

Consumer and Investment Management Division

US Economic Outlook & Implications of Current Policies for Inflation, Gold and Bitcoin (15<sup>th</sup> in our COVID-19 Series)

May 27, 2020

### **Investment Strategy Group**

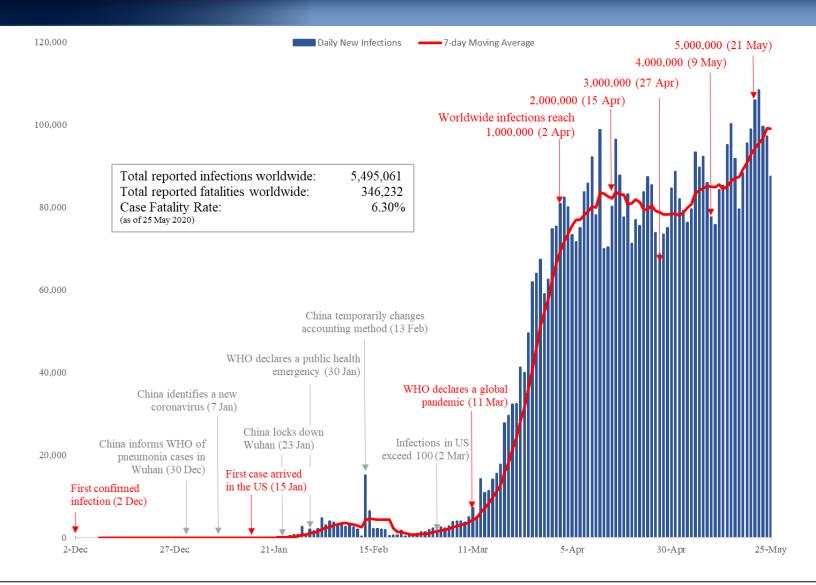
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### Overview of Today's Call

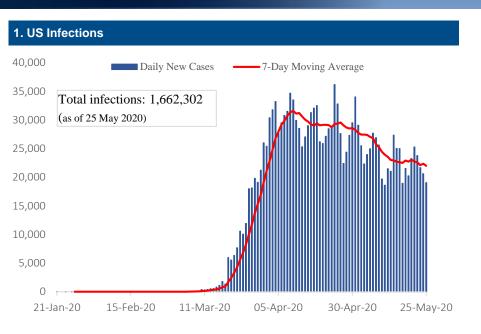


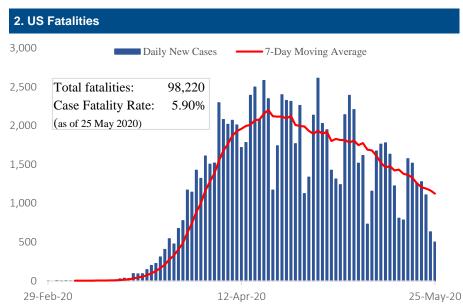
- Update on COVID-19
- US Economic Outlook & Implications of Current Policies for Inflation, Gold and Bitcoin
  - Jason Furman, Former Chairman of the Council of Economic Advisers (2013-17)
     and Professor of the Practice of Economic Policy at Harvard Kennedy School and the
     Department of Economics at Harvard University (Slides 8-22)
  - Jan Hatzius, Chief Economist and Head of Global Investment Research at Goldman Sachs (Slides 8-22)

#### SARS-CoV-2 Pandemic Timeline



#### COVID-19 Infections and Fatalities in the United States

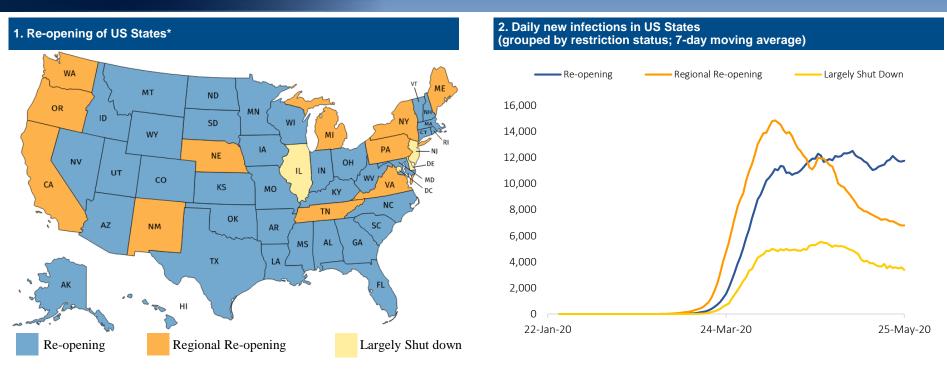




- While the number of new daily infections and fatalities continues to remain high in the United States, the outbreak has been decelerating.
- The US Centers for Disease Control and Prevention (CDC) recently estimated that the case fatality ratio among symptomatic patients in the US which CDC notes constitute 65% of known cases is 0.4% (0.2–1.0%).



### All US States Are Moving to Lift Restrictions



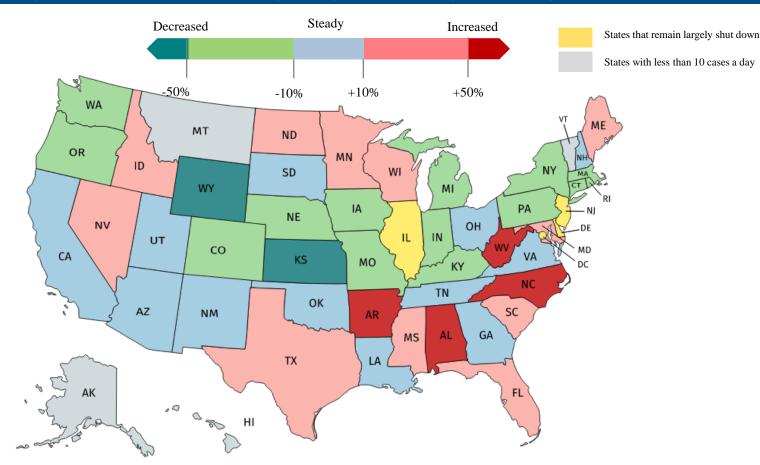
- All US states have started lifting to varying degrees some of their restrictions on economic and social activities.
- While there has been an uptick in infections in some of the states that have re-opened, this increase has also coincided with enhanced diagnostic testing.
- Diagnostic testing in the US has been expanding considerably since April 21, with the last week averaging over 400,000 tests a day. Importantly, the positive rate of the diagnostic tests has fallen to 5-6%, well below the 10% ceiling recommended by the WHO and epidemiologists.

<sup>\*</sup>A state is categorized as "reopening" once its stay-at-home order is lifted, or once reopening is permitted in at least one major sector of the economy or in a combination of smaller sectors. A state is categorized as "regional reopening" if, by and large, the governor permits certain counties or regions to open. Delaware, Illinois, New Jersey, and DC are reopening in small ways but are still largely shut down.

Source: Investment Strategy Group, COVID Tracking Project; New York Times, Mapchart



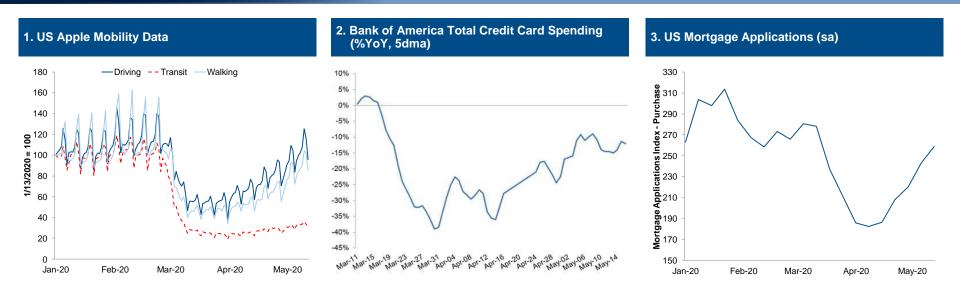
#### 1. Change in new COVID-19 cases since re-opening (% change in the 7-day average from reopening date to 25 May 2020)



• Among the 36 states in which the stay-at-home order has been lifted, or reopening is permitted in at least one major sector of the economy or in a combination of smaller sectors, the daily cases of infections have held steady or even decreased in 18; new cases of infections have increased in 14; and in the remaining 4, the daily new cases are below 10.

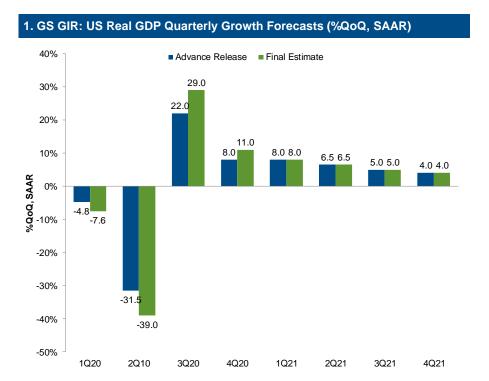


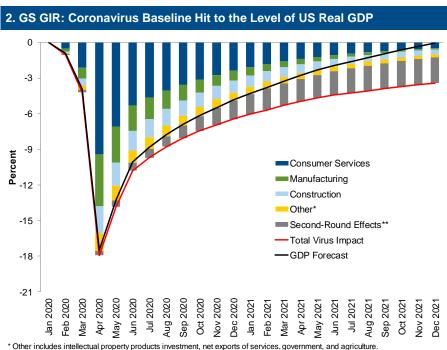




- Mobility data in the US has improved meaningfully since the lows in April.
- Americans' spending on Bank of America credit and debit cards on retail sales ex-autos during 12 May to 16 May was at the same level as last year, while total spending on BAC cards improved sequentially from -36% YoY during the last five days of March to -12% YoY during the five days ending 16 May.
- Mortgage applications are approaching pre-pandemic February levels after declining by 35% in March and April.







\*\* Impact of private income losses net of the fiscal offset on spending

- GIR forecasts US real GDP growth of -6.3% in 2020 and +6.1% in 2021.
- GIR expects the advance releases to show smaller changes in US GDP than the final revised estimates, due to non-response bias and the use of smoother judgmental trends to replace unavailable source data in the first vintage.
- According to GIR, April marked the trough in economic activity, with a nearly 18% drop in the level of US GDP, including declines of -20% in consumer services spending, -25% in manufacturing output, and -30% in construction.

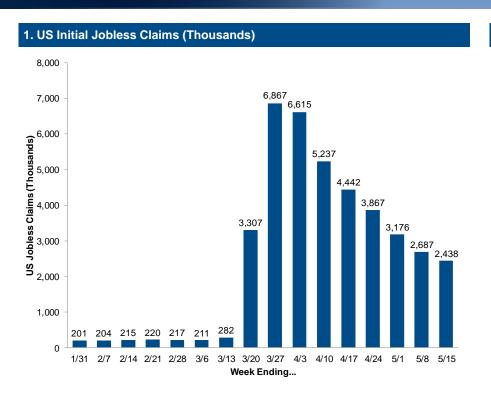


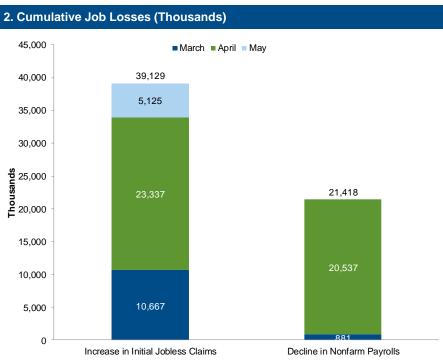
US Real GDP Growth Forecasts								
	1Q20 (Prelim: -4.8)	2Q20	3Q20	4Q20	2020	2021	2020-21 Combined	
	% QoQ, Ann.			% YoY		%		
GIR	-7.6	-39.0	29.0	11.0	-6.3	6.1	-0.6	
IHS Markit	-4.8	-36.5	6.1	9.4	-7.3	5.1	-2.6	
Consensus	-4.8	-34.2	15.0	7.9	-5.7	3.9	-2.0	
IMF (Apr. WEO)	n/a	n/a	n/a	n/a	-5.9	4.7	-1.4	

- Tremendous uncertainty regarding downside and recovery:
  - No visibility regarding therapies yet other than promising preliminary data on remdesivir.
  - Limited visibility regarding vaccines: Moderna says Fall 2020 for front-line healthcare workers and JnJ says early 2021.
  - Multiple waves per Dr. Richard Hatchett of CEPI.
  - Marc Lipsitch of Harvard suggested 20-60% (down from 40-70% of all humanity) will get COVID-19.





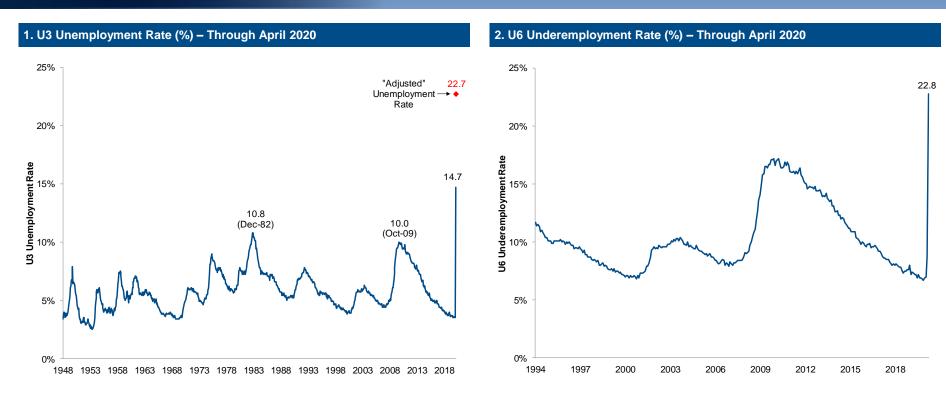




- The number of initial jobless claims has declined in recent weeks but remains elevated.
- New jobless claims data points to a much larger increase in unemployment than nonfarm payrolls.
- Such discrepancy is due to a number of reasons, including timing and methodology.

#### Outlook for US Labor Market





- The U3 unemployment rate rose to a post-war high of 14.7% in April.
- The "adjusted" unemployment rate is likely meaningfully higher. Classifying workers absent from work due to "other reasons" as unemployed on temporary layoff (+5pp) and assuming that the labor force participation rate had remained unchanged in April (+3pp) would result in an unemployment rate that is about 8pp higher than was reported.
- GIR expects the U3 unemployment rate to peak at 25% and the broader U6 underemployment rate to peak at 35%.



### Mostly Temporary Layoffs in the US So Far

#### **Change in Household Survey Total Unemployment by Reason** Thousands Thousands 20,000 20,000 Change in Household Survey Total Unemployment, by Reason 18,000 18,000 16,000 16,000 ■Temporary Job Losers 14,000 14,000 ■ Permanent Job Losers 12,000 Other\* 12,000 10,000 10,000 8,000 8,000 6,000 6,000 4,000 4,000 2,000 2,000 0 -2,000 -2,000 February March April

<sup>\*</sup>Job leavers, re-entrants, new entrants, and workers who completed temporary jobs



"Welcome to the first global economic depression of our lifetimes."

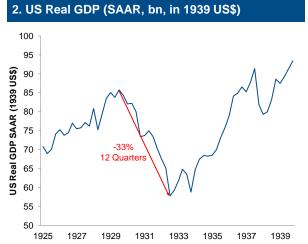
- Ian Bremmer, TIME, May 16, 2020

#### Image Used in our 2017 Outlook: Half Full



"Depression Bread Line," Bronze, 1991, George Segal at the Franklin D. Roosevelt Memorial. Art © The George and Helen Segal Foundation/Licensed by VAGA, New York, NY.

#### 1. US Unemployment Rate (%) 30% 25.6 (May-33) 25% US Unemployment Rate %01 10% +25.6pp 45 months 5% 0% 1931 1933 1935 1937 1939 1929



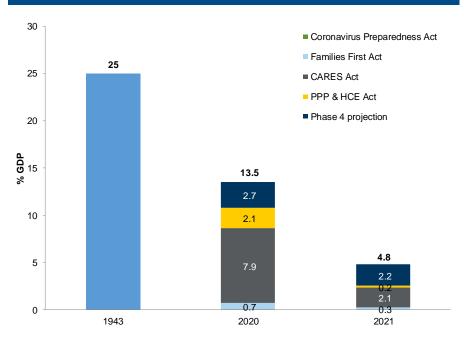




#### 1. Fiscal Packages - Total Amounts (USD bn)

Package	Discretionary spending	Loan guarantees
Phase 1 - Coronavirus Preparedness Act	8	
Phase 2 - Families First Act	192	
Phase 3 - CARES Act	1,715	454
PPP & HCE Act	483	
Phase 4*	~1,500	
* GIR projection		

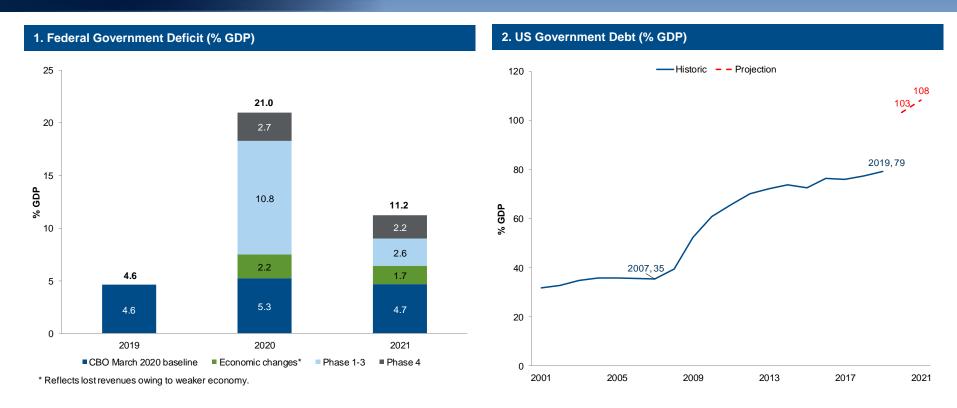
#### 2. Discretionary Fiscal Stimulus – 1943, 2020 and 2021 (% GDP)



- As of end-May, the government has announced three fiscal packages of increasing sizes and it has topped up the payroll protection program. The estimated cost of the fiscal packages is \$2.4 trillion over the next 10 years. But most of the spending will be in 2020 and 2021.
- Another round of fiscal stimulus (Phase 4) is in the works and may be finalized by the end of June. Our colleagues in Goldman Sachs Global Investment Research expect \$1.5tn in additional measures over the course of 2020-2022, with about \$550bn in 2020 and the rest over the following two years.

<sup>(1)</sup> The CBO estimates that the \$ 454 bn in loan guarantees will have no deficit effect.





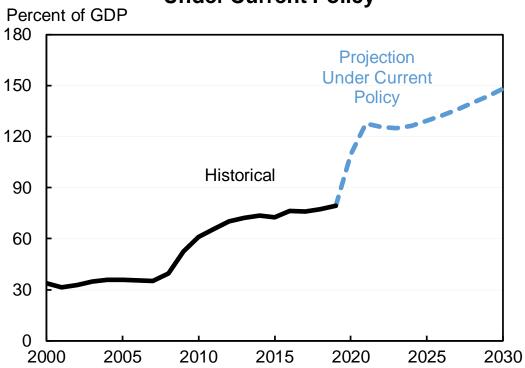
- The deficit of the Federal Government could widen to 21% in 2020 and 11% in 2021, up sharply from 4.6% in 2019, and considerably above CBO baseline projections earlier this year.
- As a result, the debt of the Federal Government is expected to surge. The CBO and the Committee for a Responsible Budget both project it will rise to about 100% in 2020, based on the stimulus packages that have been announced to date.
- Adding the projected cost of a Phase 4 package, will take the debt above 100% of GDP in the near future.



### The US Fiscal Outlook: Debt (very approximate)

#### **Federal Government Debt (% GDP)**

## U.S. Federal Debt Held by The Public Under Current Policy



- Government debt is set to surge and might reach 150% of GDP by 2030, compared to 79% in 2019.
- The projection assumes \$2.5 trillion of additional COVID-related measures, extensions of existing fiscal measures, and extension of 2017 tax cuts.



#### 1. Fed Policy Response to Covid19 Crisis (2020 ytd)

#### Policy response

#### Interest rate policy

Cut federal funds rate to 0-0.25%

#### Asset purchases

Increase long-term Treasury security holdings Increase mortgage-backed security holdings

#### Liquidity measures

Increase overnight repo operations
Increase one-month term repo operations

Increase three-month term repo operations

Increase central bank dollar swap line arrangements

Establish FIMA repo facility

#### **Emergency lending**

Re-institute commercial paper funding facility

Re-institute primary dealer credit facility

Re-institute money market mutual fund liquidity facility

Re-institute asset-backe securities loan facility

Establish primary and secondary market corporate credit facilities

Establish paycheck protection loan facility

Establish main street business lending program

Establish municipal liquidity facility

"It's all ahead of us. The amount that has gone out so far, in the context of the US economy, is fairly modest."

- Federal Reserve Chair Jerome Powell, when asked about the amount of funding that has been released through current programs thus far, Senate hearing, May 19

"We are continuing to look at ways to accommodate further borrowing ... We are committed to using our full range of tools to support the economy."

> - Federal Reserve Chair Jerome Powell, Senate hearing, May 19

The Fed has been aggressive in its response to the pandemic. It has cut the Federal Funds rate to zero, started large scale asset purchases, increased the supply of liquidity to the market, and established or reinstituted a wide range of emergency lending facilities.



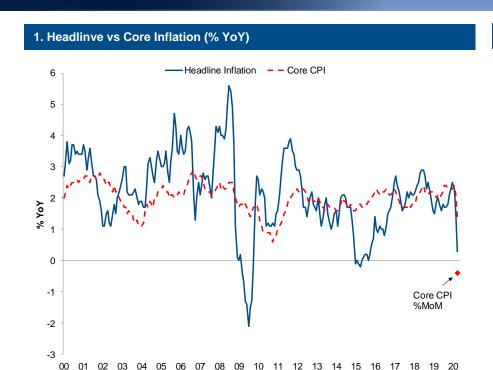
### Monetary Easing Has Limited FCI Tightening



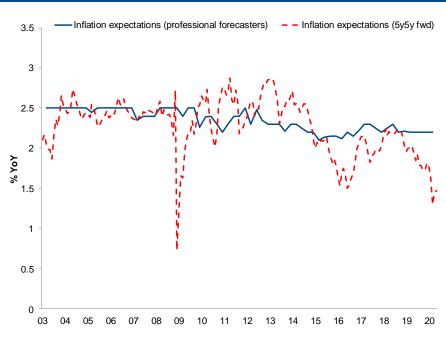
- The Fed's aggressive monetary easing has helped to ease financial conditions from the peak in late March.
- After tightening from 98.6 on February 19<sup>th</sup> to 101.7 by March 23<sup>rd</sup>, the GIR financial conditions index has eased to 99.6. That is still up from 98.8 at the end of December, but only slightly higher than the 2019 average of 99.4.

<sup>(1)</sup> The financial conditions index is a weighted average of interest rates, exchange rates, equity prices, and other financial variables, with weights that mirror the impact of shocks to each variable on GDP growth.





#### 2. Long-term Inflation Expectations (% YoY)



- Headline inflation fell sharply to 0.3% YoY in April. The decline was the result of lower energy prices and weak demand. Core inflation also decelerated, dropping to 1.4% YoY, or -0.4% MoM—the largest drop on record.
- The slowdown in inflation confirms the deflationary nature of the pandemic shock. Nonetheless, the inflation data have to be interpreted with care as many goods and services are not available due to the lockdown, which some researchers believe may cause a downward bias in the price data.<sup>1</sup>
- Market-based inflation expectations have remained subdued at 1.5% as of May 22, while survey based expectations have been stable at 2.2% through March.

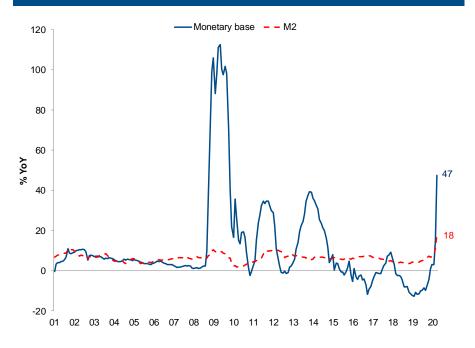


### The Fed's Balance Sheet Has Expanded at a Record Pace

#### 1. Federal Reserve Balance Sheet: Assets – Through May 20 (USD tn)



#### 2. Money Supply: Monetary Base vs Broad Money - Through April (% YoY)



- The Fed's policy response has resulted in a rapid increase in its balance sheet, which has provided a large boost to the money supply.
- Increased holdings of US Treasuries and mortgage backed securities have resulted in a \$2.9 tn surge in the Fed balance sheet between early February and May 20<sup>th</sup>. This compares to a \$1.3 tn increase between September and December 2008.
- In relative terms, the current surge in the Fed balance sheet is smaller than the one during the global financial crisis, because of the higher starting point.

#### Negative Rates

- Markus Brunnermeier and Yann Koby of Princeton University have suggested that negative rates can become contractionary if they result in "the net interest income of banks decreasing faster than recapitalization gains from banks' initial holdings of fixed-income assets." 1
- A few studies have suggested that negative rates may actually increase the savings rate as people compensate for a low rate of return by increasing their aggregate savings.<sup>2</sup>

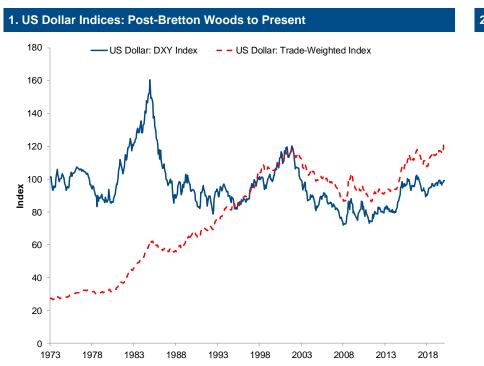
#### Modern Monetary Theory (MMT)

 Former Vice President Joe Biden's economics task force includes Stephanie Kelton, an expert on modern monetary theory. "The committee's view on negative rates really has not changed. This is not something we're looking at. ... I know that there are fans of the policy, but for now, it's not something that we're considering. We think we have a good toolkit, and that's the one we'll be using."

- Federal Reserve Chair Jerome Powell, May 13

<sup>(1)</sup> Brunnermeier and Koby "The Reversal Interest Rate", Department of Economics, Princeton University (January 30, 2019).





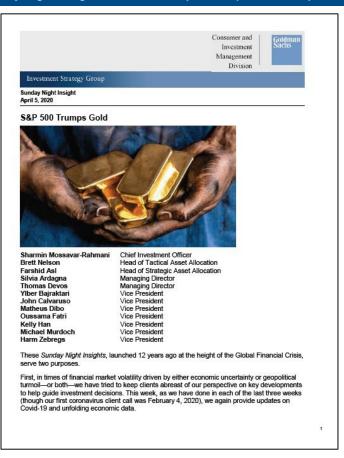


- The US Federal Reserve Trade-Weighted US Dollar Index, which includes several EM currencies, is at an all-time high level in the post-Bretton Woods era, while a more narrow index such as DXY is at its 70<sup>th</sup> percentile since 1973.
- The Trade-Weighted Index is up 8.1% and the DXY is up 3.6% year to date.¹

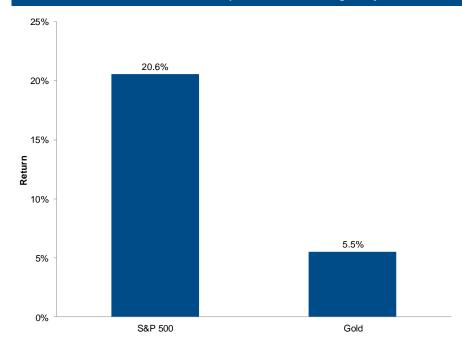


### S&P 500 Trumps Gold

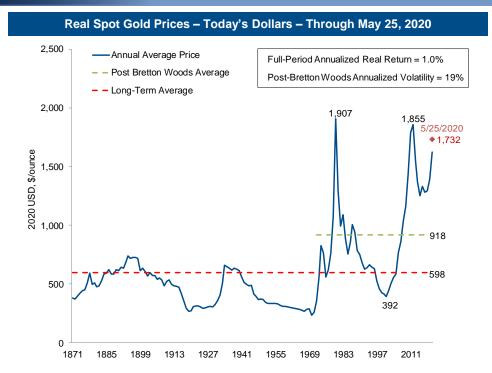
#### 1. ISG Sunday Night Insight: S&P 500 Trumps Gold (Published April 5, 2020)



#### 2. S&P 500 and Gold Returns Since April 5, 2020 - Through May 26, 2020



#### Gold Prices in Historical Context

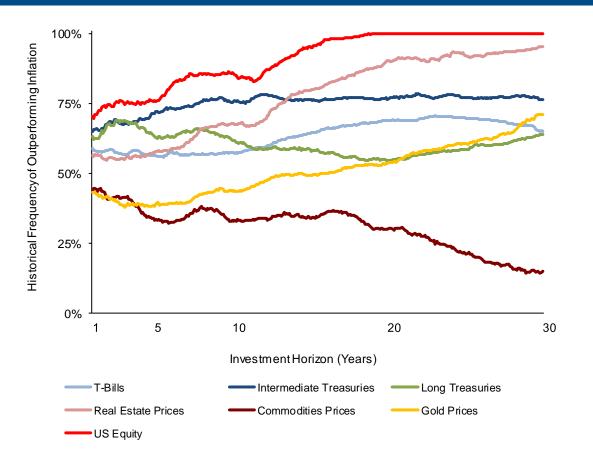


- Gold prices are well above their long-term inflation-adjusted averages. Over time gold has barely outperformed inflation with a real return of 1.0% before cost of storage and insurance, compared to 2.7% for 10-year US Treasuries.
- The fascination with gold has existed since the Egyptians first used gold bars as money as early as 4000 BC. The opening paragraph of the late Peter Bernstein's book, The Power of Gold: The History of an Obsession, captures the sentiment:

At the end of the 19th Century, John Ruskin told the story of a man who boarded a ship carrying his entire wealth in a large bag of gold coins. A terrible storm came up a few days into the voyage and the alarm went off to abandon ship. Strapping the bag around his waist, the man went up on deck, jumped overboard, and promptly sank to the bottom of the sea. Asks Ruskin: 'Now, as he was sinking, had he the gold? Or had the gold him?'



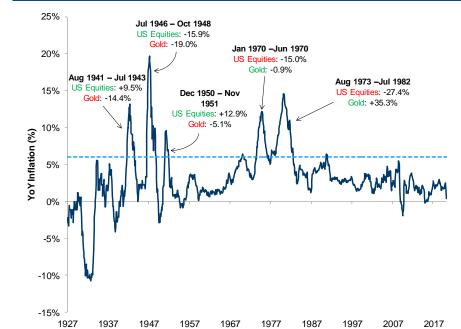
#### Percent of Time Asset Class Outperforms Inflation Over a Given Investment Horizon



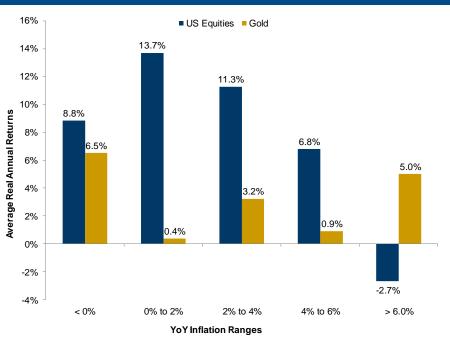
# Gold has Only Outperformed in Rare, Elevated Inflation Regimes







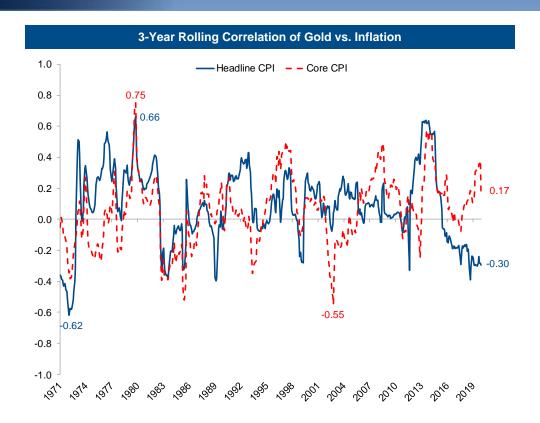




- Even during shorter windows when inflation has been above 6%, gold only outperformed equities between January 1970 and June 1970, and then again between August 1973 and July 1982.
- In other periods, when inflation has been less than 6%, equities have outperformed gold.

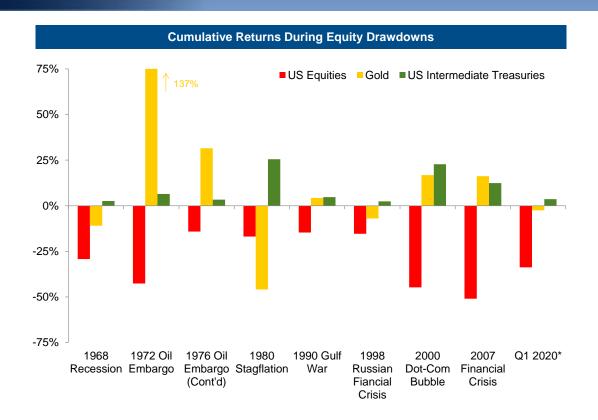


### Unstable Correlation Between Gold and Inflation



• Gold's correlation with inflation (core and headline) is very unstable; its correlation with core inflation has fluctuated between 0.75 and -0.55, with an average of 0.05.

### Gold Does Not Offer Reliable Downside Protection



- In periods of significant equity market drawdowns, high-quality bonds are a more reliable source of diversification.
- In some cases, such as during the 1973-74 bear market that was partly triggered by the Arab Oil Embargo and the tripling of crude oil prices, gold provided tremendous downside protection.

<sup>\*</sup> From peak-to-trough US equity drawdown, 2/19/2020 through 3/23/2020.

Source: Investment Strategy Group, Datastream, Bloomberg, Barclays Capital. Commodities performance represents S&P/GSCI Total Returns whenever applicable; prior to index inceptions (Jan-83 for S&P/GSCI Energy and Jan-70 for S&P/GSCI Non-Energy), commodities performance is represented by price returns.



Sovereign currencies meet three criteria:

### 1) They are used as a medium of exchange.

- To represent a medium of exchange, an instrument must facilitate the transaction of goods or services between parties (e.g., US\$ are used to buy a barrel of oil).

### 2) They serve as unit of account.

 A unit of account is a measurement which allows value to be accounted and compared (e.g., a barrel of oil is worth ~\$33).

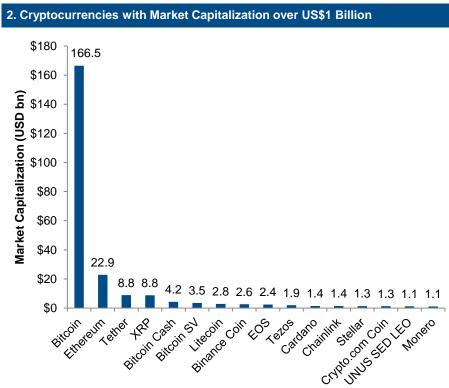
### 3) They are a store of value.

 A store of value is an asset that can be saved, stored, and exchanged in the future for a predictable stable value (e.g., with 2% annual inflation, a nominal dollar today will be worth 82¢ in 10 years).

### Cryptocurrencies Including Bitcoin Are Not an Asset Class

- Do Not Generate Cash Flow Like Bonds
- Do Not Generate any Earnings Through Exposure to Global Economic Growth
- Do Not Provide Consistent Diversification Benefits Given Their Unstable Correlations
- Do Not Dampen Volatility Given Historical Volatility of 76%
  - On March 12, 2020, the price of Bitcoin fell 37% in one day
- Do Not Show Evidence of Hedging Inflation
- We believe that a security whose appreciation is primarily dependent on whether someone else is willing to pay a higher price for it is not a suitable investment for our clients.
- We also believe that while hedge funds may find trading cryptocurrencies appealing because of their high volatility, that allure does not constitute a viable investment rationale.





- Since Bitcoin was created in 2008, several thousand cryptocurrencies have come into existence, with a combined market cap of ~\$250 billion.
- Though individual cryptocurrencies have limited supplies, cryptocurrencies as a whole are not a scarce resource. For example, three of the largest six cryptocurrencies are forks—i.e., nearly identical clones—of Bitcoin (Bitcoin, Bitcoin Cash, and Bitcoin SV).



### Cryptocurrency Can Be a Conduit for Illicit Activity

Despite that most cryptocurrency ledgers are permanent and auditable public records, cryptocurrencies nevertheless abet illicit activities such as Ponzi schemes, ransomware, money laundering, and darknet markets<sup>1</sup>

#### **Ponzi Schemes**

- Ponzi schemes are fraudulent investment scams in which scammers offer impossibly quick and high returns.
- In 2019 a Ponzi scheme known as PlusToken collected more than \$2 billion from more than 30 million people by promising 10–30% annual returns.<sup>1</sup>

#### **Money Laundering**

- The money laundering infrastructure within cryptocurrency networks is driven primarily by over-the-counter brokers, and it enables other crypto crimes.
- In 2019, \$2.8 billion in Bitcoin was sent to currency exchanges from criminal entities.<sup>1</sup>

#### Ransomware

- Ransomware is software that hijacks computer networks and only unlocks them in exchange for payment, typically via cryptocurrency.
- In 2019, the US saw nearly 1,000 ransomware attacks. In addition to the potentially \$7 billion+ cost of these attacks, ransomware attacks disrupted emergency responders, schools, healthcare providers and other vital services.<sup>2</sup>

#### **Darknet Markets**

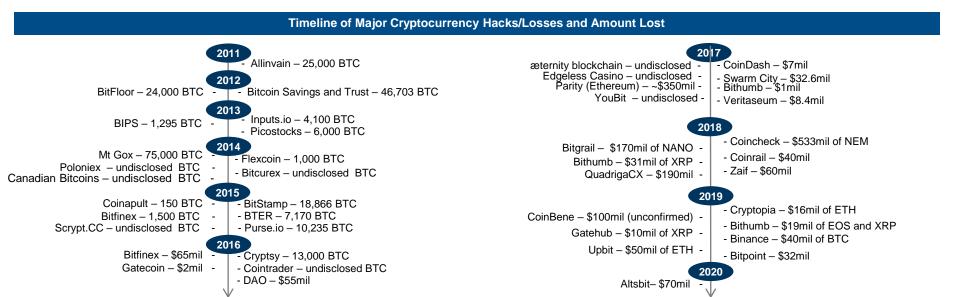
- In darknet markets, vendors sell illicit wares on the internet. Their medium of exchange is typically cryptocurrency.
- Darknet market revenue reached nearly \$800 million in 2019.<sup>1</sup>

#### Sources:

<sup>1)</sup> Chainalysis 2020 State of Crypto Crime <a href="https://go.chainalysis.com/rs/503-FAP-074/images/2020-Crypto-Crime-Report.pdf">https://go.chainalysis.com/rs/503-FAP-074/images/2020-Crypto-Crime-Report.pdf</a>

# The Cryptocurrency Infrastructure is Still Young and Susceptible to Hacking or Inadvertent Loss

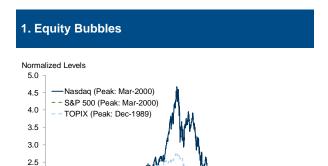




- Although cryptocurrencies cannot be spent without control of the corresponding private keys, care must be taken to protect those private keys. Many cryptocurrency owners allow exchanges or other custody providers to control their private keys, which makes these custodians prime targets for hackers:
  - If hackers are able to access owners' private keys, they can deplete owners' digital wallets.
  - Inadvertent loss occurs when particular cryptocurrency tokens can no longer be spent by anyone. Between the losses at QuadrigaCX (due to the death of the sole private key holder) and Parity (due to a coding error), over \$500 million of cryptocurrency was rendered inaccessible.
- Estimates vary but suggest that hacking and inadvertent loss has resulted in well over a billion dollars of lost cryptocurrency.



### The Cryptocurrency Mania Dwarfed Historical Manias



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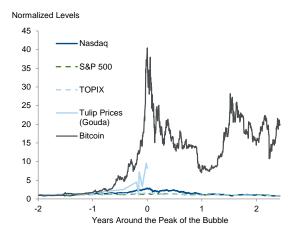
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### 2. Bitcoin in the Context of Equity Market Bubbles and Tulips

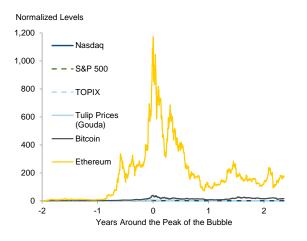


### 3. Ether in the Context of Equity Market Bubbles, Bitcoin and Tulips

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- In late 2017, as discussed in our 2018 *Outlook*, cryptocurrencies moved beyond bubble levels in financial markets and even beyond levels seen during the Dutch "tulipmania" between 1634 and early 1637.
- We have compared bitcoin and ether, two of the largest cryptocurrencies by market capitalization, to the Gouda variety of tulip bulbs and to the equity bubbles in the Nasdaq, S&P 500 and the TOPIX. In the year prior to their respective peaks:
  - Nasdaq rallied 109%
  - Tulip prices jumped 485%

Years Around Peak of the Bubble

- Bitcoin rose 2,292%
- Ether rallied 14,193%.

### Key Takeaways



- The economy has bottomed and this is not a "Depression."
- Significant uncertainty remains with respect to growth trajectory:
  - Path of recovery
  - Employment of "temporary job losers"
  - Additional waves of new infections as the economy reopens
- Fiscal and monetary policy measures were designed to offset the demand shock and liquidity shock and will
  not be inflationary.
- Stagflation is highly unlikely.
- The US dollar will not be debased.
- We do not recommend gold on a strategic or tactical basis for clients' investment portfolios.
- We do not recommend bitcoin on a strategic or tactical basis for clients' investment portfolios even though its
  volatility might lend itself to momentum-oriented traders.



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The following table provides an example of the effect of management and incentive fees on returns. The magnitude of the difference between gross-of fee and net-of-fee returns will depend on a variety of factors, and the example has been simplified.

estimated income figures are estimates of future activity obtained from third party sources.

Period	Gross Return	Net Return	Differential
1 year	6.17%	4.61%	1.56%
2 years	12.72%	9.43%	3.29%
10 years	81.94%	56.89%	25.05%

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