RBC Global Asset Management

Gold and gold equities

‘Barbarous relics’ or contemporary strategic assets?

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Executive summary

We live in an era of historically low interest rates, and the likelihood that it will persist for a prolonged period confronts investors with a quandary: which asset classes offer a degree of protection if low rates remain a long-term feature of the investment landscape? Gold and gold equities, which tend to outperform when interest rates are low or falling, may provide part of the solution – particularly when investors are not being compensated for inflation. Moreover, the low correlation of gold-related assets to both bonds and stocks makes investments such as the actively managed RBC Global Precious Metals Fund an ideal diversifier for a balanced portfolio.

Today's low interest rates are occurring against an economic backdrop significantly impacted by COVID-19, large government budget deficits and record global debt issuance, and at a time when central-bank asset purchases are turbocharging the money supply. The U.S., for example, is currently growing its money supply at an annualized rate of 23% while headline inflation is only 1.7%.[1] In fact, real interest rates – the headline interest rate less the headline inflation rate – are negative all along the yield curve.[2] The U.S. Federal Reserve (the "Fed") has been clear that it's willing to keep interest rates low indefinitely to ensure that inflation runs close to its 2% targeted level for some period of time.

While this environment is conducive to gold, it is important to remember that many factors influence the performance of gold, leading it to assume different roles at different times – as a currency, a safe haven, a store of value and a commodity. Even in an environment in which interest rates trend upward, gold can play a key role in portfolio diversification, especially as it relates to maximizing risk-adjusted returns over time. This diversification is particularly relevant in today's environment, which is also characterized by the beginning of U.S.-dollar weakness and the rising potential for unanticipated inflation. *We note that the two major gold bull markets since gold's convertibility to the U.S. dollar ended in 1971 have lasted about a decade, meaning today's gold investors can take advantage of what may be the next long-term bull market.* What's more, those two gold bull markets coincided with a declining U.S. dollar, and we are only seven months into a potential new bear market in the greenback.

The now universal pattern of central bankers responding to economic crises[3] with massive monetary stimulus has been highlighted by the current economic fallout from the COVID-19 pandemic. We have not seen these levels of monetary stimulus since just after World War II, and a bullish investment scenario for gold comparable with today's has not prevailed since the aftermath of the 2008-2009 financial crisis, when the price of gold denominated in U.S. dollars almost tripled* in just three years and gold equities rose more than four-fold.**

In this environment, shares of gold producers, developers and explorers are well positioned, and higher prices are not the only reason: gold companies have spent the past five years fortifying their balance sheets and committing to a renewed focus on capital discipline, shareholder returns and environmental, social and governance (ESG) factors. These steps are in contrast to the "grow-at-all-cost" philosophy that ended in the industry-decimating 2011-2015 bear market.

While gold equities have rallied strongly since the start of the year, valuations remain within acceptable and historical ranges, and are justified given strong fundamentals and the long duration of past gold bull markets. As well, gold stocks are attractively priced relative to the broader market with a forecast 1.4% dividend yield. RBC GAM research finds that absolute and risk-adjusted returns are both enhanced when a 5% allocation of the RBC Global Precious Metals Fund is added to a traditional balanced portfolio composed of 60% equities and 40% fixed income. Moreover, the addition of the RBC Precious Metals Fund produced superior risk-adjusted returns relative to both gold bullion and the S&P/TSX Composite Gold benchmark. With interest rates forecast to remain near zero for at least the next few years, there appears to be good reason for long-term investors to include gold and gold equities as part of their asset-allocation mix.

Note: *Gold – October 24, 2008 – September 6, 2011. **Philadelphia Stock Exchange Gold and Silver Index – October 28, 2008 – September 6, 2011.

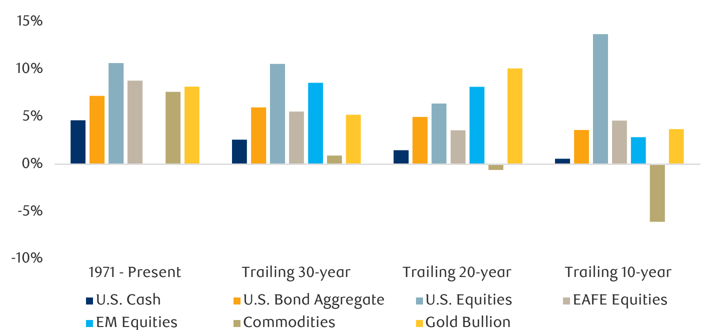
Why invest in gold?

Gold has assumed different roles at different stages of history – as a currency, a safe haven, a preservation of capital or hedge against inflation, as a raw material for use in jewelry and industry, and more recently as a protection against financial repression.[4] While the economist John Maynard Keynes called the gold standard a 'barbarous relic'[5] and the great investor Warren Buffett has long derided gold,[6] Ray Dalio, another famous money manager, is among the vocal advocates of owning gold in times of uncertainty and crisis.[7] "Gold is 80% a currency and 20% a commodity," Pierre Lassonde, co-founder Franco-Nevada Corp., the world's largest gold-royalty company, has said.[8]

As an asset class in its own right, gold exhibits features that are attractive to investors, including competitive long-term returns, robust liquidity and diversification because of its low correlation with other asset classes.

- Gold has delivered gains over multiple time horizons. Since 1971, the year that Richard Nixon ended the convertibility of the U.S. dollar into gold, gold prices have risen by an annual average of just over 8%. Importantly, gold has outperformed both U.S. cash and a U.S. bond aggregate over trailing 10-year and 20-year periods. Since 1971, the performance of gold has been competitive versus U.S. equities (Exhibit 1).
- Gold liquidity, as measured by the total nominal value of daily trading, is approximately US$150 billion, or almost as much as the daily trading value of all S&P 500 Index stocks combined or in Treasury bills ranging between 1 and 3 years. This level of liquidity allows investors to enter and exit large positions relatively quickly without moving prices significantly and limits the signaling of investment shifts by large investors (Exhibit 2).
- The World Gold Council,[9] the marketing arm of the gold industry, says the addition of varying amounts of gold to hypothetical portfolios over the past 1-, 5-, 10- and 20-year periods would have resulted in improvements to overall risk-adjusted returns. For an average pension allocation, the risk-adjusted return would have been maximized by a 5% gold weight in the portfolio, representing the ideal weight on the efficient frontier. Portfolios consisting of even higher equity weights would have benefited even more by including a gold weight of approximately 10% in the portfolio mix (exhibits 3–5).

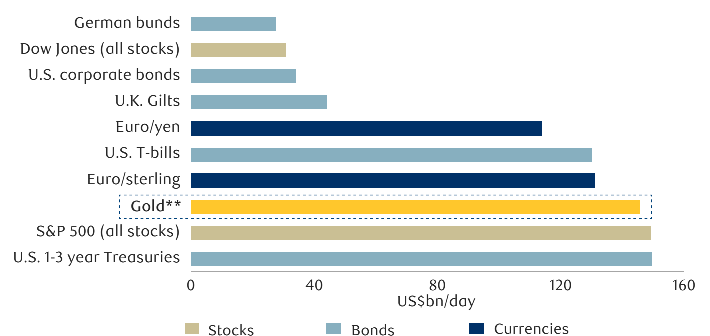
Exhibit 1: Gold delivers competitive long-term performance versus other asset classes



Asset	Proxy	Date
U.S. Cash	FTSE U.S. 3-mo Tbill	Jan. 1970 – Dec. 1977
U.S. Cash	Internal 1 & 3-mo MMkt	Jan. 1978 – Sept. 2020
U.S. Aggregate Bond	Internal 10-year U.S. Total Return	Jan. 1970 – Jan. 1973
U.S. Aggregate Bond	Bloom/Barclay U.S. Treasury	Feb. 1973 – Jan. 1976
U.S. Aggregate Bond	Bloom/Barclay U.S. Agg	Feb. 1976 – Sept. 2020
U.S. Equities	S&P 500	Jan. 1970 – Sept. 1920
EAFE Equities	MSCI EAFE	Jan. 1970 – Sept. 2020
EM Equities	MSCI Emerging Markets	Jan. 1988 – Sept. 2020
Commodities	Bloomberg Commodities	Jan. 1970 – Sept. 2020
Gold	Gold Spot	Jan. 1970 – Sept. 2020

Note: As of date September 30, 2020. Source: RBC GAM

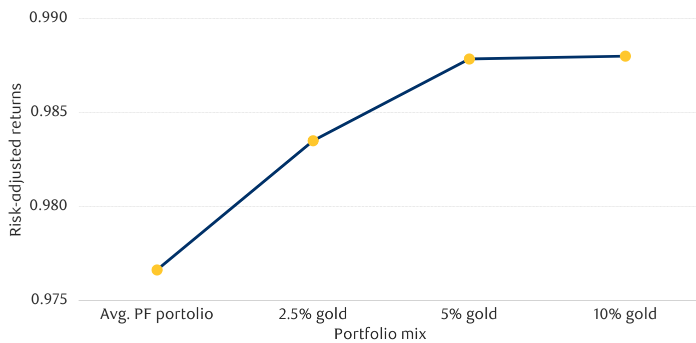
Exhibit 2: Gold has robust liquidity, with average daily trading volume of nearly US$150 billion



Note: As of December 31, 2019. **Gold liquidity includes estimates on over-the-counter (OTC) transactions and published statistics on futures exchanges, and gold-backed exchange-traded products. For methodology details visit the liquidity section at Goldhub.com. Sources: Bloomberg, Bank for International Settlements, U.K. Debt Management Office (DMO), Germany Finance Agency, Japan Securities Dealers Association, Nasdaq, World Gold Council.

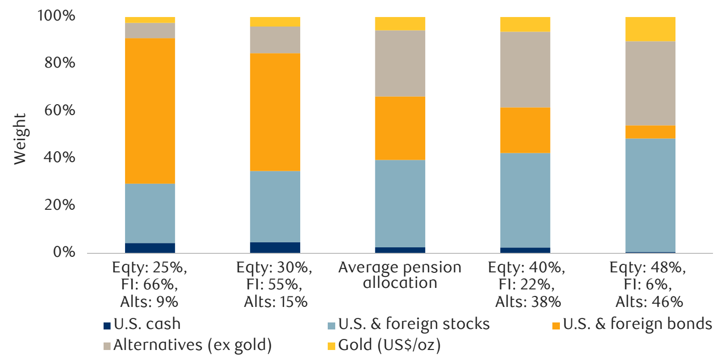
Exhibit 3: Adding gold over the past decade would have increased risk-adjusted returns of a hypothetical average pension fund portfolio

Performance of a hypothetical average pension fund (PF) portfolio with and without gold*



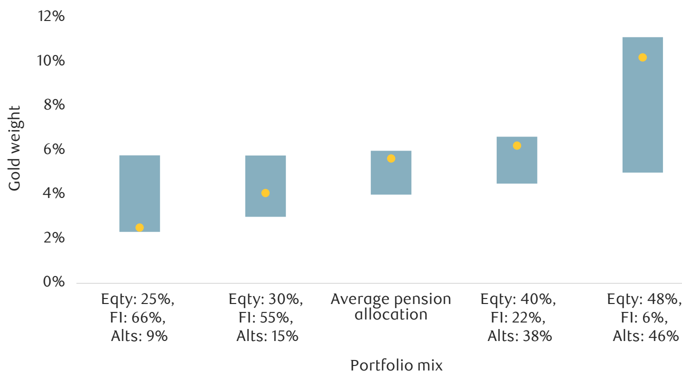
Note: *Based on performance between 31 December 2009 and 31 December 2019. The hypothetical average US pension fund portfolio is based on Willis Tower Watson Global Pension Assets Study 2019 and Global Alternatives Survey 2017. It includes annually-rebalanced total returns of a 42% allocation to stocks (27% MSCI USA Net Total Return, 15% MSCI ACWI ex U.S.), 27% allocation to fixed income (21% Barclays U.S. Aggregate, 3% Barclays Global Aggregate ex US, 1% JPMorgan EM Global Bond Index and 3% short-term Treasuries), and 30% alternative assets (13% FTSE REITs Index, 8% HFRI Hedge Fund Index, 8% S&P Private Equity Index and 1% Bloomberg Commodity Index). The allocation to gold comes from proportionally reducing all assets. Risk-adjusted returns are calculated as the annualised return/annualised volatility. Sources: World Gold Council, Bloomberg, ICE Benchmark Administration

Exhibit 4: Long-run optimal allocations based on asset mix*



Note: *Based on monthly total returns from January 1989 to December 2019 of ICE 3-month Treasury, Bloomberg Barclays U.S. Bond Aggregate, Bloomberg Barclays Global Bond Aggregate ex US, MSCI U.S, EAFE and EM indices, FTSE Nareit Equity REITs Index, Bloomberg Commodity Index and spot returns of LBMA Gold Price PM. Each hypothetical portfolio composition reflects a percentage in stock (Eqty), alternative assets (Alts), cash and bonds (FI). For example: 'Average pension allocation' is a portfolio with 42% in stocks, 30% in REITs, hedge funds, private equity and commodities, and 28% in cash and bonds. Analysis based on New Frontier Advisors Resampled Efficiency. For more information see Efficient Asset Management: A Practical Guide to Stock Portfolio Optimization and Asset Allocation, Oxford University Press, January 2008. Sources: World Gold Council;

Exhibit 5: Range of gold allocations and the allocation that delivers the maximum risk-adjusted return for each hypothetical portfolio mix*

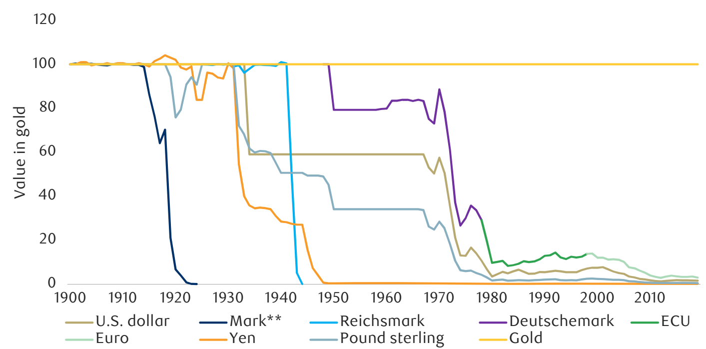


Note: *Based on monthly total returns from January 1989 to December 2019 of ICE 3-month Treasury, Bloomberg Barclays US Bond Aggregate, Bloomberg Barclays Global Bond Aggregate ex US, MSCI US, EAFE and EM indices, FTSE Nareit Equity REITs Index, Bloomberg Commodity Index and spot returns of LBMA Gold Price PM. Each hypothetical portfolio composition reflects a percentage in stock (Eqty), alternative assets (Alts), cash and bonds (FI). For example: 'Average pension allocation' is a portfolio with 42% in stocks, 30% in REITs, hedge funds, private equity and commodities, and 28% in cash and bonds. Analysis based on New Frontier Advisors Resampled Efficiency. For more information see Efficient Asset Management: A Practical Guide to Stock Portfolio Optimization and Asset Allocation, Oxford University Press, January 2008. Sources: World Gold Council;

As an alternative currency and hard asset, gold's value has risen against all major currencies since the early 1900s, even though it does not generate income. While fiat currencies such as the U.S. dollar or Canadian dollar are vulnerable to government deficit spending and mismanagement and their repayment is backed only by the promise of government, gold retains its exchange value because its supply is limited and cannot be manipulated.

Since virtually all other assets including fixed income are priced in their respective currencies, their long-term value suffers from the same inevitable depreciation. When the owner of any currency exchanges their savings for an ounce of gold, their purchasing power is protected (Exhibit 6).

Exhibit 6: Gold has outperformed all major fiat currencies over time



Note: *As of 31 December 2019. Based on the annual average price of a currency relative to the gold price.
**The 'Mark' was the currency of the late German Empire. It was originally known as the Goldmark and backed by gold until 1914. It was known as the Papermark thereafter. Sources: Bloomberg, Harold Marcuse – UC Santa Barbara, World Gold Council

Why invest in gold equities?

RBC GAM highlights in the *Global Investment Outlook – Fall 2020* that the prospect of a prolonged period of low real interest rates presents investors with a quandary, especially fixed-income investors. Pension funds, in particular, may have trouble meeting retiree obligations due to historically low interest rates, forcing them and other investors to consider raising their equity exposure and/or adding alternative assets to their allocation mix.

Gold bullion has one of the lowest correlations to equities among all asset classes based on 20-year returns, according to RBC GAM research. Moreover, gold equities, as measured by the RBC Global Precious Metals Fund, have had very little correlation to most equity styles and a negative correlation to U.S. large-cap equities. This low-to-inverse correlation can help diversify a portfolio and reduce overall risk, particularly over long time horizons (Exhibits 7 and 8).

Exhibit 7: RBC Global Precious Metals Fund exhibits low correlations with most asset classes over 10 years

	10-year correlation of monthly returns as of September 2020	Cash	Sovereign Bonds	Investment Grade Bonds	High Yield Bonds	Emerging Market Debt	Euro High Yield	Canadian Equities	US Large-Cap Equities	US Mid-Cap Equities	US Small-Cap Equities	US Growth Equities	US Value Equities	European Equities	Asian Equities	Emerging Market Equities	Euro Mid-Cap Equities	Japanese Equities	China Equities	Absolute Return Bonds	Direct Real Estate	Mortgages	Infrastructure	Low Vol equities	Long/Short Equities	120/20 Equities	Market Neutral	Macro Strategies	RBC Global Precious Metals Fund	Gold Spot (USD)	S&P/TSX Global Gold Index	Philadelphia Gold and Silver Index	S&P/TSX Composite Gold Index
		Cash and Fixed Income						Equities												Alternative Strategies													
Cash and Fixed Income	Cash	1.00																															
	Sovereign Bonds	0.16	1.00																														
	Investment Grade Bonds	0.07	0.94	1.00																													
	High Yield Bonds	-0.26	-0.04	0.24	1.00																												
	Emerging Market Debt	-0.25	0.24	0.50	0.80	1.00																											
	Euro High Yield	-0.26	-0.01	0.26	0.89	0.73	1.00																										
Equities	Canadian Equities	-0.24	-0.13	0.11	0.79	0.61	0.72	1.00																									
	US Large-Cap Equities	-0.14	-0.13	0.02	0.51	0.28	0.52	0.62	1.00																								
	US Mid-Cap Equities	-0.19	-0.16	0.02	0.60	0.35	0.58	0.72	0.90	1.00																							
	US Small-Cap Equities	-0.21	-0.24	-0.08	0.55	0.28	0.53	0.68	0.83	0.95	1.00																						
	US Growth Equities	-0.12	-0.09	0.07	0.55	0.33	0.54	0.67	0.92	0.94	0.86	1.00																					
	US Value Equities	-0.21	-0.12	0.08	0.64	0.41	0.64	0.74	0.91	0.97	0.92	0.89	1.00																				
	European Equities	-0.12	-0.16	0.01	0.60	0.45	0.68	0.59	0.72	0.66	0.57	0.68	0.69	1.00																			
	Asian Equities	-0.16	-0.01	0.17	0.58	0.50	0.60	0.57	0.58	0.57	0.50	0.59	0.59	0.66	1.00																		
	Emerging Market Equities	-0.19	-0.05	0.14	0.63	0.57	0.63	0.61	0.53	0.54	0.46	0.55	0.55	0.66	0.95	1.00																	
	Euro Mid-Cap Equities	-0.17	-0.17	0.03	0.64	0.48	0.72	0.66	0.75	0.72	0.64	0.75	0.74	0.96	0.69	0.67	1.00																
	Japanese Equities	-0.08	-0.12	-0.07	0.19	0.05	0.24	0.20	0.54	0.43	0.36	0.47	0.44	0.52	0.39	0.35	0.51	1.00															
	China Equities	-0.08	-0.10	0.02	0.42	0.31	0.41	0.41	0.41	0.39	0.34	0.44	0.36	0.49	0.84	0.81	0.50	0.29	1.00														
Alternative Strategies	Absolute Return Bonds	-0.17	-0.14	0.06	0.64	0.55	0.72	0.54	0.46	0.47	0.43	0.43	0.51	0.58	0.53	0.58	0.59	0.30	0.41	1.00													
	Direct Real Estate	0.13	-0.04	-0.09	-0.04	0.00	-0.13	-0.23	-0.23	-0.21	-0.15	-0.26	-0.20	-0.06	-0.15	-0.13	-0.12	-0.12	-0.05	-0.02	1.00												
	Mortgages	-0.21	0.32	0.43	0.27	0.42	0.25	0.21	0.18	0.18	0.14	0.12	0.25	0.13	0.15	0.11	0.19	0.10	-0.03	0.14	-0.11	1.00											
	Infrastructure	-0.01	0.30	0.39	0.40	0.43	0.40	0.37	0.59	0.49	0.38	0.50	0.59	0.64	0.46	0.46	0.58	0.47	0.21	0.32	-0.07	0.30	1.00										
	Low Vol equities	-0.21	0.11	0.31	0.68	0.64	0.60	0.81	0.63	0.69	0.63	0.62	0.74	0.51	0.46	0.47	0.55	0.16	0.26	0.43	-0.10	0.36	0.54	1.00									
	Long/Short Equities	0.18	-0.11	-0.02	0.37	0.25	0.35	0.38	0.41	0.37	0.32	0.47	0.33	0.52	0.41	0.42	0.52	0.25	0.37	0.33	0.14	-0.11	0.18	0.25	1.00								
	120/20 Equities	-0.24	-0.15	0.08	0.77	0.58	0.69	0.96	0.63	0.75	0.72	0.69	0.76	0.58	0.55	0.58	0.64	0.20	0.39	0.49	-0.21	0.20	0.37	0.82	0.35	1.00							
	Market Neutral	-0.03	0.02	0.05	0.12	0.07	0.04	0.13	0.22	0.27	0.28	0.25	0.29	0.12	0.08	0.03	0.14	0.13	0.04	0.02	0.04	0.17	0.21	0.25	-0.10	0.34	1.00						
	Macro Strategies	0.00	0.34	0.40	0.29	0.30	0.27	0.29	0.31	0.25	0.16	0.30	0.23	0.30	0.26	0.27	0.28	0.12	0.17	0.24	-0.04	0.17	0.28	0.25	0.39	0.27	0.03	1.00					
	RBC Global Precious Metals Fund	-0.12	0.20	0.30	0.32	0.33	0.26	0.45	0.03	0.10	0.02	0.14	0.10	0.10	0.21	0.27	0.16	-0.08	0.11	0.15	-0.35	0.15	0.08	0.17	0.09	0.39	-0.03	0.32	1.00				
	Gold Spot (USD)	0.00	0.29	0.36	0.24	0.36	0.13	0.27	-0.11	-0.05	-0.11	0.01	-0.07	0.02	0.17	0.24	0.07	-0.24	0.11	0.08	-0.08	0.14	0.01	0.05	0.14	0.21	-0.09	0.38	0.79	1.00			
	S&P/ TSX Global Gold Index	-0.05	0.31	0.36	0.18	0.24	0.11	0.33	-0.03	0.02	-0.06	0.06	0.03	0.03	0.14	0.21	0.07	-0.13	0.08	0.06	-0.32	0.18	0.11	0.10	-0.03	0.27	-0.01	0.31	0.94	0.78	1.00		
	Philadelphia Gold and Silver Index	-0.14	0.15	0.26	0.39	0.38	0.28	0.49	0.03	0.11	0.06	0.13	0.11	0.09	0.22	0.31	0.14	-0.15	0.16	0.17	-0.31	0.15	0.04	0.22	0.08	0.44	0.02	0.33	0.93	0.77	0.93	1.00	
	S&P/TSX Composite Gold Index	-0.06	0.28	0.35	0.20	0.24	0.13	0.36	-0.01	0.05	-0.03	0.09	0.05	0.03	0.12	0.19	0.07	-0.13	0.06	0.07	-0.34	0.17	0.09	0.13	-0.01	0.30	0.00	0.30	0.95	0.77	0.99	0.93	1.00

Note: Returns are gross of fees. Source: RBC GAM

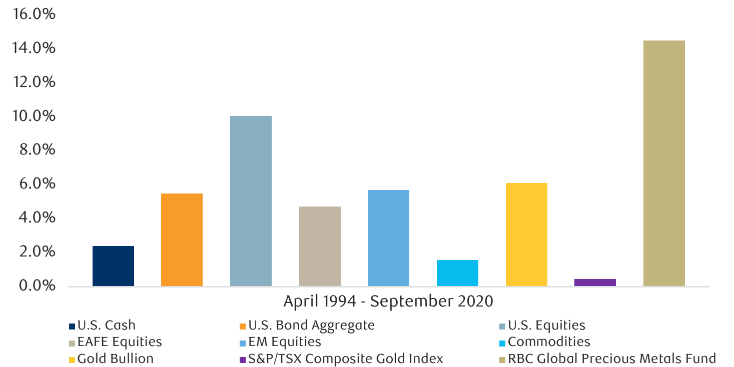
Exhibit 8: Gold bullion and the RBC Global Precious Metals Fund exhibit low correlations with most asset classes over 20 years

	20-year correlation of monthly returns as of September 2020	Cash	Sovereign Bonds	Investment Grade Bonds	High Yield Bonds	Emerging Market Debt	Euro High Yield	Canadian Equities	US Large-Cap Equities	US Mid-Cap Equities	European Equities	Euro Mid-Cap Equities	Japanese Equities	RBC Global Precious Metals Fund	Gold Spot (USD)	S&P/ TSX Global Gold Index	Philadelphia Gold and Silver Index	TSX Gold Index
		Cash and Fixed Income						Equities						Alternative Strategies				
Cash and Fixed Income	Cash	1.00																
	Sovereign Bonds	0.13	1.00															
	Investment Grade Bonds	0.09	0.94	1.00														
	High Yield Bonds	-0.14	-0.12	0.15	1.00													
	Emerging Market Debt	-0.06	0.23	0.48	0.75	1.00												
	Euro High Yield	-0.22	-0.15	0.09	0.89	0.66	1.00											
Equities	Canadian Equities	-0.11	-0.24	-0.03	0.70	0.57	0.70	1.00										
	US Large-Cap Equities	-0.21	-0.23	-0.13	0.44	0.24	0.44	0.59	1.00									
	US Mid-Cap Equities	-0.16	-0.25	-0.12	0.56	0.35	0.53	0.69	0.89	1.00								
	European Equities	-0.09	-0.20	-0.06	0.54	0.42	0.57	0.65	0.78	0.73	1.00							
	Euro Mid-Cap Equities	-0.11	-0.21	-0.04	0.61	0.47	0.64	0.70	0.77	0.78	0.96	1.00						
	Japanese Equities	-0.17	-0.12	-0.06	0.24	0.13	0.25	0.29	0.49	0.46	0.48	0.50	1.00					
Alternative Strategies	**RBC Global Precious Metals Fund**	0.00	0.12	0.23	0.27	0.39	0.21	0.43	-0.05	0.09	0.10	0.16	0.06	1.00				
	Gold Spot (USD)	0.03	0.22	0.29	0.15	0.37	0.10	0.23	-0.22	-0.13	-0.06	-0.02	-0.10	0.76	1.00			
	S&P/ TSX Global Gold Index	0.02	0.24	0.30	0.12	0.30	0.06	0.30	-0.12	-0.01	0.00	0.04	0.01	0.92	0.79	1.00		
	Philadelphia Gold and Silver Index	-0.01	0.11	0.23	0.32	0.44	0.26	0.49	-0.05	0.09	0.10	0.16	0.01	0.91	0.77	0.93	1.00	
	S&P/TSX Composite Gold Index	0.02	0.23	0.30	0.12	0.31	0.08	0.32	-0.11	-0.01	-0.01	0.04	0.00	0.91	0.79	0.99	0.93	1.00

Note: Returns are gross of fees. Source: RBC GAM

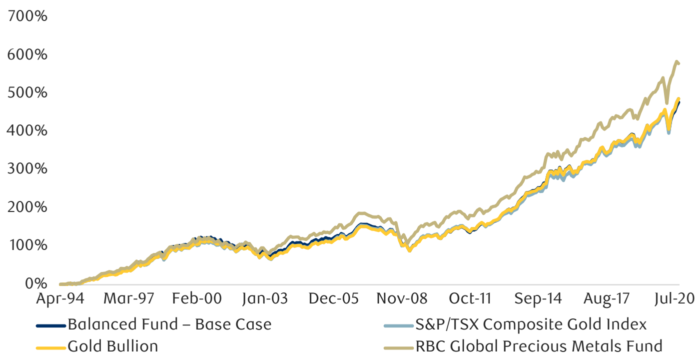
Since its inception in 1994, the RBC Global Precious Metals Fund has outperformed all major asset classes, including gold bullion and Canada's gold-equity benchmark (Exhibit 9). RBC GAM research indicates that absolute and risk-adjusted returns are both enhanced when a 5% allocation of the RBC the Global Precious Metals Fund is added to a traditional balanced portfolio composed of 60% equities and 40% fixed income. A 5% allocation sourced from fixed income (Exhibit 10) would have added, on average, 67 basis points of annual return over the simulated balanced portfolio's 26-year life, while a 5% allocation sourced from equities (Exhibit 11) would have added 62 basis points. In both cases, the gold allocation would have enhanced the balanced-fund proxy's Sharpe Ratio, a measure of average return earned in excess of the risk-free rate per unit of volatility or total risk. Moreover, the addition of the RBC Precious Metals Fund produced superior risk-adjusted returns relative to both gold bullion and the S&P/TSX Composite Gold benchmark.

Exhibit 9: RBC Gobal Precious Metals Fund has outperformed major asset classes since inception



Note: Data from April 1994 – Sept. 2020. Annual returns in USD, gross of fees.
Source: RBC GAM; Bloomberg

Exhibit 10: 5% allocation sourced from fixed income
Cumulative returns April 1994 – September 2020

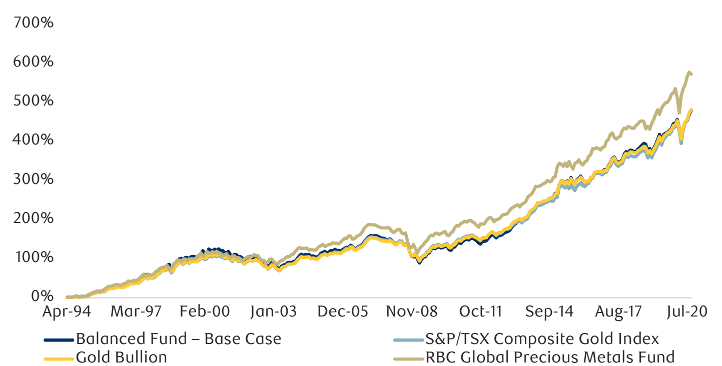


Apr. 1994 – Sept. 2020	Balanced Fund – Base Case	S&P/TSX Composite Gold Index	Gold Bullion	RBC Global Precious Metals Fund
Annualized Return (CAD)	6.83%	6.88%	6.89%	7.50%
Standard Deviation	7.43%	7.69%	7.34%	7.75%
Sharpe Ratio	0.92	0.90	0.94	0.97

Weights Apr. 1994 – Sept. 2020	Balanced Fund – Base Case	S&P/TSX Composite Gold Index	Gold Bullion	RBC Global Precious Metals Fund
FTSE World Government Bond Index (Hedged to CAD)	15.00%	13.13%	13.13%	13.13%
FTSE Canada Universe Bond Index	10.00%	8.75%	8.75%	8.75%
Bloomberg Barclays Global Aggregate Corp Index (Hedged to CAD)	15.00%	13.13%	13.13%	13.13%
MSCI World CAD	60.00%	60.00%	60.00%	60.00%
RBC Global Precious Metals Fund	0.00%	0.00%	0.00%	5.00%
S&P/TSX Composite Gold Index	0.00%	5.00%	0.00%	0.00%
Gold Bullion	0.00%	0.00%	5.00%	0.00%
	100.00%	100.00%	100.00%	100.00%

Note: As of September 30, 2020. Annualized returns are gross of fees. Portfolios rebalanced monthly. Source: RBC GAM

Exhibit 11: 5% allocation sourced from equity
Cumulative returns April 1994 – September 2020



Apr. 1994 – Sept. 2020	Balanced Fund – Base Case	S&P/TSX Composite Gold Index	Gold Bullion	RBC Global Precious Metals Fund
Annualized Return (CAD)	6.83%	6.83%	6.84%	7.45%
Standard Deviation	7.43%	7.18%	6.81%	7.23%
Sharpe Ratio	0.92	0.95	1.00	1.03

Weights Apr. 1994 – Sept. 2020	Balanced Fund – Base Case	S&P/TSX Composite Gold Index	Gold Bullion	RBC Global Precious Metals Fund
FTSE World Government Bond Index (Hedged to CAD)	15.00%	15.00%	15.00%	15.00%
FTSE Canada Universe Bond Index	10.00%	10.00%	10.00%	10.00%
Bloomberg Barclays Global Aggregate Corp Index (Hedged to CAD)	15.00%	15.00%	15.00%	15.00%
MSCI World CAD	60.00%	55.00%	55.00%	55.00%
RBC Global Precious Metals Fund	0.00%	0.00%	0.00%	5.00%
S&P/TSX Composite Gold Index	0.00%	5.00%	0.00%	0.00%
Gold Bullion	0.00%	0.00%	5.00%	0.00%
	100.00%	100.00%	100.00%	100.00%

Note: As of September 30, 2020. Annualized returns are gross of fees. Portfolios rebalanced monthly. Source: RBC GAM

RBC GAM Research examined the impact on performance of adding the RBC Global Precious Metals Fund to a balanced portfolio* during periods when interest rates moved significantly:

- **A bear flattening period** – when short-term rates rise faster than long-term rates;
- **A bear steepening period** – when short-term rates rise slower than long-term rates; and
- **A curve inversion** – when the yield curve becomes inverted, signaling the possibility of a recession.

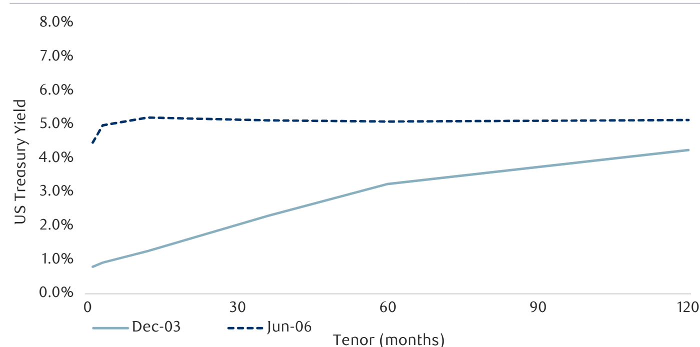
During a bear-flattening period from December 2003 to June 2006, the addition of gold stocks improved the performance of a balanced portfolio when either fixed income or equities were replaced by the RBC Global Precious Metals Fund. This outperformance was also evident during a bear-steepening period from September 2016 to January 2017, when replacing fixed income with the RBC Global Precious Metals Fund. A similar outcome was observed during a yield-curve inversion between October 2018 and August 2019 (Exhibits 12–14).

Gold equities provide leverage to the gold price, particularly as industry fundamentals have improved. In a strong and stable gold-price environment, we would expect gold equities to outperform bullion.

Gold equities provide leverage to the gold price, particularly as industry fundamentals have improved. In a strong and stable gold-price environment, we would expect gold equities to outperform bullion. While equities do suffer from lower liquidity than bullion, and companies have idiosyncratic risks, these risks can be mitigated by owning a portfolio of actively managed gold stocks such as the RBC Global Precious Metals Fund.

Exhibit 12: Bear flattening

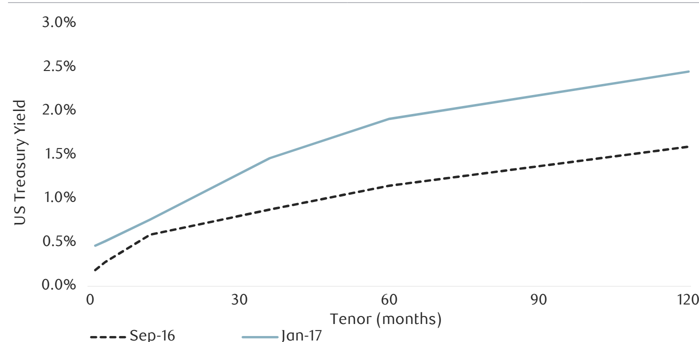
December 2003 – June 2006	Balanced (60/40 Equity/Fixed Income)		
% Allocation to precious metals	0%	5%	5%
Allocation funding source	N/A	Equities	Fixed Income
Performance over period	17.27%	18.53%	19.03%



Note: Returns are gross of fees. Source: RBC GAM

Exhibit 13: Bear steepening

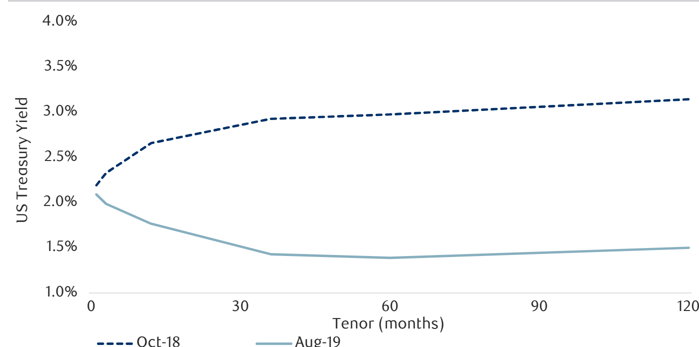
September 2016 – January 2017	Balanced (60/40 Equity/Fixed Income)		
% Allocation to precious metals	0%	5%	5%
Allocation funding source	N/A	Equities	Fixed Income
Performance over period	1.25%	1.17%	1.54%



Note: Returns are gross of fees. Source: RBC GAM

Exhibit 14: Curve inversion

October 2018 – August 2019	Balanced (60/40 Equity/Fixed Income)		
% Allocation to precious metals	0%	5%	5%
Allocation funding source	N/A	Equities	Fixed Income
Performance over period	6.13%	8.81%	8.36%



Note: Returns are gross of fees. Source: RBC GAM

Note: *FTSE World Government Bond Index (Hedged to CAD), FTSE Canada Universe Bond Index, Bloomberg Barclays Global Aggregate Corp Index (Hedged to CAD), MSCI World CAD, S&P/TSX Composite Gold Index

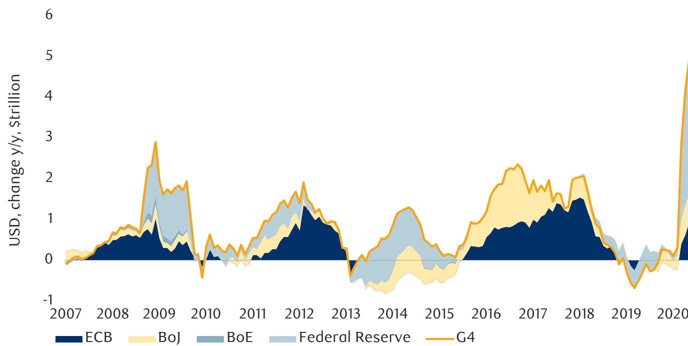
The primary drivers of the gold price

No one factor or driver has been shown to repeatedly or accurately forecast gold's trajectory, much less provide a specific price forecast. Based on historical data, the three primary drivers of the gold price are: real interest rates, inflation expectations and the performance of the U.S. dollar. Other factors that can influence the gold price, often for short time periods, include: central-bank buying/selling, differences in economic-growth rates among countries and geopolitical tensions or turmoil.

The massive amounts of fiscal and monetary stimulus measures delivered in response to the COVID-19-driven recession have currently aligned these three primary actors in support of gold. More importantly, the magnitude of the stimulus has in just six months eclipsed the total level of stimulus unleashed during the two-year-long financial crisis over a decade ago. We are therefore confident that the foundation is being placed for a sustained gold rally (Exhibits 15 and 16).

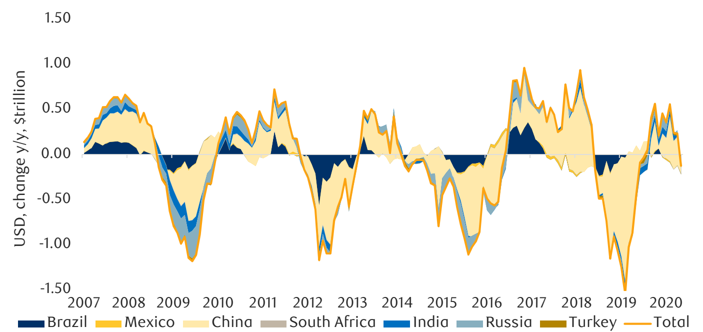
Steps by monetary authorities to drop nominal interest rates near zero and pledges to suppress them for many years, combined with asset purchases to hold down longer-term rates, are ballooning the global money supply. The U.S. M2 money supply, as measured by currency in circulation and short-term deposits, rose 20% between June 2019 and June 2020 and, positively for gold, may be fostering the conditions required for inflation (Exhibits 17 and 18). Fiscal-stimulus packages, such as tax cuts and proposed increases in infrastructure spending, could boost already large budget deficits and government debt. Higher debt levels can reduce the potential for economic growth and ultimately weigh on the strength of currencies. Thus, the economic uncertainty caused by

Exhibit 15: Extraordinary expansion in developed-market central-bank balance sheets



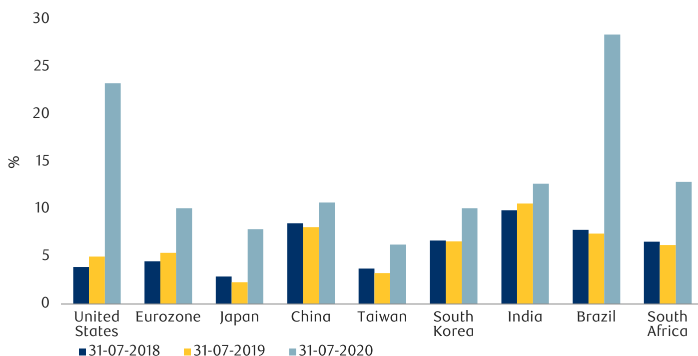
Note: As of June 1, 2020. Source : Macrobond, BlueBay

Exhibit 16: Negligible net change in emerging-market central-bank balance sheets



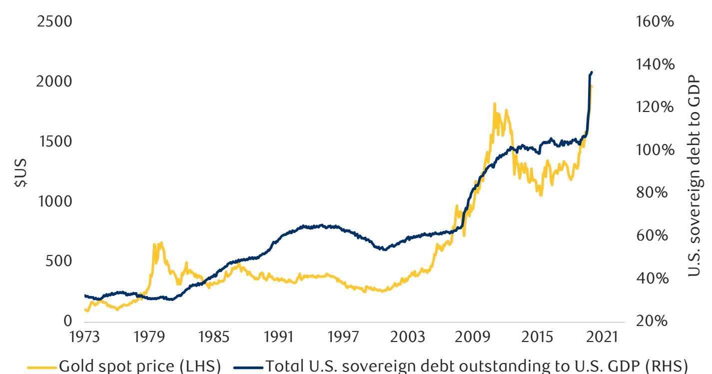
Note: As of June 1, 2020. Source : Macrobond, BlueBay

Exhibit 17: Monetary stimulus has caused the U.S. money supply to balloon



Note: As of June 30, 2020. N.B. India data is M3 as no M2 available. Source: Bloomberg, RBC GAM

Exhibit 18: Gold prices have tracked U.S. debt to GDP higher



Note: As of September 30, 2020. Source: Bloomberg, U.S. Federal Reserve, RBC GAM

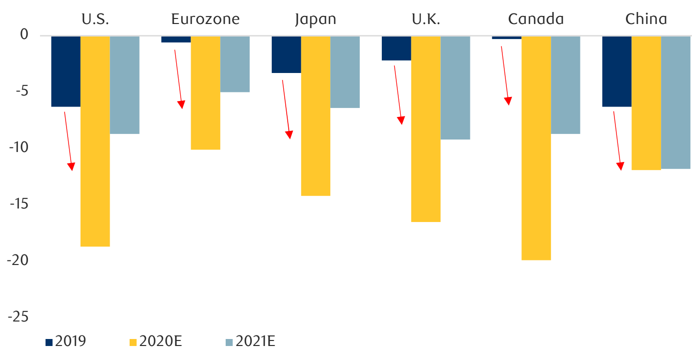
the pandemic makes gold attractive from a safe-haven perspective and as a store of value (Exhibits 19-20).

Real interest rates – Real interest rates are defined as the nominal interest rate adjusted plus or minus for inflation according to the Fisher effect. Historically, gold has tended to exhibit a strong negative relationship with the trajectory of real interest rates (that is, gold tends to rise when real rates fall, and vice versa). Since gold, unlike fixed income or (often) equities, does not generate a yield (and usually has storage costs of about 10 basis points annually), it is considered more attractive when nominal rates are falling, low or negative because the opportunity cost of ownership drops. The inflection from rising to falling real interest rates has historically been a major catalyst for gold bullion and gold producers, for example, during the 2008-2009 global financial crisis and the 2000-2005 period following the technology bubble and the 2001 terrorist attacks (Exhibit 21).

Real U.S. interest rates are now negative due to a combination of exceptionally low nominal interest rates and modest inflation. In the unexpected event that inflation rises over time due to this year's stimulus measures, and central banks are unable to respond by raising nominal rates, real rates could fall even more dramatically (Exhibit 22).

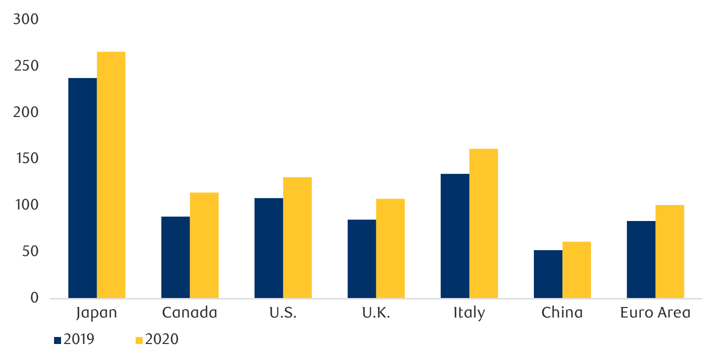
Globally, with about US$16 trillion of negative-yielding debt outstanding and growing, investors may want to introduce gold and or gold equities to portfolios as an alternative to fixed income, particularly in Europe and Japan. With U.S. Treasuries generating negative real returns, North American investors may also benefit from

Exhibit 19: Fiscal deficits as a % of GDP are high globally



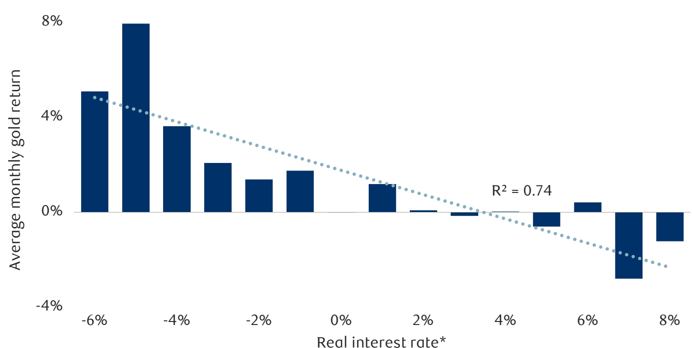
Source: Murenbeeld & Co., IMF World Economic Outlook – October 2020

Exhibit 20: Government debt as a % of GDP continues to rise



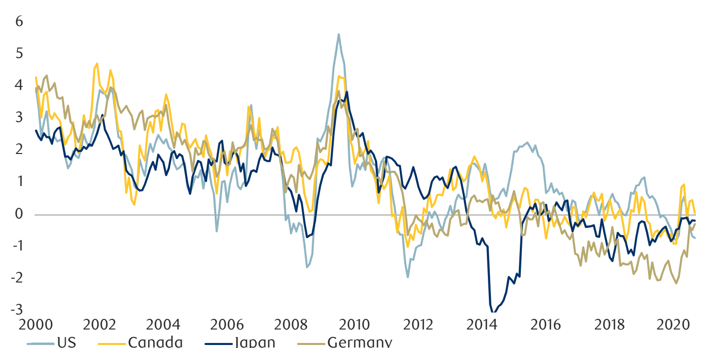
Source: Murenbeeld & Co., IMF World Economic Outlook – October 2020

Exhibit 21: Gold is strongly correlated with declining real interest rates (1968-2018) – 95% of observations



Note: *Real Interest Rate calculated as the monthly yield of U.S. Federal Reserve one-year t-note with constant maturity adjusted for inflation. Source: RBC Capital Markets, Bloomberg

Exhibit 22: Real government 10-year bond yields will likely remain low for an extended period



Note: As of September 30, 2020. Source: Murenbeeld & Co; Bloomberg

switching part of their portfolios to gold and gold equities (Exhibit 23).

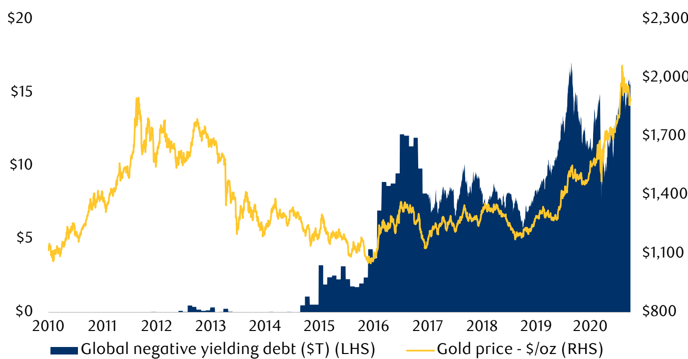
Inflation expectations – The price of gold generally moves in the same direction as inflation expectations, as shown in a chart comparing the gold price and yields on U.S. 10-year inflation-adjusted bonds. In times of rising inflation (or decreasing yields on Treasury Inflation-Protected Securities – TIPS), gold acts as a hedge against inflation, providing a store of value. The massive monetary-stimulus measures introduced to address COVID-19 are increasing the money supply and potentially seeding the groundwork for inflation. This has been the typical response by central banks – to keep interest rates low so they can inflate away the value of their debt (Exhibits 24).

U.S.-dollar performance – The U.S. dollar generally moves in the opposite direction of the U.S.-dollar gold price (Exhibit 25).

Since gold is traded primarily in U.S. dollars, a weaker greenback often makes the purchase of gold less expensive and more attractive for investors or commercial users purchasing gold in other currencies. RBC GAM and many other forecasters are predicting that the U.S. dollar may have peaked and could be entering a bear market. Typically, cycles in the trade-weighted dollar last five to 10 years (Exhibit 26).

The U.S. monetary base has been among the world’s fastest-growing in response to COVID-19 and the U.S. dollar now appears overvalued by many measures

Exhibit 23: There is currently about US$16 trillion of negative-yielding debt globally

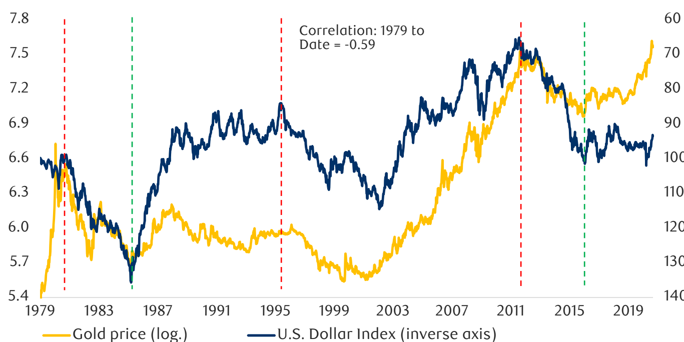


Note: As of September 30, 2020. Source: Bloomberg, RBC Capital Markets

Exhibit 24: Gold is positively correlated to U.S. 10-year TIPS yields

Note: As of September 30, 2020. Source: Murenbeeld & Co., Bloomberg

Exhibit 25: The gold price is inversely correlated to the U.S. dollar



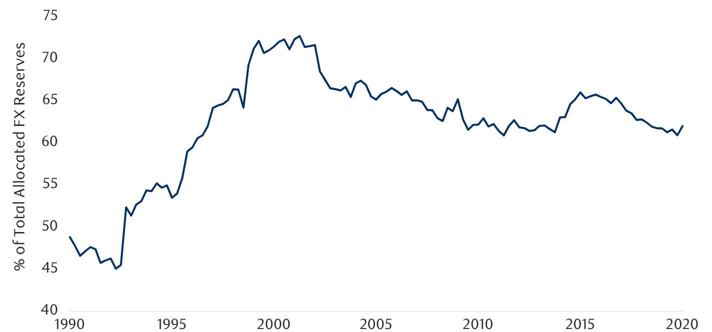
Note: As of October 2, 2020. Source: Murenbeeld & Co.

Exhibit 26: Long-term cycles in the U.S. trade-weighted dollar

Note: As of August 31, 2020. Source: RBC GAM, Bloomberg

including the size of the country's trade and capital deficits. While still yielding more than sovereign bonds in many major developed markets, Treasuries, perhaps for the first time, may not offer enough "carry" (yield advantage) to entice investors. Moreover, the dominance of the U.S. dollar as an official foreign-exchange reserve has been in slow decline since 2001. The current U.S. situation of huge deficits and rising money supply may exacerbate or accelerate these trends. Safeguarding the U.S. dollar may be one reason the Fed has been reluctant to move to negative yields, but ultimately policymakers may be left with no other option. A continued weakening of the U.S. dollar would be bullish for gold (Exhibit 27).

Exhibit 27: The U.S. dollar share of official foreign-exchange reserves has been declining since 2001

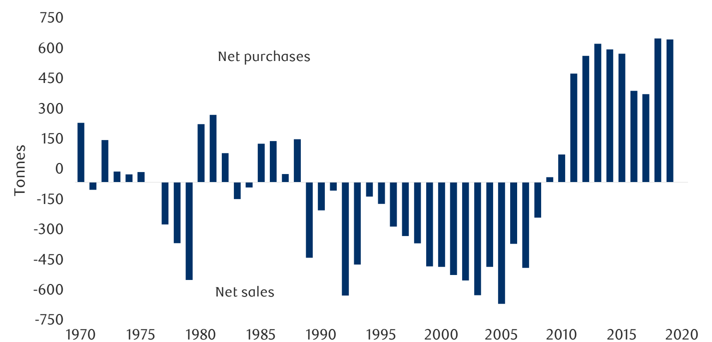


Note: As of June 1, 2020. Source: Murenbeeld & Co., IMF, Bloomberg

Other drivers of the price of gold

Central-bank purchases – Central banks hold gold for the same reasons that retail and institutional investors might: improved diversification, liquidity, lack of credit risk, and gold's tendency to act as a store of value and insurance policy in times of crisis. Since 2009, central banks, particularly those in emerging markets, have been net buyers gold, with China, Russia, Turkey and India among the largest buyers. The U.S. is the single largest holder of gold, with half of a trillion dollars of reserves at current prices representing approximately 80% of U.S. reserve assets (Exhibit 28).

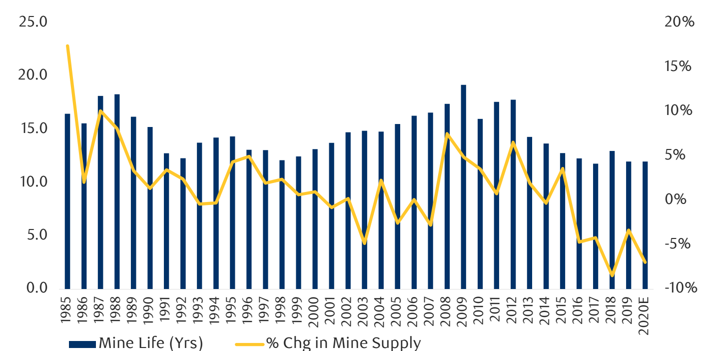
Exhibit 28: Central banks have been net purchasers of gold



Note: As of December 31, 2019. Source: Murenbeeld & Co.; World Gold Council, GFMS, Metal Focus

Gold supply – Global-mine production plateaued in 2016 and has been relatively steady since. The life of the average gold mine has been falling over the past decade due to a combination of fewer new mines, the mining of higher ore grades and the depletion of existing mines. While higher gold prices may encourage new-mine development, there are only a handful of major projects that have been approved or are ready for construction. Since it takes about seven years to advance a gold mine through permitting, financing, construction and development, we do not expect excessive supply to emerge as an issue anytime soon. Moreover, the industry's newfound capital discipline, focus on returns over growth and ESG considerations should help cap supply (Exhibit 29).

Exhibit 29: Mine life and change in mine supply



Note: As of September 30, 2020. Source: Scotia Capital

Populism, geopolitical turmoil, military conflict and trade crises

Since gold is often viewed as a safe-haven asset, it tends to outperform during periods of uncertainty. Investors have tended to hold or hoard gold when investor sentiment towards global stability and the prospects for sustained economic growth are questionable. In fact, gold has often outperformed the S&P 500 during periods of spiking volatility marked by unforeseen crises. However, while these factors may temporarily contribute to large swings in the gold price, these movements often lack longevity and short-term gains are lost (Exhibit 30).

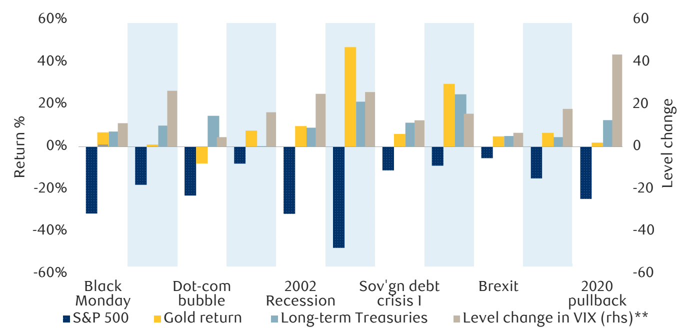
While the COVID-19 pandemic is unarguably the No. 1 cause of insecurity today, other simmering issues that we do not expect to be resolved in the near term will provide a tailwind to gold stocks for decades. They include: trade wars between the U.S. and China; tensions in the South China Sea; hostility between Iran and the West; and Russian meddling in U.S. affairs. The rise of populist leaders, who are more willing to flout principles of responsible economic management, is particularly worrisome during an era of record debt levels, excessive fiscal spending and declining central-bank independence.

The outcome of the U.S. presidential election could fuel demand for gold as a safe haven and prove a catalyst for the next leg-up in the price of gold. Joe Biden's victory suggests a scenario of corporate-tax hikes, increased government spending and rising debt levels. Among Biden's economic advisors was Stephanie Kelton, who helped formulate a heterodox school of economic thought that recommends governments spend freely without regard for budget deficits or debt levels. Even if this economic philosophy, known as Modern Monetary Theory, is not implemented, Donald Trump's legacy of national turmoil and trade populism creates general uncertainty. Furthermore, Trump's reluctance to concede the election suggests that the political and social divide between the political left and the political right will continue to weigh on investors' minds and sow doubt about the future of the U.S. dollar as the world's principal reserve currency.

Factors that could hurt gold prices

Gold rallied for three years following the financial crisis until, in the fall of 2011, it became clear that the outlook for the global economy was improving and that the days of quantitative easing were ending. Despite the billions of dollars of stimulus, inflation never materialized. This reality caused real interest rates to begin climbing, signaling an abrupt end to gold's advance. Similarly, the current rally will likely unwind only when the market begins to anticipate a strong synchronized global economic recovery.

Exhibit 30: S&P 500, long-term U.S. Treasuries and gold returns vs change in VIX level*



Note: *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.
Source: Bloomberg, ICE Benchmark Administration, World Gold Council

The most immediate short-term risk for gold is the development and successful distribution of a vaccine for COVID-19. Gold would likely correct significantly as investors priced in a quicker return to normalcy and a faster end to the massive stimulus. However, the Fed has signaled that higher nominal interest rates are at least three years away[10] due to the magnitude of economic carnage. We do not anticipate a meaningful spike in real interest rates and therefore believe that gold retains the potential for significant longer-term gains.

Another scenario that could pull down gold prices would be a stock-market crash caused by an unexpected deterioration in the macroeconomic situation and/or delays in the distribution of a COVID-19 vaccine. As was the case in 2008 and earlier this year, gold is not immune to indiscriminate selling during a significant correction, especially given that liquidity in the gold market makes gold sales an easy way to raise cash to cover margin calls or reduce risk. However, similarly to 2008 and 2020, we would again expect gold to lead other assets out of any crash.

Learning from past failures

RBC research shows that we are still in the early stages of a long-term bull market for gold bullion and, by extension, gold equities. In fact, our analysis suggests that the gold industry is well positioned to capitalize on current prices but also to weather a period of temporary gold-price weakness. This is a bold statement given the history of the gold business and its performance in past cycles.

A clear-eyed look at the prospects for gold equities requires us to address the past failures of gold stocks, in particular the 2011 crash and subsequent five-year bear market. Doing so will give readers a better understanding of how far the gold industry has progressed, and why we are confident in our outlook today.

The gold industry has not had a stellar reputation for creating long-term shareholder value (Exhibit 31).

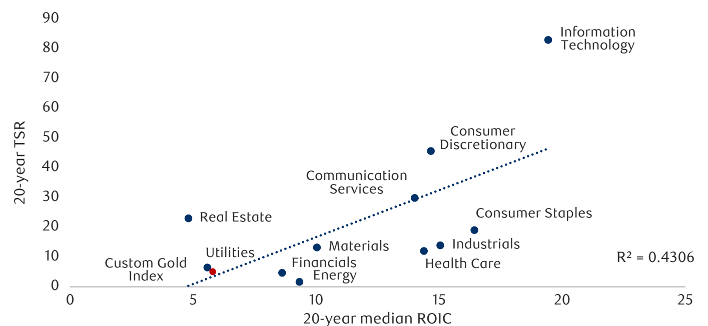
During 2011, gold equities were riding a wave of optimism, fueled by a gold price that had more than doubled to US$1,900 per ounce in September 2011 from below US$700 in 2008. During that time, the gold-stock index climbed almost three-fold. Amid the euphoria, management teams were making decisions that would lead to a spectacular destruction of shareholder value and a 75% decline in the value of benchmark gold indexes (Exhibit 32).

The main culprits of the poor decision-making included: a "grow-at-all-costs" or "bigger-is-better" philosophy; poor capital allocation decision-making; executive compensation structures that were misaligned with long-term shareholder-value creation; undisciplined merger-and-acquisition (M&A) activity; aggressive assumptions used in both the calculation of reserves and resources and as a basis for advancing development projects to construction; and ultimately excessive debt.

While the sharp decline in the gold price after 2011 certainly played a role in the underperformance of gold equities, a simultaneous plunge in valuations reflected a total loss of investor confidence in the ability of gold-management teams: if they could not generate shareholder value at record-high gold prices, what was the point of owning gold stocks during a downturn?

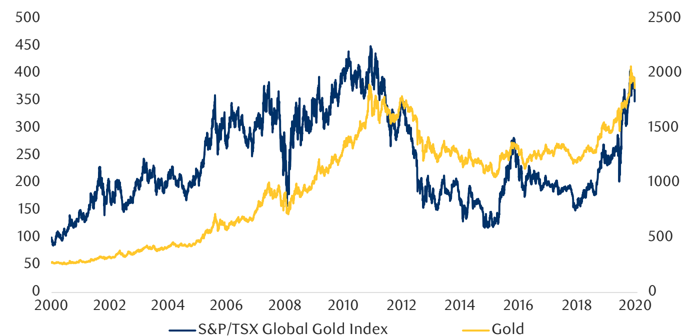
During the height of the 2011 bull market, the industry's mantra could be summed up in a single word: "growth." However, competition for resources including engineering expertise, labour, equipment and supplies delayed construction schedules and blew up budgets as industries

Exhibit 31: Strong Return on Investment Capital has been elusive – S&P Sector 20-year median ROIC vs. 20-year Total Shareholder Return



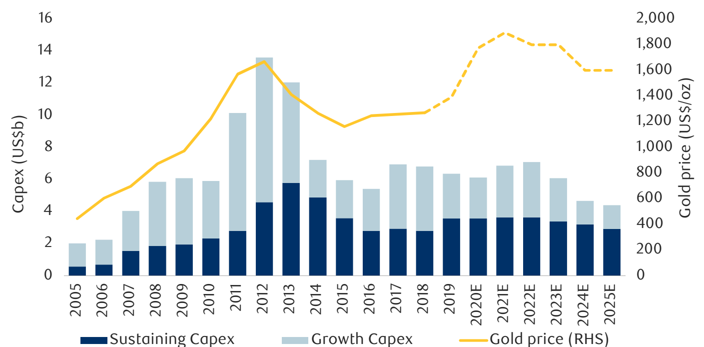
Note: As of September 30, 2020. Source: Bernstein Research, Bloomberg

Exhibit 32: Gold equities underperformed the gold price during 2012-2015



Note: As of September 30, 2020. Source: Bloomberg, RBC GAM

Exhibit 33: Growth capex remains muted as companies exercise discipline, unlike 2011-2013



Note: As of September 30, 2020. Source: RBC Capital Markets

across the extractive industry were inflating costs during the commodity super-cycle (Exhibit 33).

Moreover, aggressive gold-price assumptions and overly optimistic estimates for production and costs were used to justify deploying huge amounts of capital for the construction of new mines and expansion projects (growth capex). This proved to be disastrous as gold prices collapsed after 2011. As a result, the majority of mines built during this period failed to live up to expectations and did not generate adequate returns on invested capital.

Exhibit 33 illustrates the sharp rise in the gold industry's capital spending from 2011 to 2013, even as the gold price was falling off a cliff.

Making matters worse, mergers and acquisitions exploded between 2009 and 2012 (Exhibit 34), and there was scant financial rationale for many of these deals. Barrick Gold's US$7.8 billion purchase of Equinox Resources in April 2011, financed with debt, epitomized this irrational M&A: Barrick wrote down half the value of the transaction just two years later (Exhibit 35).

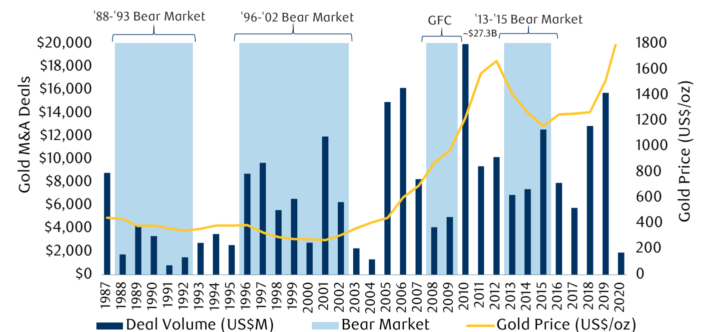
The combined result of poor capital allocation and falling gold prices was a staggering increase in the amount of debt carried by the industry, with net debt / EBITDA ratios rising about 10-fold to unsustainable levels of 3.5x in 2014 (Exhibit 36).

The search for capital discipline

The 2011-2015 gold bear market forced the industry to undertake measures to ensure its longer-term survival. Gold companies have slowly succeeded in repairing their balance sheets through a combination of non-core asset sales, layoffs, lower administrative expenses and deferred capital spending. Today, debt levels for the top 25 producers as a group stand at just 0.5x net debt / EBIDTA and they are forecast to become net cash positive by the end of 2020 at current spot prices.

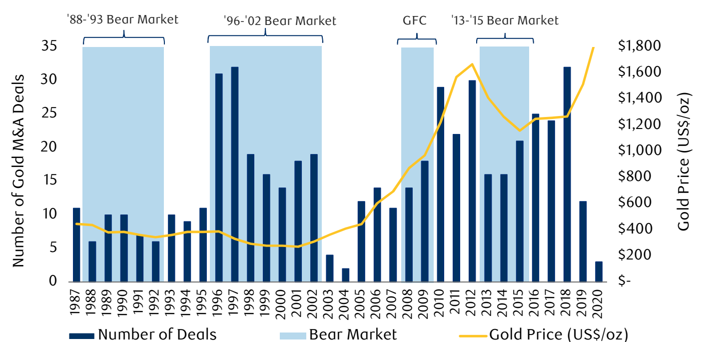
Other changes that have helped transform the industry for the better include investor demands for a say on executive pay and efforts by activist shareholders to hold management teams more responsible for their actions. The extra scrutiny pushed out a class of CEOs, in many cases former investment bankers responsible for the previous cycle's calamity. In their place, boards brought in leaders with strong mining backgrounds and asked them to redraw strategies with efficiency in mind.

Exhibit 34: A small number of large, high-quality transactions has accounted for most of the value in 2018-2019



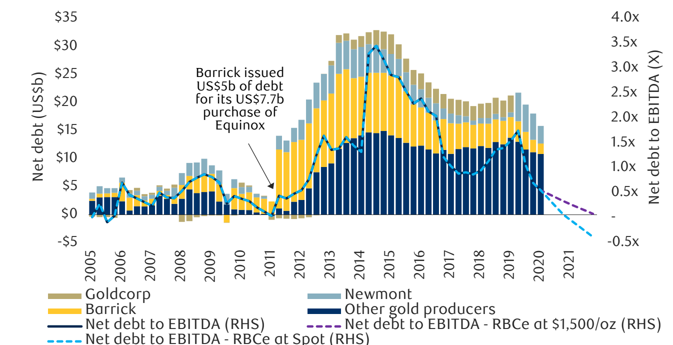
Note: As of September 30, 2020. Source: RBC Capital Markets

Exhibit 35: The pace of merger and acquisition activity has been relatively slow, but focused



Note: As of September 30, 2020. Source: RBC Capital Markets

Exhibit 36: Industry debt leverage has significantly improved



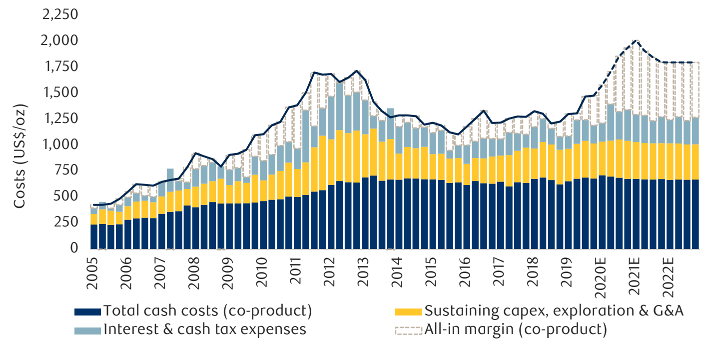
Note: As of September 30, 2020. Source: RBC Capital Markets

The benefits of having operating experience and expertise at the highest management levels have been reflected in the industry's increasing ability to manage operating costs. In contrast to the previous cycle, where rising operating costs and capital expenditures negated the benefit of higher gold prices, the industry today is expected to post record profit margins. (Exhibit 37).

In fact, 2020 margins are expected to be four times what they were in 2011, at similar gold prices. Moreover, COVID-19 has forced companies to re-evaluate their cost structure and it is possible that new technology and cost-saving measures will result in gold producers emerging from the pandemic even leaner.

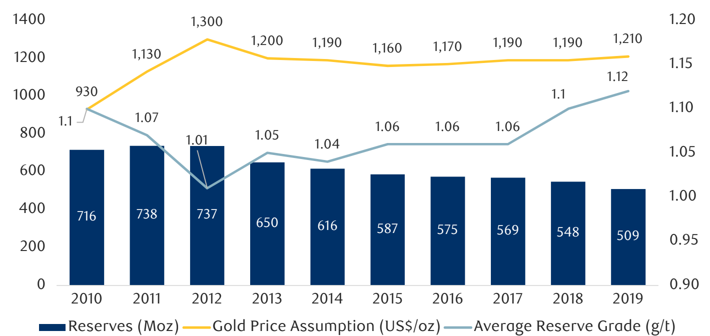
Gold producers are also focusing on capital allocation as never before, with cash flow being directed to increased dividends, share buybacks, low-premium acquisitions and no-premium mergers of equals as pioneered and championed by Barrick Gold and Randgold in 2019. While "growth" is not exactly a dirty word, the focus has certainly shifted to a model of returns-driven growth. New projects and expansions are only being approved if strong internal rates of return can be demonstrated based on conservative price and operating assumptions. As well, conservative gold-price assumptions are being used to define reserves (Exhibit 38).

Exhibit 37: The industry is expected to achieve record margins



Note: As of September 30, 2020. Source: RBC Capital Markets

Exhibit 38: Conservative gold prices are being used in reserve calculations



Note: As of September 30, 2020. Source: BMO Capital Markets

Some thoughts on ESG leadership

Our confidence in the gold industry is bolstered by its leadership in embracing the principles of ESG (Environmental, Social, Governance). The relationship between mining companies, local communities and other stakeholders has always been challenging and earning social license has not always been a priority. Today, almost every company in our coverage universe has taken steps to improve disclosure on issues such as greenhouse gas emissions, water usage, tailings management, workplace safety, community involvement and diversity through the issuance of annual sustainability reports that are often independently audited.

Technology too will play a pivotal role in this improvement process over the coming decades. The adoption of Artificial Intelligence (AI) will drive rapid change. Already, autonomous hauling trucks reduce fuel and parts usage while improving employee safety. In time, AI will drive smarter extraction techniques, translating into reduced ore and waste. The industry will experience improvements in predictive maintenance and safety throughout the manufacturing process. As battery technology is introduced into mining operations, electric vehicles will reduce noise and greenhouse gas emissions, improving quality of life for employees and surrounding communities.

In September 2019, the World Gold Council issued "Responsible Gold Mining Principles," a framework of 51 principles that sets out clear expectations for stakeholders including consumers, investors and producers involved in gold production as to what constitutes responsible gold mining. The gold industry has also adopted or is in the process of addressing all outside independent recommendations including the United Nations Principles of Responsible Investment. Adherence to these measures should provide a level of comfort that past ESG mistakes are being addressed in the hope that they will not be repeated.

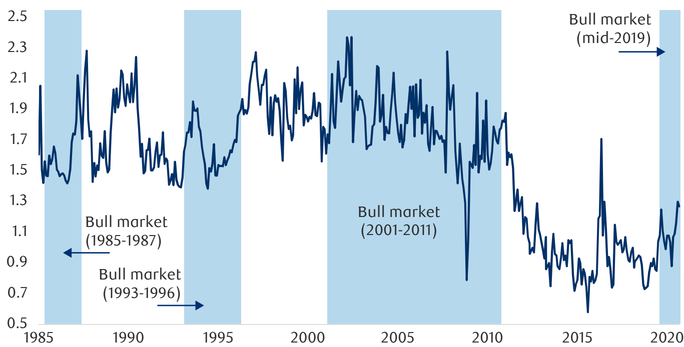
The COVID-19 pandemic has shown that gold-mining companies are important members of many communities and should be considered essential services. Since the pandemic emerged in March, mining companies have stepped up monetary donations and provided much needed food, medicine and other supplies to employees and their families. A progressive approach to health, training and safety even before COVID-19 has enabled the mining industry to quickly respond to the pandemic and keep local communities safe. It is possible that the mining industry emerges from COVID-19 with a stronger social standing than it has ever had.

Valuation

Even at US$1,850, our view is that valuations are justified and well within historical ranges. Gold stocks are also attractively priced relative to the broader market. In the charts below, we can see most segments of the gold industry are trading well below their historical range based on Price/Net Asset Value (P/NAV). The 2011-2015 bear market cut gold-stock valuations in half. While multiples have bounced off their bear-market lows, they are still far from their peak. Even using equity-standard, cash-focused valuation metrics, such as Enterprise Value/EBITDA, gold stocks are still trading at bear-market levels and well below historical ranges. Gold multiples could expand as managements continue to demonstrate capital discipline and their ability to boost profit margins (Exhibits 39 and 40).

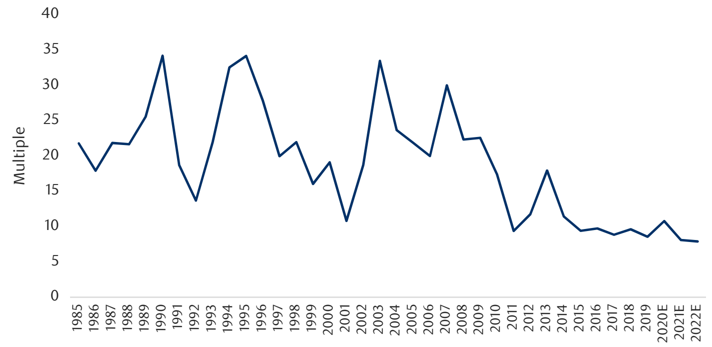
More importantly, compared to the broader market, gold stocks appear undervalued (Exhibits 41 and 42). For the first time in recent history, gold stocks appear attractive versus other S&P 500 Index sectors based on

Exhibit 39: Gold equities are looking inexpensive on both Price to Net Asset Value (P/NAV)...



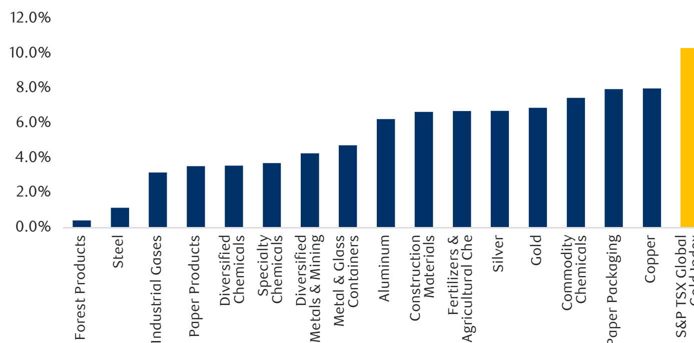
Note: As of September 30, 2020. Source: Scotia Capital

Exhibit 40: ... and Enterprise Value / EBITDA (at spot)



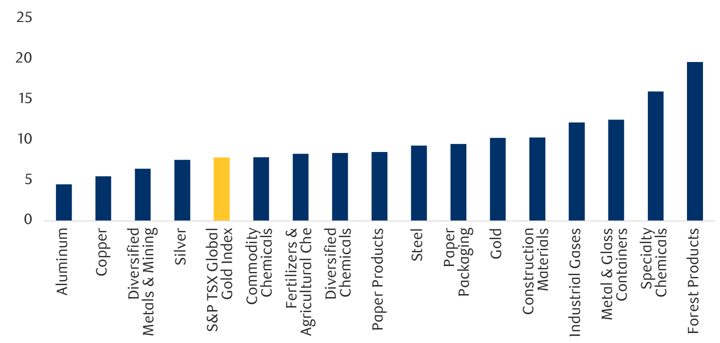
Note: As of September 30, 2020. Source: Scotia Capital

Exhibit 41: 2021 estimated average free-cash-flow yield – MSCI Materials sector sub-industries vs S&P/TSX Global Gold Index



Note: As of September 30, 2020. S&P/TSX Global Gold Index average excludes non-producers. Sources: Bloomberg, RBC GAM

Exhibit 42: 2021 estimated average EV / EBITDA – MSCI Materials sector sub-industries vs S&P/TSX Global Gold Index



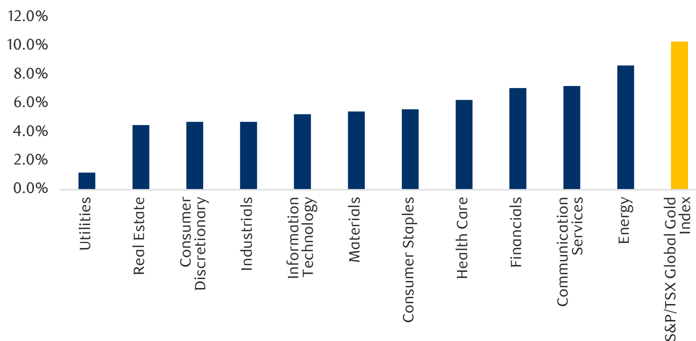
Note: As of September 30, 2020. S&P/TSX Global Gold Index average excludes non-producers. Sources: Bloomberg, RBC GAM

free-cash-flow yields (Exhibits 43 and 44). Sensitivity analyses of valuation metrics suggest that gold equities are inexpensive with more upside at higher gold prices. Free-cash-flow yields are estimated at 3.2% at a price of US$1,500, 7.7% at US$2,000 and 12.1% at US$2,500 per ounce (Exhibits 45–47).

This level of free cash flow presents the gold industry with opportunities for shareholder returns that have been unavailable in the past. In fact, in 2021 it is estimated that the average dividend yield for gold producers could be essentially in line with that of the S&P at approximately 1.5% (Exhibit 48). Not only is the dividend yield competitive with other equities, but it is higher than the yield available today on much of the sovereign fixed-income universe. Moreover, the dividend is a significant benefit and differentiating factor of owning gold stocks versus a gold bullion ETF, which does not pay a dividend.

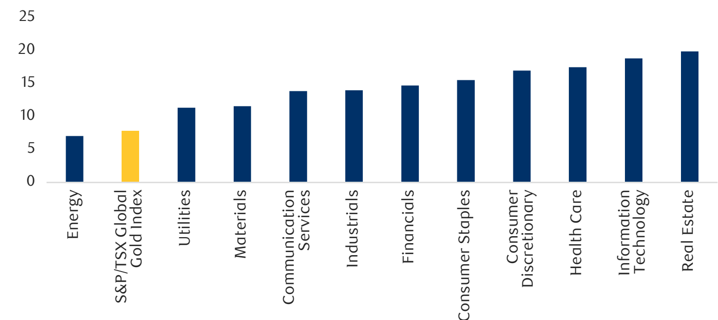
The royalty and streaming segment of the gold industry is the one area where valuations may be a concern. These companies, which contract to collect revenues linked to gold production or buy future mine output, trade at historically high multiples even as the proliferation of funding options for gold producers results in increased competition. Investors have so far ignored the potential perils of overvaluation given that these companies have essentially no operating or capital risk and get to partake in future discoveries or expansions (Exhibit 49).

Exhibit 43: 2021 estimated average free-cash-flow yield – S&P500 Sectors vs S&P/TSX Global Gold Index



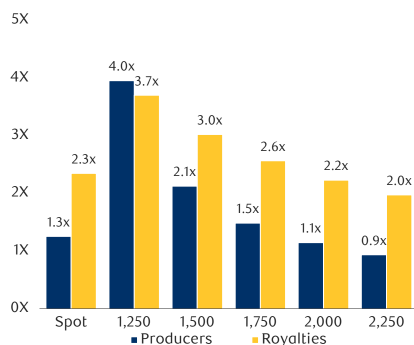
Note: As of September 30, 2020. S&P/TSX Global Gold Index average excludes non-producers. Source: Bloomberg, RBC GAM

Exhibit 44: 2021 estimated average EV/EBITDA S&P500 Sectors vs S&P/TSX Global Gold Index



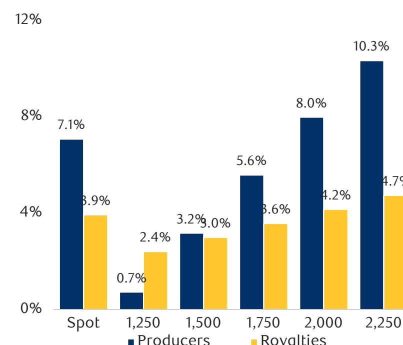
Note: As of September 30, 2020. S&P/TSX Global Gold Index average excludes non-producers. Source: Bloomberg, RBC GAM

Exhibit 45: P/NAV sensitivity to gold prices



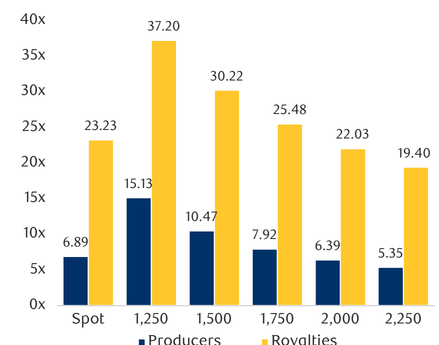
Note: As of September 30, 2020.
Source: RBC Capital Markets

Exhibit 46: FCF/EV (2021E) sensitivity to gold prices



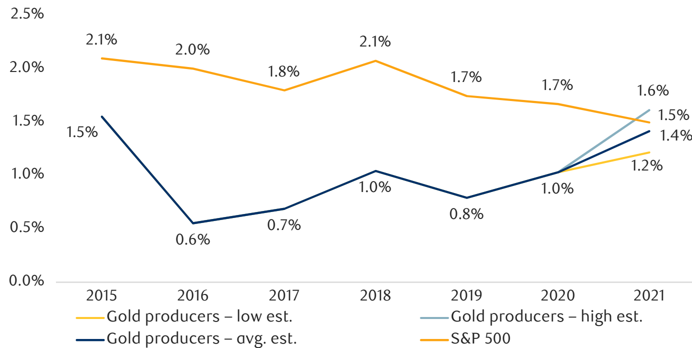
Note: As of September 30, 2020.
Source: RBC Capital Markets

Exhibit 47: EV/EBITDA (2021E) sensitivity to gold prices



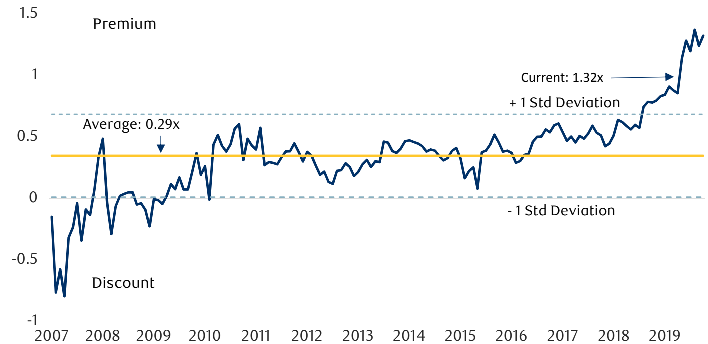
Note: As of September 30, 2020.
Source: RBC Capital Markets

Exhibit 48: Gold producers are paying competitive dividend yields



Note: As of September 30, 2020. Source: Scotia Capital

Exhibit 49: Producers appear attractive versus royalty companies



Note: As of September 30, 2020. Source: Scotia Capital

Gold-equities outlook and recommendations

The investment process at RBC GAM Resources combines rigorous top-down and bottom-up analyses, leading to bear-, base- and bull-case scenarios for both commodity prices and securities under consideration for inclusion in a portfolio. While the Resources Team's core competence lies in fundamental research tied to its **Four Pillars of Security Selection**, a range of commodity prices is also factored into the investment equation.

This paper has made a strong case for gold prices to remain firm and perhaps even move higher. Gold futures are forecast to average US$1,882 per ounce in 2021 and US$1,900 in 2022, according to Bloomberg's futures forward curve, while a consensus of analysts' expectations indicates that gold will average US$1,870 per ounce next year and US$1,800 in 2022. That compares with a current spot gold price of about US$1,850.

We expect gold-equity valuations to rise given expectations of a firm gold price, the undervaluation of gold equities and a growing recognition that well-run gold companies can deliver rising dividends, share buybacks and growth projects and/or acquisitions that result in higher returns on invested capital.

In Exhibit 50 we highlight the positive and negative attributes of holding gold bullion, gold-equity ETFs and the RBC Global Precious Metals Fund.

Exhibit 50: Positive and negative attributes of holding gold bullion, gold-equity ETFs and the RBC Global Precious Metals Fund

	Gold Bullion ETF	Gold Equities ETF	RBC Global Precious Metals Fund
Leverage to the gold price*	=	>	>
Dividend yield	None	↑	↑
Exploration upside	None	↑	↑
Correlation with other asset classes	Low to negative	Low to negative	Low to negative
Low fees	40 bps	52 bps	126 bps (D series)
Active management	None	None	Yes
Liquidity	↑	↔	↔
Exposure to company operating risk	None	Yes	Yes

*Bloomberg weekly 20-year beta of GDX Gold ETF to Gold bullion averages 1.8. TSX Global Gold weekly 20 year beta to gold bullion is 1.6. RBC Global Precious Metals 20 year beta to gold bullion is 1.6. Gold bullion in USD.

We attribute the outperformance of the RBC Precious Metals Fund relative to passive gold-equity investments (Exhibit 51) to the Resource team's investment philosophy and, more specifically, to a stock-picking methodology that we refer to as the **Four Pillars of Security Selection** (Appendix II).

Conclusion

Even with sovereign debt outstanding at record levels, central banks and governments are expanding monetary and fiscal stimulus to address the pandemic. The printing of money in response to financial and economic crises has created conditions that are conducive to higher gold prices. Bullish drivers include the likelihood of a prolonged period of low or negative real interest rates, the potential for a sustained U.S.-dollar bear market and the potential for faster or unanticipated inflation.

The 2011-2015 bear market imposed strict discipline on the industry and forced companies to adopt more returns-focused strategies and shareholder-friendly capital allocation.

Today, the industry is as healthy as it has ever been, with strong balance sheets and the ability to generate significant free cash flows. While gold equities have already rallied from their cycle lows, we believe that valuations are easily justified and well within historical ranges. Our view is that gold stocks are attractively priced relative to the broader market.

RBC GAM research has shown that adding gold stocks to a balanced portfolio can improve returns and provides enhanced portfolio performance over long periods of time given gold's low-to-negative correlation with other major asset classes. For these reasons, global investors may want to consider adding a position in gold equities such as the RBC Global Precious Metals Fund to their asset mix.

Exhibit 51: RBC Global Precious Metal Fund performnce

	1 year	3 years	5 years	10 years	20 years
RBC Global Precious Metal Fund	68.0%	24.9%	29.0%	2.8%	16.2%
S&P/TSX Global Gold Index* (CAD)	56.17%	24.13%	25.12%	0.12%	7.57%
S&P/TSX Composite Gold Index	55.22%	23.44%	23.85%	-0.75%	6.33%

Note: As of September 30, 2020. RBC Global Precious Metal Fund Series A returns, net of fees. *RBC Precious Metals Fund benchmark .
Source: RBC GAM

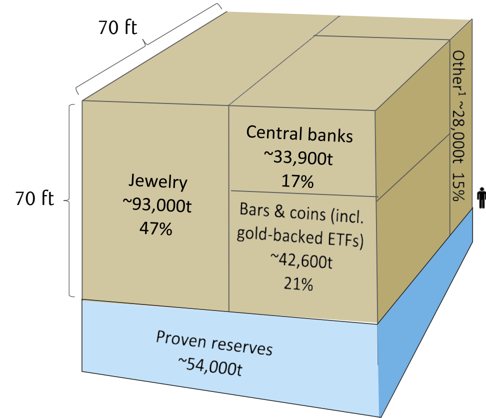
Appendix I

Supply/Demand

Gold is unlike almost any other commodity in that it is neither consumed nor destroyed. Estimates are that all the gold mined since the Egyptian Pharaohs ruled totals 197,576 metric tonnes, which would fit into 2.6 Olympic-sized swimming pools and have a value of US$12 trillion based on prices in early October. The major components of above-ground stocks include: jewellery, private investment (bars, coins, gold-backed ETFs), and central bank-holdings. Below-ground reserves total 54,000 tonnes. (Exhibit A1)

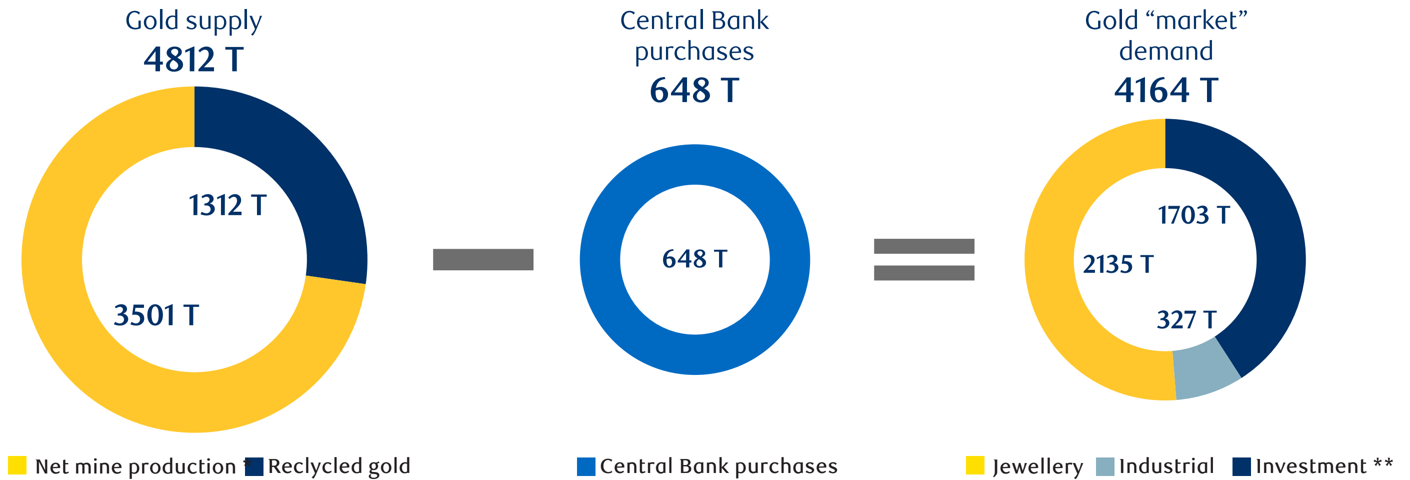
Gold supply is a combination of mined and recycled gold. Exhibit A2 shows that the annual supply of gold in 2019 was 4,812 tonnes, of which 72% was mined, and the remainder being recycled or scrap gold.

Exhibit A1: Sources of above-ground stocks



Note: As of December 31, 2019. Source: Metals Focus, Refinitiv GFMS, U.S. Geological Survey, World Gold Council

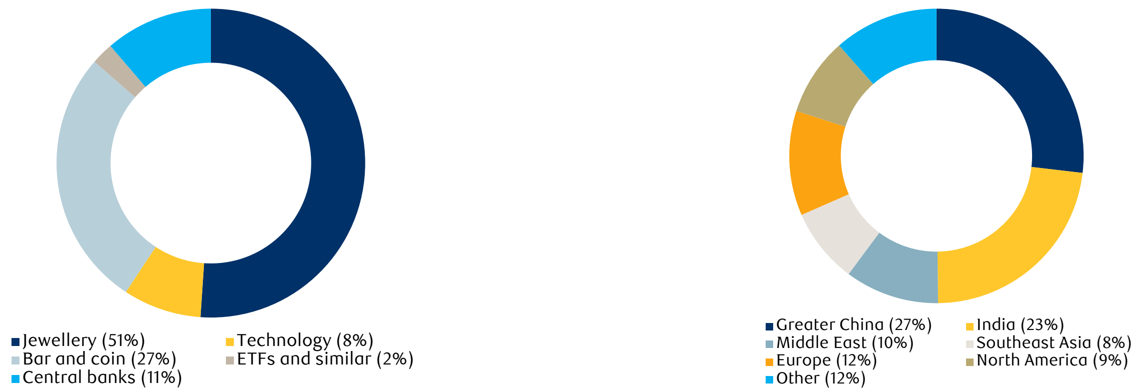
Exhibit A2: Gold supply and demand equation for 2019 (in tonnes)



Note: * Includes net producers hedging of 21 tonnes. ** Includes Total bar and Coin, ETF, and inferred investment demand. As of Dec. 2019.
Source: World Gold Council

Gold is bought around the world as a luxury good, a component in high-end electronics, a safe-haven investment or a portfolio diversifier. The demand for gold is driven by jewelry demand, investment demand and industrial demand. Investment demand has been the single biggest driver of growth in demand for gold over the past 10 years (Exhibit A3).

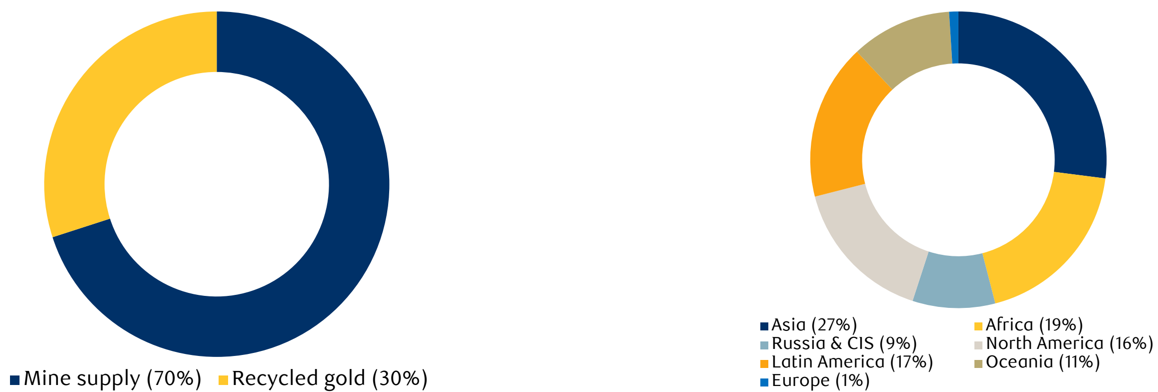
Exhibit A3: Sources of gold demand



Note: As of December 2019. Sources: ICE Benchmark Administration, Metals Focus, Refinitiv GFMS, World Gold Council

Of the 106 million ounces of gold mined last year, 71% came from listed mining companies with a combined market capitalization US$600 billion. Of the balance, small-scale gold production, sometimes called 'artisanal mining,' accounts for about 19%, and the remainder from unlisted government-controlled producers (Exhibit A4).

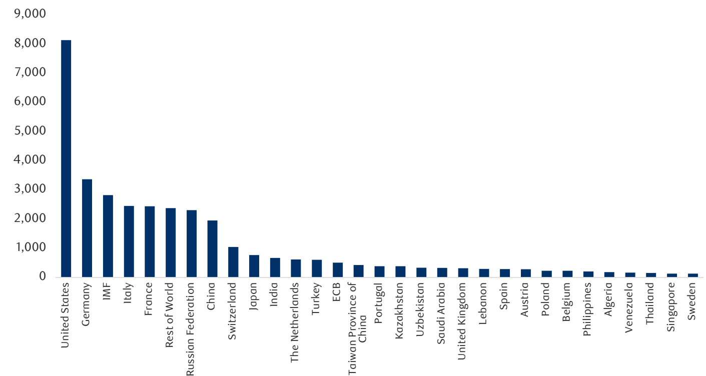
Exhibit A4: Sources of gold supply



Note: As of December 2019. Sources: ICE Benchmark Administration, Metals Focus, Refinitiv GFMS, World Gold Council

Central banks own roughly 17% of the world's gold. The U.S. government is by far the largest holder of gold, with its 8,133 tonnes making up 80% of the country's official foreign reserves (Exhibit A5).

Exhibit A5: World official gold holdings



Note: Holdings as of July 2020. Source: World Gold Council, International Monetary Fund's International Financial Statistics (IFS)

Appendix II

The Four Pillars of Security Selection

Asset quality

Identify superior assets and sustainable competitive advantages

Management

Identify high quality management teams

Environmental, Social, and Governance (ESG) analysis

Conduct ESG due diligence to assess, determine and integrate stock selection suitability

Financial health and valuation

Conduct financial analysis to uncover value and identify opportunities and hidden option value

The qualitative and quantitative analyses encompassed in the **four pillars** are designed to differentiate outperforming and underperforming stocks across all market capitalizations over the long term.

1. Asset quality

We believe that the strong and diverse technical knowledge of the Resources Team allows it to evaluate early-stage mining assets - often small-capitalization, single-asset companies that are generally ignored by passive strategies. This approach is also effective in analyzing the underappreciated value of new or underdeveloped assets in larger companies.

We identify assets that have potential for scale and can reach critical mass through either increased throughput or better quality feedstock, both of which tend to equate to lower costs. We build detailed, mine-level financial models and analyze potential future cash flows to determine the intrinsic value of a company. At this point, site visits help us determine whether the permitting and technical situation on the ground aligns with what we have discovered through comparative analysis.

We also focus on identifying large mines and companies that could become merger or acquisition targets. The largest mines tend to offer a degree of protection when gold prices and/or financial markets are falling, and may moderate the riskiness of a portfolio.

2. Management

While management groups come and go, the best teams have multiple successes. Incorporating experience in how management teams have addressed success and failure with respect to discovery, financing, construction, execution and operations is crucial in the resources space. We believe that the Resources team's 75 years of combined experience provide an edge in distinguishing trustworthy and conservative management teams from those that that tend to make overly optimistic project assumptions and perhaps exaggerate their past successes.

3. Environmental, social and governance (ESG) analysis

RBC GAM seeks to identify and weigh the environmental, social and governance risks in companies and industries in which we invest. RBC GAM integrates ESG factors that may have a material impact on a security's risk and return, and performs ESG analysis across all equity sectors with the goal of assigning a ranking to each. The management teams of all companies being considered for investment undergo ESG inquiries. We then compare our ESG findings to 3rd-party ESG rankings to see how our rankings compare.

We convey our views as an investor through proxy voting, engagement with issuers and regulatory bodies and collaboration with like-minded investors. We are especially drawn to management teams that have provided the best corporate governance, but also seek opportunities to engage with companies that are open to improving their ESG standing with stakeholders.

4. Financial health and valuation

We evaluate companies on a number of readily available metrics including price-to-net asset value (P/NAV), enterprise value to earnings before interest taxes depreciation and amortization, (EV/EBITDA), and price to cash flow (P/CF). More importantly, we endeavor to understand free cash flow – its yield, stability and direction – as well as a company's thoughts on capital allocation.

We benchmark similar assets and/or companies to evaluate if management assumptions are conservative and/or aggressive. We identify assets that are mispriced or do not properly discount optionality from project enhancements or project challenges. We also utilize strong broker and independent consultant relationships over many commodity cycles to understand market perceptions and concerns.

Comprehensive scenario analysis is undertaken to stress-test various input factors and assumptions. This systematic process helps to identify upside potential and downside risks, set price targets and determine optimal weights for securities in a portfolio.

Endnotes

Note: S&P/TSX Composite Gold Index = S&P/TSX Composite Gold Sub Industry GICS Level 4 Index

[1] Source: Russell Napier, July 13, 2020, the market NZZ. Central Banks have Become Irrelevant.

[2] Wikipedia on the Fisher Effect: The Fisher Effect states that the real interest rate equals the nominal interest rate minus the expected inflation rate. Therefore, real interest rates fall as inflation increases, unless nominal rates increase at the same rate as inflation. Fisher proposed an equation to derive real or nominal rates exactly as: $1 + i = (1 + r)(1 + \pi)$. Where i denotes the nominal interest rate, r denotes the real rate and π denotes the inflation rate

[3] Wikipedia, Greenspan put. During Greenspan's chairmanship, when a crisis arose and the stock market fell more than about 20%, the Fed would buy bonds essentially without limit at high prices, lowering the Fed Funds rate — sometimes to the point of making the real yield negative — and bailing out the holders of bad assets. The Fed added monetary liquidity and encouraged risk-taking in the financial markets to avert further deterioration.

[4] Andreas Hoffmann, Intereconomics, 2019. *Beware of Financial Repression: Lessons from History.*

[5] In 1924, the seminal macro-economist, John Maynard Keynes of eponymous Keynesian economics, referred to the gold standard as (and by proxy gold) a 'barbarous relic.'

[6] Warren Buffet, June 2020: "Gold will never produce anything. Gold has two significant shortcomings, being neither of much use nor procreative ...It will remain lifeless forever."

Jason Zweig, July 17, 2015 of the *Wall Street Journal*, "Let's Get Real About Gold: It's a Pet Rock."

[7] Ray Dalio, founder of Bridgewater Associates, July 17, 2019: "More promising investments are those that do well when the value of money is being depreciated and domestic and international conflicts are significant, such as gold."

Paul Tudor Jones, May 2020. *Macro Outlook – The great monetary inflation:* "Speaking of gold, in a low-carry world, gold remains a very attractive hedge."

[8] The Gold Book : *"The Complete Investment Guide To Precious Metals"* by Pierre Lassonde: Penguin, c1990.

[9] The World Gold Council is the market development organization for the gold industry. Their purpose is to stimulate and sustain demand for gold, provide industry leadership, and be the global authority on the gold market.

[10] Catarina Saraiva, *Bloomberg News*, September 16, 2020: "Federal Reserve officials held interest rates near zero and signaled they would stay there for at least three years, vowing to delay tightening until the U.S. gets back to maximum employment and 2 per cent inflation."

Special thanks to World Gold Council and Murenbeeld & Co.

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