

STUDY SUPPORTING GOLD AS A HIGH-QUALITY LIQUID ASSET

DISCUSSION PAPER

March 2026

Contents

Preface

Executive Summary

HQLA Criteria

Introduction

Chapter 1: The Role and Functions of Gold in Financial Markets

Chapter 2: Recent Events, Challenges and Issues with HQLA

Chapter 3: Liquidity Attributes of Gold

Chapter 4: The New Role for Gold within the Financial Stability Framework

Chapter 5: Recommendations

Chapter 6: Next Steps

References

Preface

Following the global financial crisis of 2008, prudential regulators implemented wholesale changes to banking regulation. Two ratios were developed to tackle potential liquidity risks in a stressed market scenario: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). The two calculations were used to set minimum liquidity requirements, intended to reduce liquidity risk and mismatched date funding risk, and were incorporated into the Basel III regulations.

The rules were finalised by the Basel Committee on Banking Supervision (BCBS) in 2010 and included the concept of High-Quality Liquid Assets (HQLA) to be held as a liquidity reserve. Like all Basel rules, they were subsequently implemented according to specific legislation in each jurisdiction. In 2013, the European Banking Authority (EBA) created its own list of assets that could be used as HQLA. These were split into different groups according to perceived liquidity characteristics: Level 1, Level 2a and Level 2b assets. Level 1 is referred to as extremely High-Quality Liquid Assets (e-HQLA).

Level 1 consisted of government bonds (or equivalent) and cash, whilst Level 2 contained less liquid assets such as qualifying covered bonds, corporate bonds, asset-backed securities and equities. Level 2 assets cannot comprise more than 40% of the total liquidity reserve. Gold was not included.

Had the gold trading data available today been accessible in 2013, gold would have undoubtedly been classified as either an extremely High-Quality Liquid Asset or a High-Quality Liquid Asset.

In the EBA assessment, gold would have scored well when looking at many of the desired characteristics, including:

- Transferability
- Admissibility of the Issuer
- Transparency of pricing, and
- Zero trading days.

Gold didn't meet the required liquidity characteristics for HQLA, due to lack of sufficient data. When the EBA tried to assess gold's liquidity characteristics, very limited trading data could be found to calculate the Amihud (2002) ratio (the standard measure used to capture illiquidity). Hence, the EBA concluded that gold could not be proven to be sufficiently liquid. Since 2018, it has been possible to measure the liquidity characteristics by drawing on new daily OTC trading data published by London Bullion Market Association (LBMA) on behalf of its members.

A second consideration in defining HQLA is that gold is not a central bank (CB) eligible asset in the EU. This was noted in the EBA Uniform Definitions paper (2013). However, in both the BCBS criteria and the EBA definitions, an asset does not necessarily have to be CB eligible to be an HQLA. In the case of gold, its wide investor base means that it is not dependent on CBs to provide liquidity in a crisis, unlike some other HQLA. Furthermore, there is no good practical reason why gold could not be CB eligible, if CBs chose to make it so.

The EBA was able to look at 53 sets of observations of gold prices in 2013 to measure return volatility and maximum price change over 30 days. Gold scored better than equities, but not as good as governments bonds and asset-backed securities. The EBA stated in its paper that the important objective of the analysis was to ensure that definitions for each asset class reliably identify securities that are liquid. So, in order to complete its analysis, the EBA used the Amihud (2002) ratio to assess an asset's degree of illiquidity. The calculation requires both periodic volume and price data, which were not available for gold at the time and, therefore, the EBA could not complete the liquidity assessment for gold.

In 2013, the US agencies* were tasked to create a rule that defined Liquidity Risk Management Standards for application there. In October 2014, in the final rule, those agencies also decided that gold could not be included in the list of HQLA. The final rule states: *"The agencies also decline to adopt a commenter's suggestion to include gold bullion as a level 1 liquid asset given the concerns about the volatility in market value of the asset and the logistical factors associated with holding and liquidating the asset."* (OCC, Federal Reserve, FDIC, 2014).

In both responses from the EU and the US, volatility was considered on a stand-alone basis for each asset, despite the general knowledge that many assets become more highly correlated in a liquidity crisis. When measuring a liquidity portfolio such as LCR/HQLA, the volatility should be measured collectively. Gold can improve the liquidity properties of the portfolio due to its negative correlation with other assets, which we will demonstrate later in the paper. That negative correlation creates a 'right-way risk' by decreasing the volatility of the portfolio as a whole under stress. Gold's price movements therefore augment rather than diminish the effectiveness of HQLA.

*Office of the Comptroller of the Currency, Department of the Treasury; Board of Governors of the Federal Reserve System; and Federal Deposit Insurance Corporation.

Executive Summary

This paper is a joint initiative between World Gold Council and London Bullion Market Association. In it, we lay out a range of discussion points that support the reclassification of gold as a Level 1 High-Quality Liquid Asset (HQLA) within the Basel regulations. In 2013, the European Banking Authority (EBA) was tasked by the European Commission to advise on uniform standard definitions of liquidity assets for the Liquidity Coverage Ratio (LCR) rule. The EBA mandate covered gold, amongst “other non-central banks eligible but tradable assets”, as a potential LCR asset class. However, as the EBA could not access over-the-counter (OTC) market data for the assessment, gold was not included in the final HQLA list.

We are now able to present data within this report to all stakeholders and, in particular, prudential regulators due to the increased data transparency and availability of OTC, futures and Exchange Traded Funds (ETF) markets. The data updates include the market turmoil of 2023 and how gold performed versus other asset classes. We have also studied the effect of managing LCR in Australia, where there is limited Level 1 asset availability.

We believe that the use of gold within the prudential regulatory system could be a solution for future adverse financial liquidity events and other forms of systemic risk. We explain how the gold industry employs the attributes of gold, where it is used as a financing medium, and why this approach doesn't require the use of cash or any other current HQLA.

Using the new data, it is now possible to examine if gold could have enhanced the group of Level 1 liquidity assets during financial stress events. As central banks adjust monetary policy to combat global and local inflationary pressure, we also ask if commercial banks should have to compete with central bank policymakers for the two main Level 1 assets and could the inclusion of gold as a Level 1 asset improve this conflict. At the inception and planning stages of LCR in 2012, many such studies were completed regarding cash and bonds, but none included gold.

This paper also explains the modern role and functions of the global gold market. This allows us to introduce the notion that the stability of the financial markets can be vastly improved by understanding how gold could have been used beneficially in various circumstances and events such as the global financial crisis, the COVID-19 liquidity crisis and the UK Liability-Driven Investment liquidity crisis. Finally, we discuss the diversity issues surrounding High-Quality Liquid Assets and the dynamics of central bank monetary policy that may negatively affect the supply of HQLA to financial institutions.

HQLA Criteria

We can demonstrate that gold meets all the criteria required to qualify as an HQLA. The characteristics are split into four fundamental and three market characteristics, with 16 operational requirements.

The four fundamental characteristics:

Low Risk – Definition

High credit standing of the issuer and a low degree of subordination increase an asset's liquidity. Low sensitivity to interest rate and market risk, low legal risk, low inflation risk and denomination in a convertible currency with low foreign exchange risk all enhance an asset's liquidity.

Ease and Certainty of Valuation – Definition

An asset's liquidity increases if market participants are more likely to agree on its valuation. Assets with more standardised, homogenous, and simple structures tend to be more fungible, promoting liquidity. The pricing formula of a high-quality liquid asset must be easy to calculate and not depend on strong assumptions. The inputs into the pricing formula must also be publicly available. In practice, this should exclude most structured or exotic products.

Low Correlation with Risky Assets – Definition

The stock of HQLA should not be subject to wrong-way (highly correlated) risk. For example, assets issued by financial institutions are more likely to be illiquid in times of liquidity stress in the banking sector.

Low Risk – Qualification

Gold has a long history as money and a store of value. Gold does not have an issuer counterparty credit risk as there is no issuer. As gold is denominated in US Dollars, it is naturally sensitive to changes in US Dollar interest rates. There is low market risk due to the large size of the market (US\$14 trillion in estimated physical holdings and \$1.5 trillion in derivatives among investors and central banks) and US\$361 billion average daily trading volume in 2025 on the many global trading venues available. One of gold's main uses is a hedge against fiat currency inflation.

Ease and Certainty of Valuation – Qualification

Multiple sources of valuation are freely available and easily accessible. There are two daily London Gold Auctions (LBMA Gold Price) that provide a spot valuation. Futures valuations for each delivery month are published by the respective exchanges each day, with CME being the largest futures market. Additionally, OTC, ETF and futures markets offer tick data throughout the day via Refinitiv tradeable OTC venue data as well as exchange traded data.

Low Correlation with Risky Assets - Qualification

Baur et al., (2025) highlights gold's low or often negative correlations with other HQLA and non-HQLA in order to demonstrate its diversity attributes as one of the best negative correlation assets in times of financial stress and financial liquidity squeezes.

Listed on a Developed and Recognised Exchange – Definition

Being listed increases an asset's transparency.

Listed on a Developed and Recognised Exchange – Qualification

Gold spot, futures and options contracts are listed on a host of global exchanges including Chicago Mercantile Exchange, Shanghai Gold Exchange, Shanghai Futures Exchange, amongst others. There are many listed gold ETFs, with GLD being the largest available on the New York Stock Exchange. Additionally, there are transparent data sets available for post-trade LBMA OTC data demonstrating the size and depth of the OTC market.

The three market characteristics:**Low Volatility – Definition**

Assets whose prices remain relatively stable and are less prone to sharp price declines over time will have a lower probability of triggering forced sales to meet liquidity requirements. Volatility of traded prices and spreads over benchmarks are simple proxy measures of market volatility. There should be historical evidence of relative stability of market terms (e.g., prices and haircuts) and volumes during stressed periods.

Flight to Quality – Definition

Historically, the market has shown tendencies to move into these types of assets in a systemic crisis. The correlation between proxies of market liquidity and banking system stress is one simple measure that could be used.

Low Volatility – Qualification

Over the long-term, the volatility of gold compares favourably to other Level 1 HQLA such as 30 Year US Treasuries. Over the short-term, the price impact for gold is similar to that of 10 Year US Treasuries and better than the largest US equity market index, the S&P 500. Volatility analysis of the March 2023 SVB banking crisis, for example, highlights that gold's volatility is more stable than that of many US government bonds during stress periods.

Flight to Quality – Qualification

Gold has a negative correlation with equities and other risk assets. Investment in gold tends to increase when there is systemic risk. This can be measured using gold vs VIX. Baur et al., (2025) examined gold's Amihud illiquidity measure for the period 13 February 2023 to 26 June 2024: the results show that gold is remarkably liquid, with an Amihud measure of 0.102 compared with US Treasury bonds, which had Amihud measure estimates ranging from 0.055 (3 to 5-year bonds) to 1.321 (10 to 20-year bonds). The results are qualitatively similar for the March 2023 (SVB banking crisis) sub-sample.

Active and Sizable Market – Definition

The asset should have active outright sale or repo markets at all times. This means that:

1. There should be historical evidence of market breadth and market depth. This could be demonstrated by low bid-ask spreads, high trading volumes, and a large and diverse number of market participants. Diversity of market participants reduces market concentration and increases the reliability of the liquidity in the market.

2. There should be robust market infrastructure in place. The presence of multiple committed market makers increases liquidity as quotes will most likely be available for buying or selling HQLA.

Active and Sizable Market – Qualification

1. Twice daily Auction prices can be used to fulfil this criterion. Equally, gold's average total daily trading volume for FY2025 was US\$361 billion, of which the London OTC market was US\$161 billion daily. Examining hourly data over the 2011-2023 period, gold's average bid-ask spreads fall very favourably between those of short-term and long-term US government bonds, the safest and most liquid bonds in the market (Baur et al., 2025). An update of this analysis, including the 2024-2025 period, provides a similar conclusion.

2. The global gold market covers a wide range of centres and exchanges. For the London OTC market, there are 11 committed LBMA Market Makers, while further liquidity is provided by a diverse range of banks and non-banks.

Introduction

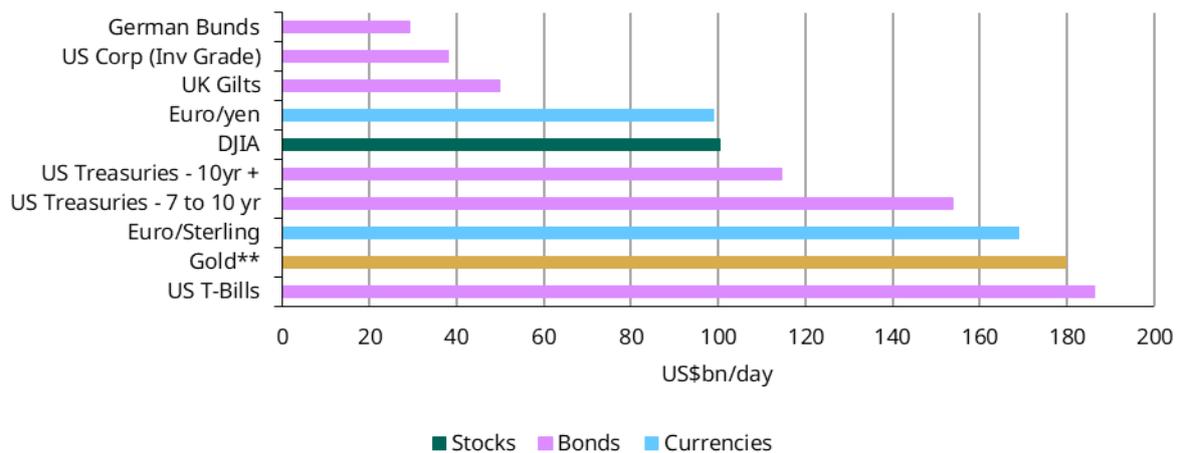
History

Since the cessation of the Gold Standard in 1972, gold’s role has widened to allow a broad span of public and private institutions to trade gold in many different forms. From the first futures contract in 1974 to the most recent innovation of gold ETFs in 2003, the market now not only serves central banks’ reserve management policies but can provide the same benefits as an asset diversifier to everyone. Since the end of the London gold pool in 1968, central banks have built and, in most cases, regularly increased the amount of gold used as a reserve asset.

Size

Collectively, the average amount of all over-the-counter gold traded globally daily in 2025 was US\$180 billion,¹ making it slightly smaller than US T-Bills, but larger than 7–10-year US Treasuries.

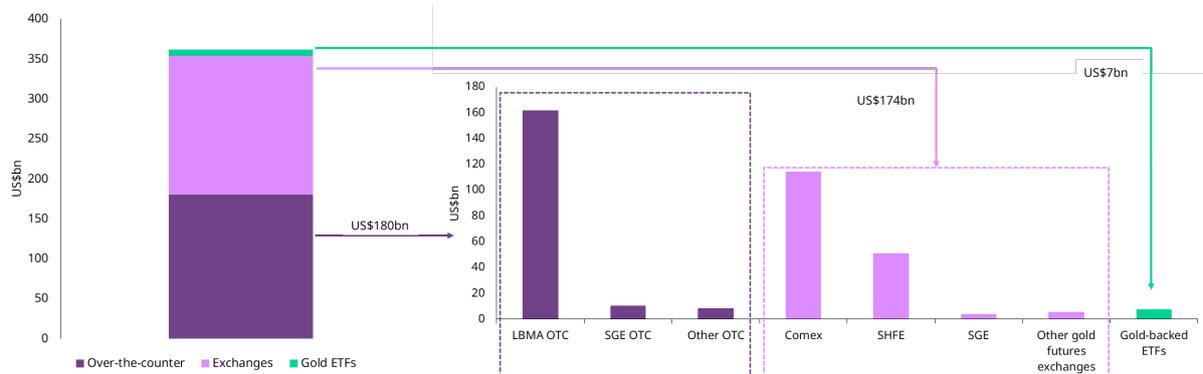
Figure 1: Daily trading volumes of gold and major currencies, bonds and stock markets



Note: Based on estimated average daily trading volumes from 01 January 2025 to 31 December 2025, except for German Bunds and currencies that correspond to 2024 daily volumes and April 2025 respectively, due to data availability.** Gold liquidity includes LBMA OTC data comprising Spot, Swap/Forward, Options and Loan/Lease/Deposit transaction, estimates on non-LBMA OTC transactions and Shanghai Gold Exchange. Sources: Bloomberg, Bank for International Settlements, Bundesrepublik Deutschland Finanzagentur GmbH, FINRA, United Kingdom Debt Management Office, World Gold Council

The global gold market covers a wide range of centres and exchanges. The chart below shows average daily volumes of total gold trading across all venues at \$361 billion per day in 2025, with the OTC market accounting for \$180 billion per day. This data highlights the diversity of both geography and physical trading centres in the market.

¹ LBMA OTC trading accounts for US\$161.5 billion of the total, with OTC trading through the Shanghai Gold Exchange and other non-LBMA members contributing an additional US\$22.4 billion per day in 2025. See [Goldhub.com](https://www.goldhub.com) for more details.

Figure 2: Trading volumes for gold across global markets and venues


Note: Volumes represent estimated daily averages in billions of US dollars (US\$bn) from 01 January to 31 December 2025.

Sources: Bloomberg, Nasdaq, COMEX, ICE Benchmark Administration, Shanghai Gold Exchange, Shanghai Futures Exchange, ETF providers, Multi Commodity Exchange of India, Dubai Gold & Commodities Exchange, Japan Exchange Group, Thailand Futures Exchange, Borsa Istanbul, Bursa Malaysia, Korea Exchange, World Gold Council

Innovation

Since the listing of the first gold ETF in 2003, there are now 175 separate listings of physically backed exchange traded products (ETPs), many of which are listed on global exchanges.²

Whilst still in its infancy, there are a number of gold tokens listed that have a combined asset value of US\$ 3.5 billion and an average daily volume of ~US\$ 900 million.³ The idea of using distributed ledger technology (DLT) is finding its way into the gold industry for use in validity databases and other authentication solutions.

The most recent change in the wholesale OTC market is the innovation of an electronic, accessible and independently managed regulated price benchmark, the LBMA Gold Price. The main benefits are the regulation and management of dual capacity house and client orders, and the broadening of access to the market. When the historical gold fixing was discontinued in 2015, there were four members, all of which were banks. Today, there are 20 participants in the gold auctions,⁴ the majority of which are non-banking entities.

² World Gold Council as of December 2025. For more details, see: [Gold ETF: Stock, Holdings and Flows | Goldhub.com](#)

³ Coin Gecko (December 2025)

⁴ ICE Benchmark Administration

Chapter 1: The Role and Functions of Gold in Financial Markets

Key characteristics

One of gold's key characteristics is its ability to provide a safe haven in times of stress. This paper will demonstrate that not only did gold provide a safe haven during the 2023 banking crisis, but it also was one of a few large-size asset classes that increased in value over that period. This is the positive criterion known as 'the correlation of price with need to sell'. No other asset class holds this quality as strongly as gold does, as examples in this paper clearly demonstrate. It is possible for gold to perform this function as it has, for the most part, had a negative correlation with other asset classes.

Gold as a Medium of Exchange

Unlike other commodities, gold is also treated by some as a medium of exchange. Gold is widely used in different areas of the global economy. This is evident in central bank gold/FX swaps, commercial bank savings and accumulation schemes, and collateral eligibility, including the use of gold, in lieu of cash margin, at regulated central counterparties.

A Financial Asset Class First and a Commodity Second

International accounting schemes such as IFRS show that gold should be treated as a commodity. The IFRS Community website states that commodities "typically do not meet the definition of a financial instrument as they do not lead to a financial asset for either party. In such contracts, the party paying cash is entitled to receive a physical asset, which is not a financial asset". However, in an IFRS staff paper written in July 2018, IFRS do recognise that gold is often used in the same way as cash where gold replaces the cash element within a gold loan.

Prudential regulators also use the commodity label for gold. It should be recognised that when looking at the World Gold Council data for Q1 2025, 61% of gold use was within the financial sector, whilst 39% was attributable to the jewellery and industrial sector; in addition, 21% of total gold demand came from official sector purchases. It is important to note that jewellery purchases in large volume demand areas such as China and India have a dual role in that they are also used as a store of value and not just adornment. This labels gold not as a commodity but as an important financial asset class.

Gold and Basel III

There is often some confusion over the status of gold within Basel III due to the different weightings and ratings that are used within the rules of the 1,600-odd page rulebook. There are three numbers relating to gold: 0, 20 and 85:

- **0%** Gold benefits from a 0% rate for bank Tier 1 capital. Claims secured by allocated gold also have a 0% risk weight under the Risk Weighted Asset credit risk rules. This is the same as for cash and was the same treatment used in the first version of Basel.
- **20%** The current Basel-based prudential regulatory framework allows clearing houses the ability to accept gold as a collateral for margin payments, with a haircut of 20%.
- **85%** As gold sits outside of the High-Quality Liquid Asset list, it suffers from an 85% required stable funding (RSF) factor and a 0% available stable funding factor under the Net Stable Funding Ratio (NSFR) rules. This is the same RSF factor as for corn or lead and was only introduced with the last version of the rules in Basel III.

The above also demonstrates the somewhat inconsistent treatment of prudential regulation of gold, in particular, when comparing its treatment under credit risk and eligibility as collateral versus its treatment for liquidity coverage purposes.

Central Bank Infrastructure

As central banks hold large stocks of gold, equating to 36,344.5 tonnes (~21.8% of global reserves and 66.3% for the Euro area⁵), they are considered by commercial banks as lenders of last resort. As the gold reserves can be easily and expeditiously transferred, either by way of book trades via a custodian central bank such as the Bank of England or by physical movement, central banks actively trade gold with other central banks and commercial banks on a frequent basis. The continuing quality of the gold allowable within these transactions is governed and maintained by LBMA.

It is often said by commentators that “gold has no interest rate”. This is not correct. Central bank lenders incur a credit risk when lending gold to a commercial bank. The risk is mitigated by choosing a bank with a credit rating that is acceptable for the risk and by charging an interest rate that reflects that risk.

Whilst balance sheets are not denominated in gold per se, the precious metals departments within commercial banks have a separate asset and liability risk management structure where they decide on the amount of precious metals liquidity that is required. Assets and liabilities of gold ounces borrowed from central banks and lent to end-user clients can be risk managed as a single currency. That currency is denominated in gold ounces.

At times when gold interest rates increase because of market demand, central banks will often exploit higher interest rates to create value and reduce gold storage fees.

⁵ World Gold Council and International Financial Statistics, August 2025

In the past when the rates were high, it was not uncommon to see some central banks increase their risk by lending further down the curve, up to five years forward. This happened when miners actively hedged their forward output.

While five-year deposits are extremely uncommon today, central banks remain active in short dates that are typically less than one year.

The Gold Balance Sheet

Despite trades being denominated in ounces, it is not possible to report gold assets and liabilities in gold currency ounces on a conventional balance sheet. The gold amounts must instead be converted to the designated reporting currency of the bank.

To reflect these assets and liabilities on the bank's official balance sheet, it must use a conversion factor in the same way it might reflect other currencies that aren't its designated or domiciled one.

Trade Finance – Examples

When speaking with prudential regulators, it became apparent that some of them were not aware that the precious metals industry treats metal as a currency. We feel that it could therefore be helpful to include some examples illustrating why, how and where it is used as a financing medium.

There are other implications for the industry of gold falling outside of HQLA, which in turn leads to an 85% required funding factor under NSFR. This creates an additional funding cost that the supplier banks must pass on to the user. In other words, the banks are forced to borrow HQLA to fund a gold loan that never required cash or another HQLA to fund it in the first place. As we can see from these examples, gold funds gold.

Gold's exclusion from LCR leads to NSFR costs. This is not a prudent use of cash funding as it increases everyone's balance sheets within the value chain and, more importantly, this unnecessary funding could be better deployed in an economic area that actually requires it. The LCR rule means that according to the US-based Bank Policy Institute, banks are using more than 25% of their funds for all contingent prudential regulations, which makes some parts of the existing rules unsustainable as well as unnecessary from a prudential perspective.

To explain why this is unnecessary, we have included some examples:

The credit intermediation process of gold lending by a central bank to a commercial bank can be extended to gold transformers such as refiners and end-users. The unique difference from other trade and stock finance methods is that funding for gold products does not rely on fiat currency funded loans.

Normally, trade finance from a bank would involve the provision of finance in the form of cash so that the transformer such as the refiner or jeweller could use that cash to purchase the required inventory needed. This method would normally require price hedges to be put in place and variation margins would be required. The gold industry uses a very different and more efficient method.

Example 1: First stage gold transformer – The Gold Refiner.

The gold industry doesn't need to use cash to finance gold product transformation as central banks lend physical gold troy ounces to commercial banks.

Commercial banks use these gold liabilities to create gold assets with their gold-transforming clients. Typically, a gold refiner that transforms gold from a raw unrefined state to a refined one will require refined gold in a Loco London account to pay a miner for the value of gold delivered to the refiner on day one.

A 1 tonne shipment from a miner containing 90% gold would mean that the refiner owes the miner 0.9 tonnes of refined gold immediately. The refiner meets this standard contractual obligation by securing a loan of Loco London gold from a commercial bank.

The transformation process of refining and sale can take several weeks and even months before the refiner's product of newly refined gold can be sold. Following the sale, the refiner can repay the loan to the commercial bank. This also allows the commercial bank to repay the central bank.

Example 2: Second stage gold transformer – The Jewellery Manufacturer.

Jewellery is priced and then sold based on the prevailing market price on the day of sale to the client. As the jewellery must be produced in advance of the day of sale, the jeweller must ask for feedstock in the form of refined gold from a commercial bank. The commercial bank lends gold ounces at a pre-agreed interest rate.

The jeweller takes delivery of the gold, then produces the jewellery and finally sells the end product at that day's prevailing market price. It is only at this point that the jeweller must purchase the gold from the commercial bank. This purchase, which is at the same prevailing market price, closes the loan with the commercial bank. This process is effective because the jeweller does not have a gold price risk whilst he produces the end product. On average, according to LBMA trade data, over 2 million ounces of gold loans and deposits (US\$8.46 billion) are traded each day.

Chapter 2: Recent Events, Challenges and Issues with HQLA

Today, there is a strong case for gold to be included in the HQLA list. Recent events have shown that many investors have realised that gold acts as a liquidity buffer.

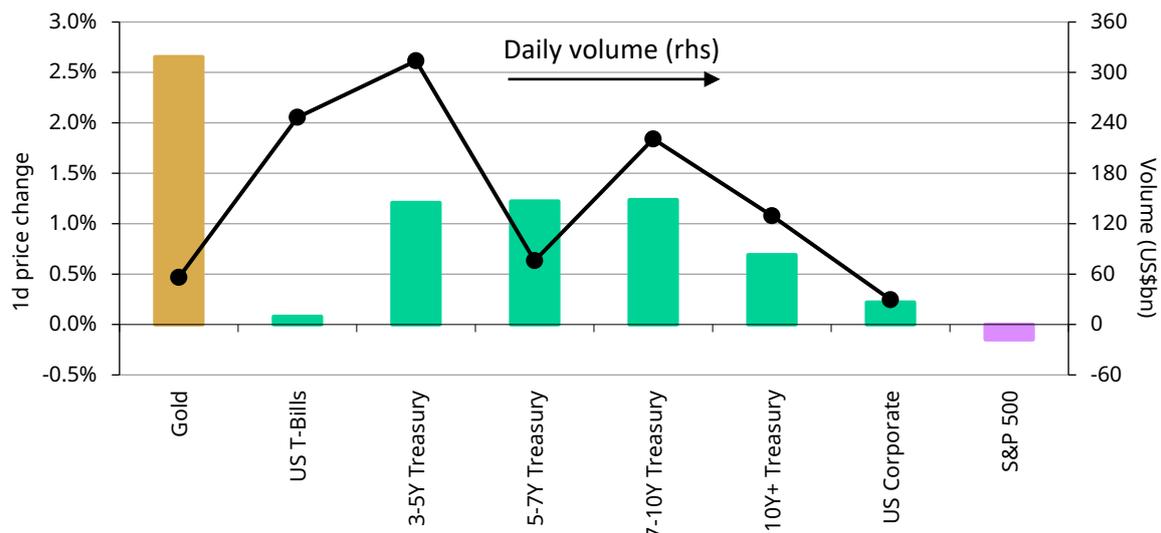
Recently, the market has witnessed increased bar and coin purchases, stable and liquid futures markets, increased central bank purchases and an increase in OTC volumes. Investors demand an asset such as gold which can be easily traded and valued, and is widely accessible through different market access points.

The two biggest attributes for an investor are gold's negative correlation with risky assets and the overall trust factor gold holds. Altogether, this creates a very broad investor base and a large and diversified group of asset holders which is greater than that of many other HQLA assets.

Prior to 2018, it wasn't possible to measure the size of the over-the-counter gold market as parts of the market didn't publish trade data. LBMA now gathers that data, so we can examine the dynamics of all assets, including gold, relating to the largest post-global financial crisis financial stress event that occurred between March and May 2023.

In Figure 3, we chart the performance of the assets on 13 March 2023. This day was during a period when four banks, including Silicon Valley Bank (SVB), with around US\$900 billion in assets were either closed or merged with another bank and, again by 1 May, another bank with a balance sheet of US\$230 billion was sold to avoid a mass default.

Figure 3: Performance of various assets (including HQLA) during the SVB bankruptcy

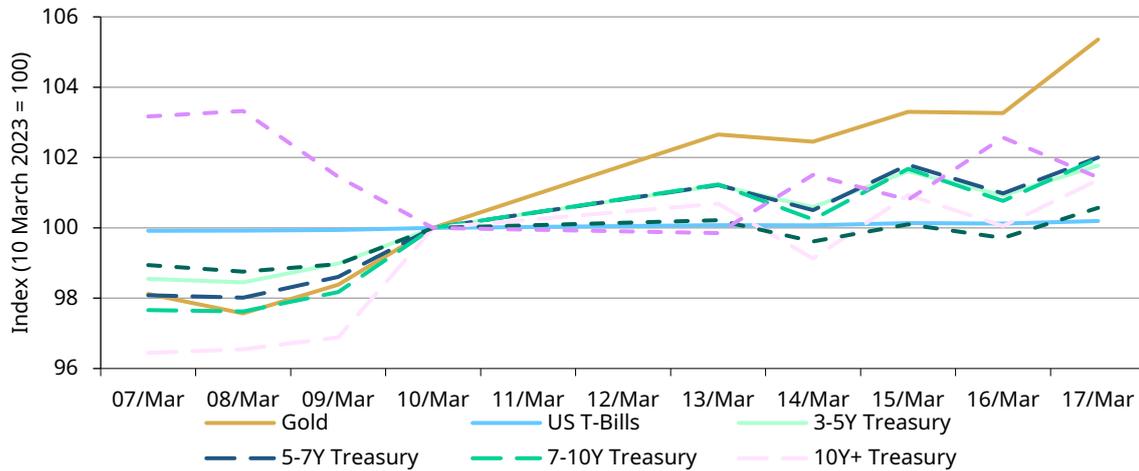


Note: Based on data for Monday, 13 March 2023, following the collapse of SVB on Friday, 10 March 2023. Gold price based on XAU spot from Bloomberg. Gold volumes based on LBMA OTC daily volumes from Nasdaq. All fixed income indices are ICE BofA Indices. All daily fixed income volumes sourced from FINRA.

Source: Bloomberg, FINRA, Nasdaq, World Gold Council.

Figure 4, below, displays the timeline either side of the weekend of the SVB collapse and charts the price performance of HQLA. Equities represented by the S&P 500 Index fell slightly, whilst US Treasuries increased by a similar measure. Spot gold rose by almost 10% over the 10-day period.

Figure 4: Performance of various assets before and after the SVB event



Note: Data from 7 March 2023 to 17 March 2023. Fixed income data based on ICE BofA Indices. Gold prices based on XAU spot from Bloomberg; US close to US close.

Source: Bloomberg, ICE BofA Bond Indices, World Gold Council.

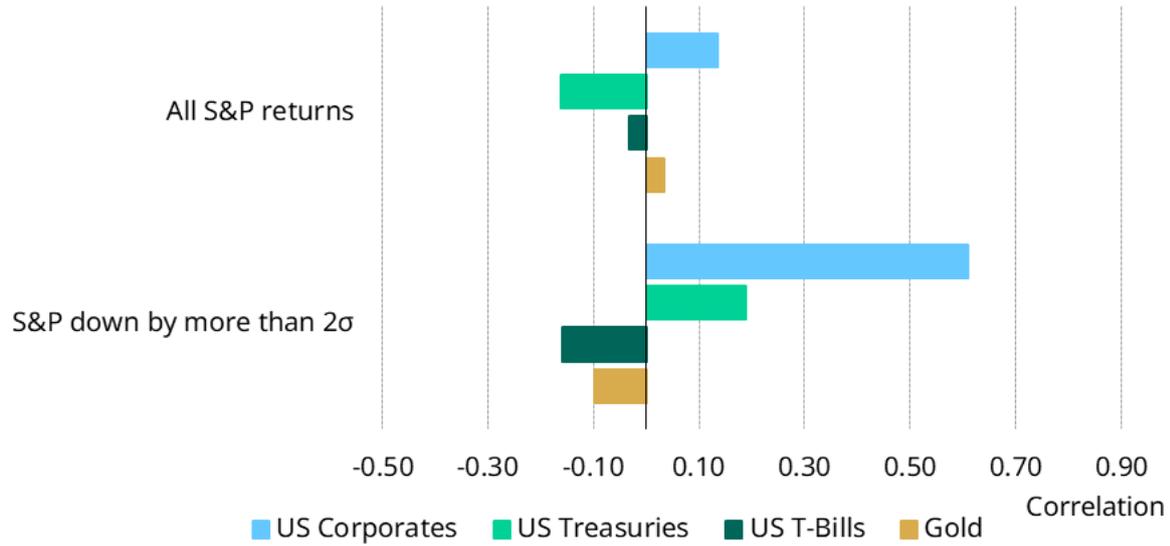
The LCR measure was never designed to prevent bank runs, it was written only to create breathing space to allow an orderly resolution of a bank to take place. Could the holding of gold as HQLA have allowed a more prolonged outcome that allowed regulators more time to liquidate the beleaguered bank's assets?

The outperformance of gold during this period poses some questions: if a bank can lose US\$100 billion of deposits within 48 hours, would holding gold as a liquidity buffer have made more sense than holding bonds that were either held to maturity or marked-to-market?

In figure 5 below, we can see that gold is not only generally uncorrelated to US stocks, but its correlation turns negative when US stocks fall sharply.

This is not always the case for US Corporate bonds or even US Treasuries (other than T-Bills). The All S&P 500 returns display the average correlations and the latter part of the chart displays how those correlations become broken.

For longer-term gold performance data, see 'Strategic Case for Gold 2024' found at www.gold.org and also the World Bank paper, 'Gold Investing Handbook for Asset Managers' written by Kamol Alimukhamedov (2024).

Figure 5: Unconditional and conditional correlation between equities, gold and Treasuries


Note: As of 31 December 2025. Correlations based on weekly returns in US dollars for 'stocks': S&P 500 Index; 'US Treasuries': ICE BofA US Treasury Index; 'ICE BofA Corporate bonds, T-Bills': ICE BofA US 3-month Treasury Bill Index; and 'gold': LBMA Gold Price PM since January 1994, due to availability of US Treasury data. The top bar corresponds to the respective unconditional correlations between the S&P 500 weekly returns and gold, US Treasuries and US T-Bills. The bottom bar corresponds to the respective conditional correlation when the S&P 500 weekly returns fall by more than two standard deviations (or 'σ'). The standard deviation for the S&P 500 is calculated using weekly returns over the full period.

Sources: Bloomberg, ICE BofA Bond Indices, ICE Benchmark Administration, World Gold Council

Chapter 3: Liquidity Attributes of Gold

We have mentioned a unique characteristic that gold holds: the correlation of price with need to sell. However, within the current mix of Level 1 and 2 HQLA assets, we have on some occasions seen negative correlations between stocks and bonds break down. Having an abundance of either asset doesn't fully solve the calls for liquidity, as the sale of these assets when needed can cause additional losses if the assets are positively correlated.

We also question whether an abundance of the current Level 1 HQLA of cash and bonds is what the financial industry needs. Ideally, in order to measure liquidity metrics such as bid offer spreads, we need to use data from a period when an extreme financial market event has occurred. This is because the event creates higher price volatility and a reduction in asset liquidity. This is exactly the period during which a bank is most likely to need to dip into a stock of HQLA.

The unit of gold trading is also another liquidity benefit, as one ounce of gold is more valuable than almost all single stocks and single bonds. When comparing the liquidity of gold to other assets, it is important to recognise that the unit or clip size should also be measured. For example, the lot size in most equity exchanges is 100 shares and the minimum lot size of both OTC gold venues and CME gold futures is 100 ounces – but the relative values are substantially greater in gold than shares. The unit size of gold was considered too large when the first gold ETF was created. To make them an 'affordable' stock in comparison to other equities, the unit size of the gold ETF was set at 1/10th of a troy ounce.

In the recent paper published by the World Bank, Karol Alimukhamedov (2024) points out that *"when scaled by price, as suggested by Choi (1988), the bid ask spread of gold is relatively low compared to the major asset classes"*.

The diversity of asset holders is also an important liquidity factor. This is because a negative banking event may not be negative for a non-bank. Over the last 10 years, the gold market has become more accessible for non-banks. This is evidenced by the growing number of non-banks present on the daily LBMA auctions. Today, in all four regulated precious metals auctions, the majority of the participants are non-banks.

We should also accept that for banks outside of the United States, holding cash may not be a sufficient liquidity buffer. The FX loss on depreciating non-US Dollar currencies also has a negative effect.

Liquidity Buffers and Asset Diversity

This issue regarding diversity of assets has often been raised by regulators. Here is the reference within the European Capital Requirements Regulation CRR 575/2013 to this risk:

Recital 100:

“Institutions should hold a diversified buffer of liquid assets that they can use to cover liquidity needs in a short-term liquidity stress. As it is not possible to know ex ante with certainty which specific assets within each asset class might be subject to shocks ex post, it is appropriate to promote a diversified and high-quality liquidity buffer consisting of different asset categories. A concentration of assets and overreliance on market liquidity creates systemic risk to the financial sector and should be avoided. A broad set of quality assets should therefore be taken into consideration during an initial observation period which will be used for the development of a definition of a liquidity coverage requirement. When making a uniform definition of liquid assets at least government bonds, and covered bonds traded on transparent markets with an ongoing turnover would be expected to be considered assets of extremely high liquidity and credit quality. It would also be appropriate that assets corresponding to Article 416(1)(a) to (c) should be included in the buffer without limitations.”

Australian problem

What happens when there is only a choice of two Level 1 HQLA? We know that the Reserve Bank of Australia was once faced with the prospect of issuing unnecessary government debt only to accommodate the LCR rule on behalf of Australia’s local commercial banks. This was necessary due to the relative scarcity of Australian government debt instruments. Australian banks do not have a large pool of asset choice in Levels 2a and 2b, and therefore exclude them if they can from LCR management.

Supply and demand of Australian HQLA. (Updated February 2025)

	Australian Bank HQLA	Amount
1	Current Level 1 HQLA requirements	A\$849 billion
2	Estimate of available Level 1 HQLA	A\$448 – 614 billion
3	Shortfall in Level 1 HQLA (2 – 1)	A\$234 – 401 billion
4	Bank holdings of Level 2 HQLA	\$0
5	Total HQLA shortfall (4 – 3)	A\$234 – 401 billion

This significant shortfall can only be fixed by using other HQLA and/or increasing the bond holding, thereby reducing the free bonds and potentially the liquidity.

In 2024, the World Gold Council conducted a survey of Australian banks that were very supportive of including gold as a Level 1 HQLA to alleviate the pressure of managing LCR with a low availability of HQLA. All the banks interviewed acknowledged the need for more internal and external (regulatory) support to allow the inclusion of gold as a Level 1 HQLA. Gold would be an attractive Level 1 HQLA for Australian banks due to:

- a. the availability of gold in globally traded markets
- b. the liquidity of gold trading in those markets, particularly the participation of non-financial firms that regularly trade gold and are not subject to the same liquidity issues as financial firms.
- c. the diversification benefits of a non-government security as an asset.
 - Australian banks recognise the price of gold is often inversely correlated with other assets, making gold an attractive HQLA 1 asset to offset risks in other Level 1 HQLA.
 - Hedging gold price risk is important (COMEX futures and OTC markets) as HQLA portfolios are marked-to-market and valuation changes are taken to account and therefore routinely hedged.
 - Gold is also valued by Australian banks for possibly posting as collateral. HQLA assets and eligible collateral are often the same, and this places additional pressure on Australian banks to source assets to post. Gold could be an alternative to securities and reduce the need to find other assets.
 - Australian banks have some clients that trade gold or require derivative hedges. The ability to trade and hold gold could improve their service offering to these clients.

In summary, Australian banks regard gold as a very attractive alternative to the current Level 1 HQLA and would consider adding gold to their Level 1 HQLA portfolios if gold were classified as a Level 1 HQLA.

Rest of the World

Existing LCR rules could, in theory, be maintained if there is an abundance of Level 1 HQLA. The Financial Stability Board says that financial regulation should not be about where the ball is now but where on the pitch will it end up. If central banks continue to redeem sovereign debt, would this not change the balance of demand for Level 1 HQLA?

When quantitative easing (QE) and quantitative tightening (QT) policy changes are enacted by central banks, the balance between cash and bonds switches, which results in commercial banks also having to switch HQLA. With the exception of the US, we are mostly in a QT environment, this means that cash will become relatively scarcer and bonds more plentiful. Whilst this may take some time in manifesting itself – as areas such as the Eurozone has plenty of excess liquidity – the same policy could see the ECB not replacing maturing bonds, for example, those that were issued during COVID-19.

In this eventuality, there would be much higher competition between banks for deposits, which may not be sustainable in the long term.

Chapter 4: The New Role for Gold within the Financial Stability Framework

We aren't the only ones looking to review LCR. The letters and speeches made by the FSB Chair and the Head of the Basel Committee on Banking Supervision (BCBS) in September 2023 go as far as saying that a review of LCR and NSFR is now required. In particular, in a speech by Pablo Hernández de Cos, when he was Chair of the Basel Committee on Banking Supervision and Governor of the Bank of Spain, at the Eurofi Financial Forum 2023, in Santiago de Compostela, on 14 September 2023, said:

“A second fundamental question is with regard to the design of the LCR and NSFR. Unlike capital standards, there is no concept of a “hard” minimum requirement supplemented by a “buffer” requirement. In principle, banks should be able to dip into their stock of liquid assets in times of stress to meet outflows, while also submitting a satisfactory restoration plan to their supervisor. Yet it would appear that banks continue to be reluctant, or unable, to fully use their liquid assets in the manner envisaged. A number of potential factors behind such behaviour have been suggested, including the calibration of existing liquidity requirements, perceived stigma, market expectations and/or operational constraints.”

Below is the eight-point methodology approach created by the EBA to assess the liquidity attributes of asset classes. These uniform definitions were eventually used to determine the list of Extremely High-Quality Liquid Assets for use within the Liquidity Coverage Ratio rule. The table shows that gold possesses the same liquidity metrics as the US 10 Year Treasury Bill. Importantly, this data was not readily available when the EBA created the uniform definitions of liquidity data in 2013.

Figure 6: Uniform Definitions of Liquidity Data

	Amihud illiquidity ratio (% points per US\$bn)	Price impact (% points)	Roll measure (% points)	Trading volume (spot daily average, US\$bn)	Turnover ratio (% points per day)	Zero trading days (% points)	Price volatility (% points)	30-day price change (% points)
Gold	0.101	0.707	0.424	75.8	2.145	0.00	0.917	2.219
T-Bills	0.001	0.019	0.013	176.9	1.032	0.42	0.013	0.051
3-5 Tsy	0.010	0.188	0.117	195.5	1.323	0.70	0.241	0.558
5-7 Tsy	0.050	0.271	0.156	61.4	0.697	0.70	0.344	0.777
7-10 Tsy	0.030	0.354	0.205	134.6	2.101	0.56	0.443	0.986
10+ Tsy	0.076	0.652	0.371	47.7	0.585	0.70	0.813	1.810

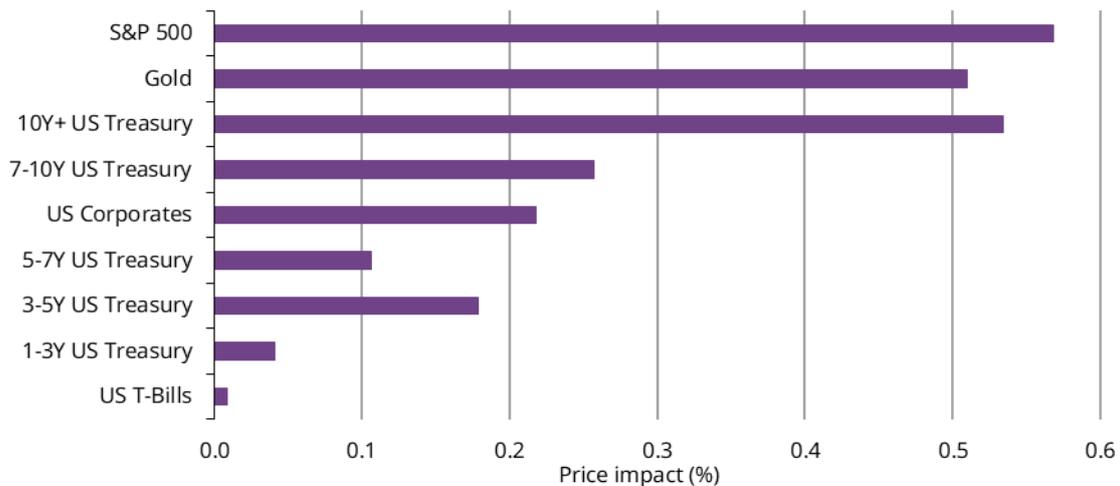
Note: All calculations on daily data from February 2023 to December 2025, subject to FINRA fixed income volume data availability. Gold price based on LBMA Gold Price PM. Daily gold volumes based on LBMA OTC data from Nasdaq. Gold outstanding volumes based on LBMA vaulted tonnage. Bond prices based on daily logarithmic returns of end-of-day prices of ICE BofA Total Return Bond Indices, volume data from FINRA on equivalent tenor bands. Please see the Glossary at the end of this report for descriptions of liquidity measures.

Source: Bloomberg, ICE BofA Bond Indices, ICE Benchmark Administration, FINRA, Nasdaq, LBMA, World Gold Council

Comparison data of assets (2020 to date)

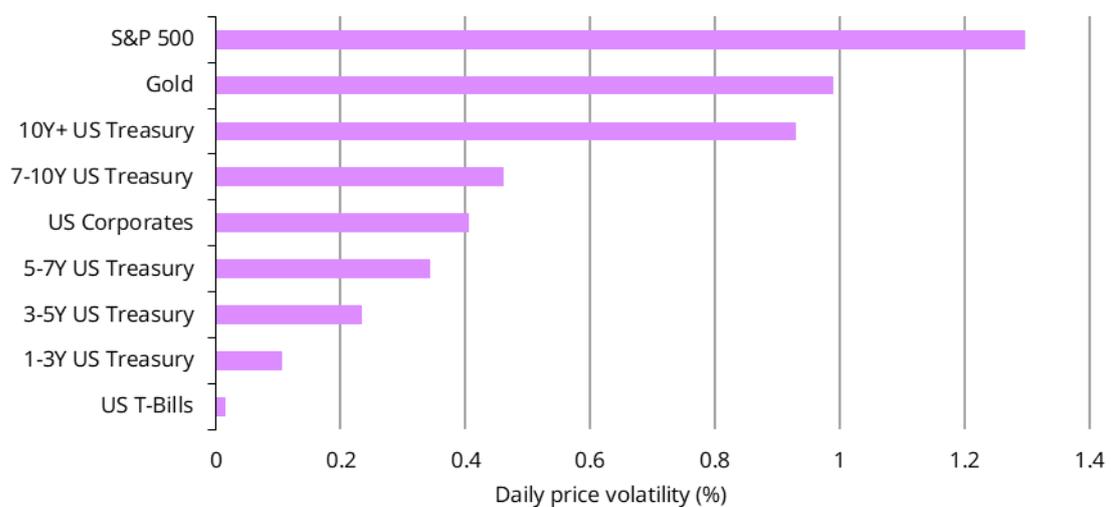
In the two charts below (Figure 7 and Figure 8), we extend the asset list beyond just US government bonds, we can see that over a three-and-a-half-year period, the price impact for gold is similar to that of US 10 Year Treasuries and better than that of the largest US equity market index, being the S&P 500. The price volatility chart also tells the same story.

Figure 7: Price impact of various assets (% points)



Note: Median absolute price impact from January 2020 to December 2025. Price impact is defined as the unscaled absolute daily return over a given period. See Glossary. Gold based on the LBMA Gold Price PM. Fixed income performance based on ICE BofA Bond Indices.
Source: Bloomberg, ICE Benchmark Administration, ICE BofA Bond Indices, World Gold Council

Figure 8: Price volatility of various assets (daily %)



Note: Volatility measure as sample standard deviation of daily returns from January 2020 to December 2025. Gold based on the LBMA Gold Price PM. Fixed income performance based on ICE BofA Bond Indices.
Source: Bloomberg, ICE Benchmark Administration, ICE BofA Bond Indices, World Gold Council

Chapter 5: Recommendations

Recent financial stress events have taught us lessons that can be learned from looking at bank liquidity regulations. The original HQLA criteria were updated in 2019 and the uniform definitions of HQLA are now nearly 13 years old. In the period since the definitions were written, the landscape of the global financial markets has changed dramatically and new evidence, such as gold over-the-counter trade data, is available.

It is now time to review the uniform definitions to include recent events and changes to trade data transparency.

We believe that gold should be reclassified as a Level 1 HQLA. We also think that gold could play an additional role as part of a floating LCR component for banks that do not want their LCR to fall below 100%.

We agree that the idea floated by the BCBS that we reference in Chapter 4 of a hard limit for LCR with an additional floating limit would underpin the stability of the financial system. This could work by using an additional new floating limit consisting of a third HQLA, such as gold for example, an asset that is neither cash nor bonds. This could remove the stigma that is perceived by banks should their Liquidity Coverage Ratios fall below 100%.

According to the Bank of International Settlements (BIS), banks are reluctant to utilise their LCR stock of Tier 1 assets. Is this because they are positively correlated with the bank's own risk? In other words, they are wrong way risk?

If this is true, we believe that it makes sense to have a hard limit consisting of cash and bonds, and introduce a new floating limit consisting of assets that are negatively correlated to other assets, such as gold. This could work in a similar way to the Basel III bank capital adequacy rules using minimum levels plus additional top-ups. Even if wrong way risk isn't the reason for the banks' reluctance to use HQLA, we argue that this proposal makes sense due to gold's characteristics as a portfolio diversifier.

Diversity is required when central banks disturb the balance between cash and bonds through QE and QT actions. The biggest benefit of including gold in Level 1 is to introduce an asset class that is negatively correlated with many risk assets and provides an added HQLA criterion of 'the correlation of price with need to sell'. Current data shows that gold's liquidity characteristics as measured under the Uniform Definition of Liquid Assets hold similar liquidity metrics to those of 10 Year US Treasuries.

Of all asset types, cash has the largest demand within any economy. By including gold within the LCR portfolio, banks would be able to free up cash that is tied up as a Level 1 HQLA. This cash could be mobilised within the economic areas that require it most. A 10% holding of gold within the LCR portfolio could free up the same amount of cash. Additionally, it gives a bank more flexibility in how it deploys its High-Quality Liquid Assets.

If the LCR and NSFR review work at the BCBS is to take place in the near future, would prudential regulators and the Group of Central Bank Governors and Heads of Supervision (GHOS) be prepared to consult with the collective gold industry of trade bodies, central banks and commercial end-users to better understand both the problems and the potential solutions?

Chapter 6: Updates and Next Steps

Update

In late 2024, an academic paper by Baur et al., (2024) examined gold's merit as a High-Quality Liquid Asset and argued that gold meets the characteristics of a Level 1 HQLA. The new data series included examples of bid offer spreads of Level 1 HQLA, both on a long-term basis and during a financial stress event. The paper also includes a revised liquidity test that was first used in 2013 by the European Banking Authority.

Next Steps:

- We will continue to examine the total availability of all HQLA in certain jurisdictions that are used to support the LCR. As the primary class of HQLA used comprises Level 1 assets of cash and bonds, we will also prepare a forecast for the demand of additional HQLA that will be required when central banks begin to contract their balance sheets and when commercial banks that were previously exempt and outside of Basel III begin to source their newly required regulatory liquidity assets.
- We will compare the number of asset holders in gold and government securities to support the case that there are more holders of gold than government bonds, as well as look at how gold fits into the mechanism used by central banks when there is excess liquidity within their banking systems. We will also demonstrate how some central banks have in-house resources to store gold and access the market, whilst others choose an indirect route.

References

1. ALIMUKHAMEDOV, K. (2024): '*Gold Investing Handbook for Asset Managers*', Report No. 411127, World Bank Publications.
2. AMIHUUD, Y. (2002): '*Illiquidity and stock returns: cross-section and time-series effects*,' Journal of Financial Markets, 5, 31–56.
3. BAUR, D. G., GORNALL, D., HOANG, L. T., PALMBERG, J. (2024): '*Is Gold a High-Quality Liquid Asset?*,' SSRN Working Paper No. 5064967.
4. EUROPEAN BANKING AUTHORITY (2013): 'Report on appropriate uniform definitions of extremely high-quality liquid assets (extremely HQLA) and high-quality liquid assets (HQLA) and on operational requirements for liquid assets under Article 509(3) and (5) of CRR,' European Banking Authority.
5. OCC, FEDERAL RESERVE, FDIC (2014): 'Liquidity Coverage Ratio: Liquidity Risk Measurement Standards – Final Rule,' Federal Register, 79(194), 61439–61541.
6. WORLD GOLD COUNCIL (2024): '*Gold as a Strategic Asset: The Case for a Strategic Allocation to Gold (2024 Edition)*,' World Gold Council.

Glossary (Abridged)

For detailed descriptions and methodology of the EBA liquidity measures please see: 'Report on appropriate uniform definitions of extremely high quality liquid assets (extremely HQLA) and high quality liquid assets (HQLA) and on operational requirements for liquid assets under Article 509(3) and (5) CRR' (2013).

Amihud illiquidity ratio (% points per US\$bn)

Measures the average price change per unit of trading volume, indicating how strongly trades move prices (higher values imply lower liquidity).

Price impact (% points)

Captures how much an asset's price moves in response to trading activity, reflecting market depth and execution cost.

Roll measure (% points)

Estimates the effective bid/ask spread using the negative co-variance of consecutive returns, serving as a proxy for transaction costs.

Trading volume (spot daily average, US\$bn)

Represents the average traded value of an asset, indicating the scale of market activity and ease of trading.

Turnover ratio (% points per day)

Expresses trading volume relative to the asset's outstanding supply, reflecting trading intensity and typical holding period.

Zero trading days (% points)

Measures the proportion of days without trades, providing a proxy for trading frequency and market activity.

Price volatility (% points)

Quantifies the variability of returns, indicating price uncertainty that may affect liquidity and liquidation risk.

30-day price change (% points)

Tracks the magnitude of price movements over a 30-day window, serving as an indicator of price stability and downside risk.