Gold as a Reserve Asset in the Times of Market Stress

CEMLA and Banco de México, April 2021

Kurtulus Taskale Diamondopoulos,
Director, Central Banks and Public Policy

Agenda

- Gold as a Reserve Asset: not just for crises
- Central Bank Demand Trends
- Gold Outlook
- Gold Valuation Framework
- Gold and ESG

Evolving the market

World Gold Council

- Leading industry authority on gold for over 30 years
- Proven track record for strengthening market infrastructure, delivering robust data and insights and developing solutions to expand access to gold globally
- Deep relationships with the institutional investor ecosystem, central banks, sovereign wealth funds and industry participants

Data | **Analytics** | **Research** | **Market knowledge** | **Policies** | **Infrastructure**

Gold-backed ETFs

Launched first gold-backed ETF in the US in partnership with State Street Global Advisors

China Market Expansion

Played key role in evolution of the Shanghai Gold Exchange; currently working towards enabling insurance companies to invest in gold

India Blueprint

Led steering committee comprised of financial institutions and industry and trade associations in the development of a blueprint for a proposed Gold Spot Exchange

Responsible Gold Mining Principles

Worked with mining company members, developed a framework setting out expectations for consumers, investors and the downstream gold supply chain as to what constitutes responsible gold mining

Gold Valuation Framework

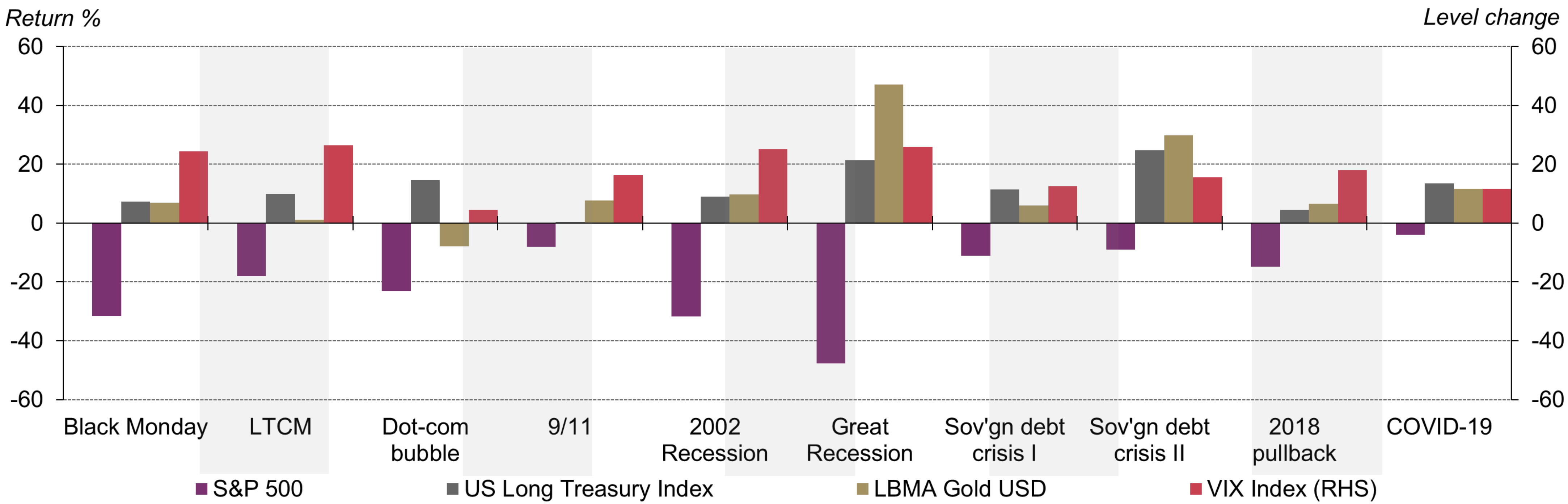
Developed an academically endorsed methodology to help investors understand how macroeconomic scenarios might impact gold demand, supply and long-term performance

WORLD GOLD COUNCIL

Gold: not just for crises

Safe-haven in periods of systemic risk

S&P 500 and Gold return vs change in VIX level*

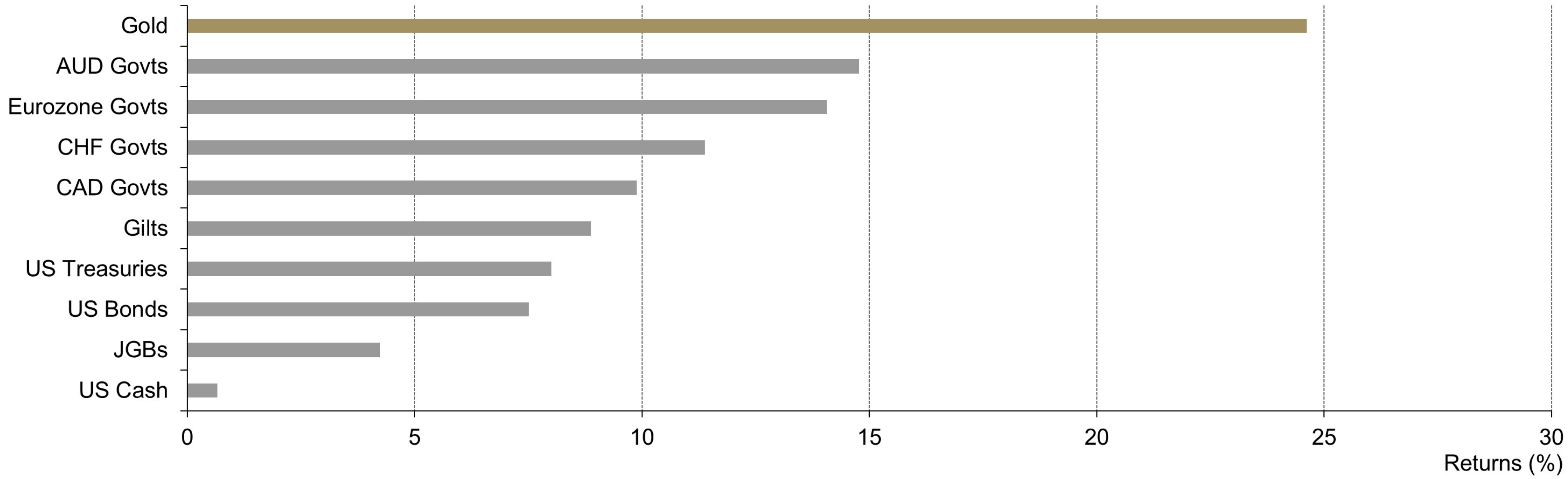


*The VIX is available only after January 1990. For events occurring prior to that date annualised 30-day S&P 500 volatility is used as a proxy. Dates used: Black Monday: 9/1987–11/1987; LTCM: 8/1998; Dot-com: 3/2000–3/2001; September 11: 9/2001; 2002 recession: 3/2002–7/2002; Great Recession: 10/2007–2/2009; Sovereign debt crisis I: 1/2010–6/2010; Sovereign debt crisis II: 2/2011–10/2011; 2018 pullback: 10/2018-12/2018; 2020 pullback: 2/2020-3/31/2020; COVID-19 Feb/2020-Jun/2020.

Source Bloomberg, ICE Benchmark Administration, World Gold Council

Gold outperformed typical safe-haven assets during the COVID-19

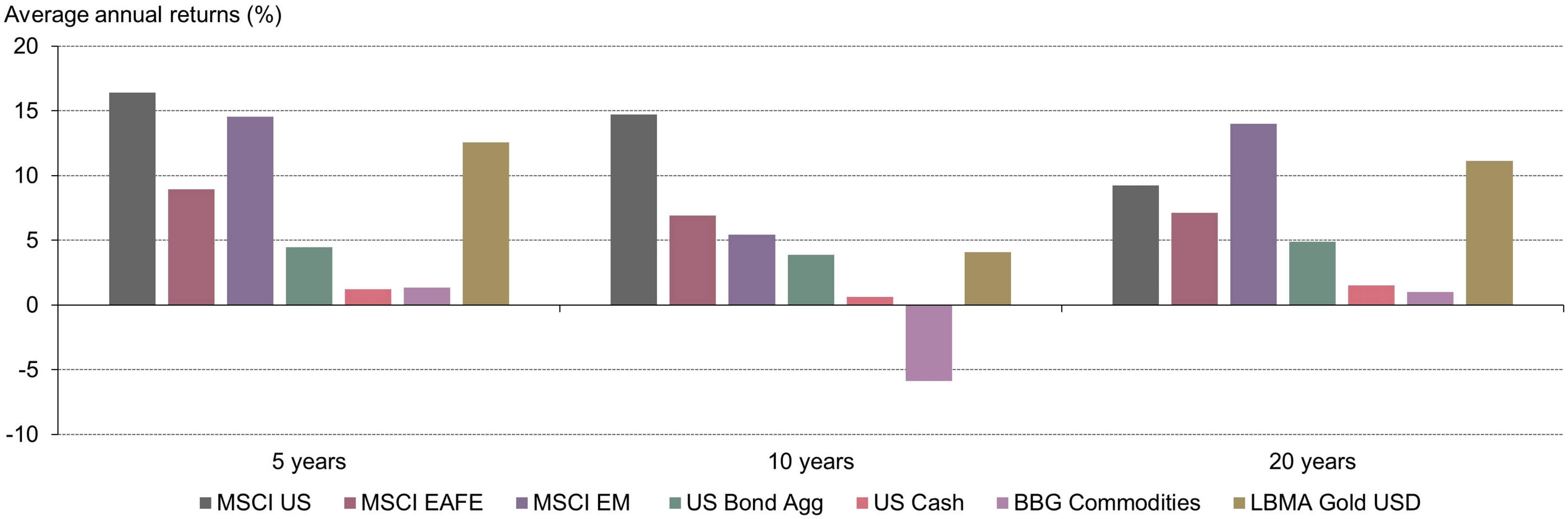
Gold and developed market sovereign bond returns in 2020



Returns computed using S&P Switzerland Sovereign Bond Index, AusBond Sovereign Bond Index, Bloomberg Barclays Sterling Gilt Index, S&P Eurozone Sovereign Bond Index, S&P Japan Government Bond Index, S&P Canada Sovereign Bond Index, ICE BoFA US 3-Month Treasury Bill Index, Bloomberg Barclays US Aggregate Total Return Index, Bloomberg Barclays US Treasury Index, LBMA Gold Price. All indices computed in US dollars.
Source: Bloomberg, ICE Benchmark Administration, Standard and Poor's, World Gold Council

Gold is a source of returns

Average annual return of key global assets in US dollars*



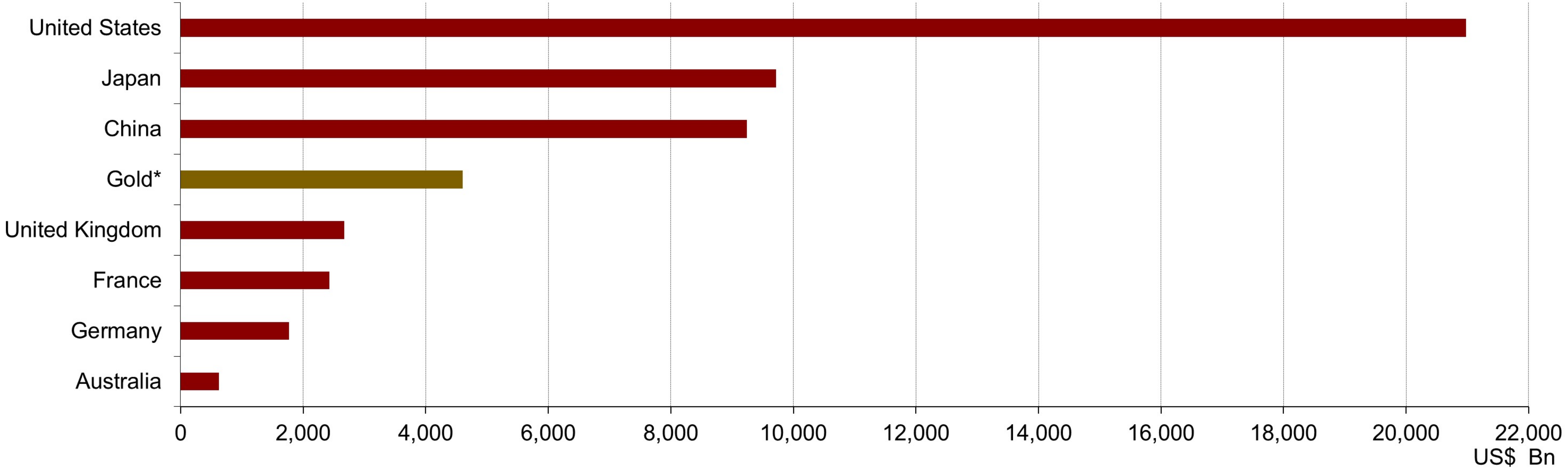
*As of December 2020. Computations in US dollars of total return indices for ICE 3-month Treasury, Bloomberg Barclays US Bond Aggregate, MSCI US, EAFE and EM indices, Bloomberg Commodity Index and spot for LBMA Gold Price PM.

Source

Bloomberg; ICE Benchmark Administration; World Gold Council

Large liquid market

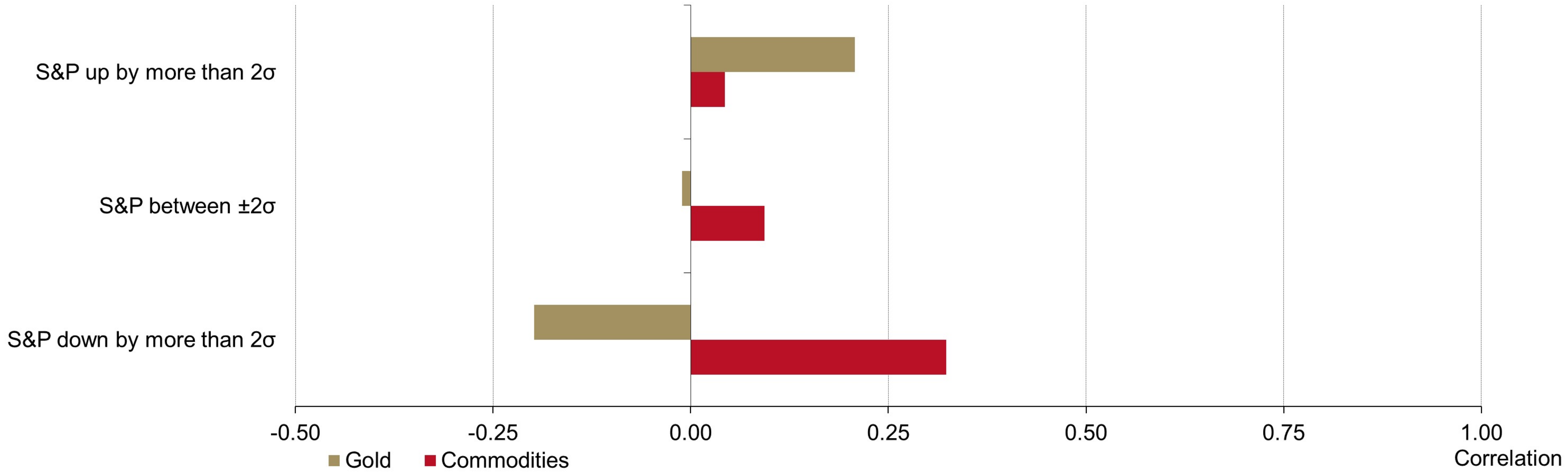
Market size of major govt securities*



*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 9 June 2020.
Source (date updated): US Treasury (31 December 2020), Japan Ministry of Finance (30 September 2020), UK Debt Mgmt Office (20 January 2021), German Finance Agency (18 January 2021), Agence France Tresor (30 November 2020), Australia Office of Financial Mgmt (15 January 2021), ABO (30 September 2020) World Gold Council (Dec 2019)

The right kind of diversification

Correlation between gold and US stock returns in various environments of stocks' performance*

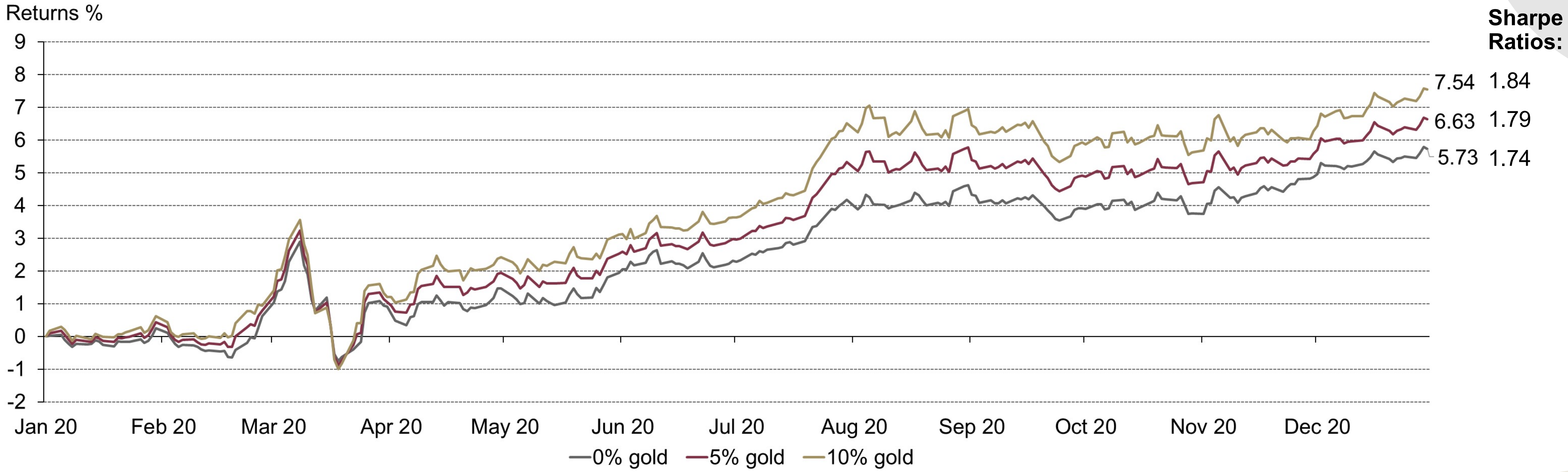


*As of 31 December 2019. Correlations computed using weekly returns based on the Bloomberg Commodity Index and the LBMA Gold Price PM since January 1971. The middle bar corresponds to the unconditional correlation over the full period. The bottom bar corresponds to the correlation conditional on S&P 500 weekly return falling by more than two standard deviations (or 's') respectively, while the top bar corresponds to the S&P 500 weekly return increasing by more than two standard deviations. The standard deviation is based on the same weekly returns over the full period.

Source: Bloomberg, ICE Benchmark Administration, World Gold Council

The addition of gold improved the risk-adjusted returns of central bank portfolios during 2020

Portfolio returns of typical central bank investment assets with and without gold



Portfolios were rebalanced monthly or when a new bond was issued to ensure portfolios only have on-the-run bonds.
Coupons were reinvested at prevailing yield. All portfolios are denominated in USD.
Source: Bloomberg, ICE Benchmark Administration, Standard and Poor's, World Gold Council

Central Bank Demand Trends

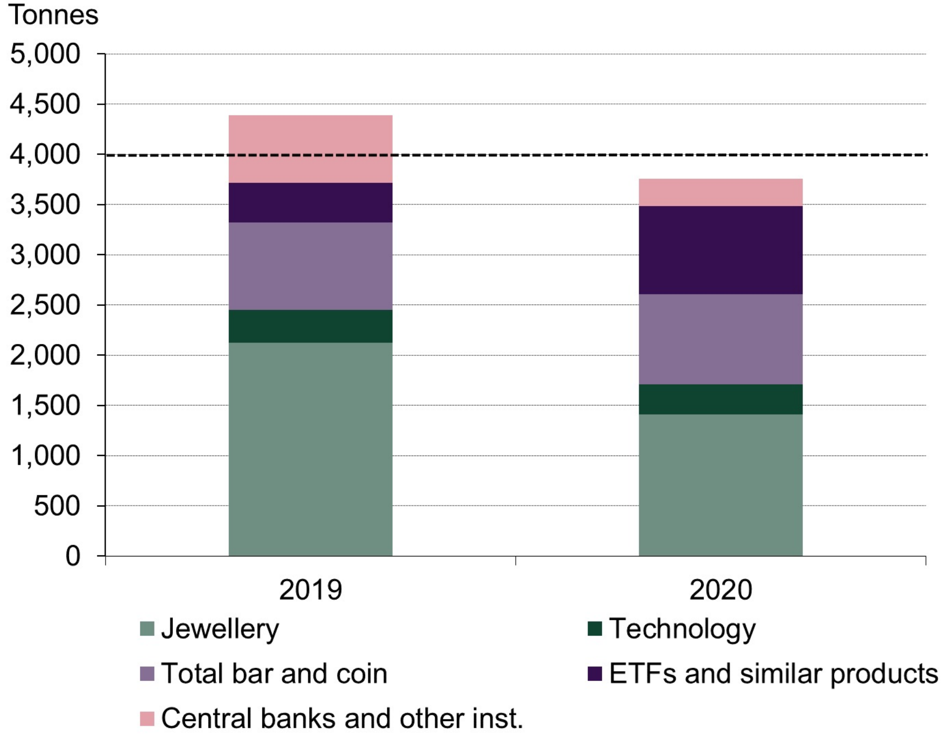
Annual gold demand dips below 4,000t

COVID-19 contributed to strong investment growth but damaged consumer demand.

- Global gold ETFs saw annual record inflows of 877.1t (US$47.9bn)
- Annual retail investment demand for gold bars and coins grew 3%
- 2020 marked a record low for gold jewellery demand in our data series
- Gold buying by central banks slowed sharply in 2020, down 59%

See ***Gold Demand Trends: Full year and Q4 2020*** for more details.

Annual gold demand by sector

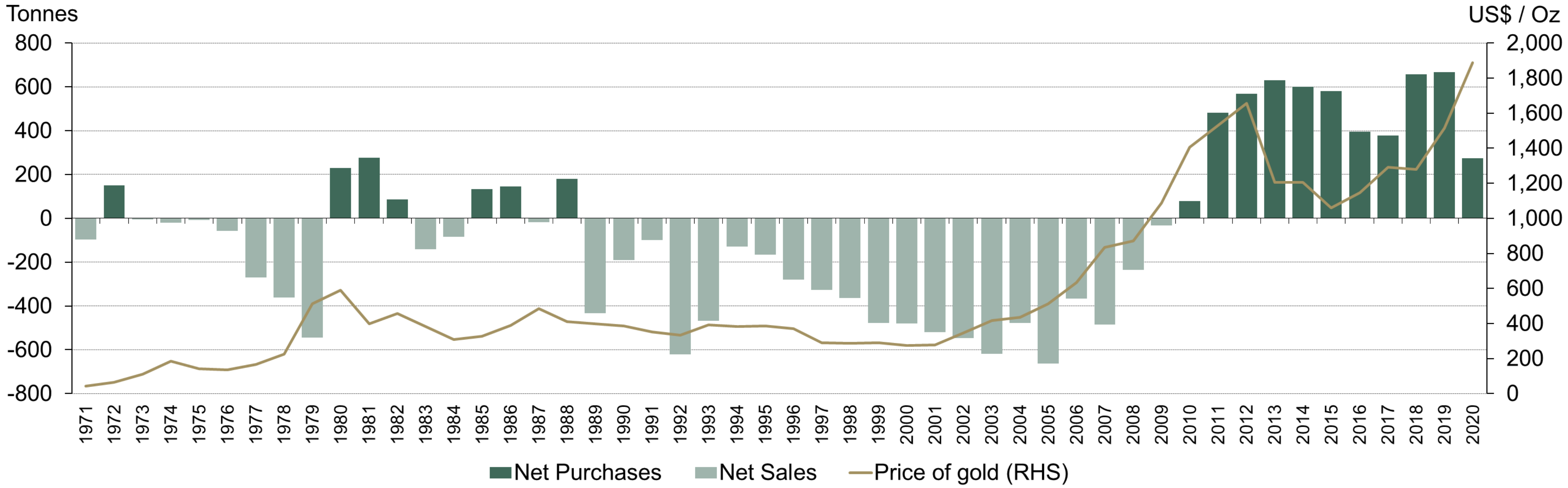


Note: Annual gold demand in 2020 (excluding OTC) was the lowest level of demand since 2009 (3,675.5t). Data as of 31 December 2020. For an explanation of gold market sectors, please see the Notes and definitions download: https://www.gold.org/goldhub/data/gold-supply-and-demand-statistics

Source: Metals Focus, World Gold Council

Central banks have been net purchasers for 11 consecutive years

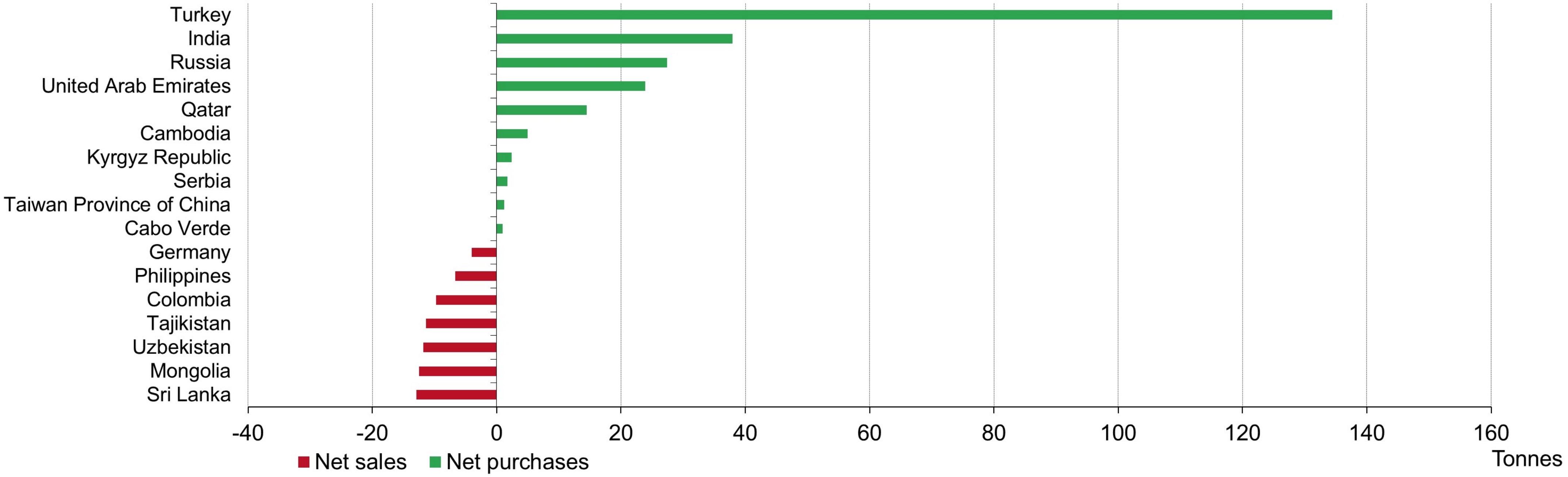
Central bank net purchases in 2018 and 2019 were the highest and second highest respectively in nearly 50 years



Source
Metals Focus, Refinitiv GFMS, World Gold Council

Central bank buying continued to outstrip modest sales

Largest annual net purchases and net sales by central banks in 2020



Note: Data available as of 25 January 2021 and covers total net sales/purchases of a tonne or more during January to November 2020 (inclusive) only. For information on the methodology behind this data, as well as footnotes for specific countries, please see our table of Latest World Official Gold Reserves, at https://www.gold.org/goldhub/data/monthly-central-bank-statistics

Source: IMF IFS, Respective Central Banks, World Gold Council

See ***Gold Demand Trends: Full year and Q4 2020*** for more details.

Outlook

Key Trends Expected to be Supportive of Gold in 2021

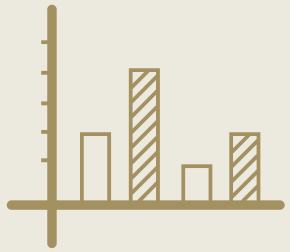
Outlook 2021: support for gold demand

COVID-19 continues to compound existing risks and produce new ones, creating an attractive environment for gold

Higher allocations to risk assets

Ballooning budget deficits

Inflationary pressures

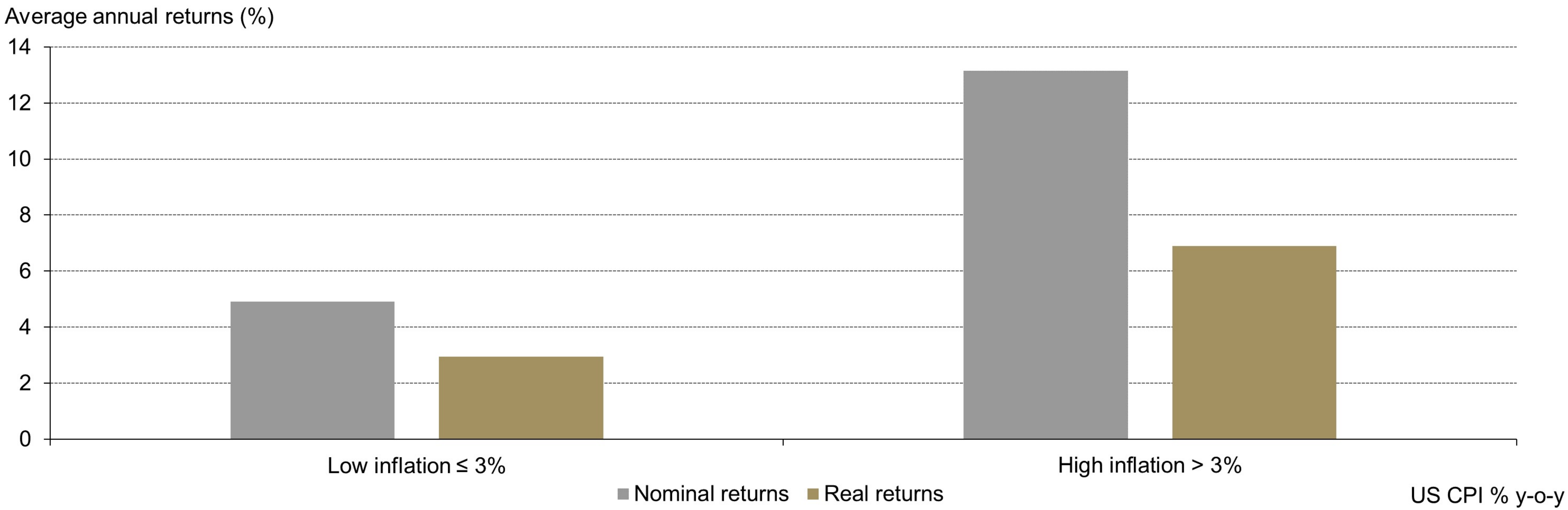


Market corrections amid already high equity valuations

See *Gold Outlook 2021*, January 2021, for more details.

Gold historically performs well in periods of high inflation

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

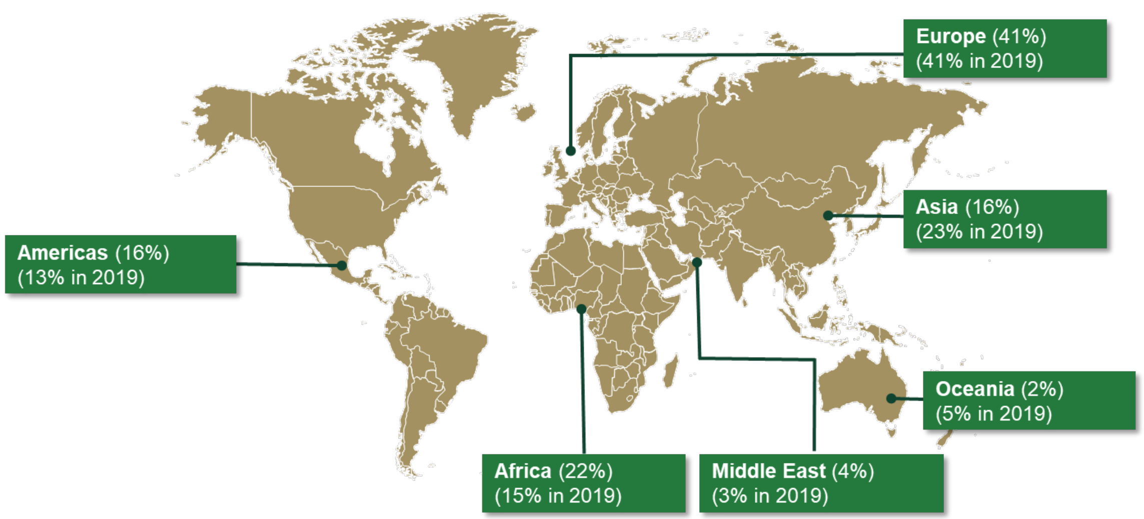


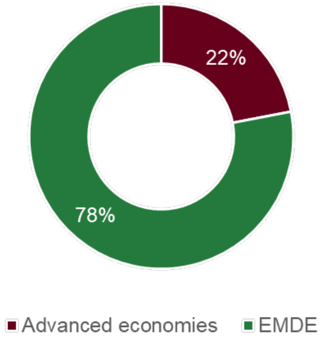
*Based on y-o-y changes of the LBMA Gold Price and US CPI between 1960 and 2019.
**For each year on the sample, real return = (1+nominal return)/(1+inflation)-1.
Source: Bloomberg; ICE Benchmark Administration; World Gold Council

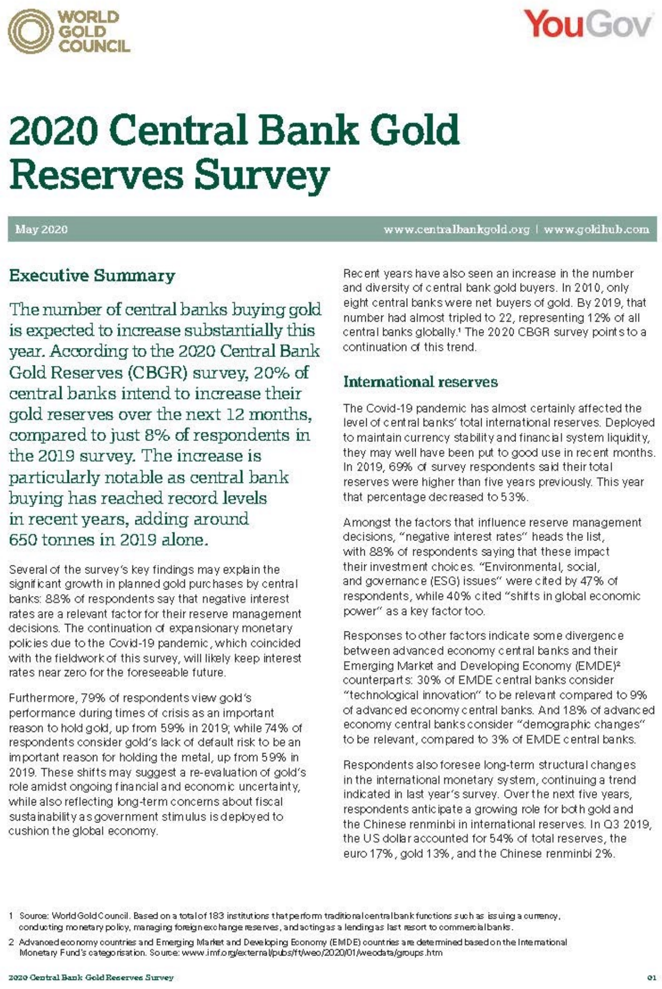
2021 Central Bank Gold Survey

Survey launch: Mid-February 2021
Survey close: April 16th 2021
Results published: June 2021

2020 Central Bank Gold Survey Participation: 51 responses







WORLD GOLD COUNCIL

YouGov

2020 Central Bank Gold Reserves Survey

May 2020 www.centralbankgold.org | www.goldhub.com

Executive Summary

The number of central banks buying gold is expected to increase substantially this year. According to the 2020 Central Bank Gold Reserves (CBGR) survey, 20% of central banks intend to increase their gold reserves over the next 12 months, compared to just 8% of respondents in the 2019 survey. The increase is particularly notable as central bank buying has reached record levels in recent years, adding around 650 tonnes in 2019 alone.

Several of the survey's key findings may explain the significant growth in planned gold purchases by central banks: 88% of respondents say that negative interest rates are a relevant factor for their reserve management decisions. The continuation of expansionary monetary policies due to the Covid-19 pandemic, which coincided with the fieldwork of this survey, will likely keep interest rates near zero for the foreseeable future.

Furthermore, 79% of respondents view gold's performance during times of crisis as an important reason to hold gold, up from 59% in 2019; while 74% of respondents consider gold's lack of default risk to be an important reason for holding the metal, up from 59% in 2019. These shifts may suggest a re-evaluation of gold's role amidst ongoing financial and economic uncertainty, while also reflecting long-term concerns about fiscal sustainability as government stimulus is deployed to cushion the global economy.

Recent years have also seen an increase in the number and diversity of central bank gold buyers. In 2010, only eight central banks were net buyers of gold. By 2019, that number had almost tripled to 22, representing 12% of all central banks globally.[1] The 2020 CBGR survey points to a continuation of this trend.

International reserves

The Covid-19 pandemic has almost certainly affected the level of central banks' total international reserves. Deployed to maintain currency stability and financial system liquidity, they may well have been put to good use in recent months. In 2019, 69% of survey respondents said their total reserves were higher than five years previously. This year that percentage decreased to 53%.

Amongst the factors that influence reserve management decisions, "negative interest rates" heads the list, with 88% of respondents saying that these impact their investment choices. "Environmental, social, and governance (ESG) issues" were cited by 47% of respondents, while 40% cited "shifts in global economic power" as a key factor too.

Responses to other factors indicate some divergence between advanced economy central banks and their Emerging Market and Developing Economy (EMDE)[2] counterparts: 30% of EMDE central banks consider "technological innovation" to be relevant compared to 9% of advanced economy central banks. And 18% of advanced economy central banks consider "demographic changes" to be relevant, compared to 3% of EMDE central banks.

Respondents also foresee long-term structural changes in the international monetary system, continuing a trend indicated in last year's survey. Over the next five years, respondents anticipate a growing role for both gold and the Chinese renminbi in international reserves. In Q3 2019, the US dollar accounted for 54% of total reserves, the euro 17%, gold 13%, and the Chinese renminbi 2%.

1 Source: World Gold Council. Based on a total of 183 institutions that perform traditional central bank functions such as issuing a currency, conducting monetary policy, managing foreign exchange reserves, and acting as a lending as last resort to commercial banks.

2 Advanced economy countries and Emerging Market and Developing Economy (EMDE) countries are determined based on the International Monetary Fund's categorisation. Source: www.imf.org/external/pubs/ft/weo/2020/01/weodata/groups.htm

2020 Central Bank Gold Reserves Survey 01

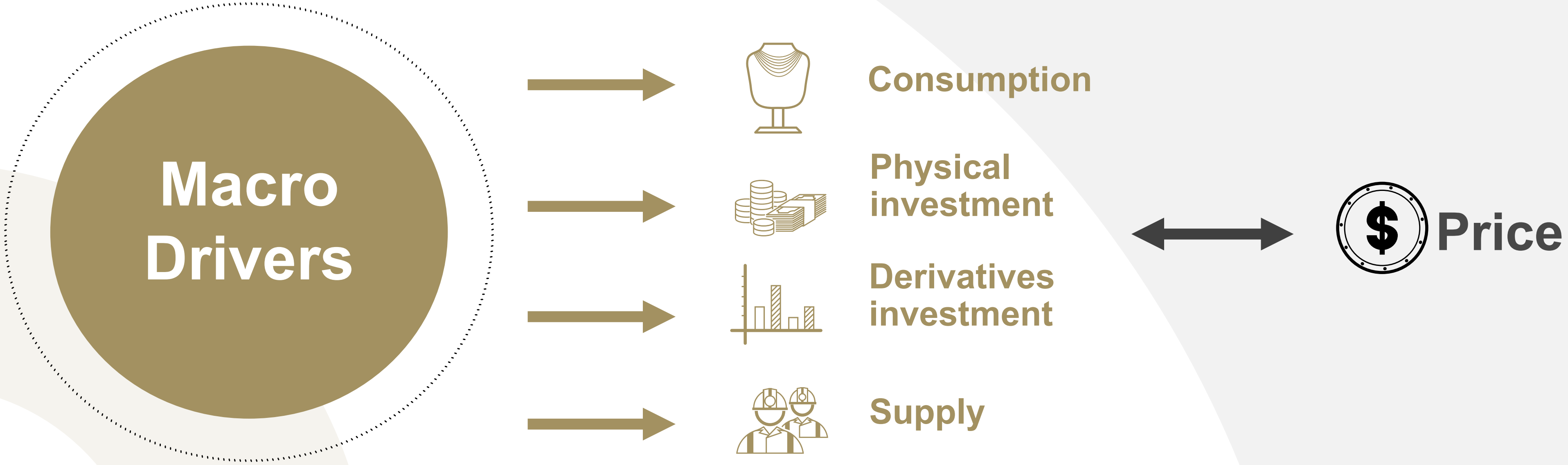
Gold Valuation Framework

Gold Valuation Framework

A methodology that allows investors to understand the drivers of gold and their impact on price performance

Based on market equilibrium

Allows investors to determine gold’s long-term return



Gold has a dual nature

Average annual net demand ≈ 3,000 tonnes* (approx. US$122bn)

33%	8%	40%	15%
Jewellery**	Technology**	Investment	Central banks
Expansion		Uncertainty	Both

Source: Metals Focus, Refinitiv GFMS, World Gold Council

*Based on 10-year average annual net demand estimates ending in 2018. Includes: jewellery and technology net of recycling, in addition to bars & coins, ETFs and central bank demand which are historically reported on a net basis. It excludes over-the-counter demand. Figures may not add to 100% due to rounding. US dollar value computed using the LBMA Gold Price as of December 2018.

** Net jewellery and technology demand computed assuming 90% of annual recycling comes from jewellery and 10% from technology. For more details, see: https://www.gold.org/goldhub/research/market-primer/recycling

Drivers of Gold

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 such as bonds (through interest rates), currencies and other assets, influences investor attitudes towards gold.

Momentum

Capital flows, positioning and price trends can ignite or dampen gold's performance.

Qaurum^{SM} valuation tool

Powered by the Gold Valuation Framework

Utilises third party independent macroeconomic forecasts

Estimates expected demand and supply based on user's selection

Calculates implied long-term gold returns

Responsible gold mining principles & ESG

Responsible Gold Mining Principles (RGMPs)

Overarching ESG framework
Developed with strong input from civil society, governments, and supply chain participants

Embraced by World Gold Council members
Committed to full implementation by September 2022

Conformance is externally validated
Requires public disclosure and independent assurance

Gold: ESG portfolio perspective

1. **Climate risk mitigating asset;** gold is likely to perform better than most mainstream asset classes under various long-term climate scenarios

2. **Can lower the carbon footprint of an investment portfolio over time;** carbon emissions associated with holding physical gold are minimal

3. **Mechanisms to validate responsible gold production;** gold miners and refiners follow demanding standards, which require external assurance

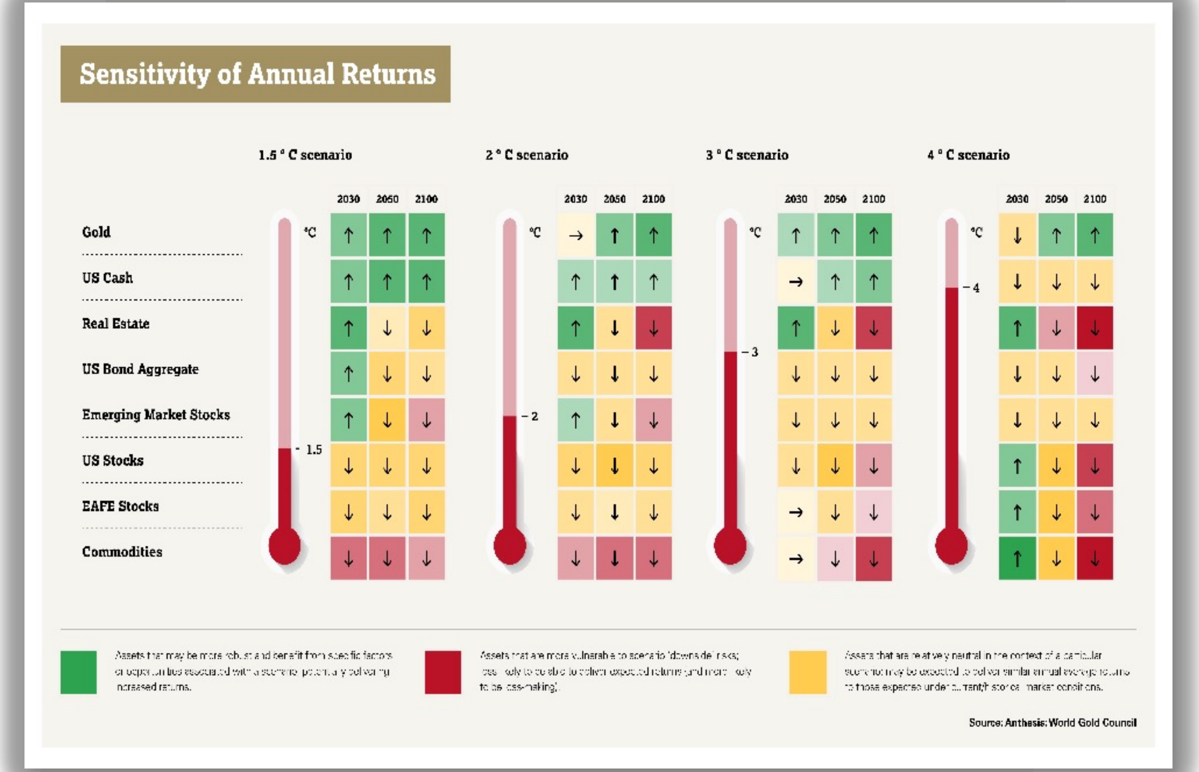
4. **Commitment to UN's Sustainable Development Goals;** gold mining, refining and fabrication contribute meaningfully to socio-economic development globally

Gold: climate risk mitigating asset

Inaction on climate change will devastate global investments and markets, with global GDP per capita falling by up to 30% by 2100*

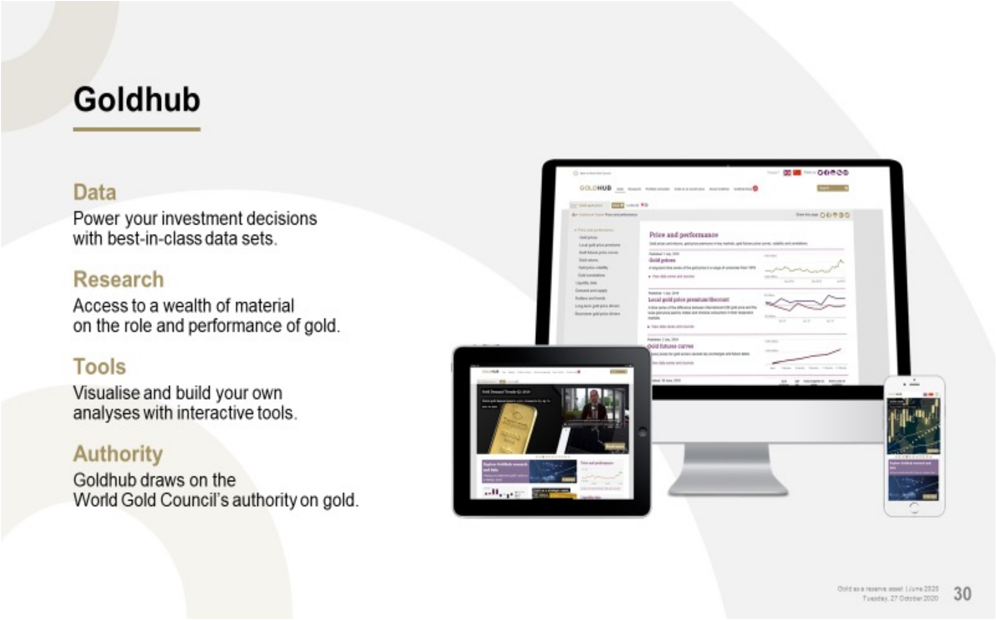
Climate change is **increasingly driving investment decisions** and reshaping approaches to portfolio risk

Because of its diverse sources of demand, lack of credit risk, and track record as an effective hedge, **gold is likely to perform better than most mainstream asset classes under different climate scenarios**



Burke et al., "Large potential reduction in economic damages under UN mitigation targets", Stanford University, May 2018

Trusted source of information

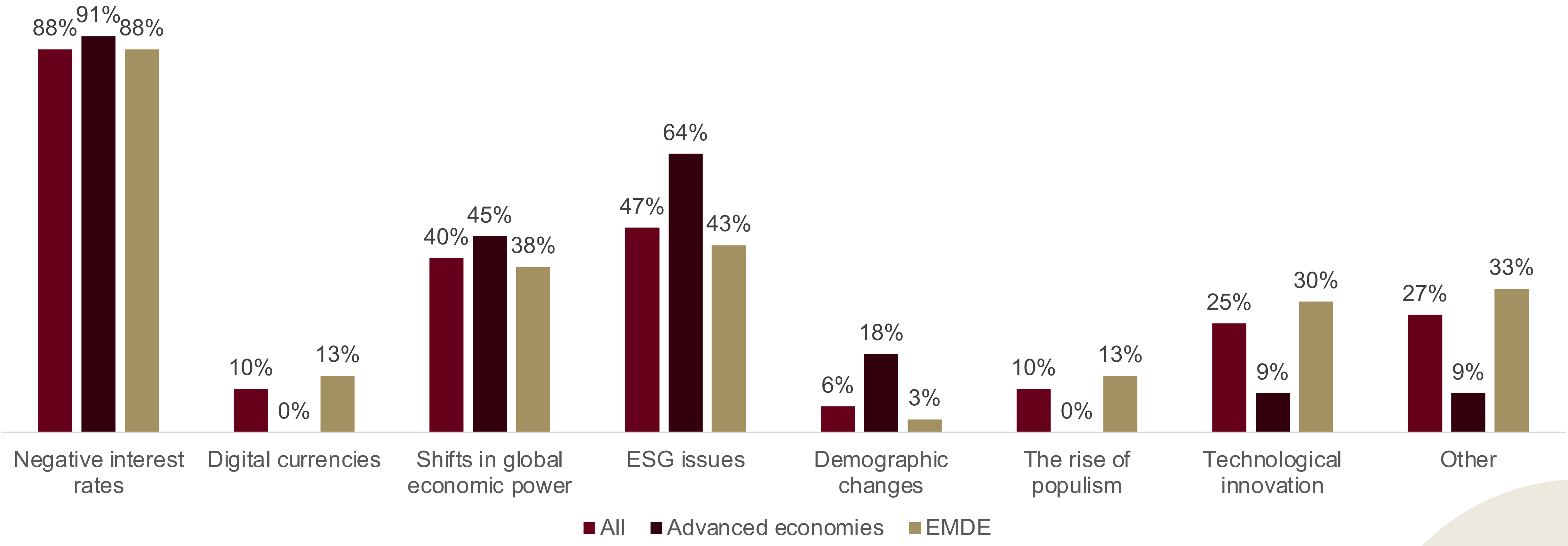


Appendix

Survey results 2020

Negative interest rates are the most dominant factor for central bank reserve management

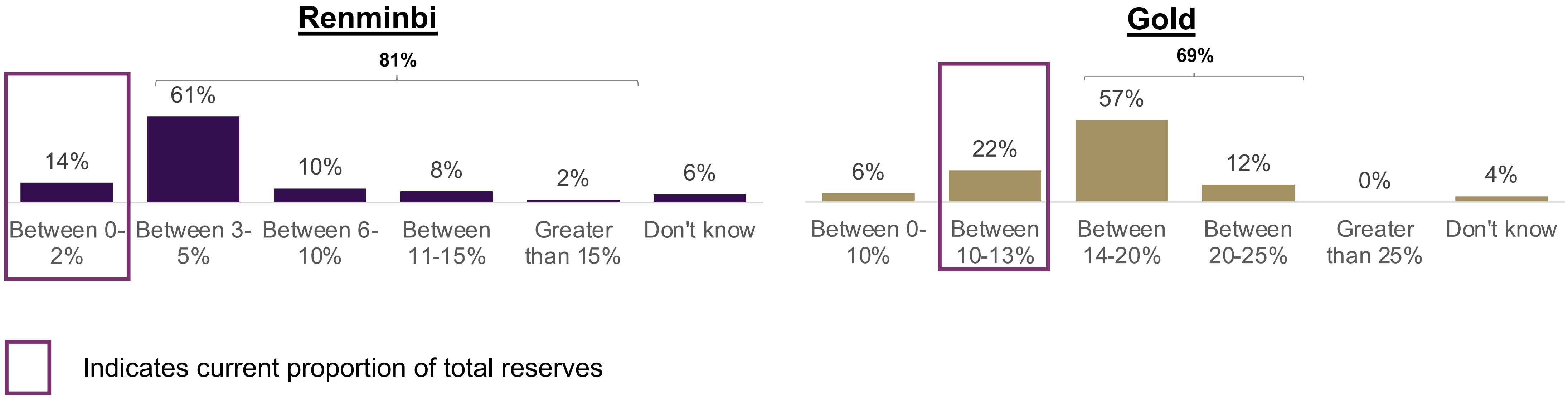
What topics are relevant for your reserve management decisions? Select all that apply.



Base: All central banks (51); Advanced economies (11); EMDE (40)
NOTE: This question was not asked in 2019.

Gold and the renminbi will play bigger future roles

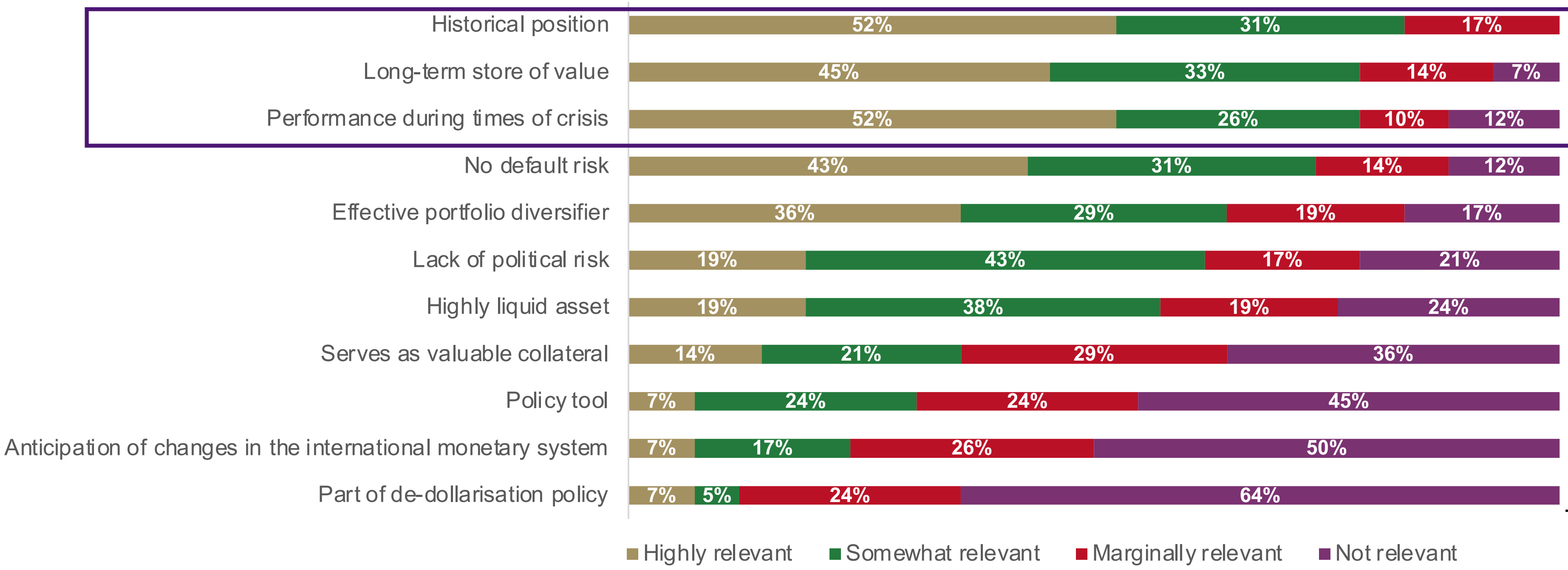
What proportion of total reserves (foreign exchange and gold) do you think will be denominated in Chinese renminbi / gold five years from now?



Base: All central banks (51); Advanced economies (11); EMDE (40)
NOTE: Comparison with 2019 not shown as different response categories were used in 2020.

Significant shifts in central banks' views on gold reflect a changing global outlook

How relevant are the following factors in your organization's decision to hold gold?



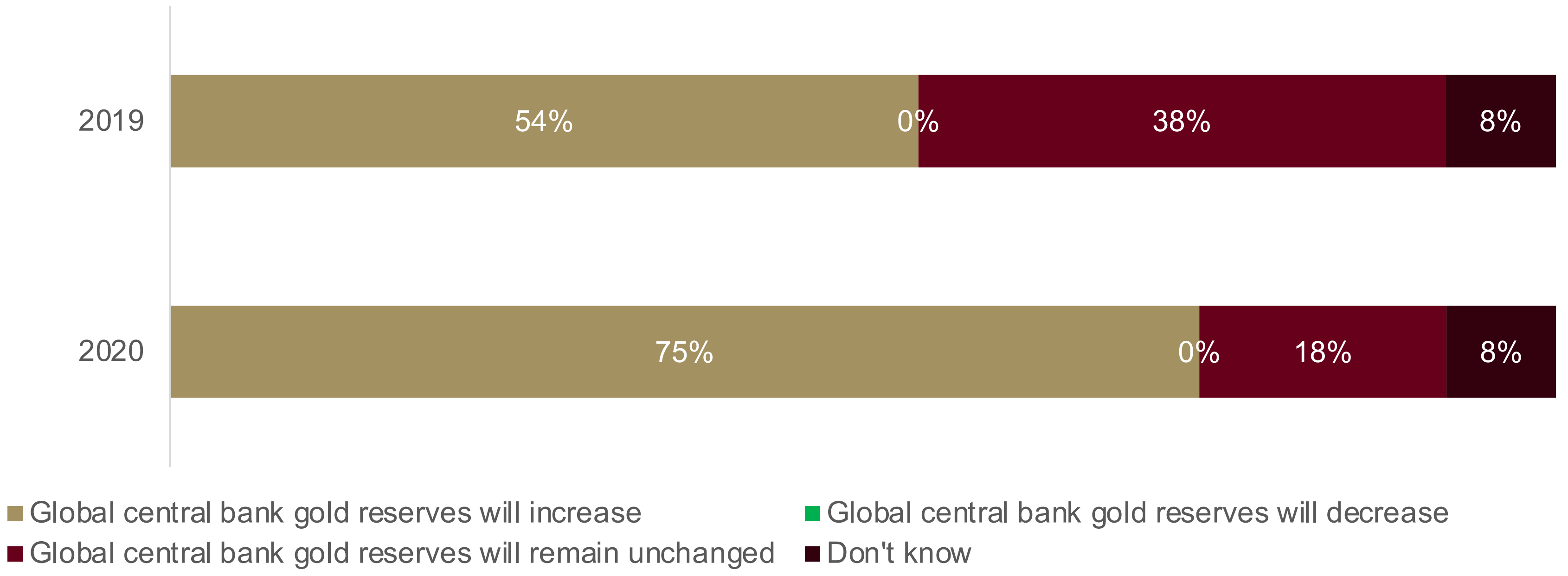
% Highly relevant or Somewhat relevant

2019	2020	Adv.	Dev.
78%	83%	90%	81%
78%	79%	60%	84%
59%	79%	60%	84%
59%	74%	50%	81%
50%	64%	50%	72%
63%	63%	40%	66%
41%	57%	50%	59%
25%	36%	20%	41%
28%	31%	0%	41%
28%	24%	0%	31%
13%	12%	0%	16%

Base: All central banks that currently hold gold (42); Advanced economies (10); EMDE (32)

A significant increase in expectations of more gold buying by central banks

How do you expect global central bank gold reserves to change over the next 12 months?



% expecting an increase over the next 12 months

	Adv.	EMDE
2019	45%	57%
2020	64%	78%

Base: All central banks (51); Advanced economies (11); EMDE (40)