NBP’s overall reserve management strategy.

Gold is devoid of credit risk, it is not easily “debased” by monetary or fiscal mismanagement of any country, and while its overall supply is scarce, its physical features ensure durability and virtual indestructibility. True, gold offers little by way of income and its price tends to fluctuate quite a bit, but it is perhaps the simplest, easiest and most efficient expression of a strategy that involves what Warren Buffet astutely called “going long on fear.” What this means is that gold is not an asset bought because of its industrial uses or income-generation appeal – rather it is an ultimate strategic hedge whose value usually grows in circumstances of increased risk of financial or political crises or turbulences, i.e. precisely at times when the central bank might need its reserves most. And, yes, physical gold may seem “barbaric” by today’s standards of digital currencies, blockchain technology and cashless payments, but – to put it bluntly – an ounce of gold will still be an ounce of gold should lights rather unfortunately go out.

Taking into account the successive growth of official reserve assets and the features of gold as a reserve asset, in 2018 Narodowy Bank Polski made a strategic decision to significantly expand its gold reserves. As a result of purchases of 125.7 tonnes of gold conducted in 2018–2019, the gold stock of the NBP has increased to 228.7 tonnes. Following the purchases, in 2019 the Management Board of Narodowy Bank Polski decided to diversify gold storage locations by relocating 100 tonnes of gold from the Bank of England to the domestic vaults. Diversification of gold storage locations is a frequent practice among central banks, aimed at reducing geopolitical risk, which could result in the loss of physical access to gold or a significant limitation of its free disposal.

Although considerable, the recent gold purchases were not NBP’s last word on the matter. In fact, the foreign exchange reserves management strategy adopted by the Management Board of Narodowy Bank Polski in 2020 assumes a further increase in the size of gold reserves, the scale and pace of which will depend on the official reserve assets’ dynamics and market conditions.

Foreword



Bobir Abubakirov
Deputy Governor,
The Central Bank of the
Republic of Uzbekistan

For years, gold has been an ultimate safe-haven asset to withstand economic recessions, inflation spikes and credit risk concerns. During the pandemic, the role of gold has only increased with investment demand reaching a ten-year high, and central banks allocating a larger part of their international reserves to gold. This demand from central banks helps improve public trust in the foreign reserves of the country, but also brings higher public scrutiny requiring better standards of transparency.

The management of gold reserves has always attracted public interest and scrutiny. Transparency and public disclosure are a vital part of driving a continuous improvement in standards. Enhancing the transparency of reserve management practice not only satisfies the public interest, but also facilitates a dialogue. Especially in Uzbekistan where gold holds a massive role in providing stability to the economy and monetary system the public interest is enormous. Consequently, for the past few years the Central Bank of Uzbekistan has mainly focused on establishing data transparency and maintaining accountability in managing its gold reserves in line with the best international practices. We took a step to accede to this demand by adopting, in 2018, the IMF's Enhanced General Data Dissemination System (e-GDDS). Another milestone for the Central Bank of Uzbekistan was the publication of our annual report for 2019 containing in-depth analysis of our reserve management practices with special attention to gold reserves.

Many gold producing countries around the world are facing a major challenge of how to put their local production to the best use. Simply selling gold reserves in international markets has long been considered as garnering negative publicity and subject to public censure. Many governments

around the world are focusing on giving their population greater access to local gold to better meet their investment and physical demands. We have made great efforts to expand investment and savings options for our population, as well as to further develop the precious metals market in our country by issuing collectible gold coins and ingots of various kinds. Furthermore, our exclusive right to purchase locally produced gold has been phased out in favour of a priority right which provides better access to local gold for our jewellers.

There is strong recognition that gold has been a symbol of trust across cultures and time. An increasing number of central banks and refiners acknowledge that in order to maintain this trust in the metal, it is critical to ensure that there is confidence in the manner in which the metal is produced. Hence, there is great demand to maintain the highest due diligence standards for sourcing material. A broad scope, including: avoiding material from conflict-afflicted areas; and combating money laundering, terrorist financing and human rights abuses, including child labour are vital to the credibility of various standards. We are addressing these issues by requiring our refiners to comply with the London Bullion Market Association (LBMA) responsible gold guidelines.

Foreword



David Tait
Chief Executive Officer,
World Gold Council

This year marks 50 years since the end of gold's formal link to currency. In the half-century that has passed since this milestone, the world has evolved in ways that were probably unimaginable to the political and economic leaders of that time. As the world has changed, so too has the role of gold. Whereas central banks steadily sold down their gold reserves for several decades after the end of the Bretton Woods system, they have since re-emerged as net buyers of gold for the past eleven years, with emerging market countries leading the way.

As of July 2021, central banks held 35,527 tonnes of gold, representing approximately 17.6% of the above-ground gold stock. Recent years have only reinforced the strategic importance of gold in a central bank portfolio. From the 2008 Global Financial Crisis (GFC) to the disruptions wrought by the COVID-19 pandemic, gold has provided a buffer against financial instability. Geopolitical uncertainty and a prolonged low interest rate environment have also added to gold's strategic importance. As these factors continue to weigh on reserve management strategies, it makes sense that so many central banks have turned to gold.

In the last decade, nearly all central bank gold buying has come from emerging market countries. This buying has been diverse in terms of geography, level of economic development, and currency regime. Even some European countries, who have not been strategic gold buyers since the end of the Bretton Woods system, have recently begun to increase their gold reserves as well. Furthermore, many central banks have been able to take advantage of gold production in their own countries to add gold through domestic buying programmes.

The changing sentiment of central banks towards gold is perhaps best reflected in the responses to our 2021 Central Bank Gold Reserves survey. For the first time since the survey began, central banks rated gold's performance during times of crisis as the top reason to hold it. Emerging market central banks also rated other financial reasons for holding gold – its liquidity, its usefulness as collateral, and its lack of political risk – as increasingly important factors.

The second edition of *A Central Banker's Guide to Gold as a Reserve Asset* explores all facets of gold investment from a central banker's perspective. The guide has been updated to include an analysis of gold's performance during crisis events like the COVID-19 pandemic, along with other revisions.

We hope you will find the information contained here to be useful for understanding gold's evolving role as a reserve asset. Fifty years on from the end of its formal link to currency, gold continues to meet the challenges of an uncertain world.

The strategic role and investment of international reserves

The role of international reserves and their investment has evolved dramatically in line with changes in the international monetary system and global capital markets. Prior to 1971, foreign currency reserves were effectively backed by gold, either directly under the gold standard or indirectly through the US dollar standard. Despite the severing of this link in 1971, the US dollar and US Treasuries continued to play a central role in the international monetary system during the latter part of the 20th century due to the country's economic strength and the stability of its political and judicial system. Over the last decade, however, central banks have increasingly adopted a portfolio approach and diversified across currencies, asset classes and investment instruments to improve risk adjusted returns.

In the latter part of the 20th century, the US was not only the world's largest trading partner, but its government obligations met the central bank investment objectives of liquidity, safety and return. Declining interest rates propelled investment returns on government bonds. Central banks in developed countries thus partly divested their large gold stocks in favour of the financial obligations of the US government and, to a lesser extent, other highly rated developed countries.

Over the last two decades, the international monetary system evolved from a US-centric system with currencies pegged to the US dollar to a multi-polar system with floating exchange rates and the composition of foreign reserve currencies increasingly dependent on regional trade patterns. The share of the US dollar in total global reserves declined from 71% in 2000 to 59% in 2020¹ while the number of currencies held as reserves expanded to include both those of smaller developed countries as well as major emerging economies. As the GFC undermined confidence in the established economic order, central bank holdings of gold increased led by emerging market countries.

While liquidity remained an important investment objective, several developments contributed to an easing of drawdowns on central bank reserves during periods of

crisis. This in turn allowed central bank reserve managers more flexibility to invest foreign currency reserves on a portfolio basis and over longer investment horizons. Firstly, most currency pegs were abandoned in favour of more flexible currency arrangements. Secondly, the level of reserves and reserves adequacy increased among emerging market countries. And, thirdly, the IMF and the largest central banks created global liquidity back-stops, including currency swap arrangements and credit facilities, which took the pressure off reserves during periods of crisis. In sum, the role of foreign currency reserves pivoted from maintaining a currency peg or managing to a target rate to maintaining confidence in the country's ability to meet its external obligations.

As liquidity requirements eased, safety or capital preservation became more difficult to achieve by investing only in government bonds of traditional reserve currencies due to negative real interest rates. While initially intended to support economic recovery following the GFC, negative real rates have persisted for over a decade and are continuing due to the COVID-19 pandemic. Low and negative government bond yields thus contributed to the trend already underway towards central bank diversification of investments into asset classes like fixed income credit, emerging market bonds and, to a lesser extent equities.

1 IMF Official Foreign Exchange Reserves (COFER)

Central bank reserves are now invested to achieve the dual objectives of tidying over the country during periods of crisis and safeguarding national savings for the future. Some central banks divide international reserves into liquidity and investment tranches to reflect these different objectives. Regardless of whether managed holistically or on a tranching basis, the preponderance of reserves remain invested in safe haven or counter-cyclical currencies and assets that perform well both in terms of liquidity and return during periods of crisis. To preserve and increase wealth, central banks have also diversified into pro-cyclical assets with relatively less liquidity but greater potential for returns.

While no longer the lynchpin of the international monetary system, gold has retained its role within foreign currency reserves as a store of value and a hedge against inflation. In more recent times, gold has been viewed on a portfolio basis as an important contributor to improving risk-adjusted returns given its negative correlation with the US dollar and low correlation to equities and long-term fixed income (see **“Safety, liquidity, return – and gold”**).

The emergence of new financial instruments, such as gold-backed exchange-traded funds (ETFs), has also allowed central bank reserve managers to invest more tactically in gold.

Looking forward, the trend towards diversification across currencies and investments is likely to continue, with cyber and environmental risk increasingly important factors. Whereas previously, safety, liquidity and return could be achieved by investing in US government obligations, today these objectives are more likely to be met through diversification rather than concentration in a single currency and asset class. In addition, some central banks no longer assess performance only in terms of financial returns but also with respect to climate change. Mandated to safeguard national wealth, many central banks have overlaid climate impact to the traditional definition of safety. Thus, while the objectives of holding international reserves have remained essentially the same over the last century, their investment and performance metrics have changed dramatically and are likely to continue to do so in the face of emerging risks and technological change.

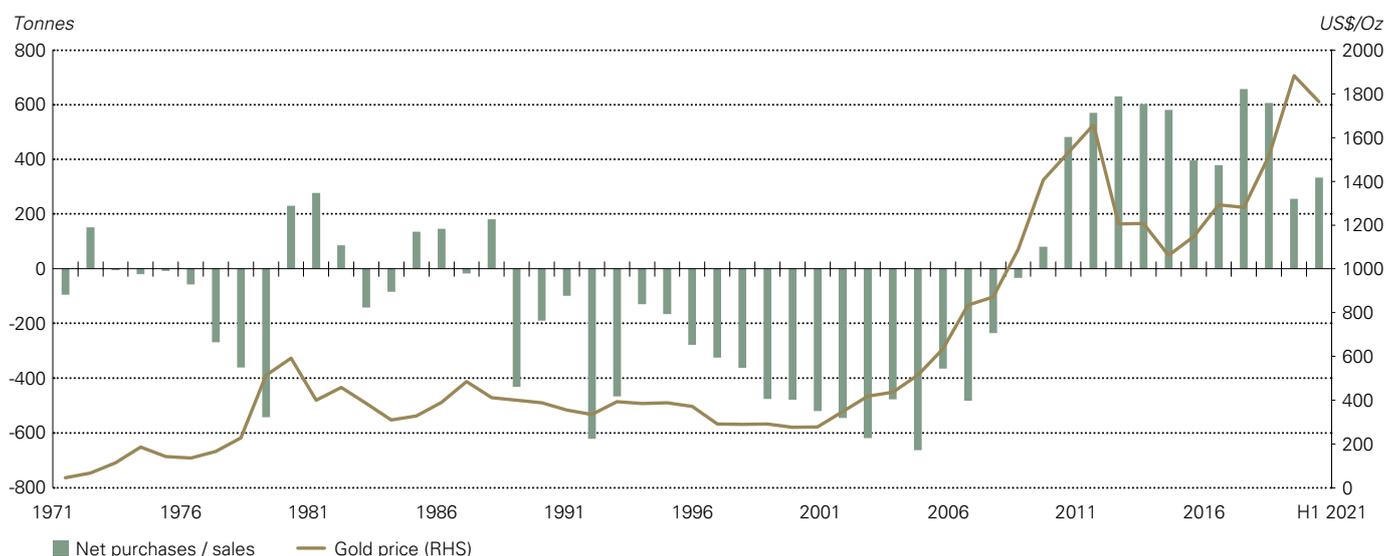
Recent trends in gold reserves

Central banks have been net purchasers of gold since 2010, ending a multi-decade streak of net gold sales that had persisted since the end of the Bretton Woods system in the early 1970s. Since 2010, central banks have added 5,562.4 tonnes of gold to their reserves, bringing total official gold reserves to 35,527 tonnes.² The vast majority of new gold purchases have come from Emerging and Developing Economies (EMDE) central banks, a phenomenon that continues to drive official gold accumulation today.

The change in central banks' attitude towards gold was precipitated by the 2008 GFC. The crisis exposed vulnerabilities in the global financial system and raised concerns over the extent to which the global economic boom was built on debt. Adding to the woes, the Eurozone debt crisis and the downgrade of US' credit rating also rattled investor confidence in the sovereign debt market.

The introduction of large-scale quantitative easing and the resulting low-rate environment brought to the fore the argument for greater diversification from traditional reserve assets and currencies. In addition, growing geopolitical tensions prompted some countries to consider alternatives to the US dollar, even adopting dedollarisation policies to reduce their dependence on the US dollar.³

Chart 1: Central bank net gold purchases and sales since 1971



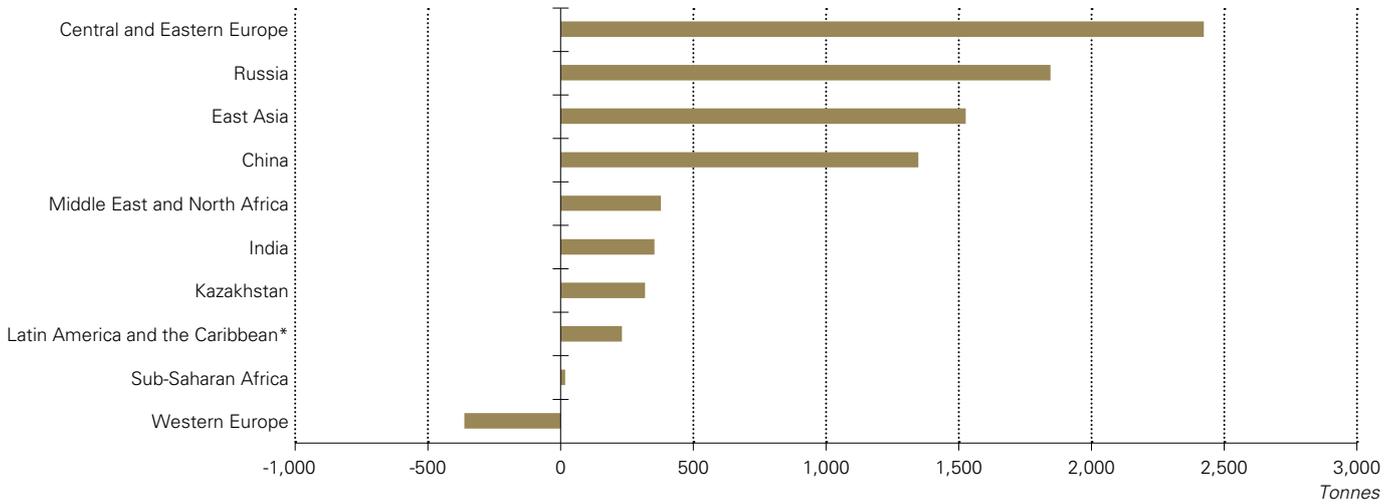
As of June 2021.

Source: IMF IFS, World Gold Council, London Bullion Market Association, National Agencies

2 Data as of June 2021. IMF International Financial Statistics (IFS), World Gold Council.

3 Amundi Asset Management (2019), *'Gold in Central Banks' Asset Allocation*, Investment Insights Blue Paper, March 2019.

Chart 2: Selected regional and individual central bank net gold purchases since 2008



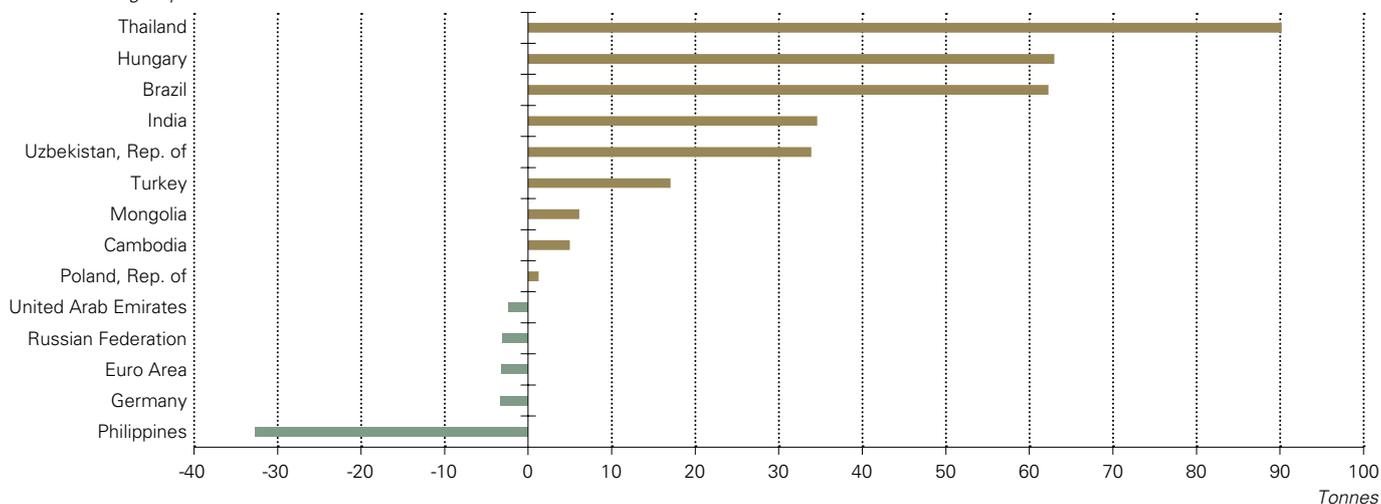
*Venezuela has been excluded from analysis. Data as of July 2021. Source: IMF IFS, World Gold Council

Although EMDE countries have dominated gold buying since 2010, the profile of central bank purchasers has evolved over time. Regular gold buyers like Russia, Turkey, and Kazakhstan underpinned overall buying for many years after the GFC. By the end of the decade, buying had become far more diverse, with 18 individual central banks buying over one tonne of gold in 2019. Countries that had been absent from the gold market for many years became notable buyers of gold. Even central banks in the European Union re-emerged as net buyers due to substantial purchases from Poland and Hungary in 2018-19. Furthermore, several central banks began to accumulate gold from domestic sources, taking advantage of being able to purchase a reserve asset with local currency.

The COVID-19 pandemic added fresh considerations for central bank reserve managers to consider. Crisis management returned to the forefront of central bank investment criteria, driving the focus to gold’s financial behaviour during crisis events. Indeed, the results of the 2021 Central Bank Gold Reserves Survey showed that central banks now rate gold’s “performance during times of crisis” as the top reason to hold gold, the first time this factor achieved the top spot.

Chart 3: Central banks that bought or sold more than 1 tonne of gold in 2021 YTD*

2021 YTD net gold purchases in tonnes



*In March 2021, Japan reported an 81 tonne increase in its gold reserves. However, as the increase was the result of an intragovernmental transaction, it was not considered an incremental increase in gold buying. Data as of July 2021.

Source: IMF IFS, World Gold Council, National Agencies

While central bank demand for gold weakened in 2020 amid the pandemic, demand has returned in 2021. Thailand has emerged to become the largest buyer of gold in H1 2021 with the addition of 90.2 tonnes of gold to its reserves. In an interview, Governor Suthiwartnarueput explained that the Bank of Thailand looks at security, return, diversification and tail-risk hedging as part of its reserve management strategy, stating that “Gold, if you look at it, we feel ticks many of those boxes, especially given these uncertain times right now.”⁴

In March 2021, Hungary tripled its gold reserves. The decision by the National Bank of Hungary to increase its gold reserves to 94.5 tonnes, an historic high, follows a 10-fold increase in Hungary’s gold holdings in the last quarter of 2018. Both increases were made for strategic reasons and were driven by Hungary’s long-term policy objectives to strengthen the stability of the country’s financial system during times of geopolitical uncertainty and structural changes in the international financial system (**Focus box 1**). The role of gold as a safe haven and “a major line of defence under extreme market conditions” also factored in the purchase decision.⁵

4 Suttinee Yuvejwattana, Michelle Jamrisko. (25 June 2021). *Thai central bank says gold ticks right boxes for its portfolio*. Bloomberg.

5 MNB, Press release, 17 Oct 2018.

Factors driving central bank gold demand

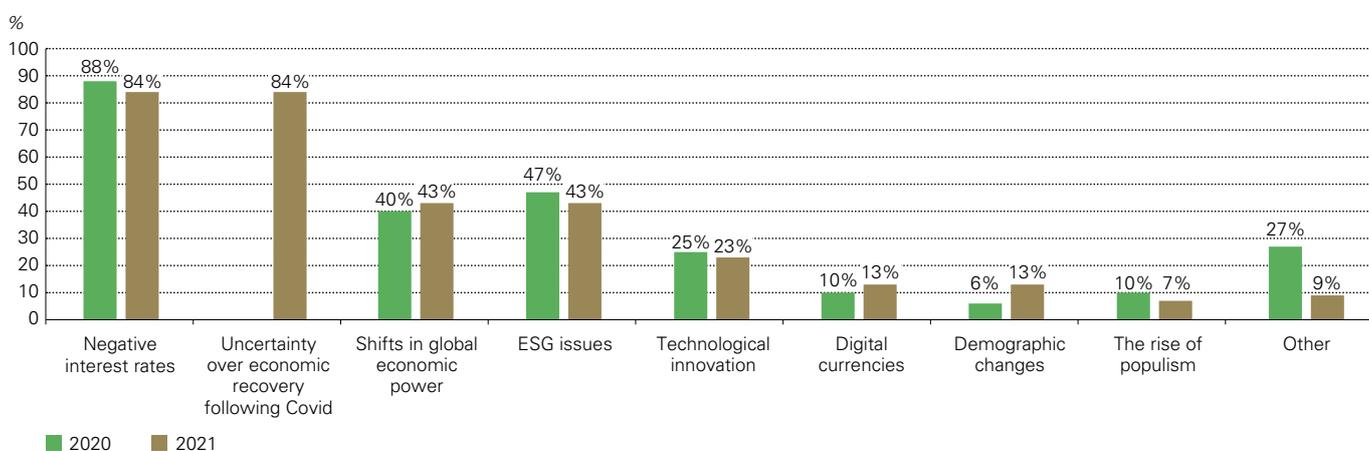
Given current economic conditions, central banks indicated that their interest in gold stems from its stability during times of crisis and its role as a hedge against inflationary pressures, reflecting in large part the uncertainties relating to the COVID pandemic. According to the most recent Central Bank Gold Reserves (CBGR) survey (2021),⁶ 21% of central banks surveyed intend to increase their gold reserves over the next 12 month, likely motivated by the ongoing uncertainties relating to the COVID pandemic. The survey also revealed, however, that the factors driving central bank gold demand differed between developed economies and EMDE because of the different role of reserves in protecting the economy from either domestic or systemic financial crises.

Reserve managers must contemplate a complex set of issues in making their investment decisions, ranging from financial factors to geopolitical implications and global megatrends. The 2021 CBGR survey showed that while negative interest rates remained the most relevant investment factor, uncertainty following the

pandemic is now equally as relevant (**Chart 4**). Shifts in global economic power and Environmental, Social and Governance (ESG) issues were seen as the next most relevant factors, although advanced economy central banks tended to focus more on ESG issues than their EMDE counterparts.

Chart 4: Both “Negative interest rates” and “Uncertainty over the economic recovery following COVID-19” were rated as relevant by the highest number of respondents

Survey question: What topics are relevant for your reserve management decisions?



Source: 2021 Central Bank Gold Reserves Survey, World Gold Council

⁶ For the fourth consecutive year, the World Gold Council has worked with YouGov to conduct a survey of central banks. The questionnaire was designed by the World Gold Council and set up on YouGov’s secure survey system before links to the survey were sent to central banks around the world. 56 central banks completed the survey.

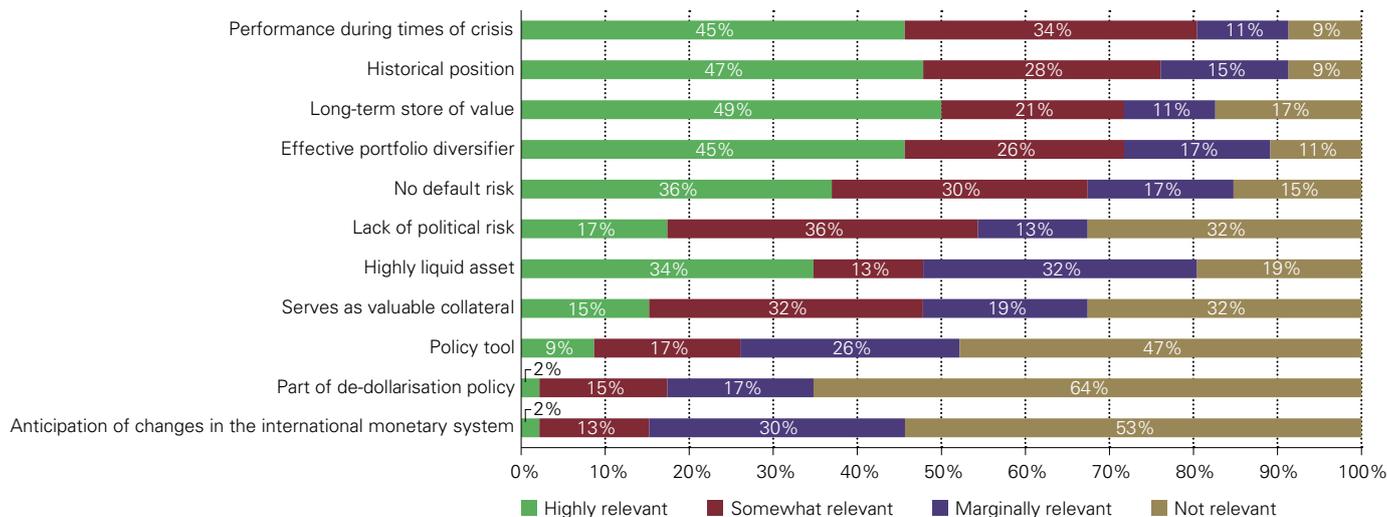
The reserve management objectives of EMDE countries entail self-insurance against balance of payments crises. Furthermore, the pandemic has refocused the attention of reserve managers on crisis mitigation and ensuring portfolio protection during periods of market turbulence. This makes gold especially well suited given

its countercyclical characteristics during times of systemic financial stress. Indeed, central banks have now ranked gold's crisis performance as the top reason to hold gold for the first time since the CBGR survey began in 2018 (**Chart 5**).

Chart 5: Gold's performance during times of crisis is now seen as the top reason to hold gold

Survey question: How relevant are the following factors in your organisation's decision to hold gold?

Ranked by "Highly Relevant" and "Somewhat Relevant"



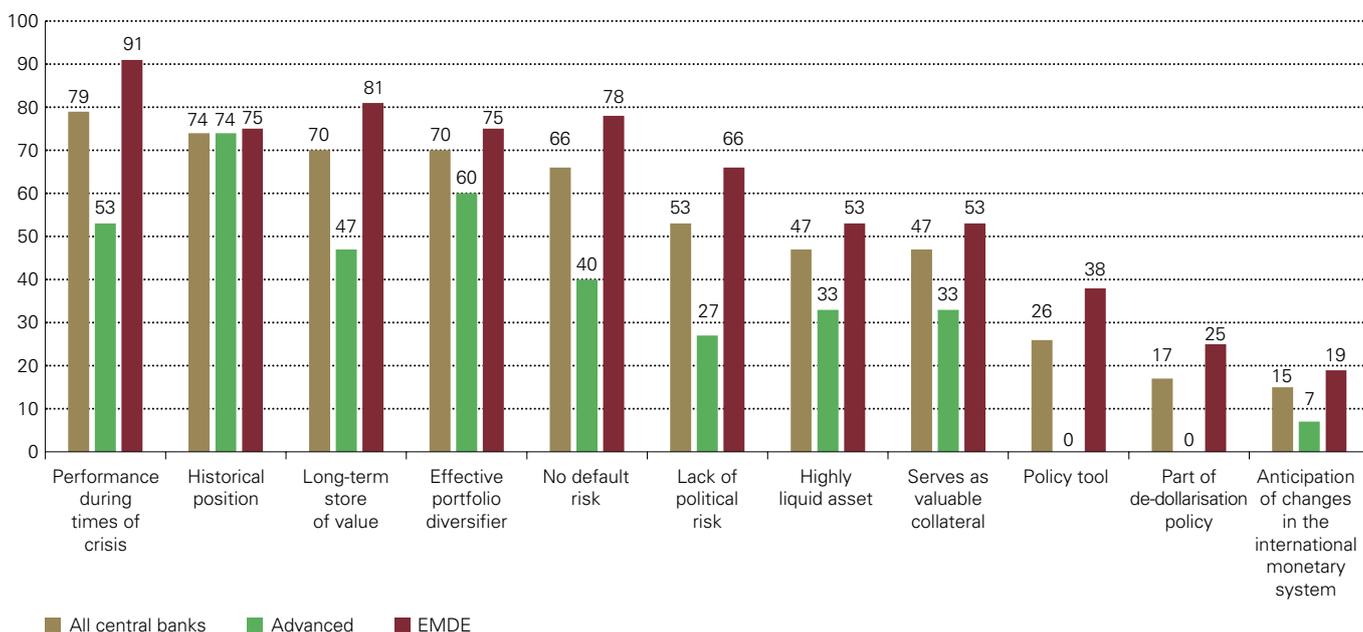
Source: 2021 Central Bank Gold Reserves Survey, World Gold Council

When central bank attitudes are broken down into advanced economy and EMDE respondents, the dichotomy of views between these groups becomes clear (**Chart 6**). EMDE central banks consistently rated investment-related factors for gold as more relevant than their advanced economy counterparts. EMDE central banks generally face greater challenges in maintaining

orderly capital flows and currency stability, especially during periods of systemic instability. These results indicate that EMDE central banks, who have been the dominant gold buyers for over a decade, tend to view gold as an important component of their overall reserve management strategy especially when there is a greater need for risk mitigating assets.

Chart 6: EMDE central banks consistently rated investment-related factors for gold as more relevant than their advanced economy counterparts

Proportion saying "Highly relevant" and "Somewhat relevant", by advanced and EMDE respondents



Source: 2021 Central Bank Gold Reserves Survey, World Gold Council

This focus on gold's crisis performance is illustrated by the Hungarian central bank's decision to add 94.5 tonnes of gold to its reserves in March 2021. The bank issued a press release explaining its decision to increase its gold

holdings, stating that new risks arising from the COVID-19 pandemic along with inflationary concerns and gold's inherent lack of credit risk played key roles in its decision to buy (**Focus box 1**).

Focus box 1: Magyar Nemzeti Bank triples Hungary's gold reserves to 94.5 tonnes *Press release republished with the kind permission of Magyar Nemzeti Bank*

Bearing its long-term national and economic policy strategy objectives closely in mind, the Magyar Nemzeti Bank (MNB) has raised Hungary's gold reserves from 31.5 tons to 94.5 tons. Following the decision, the MNB continued the process it started by increasing gold reserves by a factor of ten in 2018. As a result, based on the size of gold reserves, Hungary moved up from the middle of the international list to the top third by March 2021.

In history, gold has fulfilled several functions in different financial systems. Although from a monetary policy perspective, gold lost some of its significance in the 1970s, its role as a traditional reserve asset remained pivotal thereafter. As it carries no credit or counterparty risks, gold facilitates reinforcing trust in a country in all economic environments, which still renders it one of the most crucial reserve assets worldwide, in addition to government bonds. In recent years, the role of gold within international reserves has been enhanced at several central banks. At 656 tons, central banks' demand for gold reached record highs in 2018 and also in 2019 (669 tons).

Taking into account the country's long-term national and economic policy strategy objectives, the Magyar Nemzeti Bank decided to triple its gold reserves. Managing new risks arising from the coronavirus pandemic also played a key role in the decision. The appearance of global spikes in government debts or inflation concerns further increase the importance of gold in national strategy as a safe-haven asset and as a store of value. As a result of this decision, the country's gold reserves have been raised from 31.5 tons to 94.5 tons, which sends Hungary from the 56th

position to the 36th position in the international rankings based on the size of gold reserves. In the Central and Eastern European region, its position changed from 6th to 3rd. Gold reserves per capita in Hungary rose from 0.1 ounce to 0.31 ounce. Consequently, currently Hungary has the highest gold reserves per capita in the CEE region.

The Magyar Nemzeti Bank has held gold reserves since its foundation in 1924. The stock of gold reserves had increased until World War II. Towards the end of the war, the MNB rescued gold bars and coins weighing some 30 tons on its legendary 'gold train' to Spital am Pyhrn in Austria. The possession of the rescued gold reserves was returned in full to Hungary after the war had ended, which supported the stabilisation of Hungary's economy and financial consolidation by backing the introduction of the new currency, the forint, which celebrates its 75th anniversary this year. At the time of the political transition, Hungary's gold reserves were reduced in several steps from 46 tons to 3.1 tons as a result of the decision taken by the Magyar Nemzeti Bank's management then in office. The gold stock had remained unchanged until 2018.

Based on the long-term national and economic policy strategy objectives, the MNB decided to significantly increase gold reserves first in 2018. Consequently, the stock of gold reserves rose tenfold from its previous level, from 3.1 tons to 31.5 tons in October 2018, reaching gold reserve levels of other CEE countries. With these purchases, the MNB continued the process it started in 2018.

Press release published in March 2021

The functional objectives of reserves influence countries investment guidelines as well as their asset allocations. In June 2019, the World Gold Council conducted a review of the published investment guidelines of 65 central banks (**Chart 7**), 34 of which were EMDE and 31 were advanced economy central banks. The investment guidelines of EMDE central banks were found to be significantly narrower than their advanced economy counterparts. While all central banks' investment guidelines permitted reserves to be held in gold, SDRs, IMF reserve balances, highly-rated sovereign debt and deposits, EMDE central bank guidelines were much more prohibitive around riskier assets, such as corporate debt and equities. Only one EMDE central bank said it was allowed to hold equities, and less than a third could hold corporate securities, derivatives, money market instruments or agency debt.

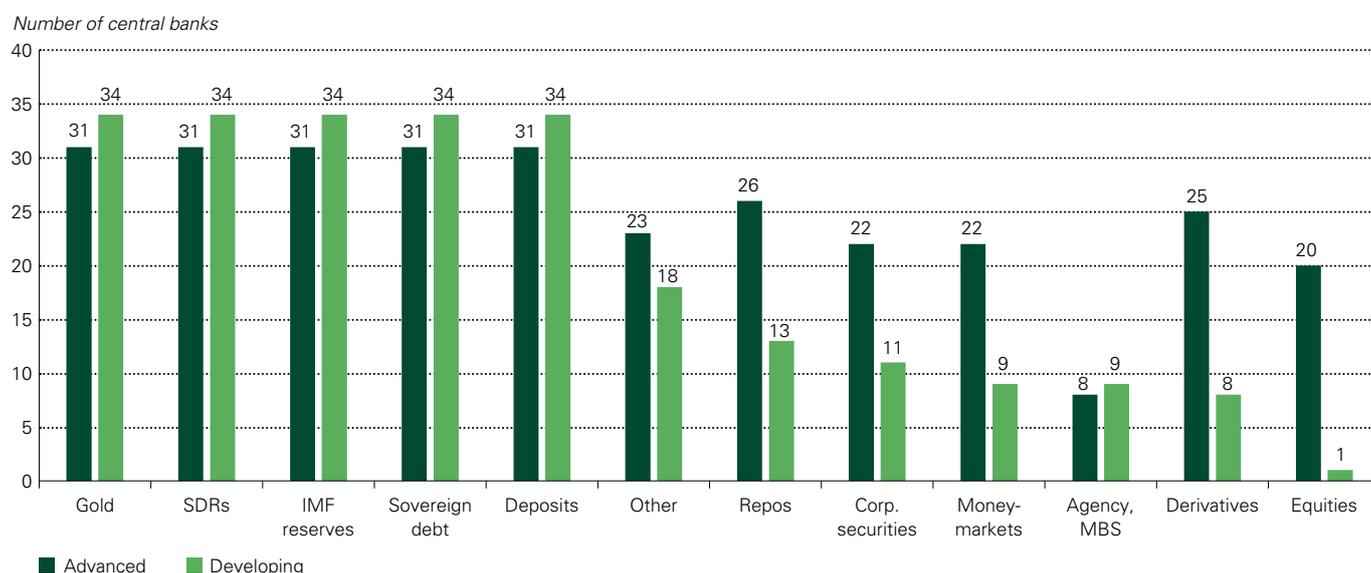
Heightened economic and political risks

The functional objectives of EMDE reserves and correspondingly tight investment guidelines leave them heavily exposed to the risks associated with advanced economy debt. These are especially high at the moment, and include:

- The long-term impact of the pandemic on monetary and fiscal policies
- Rising global inequality, which has fuelled social unrest and the rise of populist parties
- Greater polarisation of political parties, which increases the likelihood of large policy shifts from one administration to the next
- Deteriorating budget positions and ageing populations
- Growing trade disputes and protectionist policies
- Increasing challenges to central bank independence around the world and the threat of sovereign debt being monetised
- An increased threat of competitive currency wars.

Chart 7: EMDE countries have more restrictive investment guidelines than their advanced economy counterparts

Permissible investment assets of 65 central banks (31 Advanced, 34 EMDE)



Source: The compilation of central banks' investment guidelines was conducted via desk research focusing on publicly available reserve management guidelines, as reported in Central Bank Acts and Charters. When no such information was available, annual reports and other publications on reserve management guidelines were parsed for information.

This data set is a compilation of the international reserve management guidelines of 65 central banks that have publicly available reserve management guidelines in the English language. Of the 65 central banks sampled, 31 are advanced economies and 34 are EMDE as defined by the IMF.

Gold is the only reserve asset that bears no political or credit risk, nor can it be devalued by the printing presses or extraordinary monetary policy measures.

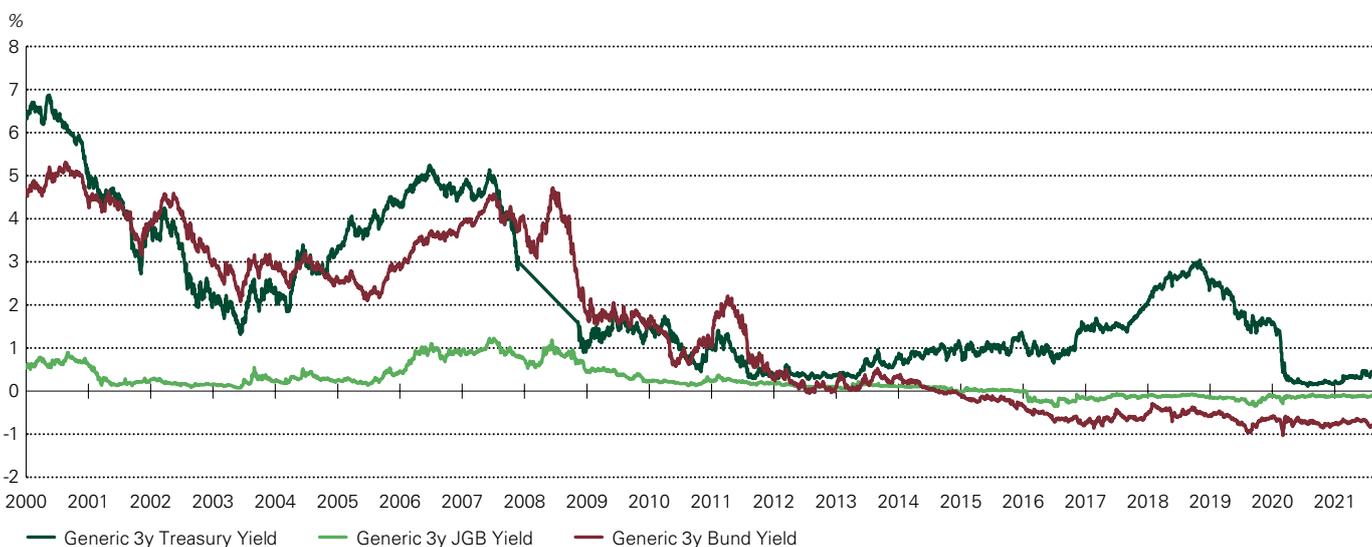
In addition, the structure of central bank portfolios is typically both short-dated – especially in EMDE countries – and US dollar centric. Negative interest rates and concerns about the outlook for the US dollar may also account for some of the gold demand from central banks.

Negative and real interest rates

Interest rates on highly rated sovereign debt, the mainstay of most reserve portfolios, have been depressed since the 2008 GFC. This has prompted some central banks to turn to other assets to produce returns. The short-dated nature of bonds held by central banks also means they are typically holding lower yielding – or more negative yielding – portfolios than other investors. This, in turn, reduces the opportunity cost of holding gold (**Chart 8**).

Chart 8: Yields on highly rated sovereign debt have been depressed since 2008 GFC

Generic 3-year yields of US Treasuries, Japanese government bonds and German Bunds



Source: Bloomberg, World Gold Council

Furthermore, the outlook for the US fiscal situation continues to be uncertain. The US dollar would also face growing competition if other reserve currencies and technological innovation were to erode the greenback's dominance in the international financial system. Gold has a strong negative correlation to the US dollar (**Chart 9**) making it a good hedge against US dollar assets.

Anticipation of changes in the international monetary system

Structural factors also seem to underlie central banks' interest in gold.

Economic power is shifting from West to East. China is now the world's largest economy on a purchasing-power parity basis. It is the largest trading nation in the world and has the third largest sovereign debt market. In recent decades, China has become a key driver of global growth and will play a major role for years to come.

The reconfiguration of the global economy and China's rising global footprint will almost certainly have an impact on the international monetary system. China has already taken steps to internationalise its currency by introducing a number of measures to promote renminbi cross border settlements. An offshore renminbi market has been established and foreign investors have been given greater access to the Chinese bond market. In 2016, the renminbi was included in the IMF's SDR basket, since then the share of the renminbi in international reserves has surpassed that of the Australian dollar and Canadian dollar, standing at 2.45% (as of Q1 2021). Ongoing financial liberalisation, such as the inclusion of onshore Chinese bonds into global bond indices in April 2019, will provide a further impetus for foreign investment into onshore Chinese bonds.

Chart 9: Gold's negative correlation to the US dollar makes it a good hedge against US dollar assets

1-year rolling correlation of gold and the US dollar index



1-year rolling correlation of the gold price and US dollar index based on weekly returns.

Source: Bloomberg, World Gold Council

According to a People’s Bank of China internationalisation report (2017)⁷ more than 60 countries hold renminbi as part of their reserve assets. In the 2021 CBGR survey, 81% of respondents said that the renminbi would occupy a greater proportion of global reserve assets in the coming five years.

The renminbi’s use in international trade is expected to increase further once certain conditions are fulfilled, including currency convertibility and the continued opening of China’s capital account. While it will be difficult for the renminbi to rival the US dollar as the predominant global currency, Asia seems to be the natural habitat for the

renminbi (Eichengreen, Lombardi, 2017). As such, the international monetary system is likely to shift from a US dollar-centric system to a more multi-polar system, with the euro and renminbi constituting relatively larger shares.

The shift to a new international monetary system could be destabilising, due to speculative flows, and possibly weigh on the US dollar. Some central banks may be buying gold as a hedge against both. It is noteworthy that most recent gold purchases have been made by countries in Southeast and Central Asia, which have strong trade and investment links with China (**Chart 10**).

Chart 10: Many central banks who have recently purchased gold come from countries that are part of the Belt and Road Initiative

Central banks with more than 1 ton of net gold purchases (2016 – July 2021)



Source: IMF IFS, World Gold Council

⁷ ECNS Wire “60 countries and regions use RMB as reserve currency: PBOC report;” www.ecns.cn/cns-wire/2017/10-19/277645.shtml

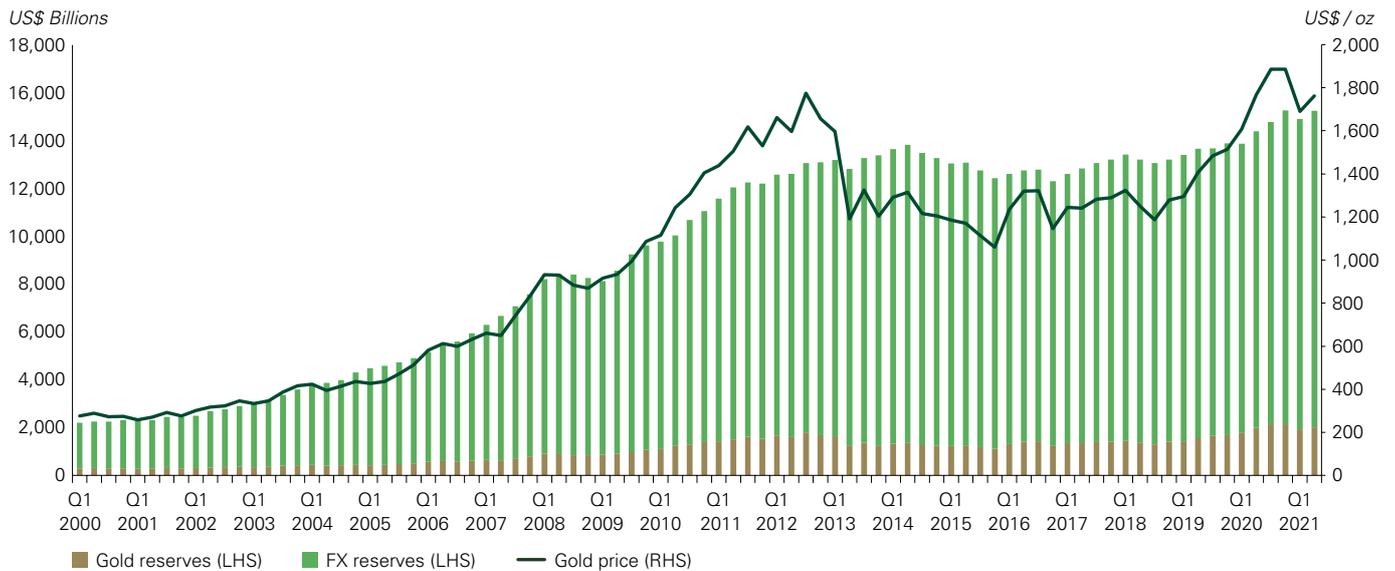
Rising international reserves have led to re-balancing demand

Finally, central banks may be buying gold for more mechanical reasons (**Chart 11**). International reserves have grown steadily over the past few decades.

Re-balancing to the preferred strategic level of gold holding may therefore account for some of the uptick in demand.

Chart 11: Portfolio re-balancing has accounted for some of the uptick in central bank gold demand

Global gold and foreign exchange reserves in US\$ billions against the price of gold



Data as of Q2 2021.

Source: IMF IFS, World Gold Council

Safety, liquidity, return – and gold

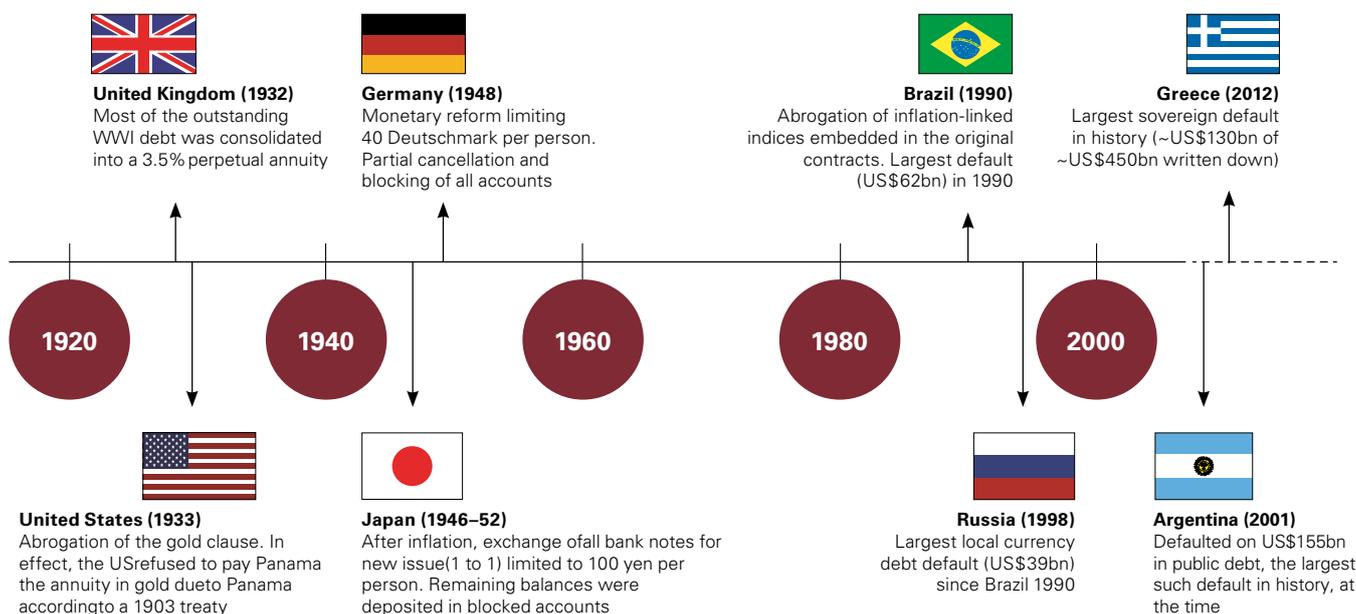
Gold is a financial asset and important component of central bank reserves because of its safety, liquidity and return characteristics – the three key investment objectives for central banks. From the perspective of safety, it bears neither credit nor default risk. Moreover, gold can be deployed to protect portfolio value because of its negative or lack of price correlation to the US dollar, commodities, and many financial assets. In physical form, gold enjoys deep and liquid markets as indicated by its daily turnover. And central banks can use gold swaps for short term liquidity requirements. Finally, gold has exhibited positive real returns over periods of both economic crisis and growth due to its dual demand structure: investors demand gold as a hedge against tail risks and price inflation and end-users demand gold for both jewellery and industrial uses.

Safety

Credit (or default) risk is perhaps the greatest risk faced by reserve asset managers. As such, when reserve managers invest in sovereign debt, they will typically hold only debt of investment-grade quality. But even that

cannot fully mitigate credit risk. Over the past 100 years, many countries, even those thought to be safe, have experienced sovereign debt defaults or restructurings (**Chart 12**). Gold, held in a central bank's own vault or on an allocated basis, is the only reserve asset that is entirely free from default risk.

Chart 12: Notable sovereign debt defaults or restructurings across major economies

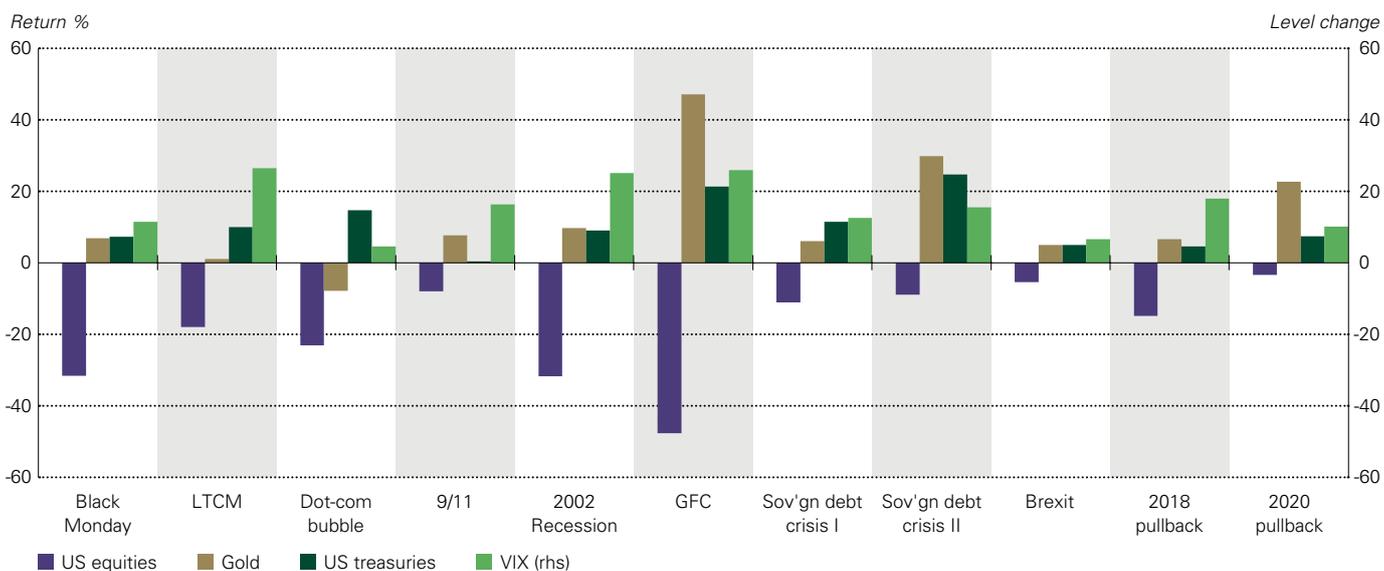


Sources: The Economist, Reinhard, Carmen S. and Rogoff, Kenneth S., *The forgotten history of domestic debt*. April 2008

Safety can also refer to how an asset performs during times of crisis, when a central bank is more likely to have to sell assets or raise liquidity. Precisely because gold has no credit risk, it often experiences safe-haven inflows during times of financial crisis, causing its price to rally (**Chart 13**). For example, during the Great Recession that began in 2009, gold rose by 47%, while the S&P500

declined by an equal amount. In 2020 when the COVID-19 pandemic caused chaos in global markets, gold rose by almost 25% to exceed its best annual return in more than ten years. In fact, gold returns were positive during ten of the last eleven periods of systemic risk, highlighting gold's important ability to preserve capital during times of crisis.

Chart 13: The gold price tends to increase in periods of systemic risk
S&P 500 and gold return vs change in VIX level*



*As of 31 December 2020. Return computations in US dollars for 'US equities': S&P 500 Index; 'US treasuries': Bloomberg Barclays US Treasury Index; 'gold': LBMA Gold Price PM; and 'VIX': Cboe VIX Index. The VIX is available only after January 1990. For events occurring prior to that date annualised 30-day S&P 500 volatility is used as a proxy. Dates used: Black Monday: 9/1987 - 11/1987; LTCM: 8/1998; Dot-com: 3/2000 - 3/2001; September 11: 9/2001; 2002 recession: 3/2002 - 7/2002; GFC: 10/2007 - 2/2009; Sovereign debt crisis I: 1/2010 - 6/2010; Sovereign debt crisis II: 2/2011 - 10/2011; Brexit: 23/6/2016 - 27/6/2016; 2018 pullback: 10/2018 - 12/2018; 2020 pullback: 19/2/2020 - 31/07/2020.

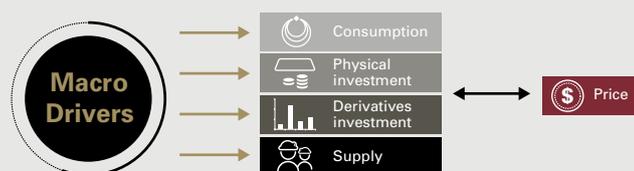
Sources: Bloomberg, ICE Benchmark Administration, World Gold Council; Disclaimer

Focus box 2: How to value gold for maximum portfolio impact

Gold does not directly conform to the majority of the most common valuation methodologies used for equities or bonds. Without a coupon or dividend, typical models based on discounted cash flows, expected earnings, or book-to-value ratios, struggle to provide an appropriate assessment for gold's underlying value. This presented an opportunity for the World Gold Council to develop a framework to better understand gold valuation.

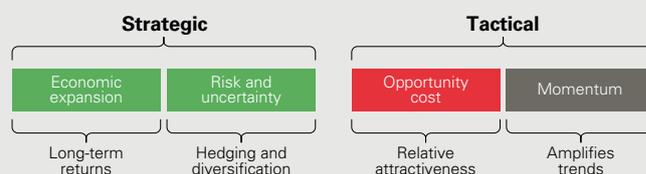
What is the Gold Valuation Framework (GVF)?

GVF is a methodology that allows investors to understand the drivers of gold demand and supply and, based on market equilibrium, estimate their impact on price performance. GVF powers our web-based tool, **Qaurum**SM, which allows users to assess the potential performance of gold under customisable hypothetical macroeconomic scenarios provided by Oxford Economics.⁸



Our analysis shows that **the price performance of gold** can be explained by the interaction of four key drivers:

- **Economic expansion:** periods of growth are very supportive of jewellery, technology and long-term savings
- **Risk and uncertainty:** market downturns often boost investment demand for gold as a safe-haven
- **Opportunity cost:** the price of competing assets, especially bonds (through interest rates) and currencies, influences investor attitudes towards gold
- **Momentum:** capital flows, positioning and price trends can boost or dampen gold's performance.



For more information on **long-** and **short-term** drivers of gold, visit the **data** section on **Goldhub.com**

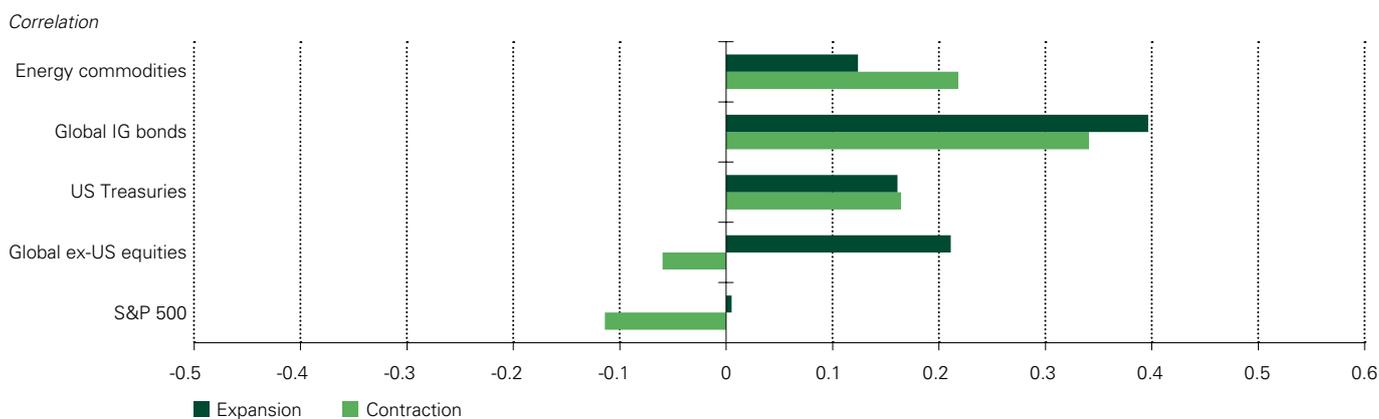
⁸ **Oxford Economics** is a leader in global forecasting and quantitative analysis and a specialist in modelling. Visit **Qaurum** for important disclosures about Oxford Economics' data, as well as a detailed description of the available scenarios; the assumptions underlying and data used for each scenario; and its respective hypothetical impact on gold demand, supply and performance

Gold also shares little to no correlation with other major assets, making it highly effective as a portfolio diversifier that can reduce portfolio risk and volatility. In fact, gold's lack of correlation with other major assets transcends the economic cycle, and applies in periods of economic expansion and contraction. (**Chart 14**) While gold is traditionally grouped with other commodities, its correlation to these assets is quite limited. Importantly,

gold shares low correlation to energy commodities, a key consideration for central banks in large oil and gas-producing countries. Unlike energy commodities and other risk assets, gold provides returns during periods of contraction. Interestingly, during periods of expansion, gold also outperforms traditional safe-haven assets like US Treasuries (**Chart 15**). This makes gold a valuable counter-cyclical asset in a portfolio.

Chart 14: Gold behaves as an effective diversifier in periods of economic expansion and contraction

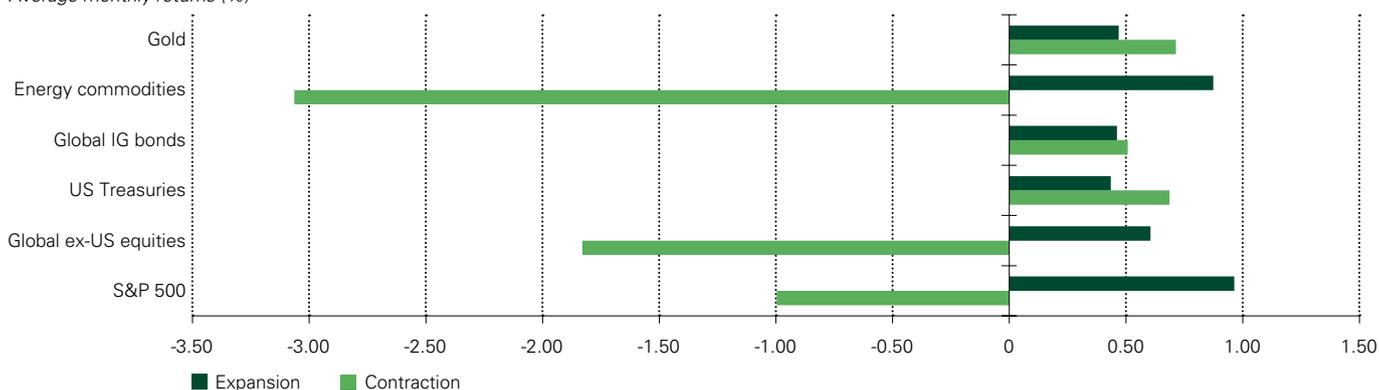
Correlation between gold and major assets*



Average monthly returns of gold and major assets*

Chart 15: Gold provides positive returns in both periods of economic expansion and contraction

Average monthly returns (%)



*Based on monthly returns from January 1990 to July 2021 of the S&P 500, MSCI ACWI ex US, Bloomberg Barclays US Treasury Total Return Index, Bloomberg Barclays Global Aggregate Total Return Index, S&P GS Commodity Energy Index and LBMA Gold Price. Business cycles as defined by the National Bureau of Economic Research (NBER).

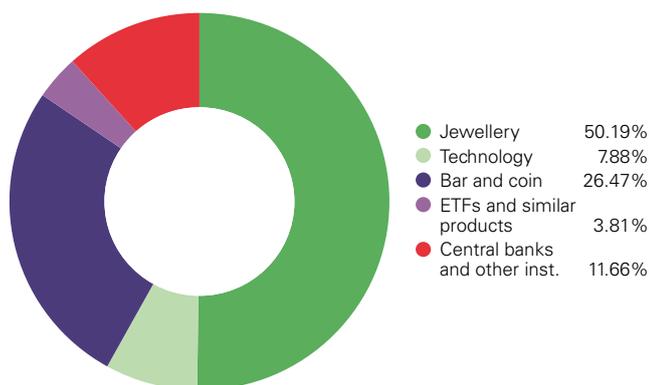
Source: Bloomberg, ICE Benchmark Administration, NBER, World Gold Council

Gold also enjoys certain unique demand characteristics, which reduce its correlation with financial assets more broadly. Gold is not solely dependent on investment as a source of demand. Instead, demand comes from a wide range of buyers and sellers with different motivations, including Indian jewellery manufacturers, electronics

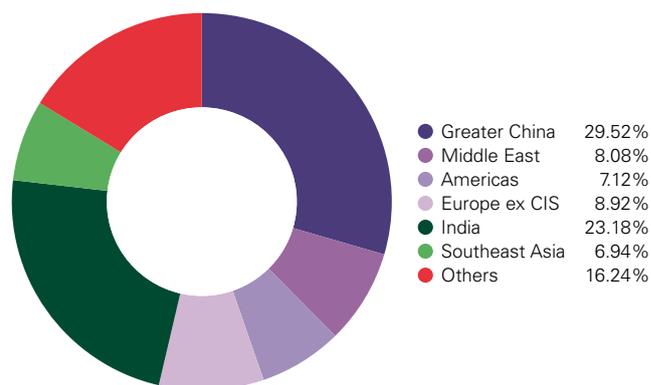
producers in Asia, global pensions and endowments funds, and, of course, central banks (**Chart 16a and 16b**). This diversity – coupled with a stable or only slowly growing supply – enhance gold’s role as a portfolio diversifier.

Chart 16: Gold's multiple sources of demand drive its low correlation to other asset classes

(a) 10-year average gold demand by source*



(b) 10-year average gold demand by region*



*Computed using annual demand from 2011 to 2020. Regional breakdown only includes jewellery and investment demand of gold. Source: ETF company filings, Metals Focus, Refinitiv GFMS, World Gold Council

Focus box 3: Gold’s contribution to central bank portfolio performance during the COVID-19 pandemic

Central bank reserves are typically constructed according to three guiding principles: safety, liquidity and return. The COVID-19 pandemic has reinforced the significance of these principles and, by extension, the importance of smart and sustainable reserve management.

But, in order to deliver effectively against this mandate, central bank reserve managers need to understand how different assets perform during stress periods. Only in this way, can they develop portfolios that are robust and resilient in the face of market stress, while aligning with the three core principles of reserve management.

Looking back at the early months of the pandemic in 2020, financial markets deteriorated at an almost unprecedented rate and central banks were forced to deploy their reserves to ensure both currency stability and financial system liquidity.

Traditionally, assets such as US Treasuries and G-10 sovereign bonds comprise the bulk of central bank reserve portfolios. But gold is widely held too, with one of the main reasons being that it tends to outperform other assets during periods of market stress.

Indeed, gold generated strong returns in 2020, increasing in value by 24.7% over the course of the year. However, while nearly every central bank holds some gold, the majority maintain a relatively low allocation, particularly those in emerging economies. Recent market behaviour prompts a re-examination of gold’s role compared to other traditional reserve assets.

To gain a better understanding of gold’s role as a core central bank asset, we reviewed gold’s performance as a reserve asset during the recent financial strife. We also assessed how different gold allocations would have affected the performance of total reserves in this crisis period.

Focus box 3: continued

Our analysis considered three hypothetical total reserve portfolios – one with no allocation to gold, one with a 5% allocation and one with a 10% allocation.⁹ The no-gold portfolio was constructed based on the currency weightings as of Q4 2019 from IMF COFER data. Specific asset classes and instrument allocations were selected to replicate a typical emerging market reserve portfolio. The two other test portfolios included 5% and 10% allocations to gold, while proportionally decreasing the weightings of the other portfolio components.

The results of the analysis are illuminating. They show that both hypothetical test portfolios outperformed the base portfolio with no gold allocation. The base portfolio – with no allocation to gold – produced a return of 8.8%. The hypothetical test portfolio with a 5% gold allocation

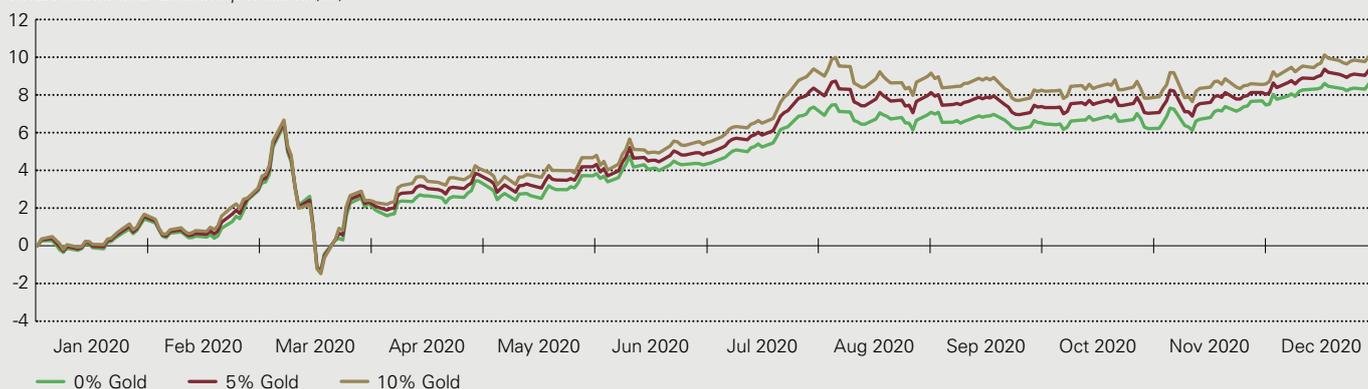
returned 9.6%. And the hypothetical test portfolio with a 10% gold allocation returned 10.4% over the analysis period. (**Chart 17**)

A higher allocation to gold did introduce more volatility to the test portfolios but the Sharpe ratios of both hypothetical test portfolios were improved with the addition of gold. The base portfolio sported a Sharpe ratio of 1.54, while the Sharpe ratio was 1.63 for the hypothetical test portfolio with a 5% gold allocation, rising to 1.69 for the hypothetical test portfolio with a 10% gold allocation

For more information, please refer to [*Gold and central bank reserve management during the COVID-19 pandemic*](#) available on Goldhub.com

Chart 17: Change in hypothetical reserve portfolio performance in 2020

Total returns of 3 different portfolios (%)



Base portfolio with no gold allocation constructed using Bloomberg Barclays US Treasury Total Return Index Unhedged USD (US Treasuries, 30%), Bloomberg Barclays US Aggregate Total Return Unhedged USD (US Agencies/MBS/IC Corporates, 15%), Bloomberg Euro Aggregate Government Total Return Index Unhedged USD (EUR Govts, 11%), Bloomberg Barclays US Treasury Bills Total Return Index Unhedged USD (US T-bills, 10%), Bloomberg Pan-European Aggregate Supranational Total Return Unhedged EUR (Supranational bonds, 16%), S&P Japan Government Bond Index Total Return (Japanese Govts, 6.0%), Bloomberg Sterling Gilts Total Return Index Unhedged GBP (US Govts, 5.0%), Bloomberg AusBond Government 0+ Yr Index (AUS Govts, 2%), S&P Canada Sovereign Bond Total Return Index USD (CAD Govts, 2%), S&P China Government Bond Total Return Index (RMB Govts, 2%), S&P Switzerland Sovereign Bond Total Return Index (CHF Govts, 1%). The two test portfolios included 5% and 10% allocations to gold, while proportionally decreasing the weightings of the other portfolio components.

Portfolios were rebalanced monthly and are denominated in USD.

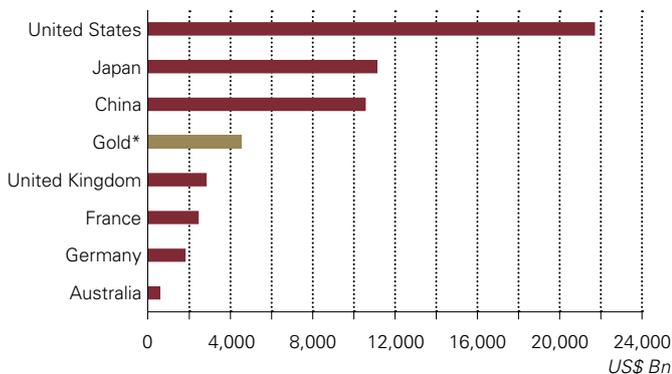
Source: Bloomberg, S&P Dow Jones Indices, World Gold Council

⁹ Any hypothetical or simulated performance shown herein may not reflect actual investment results and does not guarantee any future results. Diversification does not guarantee investment returns and does not eliminate the risk of loss. See information and disclosures at the end of this report.

Liquidity

For reserve managers, it is not enough to own safe assets. As the IMF notes: “reserve managers need to be certain that foreign exchange reserves can be liquidated in a prompt and efficient manner to provide the necessary foreign exchange for the implementation of policy objectives.”¹⁰ Although the concept of “liquidity” is often hard to define, it is widely recognised that high quality, liquid assets tend to be those which benefit from large, deep markets with high daily trading volumes. The existence of an active repo or swap market, and the ability of the asset to be used as collateral, are equally important considerations, as they allow central banks to meet short-term liquidity requirements without making portfolio adjustments. For liquidity management purposes, however, it is important that gold is of a certain standard and located in a global trading centre (see “Adding gold to international reserves”).

Chart 18: The gold market is larger than the sovereign debt markets of several major developed economies



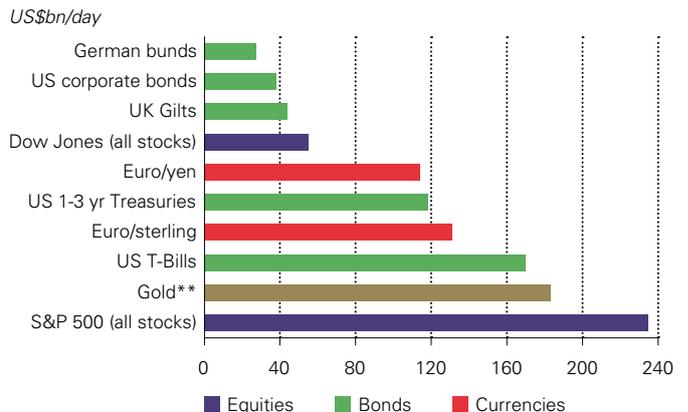
*Gold is the sum of the above-ground stock of bars and coins, ETPs and official sector (or “Financial Gold”). FX and gold prices updated as of 4 August 2021.
 Source (date updated): US Treasury (30 June 2021), Japan Ministry of Finance (31 March 2021), UK Debt Management Office (3 August 2021), German Finance Agency (2 August 2021), Agence France Tresor (30 June 2021), Australia Office of Financial Management (30 July 2021), ABO (30 June 2021) World Gold Council (31 December 2020)

A large market

Unlike almost every other financial asset, gold is virtually indestructible – all the gold that has ever been mined still exists in one form or another (even if some of it has been lost). Best estimates suggest that approximately 201,296t of gold have been mined throughout history, equating to approximately US\$11.65tn.¹¹ Much of that gold is held in the form of jewellery so these figures may not be the most appropriate way to compare gold to other financial assets, such as sovereign debt. Instead, the best proxy to “outstanding bond issuance” is perhaps the combined value of gold held by private investors and the official sector, often referred to as the “financial market” for gold. Currently, that equates to approximately US\$4.5tn, suggesting that the financial gold market is similar in size to major sovereign debt markets across the globe (**Chart 18**).

Chart 19: Gold trades more than many other major financial assets

Average daily trading volumes*



* Average daily volumes from 31 December 2010 to 31 December 2020, except for currencies that correspond to March 2019 volumes due to data availability.

**Gold liquidity includes estimates of OTC transactions and published statistics on futures exchanges, and gold-backed exchange-traded products.

Sources: Bloomberg, Bank for International Settlements, UK Debt Management Office (DMO), Germany Finance Agency, Japan Securities Dealers Association, Nasdaq, World Gold Council

10 Staff report, International Monetary Fund, Guidelines for Foreign Exchange Reserve Management, 2004.

11 As of end-2020. Based on gold price of US\$1,800 per troy oz.

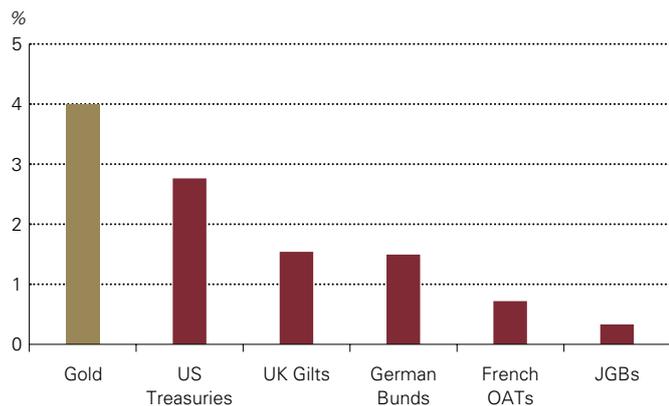
Deep trading volumes

The gold market is also characterised by strong trading volumes. Gold trades around US\$110bn per day through the OTC spot and derivatives contracts. Gold futures trade nearly US\$70bn per day across various global exchanges. Gold-backed ETFs offer an additional source of liquidity, with the average daily trading volume across major gold-backed ETFs at US\$1bn per day.¹²

This makes gold one of the most highly traded financial assets (**Chart 19**). Furthermore, if these trading figures are compared to the total outstanding market, the average daily turnover of gold is higher than all other major sovereign bond markets (**Chart 20**).

Chart 20: On a relative basis, gold's turnover outperforms sovereign debt markets

Average daily turnover (as % of total outstanding)*



*Trading volumes taken from average in 2020.

Source: BIS, SIFMA, German Finance Agency, Japan Securities Dealers Association, LBMA, UK Debt Management Office (DMO), World Gold Council

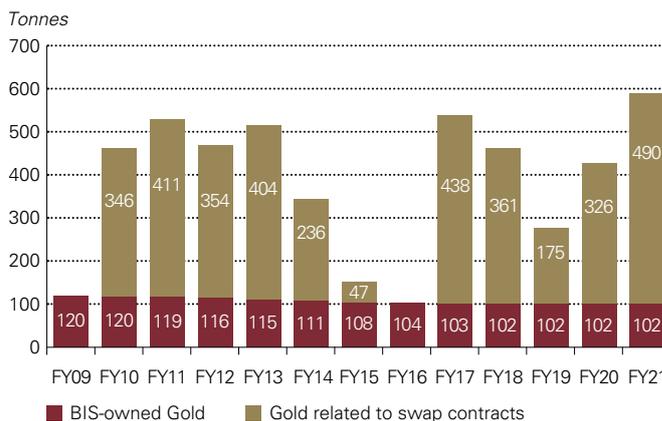
Using gold as collateral

Gold is universally accepted and therefore serves as valuable collateral during times of crisis. Gold also tends to increase in price during financial crises, adding to its appeal as a liquidity management tool.

In addition, there is an active gold swap market. During the GFC, the Swedish Riksbank swapped some of its gold to obtain US dollar liquidity to provide US dollar funding to Swedish banks shut out the US dollar market.¹³ Aggregate gold swap data is not available, but data from the Bank for International Settlements (BIS), a frequent swap counterparty for central banks, gives some insight into the depth of this market. (**Chart 21**).¹⁴ Importantly, gold used for swaps must be of a certain standard and located in a global trading centre.

Chart 21: Gold swaps increase significantly during periods of financial stress

Gold related products on the balance sheet of the BIS



Source: FY2020/21 Bank for International Settlements Annual Report

¹² Average daily trading volumes are based on trading volumes in 2020. Source: World Gold Council. For more information, please see: www.gold.org/goldhub/data/trading-volumes

¹³ *Riksbank Annual Report*, 2009, page 38.

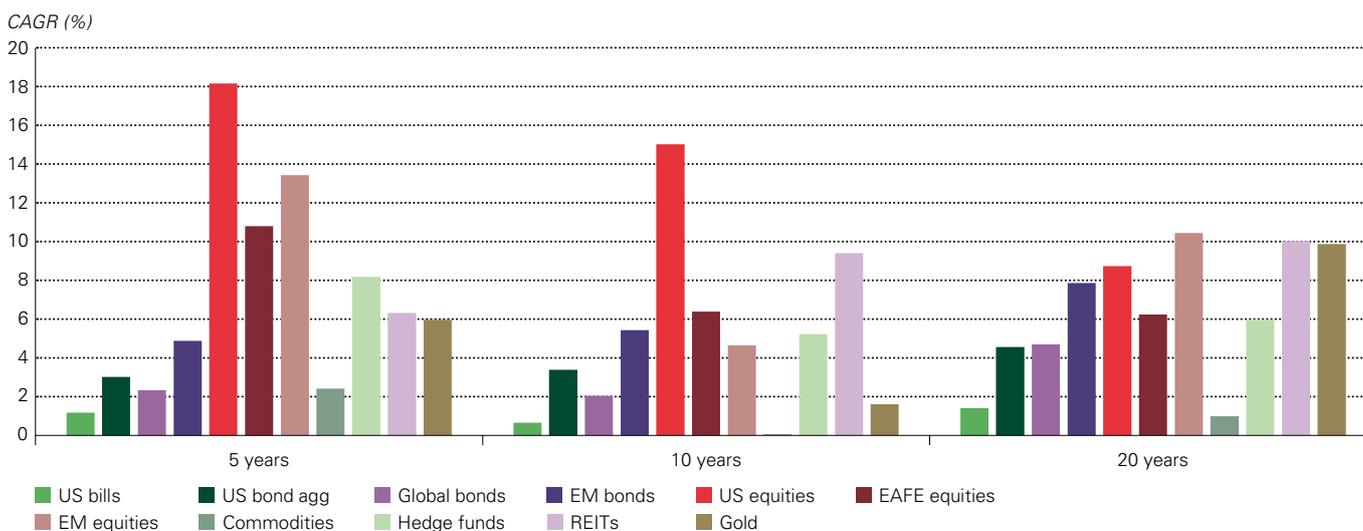
¹⁴ It should be noted that BIS data does not cover the entire swaps market, only those operations conducted by the BIS.

Return

Although safety and liquidity are the most important objectives of holding international reserves, the return is also clearly a consideration, as positive returns contribute to building international reserves.

Since 1971, when gold began to be freely traded following the collapse of Bretton Woods, the price of gold has seen compounded annual growth of about 8% per year.¹⁵ In the last two decades, gold's long-term returns have been comparable to stocks and higher than bonds or commodities (**Chart 22**).

Chart 22: Gold has delivered positive returns over the long run, outperforming key asset classes
Compounded annual return of key global assets in US dollars*



*As of June 2021. Return computations in US dollars for 'cash': ICE BofA US 3-Month Treasury Bill Index; 'US bonds': Bloomberg Barclays US Agg Total Return Value Unhedged USD; Bloomberg Barclays US Treasury Total Return Unhedged USD; 'Global bonds': Bloomberg Barclays Global-Aggregate Total Return Index Value Unhedged USD; 'EM bonds': Bloomberg Barclays EM USD Aggregate Total Return Index Value Unhedged; 'US equities': MSCI Daily TR Gross USA USD; EAFE equities: MSCI Daily TR Gross EAFE USD; 'EM equities': MSCI Daily TR Gross EM USD; 'commodities': Bloomberg Commodity Index Total Return; 'hedge funds': Hedge Fund Research HFRI Fund Weighted Composite Index; 'REITs': FTSE Nareit Equity REITs Total Return Index USD; and 'gold': LBMA Gold Price PM USD.

Sources: Bloomberg, ICE Benchmark Administration, World Gold Council

¹⁵ See: [Gold returns on Goldhub.com](https://www.goldhub.com)

Gold's price performance can be attributed to several factors.

Gold trades in a large and liquid market, yet it is scarce. Mine production has increased by an average of 1.4% per year for the past 20 years. At the same time, demand has grown among consumers, investors and central banks.

Among consumers, the combined share of global gold demand from India and China grew from 25% in the early 1990s to nearly 50% in recent years. This is highly significant, not least because our research shows that expansion of wealth is one of the most important drivers of long-term gold demand with a positive effect on jewellery, technology, and bar and coins.¹⁶

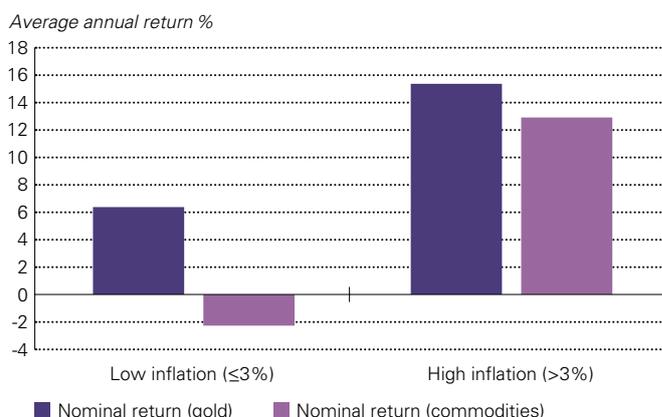
Gold returns have also outpaced inflation. During the Gold Standard and the Bretton Woods system, when the US dollar was backed by and pegged to the price of gold, there was a close link between gold and US inflation. But, once gold became free-floating, US inflation was no longer the main driver of price. Nonetheless, in the 50 years since, gold returns have outpaced world consumer price indices (CPI).

Gold is a proven long-term hedge against inflation. In years when inflation was higher than 3%, gold's price increased 15% per year on average (**Chart 23**). Research also shows that gold should do well in periods of deflation. Such periods are characterised by low interest rates, reduced consumption and investment, and financial stress, all of which tend to foster gold demand. Over the long term, therefore, gold has not just preserved capital but helped it grow.

In the short term, gold's performance as a hedge against inflation is less pronounced. Despite this, our analysis shows that gold fares well as an inflation hedge relative to other traditional inflation-hedging assets such as real estate, energy and US Treasury Inflation-Protected Securities (TIPS). This means that gold continues to play an important role in an inflation-protected portfolio.¹⁷

Chart 23: Gold has historically rallied in periods of high inflation

Gold returns in US dollars as a function of annual inflation*



*As of 31 December 2020. Based on y-o-y changes in US dollars for 'gold': LBMA Gold Price PM, 'commodities': Bloomberg Commodity Index and 'inflation': US CPI since January 1971.

Source: Bloomberg, ICE Benchmark Administration, World Gold Council

16 For more information, please refer to *Gold as a Strategic Asset*, 2021 edition.

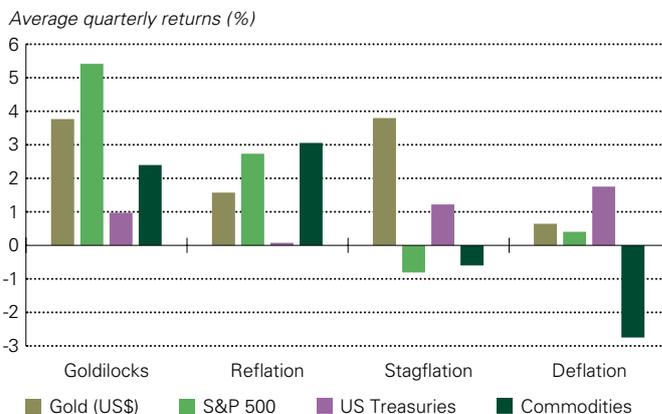
17 For more information, please refer to *Investment Update – Beyond CPI: Gold as a strategic inflation hedge*.

Gold’s status as a safe-haven asset with diverse channels of demand means that it can be considered as both a defensive and growth asset. These attributes allow gold to be an all-weather asset that can perform well during periods of market uncertainty and economic growth.

Gold’s average quarterly returns across four economic scenarios (Goldilocks, reflation, stagflation and deflation) in the US exemplifies this trait. Over the last two decades, gold and US Treasuries are the only two major asset classes to provide positive returns across all four economic scenarios. However, gold outperforms treasuries in all but one cycle and overall average returns are also more than double. In addition, gold also provided superior returns during a period of stagflation. This highlights its role as a long-term inflation hedge.

Chart 24: Gold provides returns across different economic cycles

US economic cycles and average quarterly returns of major US asset classes including gold*



* Scenarios are based on the rate of change of growth and inflation in the US. Goldilocks refers to the scenario when growth is rising and inflation is falling. Reflation is when both growth and inflation are rising. In a stagflation, growth is slowing but inflation is rising. In a deflation, both growth and inflation are falling.

* All data from Q1 2001 – Q1 2021.

Sources: US Bureau of Economic Analysis (BEA), The Federal Reserve Bank of St. Louis, Bloomberg, World Gold Council. Indices used: S&P 500 Index, Bloomberg Barclays US Treasuries Total Return Index, Bloomberg Commodity Total Return Index.

Adding gold to international reserves

Central banks have two main options for adding gold to international reserves – through purchasing gold in the global over-the-counter (OTC) market or through buying local production. Some central banks have conducted large off market deals, but these are rare. The most notable example occurred in October and November 2009 when the IMF sold 212 tonnes of gold in separate off market transactions to three central banks.¹⁸ Furthermore, some central banks may have also inherited legacy stocks of gold that may not conform to modern standards. More recently, some central banks are also investigating exposure to gold through ETFs.

The most common way for central banks to add gold to their international reserves is to purchase London Good Delivery List (GDL) gold from a bullion bank via the OTC market. The London market is the most liquid OTC market in the world. The London Bullion Market Association (LBMA) sets GDL standards. GDL bars must weigh between 350oz and 430oz and have a minimum quantity of 99.5% gold. A full list of bar requirements can be found on the LBMA's website

The GDL is a list of refiners that are accredited by the LBMA to deliver gold into the London market. Gold settled into the London market is called "loco London." Only GDL bars can be settled in the London market. A list of GDL refiners can be found on the LBMA's website, as can a list of custodians offering vaulting services.

GDL gold is priced in US dollars per fine ounce and quoted on a T+2 settlement basis. It is the most widely quoted price in the world and serves as a benchmark for other locations, which are quoted at a premium or discount to this price.

Under IMF reserve reporting guidelines, central banks can hold gold on an allocated or unallocated basis. Allocated gold accounts, however, are generally preferred and more common, as they are free from credit risk.

Focus box 4: Allocated vs unallocated gold

Allocated gold

An allocated account is an account to which individually identified gold bars or coins owned by the account holders are credited. The gold bars or coins in an allocated account are specific to that account and can be uniquely identified.

Unallocated gold

In an unallocated account, the account holder does not own specific bars or coins but has a general entitlement to a set amount of gold. The central bank is not the legal owner of any physical gold, but rather is a creditor of the provider.

¹⁸ In October and November 2009, the IMF sold 212t of gold in separate off-market transactions to three central banks: 200t were sold to the Reserve Bank of India; 2t to the Bank of Mauritius, and 10t to the Central Bank of Sri Lanka. Source: www.imf.org/en/About/Factsheets/Sheets/2016/08/01/14/42/Gold-in-the-IMF

Focus box 5: An example of a spot trade in the loco-London market

At trade date (T+0) a central bank, which has an account at the Bank of England (BOE), requests a spot gold price from a bullion bank, that also has an account at the Bank of England.

The central bank agrees to buy 1,000oz from the bullion bank at US\$1,309.19/oz for settlement in two days time (T+2).

The bullion bank instructs the BOE to debit its gold account with 1,000oz gold and credit the central bank's account at T+2.

The central bank instructs its US dollar clearing bank to pay US\$1,309,190 (1,000oz*US\$1,309.19) to the bullion bank's US dollar account in New York at T+2.

The gold leg of the transaction must be settled by 4pm London time on T+2. However, the US dollar leg of the transaction does not occur until five hours later at close of business in New York on T+2. This creates a credit risk exposure for central banks, until both legs of the settlement take place, and should be managed accordingly.

Local production

A growing number of emerging market central banks have been increasing their gold reserves through domestic gold production, often purchased from artisanal small-scale gold mining (ASGM) operations. This allows a central bank to purchase gold using local currency instead of an international currency. Central banks operating a domestic purchase programme can choose whether to retain their gold or sell it for hard currency in the international market.

There are several central banks around the world that operate local gold purchase programmes. Bangko Sentral ng Pilipinas (BSP), the central bank of the Philippines, has operated its Gold Buying Program since 1991.¹⁹ This programme buys unrefined gold directly from small-scale miners and guarantees the prevailing international gold price for transactions, converted into local currency. see

Focus Box 6.

Focus box 6: Bangko Sentral ng Pilipinas, a Case Study in Buying from Local Production *Published with the kind permission of the Bangko Sentral ng Pilipinas*

Published with the kind permission of the Bangko Sentral ng Pilipinas

The government of the Philippines has long recognized the importance of the gold mining sector to its economy. In 1974, the government instructed the Bangko Sentral ng Pilipinas (BSP), the central bank of the Philippines, to establish a gold refinery to support domestic gold production. BSP's refinery received accreditation from the LBMA as a London Good Delivery refiner three years later. In 1991, the People's Small-Scale Mining Act required that all gold produced by small scale miners in the Philippines be sold to BSP.

The central bank created the Gold Buying Program in accordance with the new law. Under the Program, the central bank directly purchases unrefined gold from domestic small-scale producers at prevailing international prices but in Philippine pesos. Gold producers can sell their gold at five BSP gold buying stations spread throughout the country. BSP would then refine the gold to London GDL standards and retain it as part of its international reserves or sell it in the international market.

The central bank publishes requirements for the physical form, dimensions, and fine metal content of the gold that is purchased through the Program.

BSP's Gold Buying Program allows the central bank to add gold to its international reserves by paying in local currency instead of using a reserve currency to procure the gold on the international market. The Program is a way of increasing international reserves by taking advantage of the Philippines' natural resource endowment. Former BSP Governor Amando Tetangco Jr. summarised the benefits of the Program by saying that "buying gold in pesos increases the country's GIR [gross international reserves], whereas buying gold using dollars only changes the composition of the GIR but does not increase it. On the other hand, buying gold using dollars acquired from the market affects the money supply, which will require BSP to step up open market operations with cost to the BSP."²⁰

19 Source: Bangko Sentral ng Pilipinas, "BSP Gold Buying Program" www.bsp.gov.ph/bspnotes/bspgold.asp

20 Source: "Gold reserves 'plateau' as tax woes nag – BSP," BusinessWorld Online, 19 January 2016.

Focus box 7: Central Bank of Uzbekistan, a case study in buying from domestic gold production

Published with the kind permission of the Central Bank of Uzbekistan

Gold is considered one of the main strategic assets for the government of the Republic of Uzbekistan, making up an important part of the total exports of the country. Uzbekistan inherited two major precious metal refineries: Navoi Mining and Metallurgical Combinat (NMMC) and Almalyk Mining and Metallurgical Complex (AMMC). The refineries received accreditation from the LBMA as London GDL refiners in 1994 (NMMC) and 1997 (AMMC).

In 2003, the Central Bank of Uzbekistan (CBU) was granted an exclusive right to directly purchase all locally refined gold. Consequently, the CBU purchased refined gold from NMMC and AMMC at prevailing international market prices (LBMA AM price) but in Uzbek sums, the local currency. The refiners deliver their gold to CBU's dedicated vault on a monthly basis. The gold is then accounted for and added to international reserves that can be sold on the international markets or deposited as part of CBU's reserve management mandate. Of note, whenever CBU buys gold from refiners the large amount of Uzbek sums injected into the economy has monetary

policy implications. To mitigate this excess liquidity risk, CBU had adopted a neutrality principle in 2018 whereby its purchases of gold would be offset by FX sales in local currency exchange.

According to the Law on the Central Bank of Uzbekistan enacted in 2019, CBU has a priority right to purchase locally produced gold. Consequently, the local refiners are required to offer their gold production to CBU on a first-priority basis and have the right to sell their products through local commodities exchanges or bilateral arrangements to jewellers if CBU refuses to use its priority right. Also, starting from 2018 the placer miners are obligated to sell their gold to NMMC, AMMC, and local jewellers.

The priority right allows the central bank to add gold to its international reserves by paying in local currency which increases the gross international reserves as compared to procurement of the gold on the international market using US dollars.

Similarly, the Central Bank of Uzbekistan has been operating its gold buying programme since 2003 and has accumulated 196.3 tonnes since that year **Focus Box 7**. Domestic gold purchase programmes have flourished in recent years, with the central banks of Mongolia, Zambia, Ecuador, and several others actively purchasing domestically mined gold. Further details on this topic can be found in our report *Central bank domestic ASGM purchase programmes* published in April 2021.

Upgrading existing gold holdings

In order for central banks to actively manage their gold reserves, it is important that their gold is in a global trading centre and is of the correct quality. As noted above, only GDL bars are accepted in the loco-London market and thus some central banks will need to upgrade non-GDL bars to GDL standard if they intend to trade in London. Both the BIS and bullion banks provide these services. A central bank can undertake a quality swap (i.e. swaps its non-GDL bars for GDL bars), work with one of these institutions to upgrade its gold or work directly with GDL refiners and specialist transportation companies to

undertake its own upgrade programme. The Bundesbank²¹ and the Riksbank²² recently implemented gold upgrade programmes.

Custody options

The choice of custodian is an important consideration. Gold can be custodied at home or overseas, usually in another official institution offering these services. The Bank of England, the BIS, Banque de France and the Federal Reserve Bank of New York are the most commonly used institutions for these services (**Table 1**).

In recent years, a number of central banks have moved part of their gold reserves to their home country. In some cases, the decision has been prompted by their population expressing a preference for domestically-vaulted gold. In others, the decision has been driven by security concerns and a desire for geographical diversification. Increased interest in the location of gold has led some central banks to start publishing the geographical distribution of their gold reserves. Of the 20 largest official holders of gold, half now publish their custody locations (**Table 2**).

21 www.bundesbank.de/en/press/press-releases/bundesbank-successfully-wraps-up-run-up-phase-of-gold-repatriation-670568

22 www.riksbank.se/en-gb/press-and-published/notices-and-press-releases/press-releases/2018/the-riksbank-upgrades-some-of-its-gold/

Table 1: Gold custody and services

Bank of England	The Bank of England primarily offers gold accounts to central bank customers (allocated gold accounts only). To facilitate access, either directly or indirectly, for central banks to the liquidity of the London gold market, the Bank of England will also consider providing gold accounts to certain commercial firms.
Banque de France	The Banque de France primarily offers allocated gold accounts to official institutions in its deep-storage facility in Paris. To facilitate access for official institutions to the liquidity of the Paris gold market, the Banque de France also provides allocated gold accounts to certain commercial banks. Services offered include gold purchases and sales, outright forwards, deposits, gold swaps.
Bank for International Settlements	Gold purchases and sales: spot, outright forwards, swaps and options. Gold upgrading and investments (including swaps and dual currency deposits). Gold location exchange, safekeeping and settlement: loco London, Berne or New York.
Federal Reserve Bank of New York	The New York Fed acts as the guardian and custodian of the gold on behalf of account holders, which include the U.S. government, foreign governments, other central banks, and official international organizations. No individuals or private sector entities are permitted to store gold in the vault.

Source: Bank of England, BIS and New York Federal Reserve websites, Banque de France.

Focus box 8: Gold services for central banks at the Bank of England

The Bank of England provides a gold custody service specifically designed for central banks. It currently has around 70 central bank customers and is one of the largest gold custodian (by weight of gold held) in the world.

The Bank's gold custody service allows central bank reserve managers to benefit from the deep and liquid London gold market – but without being exposed to the credit risk on gold balances which they might incur if gold is held on an unallocated base using the normal commercial routes. Reserve managers holding gold at the Bank can therefore take positions in gold, or liquidate gold assets (either via swaps or outright) to create cash quickly and cost effectively.

Importantly, the Bank's role in the gold market is purely as a physical custodian that offers trading between account holders. Although it did in the past, the Bank no longer makes markets. By operating the largest vault in London and allowing commercial banks to hold accounts, the Bank facilitates access for reserve managers to London gold market liquidity. The Bank only accepts gold bars that meet LBMA GDL standards which define purity, size, responsible sourcing and other variables. Central bank customers wishing to add to their gold reserves can either 1) purchase gold from other Bank account holders – either from other central banks or from commercial banks, or 2) deliver physical gold directly to the Bank – so long as that gold is LBMA Good Delivery.

The Bank facilitates credit risk free tradable gold by providing fully allocated accounts, where customers own specific bars. The wider London gold market relies primarily on unallocated gold accounts with the clearer banks that jointly operate a settlement system called Aurum. Because settlement takes place across accounts at commercial banks, any central bank wanting to use the system must hold gold balances at a commercial bank – introducing commercial bank credit risk for the entire gold balance. The Bank's allocated service means that customers own specific bars – gold that the Bank holds on behalf of customers does not appear on the Bank's balance sheet, and the gold balance does not entail a credit risk exposure to the Bank of England.

Central bank reserve managers wishing to trade gold are able to do so with any other Bank of England gold account holder – multiple commercial banks active in the wider London gold market also have accounts at the Bank of England. Settlement of the gold transfer is effected by book entry transfer across the gold custody accounts (the Bank of England is not involved in settlement of the cash) – the gold doesn't move physically unless the customer instructs a withdrawal. The service is available same day and longer, so reserve managers can generate cash from gold holdings (either through swaps or outright sales) extremely quickly compared to self-custody services where the gold must be transported and physically delivered to a counterparty.

Table 2: Vaulting location of central bank gold reserves, based on owner data

	Vaulting Location (% of Total Holdings)								
	Tonnes	Domestic	BoE	NY Fed	SNB	BoC	BdF	BIS*	Swaps
United States²³	8133.5	100%							
Germany²⁴	3359.1	50.9%	12.4%	36.8%					
IMF	2814.0	Held at designated depositories in the US, UK, France, and India. Breakdown is unknown							
Italy²⁵	2451.8	44.9%	5.8%	43.3%	6.1%				
France	2436.3	Undisclosed							
Russia²⁶	2292.3	100.0%							
China	1948.3	Undisclosed							
Switzerland²⁷	1040.0	70.0%	20.0%			10.0%			
Japan	846.0	Undisclosed							
India²⁸	703.7	42.0%	Remainder is held abroad at the BIS and other central banks. Breakdown is undisclosed						
Netherlands²⁹	612.5	31.0%	18.0%	31.0%		20.0%			
ECB	504.8	Stored across several locations, breakdown undisclosed							
Taiwan	423.6	Undisclosed							
Kazakhstan	385.9	Undisclosed							
Portugal³⁰	382.6	45.1%	48.7%	1.0%				5.2%	
Uzbekistan	358.0	Undisclosed							
Saudi Arabia	323.1	Undisclosed							
United Kingdom³¹	310.3	100.0%							
Lebanon	286.8	Undisclosed							
Spain	281.6	Undisclosed							

*BIS provides gold location exchange, safekeeping, and settlement services loco London, Berne, or New York. The BIS does not operate its own vaults, however.

Vaulting location abbreviations: Bank of England (BoE), Federal Reserve Bank of New York (NY Fed), Swiss National Bank (SNB), Bank of Canada (BoC), Banque de France (BdF), Bank for International Settlements (BIS).

Tonnage as of June 2021, source: World Gold Council. Percentages may not add up to 100% due to rounding effects.

The gold holdings of the US held at the NY Fed and the gold holdings of the UK held at the BoE are classified as “Domestically Vaulted” and not as gold held at the NY Fed, BoE, or BdF, respectively. Switzerland reports that its gold holdings that are in Switzerland are “decentralized”, so they are also classified as “Domestically Vaulted” and not as gold held at the SNB.

23 **United States:** www.fiscal.treasury.gov/reports-statements/gold-report/current.html US gold reserves consist of (a) 248,046,115.696oz of mint-held gold that is held in Denver, Fort Knox, West Point, or as working stock, or (b) 13,452,810.545oz of gold held by the Federal Reserve. All US gold holdings are classified as “Domestically Vaulted.”

24 **Germany:** Deutsche Bundesbank Annual Report 2020 www.bundesbank.de/resource/blob/860412/284d809841eb5042e644e6b05cfc8a15/2020-annual-report-data.pdf

25 **Italy:** www.bancaditalia.it/compiti/riserve-portafoglio-rischi/quantita-qualita-localizzazione/index.html

26 **Russia:** <http://archive.government.ru/eng/docs/13930/>

27 **Switzerland:** www.snb.ch/en/i/about/assets/id/assets_risks SNB states that it maintains about 70% of its gold in Switzerland, 20% at the Bank of England, and 10% at the Bank of Canada. The gold in Switzerland is “decentralized” so it is not classified as being held at the SNB.

28 **India:** https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/0RBIAR202021_F49F9833694E84C16AAD01BE48F53F6A2.PDF

29 **Netherlands:** www.dnb.nl/en/about-us/organisation/gold/

30 **Portugal:** www.bportugal.pt/sites/default/files/anexos/pdf-boletim/relatorio_atividade_contas_2020_en.pdf

31 **United Kingdom:** https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726309/EEA_Annual_Report_and_Accounts_2017-18.pdf All of the UK’s gold holdings are in the custody of the BoE. However, they are classified as “Domestically Vaulted” and not as being held at the BoE.

Active gold management

Gold can be actively managed in order to generate a return, to reduce credit risk or to raise foreign exchange liquidity. The most common instruments are gold deposits (to generate a return) or gold swaps (to raise foreign exchange liquidity or to generate return). As noted previously, gold must be of GDL standard and be in a centre of global liquidity for active management purposes. Active management can be carried out via both allocated and unallocated accounts.

Gold deposits

Gold is a monetary asset held by central banks. As such, it can be lent out on term deposit in the same way as any other currency in the central bank's reserve portfolio. By placing its gold on deposit with a bullion bank, a central bank can not only generate returns (the central bank earns the gold deposit rate) from its gold holdings, but it also saves on storage fees, which are passed on to the borrower. The interest is generally paid in US dollars at the end of the term. It is important to note that when the bars are returned, they may be different bars than those originally lent out. If there is any weight difference, it is settled on the benchmark price on the day of redelivery.

The central bank bears the credit risk vis-à-vis the counterparty, a risk that must be accounted for in the central bank's risk limit system. Due to this counterparty risk, central banks will only entrust their gold reserves to highly credit-rated bullion banks. The central bank can also mitigate counterparty risk by negotiating collateralised gold deposits, although the return on such transactions will be smaller. This type of transaction has become more popular since the 2008 GFC. Collateralised gold deposits require additional legal procedures in the form of a Global Master Repurchase Agreement (GMRA) and a Credit Support Annex (CSA). The collateral management must also be processed.

Focus box 9: Example of a central bank gold deposit transaction in the loco-London market

A central bank that wants to lend its gold vaulted at the Bank of England (BOE) requests a gold deposit rate from a bullion bank for three months. The bullion bank quotes the loco-London deposit rate as 20 basis points (bp).

The central bank agrees to place a 1,000oz gold deposit with the bullion bank loco-London at 20bp for a value spot date of 4 February. The central bank and the bullion bank also agree the base price of the deposit as US\$1,309/oz, which is the current spot rate.

The central bank requests the exact bar list and quantity of gold from the BOE. The BOE confirms the exact weight as 807.92oz.

The interest amount is calculated in US dollar value of gold deposited at the base price and will be paid on the maturity date (4 May):

$$\text{Interest earned} = (807.92\text{oz} * \text{US}\$1,309 * 0.0020 * 90) / 360 = \text{US}\$528.78$$

Two days before maturity the bullion bank instructs the BOE to allocate 1,000oz of gold to repay the central bank. The bullion bank informs the central bank of the exact amount of gold maturing e.g. 810.20oz.

The exact gold amount returned usually differs slightly, as the allocated gold bars are different. The difference should be treated as a purchase or sale of gold at the LBMA gold benchmark price two days before maturity of the deposit. In this example, an additional 2.28oz came back to the central bank's account, (i.e. 810.20oz – 807.92oz), which is treated as a purchase at US\$1,309.30/oz, thus US\$2985.20 (US\$1,309.30x2.28 oz).

The central bank instructs its cash correspondent to receive or transfer the equivalent amount of net cash to the bullion bank. In this example, the central bank needs to send a money transfer order for US\$2,456.42.

Gold swaps

Gold swaps can be used to raise foreign exchange liquidity or to generate return. Swaps are particularly popular during times of crisis, as they are a way to manage funding strains without gold liquidations. The fact that the gold price often increases during period of financial crisis, makes gold particularly attractive in this respect.

Gold swaps work in the same way as foreign currency swaps, in that the transaction is an exchange of a fixed amount of gold and US dollars between buyer and seller on an agreed spot and forward date. In a liquidity generating gold swap, the central bank exchanges gold against foreign exchange with an agreement that the transaction be unwound and at a future time and agreed price. Because it is a collateralised transaction it bears little credit risk.

However, as gold swaps are considered to be derivative instruments, if a central bank decides to include gold swaps in its investment guidelines, then legal documents from the International Swaps and Derivatives Association (ISDA) must be signed with eligible counterparties, a process that is fairly lengthy and can take 4-6 months to complete. Legal agreements are not necessary, however, if the swap is conducted with another central bank.

The accounting treatment for these transactions depends on each institution's accounting rules. For commercial entities, the swap is a derivative. However, many central banks treat a gold swap as a secured loan rather than as a derivative transaction. In such cases, the "swapped" gold remains on the central bank's balance sheet.

Focus box 10: Example of a central bank gold swap transaction against US dollars in the loco-London market

On trade date (T), a central bank that has an account with the Bank of England requests a three-month gold swap from a bullion bank (90 days, with a spot date of 4 February and a maturity date of 4 May).

The bullion bank quotes 2.56%/2.66%, for example. 2.56% is where the bullion bank lends gold and borrows US dollars; and 2.66% is where the bullion bank borrows gold and lends US dollars.

The central bank lends 1 GDL gold bar of 400oz and borrows US dollars at 2.66% from the bullion bank. The banks agree the basis price for the deal (i.e. the current market price, e.g. US\$1,309/oz) and they calculate the forward price, as follows:

$$((\text{US}\$1,309 \times 2.66\%) * 90) / 360 = \text{US}\$8.7049 + \text{US}\$1,309 = \text{US}\$1,317.705$$

In this example, the central bank sells 400oz gold at US\$1,309/oz to the bullion bank on 4 February.

And the central bank purchases 400oz gold at US\$1,317.705/oz from the bullion bank on 4 May.

The deals are booked simultaneously as a sale and purchase.

Focus box 11: Understanding the factors driving gold deposit rates

Gold lease rates are governed by diverse factors, some pertaining directly to the gold market and some to wider macro-economic and geopolitical trends. Rates are also independently set on an OTC basis by bullion banks and may vary from bank to bank.

As such, they can be volatile and unpredictable. Nonetheless, in-depth analysis of past events, coupled with our proprietary model, offers useful guidance about the direction of gold lease rates and the drivers that influence them. Further, our model has been able to provide statistical validity to back up the theoretical and empirical impact of the following factors on gold lease rates. In decreasing order of importance, these factors are:

Real interest rates: Interest rates represent the opportunity cost of holding gold. When real interest rates are trending lower, the gold price sentiment will improve and the demand to borrow gold for the purposes of hedging, speculative short-selling and the gold carry trade will decline. This will lead to a fall in gold lease rates. In addition, low real interest rates will also result in smaller carry returns and render the gold carry trade less appealing.

Central bank sales: When central banks are active sellers, this tends to impact gold market sentiment and support higher lease rates. Central bank gold selling is often linked to gold lending activity, providing the means by which investors can conduct gold carry trades and producers can take out hedging instruments. Since 2010, central banks have, however, been net buyers of gold. This has improved sentiment in the gold market and led to lower gold lease rates. Specifically, gold holdings of central banks that are signatories to the CBGA have proven to be a good predictor of gold lease rates, probably because Western central banks hold more gold and have historically been more active in the gold lending market.

Producer hedging demand: This is a key determinant affecting gold lease rates, in turn affected by gold market sentiment. When producers fear that gold prices will fall in the future, they are more inclined to take out forward hedging agreements so they can better manage future production. That leads to greater gold borrowing demand

and tends to drive gold lease rates higher. In recent years, due to better gold market sentiment and shareholder backlash from aggressive hedging activities seen in earlier years, producer hedging demand has fallen, taking gold lease rates along with it.

One-off crises: During periods of financial or geopolitical turmoil, such as the GFC or the COVID-19 pandemic, demand for gold tends to rise significantly, as investors seek out safe-haven assets. At the same time gold borrowing demand also increases, as financial institutions and corporations look to borrow gold to swap into US dollars in order to bolster their liquidity. At such times, equity prices tend either to fall or become increasingly volatile and gold lease rates invariably rise. These one-off crises usually see an increase in the real price of gold as well as an increase in the annualised volatility of the S&P 500 and both variables have been flagged as important in our model.

Price expectation of gold: Producer hedging demand and the attractiveness of the gold carry trade are ultimately linked to the price expectation of gold. If the price expectation of gold is bullish, producer hedging demand will fall and the gold carry trade will become less lucrative. This will lead to lower gold lease rates. However, the price expectation of gold is in turn dependent on, amongst other factors, central bank selling intentions, real interest rates and market volatility. As a result, speculative positioning in gold, as represented by the CFTC net positioning, has a role in explaining how gold lease rates will evolve in the future.

Today's environment is characterised by an increasingly bullish sentiment towards gold, lacklustre hedging demand and a steady increase in central bank gold buying. Against this backdrop, gold lease rates have been low. However, as the recent pandemic has demonstrated, when conditions change, gold lease rates follow suit – and the shift can be both marked and rapid.

For more information, please refer to the report "[*Gold deposit rates – a guidance paper*](#)" on Goldhub.com

Accounting for monetary gold

Most central banks are required to adopt the International Financial Reporting Standards (IFRS), but these do not provide appropriate guidance for monetary gold. IFRS states that gold is a commodity, not a financial instrument, and thus should be accounted for at the lower of cost and net realisable value.

This treatment is appropriate for jewellers and manufacturers, but central banks deploy their gold to raise foreign exchange liquidity, inter alia, during times of national crisis, at which point they need a fair value assessment of the resources at their disposal. Central banks require an accounting framework for monetary gold that matches their functional objectives.

In the absence of a suitable framework, central banks have adopted a variety of different treatments,³² making comparability difficult and weakening the central banks' accountability framework. Several central banks approached the World Gold Council for assistance on this issue and, as a result, we produced guidance on the recommended practice for the accounting of monetary gold.

Guidance on the accounting for monetary gold

The World Gold Council guidance, which has already been adopted by some central banks, suggests that monetary gold be regarded as equivalent to a financial asset denominated in the national currency, accounted for at fair value, with unrealised revaluation gains being reported as "other comprehensive income" in the statement of other comprehensive income (or equivalent statement).

The recommended approach is consistent with the functional rationale for holding gold as an element in central banks' international reserves. At the same time, the guidance seeks to comply, where possible, with the principles found in the most widely adopted central bank financial reporting frameworks.

A full copy of the guidance can be found [the Appendix](#).

³² In a recent report, "*Working towards a common accounting framework for gold*," published in June 2016, we identify seven different ways of accounting for monetary gold. Report can be found here: www.gold.org/goldhub/research/working-towards-common-accounting-framework-gold

The ESG case for gold

Central banks, like many other institutional investors, will likely be primarily concerned with gold in bullion form – that is, gold that is already part of a deep and liquid market. However, when evaluating gold’s ESG credentials, focus is often placed on gold’s provenance as a responsible and sustainable product. This requires wider consideration of the gold supply chain, including the mining and production process.

Increasingly, questions are being raised regarding gold’s potential role in a world under transformation by the transition to a net zero carbon economy, and whether gold has any relevance in investment strategies that seek to better mitigate climate-related risks. Gold mining’s climate impacts are increasingly well understood and the gold industry has a relatively clear and accessible pathway to decarbonise its greenhouse gas (GHG) emissions. From the consumer or investor perspective, it is significant that, once mined, gold is associated with virtually no further emissions.

Furthermore, whilst the UN Sustainable Development Goals (SDGs) were not designed with investors primarily in mind, they have gained traction among this community as they offer a universally applicable framework to assess how their assets and holdings contribute to positive development impacts. Gold and gold mining can play an important role in making progress towards the SDGs.

Gold’s ESG credentials

Over recent years, there has been greater interest in responsible sourcing, with consumers and investors wanting to understand whether the products they buy have been ethically sourced.

While gold mining is an extractive industry with a direct impact on the environment, responsible gold miners seek to mitigate physical risks, and demonstrate high levels of performance against a wide range of environmental and social factors. Responsible and sustainable business and operational practices are underpinned by good governance.

In order to instil confidence, clearly define expected best practices, and to show transparency in how responsible gold miners operate, in 2019 the World Gold Council launched the Responsible Gold Mining Principles

(RGMPs). The RGMPs represent a framework that sets out clear expectations as to what constitutes responsible gold mining. It includes 51 principles looking at all material ESG factors associated with gold mining. It includes water management, climate change, gender diversity, anti-bribery and community engagement and many more which, taken together, reflect a comprehensive view of the material risks and opportunities shaping modern gold mining and its wider impacts.

The RGMPs were developed and refined over a two-year period after intensive consultation with over 200 participants, including civil society, investors, community leaders, NGOs, governments and other stakeholders.

Conformance with the RGMPs requires implementing companies to obtain external assurance, in much the same way that companies obtain assurance on their financial statements.

All members of the World Gold Council, which currently represent close to 60% of annual large-scale gold production, are committed to the RGMPs, and this is now mandatory for WGC membership. However, the RGMPs are designed to be used by all gold mining companies to advance the sector’s progress towards responsible and sustainable mining globally.

Once the gold has been mined responsibly, it is typically transferred – in doré form – to LBMA accredited refiners, which adhere to a complementary set of responsible sourcing standards, as defined in the LBMA’s Responsible Gold Guidance. Once the gold is refined into investment-grade bullion, it becomes part of the London Good Delivery chain of custody process, unless it is passed to fabricators for use in other products. This offers investors and consumers a high degree of confidence in the provenance and integrity of their gold.

Gold mining's contribution to socio-economic development

Gold mining also contributes substantially to the socio-economic development and wellbeing of its host communities and countries. Value is created and distributed via local investment, tax revenues, enhanced infrastructure, better access to healthcare and education, and much more.

When undertaken responsibly, in conformance with the RGMPs, the gold mining sector can demonstrate significant contributions to the sustained social and economic development of those communities and countries that host gold mining operations, and this is often evidenced via clear local progress in moving towards the SDGs.

Gold mining companies strive to work with their host communities to turn mineral wealth into a means of advancing human development. Gold mines bring opportunities and act as an engine of economic growth, especially in poorer, more remote locations where there are often few alternative avenues for economy activity and community advancement. Previous analysis has shown that in developing countries where gold mining has been able to make a sustained and growing contribution to local economies, there have been corresponding improvements in wider income levels. Looking ahead to 2030, there is much that needs to be done, and the COVID-19 pandemic has meant that an even greater effort from governments and businesses will be required if the SDGs are to be achieved. The gold mining industry is well placed to support further progress on the SDGs and the leading gold mining companies are committed to doing their part in supporting their host governments and communities over the next decade and beyond.

Gold and climate change

While the gold holdings of central banks and other institutional investors will not be associated with further GHG emissions of any significant scale, many investors are interested in the wider climate-risk implications in holding gold. This may lead them to consider gold's overall climate impacts and to ask what gold's 'embedded' emissions – emissions from the production of gold – might be. In addition, there is interest in better understanding whether gold can contribute in any way to the global shift to a net zero carbon economy, specifically, the role that gold can play in boosting the risk-return profile of a portfolio in light of climate change impacts.

The WGC's research indicates that, while the gold industry's annual carbon footprint is, on a global scale, quite small (roughly, 0.3% of global emissions), it is not insignificant. However, the analysis strongly suggests that there is an achievable and cost-efficient pathway to materially reducing emissions. In effect, the opportunity for de-carbonisation is significant.

Nearly all GHG emissions associated with gold are produced from mining operations, primarily from generation and consumption of electricity. As these energy sources are switched from fossil fuels to renewable energy sources, we will see a decline in the associated "embedded" emissions in gold products. The World Gold Council's research shows that given the rate of the energy transition and the nature of industry decarbonisation opportunities, it is credible that gold mining could reach net-zero by 2050, in alignment with Paris Agreement targets. This will, of course, require accelerated and expanded actions to embrace renewable energy and introduce further efficiencies, very much in line with the changes required in the global economy

Holding gold over the long-term will likely lower the carbon footprint of an investment portfolio over time, as carbon emissions associated with holding physical gold are minimal, and even the concept of 'embedded' emissions becomes less challenging given gold's promising pathway to decarbonisation. Furthermore, gold may also play an important role as a climate-risk mitigating asset within an investment portfolio. Gold's role as a safe haven asset, risk hedge and store of value during periods of market stress lends credence to analysis suggesting that gold's long-term returns may be more robust than those of many mainstream asset classes in the context of a range of climate scenarios and possible impacts.

Appendix: Guidance on the accounting of monetary gold

Objective

- 1 To provide a common framework for monetary authorities to recognise and account for monetary gold in an appropriate and consistent manner in their financial statements. The approach is to regard monetary gold as equivalent to a financial instrument denominated in the national currency. Other forms of gold are to be accounted for in accordance with the monetary authority's adopted reporting framework.

Scope

- 2 This Guidance is designed to be applicable to all monetary authorities that hold monetary gold for meeting policy objectives specified in their relevant legislation. This includes, but is not limited to, monetary authorities responsible for managing their nation's international reserves. Importantly, this Guidance represents recommended best practices in accounting for monetary gold, rather than a pronouncement on such practices. As such, there is no specific mandate, legal or otherwise, associated with this Guidance.

Recognition and derecognition

Initial recognition and classification

3. A monetary authority shall recognise the gold when it acquires the contractual rights to the economic risks and rewards of the gold ownership. On acquisition, it shall classify the gold as monetary gold, non-monetary gold or antique gold.

Derecognition

4. A monetary authority shall derecognise the gold when it surrenders the contractual rights to the economic risks and rewards of the gold ownership. A transaction that involves a transfer or encumbrance of gold does not constitute derecognition if the monetary authority will receive equal gold back at the end of the transaction or retains the economic risks and rewards of the gold ownership.

Measurement

Initial measurement

5. On initial acquisition, or recognition as monetary gold, a monetary authority shall recognise monetary gold at fair value, plus transaction costs that are directly attributable to the acquisition of the gold.

Subsequent measurement

6. For the purposes of measuring gold after initial recognition, this Guidance adopts three (3) classifications:
 - i. Monetary gold
 - ii. Non-monetary gold
 - iii. Antique gold
7. Monetary gold – A monetary authority shall measure monetary gold after initial recognition at fair value without any deductions for additional costs, except in the situation described in paragraph 9 or the following situations:
 - i. the gold requires further refining to bring it to a form required in open markets
 - ii. the gold requires transportation from its current location to a recognised gold market to enable its trading and delivery.In these situations, the entity will reflect these costs in fair value.
8. No entity shall apply any discount to fair value to cover any perceived market risks.
9. In the situation where the entity's overall accounting framework adopts amortised cost accounting, and the adoption of fair value would represent a material distortion of the financial position and performance of the entity, the entity may apply cost as defined in its accounting framework for subsequent measurement.
10. Non-monetary gold – A monetary authority shall account for non-monetary gold as a commodity as the entity does not hold such gold for policy purposes. Valuation may be the lower of cost and net realisable value.
11. Antique gold – If a monetary authority holds gold objects as part of art or museum collections, the accounting for these objects should follow the accounting policy for this function.

Reclassification

12. In the event of a change in classification of a gold holding, the monetary authority shall treat any previously unrealised revaluations related to that gold as per paragraph 16, and disclose the change in classification in the notes to the accounts.

Treatment of gains and losses

Unrealised gains

13. On recognition of unrealised revaluation gains, a monetary authority shall report the valuation gains as other comprehensive income in the statement of other comprehensive income (or equivalent statement). The revaluation shall combine the price and foreign exchange movements as a single valuation entry. The monetary authority shall allocate the gold revaluations to a dedicated gold unrealised revaluation reserve within equity.

Unrealised losses

14. On recognition of unrealised revaluation losses, a monetary authority shall report these as other comprehensive expense in the statement of other comprehensive income (or equivalent statement). The revaluation shall combine the price and foreign exchange movements as a single valuation entry. The monetary authority shall allocate the gold revaluations to a dedicated gold unrealised revaluation reserve within equity.
15. In the event that unrealised losses exceed the balance in the revaluation reserve, the entity shall charge the excess against the period's profit available for distribution. A central bank shall account for any subsequent reversals of unrealised losses according to paragraph 13.

Realised gains and losses

16. On the sale or reclassification of gold, the entity will recycle existing unrealised gains and losses relating to the sold or reclassified gold through profit and loss, or in compliance with its policy on the definition of realised revaluations.

Other transactions

Gold swaps

17. Two approaches exist for accounting for gold swaps:
 - i. The monetary authority shall account for the gold swap as a currency swap in accordance with its general financial reporting framework. Quoted gold swap prices provide data for pricing, revaluation and income recognition.
 - ii. The monetary authority shall account for the gold swap as a repurchase agreement in accordance with its general financial reporting framework. The entity retains the gold on its financial statements as an encumbered asset.

Location swaps

18. As the net holdings of gold of the two entities involved in the location swap remain the same, the accounting is to disclose the swapped gold as encumbered in the financial statements. Accounting for fees related to the location swap shall be in accordance with the monetary authority's accounting framework accrual principles.

Gold deposits (loans, lending, leasing)

19. A monetary authority depositing the gold in a gold deposit transaction shall treat the transaction as a deposit. The financial statements will retain the gold holdings, but will disclose them as an encumbered asset. The entity will report revenue as interest on a deposit.
20. The accounting for any collateral received by the depositor under the gold deposit agreement shall be in accordance with the relevant accounting standard covering the conditions relating to the collateral as specified in the gold deposit agreement.

Gold commodity swaps

21. Where a monetary authority undertakes a gold commodity swap, it shall account for it as a commodity swap as prescribed under its general financial reporting framework.

Gold forwards, futures, and options

22. These are financial instrument transactions and should be accounted for under the relevant accounting standard.

Disclosures

23. The objective of this Guidance is to enable entities to provide disclosures in their financial statements to enable users to evaluate:

- i. the functional reasons for holding monetary gold and its significance
- ii. the functional reasons for holding non-monetary and antique gold
- iii. the accounting policies adopted when accounting for all classes of gold holdings.

24. The monetary authority should harmonise the disclosures recommended in this Guidance with those required in its general financial reporting framework for accounting policies, and those covering the nature and extent of risks arising from holding financial instruments, and how the entity manages these risks.

25. Within the notes to the financial statements, the monetary authority shall disclose information identifying the:

- i. purpose and intention of holding gold
- ii. amount of gold holdings for separate functions
- iii. basis of recognition of gold holdings

iv. approach to gold revaluations (frequency, source of prices, adjustments)

v. classification of unrealised gold revaluation gains through Other Comprehensive Income (OCI)

vi. allocation of unrealised gold revaluations gains to a dedicated gold revaluation reserve, within equity

vii. treatment of gold revaluation losses, including when they exceed any previously accumulated gains

viii. basis for determining the cost of sales for any gold sold

ix. treatment of realised gains arising from gold sales

x. reasons for, and effects of, changes in gold classifications

xi. swaps and gold lending transactions, disclosing encumbered assets.

Reconciliation with IMF reporting

26. In situations where the monetary authority is responsible for the reporting of the country's international reserves arising from its IMF membership, the monetary authority shall provide sufficient information to allow reconciliation between the total monetary gold holding reported in the respective statements.

Initial adoption

27. On initial adoption of this Guidance, the monetary authority will apply the rules for changes in accounting policy as specified in its general accounting framework. Any reclassification arising from initial adoption will not qualify as reclassification under paragraph 12.

Basis of conclusions

This Guidance seeks to provide those monetary authorities that hold monetary gold with a common accounting framework for their holdings. The recommended approach is consistent with the functional rationale for holding the asset as an element in their international reserves.

At the same time, the Guidance seeks to comply, where possible, with the principles found in the most widely adopted central bank financial reporting frameworks. These are IFRS and the ESCB accounting guidelines. IFRS does not provide specific direction for the accounting of monetary gold and so the Guidance seeks to provide a consistent approach in accordance with the requirements of IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors*.³³ A consistent adoption of a departure from IFRS across monetary authorities will provide greater comparability and a stronger defence for central banks from audit qualifications.

The third point of reference is the requirements for reporting monetary gold specified in the IMF's *Balance of Payments and International Investment Position Manual – Sixth Edition (BPM6)*.³⁴

Detailing a specific set of disclosures covering monetary gold enhances transparency within financial statements and comparability between monetary authorities.

In conjunction with observing principles of recognised accounting frameworks, the Guidance also takes account of the most widely adopted practices covered in the World Gold Council's previous discussion paper on this topic.³⁵ Of the 70 monetary authorities studied, 61 accounted for their monetary gold at fair value – 57 of which held all or part of the revaluations in an unrealised revaluation reserve or provision. Thirteen (13) authorities adopted a "Fair Value to Reserves through Other Comprehensive Income (FVOCI)" approach, the treatment that most closely approximates the framework adopted by the Guidance. While the "Fair Value Direct to Non-Equity Revaluation Account," the ESCB approach, was the most widely adopted (25), the Guidance prefers a more comprehensive disclosure of revaluations in statements of financial performance (or equivalent statement) and the holding of revaluations in an equity revaluation account. The Guidance considers this more consistent with the principles of other accounting frameworks that classify such accounts as an element of equity.

Definitions

Monetary gold – the definition reflects the functional criteria for classifying gold as monetary gold. It reflects the definition of monetary gold found in the IMF's *Balance of Payments and International Investment Position Manual – Sixth Edition (BPM6)* as this is the definition widely adopted by monetary authorities in their financial statements.

33 IAS 8, paragraph 10. In the absence of an IFRS that specifically applies to a transaction, other event or condition, management shall use its judgement in developing and applying an accounting policy that results in information that is:

- (a) relevant to the economic decision-making needs of users and
- (b) reliable, in that the financial statements:
 - (i) represent faithfully the financial position, financial performance and cash flows of the entity
 - (ii) reflect the economic substance of transactions, other events and conditions, and not merely the legal form
 - (iii) are neutral, ie free from bias
 - (iv) are prudent and
 - (v) are complete in all material respects.

IAS 8, paragraph 11. In making the judgement described in paragraph 10, management shall refer to, and consider the applicability of, the following sources in descending order:

- (a) the requirements in IFRS dealing with similar and related issues and
- (b) the definitions, recognition criteria and measurement concepts for assets, liabilities, income and expenses in the Framework.

34 This Balance of Payments and International Investment Position Manual – Sixth Edition (BPM6) covers IMF members reporting of their international reserves holdings (see www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf)

35 The discussion paper can be found on the World Gold Council's website at: www.gold.org/research/working-towards-common-accounting-framework-gold

Paragraphs in Guidance

Paragraph

1. The Guidance is limited to entities that carry monetary gold to meet delegated functional objectives, usually as a component of their international reserves portfolio.
2. The recognition criteria align with the moment the monetary authority assumes beneficial ownership of the monetary gold. It is consistent with the initial recognition criteria adopted by internationally recognised accounting frameworks.
3. Derecognition issues arise at times of any transaction involving gold. The Guidance believes that if the monetary authority retains the economic risks and rewards associated through the duration of the transaction, it should not have cause to derecognise the gold. This applies to gold deposits, swaps, and lending.
4. The Guidance adopts fair value for initial recognition, as it is consistent with other international standards, and with the manner of valuation for international reserves portfolios. The IMF's BPM6 mandates the adoption of fair value for reporting monetary gold holdings.
5. The definitions of the three classifications reflect the three purposes for which a monetary authority may hold gold. Functional considerations determine the classification. Each classification represents a different class of assets with their own accounting criteria, rather than sub-groups of the same class of assets. Financial statement presentations should reflect these different asset classes.
6. Presenting monetary gold at its fair value conforms with the presentation of other assets in a foreign reserves asset portfolio. The fair value, which should reflect the costs of getting gold to market in a saleable form, represents the best measure of the value that the monetary authority may obtain from this asset.
7. While monetary authorities may sell monetary gold in volumes that can impact market prices, the scale of such movements, if they occur, is unknown. Also, a monetary authority may use the gold as collateral in a swap transaction that will produce no discounts. The Guidance believes that fair value, free of any arbitrary conservatism, presents the best presentation for transparency and comparability purposes.
8. In the situation where a monetary authority adopts an amortised cost basis for its financial reporting, the adoption of fair value just for monetary gold proposed in this Guidance may produce outcomes inconsistent with the broader accounting framework. In such a situation, the monetary authority should comply with its overarching reporting framework when accounting for monetary gold.
9. The Guidance seeks to align the accounting for nonmonetary gold with IFRS.
10. Monetary authorities may maintain collections of antique gold artifacts within museums or art collections as part of a public good function. As gold is not necessarily the only exhibit in these displays, the Guidance aligns the accounting for antique gold with the broader accounting framework adopted for that function.
11. A central bank may reclassify gold holdings by removing existing holdings from the pool of assets qualifying as international reserves into non-monetary gold or antiques. Conversely, it may add previously non-monetary gold to its foreign reserve portfolio if it complies with monetary gold definitions. This may follow the processing of holdings of non-monetary gold, such as alluvial gold, to GDL form and recognising it as monetary gold.

A change in classification is a transfer of the asset between a financial instrument, a commodity, or an antique, each a different asset class. The Guidance considers this a sale and purchase within the monetary authority that requires the realisation of all related accumulated unrealised revaluations.

12. The Guidance adopts the combination of the price and foreign currency effects of the revaluation as a single total, as this represents how monetary authorities manage monetary gold. This reflects the default practice by those monetary authorities that hold monetary gold, and thus reflects the manner in which the holders manage this asset.

The requirement to disclose revaluations through OCI is consistent with the requirement for transparent reporting, and the function of OCI or equivalent statement to disclose the non-equity sources of changes in the balance sheet. The Guidance believes the requirement to disclose revaluations through OCI is important for transparency in understanding balance sheet movements.

Allocating the gold revaluations to a dedicated revaluation account is consistent with both IFRS and ESCB prohibitions of netting different asset valuation balances.

13. This approach seeks to maintain symmetry with the recognition of the revaluation gains process for as long as a positive (credit) balance exists in the relevant revaluation reserves.

14. Issues of capital maintenance justify this asymmetrical treatment of unrealised revaluation losses for the purposes of distribution. These adjustments occur after the determination of operating profit for the period. The net impact is on the relative balances of realised and unrealised reserves within equity.

Alternatives to the treatment specified allow the accumulation of debit balances in the revaluation account. The Guidance adopts the approach of offsetting excess unrealised revaluation losses against realised earnings for the following reasons:

A. The accumulation of unrealised revaluations is a capital maintenance strategy. The accumulation of debit balances, rather than netting them against distributable realised earnings, risks the distribution of realised gains, while accumulating negative equity balances in the revaluation reserve. This defeats the capital maintenance logic of accumulating unrealised revaluations.

B. Internationally recognised accounting framework do not support the accumulation of debit balance in equity reserves for anything other than temporary occurrences.

C. The asymmetric treatment of recovered revaluation losses does not impact recognised earnings from operations. Rather, its impact is on the timing of distributions to stakeholders and the accumulation of realised and unrealised capital reserves.

15. The sale or reclassification of gold represents the transformation of gold from one asset class to another. Reclassification also changes the functional rationale for a monetary authority retaining the asset. Neither the sale nor reclassification provides a rationale for a monetary authority's retention of accumulated unrealised revaluations attaching to the asset, unless the sale occurs as part of a foreign reserves portfolio rebalancing.

A monetary authority may maintain an accounting policy on the treatment of realised revaluation gains and losses. This may contain specific provisions covering the treatment of realised evaluation gains arising from a restructuring of the foreign reserve portfolio. This Guidance allows alignment of the treatment of realised revaluation gains from the sale of monetary gold with any policy on the treatment of realised revaluation gains.

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