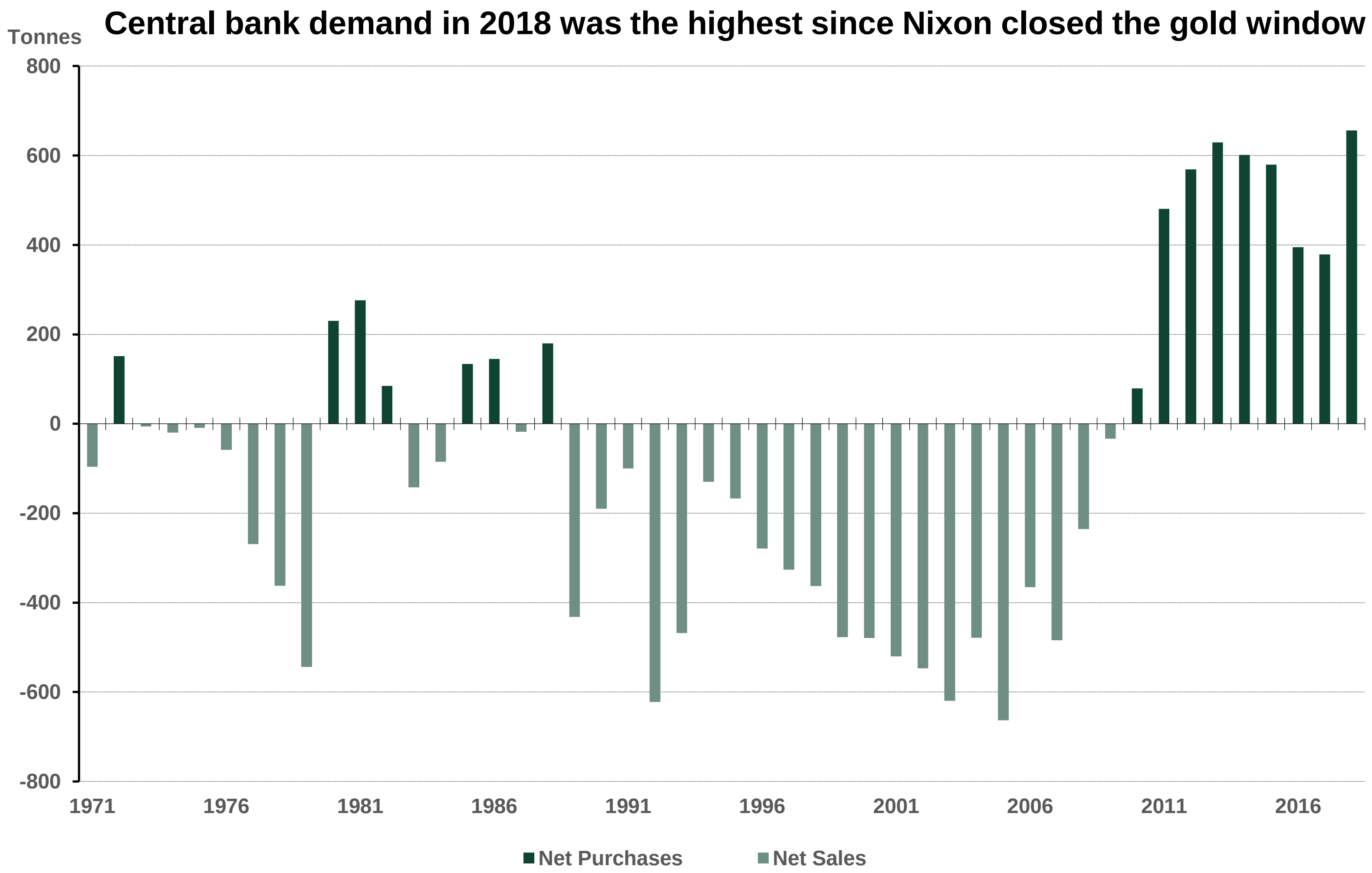
Gold as a Reserve Asset

Central bank gold demand trends

XIII Meeting on International Reserves Management

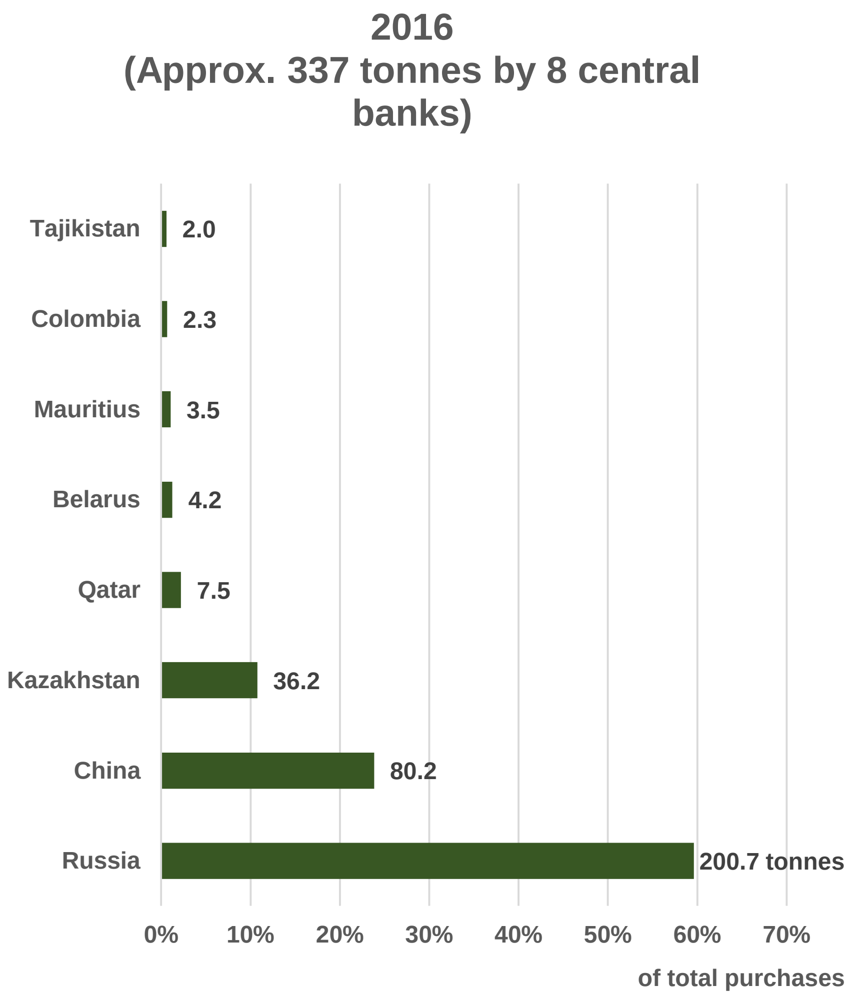
Lima, 11 September 2019

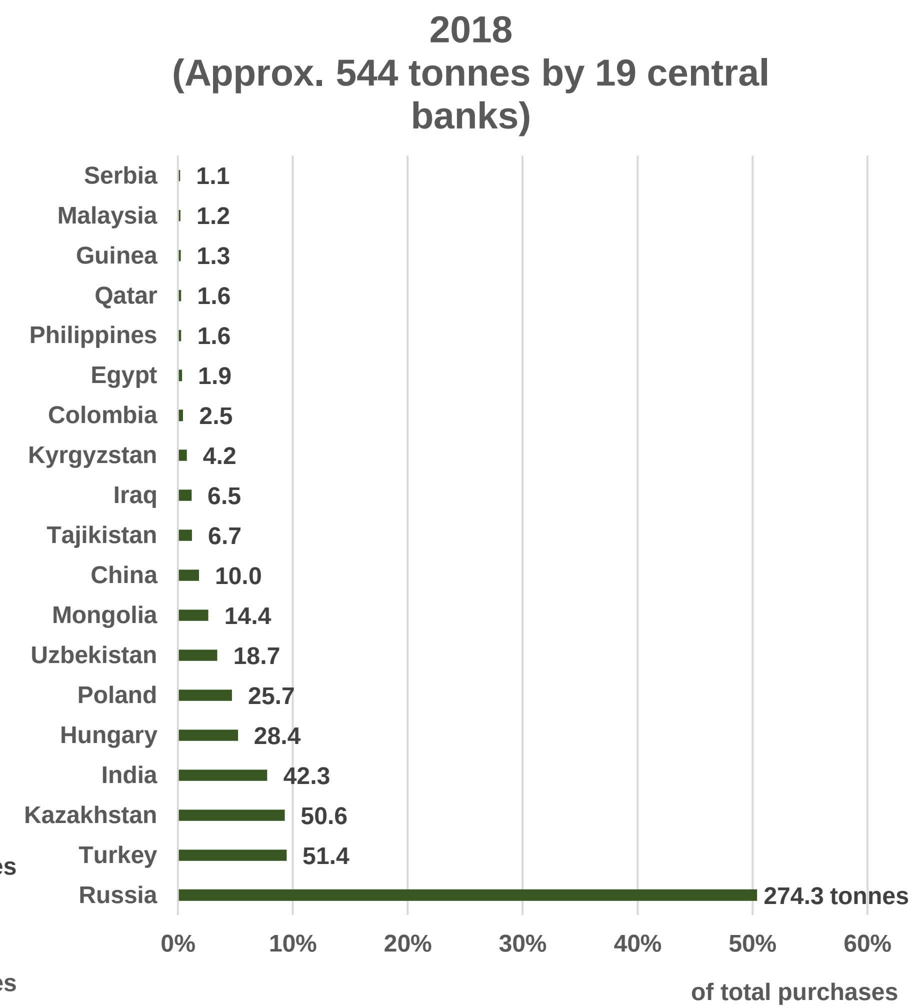
Central Bank Demand Up Sharply



Source: Metal Focus, Refinitiv GFMS, World Gold Council

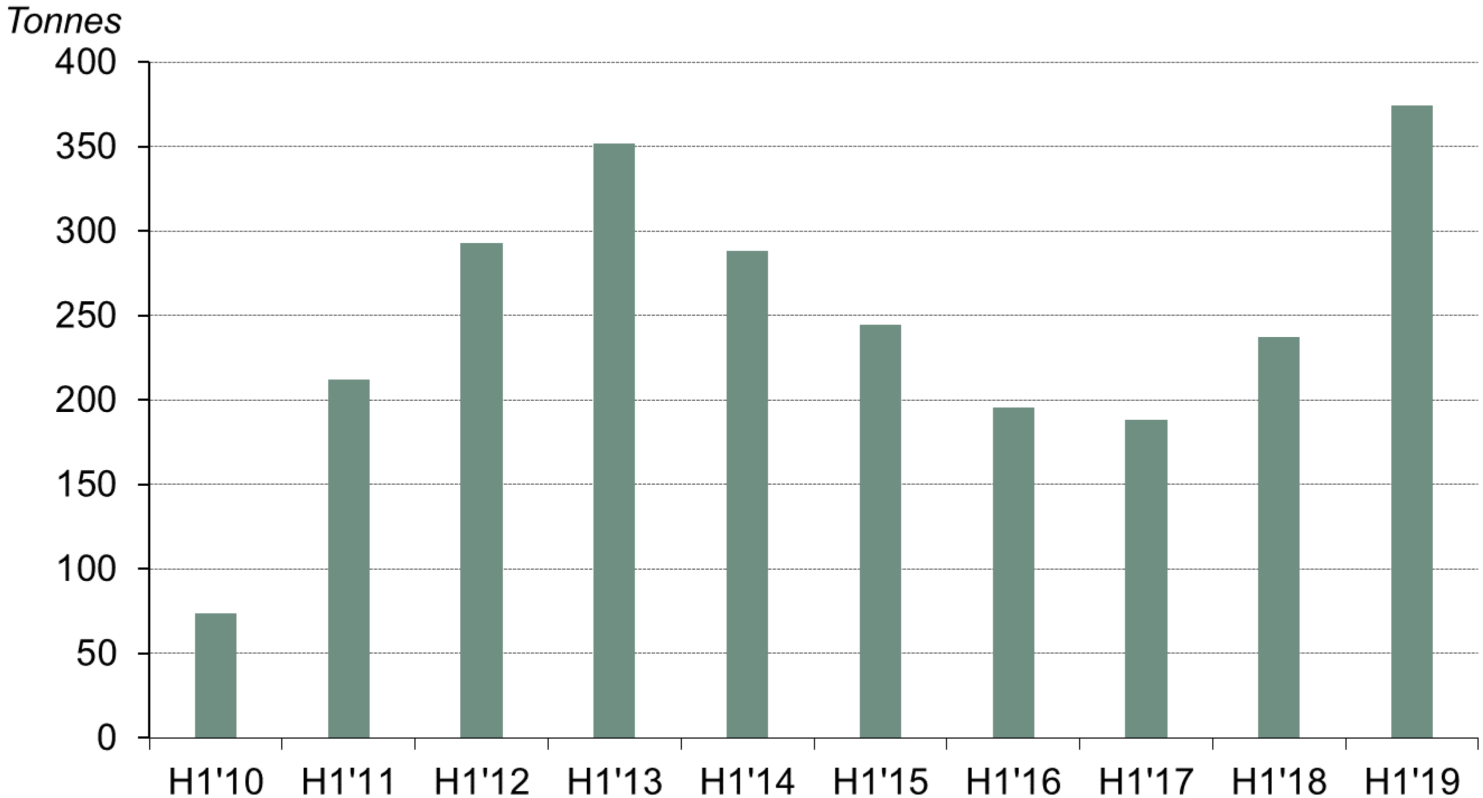
Diversity Among Buyers has Increased Significantly





Source: World Gold Council, IMF

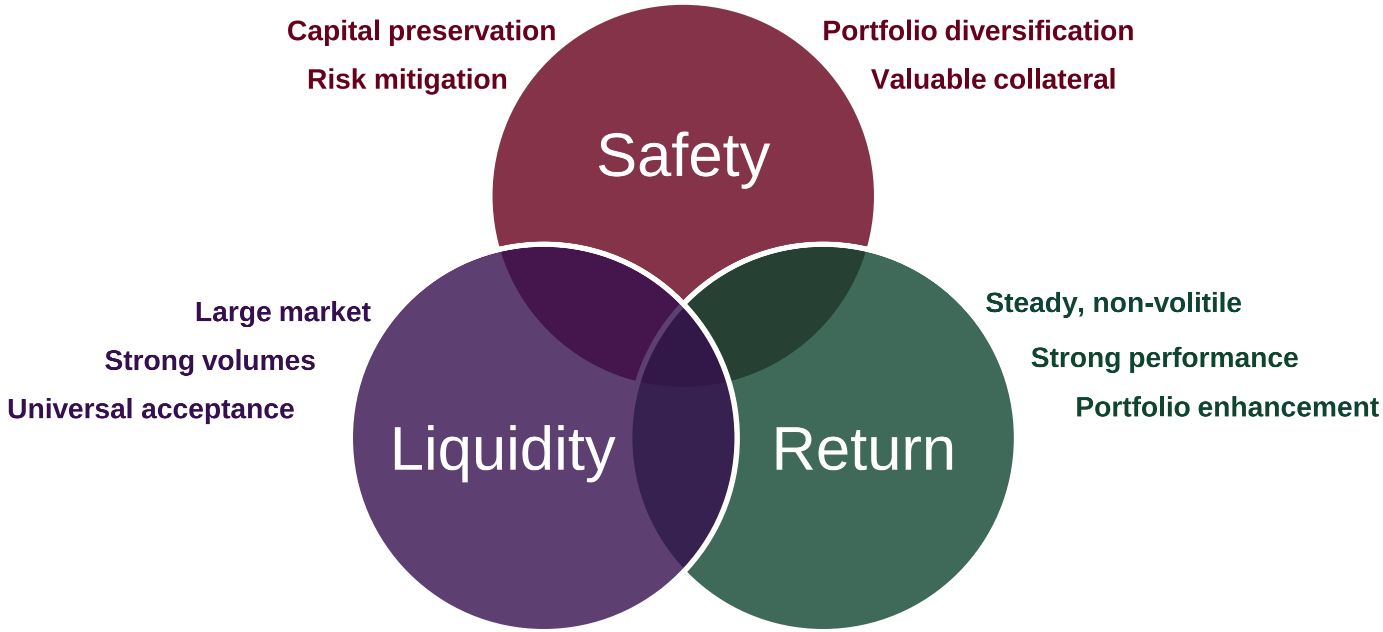
Highest level of H1 purchases since central banks became net buyers



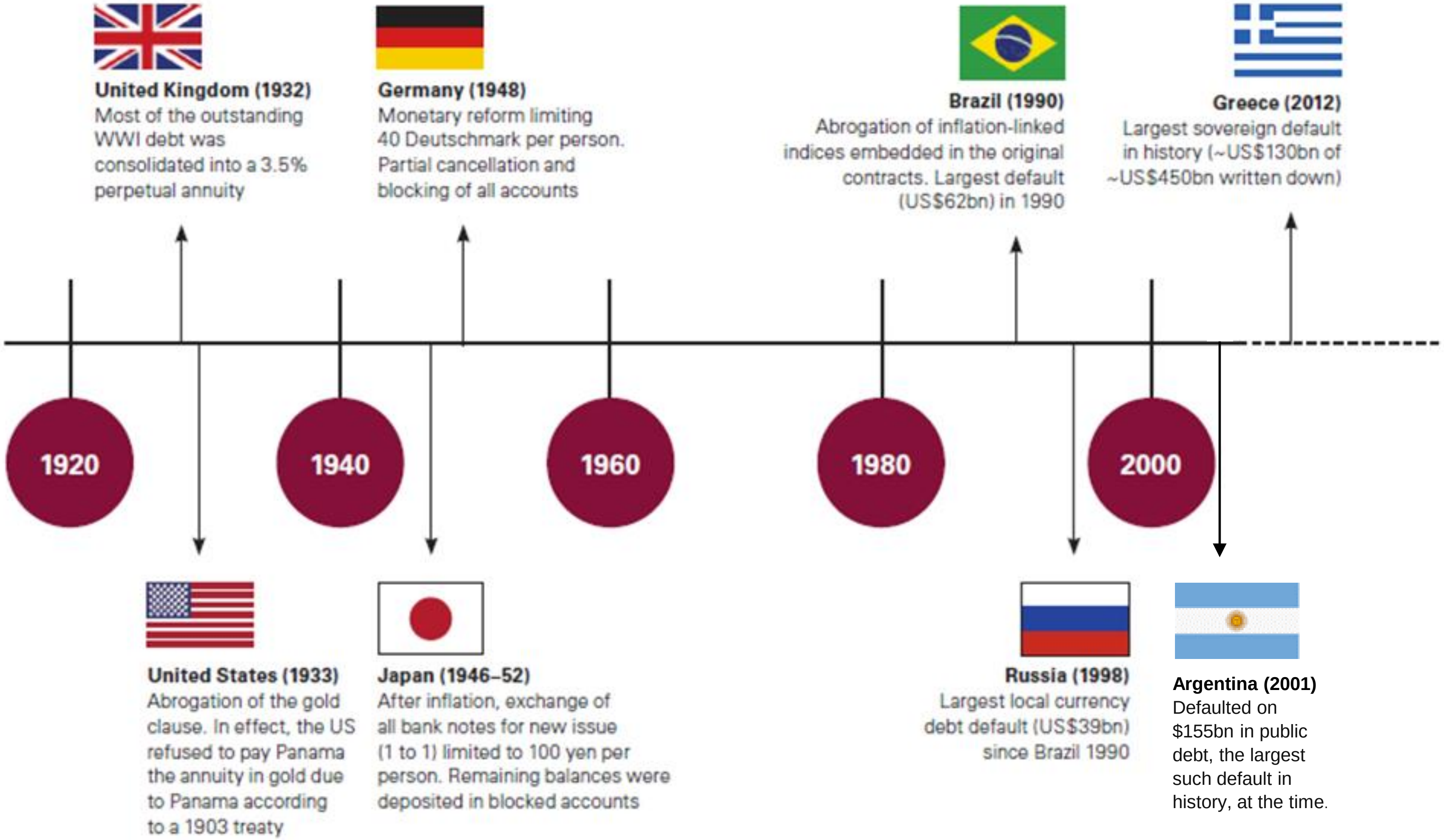
Source: Metals Focus; Refinitiv GFMS; World Gold Council

Gold's role in meeting reserve asset objectives

Foreign Exchange Reserves Management

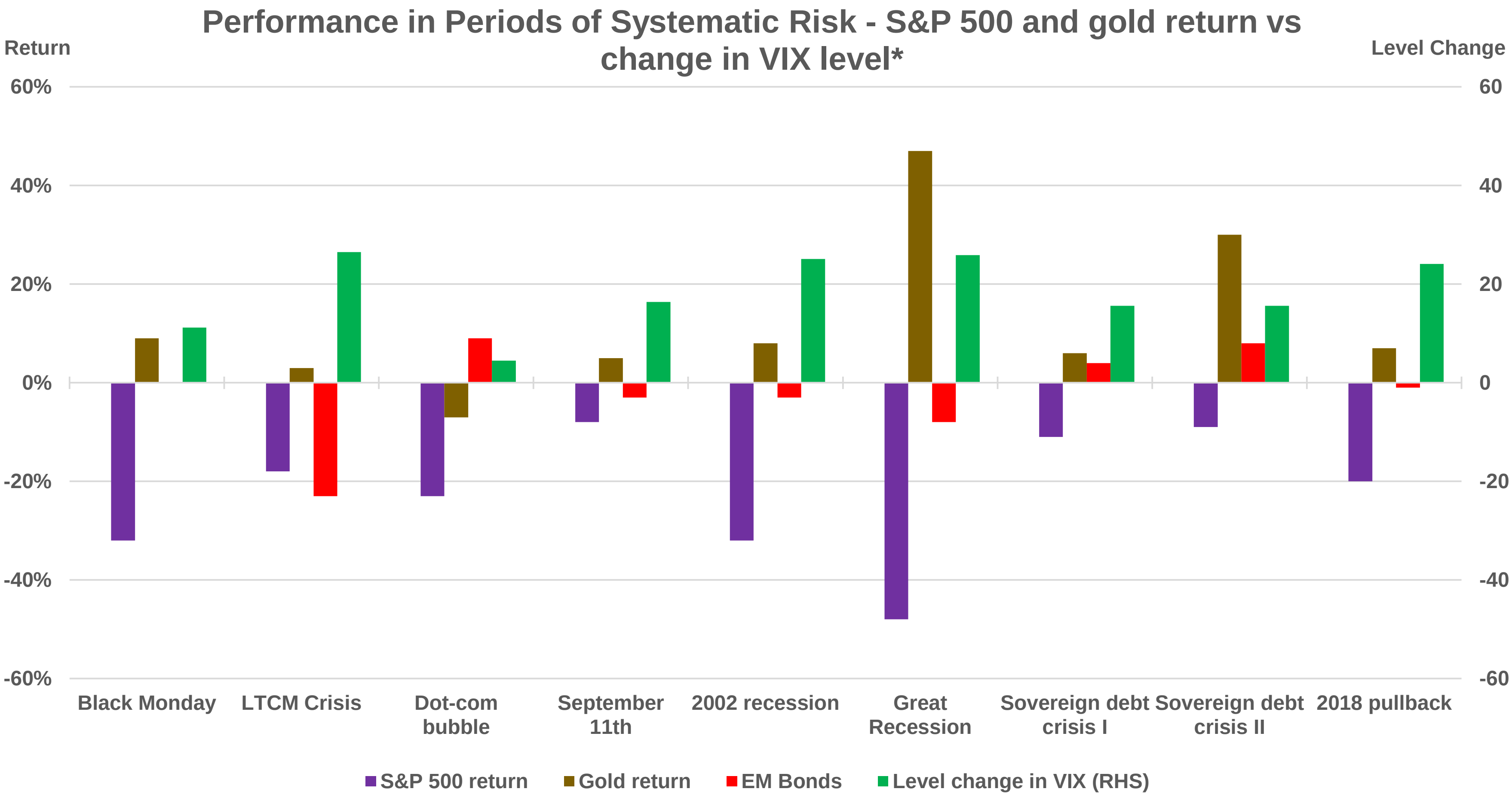


Safety – Notable Sovereign Debt Defaults Across Major Economies



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

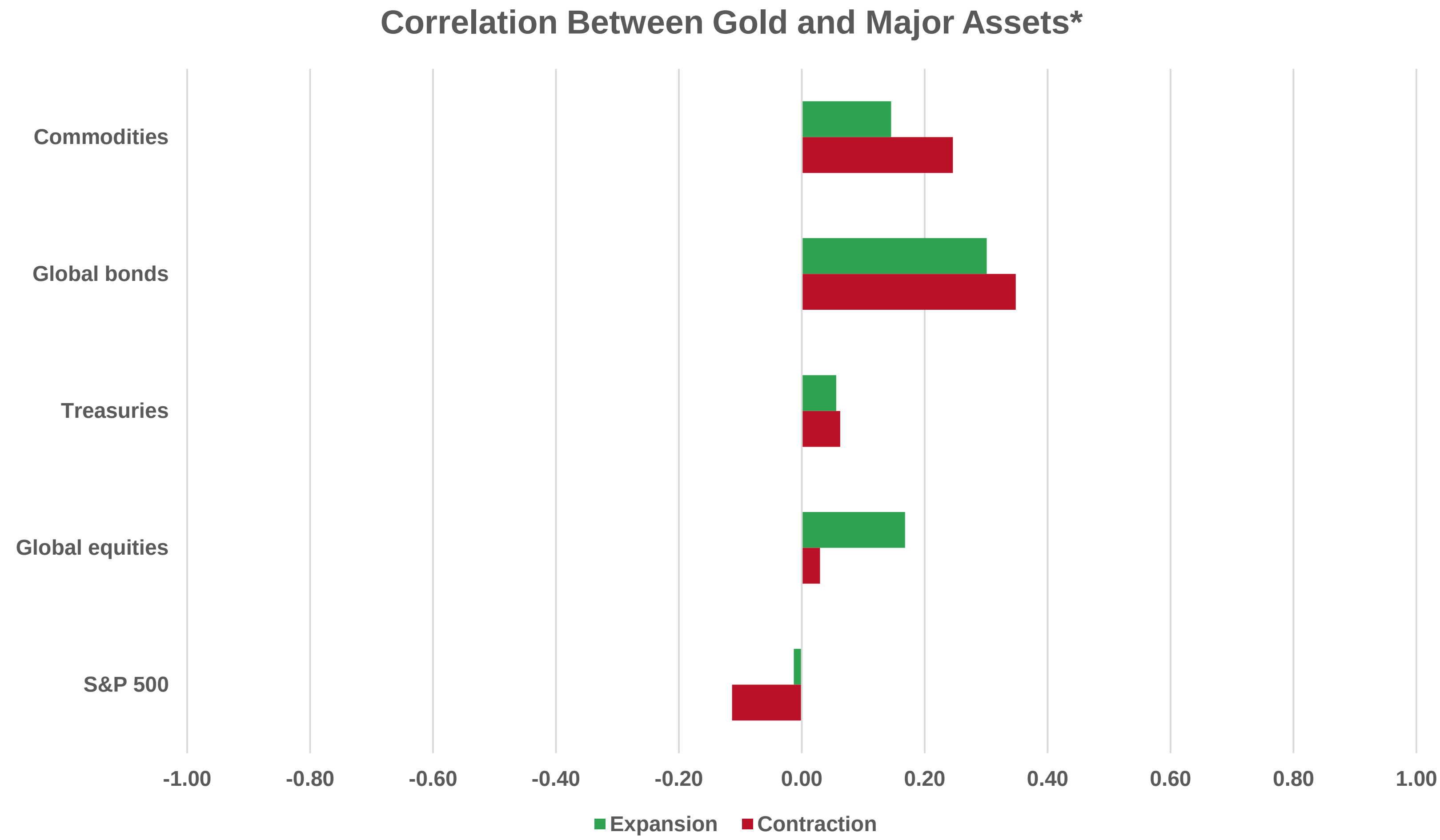
Safety – Performance in Periods of Systemic Risk



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.
Source: Bloomberg; World Gold Council

Safety – An Effective Diversifier

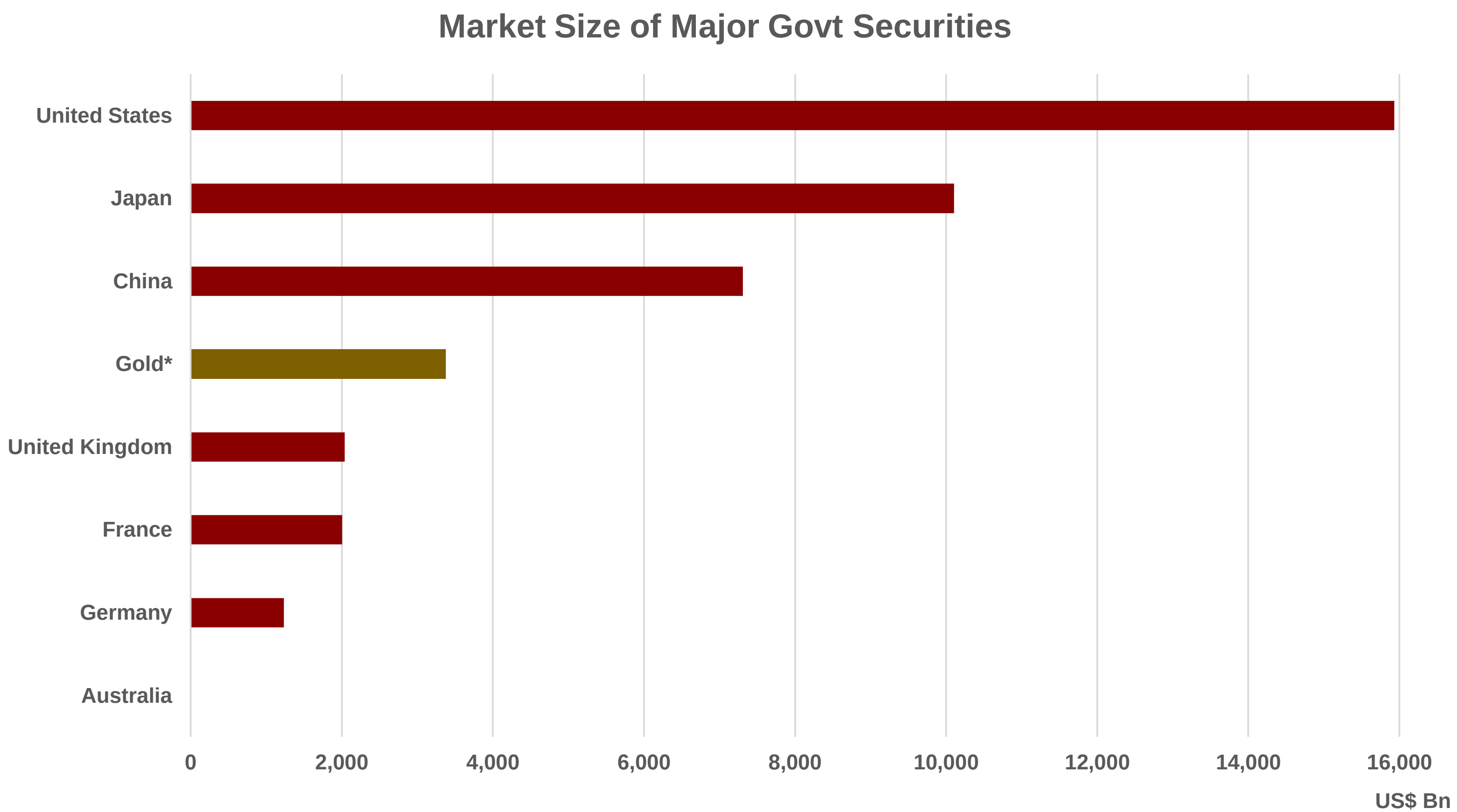
Gold serves as a diversifier in periods of economic expansion/contraction



**As of 01 August 2019. Based on monthly returns from January 1990 to August 2019 of the S&P 500, MSCI ACWI ex US, Bloomberg Barclays US Treasury Index, Bloomberg Barclays Global Agg Return Index, S&P GS Commodity Index and LBMA Gold Price. Business cycles as defined by the National Bureau of Economic Research (NBER).*

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

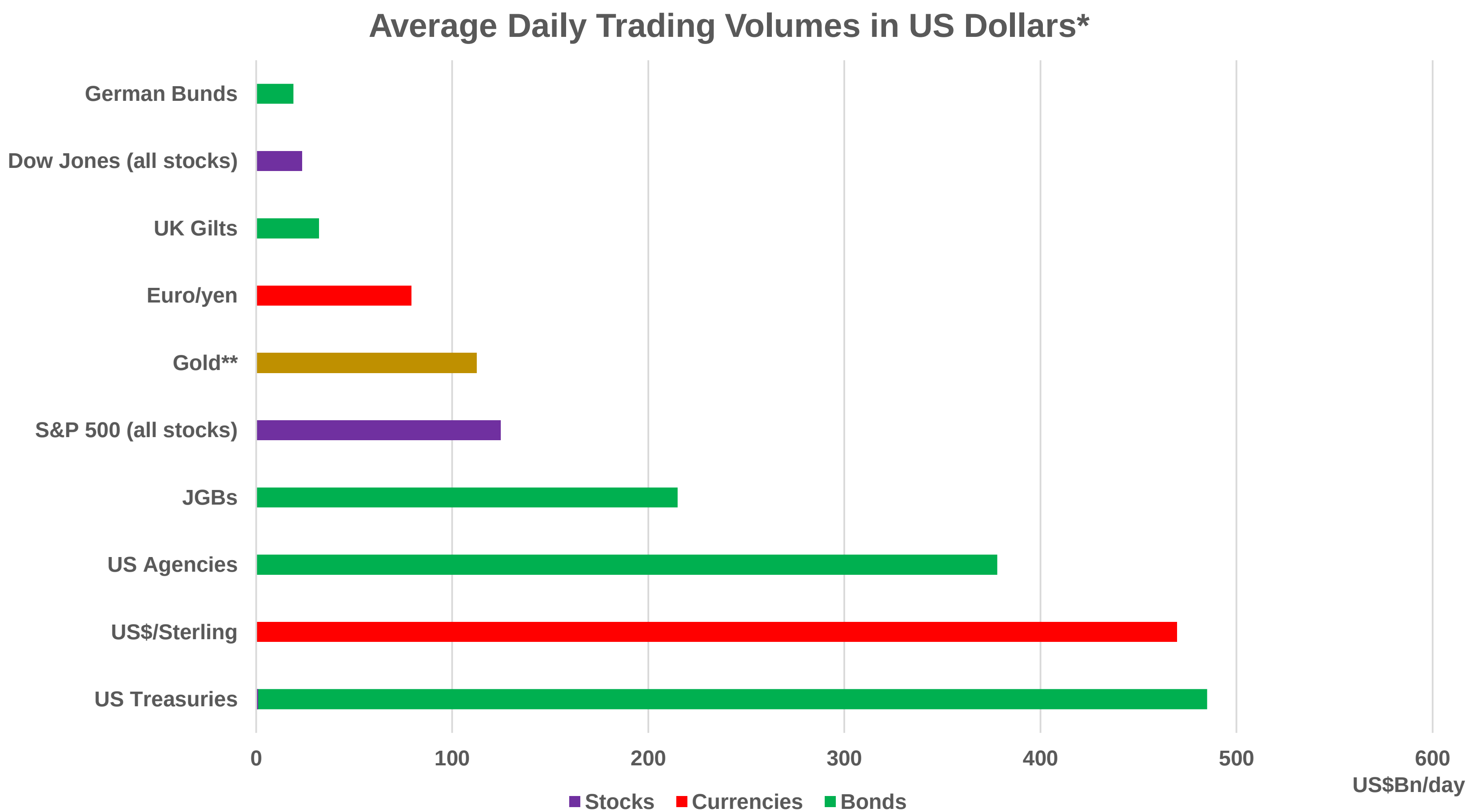
Liquidity - Large Market



**Gold is the sum of the above-ground stock of bars and coins, ETPs and official sector (or "Financial Gold"). Gold Prices updated as of 01 August 2019.*
Source (date updated): US Treasury (30 June 19), Japan Ministry of Finance (End Mar 19), UK Debt Mgmt Office (31 July 2019), German Finance Agency (31 July 2019), Agence France Tresor (30 June 2019), Australia Office of Financial Mgmt (26 July 2019), ABO (End Mar 2019) World Gold Council (Dec 18); FX prices updated asof 01 August 2019

Liquidity - Strong Trading Volumes

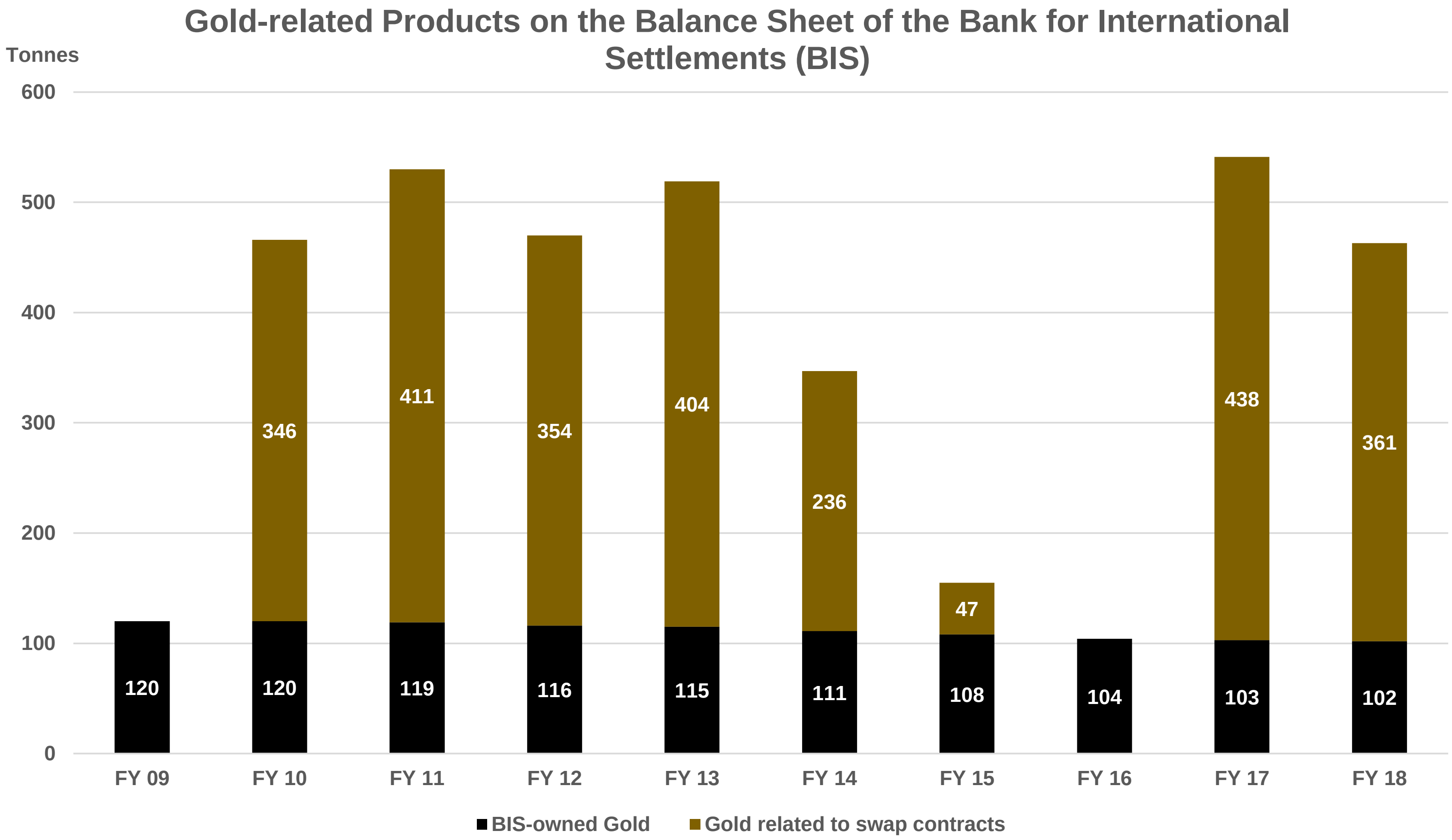
Gold trades more than many other major financial assets



**Based on one-year average trading volumes as of December 2018, except for currencies that correspond to full-year 2016 volumes due to data availability. **Gold liquidity includes estimates on over-the-counter (OTC) transactions, published statistics on futures exchanges, and gold-backed exchange-traded products. For Methodology details visit Goldhub.com.*

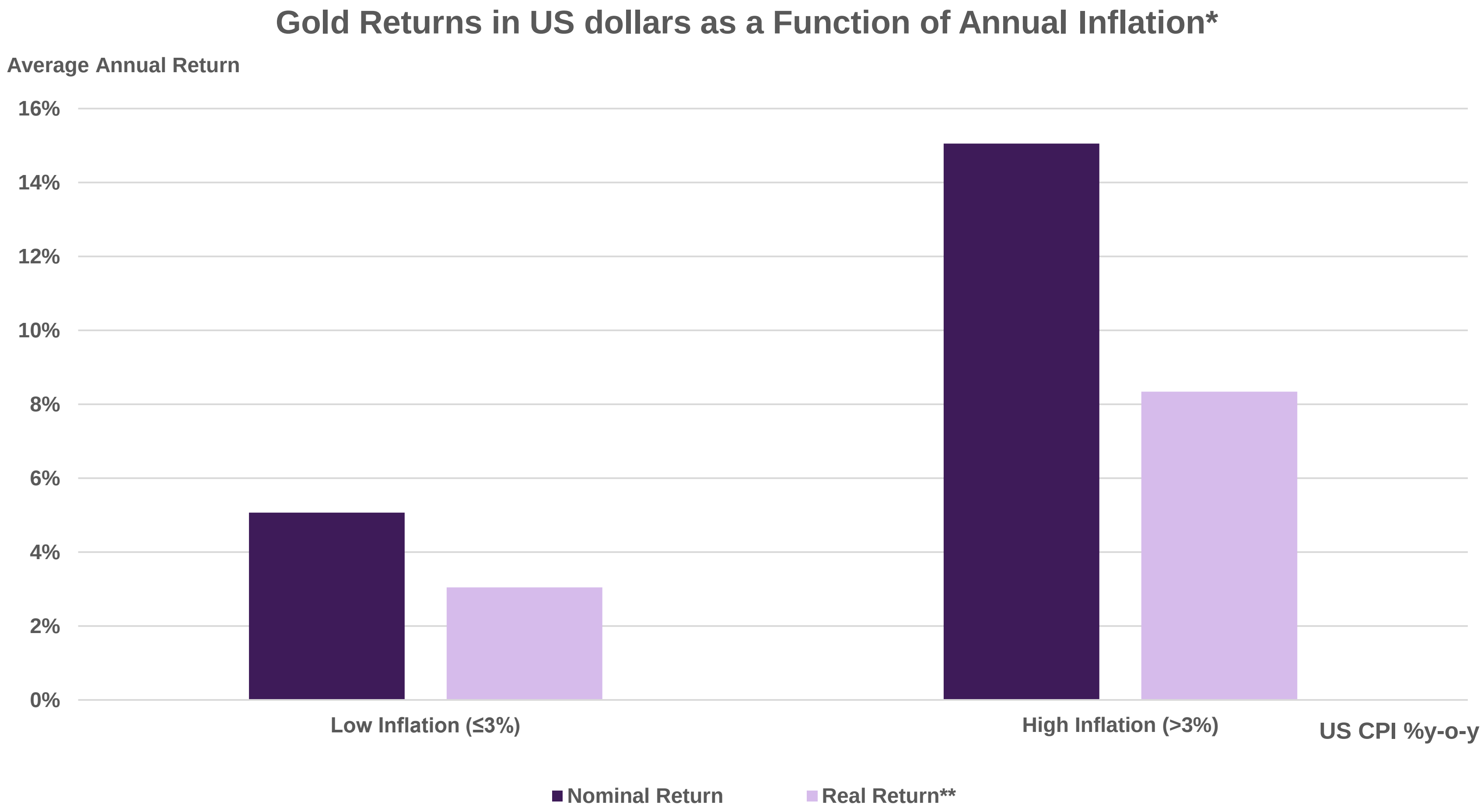
Source: BIS; Bloomberg; German Finance Agency; Japan Securities Dealers Association; LBMA; UK Debt Management Office (DMO); World Gold Council

Liquidity - Valuable Collateral



Note: BIS fiscal year (FY) ends in March. Thus, data for FY09, for example, covers the time period from April 2008 to March 2009.
Source: Bank for International Settlements

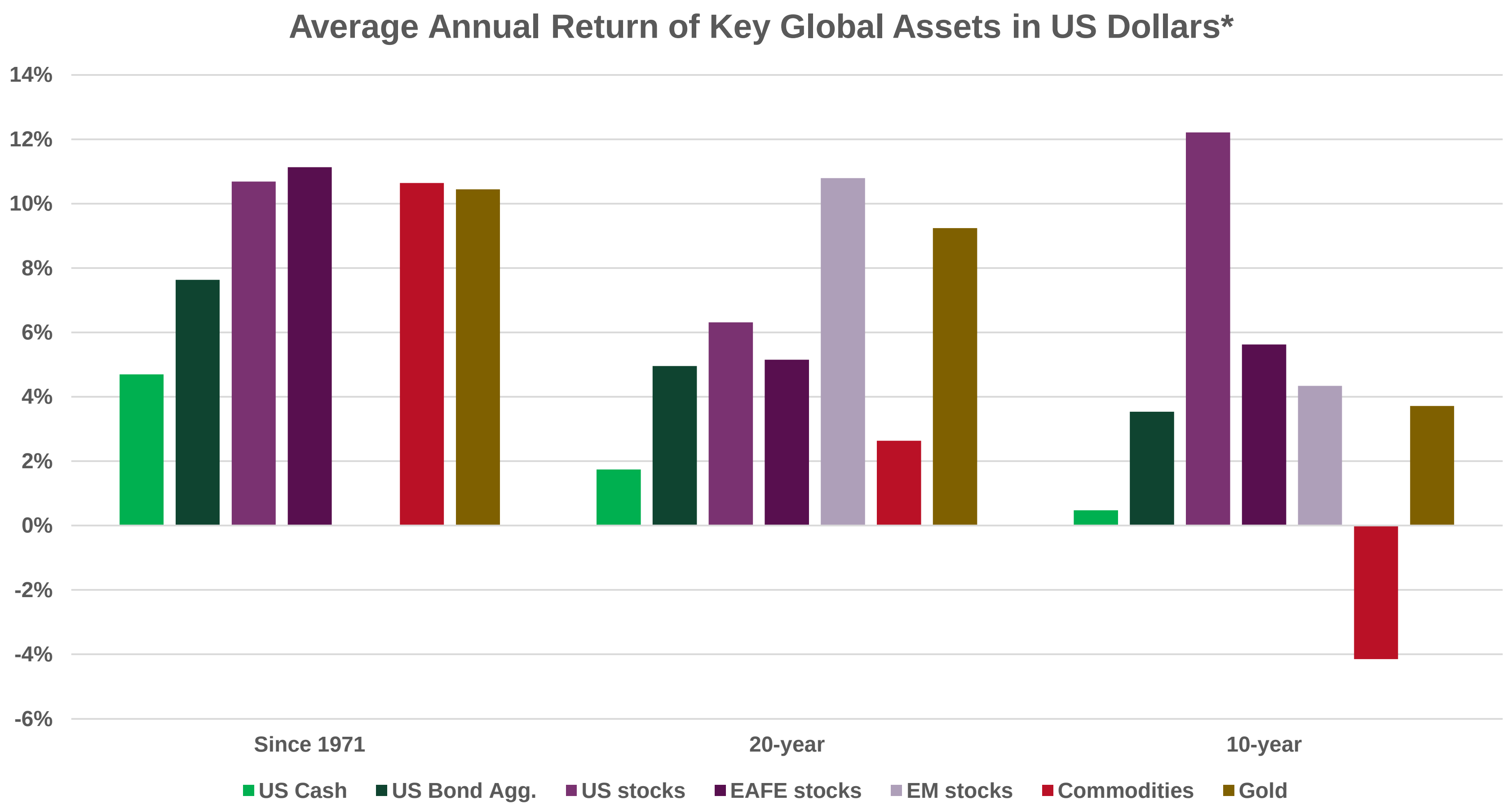
Return - Gold has Historically Rallied in Periods of High Inflation



*Based on y-o-y changes of the LBMA Gold Price and US CPI between 1971 and 2018.
**For each year on the sample, real return = (1+nominal return)/(1+inflation)-1.
Source: Bloomberg; ICE Benchmark Administration; World Gold Council

Return – Gold Outperforms other Key Asset Classes

Gold has delivered positive returns over the long run

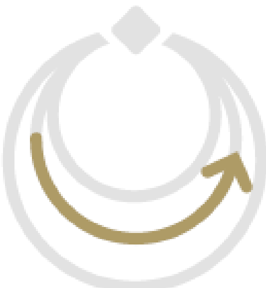
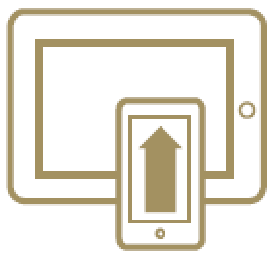


**As of H1 2019. Computations in US dollars of total return indices for ICE 3-month Treasury, Bloomberg Barclays US Bond Aggregate, MSCI US, EAFE and EM indices, Bloomberg Commodity Index and spot for LBMA Gold Price PM.*
Source: Bloomberg; ICE Benchmark Administration; World Gold Council

Drivers of gold

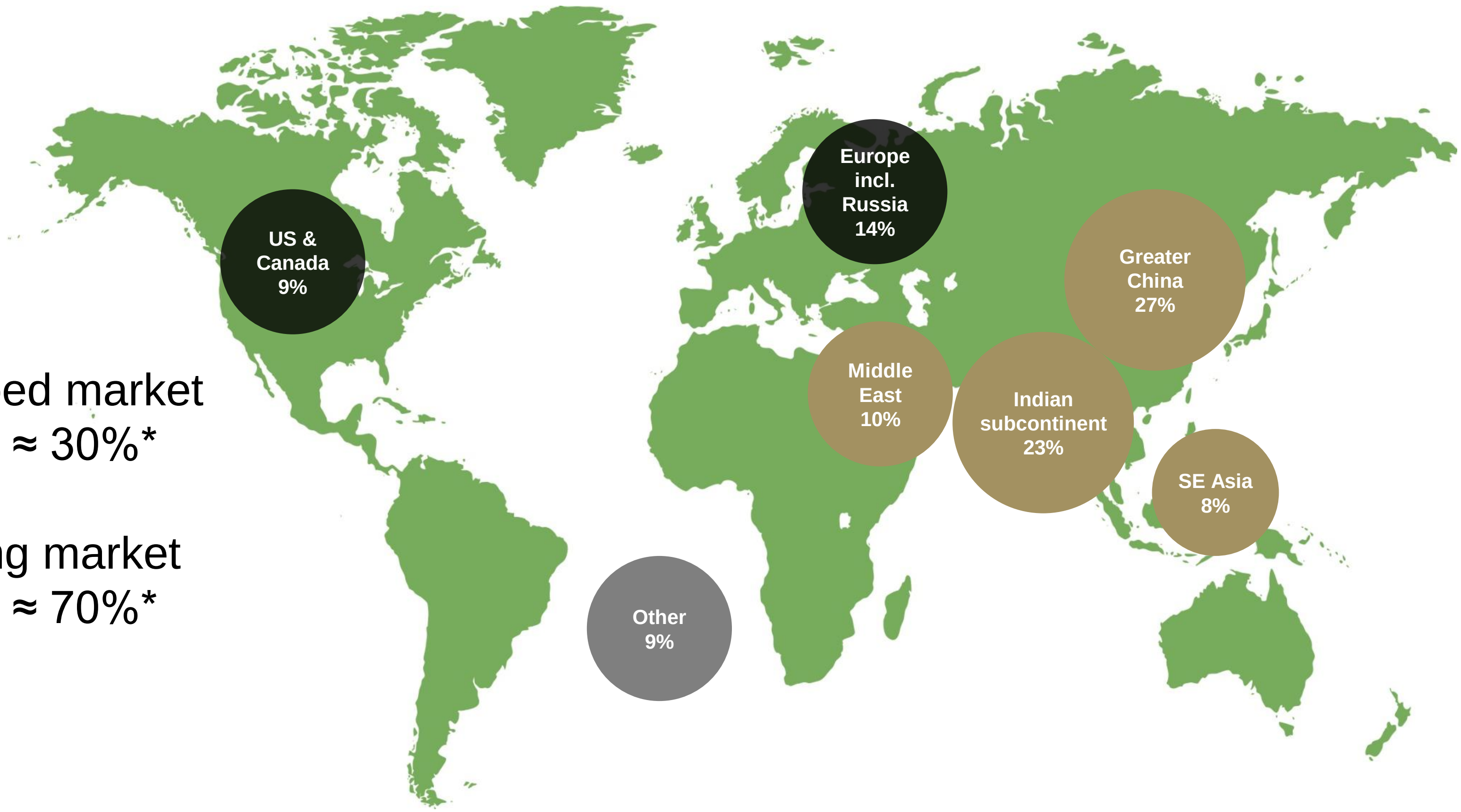
Dual nature of strategic demand

Average annual demand ≈ 4,350 tonnes* (approx. US$177bn)

Jewelry	Technology	Investment	Central banks
			
51%	**9%**	**30%**	**10%**
Expansion		**Uncertainty**	**Both**

**Based on 10-year average annual demand estimates ending in 2018. Includes jewelry, technology, bars, coins, and ETF demand. 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.
Source: Metals Focus, Refinitiv GFMS, World Gold Council

Gold is a global market



Developed market demand ≈ 30%*

Emerging market demand ≈ 70%*

**Based on 10-year average demand estimates ending in 2018. Includes jewelry, technology, bars, coins, and ETF demand. Excludes over-the-counter transactions and central bank purchases.*
Source: Refinitiv GFMS, World Gold Council

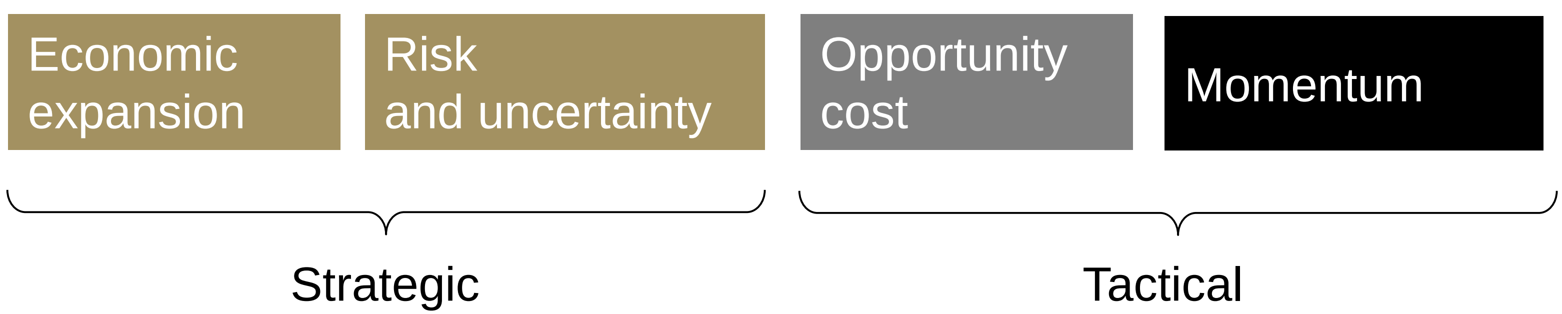
Gold production is well diversified

Average annual mine production over last decade ≈ 2,800 tonnes* (approx. US$115bn)

**Based on 10-year average supply estimates ending in 2017.*
Source: Refinitiv GFMS, Metal Focus, World Gold Council

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, influence investor attitudes towards gold
- **Momentum:** capital flows, positioning and price trends can ignite or dampen gold’s performance.



Central bank demand trends – in detail

Factors driving central banks gold demand

1. Investment guidelines and political, economic and geo-political conditions.

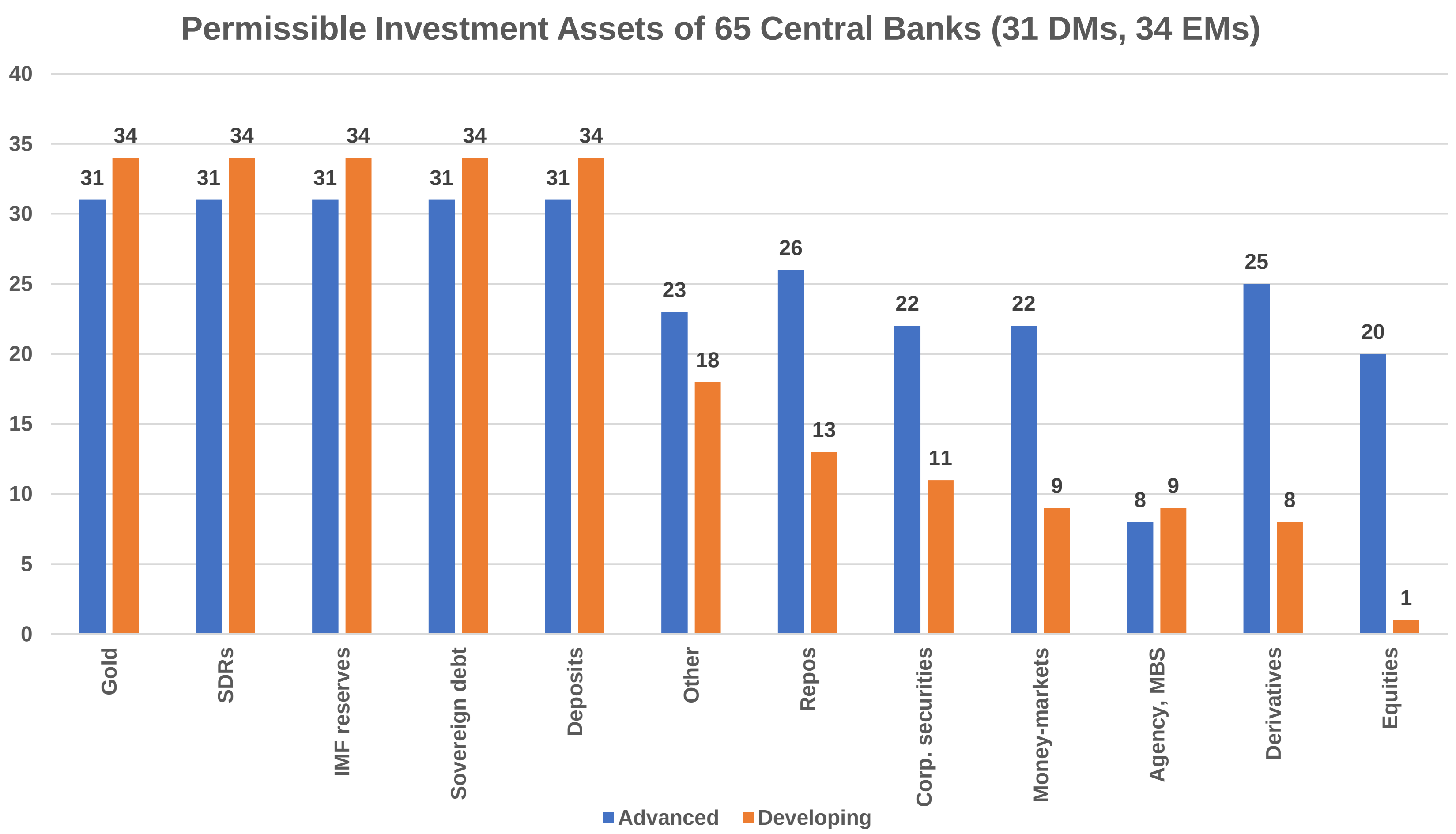
2. Diversification from US assets.

3. De-dollarization for political reasons.

4. Structural changes in the international monetary system.

5. Higher levels of international reserves

Investment guidelines of Emerging vs Advanced economy central banks



Source: World Gold Council

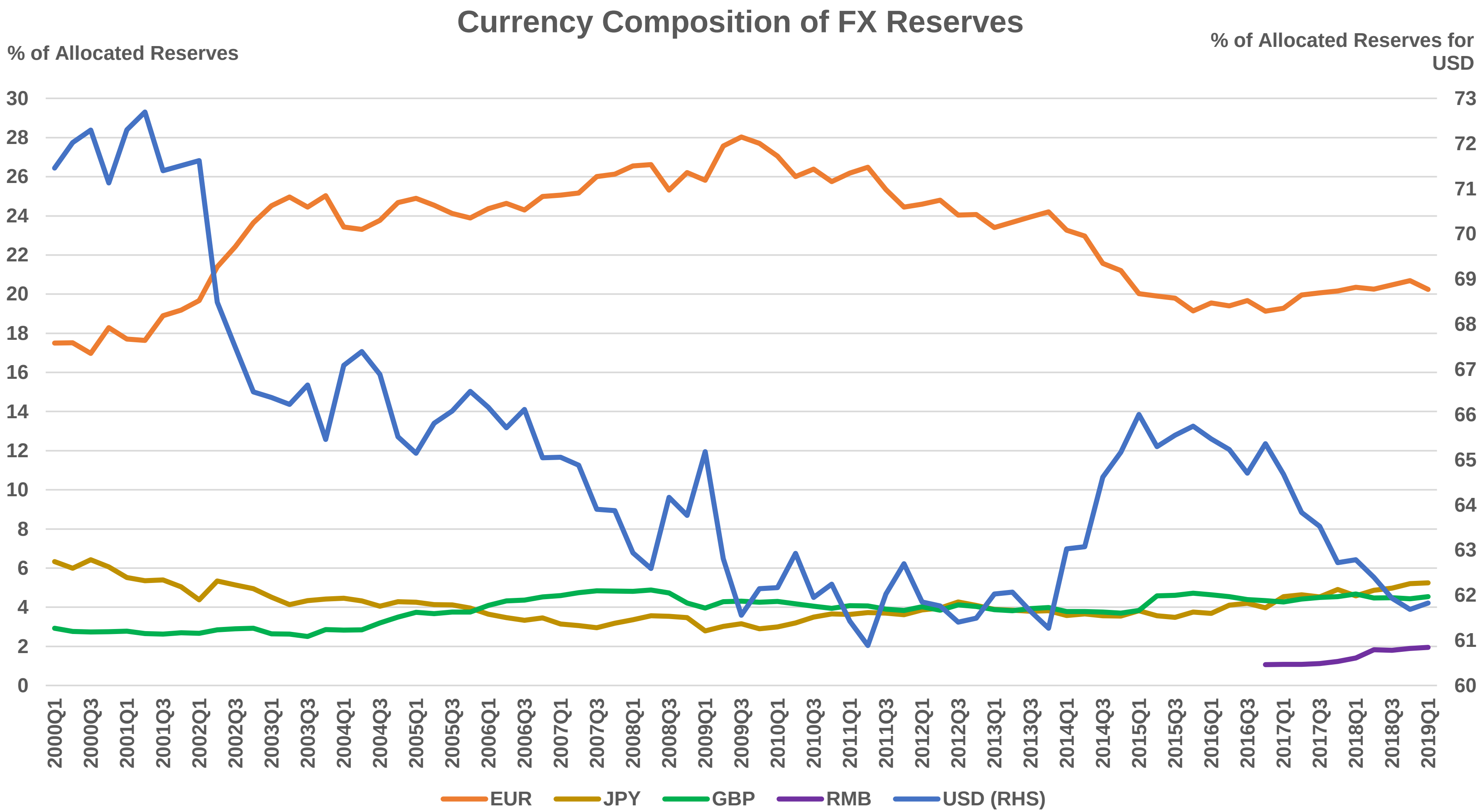
2/3 year bonds are yielding negative rates

	1Y	2Y	3Y	5Y	10Y
Switzerland	-1.069	-1.070	-1.049	-0.998	-0.781
Germany	-0.693	-0.768	-0.804	-0.702	-0.430
Netherlands	-0.700	-0.766	-0.789	-0.665	-0.318
France	-0.636	-0.693	-0.714	-0.605	-0.169
Finland	-0.670	-0.720	-0.697	-0.627	-0.192
Belgium	-0.639	-0.684	-0.700	-0.521	-0.109
Austria	-0.630	-0.707	-0.684	-0.572	-0.213
Spain	-0.483	-0.496	-0.484	-0.250	0.313
Portugal	-0.550	-0.546	-0.376	-0.227	0.376
Italy	-0.195	-0.014	0.377	0.839	1.578
United States	1.972	1.892	1.854	1.862	2.051

Source: Bloomberg, World Gold Council; updated as of 01 August 2019

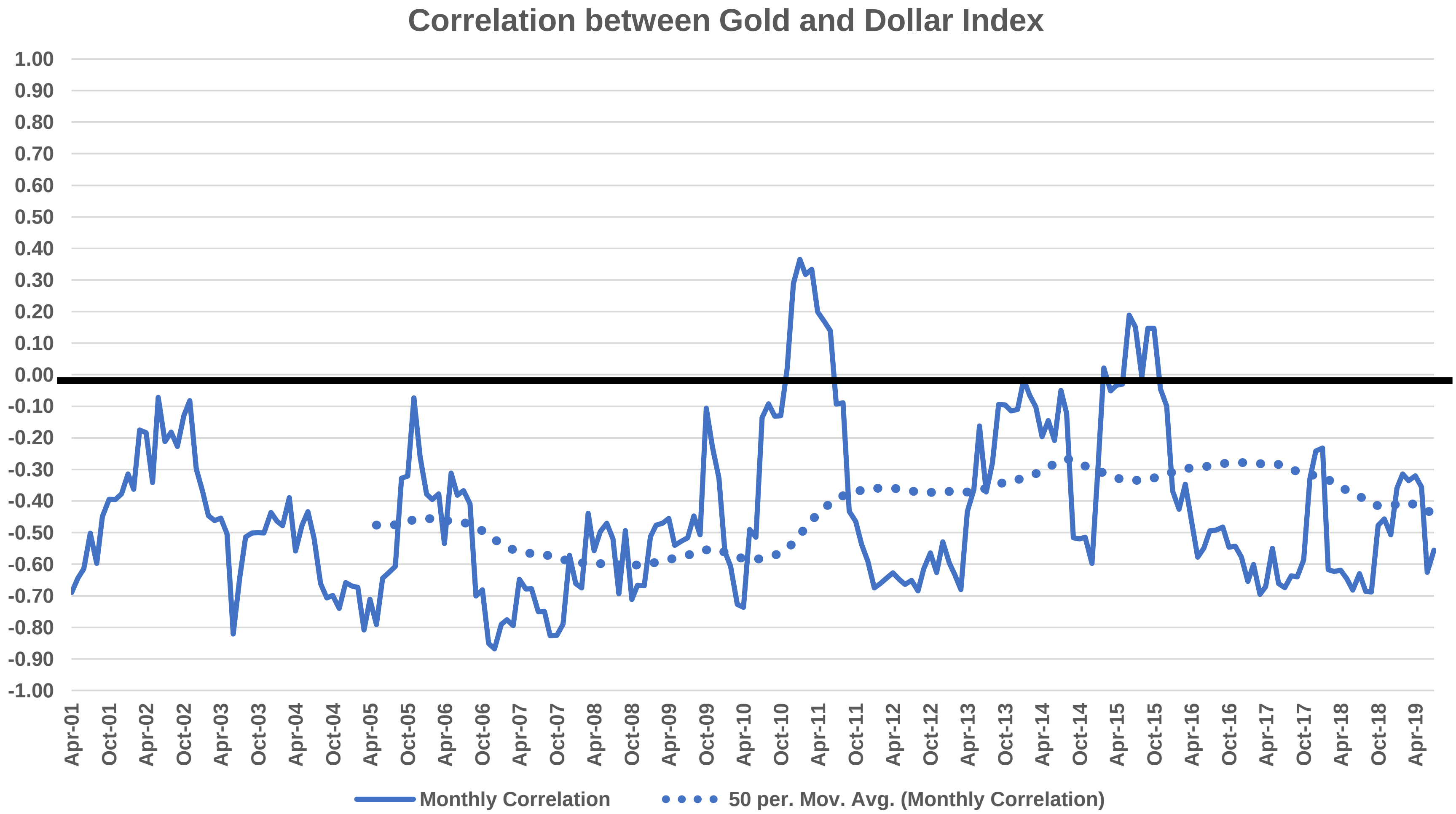
Currency composition of global FX reserves

US dollar exposure remains high



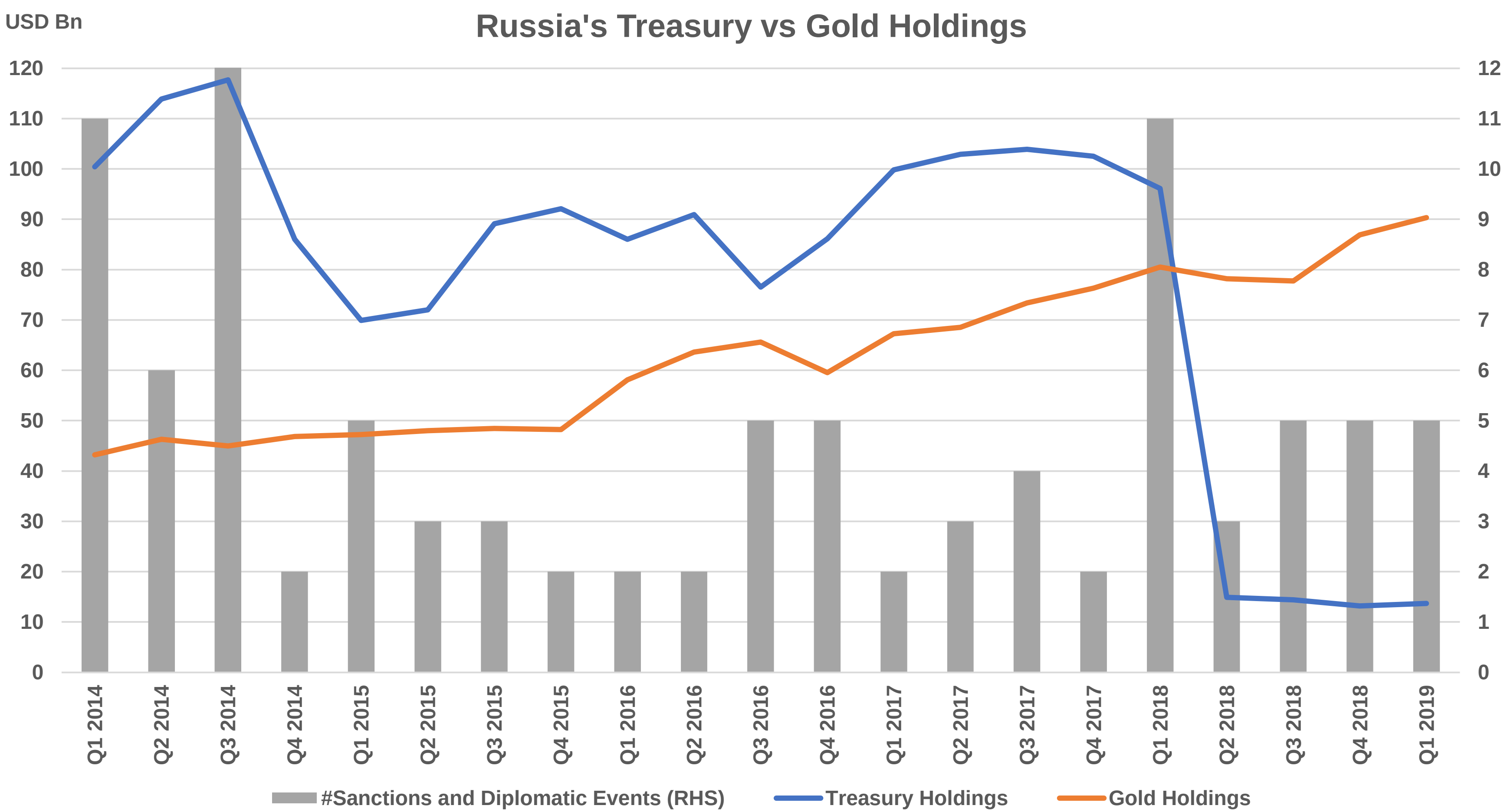
Source: IMF COFER, World Gold Council; updated as of Q1 2019

Gold is an effective dollar hedge



Source: Bloomberg, World Gold Council; updated as of 01 August 2019

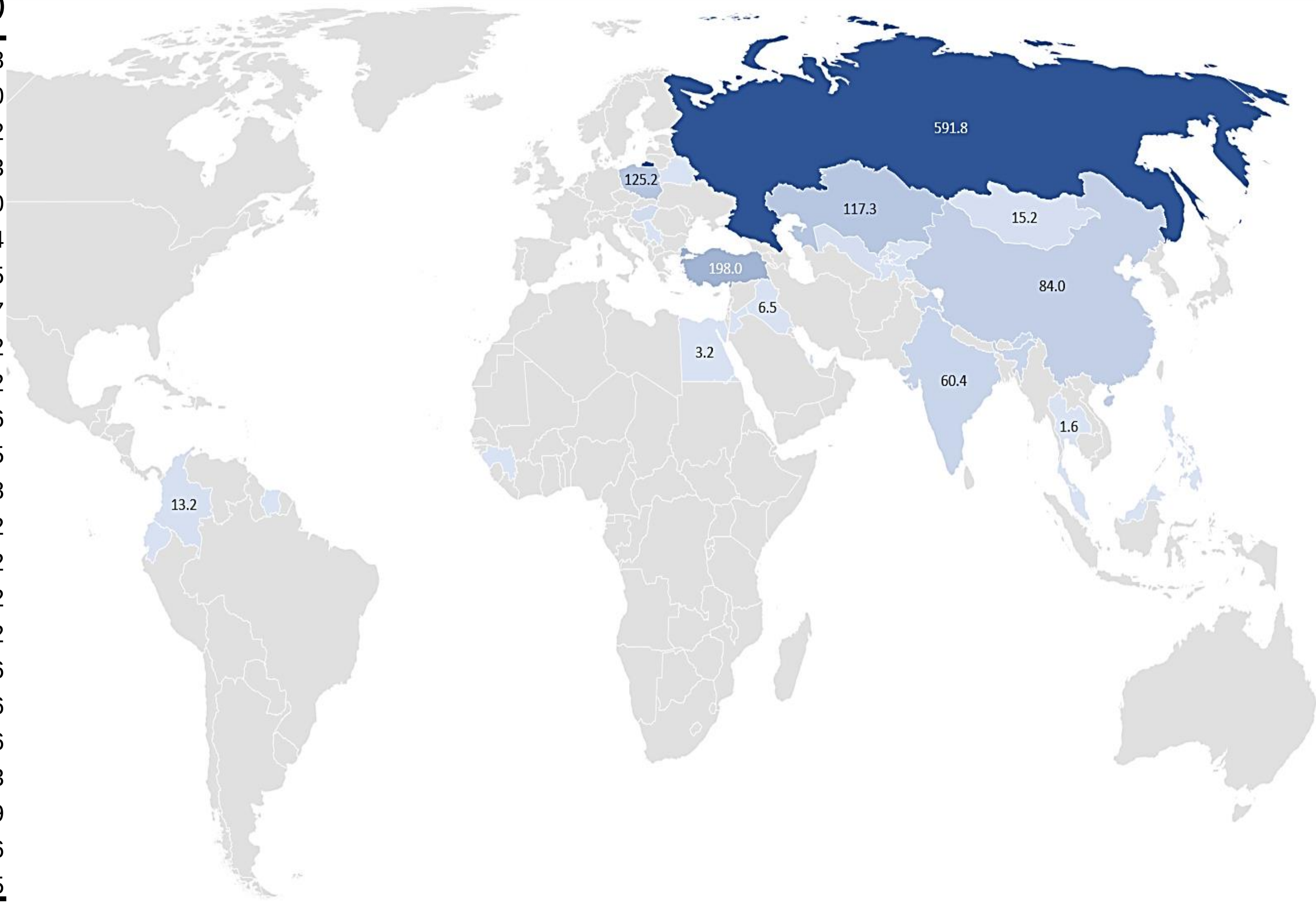
De-dollarization as opposed to diversification



Sanctions undertaken by US, EU and Russia from 2014; diplomatic events include but not limited to the Ukraine crisis, shooting down of MH17, Minsk II talks, closing of Russian consulate in California, Skripal poisoning
Source: Bloomberg, IMF IFS, Brookings, The European Council, World Gold Council; updated as of 01 August 2019

Select central bank gold purchases (2017 to present)

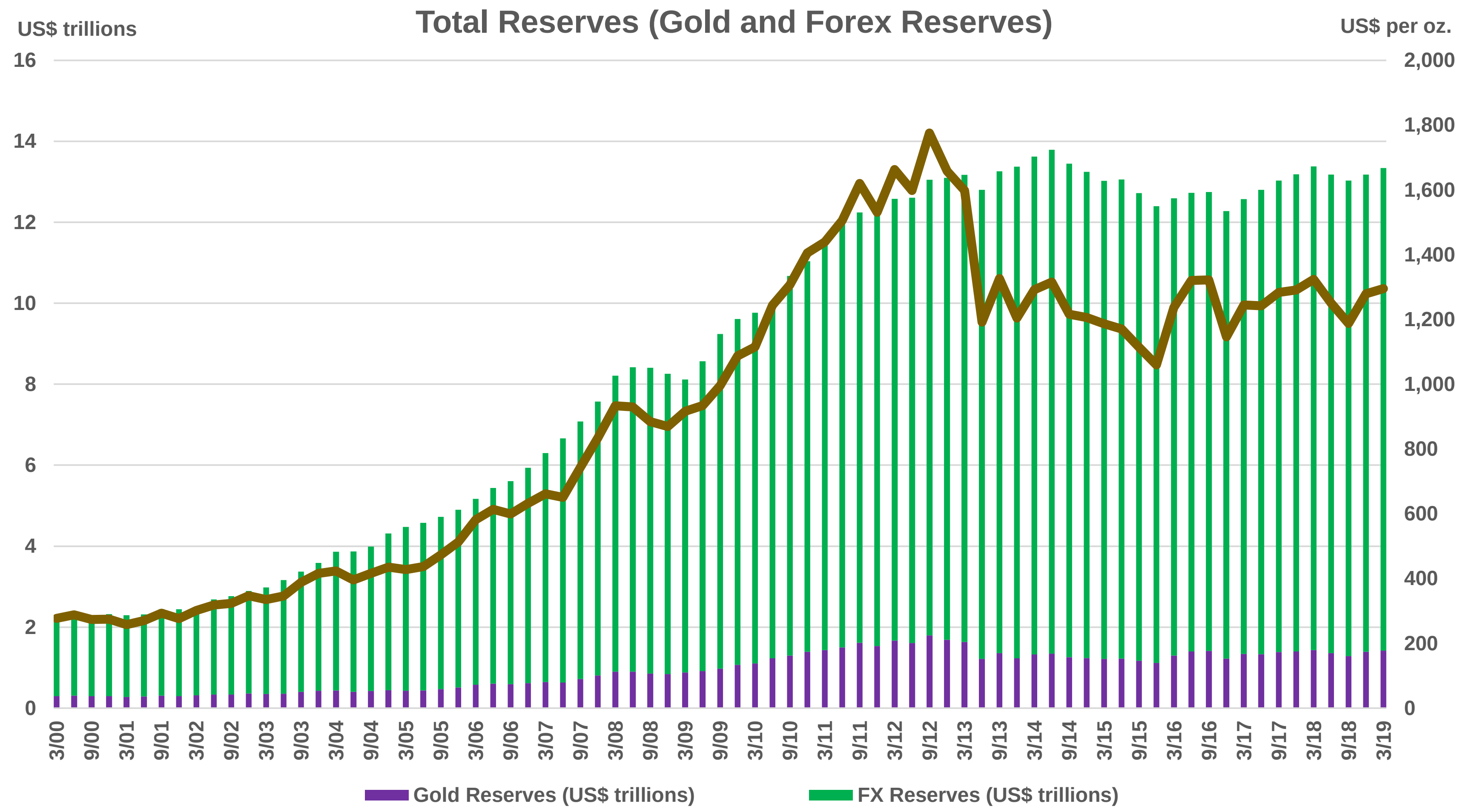
Gold reserves (tonnes)	
Russia	591.8
Turkey	198.0
Poland	125.2
Kazakhstan	117.3
China	84.0
India	60.4
Hungary	31.5
Uzbekistan	22.7
Mongolia	15.2
Colombia	13.2
Kyrgyz Republic	8.6
Iraq	6.5
Tajikistan	5.8
Ecuador	5.2
Egypt	3.2
Serbia	2.2
Jordan	2.2
Qatar	1.6
Philippines	1.6
Thailand	1.6
Guinea	1.3
Belarus	0.9
Malaysia	0.6
Suriname	0.5



Source: IMF, World Gold Council. Data reflects cumulative net purchases amongst select central banks from January 2017 to March 2019. Only includes countries with net purchases greater than 0.5 tonnes.
Turkey data reflects gold purchases outside of the Reserve Option Mechanism programme
Certain countries are excluded because their gold accumulations were the result of accounting changes, or because changes were the result of regular swap activity

Re-balancing

Total reserves have grown tremendously despite the growth of multilateral support and bilateral swap lines

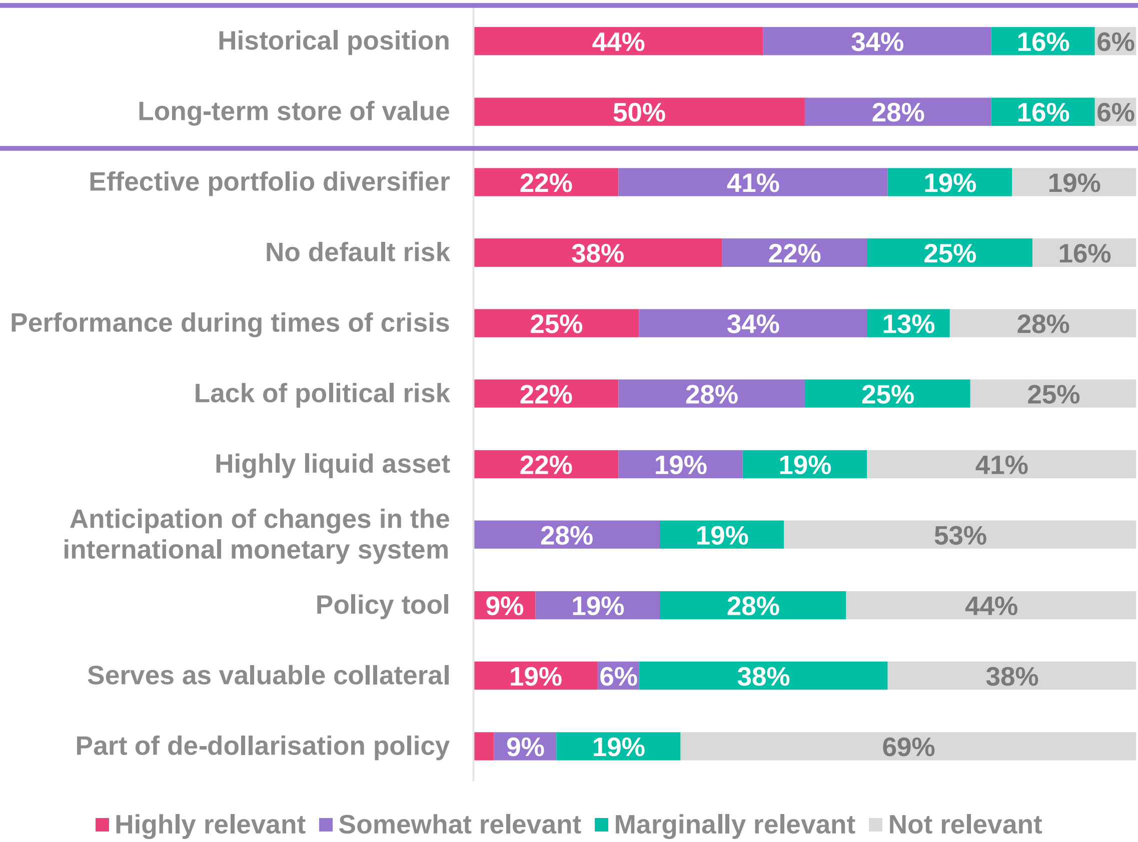


Source: World Gold Council, IMF IFS; updated as of Q1 2019

Survey results - 2019

Results from the Central Bank Survey

Why do central banks hold gold?



% Highly relevant or Somewhat relevant

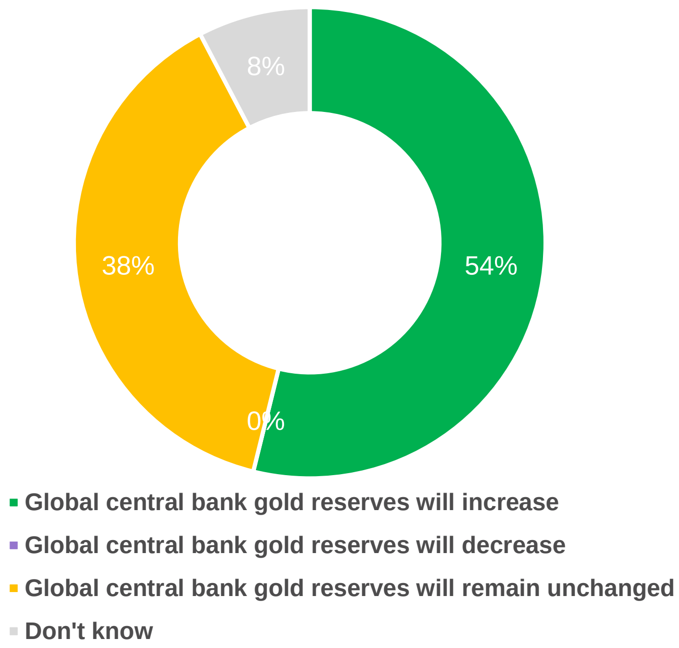
	ALL	ADVANCED	DEVELOPING
Historical position	78%	100%	70%
Long-term store of value	78%	67%	83%
Effective portfolio diversifier	63%	44%	70%
No default risk	59%	22%	74%
Performance during times of crisis	59%	44%	65%
Lack of political risk	50%	33%	57%
Highly liquid asset	41%	33%	43%
Anticipation of changes in the international monetary system	28%	-	39%
Policy tool	28%	11%	35%
Serves as valuable collateral	25%	11%	30%
Part of de-dollarisation policy	13%	-	17%

Source: World Gold Council, YouGov

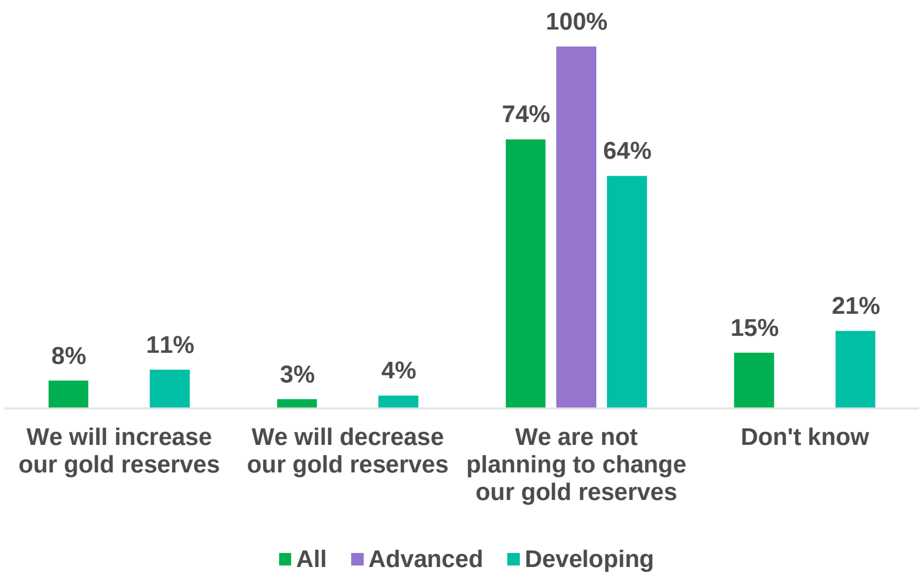
For the second consecutive year, the World Gold Council has worked with YouGov to conduct a survey of central banks. The questionnaire was designed by World Gold Council and set-up on YouGov's secure survey system before links to the survey were sent to central banks around the world. 39 central banks completed the survey.

Central Bank Gold Investment Plans

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



How do you expect your institution's gold reserves to change over the next 12 months?



Source: World Gold Council, YouGov
Base: All central banks (39); Advanced economies (11); Emerging markets and developing economies (28).

The Latin American Context

Macro conditions in Latin America

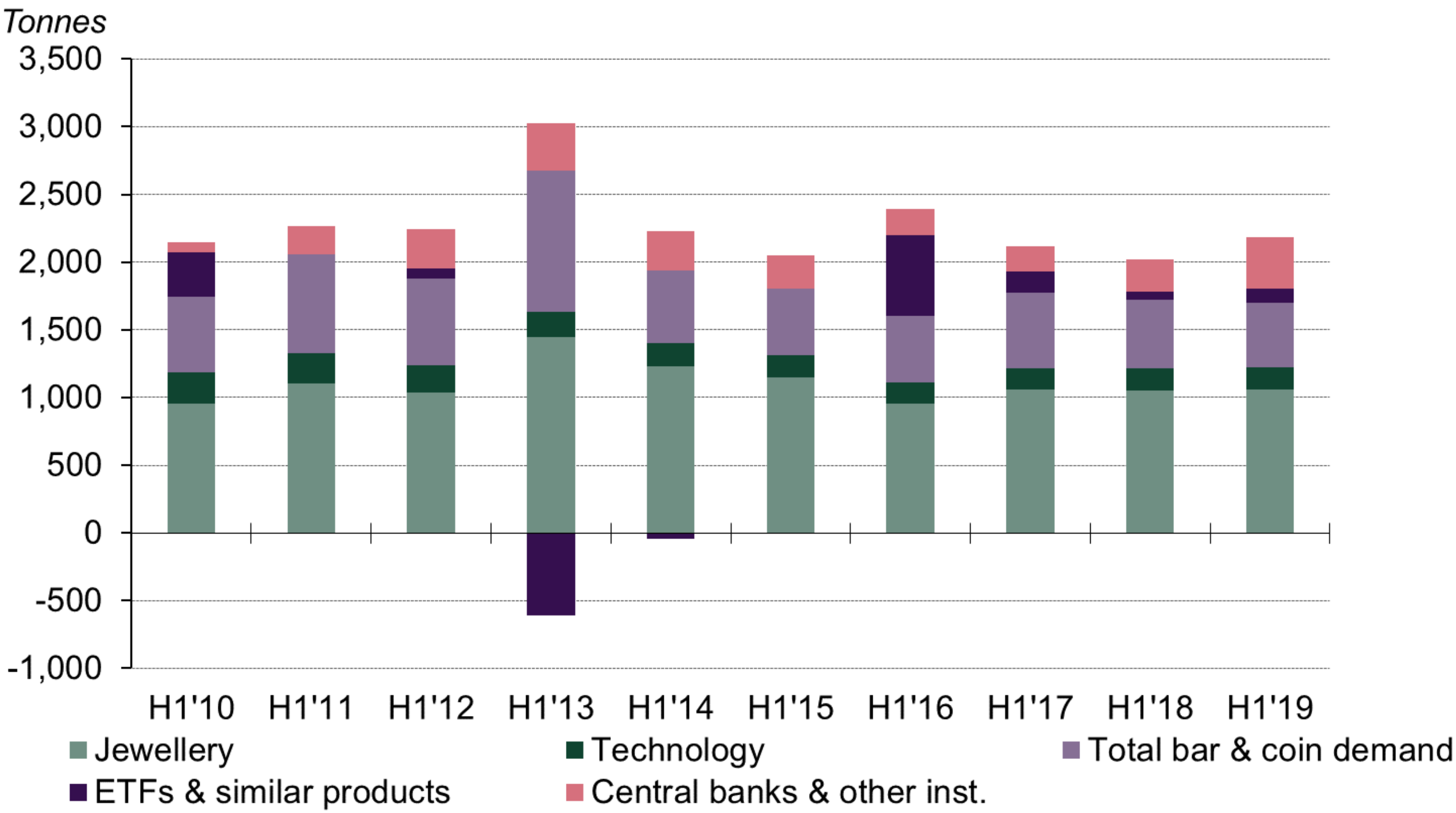
- **The norm in Latin America**
  - **Sound public finances, stable prices and sustained growth:** Mexico to Uruguay and Peru to Chile
- **Anomalies**
  - **Hyperinflation:** Venezuela
  - **Currency crisis:** Argentina
- **Pending challenges:**
  - considerable increase in the volatility of capital flows
  - Adequate liquidity provision is crucial to absorb shocks efficiently
  - Sound macro management, strengthening institutions and incentivizing the economy to be productive

Reserve Management in the Latin American Context

- **Reserve Management**
  - Broader universe of financial assets to tackle low interest rates in AEs
    - Higher yielding but riskier and less liquid
  - Focus on diversification while extending investment universe
  - Increased relevance of return performance in reserve currency: USD
  - Asset allocation tends to be in USD
  - Liquidity and investment portfolios: availability vs returns
  - Long investment horizon key: to benefit return and volatility predictability
  - Being able to invest considering longer horizon than typically is favourable
  - Gold is the answer!

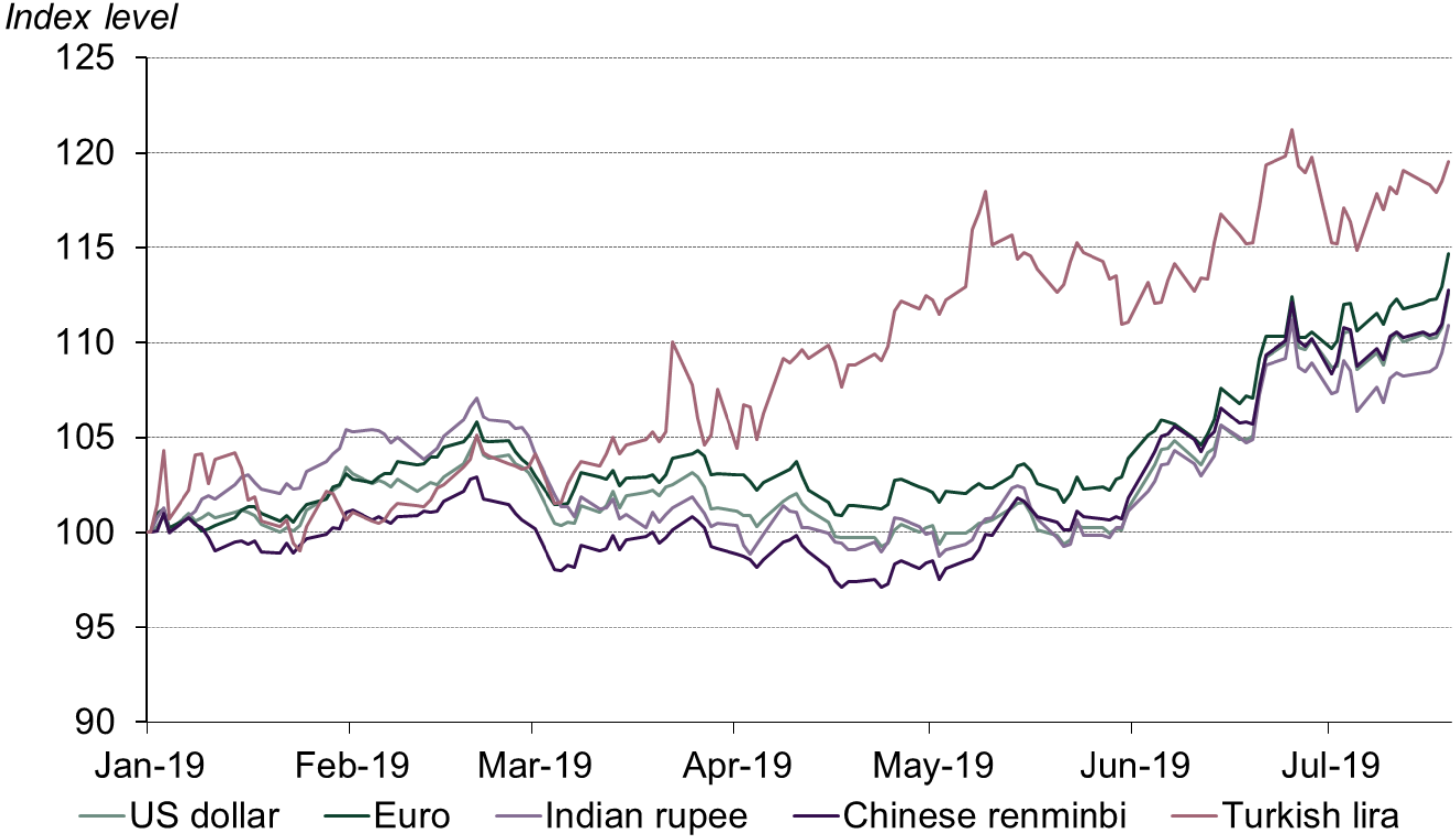
Q2 2019 Gold Demand Trends

H1 gold demand boosted to a three-year high by record central bank buying



Source: Metals Focus; Refinitiv GFMS; World Gold Council

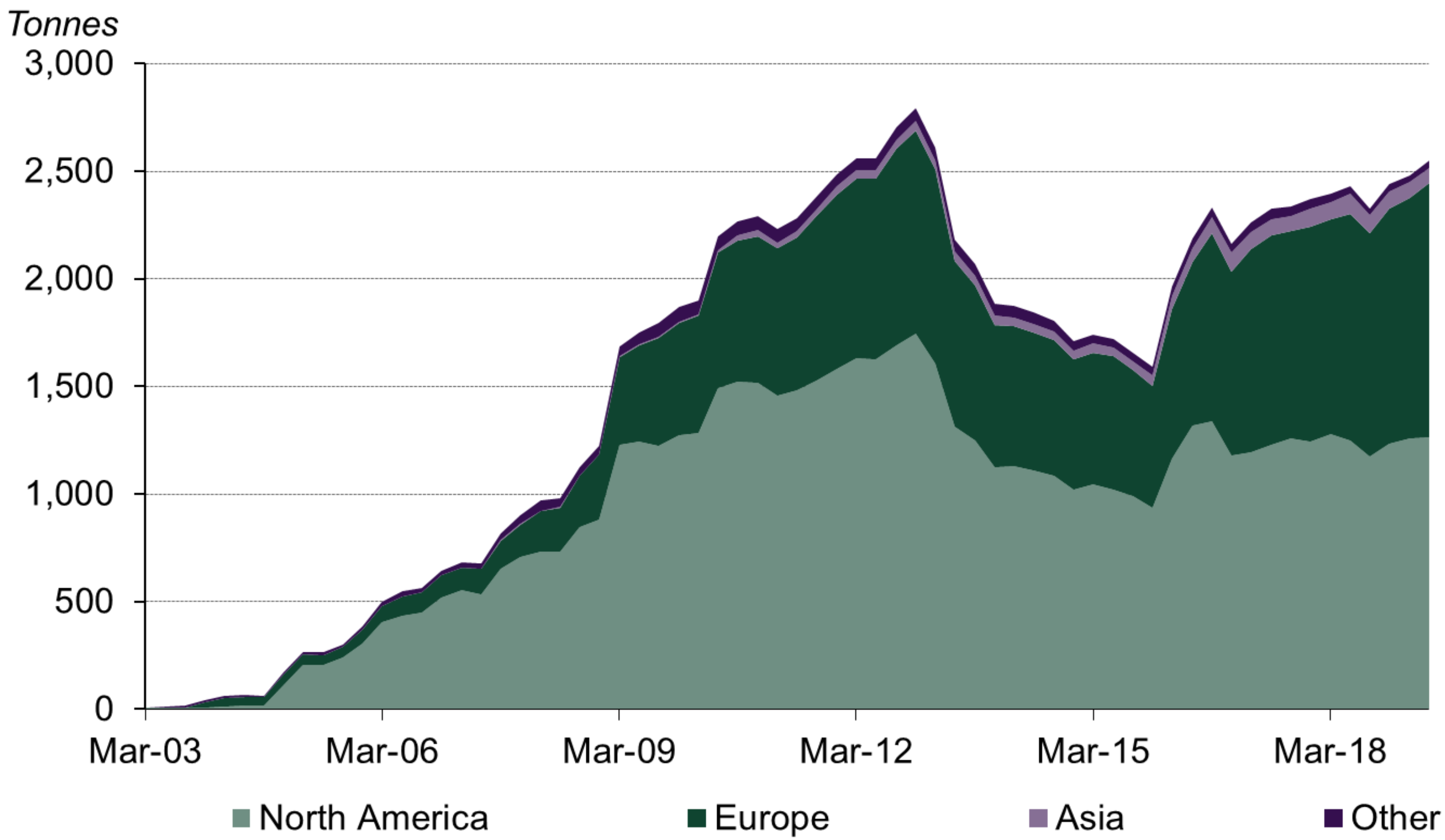
US$ gold price rise was matched – or exceeded – by the price in other currencies



Index level 01/01/2018 = 100
Source: ICE Benchmark Administration; Datastream; World Gold Council

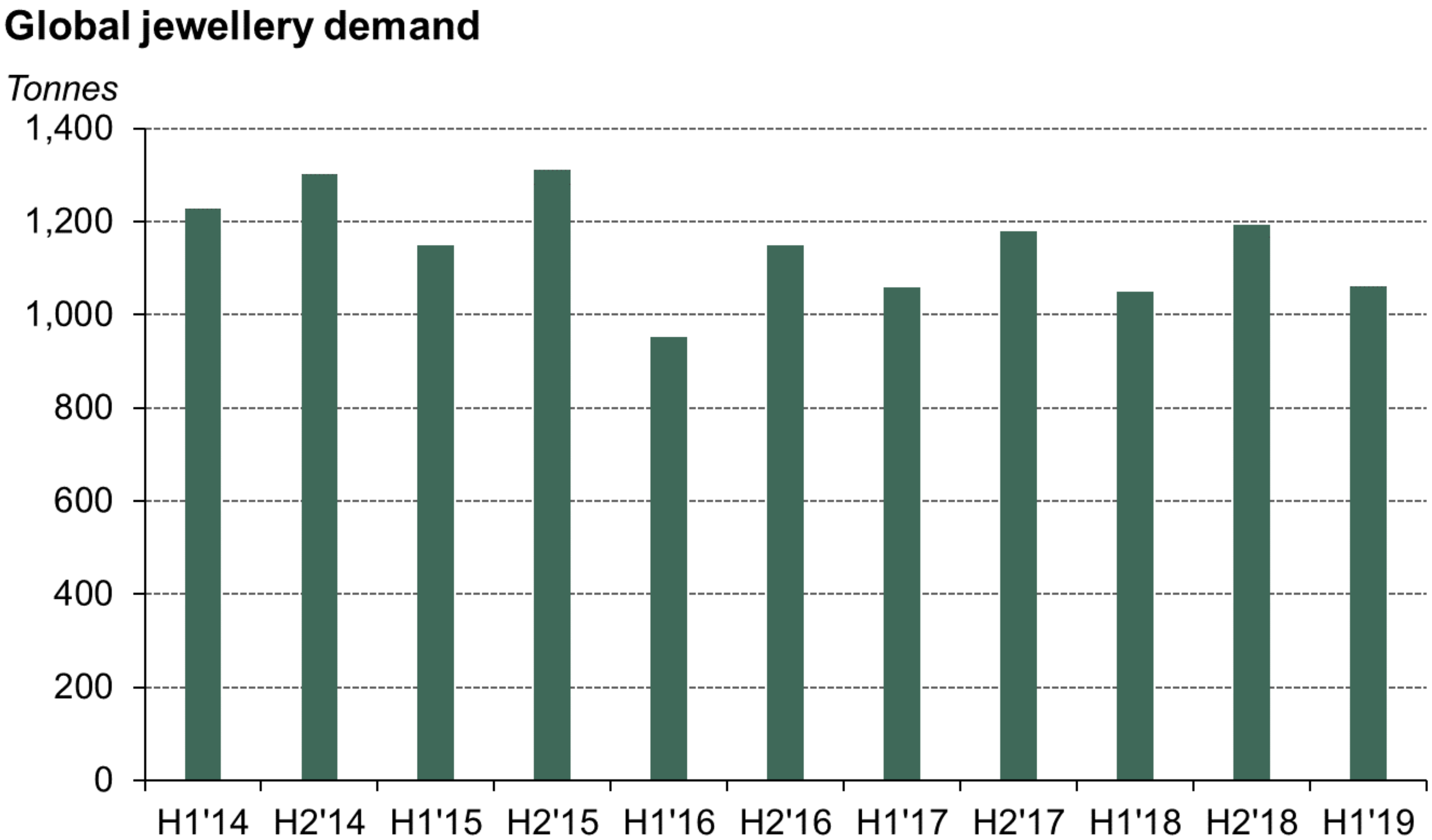
Continued ETFs inflows; highest AUM in 6 years

Gold-backed Exchange Traded Fund holdings



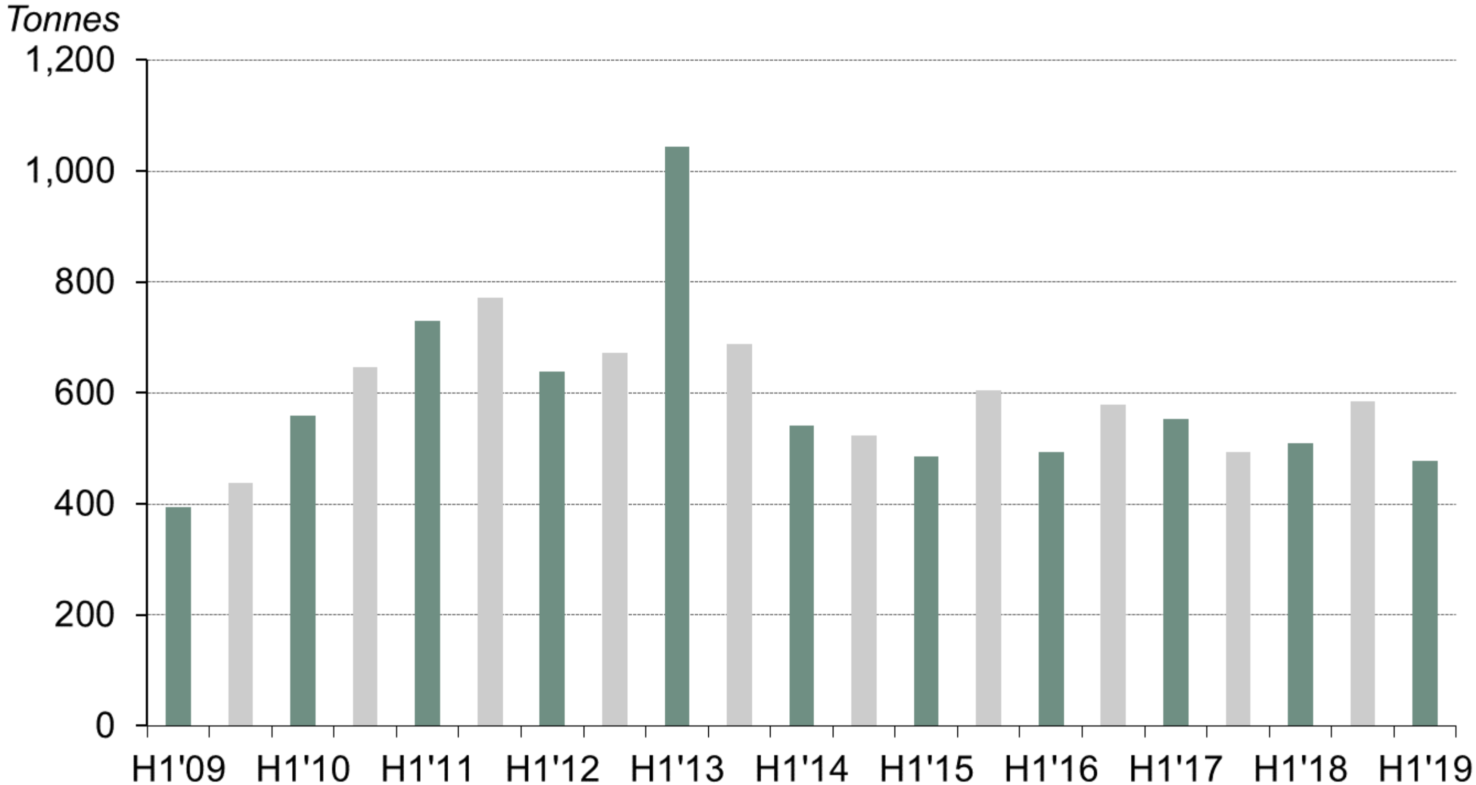
Sources: Bloomberg, Company Filings, ICE Benchmark Administration, Shanghai Gold Exchange, World Gold Council

Global jewellery demand steady



Source: Metals Focus, Refinitiv, World Gold Council

H1 bar and coin demand fell to its lowest level since 2009 due to profit-taking



Source: Metals Focus; Refinitiv GFMS; World Gold Council

Gold reserve operations

Adding gold to reserves

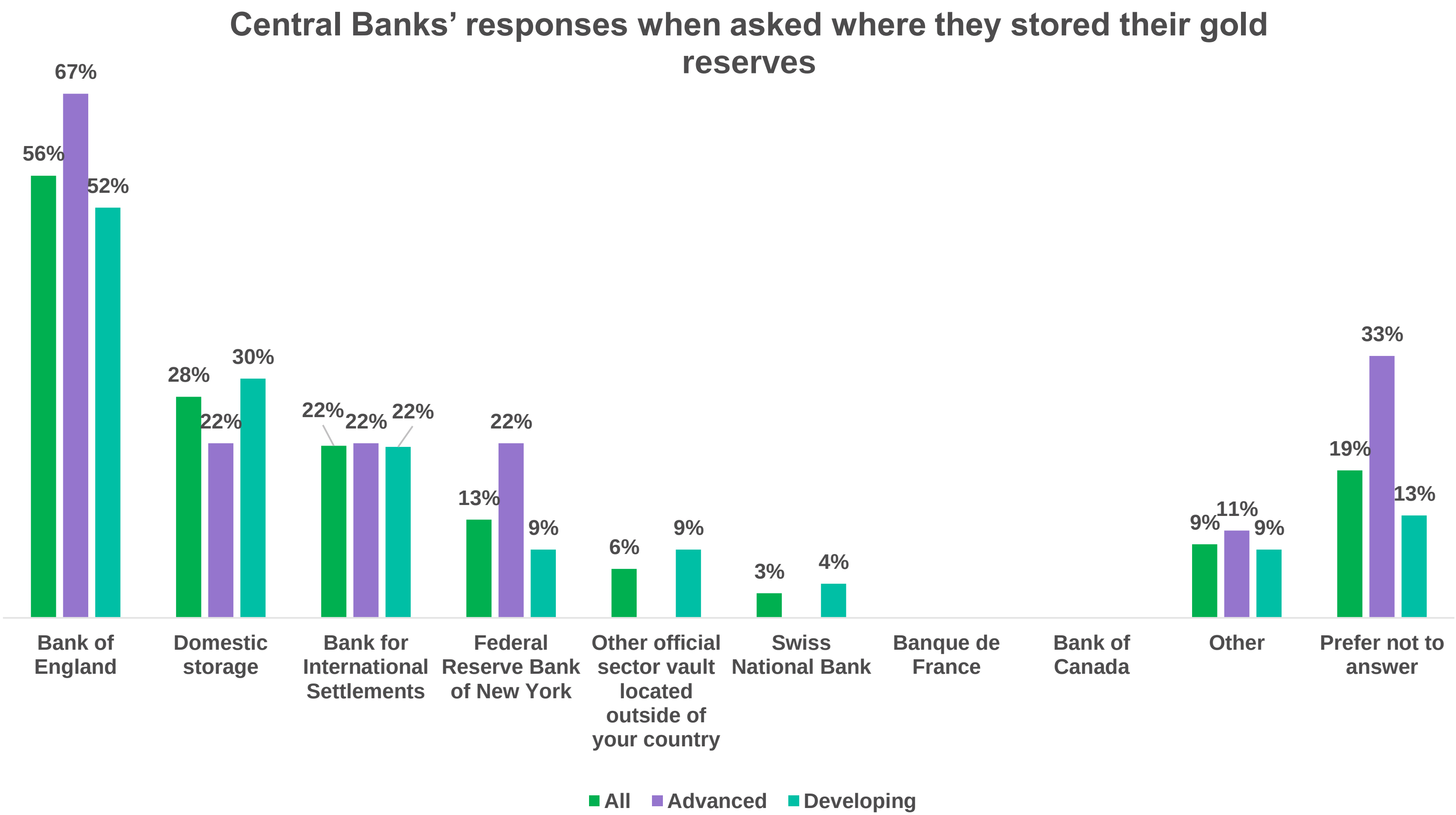
- Purchase GD gold in the global OTC market.
- Buy local production (either dore from miners, from refiners or from local banks).

Custody Options

Bank of England	Bank of France	New York Fed	Bank for International Settlements
• Primarily offers gold accounts to central bank customers • Allocated gold accounts only • Consider providing gold accounts to certain commercial firms to facilitate access for central banks to the liquidity of the London gold market	• Gold custody for central banks. • Execution services. • Gold deposits and swaps	• 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.	• Gold purchases and sales, 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

Central Bank Custody Locations

2019 Survey Results

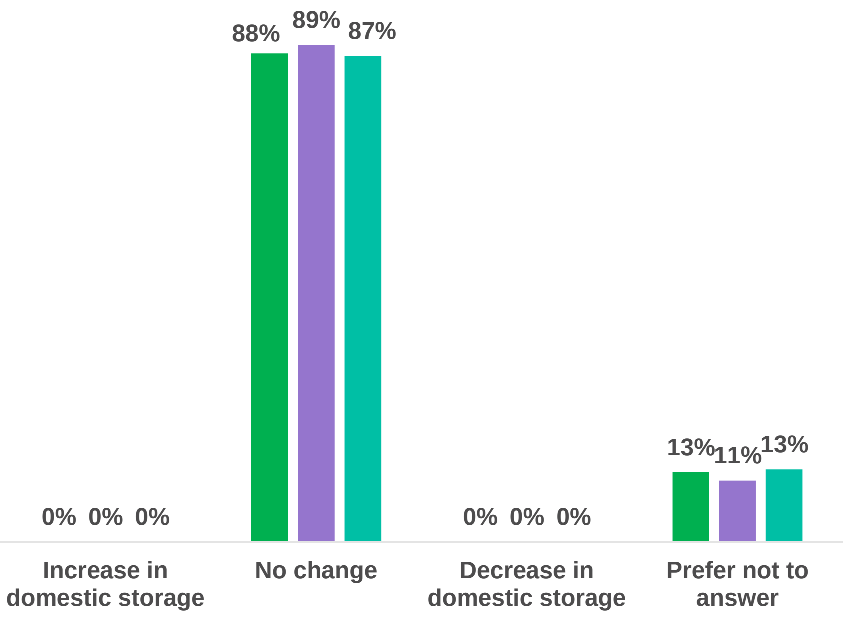


Base: All central banks with gold holdings (32); Advanced economies (9); Developing economies (23)

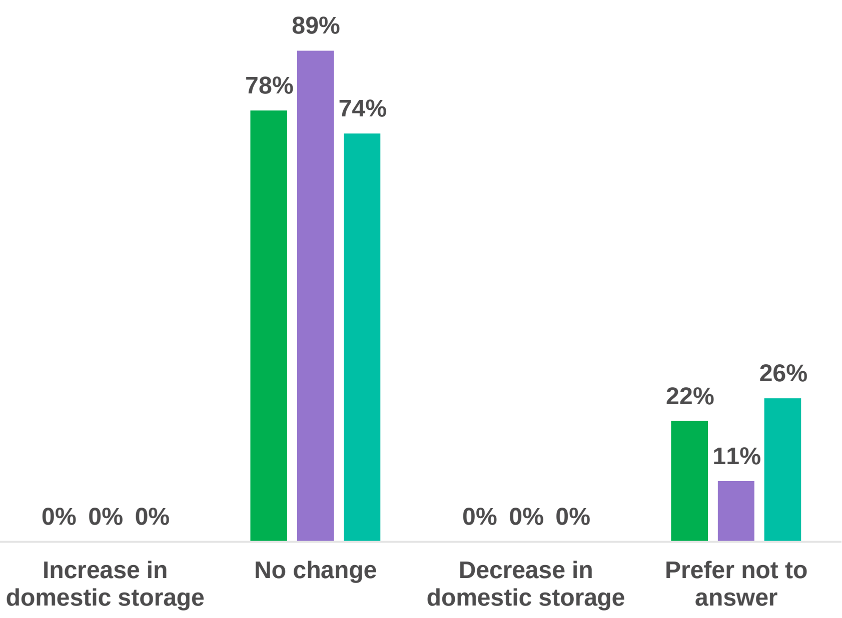
Central Bank Custody Locations

2019 Survey Results

How, if at all, have your custody arrangements changed over the past 12 months?



How, if at all, do you <u>intend to change</u> your custody arrangements change over the next 12 months?



Base: All central banks with gold holdings (32); Advanced economies (9); Developing economies (23)

Custody locations

Domestic vs International

	Vaulting Location (% of Total Holdings)								
	Tonnes	Domestic	BoE	NY Fed	SNB	BoC	BdF	BIS*	Swaps
United States	8133.5	100.0%							
Germany	3369.7	50.7%	12.6%	36.7%					
IMF	2814.0	Held at designated despositories in the US, UK, France and India. Breakdown is unknown							
Italy	2451.8	44.9%	5.8%	43.3%	6.1%				
France	2436.1	91.0%	Remainder is held abroad, locations are not disclosed						
Russia	2207.0	100.0%							
China	1926.5	Undisclosed							
Switzerland	1040.0	70.0%	20.0%			10.0%			
Japan	765.2	Undisclosed							
India	618.2	48.2%	Remainder is held abroad at the BoE and the BIS, breakdown is undisclosed						
Netherlands	612.5	31.0%	18.0%	31.0%		20.0%			
ECB	504.8	Stored across several locations, breakdown undisclosed							
Taiwan	423.6	Undisclosed							
Portugal	382.5	45.1%	15.9%	1.0%				5.2%	32.8%
Kazakhstan	375.3	Undisclosed							
Uzbekistan	351.5	Undisclosed							
Saudi Arabia	323.1	Undisclosed							
United Kingdom	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 operates its own vaults, however.*

Tonnage as of August 2019, 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, the gold holdings of the UK held at the BoE, and the gold holdings of France held at the BdF 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

Upgrading Gold Holdings - Old versus New

- Legacy gold (old melts) may not meet Good Delivery standards in terms of purity, weight and other deleterious matter
- In most cases, they will not be acceptable for delivery and settlement of gold transactions (spot, swap, etc.)

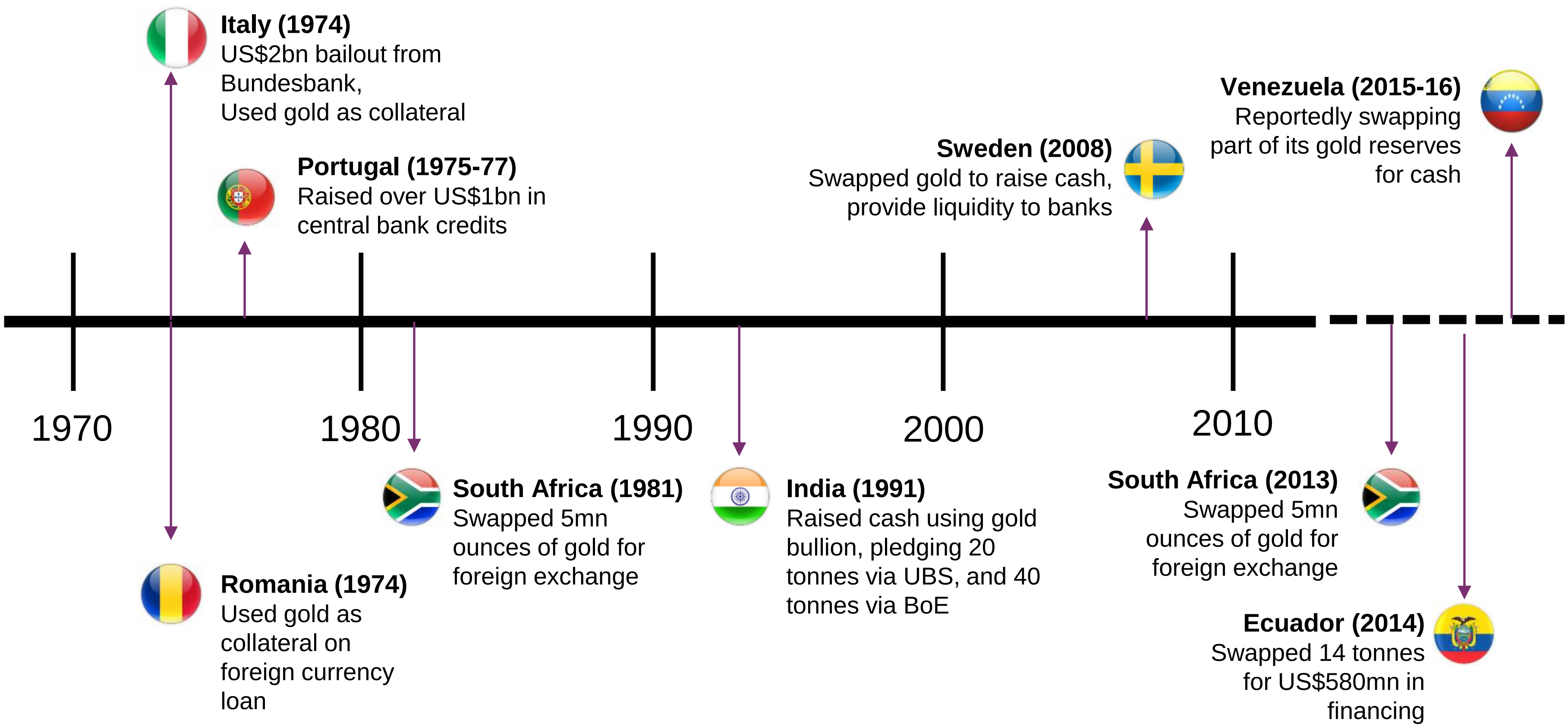
Gold Deposits

Description	• Place gold on deposit with counterparty (unsecured) to earn yield paid in cash
Objectives	• Generate income on gold reserves
Benefits	• Central bank also eliminates storage costs on gold while it is on deposit, adding to the income generated by the deposit
Considerations	• Counterparty risk, deposit is unsecured • Need for gold custodian and cash correspondence accounts • The weight of the gold returned at the end of the deposit may vary, with the difference compensated in cash
Gold Location	• Gold located in a major gold trading center can minimize costs and maximize ease of transaction • Alternative arrangements are possible for gold located outside of major gold trading centers

Gold Swaps

Description	• Gold is used as collateral and exchanged for foreign exchange deposits
Objectives	• Generate liquidity in hard currency without selling gold • Generate income by lending hard currency against gold
Benefits	• Central bank can manage dollar funding strains without having to sell or deploy foreign currency reserves • Avoids portfolio liquidation • Allows longer duration investments
Considerations	• Counterparty risk, ISDA not common with CBs (refer BIS) • Haircut on collateral (gold has15% haircut under Basel 3)
Gold Location	• Gold located in a major gold trading center can minimize costs and maximize ease of transaction • Alternative arrangements are possible for gold located outside of major gold trading centers

Gold Can Be Deployed as Collateral in Times of Need



Accounting for monetary gold

Accounting for Gold

The Issue

- Over half of the world's central banks include monetary gold in their reserves to help diversify foreign reserve portfolios.
- General purpose financial reporting frameworks lack appropriate guidance on accounting for monetary gold.
- In the absence of a suitable framework, monetary authorities adopted a variety of different treatments, which limit the comparability of financial statements and risks a reduction in their credibility.

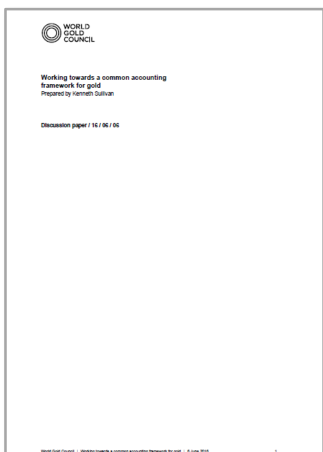
Objective: establish an internationally recognized standard for gold accounting for monetary authorities that could significantly improve gold's status as an integrated asset in many central bank reserve portfolios.

Accounting for Gold

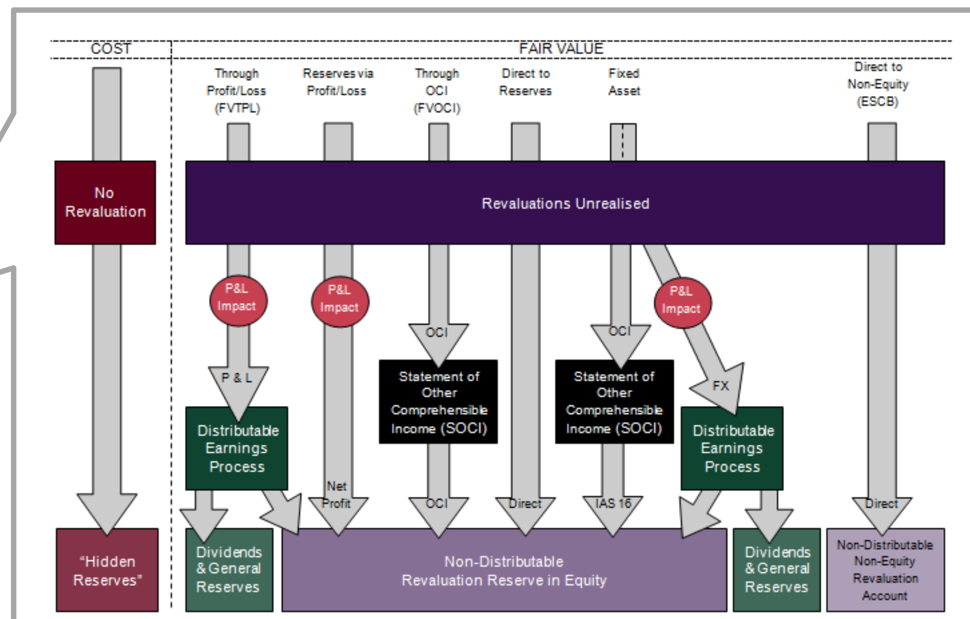
Our Research

- In June 2016, we officially released a discussion paper on a “Common accounting framework for gold”.
- The paper was authored by Kenneth Sullivan, a well-known expert on central bank accounting practices and former IMF official.
- The foreword was written by Deutsche Bundesbank Executive Board Member, Carl-Ludwig Thiele, and technical assistance was provided by PWC, the World Bank, and a former accounting official from the Bank of England.

June 2016


Working towards a common accounting framework for gold
Prepared by Kenneth Sullivan

Discussion paper / 16 / 06 / 06

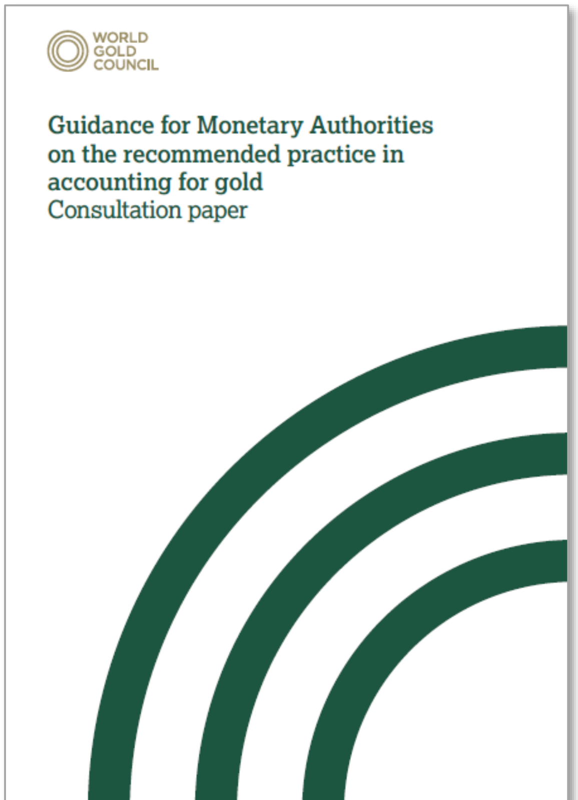


Accounting for Gold

Our Guidance

To match accounting for gold to its functional objectives, monetary authorities require a framework that recognizes the several reasons they may hold gold and reflects the economic substance of these holdings.

February 2018


WORLD GOLD COUNCIL

Guidance for Monetary Authorities on the recommended practice in accounting for gold
Consultation paper

This guidance, in the form of recommended practice, aims to help standardize accounting practices of monetary authorities with respect to gold, by establishing a suitable framework that is consistent with the conceptual framework of current financial reporting standards.

Appendix

A History of the Central Bank Gold Agreements

- The first Agreement (CBGA 1) lasted from September 27, 1999 to September 26, 2004 and covered sales of 2,000 tonnes of gold over that period.
- The second Agreement (CBGA 2) lasted from September 27, 2004 to September 26, 2009 and provided for a maximum of 500 tonnes to be sold in each agreement year for a maximum total of 2,500 tonnes. Total sales under CBGA 2 amounted to 1,884 tonnes, well under the limit.
- The third Agreement (CBGA 3) covered sales for a period of five years from September 2009 and allowed a maximum of 400 tonnes to be sold in each agreement year for a maximum total of 2,000 tonnes. These limits in CBGA3 accommodated the market sale of 181.3 tonnes of gold by the IMF. The IMF completed its programme of sales in December 2010.
- The fourth Agreement (CBGA 4) came into effect on September 26, 2014. No limits to annual gold sales were specified under CBGA 4, but no countries have announced any planned sales under the agreement.

A History of the Central Bank Gold Agreements

- On the 26th of July, 2019, the European Central Bank (ECB) and 21 other central banks that are signatories of the Central Bank Gold Agreement (CBGA) decided not to renew the Agreement upon its expiry in September 2019
- Signatory banks concluded that a formal agreement was no longer necessary as the market has developed and matured
- The banks also confirmed that gold remains an important element of global monetary reserves, as it continues to provide asset diversification benefits and none of them currently has plans to sell significant amounts of gold

Source: ECB press release
https://www.ecb.europa.eu/press/pr/date/2019/html/ecb.pr190726_1~3eaf64db9d.en.html

Spot Gold Purchase

LGD gold - priced in US$ per fine ounce, quoted on a T+2 settlement basis

- The central bank buys 1000 oz from the bullion bank at $1,309.19
- The bullion bank instructs the BOE to debit its gold account with 1,000 oz gold and credit the central bank`s account at T+2.
- The central bank instructs its USD clearing bank to pay $1,309,190 (1000oz*$1,309.19) to the bullion bank`s US dollar account in NY at T+2.
- The gold leg of the transaction settles by 4pm London time on T+2.
- The dollar leg of the transaction does not occur until 5 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.

Gold Deposits

- A central bank lends 1,000 oz gold with a bullion bank loco-London, 3-month at 20bp, spot date of 4^{th} February.
- The base price i.e the current spot rate: \$1,309
- The exact weight: 807.92 oz
- The interest is in US\$ and paid on the maturity date (4^{th} May)

Interest earned = (807.92oz\$1309 *0.0020*90)/360*

= \$528.78

- The exact amount of gold returned: 810.20 oz
- An additional 2.28 oz: purchase against \$3692.23 (\$1309.30x2.28 oz)
- The central bank settles the net cash with the bullion bank: sends a money transfer order for \$3163.44