BofA SECURITIES

Global Investment Strategy

The Longest Pictures

The History of Financial Markets in Pictures

Our 5th edition of BofA's Longest Pictures illustrates trends in recent decades and centuries in the return, volatility, valuation and ownership of financial assets, interest rates, and economic growth for the US, UK, Europe, Japan and Emerging Markets.

The Big Change

Markets are great storytellers; today's story is regime change (Chart 2) driven by trends in society (inequality, polarization, political distrust), politics (progressivism, populism), geopolitics (war, sanctions), environment (food/energy shortages, net-zero), economics (end of globalization), and demographics (China population decline), all inflationary, all say cash, commodities, real assets, volatility and small cap stocks to outperform richly-valued bonds, credit, private equity and US tech stocks in the 2020s.

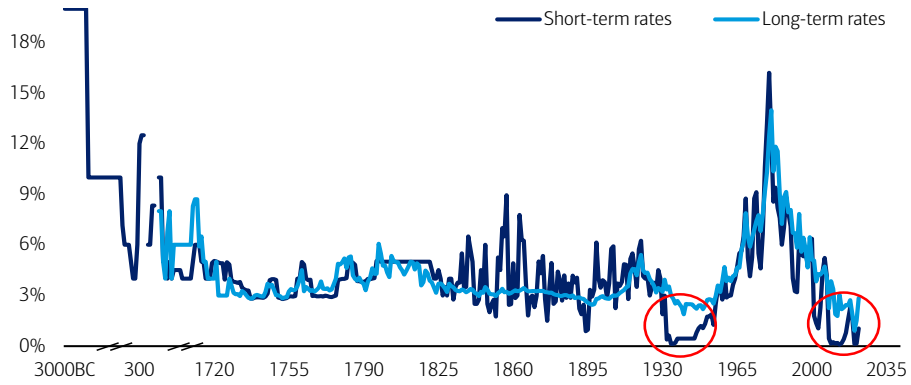
The Great Reset

On August 6th 2020 the yield on the 10-year Treasury bond hit all-time low of 0.5% following great central bank excesses (asset purchases of >$23tn since GFC) that drove global rates to 5000 year lows (Chart 1); third great bear bond market of past 120 years now underway, long-term yields >4% by '24 to reset credit and stocks lower (historically a 37% reset lower = SPX at 3k, Nasdaq 10k), ultimately risking US dollar debasement.

The Bulls of the 2020s

Recessions & bear markets cleansing, great lows create great opportunities...tech bubble of 2000 beget bull markets in BRICs (Brazil, Russia, India China), banks, real estate, GFC of 2009 beget bull markets in FAANG (Facebook, Amazon, Apple, Nextflix, Google), private equity, private credit; Great Reset of '22 to usher in new bull themes of inflation (small cap), dollar debasement (EM), real assets (commodities), infrastructure (industrials), clean energy, boomer-to-millennial wealth transfer, Asian consumer; at the Big Low best AA strategy will unquestionably be the humiliated "60-40" strategy.

Chart 2: The End of the Lowest Interest Rates in 5000 Years
Interest rates since 3000BC



Source: BofA Global Investment Strategy, Bank of England, Global Financial Data, Homer and Sylla "A History of Interest Rates" (2005)
BofA GLOBAL RESEARCH

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Investment Strategy
Global

Transforming World

Thematic Research

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Chart 1: The Big Change
Themes for 2010s and 2020s

2010s		2020s
1%		99%
Wall Street		Main Street
Maximizing Wealth		Maximizing Health
QE		QT
Repression		Volatility
Deregulation		Redistribution
Globalization	→	Isolationism
Buybacks		Taxation
Inequality		Inclusion
WWW		Web3
Credit		Commodities
Tech		Energy
Democracies		Dictatorships
Peace		War
Deflation		Inflation

Source: BofA Global Investment Strategy
BofA GLOBAL RESEARCH

The long run in words

"Those classes of investments considered 'best' change from period to period. The pathetic fallacy is what are thought to be the best are in truth only the most popular—the most active, the most talked of, the most boosted, and consequently, the highest in price at that time." *Fred Schwed Jr.*

"Markets stop panicking when central banks start panicking." *BofA Strategist*

"When all the experts and forecasts agree – something else is going to happen" *Bob Farrell*

"If there are two rules in investing they are that magnificent portfolios attract inflows, and inflows ultimately destroy magnificent portfolios." *Eric Peters*

"Buy on the cannons, sell on the trumpets." *Baron Rothschild*

"We simply attempt to be fearful when others are greedy and to be greedy only when others are fearful." *Warren Buffett*

"Successful investing is anticipating the anticipations of others." *John Maynard Keynes*

"The four most dangerous words in investing are 'This time it's different.'" *John Templeton*

"There are two types of forecasters: those that don't know, and those that don't know they don't know." *John Kenneth Galbriath*

"Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice." *Adam Smith*

"There are no new eras—excesses are never permanent." *Bob Farrell*

"The average long-term experience in investing is never surprising, but the short term experience is always surprising." *Charles Ellis*

"Buy humiliation, sell hubris." *BofA Strategist*

"Markets can remain irrational longer than you can remain solvent." *John Maynard Keynes*

"Compound interest is the eighth wonder of the world. He who understands it, earns it ... he who doesn't ... pays it." *Albert Einstein*

"In economics, things take longer to happen than you think they will, and then happen faster than you thought they could." *Rudiger Dornbusch*

"Never in the field of monetary policy was so much gained by so few at the expense of so many." *BofA Strategist*

"Speculation is an effort, probably unsuccessful, to turn a little money into a lot. Investment is an effort, which should be successful, to prevent a lot of money from becoming a little." *Fred Schwed Jr.*

"If all the economists were laid end to end, they'd never reach a conclusion." *George Bernard Shaw*

"Past performance is not necessarily a guide to future performance." *SEC requirement*

"The long run is a misleading guide to current affairs. In the long run we are all dead." *John Maynard Keynes*

The long run in years

1602: the Dutch East India Company becomes the first company to issue stocks and bonds on the Amsterdam Stock Exchange
1685: Germany establishes the second stock exchange in the world
1790: an $80 million US Government bond offering to refinance Revolutionary War debt becomes the first publicly traded security in the US
1792: the NYSE is established and the Bank of New York becomes the first company listed
1810: Russia is the first "emerging market" country to establish a stock market
1821: Great Britain adopts the gold standard
1862: US stocks record their best year ever, returning 70%
1891: the first US equity bear market (>20% loss) is caused by the "Baring Brothers Crisis"
1918: record high in US inflation rate of 20.4%
1923: hyperinflation in Germany, $1 worth 4,210,500,000,000 German marks
1929: Wall Street Crash signals beginning of Great Depression
1930: US implements Smoot-Hawley Act raising tariffs on more than 20,000 imported goods.
1931: US stocks record their worst year ever, declining 43%
1932: the most volatile year ever for US stocks as volatility hits 68%
1933: US unemployment peaks at 25%, President Franklin D. Roosevelt launches "New Deal"
1948: hyperinflation in Japan, consumer prices rise 5,300%
1971: "Nixon shock" as US ends convertibility of US dollar to gold, ending Bretton Woods; US dollar becomes a fiat currency
1981: monthly US 10-year Treasury yields hit an all-time high of 15.8%
1982: the best year of total return for long-term Treasuries of 40%
1987: on "Black Monday" October 19th, the Dow falls 23%, the largest daily drop ever
2001: China becomes member of World Trade Organization
2008: during the Global Financial Crisis US financial stocks fall 57%
2009: the worst year ever for long-term Treasury returns with losses of 15%; Fed launches Quantitative Easing
2011: US debt is downgraded by Standard & Poor; the gold price hits record high of $1900/oz
2014: Fed ends QE program; Brent crude begins brutal bear market ($107/bbl to $26/bbl in Feb'16)
2015: Fed hikes rates for first time in over 9 years; ECB begins QE across the Euro area
2016: Bank of Japan announces negative interest rate policy; 5,000 year lows in European/Japanese government bond yields
2017: US stock volatility hits 50-year low; bitcoin bubble peaks at $19,511 (up from $790 in 11 months)
2018: S&P500 becomes longest bull market of all-time; US-German government bond spreads widest since fall of Berlin Wall
2019: US economic expansion became the longest since Civil War; US budget deficit hits $1tn
2020: COVID-19 pandemic begins, US unemployment rises 33mn, equity market crashes $30tn, global GDP crashes $9tn, interest rates drop to 5,000 year lows
2021: COVID-19 pandemic continues killing 5mn, policymakers complete $8.7tn of monetary and fiscal stimulus, Bitcoin hits all-time intraday high at $68,992
2022: Russia-Ukraine War, Fed starts hiking rates, commodities on pace for best year since 1915, bonds worst since 1865, equities real terms worst since 1872

The long run in numbers

5,000 years: on August 4th 2020, the US 10-year Treasury yield fell to 0.5% an all-time low as global rates fell to 5,000 year lows

>1,000: central bank interest rate cuts since the GFC...there have been 81 hikes in 2022.

$23tn: Fed, ECB, BoJ, BoE, SNB have bought $23tn of financial assets since the GFC.

$786mn: during the first 18 months of the COVID-19 pandemic, central banks bought $786mn of financial assets every hour.

36%: Fed balance sheet as % of GDP: 0% to 3% in WWI, 2% to 11% in WWII, 6% to 15% after the GFC; 19% to 36% in 2021.

28%: US government spending % GDP: 2% to 24% in WWI, 10% to 42% in WWII, 20% to 24% after the GFC, 20% to 28% in 2020.

$30tn: peak-to-trough global equity market cap collapsed $30tn in crash of 2020 (close to combined GDP of China & Euro-area).

$61tn: from the bottom on March 24th 2020, global equity market cap rose $61tn to a peak in November 17th 2021

$8.7tn: global policy stimulus (QE + fiscal) in 2021...in 2022 there has been -$2.1tn of global policy stimulus.

20 million: jobs created since April 2020 (follows 33 million jobs lost during the COVID-19 pandemic in Mar-Apr'20.

6.4x: value of US financial assets (Wall Street) was 6.4 times the size of GDP (Main Street), all-time high, by mid-2021.

$2tn: two US companies (Microsoft, Apple) were individually worth >$2tn at the November 2021 top.

$12tn: on January 3rd 2022, seven US tech stocks (Meta, Apple, Amazon, Netflix, Microsoft, Google, Tesla) were worth $12tn.

$9.3tn: since 2000, companies have spent a cumulative $9.3tn on stock buybacks vs $6.4tn in total US wages.

2.7bn: in April 2022, cost of food for 2.7bn people in Asia, Africa & Middle East rose >20% YoY, 3.2bn > 10%

2014: last time rolling 10yr annualized return from commodities was positive...turned positive in March 2022.

1915: commodities on track for best performance since 1915 (+99% YTD annualized).

1920: global government bonds on track for worst performance since 1920 (-28% YTD annualized).

1872: S&P 500 on track for worst performance in real terms since 1872 (-46% YTD annualized).

30x: trailing PE for US stocks in June 2021, record high and above the 122-year average of 15.1x.

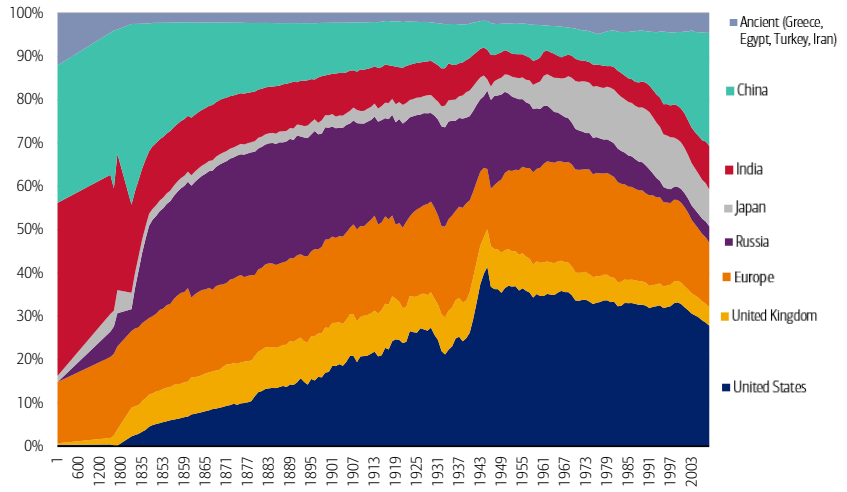
3098: average decline in almost 20 US equity bear markets in the past 140 years is 37.3% (3000 on S&P500).

289 days: average bear market ends after 289 days (= Oct 19th 2022).

The Big Change

2000 Years of Economic History

Chart 3: 2000 Years of Economic History
2000 Years of Economic Growth



Sources: BofA Global Investment Strategy, Groningen Growth and Development Centre (Angus Maddison)

BofA GLOBAL RESEARCH

- 2000 years ago, China represented 32% of the global economy.
- China, Greece, Egypt, Turkey, Iran & India accounted for 84% of the major power GDP.
- By the mid-1800s Russia, Europe and the UK were the dominant economic forces, accounting for more than 50% of global GDP.
- The US became the most important economic force in the world in 1916 during WW1, and has been the largest economy in the past 100 years (a period of strength also for Japan).
- The US share of the global economy has since dropped from a peak of 41% in 1945 to around 30% today; China & India (36%) are once again growing forces in the world economy.

1000 Years of Corporations

Chart 4: 1000 Years of Corporations
The oldest company in every country

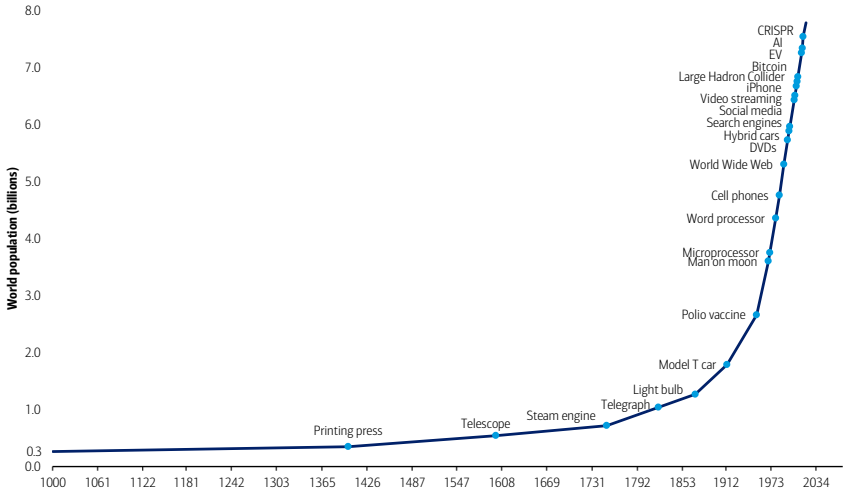
Source: BusinessFinancing.co.uk

BofA GLOBAL RESEARCH

- The FAANG stocks have been the hottest companies in world in the past decade, but they are kids in the history of the corporate world.
- There are companies now well over a millennia old still currently operational in many countries.
- The oldest still-functioning company in the world is Kong Gumi, a Japanese construction company established in 578.
- The next three oldest companies in the world are St. Peter Stifts Kulinarium in Austria established in 803, Staffelter Hof in Germany dating back to 862, and The Royal Mint in UK (886).

1000 Years of Technological Disruption

Chart 5: 1000 Years of Technological Disruption
Technological disruption since 1000 AD



Source: BofA Global Investment Strategy, GFD

BofA GLOBAL RESEARCH

- Technological disruption, aging demographics, and globalization have been the three most dominant investment trends of the past 40 years.
- Technological disruption has reduced the cost & price of goods & services, and the price of labor (via robotics, automation, AI).
- The social & wealth inequality that has resulted from disruption, and the monopolistic power of Big Tech means regulation, taxation, and labor unionization are new headwinds for tech as sector already under pressure via higher rates, market saturation & valuation.
- We believe tech is very likely to be the worst performing equity sector in the 2020s.

2000 Years of Pandemics

Table 1: 2000 Years of Pandemics
A history of pandemics

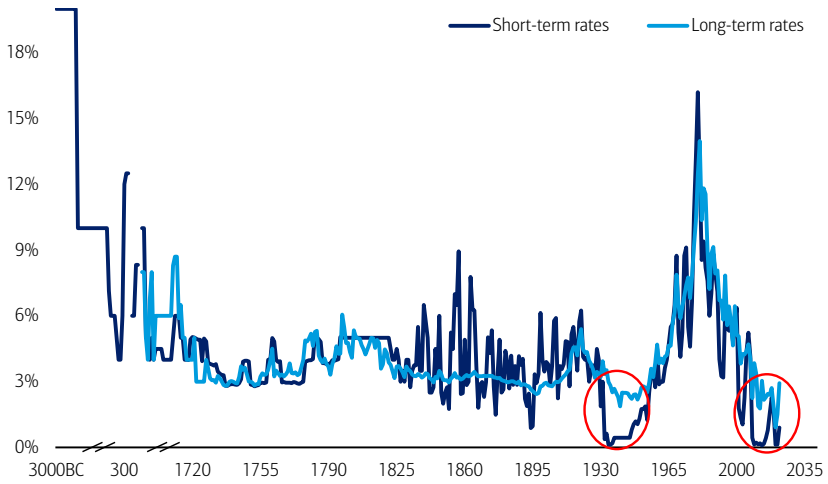
Pandemic	Time period	Death Toll
Black Death (Bubonic Plague)	1347-51	200,000,000
Smallpox	1520	56,000,000
Spanish Flu	1918-19	40,000,000-50,000,000
Plague of Justinian	541-2	30,000,000-50,000,000
HIV/AIDs	1981-present	25,000,000-35,000,000
The Third Plague	1855	12,000,000
COVID-19	2020-present	6,236,915
Antonine Plague	165-80	5,000,000
17th Century Great Plagues	1600	3,000,000
Asian Flu	1957-58	1,100,000
Cholera 6 outbreak	1817-1923	1,000,000
Japanese Smallpx Epidemic	735-37	1,000,000
Russian Flu	1889-90	1,000,000
Hong Kong Flu	1968-70	1,000,000
MERS	2012-present	850,000
SARS	2002-03	770,000
18th Century Great Plagues	1700	600,000
Swine Flu	2009-10	200,000
Yellow Fever	Late 1800s	150,000
Ebola	2014-16	113,000

Source: BofA Global Investment Strategy, CDC, WHO, BBC, Wikipedia, Encyclopedia Britannica, Johns Hopkins University
BofA GLOBAL RESEARCH

- History littered with pandemics such as the Plague of Justinian in the 500s (+30mn dead), the Black Death of the mid-1300s (200mn dead), and the Spanish Flu of the early-1900s (+40mn dead).
- COVID-19 first discovered in 2019 has claimed over 6.2 million lives with over 514 million cases of COVID-19 recorded globally.
- The COVID pandemic kick-started 1. global monetary & fiscal policy panic (>$30tn of stimulus in 2 years), which led to, 2. Inflation driven by excess demand & supply-chain bottlenecks, which signal, 3. The end of the era of globalization. Big stuff.

5000 Years of Interest Rates

Chart 6: 5000 years of Interest Rates
Interest rates since 3000BC



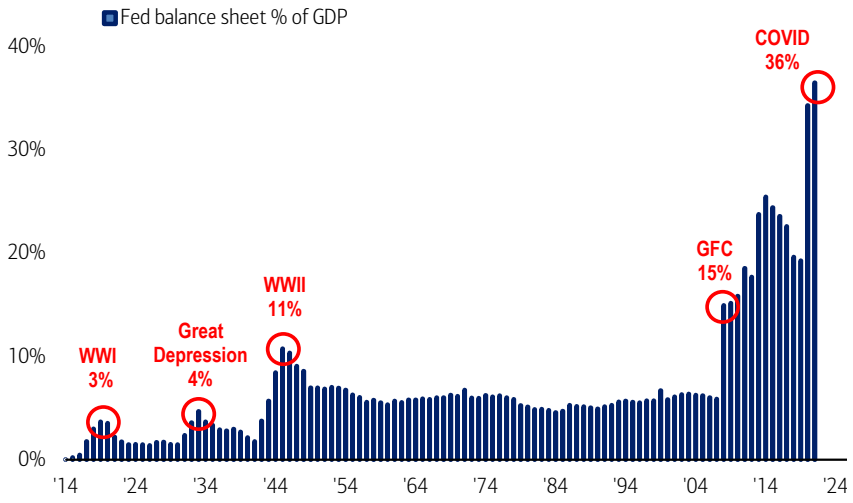
Source: BofA Global Investment Strategy, Bank of England, Global Financial Data, Homer and Sylla "A History of Interest Rates" (2005)

BofA GLOBAL RESEARCH

- The yield on the 10-year Treasury bond hit an all-time low of 0.5% on August 6th 2020, the direct result of central bank financial repression that ultimately drove global interest rates to 5000 year lows.
- 2020 marked the secular low in inflation and interest rates after a 40-year bull market, an era unambiguously positive for financial assets, particularly bonds, credit, and US equities.
- The 2020s set to be a new era of higher interest rates & volatility caused by inflationary trends in society (inequality), politics (populism/progressivism), geopolitics (war), society (inequality & inclusion), environment (net-zero), economy (end of globalization, and demographics (China population decline).
- The end of the lowest interest rates in 5000 years means the end of abnormal excess bond & equity returns.
- Cash, commodities, volatility, real assets set to outperform bonds, US growth stocks & private equity in the next 10 years.

The End of the QE Era

Chart 7: The End of the QE Era
Federal Reserve Balance Sheet since 1914



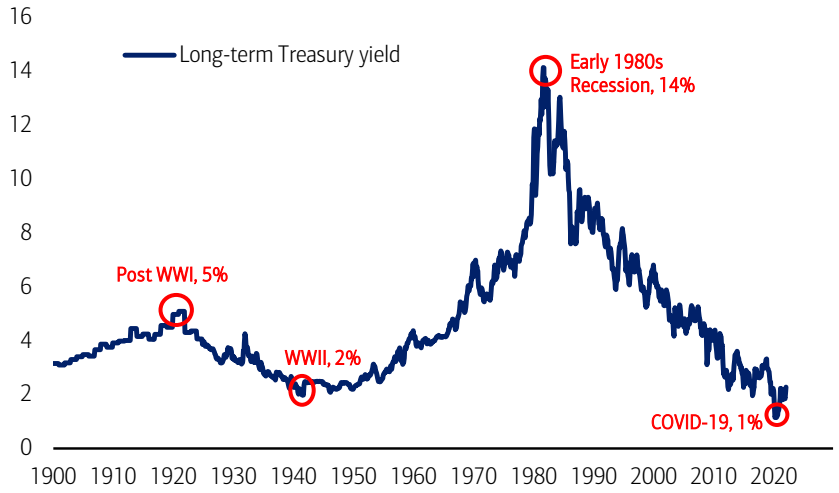
Source: BofA Global Investment Strategy, Haver, Federal Reserve Board, Global Financial Data, White House

BofA GLOBAL RESEARCH

- Central bank policy in the past 15 years has been nothing short of revolutionary: >1000 rate cuts since the GFC, central bank asset purchases of >$23tn since the GFC, central bank asset purchases of $786mn of assets every hour of every day during COVID-19, financial repression creating $18tn of negatively-yielding debt.
- Central bank policies for much of the past 15 years caused epic asset price inflation of bonds, stocks, private equity, but did not cause strong economic growth, which resulted in big wealth inequality, which in turn has morphed into populist & progressive politics.
- In the COVID-era the central banks liquidity supernova did cause significant economic growth and in turn a significant rise in housing, goods, services & wage inflation.
- In 2022 Quantitative Easing is ending, Quantitative Tightening is starting. Absent recession or a systemic event on Wall St central banks will be selling bonds in coming quarters/years, which means higher interest rates and higher asset price volatility.

The Big Low in Bond Yields

Chart 8: Big Low in Bond Yields
Long-term US Treasury bond yields since 1900



Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- 2020 marked the secular low for inflation & yields...the 3rd great bear bond market is now underway.
- The prior great bond bear markets were 1899 to 1920 and 1946 to 1981.
- The coming decade likely will be marked by a flip from deflation to inflation, globalization to isolationism, monetary to fiscal excess, capitalism to populism, inequality to inclusion...all of which we believe ultimately leads to US dollar debasement and long-term yields >4% by '24.
- The 10-year rolling return from US government bonds has fallen sharply to 2.7% from 16.3% in Sep'91; over the same period, the 10-year rolling return from US corporate bonds has fallen to 3.5% from 15.9%.

The Big Change & The Great Reset

Chart 9: The Big Change
Themes for 2010s vs 2020s

2010s	2020s
1%	99%
Wall Street	Main Street
Maximizing Wealth	Maximizing Health
QE	QT
Repression	Volatility
Deregulation	Redistribution
Globalization	Isolationism
Buybacks	Taxation
Inequality	Inclusion
WWW	Web3
Credit	Commodities
Tech	Energy
Democracies	Dictatorships
Peace	War
Deflation	Inflation

Source: BofA Global Investment Strategy

BofA GLOBAL RESEARCH

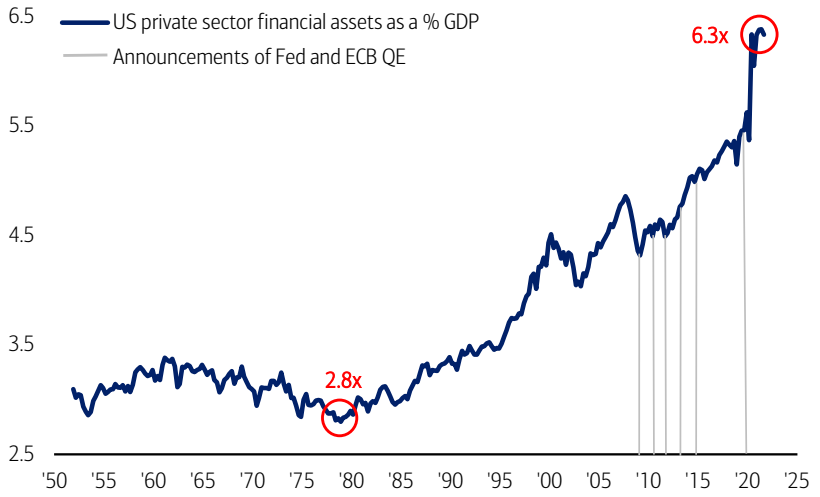
- The secular regime change from globalization to isolationism (human, social, regional), intervention (sanctions, confiscation, tariffs, fiscal not monetary excess, subservient central banks), insecurity (trust in a "global" financial system) signals a new era of inflationary boom-bust investment & economic cycles, which mean...

1. low, volatile, clustered, 3-5% long-run returns, like 1970s,
2. optimal AA is 25/25/25/25 in bond/stock/cash/commodities, at least until the big low in stock & bond prices has been reached (likely H2'22 or H1'23),
3. cash, commodities, volatility, real assets to outperform financial assets such as bonds and equities,
4. hedges against inflation & US dollar debasement such as real assets, gold, TIPS, small cap value, EM assets are likely to outperform,
5. deflation winners of yesterday such as credit, private equity, US tech stocks likely tomorrow's biggest losers.

- Recessions & bear markets cleansing, great lows create great opportunities...tech bubble of 2000 beget bull markets in BRICs, banks, real estate, GFC of 2009 beget bull markets in FAANG, private equity, private credit
- The Great Reset of '22 to usher in new bull themes of inflation (small cap), dollar debasement (EM), real assets (commodities), infrastructure (industrials), clean energy, boomer-to-millennial wealth transfer, Asian consumer...
- And at lows best AA strategy will unquestionably be the humiliated "60-40" strategy.

The War on Inequality

Chart 10: The War on Inequality
US private sector financial assets as % of GDP



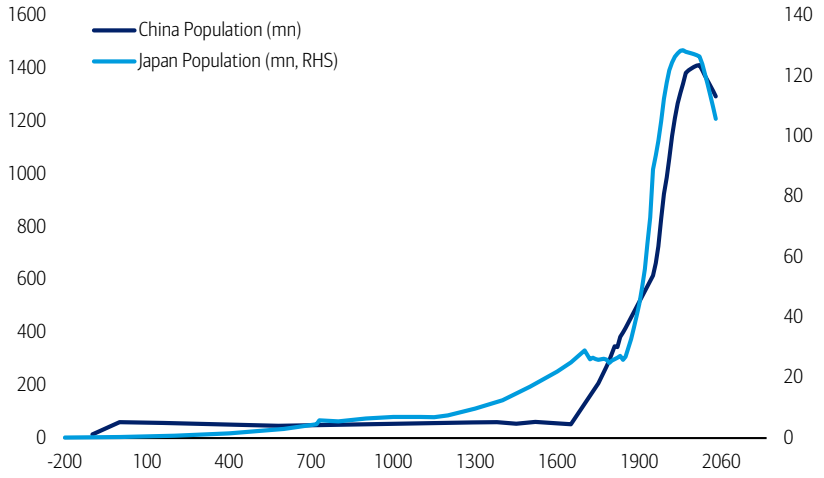
Source: BofA Global Investment Strategy, Haver

BofA GLOBAL RESEARCH

- The value of financial assets (Wall Street) relative to the value of the economy (Main Street) is now 6.3x.
- Social and political trends were already moving in the direction of addressing inequality, but have been accelerated by COVID-19.
- 2020s will see policies of redistribution, regulation, reshoring to reverse wealth inequality, thereby raising the value of labor relative to capital.
- The catch-22 of '22 is that tighter monetary policy can reduces asset prices quickly at a time when Main St is so levered to the fortunes of Wall St...and the quickest route to a recession is a Wall St crash.

Demographics no longer Deflationary

Chart 11: Demographics are Destiny
China vs Japan population



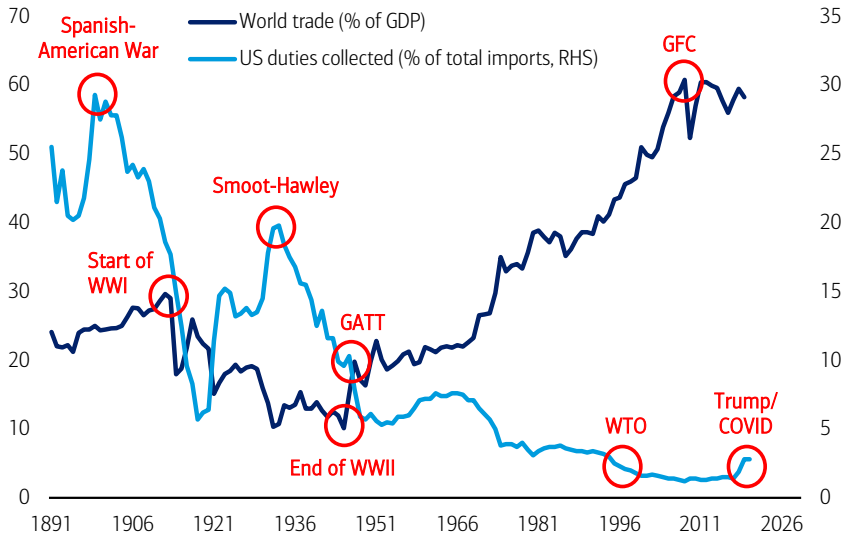
Source: BofA Global [illegible] Bloomberg, Worldometer, Cabinet Bureau of Statistics of Japan, McEvedy & Jones, Kit [illegible]

BofA GLOBAL RESEARCH

- The Great Deflation of the past 40 years was driven by Globalization (fall Berlin Wall, NAFTA, China into WTO) which increased the supply of labor and reduced the price of labor relative to capital.
- In China, the source of much cheap labor in recent decades, will see population decline following Japan, on course to decline by 100 million people next 30 years according to the UN.
- Even in the US where the impact of boomers, women, immigration, increasing the supply of labor & depressing wage growth, will wane as the population ages, workers retire, and the bargaining power of workers rises.

End of Globalization

Chart 12: End of Globalization
World trade (% of GDP) and US duties collected (% of total imports)



Source: BofA Global Investment Strategy, United States International Trade Commission, Klasing and Milionis (2014), Estevadeordal, Frantz, and Taylor (2003), World Bank, Feenstra et al. (2015) Penn World Tables 9.1

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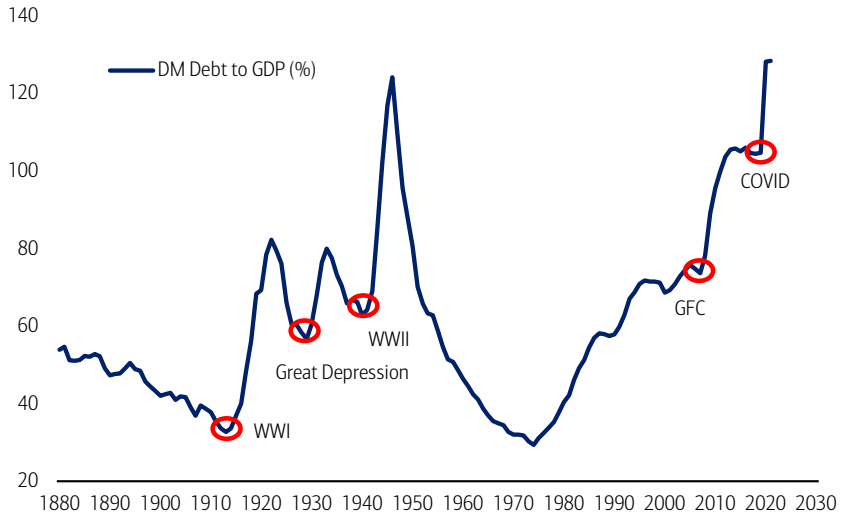
- The US implemented the Smoot-Hawley Act in 1930 raising tariffs on more than 20,000 imported goods which saw tariffs jump to 19.8% of total imports.
- But since the Great Depression & WWII, globalization via the formation of the European Union, the fall of the Berlin Wall, the NAFTA agreement, and China's accession to the WTO has been arguably the most powerful global economic force.
- The free, untethered movement of people, capital, goods, commodities, has increased the supply and reduced the price of all; capitalism has trounced socialism over this period.
- BREXIT, China-US trade war, re-shoring, COVID, Russia-Ukraine War, sanctions as a geopolitical tool, and the emergence of immigration as a political issue for both populists & progressives, all strongly argue that the deflationary age of globalization is over, as the world fractures into economic regionalism, regionalism increasingly scarred by political & social media polarization.

The Reserve Currency

Chart 13: Global Government Debt
Public debt in advanced economies, 1880-2021 (% GDP)



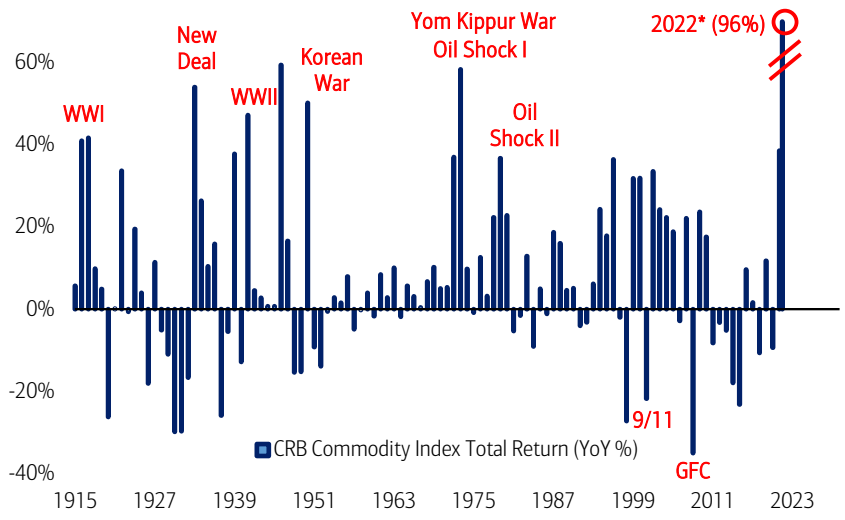
Source: BofA Global Investment Strategy, IMF, Historical Public Debt Database; IMF, World Economic Outlook database; JST MacroHistory database; Maddison Database Project; Thomson Reuters Datastream, Global Financial Data; and IMF staff calculations. Note: The public-debt-to-GDP and long-term interest rates series for advanced economies are based on a constant sample of 20 countries, weighted by GDP in purchasing power parity terms. WWI = World War I; WWII = World War II

BofA GLOBAL RESEARCH

- Public debt soared from $100tn to $277tn after the GFC; initially weak household balance sheets and impotent banking systems caused low money velocity; but now government debt is so large that governments have a vested interest in inflation to lower the real cost of debt.
- The velocity of money is also rising causing inflation and threatening US dollar debasement as the world loses confidence in US policy credibility, itself inflationary via higher import prices and commodities.
- This IMF chart showing public debt as a share of GDP since 1880 and bond yields in developed economies is a timely reminder that the big increase in yields driven not by debt per se (see Japan) but rather the success of debt in facilitating strong economic growth and inflation.

Inflation Shock...

Chart 14: Inflation Shock...best year for commodities since 1915
Commodity annual total return



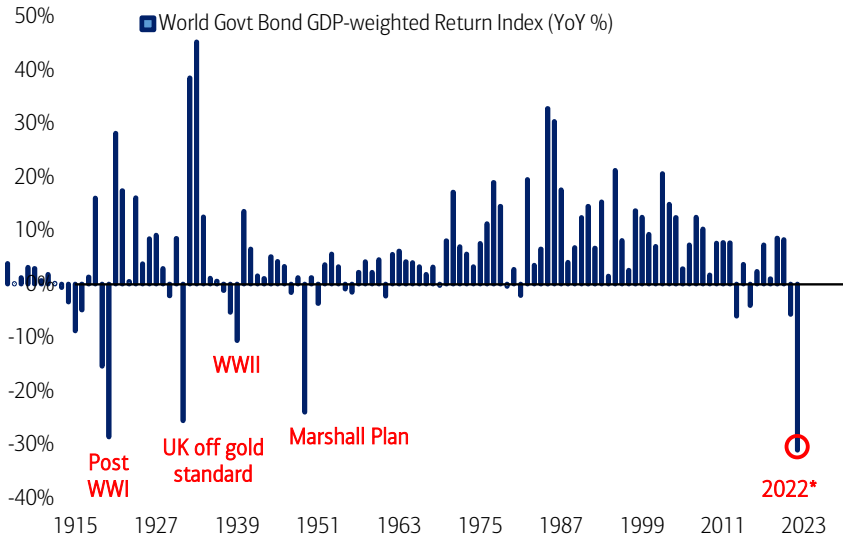
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg, *2022 YTD annualized

BofA GLOBAL RESEARCH

- The shift from deflation to inflation is a secular shift that was accelerated by COVID-19.
- The "inflation shock" is best encapsulated by commodity prices, which in 2022 are on pace for their best annual return since 1915.
- The major stimulus of 2020 was followed by a V-shaped recovery in global economies. This was then followed by surging asset, housing and commodity prices accentuated by supply bottlenecks. Core inflation is now annualizing 6-8% in recent months, the highest levels since the early-80s.

...Rates Shock

Chart 15: Rates Shock...worst year for govt bonds since 1865
World government bond annual total return



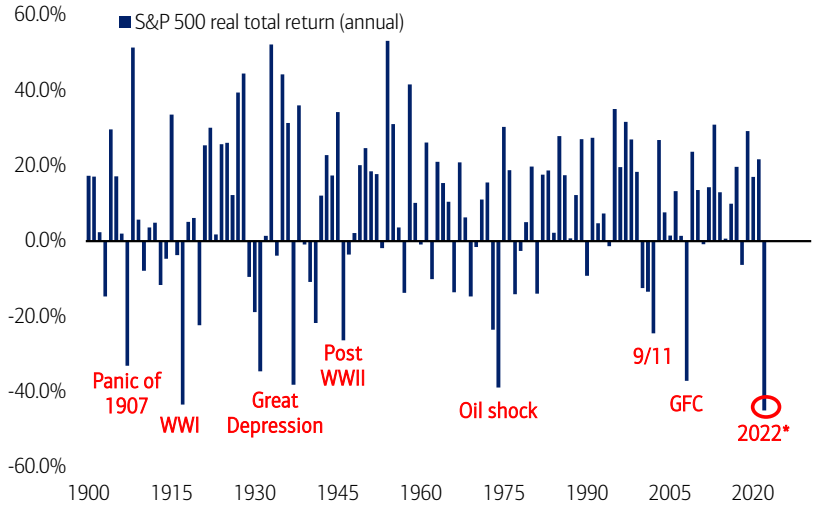
Source: BofA Global Investment Strategy, Global Financial Data, *2022 YTD annualized

BofA GLOBAL RESEARCH

- The "inflation shock" is now morphing into a "rates shock"...central banks are tightening at their fastest pace since 2008...and following $11 trillion of QE in the past 2 years...2022 and 2023 will see significant QT.
- The "rates shock" of 2022 is best encapsulated by the greatest losses in government bond markets since 1865.

...Recession Shock

Chart 16: Recession Shock...worst year for equities since 1872
S&P 500 total return index (real annual returns)



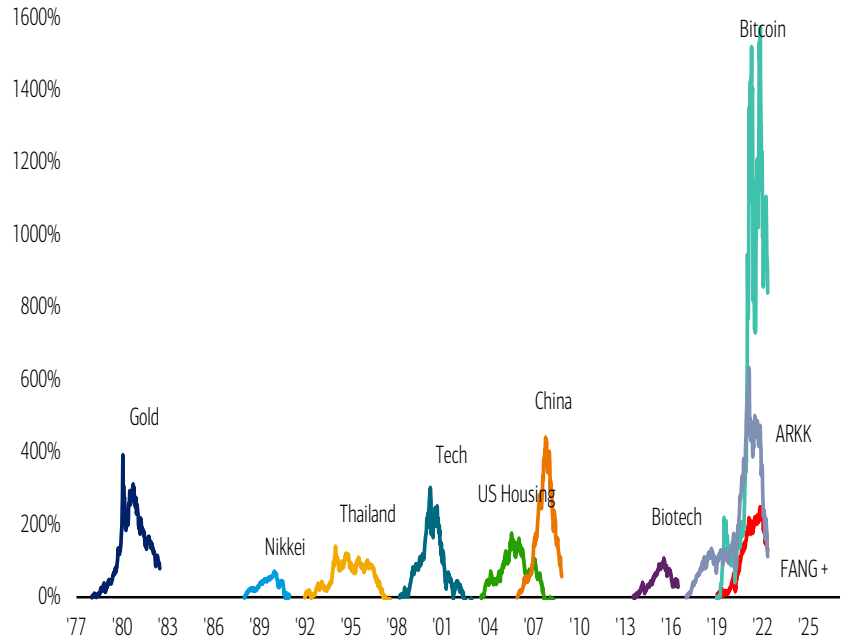
Source: BofA Global Investment Strategy, Bloomberg, EPFR Global, Haver, *2022 YTD annualized

BofA GLOBAL RESEARCH

- Inflation causes recession.
- Inflation shock...Rates shock...Recession shock.
- The asset class most at risk from recession is equities, currently on course for their worst year of return in real terms since 1872.

Asset Bubbles of Past 40 Years

Chart 17: Asset Bubbles of Past 40 years
Asset bubbles past 40 years



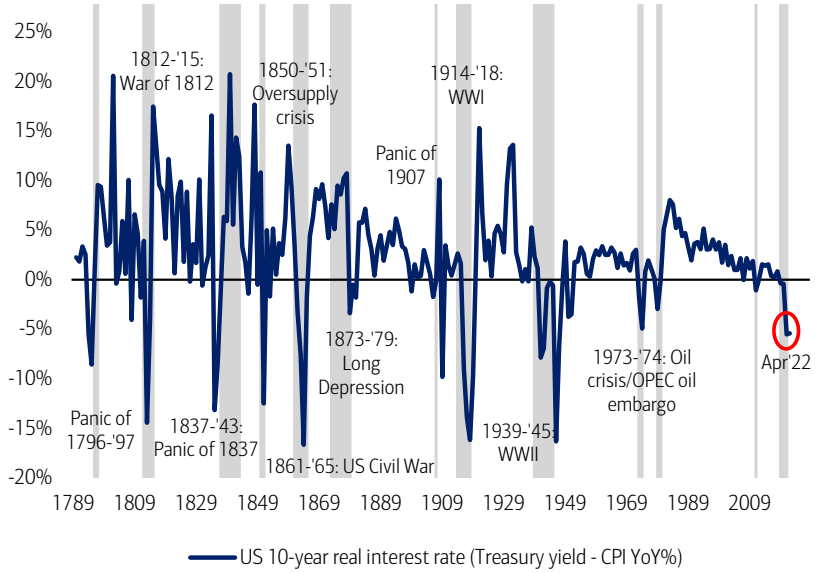
Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

- Free money = greed and hubris.
- Expensive money = fear and humiliation.
- Performance of bitcoin a sign of abnormality = dollar debasement story.
- The end of QE has precipitated a collapse in crypto, speculative tech, and now Big Tech.

High Bond Valuation

Chart 18: Negative Real Rates Synonymous with Wars and Panics
US 10-year real interest rate vs Recessions



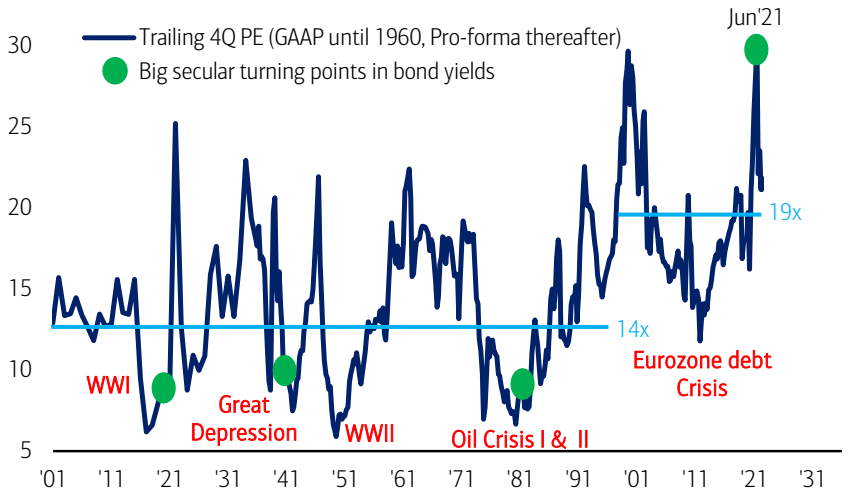
Source: BofA Global Investment Strategy, Bloomberg, GFD

BofA GLOBAL RESEARCH

- The US 10-year real interest rate is currently at -5.4%, the lowest since the end of WWII.
- The extreme negative real rate has been lauded by bulls as catalyst for upside but past 250 years show extreme negative rates more often associated with wars and market panics.

High Equity Valuation

Chart 19: Big High in Equity Valuation
S&P 500 Trailing PE



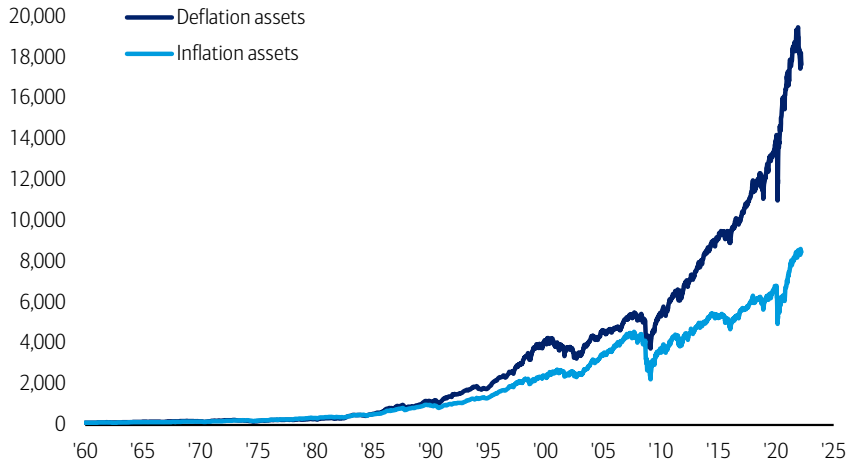
Source: BofA Global Investment Strategy, Bloomberg, BofA US Equity & Quant Strategy

BofA GLOBAL RESEARCH

- Lows in bonds have typically coincided with moments of low PE but today's starting point...S&P500 trailing PE hit an all-time high of 30x in Jun'21 vs long term average of 15x.
- Of 10 hiking cycles in past 50 years the only one that began with a trailing PE for S&P500 similar to today's (21.2x) was 1999'H2 (25.7x); all the rest started with PE around 15-16x.
- EPS/GDP forecasts heading lower...debate shifts to correct multiple...some say 21st Century multiple of 19x still appropriate, we say 20th Century multiple of 14x more appropriate for stagflation.
- 19 US equity bear markets past 140 years...average price decline = 37.3% & average duration 289 days; if repeated today's bear ends Oct 19th 2022 with S&P500 at 3000, Nasdaq at 10000.

Long Inflation, Short Deflation

Chart 20: Long Inflation, Short Deflation
The performance of "deflation assets" vs. "inflation assets" since 1960



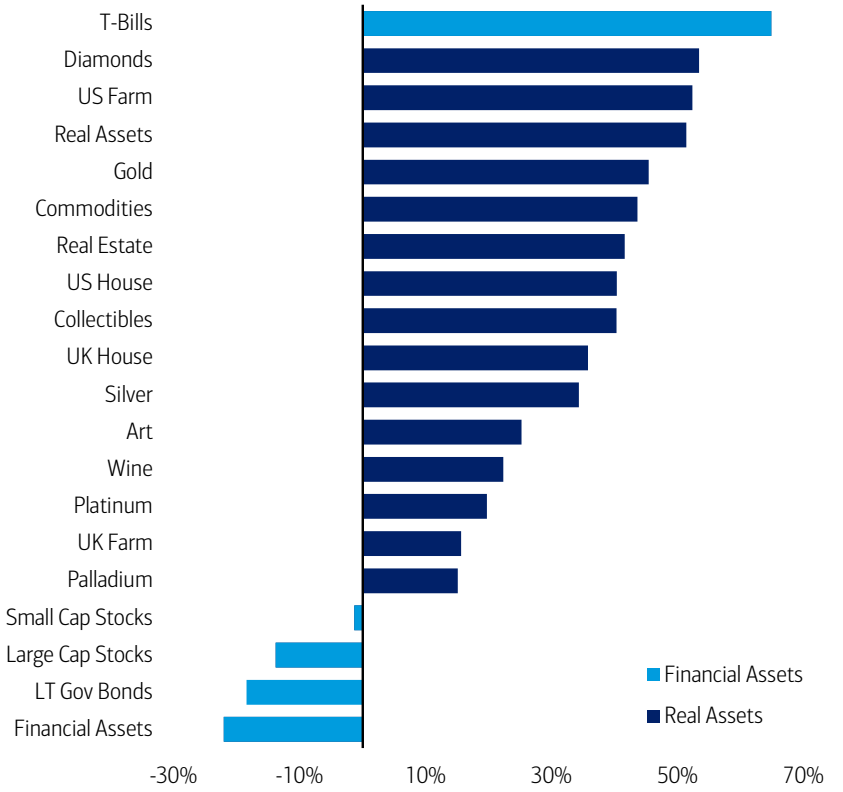
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg; Note: Inflation assets= Commodities, real estate, TIPS, EAFE, US Banks, Value and Cash; Deflation assets = Govt bonds, US IG, S&P 500, US Cons. Disc, Growth and US HY

BofA GLOBAL RESEARCH

- The investment backdrop of the past decade has been one of maximum liquidity & minimal growth...maximum bullish.
- Deflation assets (that provide "growth" in a scarce growth world & "yield" in a zero rate world) have trounced inflation assets (which need higher interest rates to outperform).
- This trend set to reverse in 2020s.

The Case for Real Assets

Chart 21: The Case for Real Assets
Correlation of assets with US CPI inflation since 1950



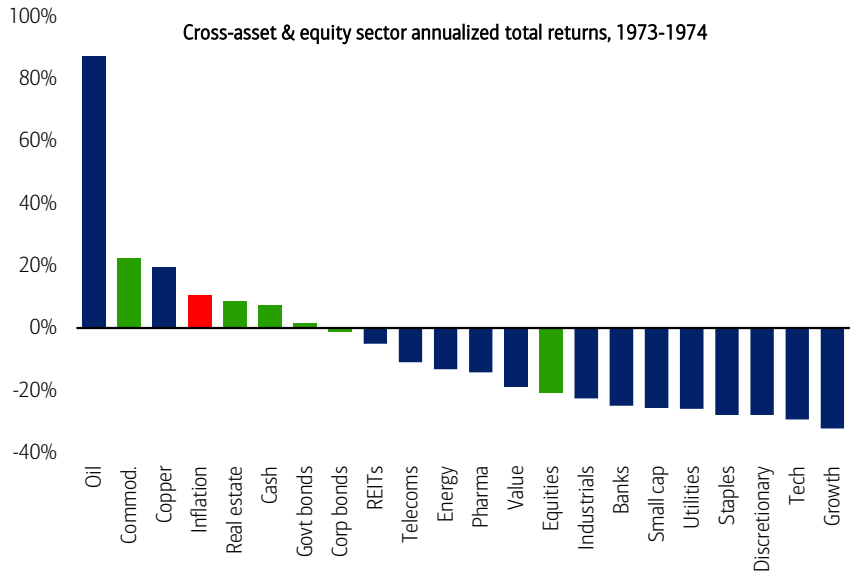
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg, United States Geological Survey, USDA, Shiller, Savills, ONS, Spaenjers, WWW International Diamond Consultants Ltd, ArtPrice.com, Historic Auto Group. Note: Real Assets calculated as the equally weighted average of commodities, real estate, and collectibles; Financial Assets calculated as the equally weighted average of large cap stocks and long-term government bonds

BofA GLOBAL RESEARCH

- Our case for real assets: 1. Real assets are cheap (price of real assets relative to financial assets at lowest since 1925), 2. Real assets are a hedge for War against Inequality, inflation and infrastructure spending, 3. Real assets diversify portfolios, 4. Real assets are under-owned, 5. Real assets are scarce & more valuable in coming digital currency era. (Link to Real Asset report)
- Studying individual real assets, we find that all of them are positively correlated with inflation since 1950...Diamonds, US farmland and gold have the highest correlation between a change in their price and the US CPI inflation rate.
- In contrast, cash is the financial asset which most positively correlated with inflation, and far behind are large cap (10%) and small cap (8%) both positively correlated while bonds are negatively correlated with inflation (-10%).

The Stagflation Portfolio

Chart 22: The Stagflation Portfolio
Cross-asset & equity sector annualized total returns, 1973-1974



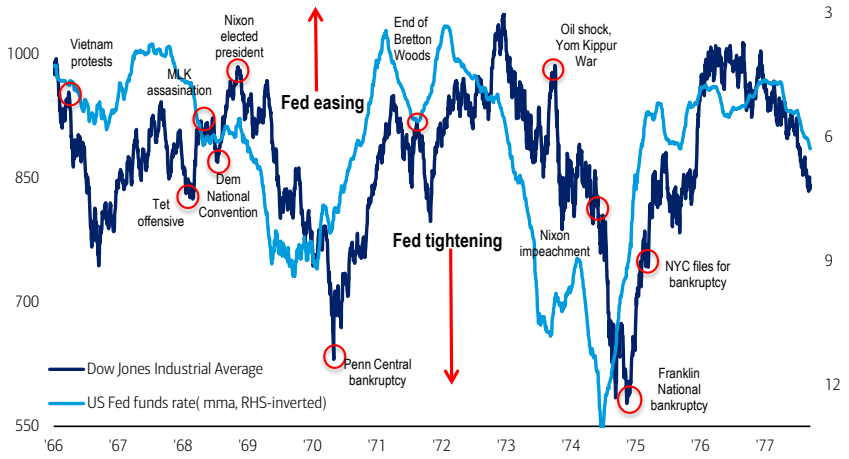
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Global Financial Data, Homer and Sylla "A History of Interest Rates", (2005)

BofA GLOBAL RESEARCH

- We like the 1970's analog of higher-than-expected inflation, monetary instability, and a great bear market in bonds.
- Stagflation during the 1970s was marked by annualized US inflation rates of 7.4%.
- Small cap and value outperformed as they were seen to benefit from greater pricing flexibility for products as well as their ease at passing on cost increases.
- Unsurprisingly, real assets such as real estate and commodities also outperformed large cap stocks and government bonds during the 1970's.

A history of stagflation

Chart 23: A history of stagflation
Fed funds rate & Dow Jones index between 1968 & 1976



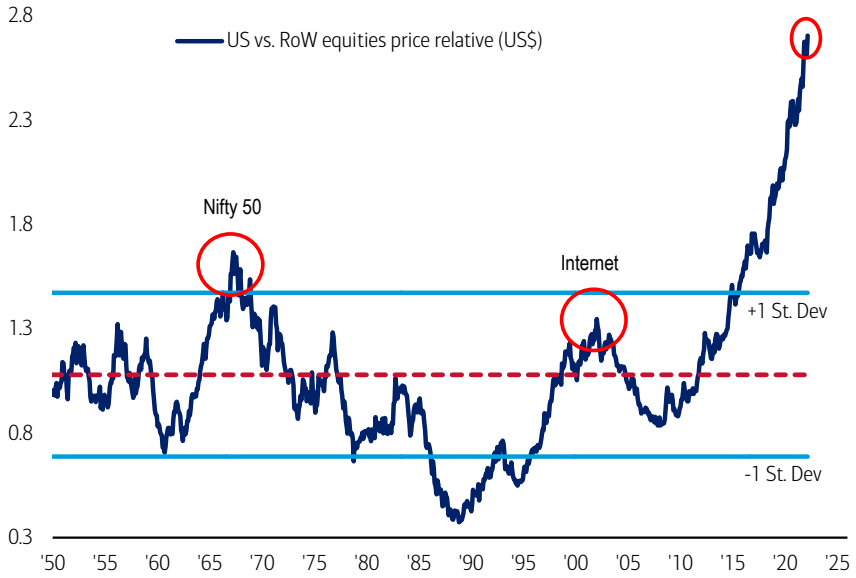
Source: BofA Global Investment Strategy, Bloomberg, Global Financial Data

BofA GLOBAL RESEARCH

- We think the 1973/74 analog is worthy. Inflation in 2022 means the Fed must tighten until it breaks the economy or the market and until it does, asset prices must reset lower.
- The Stagflationary period of 1968 to 1976 was characterized by an acquiescent Fed, high budget deficits, a breakdown in international agreements, wars and civil unrest, but throughout it all a. the markets remained in the thrall to Fed policies, b. both the economic and investment cycles followed frequent boom-bust patterns.

Long Global, Short USA

Chart 24: Long Global, Short USA
US vs Rest of World equities price relative



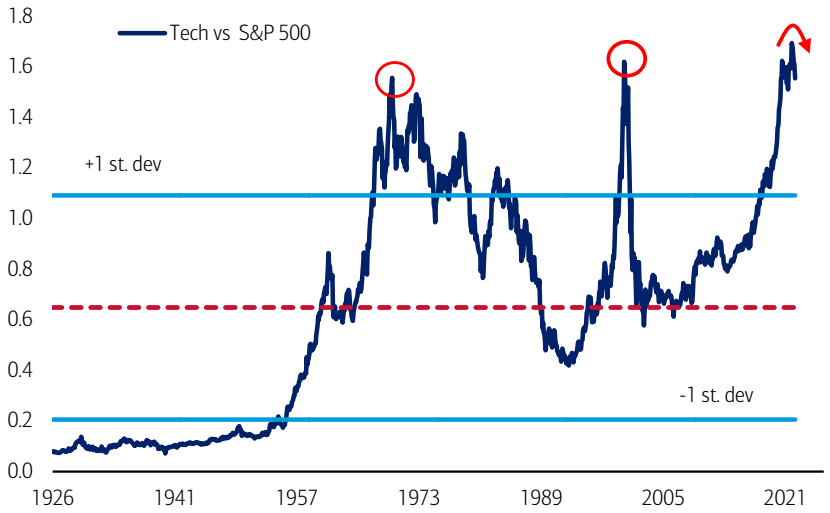
Source: BofA Global Investment Strategy, Bloomberg, Global Financial Data

BofA GLOBAL RESEARCH

- Cash, commodities, volatility, real assets to outperform financial assets such as bonds and equities,
- Hedges against inflation and US dollar debasement such as real assets, gold, TIPS, small cap value, EM assets are likely to outperform.
- The secular contrarian would buy global vs USA.
- US equities currently at 70-year highs vs. DM ex-US stocks (i.e. Europe and Far East).
- Prior secular high was April 1967, in the midst of the "Nifty 50" era of US large cap growth stock outperformance; top in 60s preceded higher US inflation, interest rates, and the monetary instability of the 1970s...catalysts for US underperformance in coming years, and growing theme of US dollar debasement.

Short Tech

Chart 25: Short Tech
Tech vs. S&P 500, relative price performance



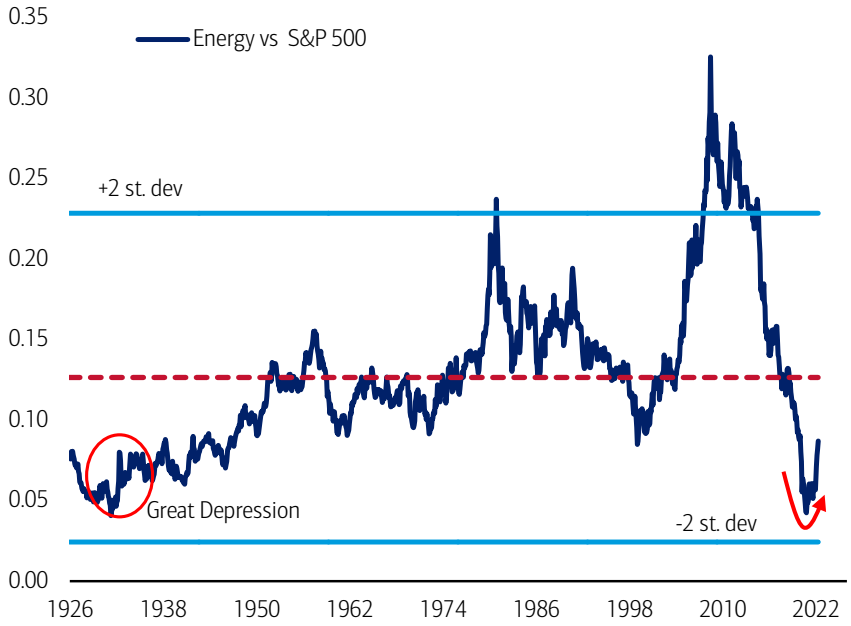
Source: BofA Global Investment Strategy, Bloomberg, Datastream

BofA GLOBAL RESEARCH

- Deflation winners of yesterday such as credit, private equity, US tech stocks likely tomorrow's biggest losers.

Long Energy

Chart 26: Long Energy
Energy vs. S&P 500, relative price performance



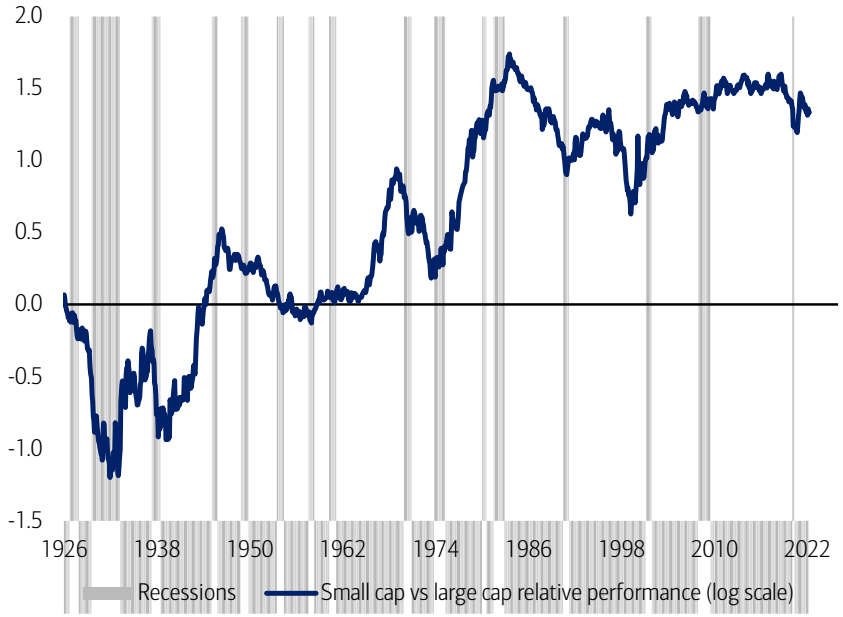
Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

- The secular contrarian would also buy oil stocks…currently close to their lows levels since the Great Depression in 1931 relative to the S&P500.
- In the shorter term, energy has to outperform in the early '20s…as structurally higher oil prices encourage the transition from fossil fuels to green energy.

The Next Big Thing is Small

Chart 27: Small cap stocks up from price relative lows to large cap
US Small-cap vs. Large-cap, relative performance (log values)



Monthly data. 1933 small company stocks total return = 142.9%
Source: BofA Global Investment Strategy, Ibbotson, Bloomberg

BofA GLOBAL RESEARCH

- Like value stocks, small-cap stocks have tended to outperform in the long run and have currently recovered modestly from the Sep'20 low relative to large-cap stocks (note was the lowest price relative since May'03).
- US small-cap's annual average total return has been 16% since 1926 vs. 12% for large-cap stocks; small-cap has outperformed large in almost 3 out of every 5 years.
- The outperformance of large-cap was very marked during the 1930s, the post-war decades (1946-64), and the post-stagflation period of 1983-99.
- Small-cap has tended to perform best with a backdrop of strong economic growth and rising inflation; this was particularly the case in the 1970s.
- Small cap tends to outperform following recessions and crises, as stimulus stimulates cheap valuations.

The Asset Class Quilt of Total Returns

Chart 28: Commodities top returning asset class YTD
The Asset Class Quilt of Total Returns

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*
Commodities 58.2%	US Treasuries 6.7%	Commodities 39.5%	MSCI EM 56.3%	REITS 32.0%	MSCI EM 34.5%	REITS 37.5%	MSCI EM 39.8%	US Treasuries 14.0%	MSCI EM 79.0%	Gold 29.2%	US Treasuries 9.8%	REITS 23.8%	S&P 500 32.4%	S&P 500 13.7%	S&P 500 1.4%	Commodities 17.5%	MSCI EM 37.8%	Cash 1.8%	S&P 500 31.5%	Gold 24.8%	Commodities 46.3%	Commodities 48.1%
US Treasuries 13.4%	Global IG 4.6%	Gold 25.6%	MSCI EAFE 39.2%	Commodities 28.7%	Commodities 33.7%	MSCI EM 32.6%	Commodities 33.0%	Gold 4.3%	Global HY 62.0%	MSCI EM 19.2%	Gold 8.9%	Global HY 19.3%	MSCI EAFE 23.3%	REITS 11.7%	US Treasuries 0.8%	Global HY 14.8%	MSCI EAFE 25.9%	US Treasuries 0.8%	REITS 27.4%	S&P 500 16.3%	REITS 33.2%	Cash 0.1%
REITS 8.5%	Cash 4.4%	Global IG 14.9%	REITS 33.5%	MSCI EM 26.0%	Gold 17.8%	MSCI EAFE 26.9%	Gold 31.9%	Cash 2.1%	MSCI EAFE 32.5%	REITS 15.9%	Global IG 4.5%	MSCI EM 18.6%	Global HY 8.0%	US Treasuries 6.0%	Cash 0.1%	S&P 500 12.0%	S&P 500 22.0%	Gold -1.9%	MSCI EAFE 22.8%	MSCI EM 15.8%	S&P 500 26.9%	Gold -0.3%
Cash 6.2%	Global HY 3.1%	US Treasuries 11.6%	Commodities 30.1%	MSCI EAFE 20.7%	MSCI EAFE 14.0%	Gold 23.2%	MSCI EAFE 11.6%	Global IG -8.3%	REITS 31.7%	S&P 500 15.1%	Global HY 2.6%	MSCI EAFE 17.9%	REITS 0.7%	Global IG 3.2%	MSCI EAFE -0.8%	MSCI EM 11.2%	Gold 12.9%	Global HY -3.3%	Commodities 20.1%	Global IG 10.3%	MSCI EAFE 8.8%	US Treasuries -8.8%
Global IG 3.1%	Gold -0.7%	Cash 1.8%	Global HY 30.7%	Global HY 12.4%	REITS 10.7%	S&P 500 15.8%	US Treasuries 9.1%	Global HY -27.9%	S&P 500 26.5%	Global HY 13.9%	S&P 500 2.1%	S&P 500 16.0%	Global IG 0.1%	Gold 0.1%	REITS -3.4%	Gold 8.6%	REITS 11.5%	Global IG -3.4%	MSCI EM 18.6%	US Treasuries 8.2%	Global HY 1.4%	Global HY -12.4%
Gold -5.4%	MSCI EM -2.4%	Global HY -1.1%	S&P 500 28.7%	S&P 500 10.9%	S&P 500 4.9%	Global HY 13.5%	Global IG 7.3%	S&P 500 -37.0%	Commodities 26.1%	Commodities 13.3%	Cash 0.1%	Global IG 11.1%	Cash 0.1%	Cash 0.0%	Global IG -3.8%	Global IG 4.3%	Global HY 10.2%	REITS -3.9%	Gold 17.9%	Global HY 8.0%	Cash 0.0%	Global IG -13.8%
Global HY -5.8%	REITS -7.8%	REITS -2.4%	Gold 19.9%	Global IG 9.4%	Cash 3.1%	Global IG 7.2%	S&P 500 5.5%	Commodities -42.6%	Gold 25.0%	MSCI EAFE 8.2%	Commodities -2.6%	Gold 8.3%	Commodities -2.1%	Global HY -0.1%	Global HY -4.2%	REITS 1.3%	Global IG 9.3%	S&P 500 -4.3%	Global HY 13.7%	MSCI EAFE 5.4%	US Treasuries -2.4%	S&P 500 -15.9%
S&P 500 -9.1%	S&P 500 -11.9%	MSCI EM -6.0%	Global IG 14.5%	Gold 4.6%	US Treasuries 2.8%	Cash 4.9%	Cash 5.0%	MSCI EAFE -43.1%	Global IG 19.2%	Global IG 6.0%	REITS -9.4%	US Treasuries 2.2%	MSCI EM -2.3%	MSCI EM -1.8%	Gold -10.4%	US Treasuries 1.1%	Commodities 7.6%	Commodities -13.1%	Global IG 11.4%	Cash 0.5%	Global IG -3.0%	MSCI EAFE -16.7%
MSCI EAFE -14.0%	MSCI EAFE -21.2%	MSCI EAFE -15.7%	US Treasuries 2.3%	US Treasuries 3.5%	Global HY 1.5%	US Treasuries 3.1%	Global HY 3.0%	REITS -50.2%	Cash 0.2%	US Treasuries 5.9%	MSCI EAFE -11.7%	Cash 0.1%	US Treasuries -3.3%	MSCI EAFE -4.5%	MSCI EM -14.9%	MSCI EAFE 1.0%	US Treasuries 2.4%	MSCI EAFE -13.2%	US Treasuries 7.0%	REITS -7.6%	Gold -4.1%	REITS -16.9%
MSCI EM -30.6%	Commodities -21.4%	S&P 500 -22.1%	Cash 1.1%	Cash 1.3%	Global IG -3.0%	Commodities -0.2%	REITS -10.0%	MSCI EM -53.2%	US Treasuries -3.7%	Cash 0.1%	MSCI EM -18.2%	Commodities -0.3%	Gold -27.3%	Commodities -29.3%	Commodities -29.4%	Cash 0.3%	Cash 0.8%	MSCI EM -14.3%	Cash 2.2%	Commodities -15.0%	MSCI EM -4.6%	MSCI EM -18.2%

Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

- This table shows global cross-asset total returns since 2000, in US dollar terms.

The Longest Equity Pictures

World stock market cap since 1940

Chart 29: Market cap of world stock markets down from all-time highs
World stock market capitalization

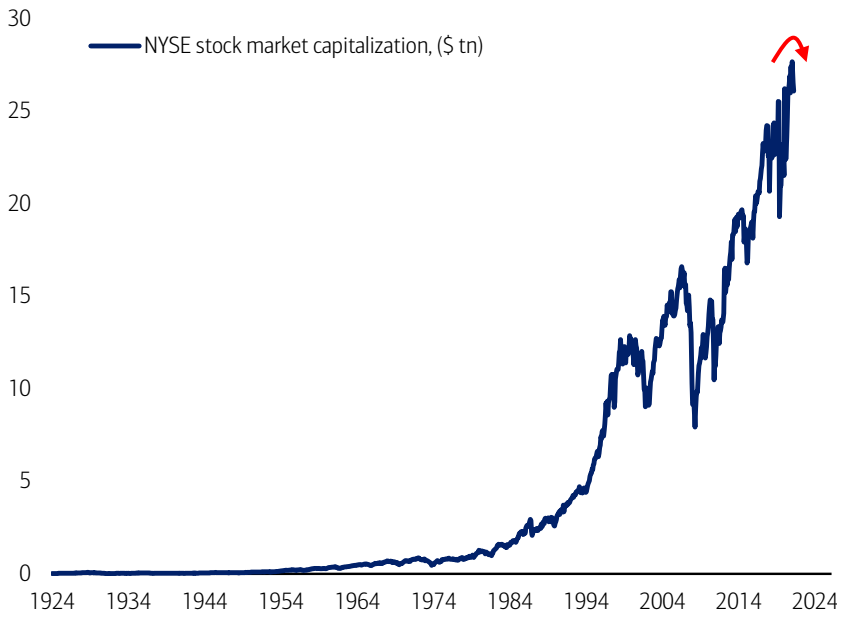
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- From the lows in the Mar'20 crash, global equity markets soared $61tn to a new high of $123tn in Nov'21.
- In the Feb/Mar'20 crash the market capitalization loss was a staggering $27tn, a sum equivalent to the entire Eurozone & Chinese economies put together.
- The five prior peaks were: Jan'90, Mar'00, Dec'07, Jan'18, and Dec'19.
- World stock market capitalization is currently $105tn, equivalent to 115% of world GDP; at the 2008 lows global equity market cap was just 54%.

US stock market cap since 1940

Chart 30: US stock market cap rolling over from highs
NYSE stock market capitalization ($tn)



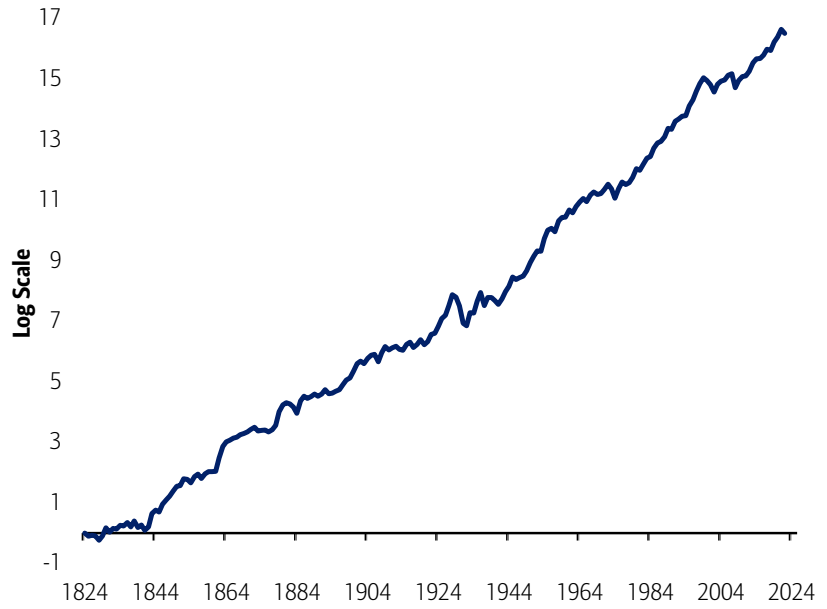
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- US stock market cap has since come down to $26tn as of Feb'22, down from an all-time high of $28tn in Dec'21.
- US stock market capitalization was $28tn in Dec'21 (115% of GDP), up from its pandemic low of $19.3bn in Apr'20 and GFC low of $7.9tn in March 2009.
- The last bull market in US equities was the longest in history, and was just 4% shy from becoming the longest and largest of all time.

US equity prices since 1825

Chart 31: In the long run, stock prices go up
US large company stock total returns, log scale



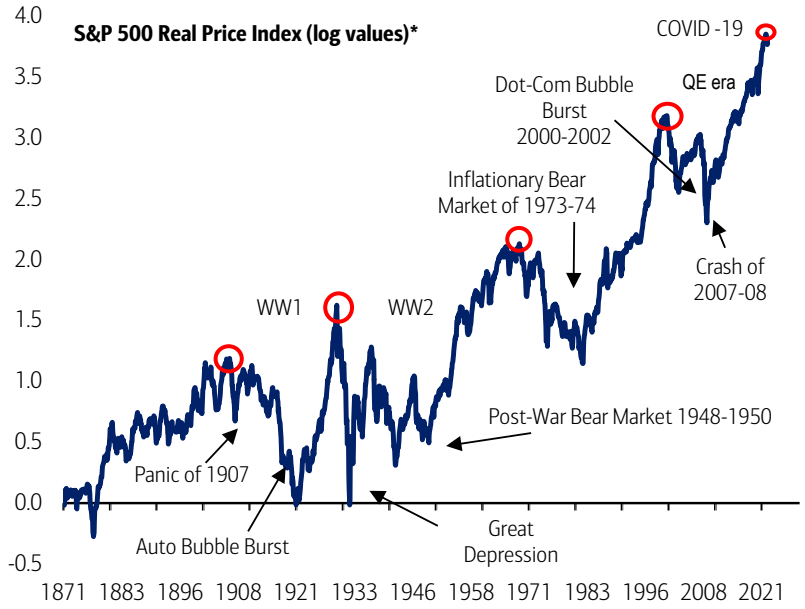
Source: BofA Global Investment Strategy, Ibbotson, Global Financial Data

BofA GLOBAL RESEARCH

- "In the long run, we are all dead"...
- ...and as this chart illustrates, in the long run, stock prices go up.
- $1 invested in US large company stocks in 1824 was worth $15 million on 05/02/22 with dividends reinvested, a stark illustration of the power of compounding, and total return.

US equities since 1871 in real terms

Chart 32: A much more nuanced picture of equity market returns in real terms
US equities since 1871 in real terms



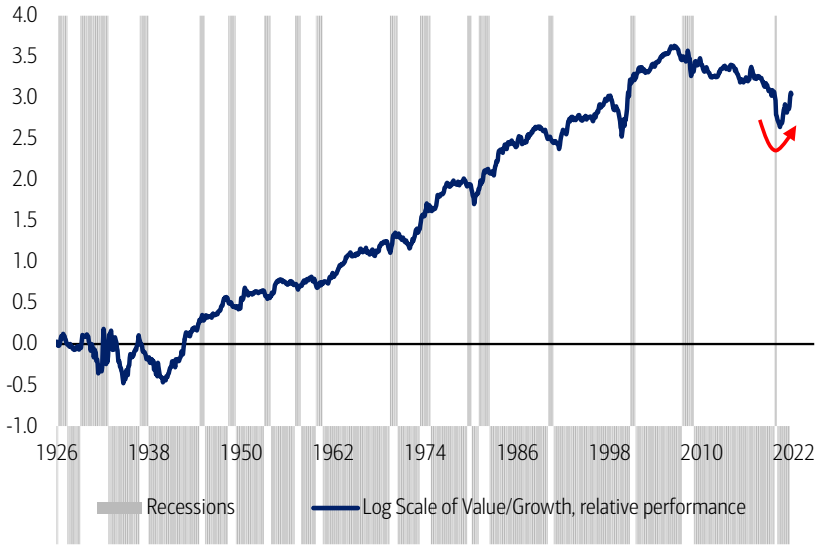
*US large company stock market returns, logarithmic values of real monthly average price return
Source: BofA Global Investment Strategy, Ibbotson, Robert Shiller

BofA GLOBAL RESEARCH

- "In the long run, stock prices go up"...
- ...but when adjusted for inflation over the long run we see a much more nuanced picture of equity market returns.
- Contrary to popular opinion, the S&P 500 has had a negative real price return in 4 out of every 10 years since 1871.
- Note that after major secular tops in real terms in 1907, 1929, 1968, 2000, stocks took on average 22-years to reach new highs which implies US stocks in real terms will not see a new high until 2043.
- Stocks peaked in real terms in Nov 2021.

Value stocks vs. Growth stocks since 1926

Chart 33: Value vs Growth stock level up from lows in 2020
US Value vs. Growth, relative performance (log values)



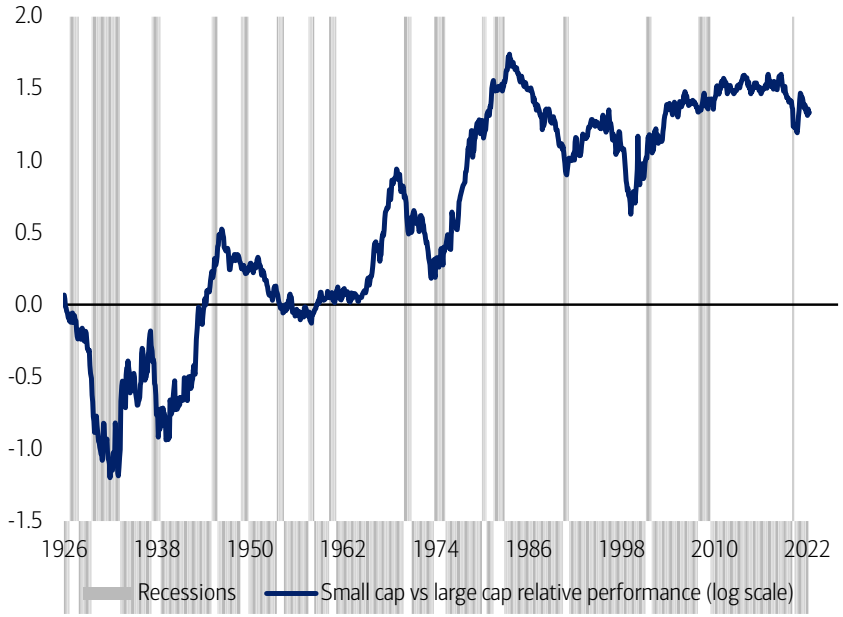
Source: BofA Global Investment Strategy, Ibbotson, Fama-French

BofA GLOBAL RESEARCH

- Value stocks relative to growth stocks are up from their secular low of September 2020, the lowest level relative to growth stocks since March 2000.
- The outperformance of Growth vs. Value has been an anomaly in the past 10 years, a period of economic expansion and a strong US equity bull market. The underperformance of Value is testament to powerful secular deflationary forces.
- In the past century, Value has outperformed Growth: since 1926 the average annual price return of Value stocks is 19% vs. 15% for Growth stocks; Value has outperformed Growth in roughly 3 out of every 5 years over this period.
- As the chart shows periods of economic expansion tend to favor Value stocks; growth stocks have outperformed only during periods of depression, recession and below-trend growth; note in particular the marked outperformance of growth in the 1930s.
- We believe that with the 2020s will be marked by the sustained outperformance of value as deflationary forces have turned inflationary thanks to economic growth or policy stimulus or a debasement of the US dollar.

Small-cap vs. Large-cap stocks since 1926

Chart 34: Small cap stocks up from price relative lows to large cap
US Small-cap vs. Large-cap, relative performance (log values)



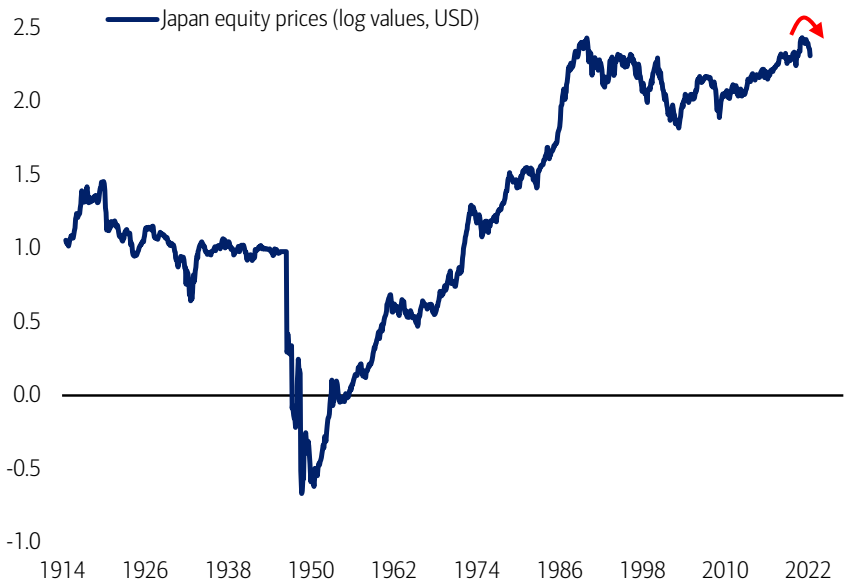
Monthly data. 1933 small company stocks total return = 142.9%
Source: BofA Global Investment Strategy, Ibbotson, Bloomberg

BofA GLOBAL RESEARCH

- Like value stocks, small-cap stocks have tended to outperform in the long run and have currently recovered modestly from the Sep'20 low relative to large-cap stocks (note was the lowest price relative since May'03).
- US small-cap's annual average total return has been 16% since 1926 vs. 12% for large-cap stocks; small-cap has outperformed large in almost 3 out of every 5 years.
- The outperformance of large-cap was very marked during the 1930s, the post-war decades (1946-64), and the post-stagflation period of 1983-99.
- Small-cap has tended to perform best with a backdrop of strong economic growth & rising inflation; this was particularly the case in the 1970s.
- Small cap tends to outperform following recessions and crises, as stimulus stimulates cheap valuations.

Japanese equity price since 1914

Chart 35: Japanese equity prices rolling over from highs
Japan equity price index (log values, USD)



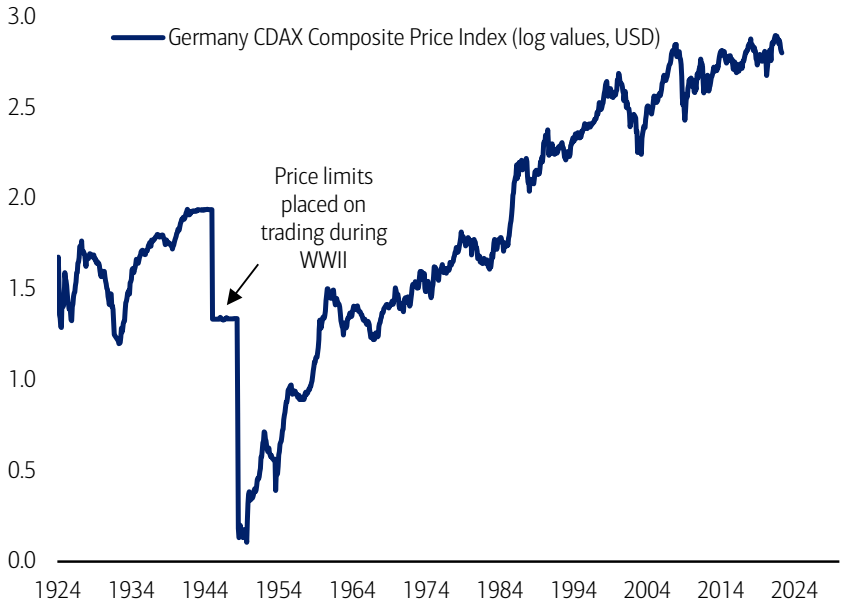
Monthly data. No data available: September 1945 – June 1946
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- The chart shows how Japanese equity prices collapsed after WW2 and 1944-48 period of hyperinflation.
- Thereafter Japanese stocks soared 138x to high in 1989...the Nikkei index peak was 38,957 on Dec 29th 1989.
- The Japanese equity bubble burst in 1990, the beginning of Japan's "lost decades".
- From their peak to the March 2003 lows, Japanese stocks fell 67% (in USD terms) & reached a low in the Nikkei index of 6,995 on Oct 28th 2008.
- Japanese equities reached their highest (in USD terms) ever in February 2021, surpassing the prior high in December 1989 (have since rolled over slightly).

German equity price since 1924

Chart 36: German equity market near highs
German CDAX price index (log values, USD)



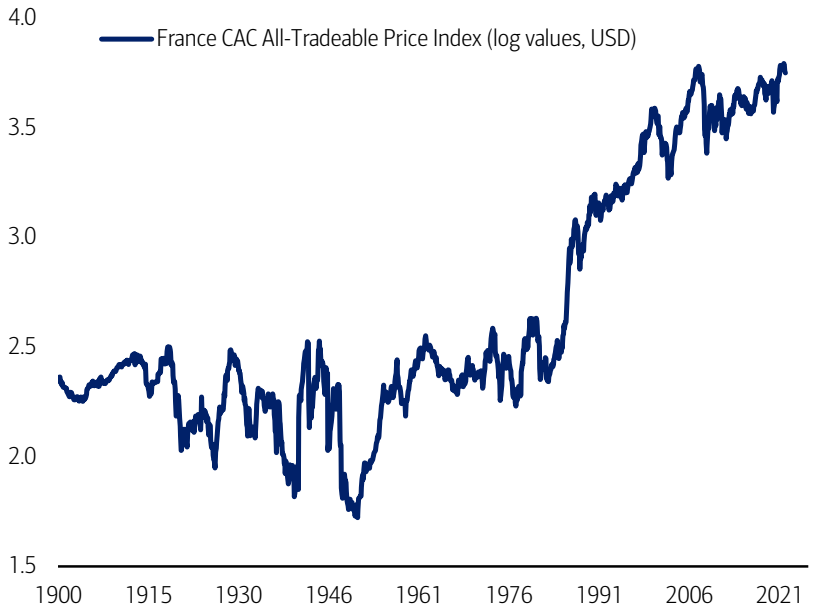
Monthly data. No data available: October 1931 – March 1932. In January 1943 price limits were placed on trading which essentially froze share prices at their existing levels. These price limits continued until July 1948 when prices were allowed to seek market levels as part of the
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- In US dollar terms, the German equity market reached an-all time high in May 2021, 4% above its prior 2018 high.
- German equity prices collapsed in the 1940s; thereafter German equity prices soared over 3100% between the end of WW2 and their 2007 high prior to the Global Financial Crisis.

French equity price since 1900

Chart 37: French equities in USD terms at highs
France CAC price index (log values, USD)



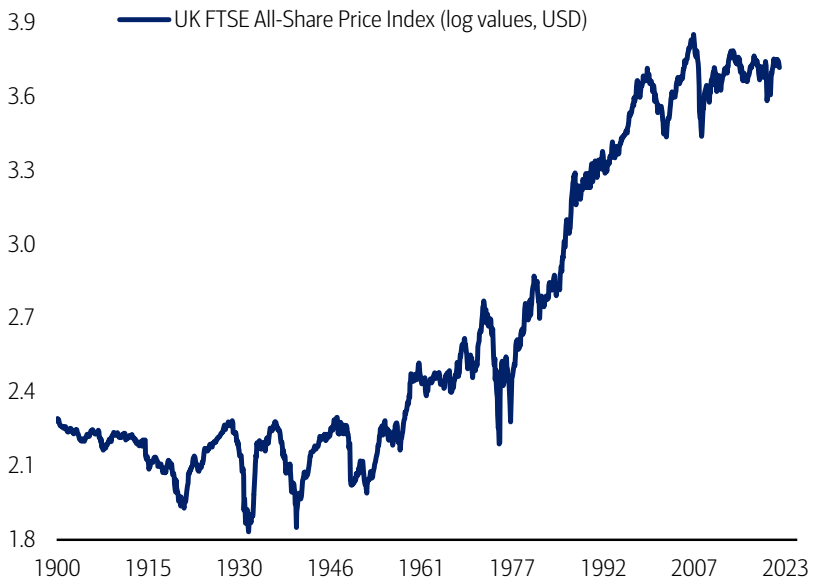
Monthly data. No data available: August 1914 - December 1914; June 1940 - February 1941; March 1979
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Unlike Japan & Germany, French equities did not enjoy spectacular gains in the 1960s & 70s.
- The strongest returns from French equities were in the 80s & 90s, a period during which French interest rates collapsed.
- The CAC index peaked at 6168 on June 1st 2007 & lost roughly 60% of its value in the Global Financial Crisis; peak-to-trough in the 2020 crash French equities fell 41%.
- In US dollar terms, French equities were just 3% above 2007 highs as of December 2021.

UK equity price since 1900

Chart 38: UK equities in USD terms remain below 2007 highs
UK FTSE price index (log values, USD)



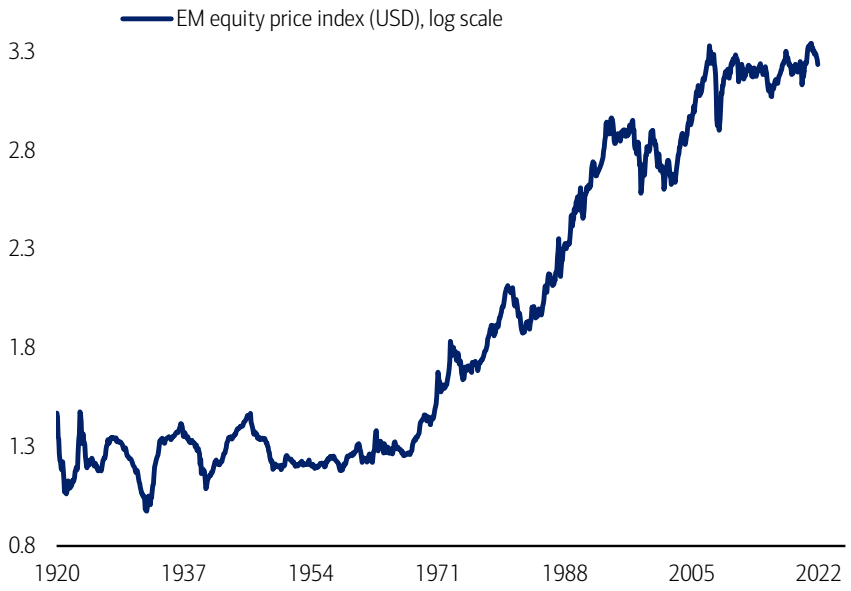
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- The chart shows how UK equity returns were poor over the first half of the 1900s, damaged by two vicious bear markets during the 1930s (a 65% drop 1929-1932, and a 63% drop 1936-1940).
- They recovered strongly in the second half of the century, interrupted only by the bear market of 1972-74 (when the UK market experienced a 74% collapse).
- The weakness of the British pound in the past 10 years in large part explains the marked FTSE weakness in USD terms (GBP hit a 35-year low post-Brexit).
- In US dollar terms, UK equities were 27% off 2007 highs as of April 2022.

Emerging Market equities since 1920

Chart 39: EM equities have pulled back slightly from high
EM equity price index (log values, USD)



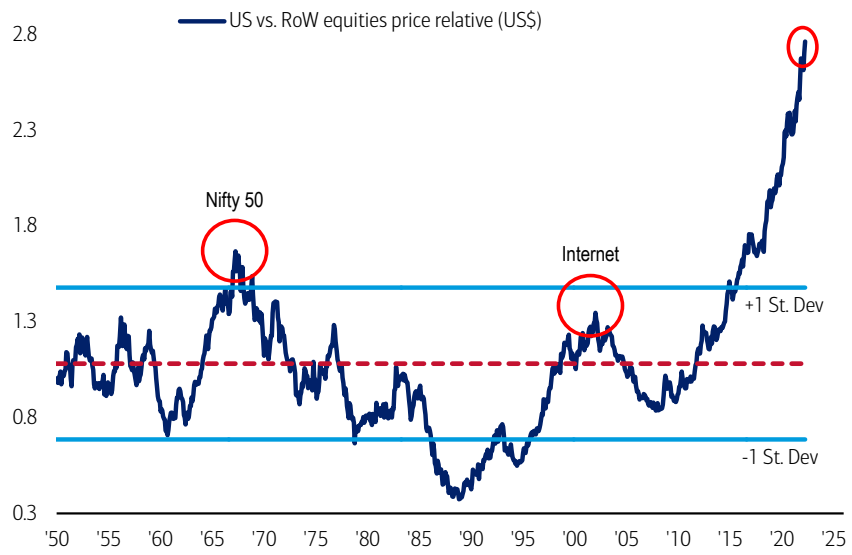
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- The chart shows how the great bull market in Emerging Market equities began with the end of the Gold Standard & Bretton Woods currency framework in the late-1960s; since then EM equities are up 84x.
- In contrast to developed markets, EM equities initially trended decisively higher in the 2000s and 2010s due to China's accession to the WTO, a weak US dollar and a boom in commodity markets.
- China's epic policy response to the Global Financial Crisis meant EM equities recovered much quicker than developed markets in 2009-11.
- But since 2014 EM equities struggled as oil & commodities prices collapsed, the Chinese economy slowed, and the US dollar entered a bull market.
- While the US-China trade war and the COVID-19 outbreak hurt EM equities particularly hard in 2020, the inflationary cyclical trade saw EM equities propelled to new highs in H1'21 before pulling back slightly as regulatory concerns in China weighed on EM stocks.
- In US dollar terms, EM equities surpassed 2007 highs in May 2021, but have struggled since.

US equities relative to World equities

Chart 40: US equities at all-time highs vs Rest of World
US vs. World ex-US equities



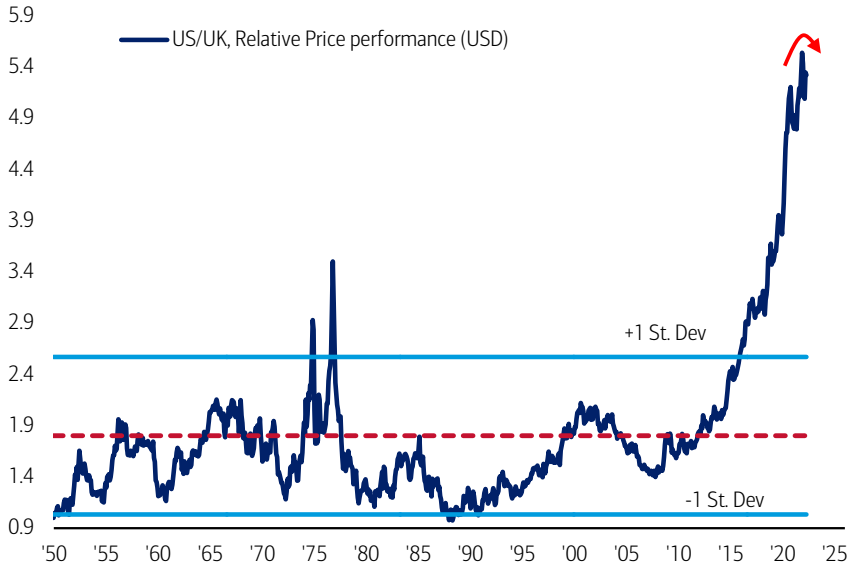
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- US equities remain at all-time highs vs. Rest of World stocks (i.e. world ex-US).
- The prior secular high was April 1967, in the midst of the "Nifty 50" era of US large cap growth stock outperformance; the top in the 60s preceded higher US inflation, interest rates, and the monetary instability of the 1970s.
- The outperformance by the US is a function of the dominance of technology and disruptors in the US market (as was the case in 2000) as well as the very large amounts of central bank liquidity since the onset of COVID-19.

US equities vs. UK equities since 1950

Chart 41: US equities relative to UK equities starting to roll over from all-time highs
US vs. UK equities, relative price performance (USD)



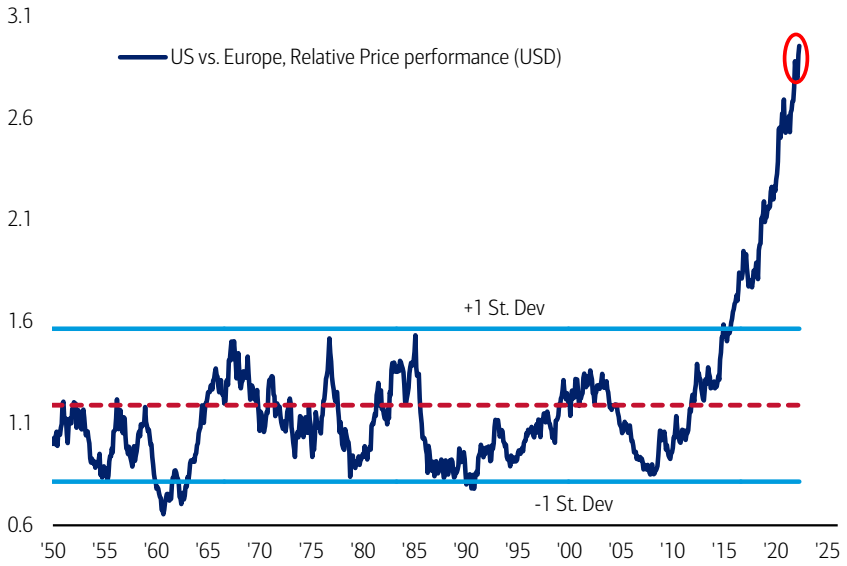
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- US equities relative to UK equities reached their highest levels in November 2021 surpassing record highs from a year before; the prior peak in US equities relative to UK equities was 1976, the year a financial crisis forced the UK government to apply to the IMF for a $4 billion loan.
- US equities have since come down slightly relative to UK equities, but still remain at very high relative levels.

US equities vs. European equities since 1950

Chart 42: US equities at all-time relative highs vs European stocks
US vs. European equities, relative price performance (USD)



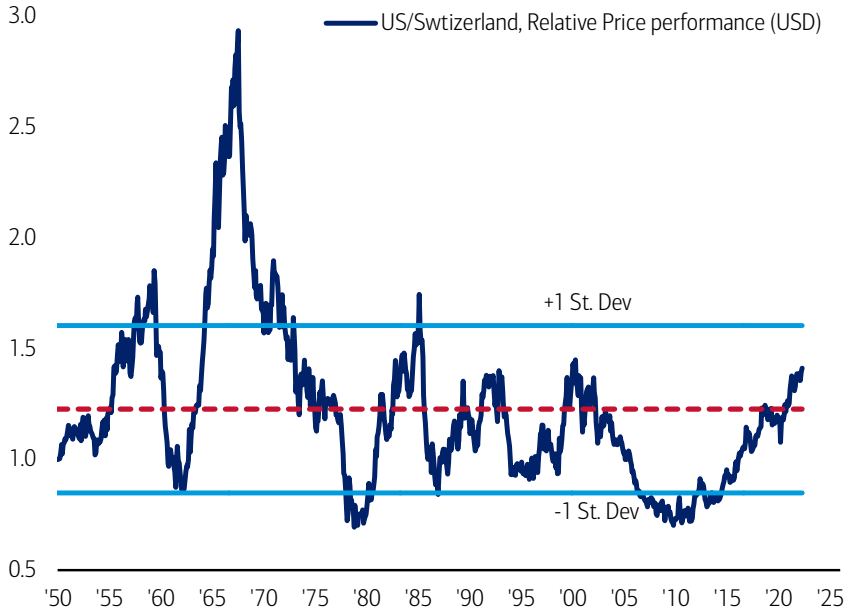
Monthly data. GFD Europe index is used, which reconstitutes the MSCI Europe estimate pre-1970, and includes a 12% UK weighting until 1970, after which it uses actual MSCI Europe weightings; latest UK weight is approx. 26%
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- US stocks continue to climb to all-time relative highs vs. European stocks in the midst of the Russia-Ukraine war.
- The bull market in US tech stocks and the bear market in European banks largely explain the relative performance divergence.
- Prior peaks in the performance of the US vs. Europe: 1963, 1976, 1985, 2001, 2016, 2020.

US equities vs. Swiss equities since 1950

Chart 43: US equities relative to Swiss equities are above historic average
US vs. Swiss equities, relative price performance (USD)



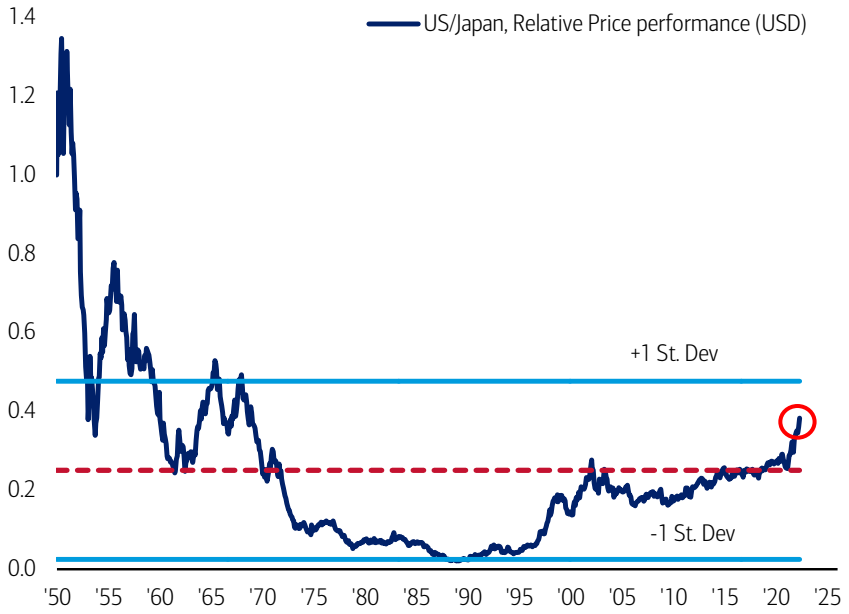
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- The performance over much of the past 50 years reflects the sustained strength of the Swiss franc vs. the US dollar, as well as the big healthcare and consumer staples sectors within the Swiss bourse.
- US stocks are currently at the highest level vs Swiss equities slightly above their historic average vs. the "defensive" Swiss equity market

US equities vs. Japanese equities since 1950

Chart 44: US equities at 53-year high relative to Japanese equities
US vs. Japan equities, relative price performance (USD)



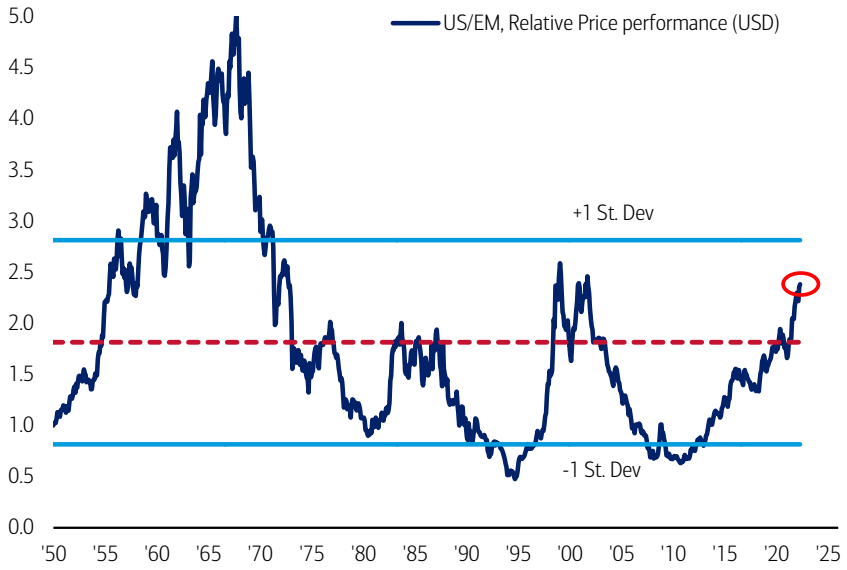
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- From the 1950s to 1989, the US was in a major secular bear market vs. Japan.
- Japanese stocks collapsed during the 1990s, the first of Japan's "lost decades" and continued to struggle despite a range of extraordinary monetary interventions by the Bank of Japan.
- US equities are now at a 53-year high relative to Japanese equities; levels not seen since 1969.

US equities vs. Emerging Market equities

Chart 45: US equities above historical average vs. Emerging Market equities
US vs. EM equities, relative price performance (USD)



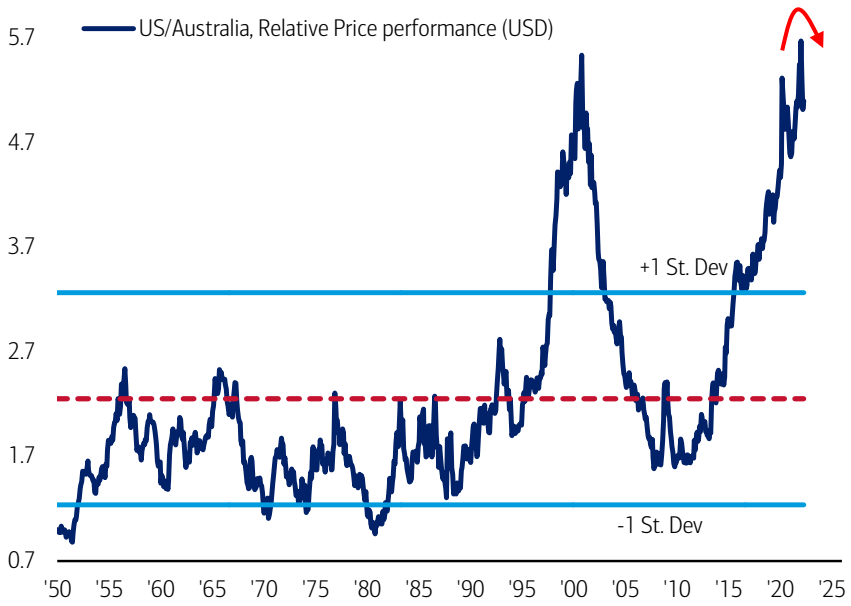
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Long periods of underperformance by US equities relative to Emerging Markets have been punctuated by vicious bouts of outperformance during EM crises:
    - the LatAm debt crisis of the early-1980s &
    - the Mexican peso & Asia Crises of the 1990s.
- The pronounced underperformance of the US vs. EM since 9/11, which coincided with both the onset of a US dollar bear market and China's entry into the WTO, has reversed in recent years as the slowdown in the Chinese economy and volatile Chinese equity markets weigh on the EM equity and currency markets.
- US stocks currently at the highest level vs EM stocks since 2001, but have yet to exceed their 2000s peaks vs. EM.

US equities vs. Australian equities since 1950

Chart 46: US stocks have retreated from an all-time high vs. Australian equities
US vs. Australia equities, relative price performance (USD)



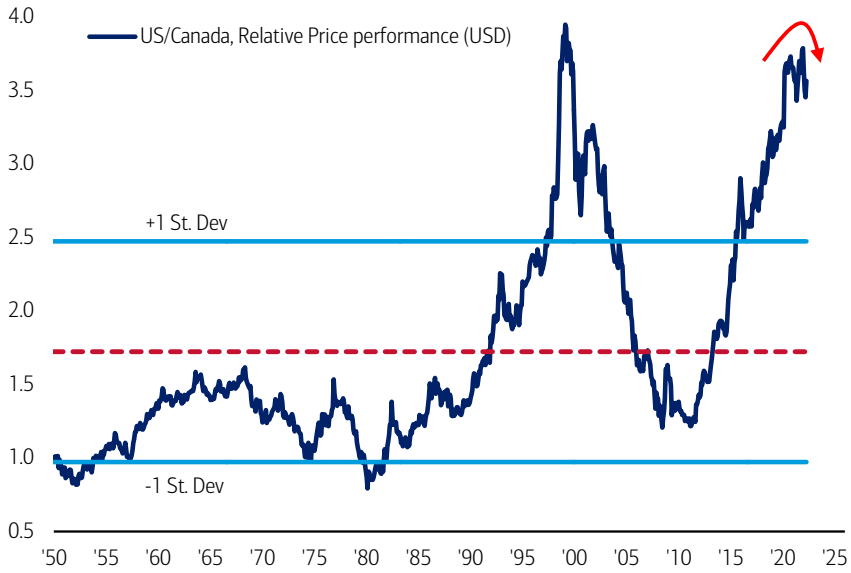
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- US equities have retreated after hitting an all-time high vs. Australian equities in January 2022.
- The 1990s tech bubble caused US equities to break out significantly from their historical range vs. Australian stocks.
- And the commodity bubble that occurred in the 2000s caused US stocks to break down vs. Australian equities.
- The post-GFC outperformance of US equities can be explained by US dollar rises, concentration of tech stocks in the US index and the underperformance of Australian financials in the past few years.

US equities vs. Canadian equities since 1950

Chart 47: US equities down from 23-year highs vs. Canadian equities
US vs. Canada equities, relative price performance (USD)



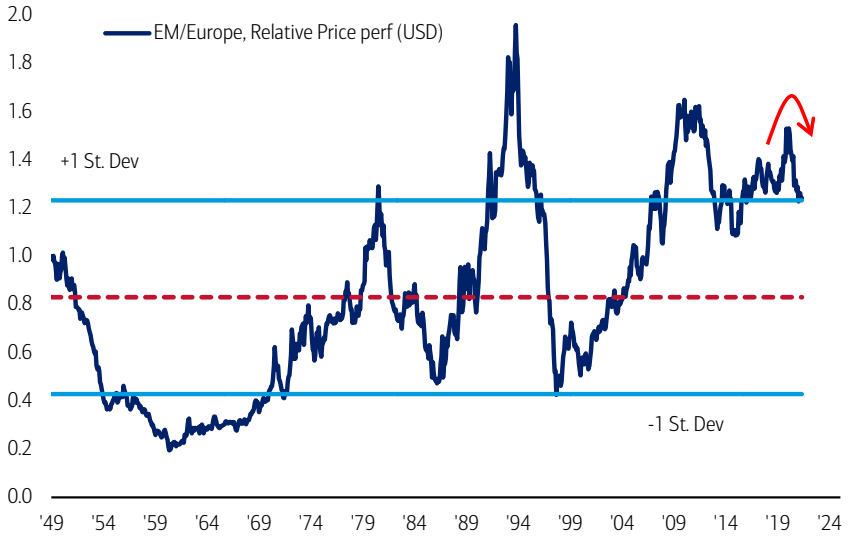
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- US equities hit a 23-year high vs. Canadian equities in December 2021; US stocks have since come down slightly but remain near relative highs.
- Canada outperformed the US in the stagflationary 1970s all the way through to the peak of US yields in the early 1980s.
- As with Australia, the 1990s tech bubble caused US equities to break out from their historical range vs. Canadian stocks.
- Likewise, the commodity bubble of the 2000s caused US stocks to break down vs. Canadian equities.

Emerging Market equities vs. European equities since 1949

Chart 48: EM equities have rolled over from a 8-year high vs. European equities
EM vs. Europe, relative price performance (USD)



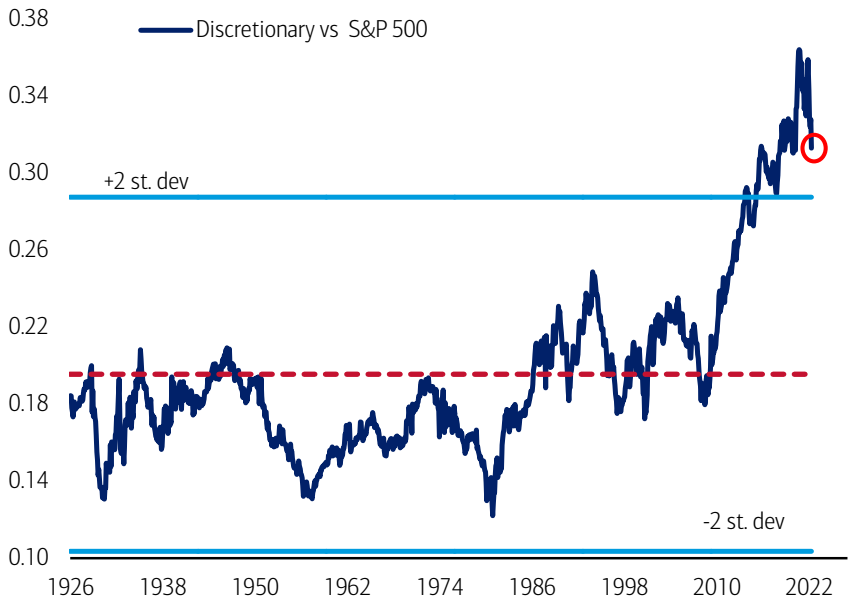
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- EM equities have come down from an 8-year high in Jan 2021 vs European equities.
- 1961-1981 EM equities soared 565% on rising commodity prices, a weak US dollar, OPEC oil price increases, and accelerating world trade via globalization.
- 1984-1994 EM equities rose 315% again supported by a weak US dollar backdrop as well as the rise and integration of BRIC countries into the global economy.
- 1998-2010 EM equities rose 257% as China joined the WTO, EM growth soared and there was a commodity super-cycle.

Consumer Discretionary stocks vs. S&P 500 since 1926

Chart 49: Outperformance of US consumer discretionary has rolled over
Discretionary vs. S&P 500, relative price performance (USD)



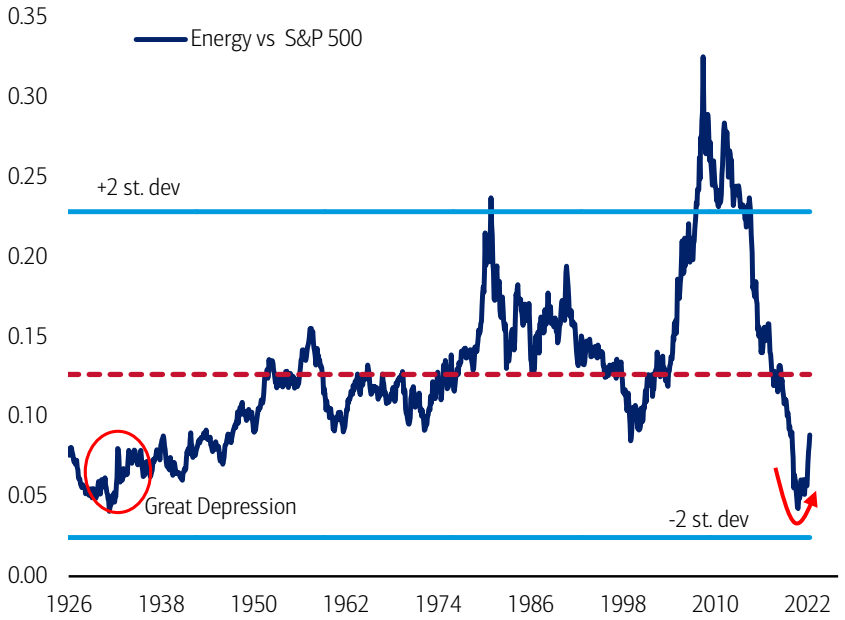
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Turning to US sector performance over the past century…
- …the outperformance of the US Consumer Discretionary sector vs. the S&P500 is currently more than 2 standard deviations above the long term average.
- The COVID-19 pandemic caused consumer discretionary stocks to hit all-time highs relative to the US equity market in October 2020…
- …but discretionary stocks have since come down back to pre-pandemic levels as the era of QE ends.
- Note Amazon, which accounts for 27% of the sector alone, was responsible for 18% of the sector returns since the GFC low on 03/09/2009.

Energy stocks vs. S&P 500 since 1926

Chart 50: Energy stocks have rebounded from relative lows
Energy vs. S&P 500, relative price performance (USD)



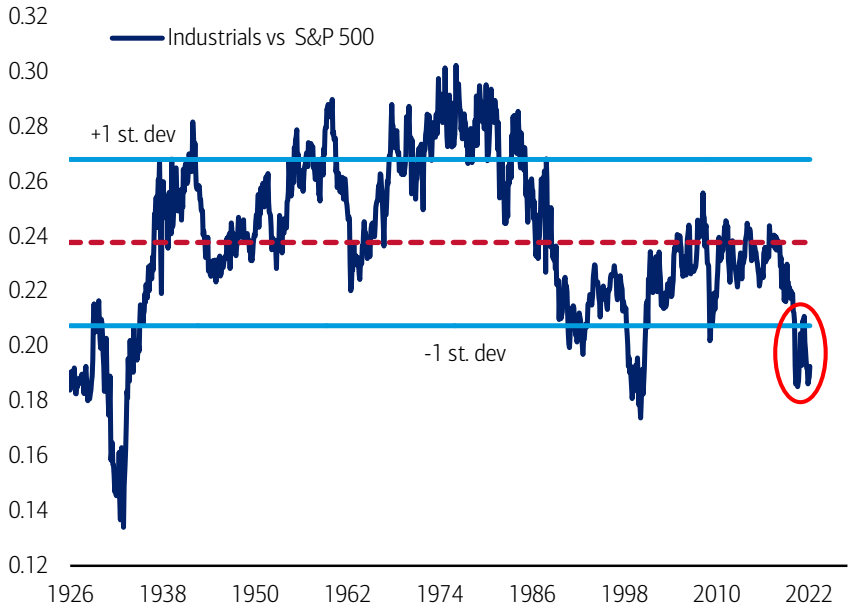
Monthly data
Note: Oil & Gas sector index was used prior to 1990
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Oil stocks have rebounded from near Great Depression lows relative to the S&P500.
- The two great bull markets in energy in the past 50 years were during the inflationary 1970s and the boom in Emerging Markets in the 2000s.
- The US Energy sector hit an all-time relative high vs. the S&P500 in June 2008 but since collapsed despite big jumps in oil prices in 2011 & 2018.
- Energy stocks collapsed in 2014 as technology incited the "Death of Oil" narrative of shale gas and other forms of alternative energy eliminating the demand for crude oil.
- Energy stocks collapsed again in 2020 with the Saudi-Russian price war leading to a supply shock which worsened combined with the demand shock from COVID-19.
- Energy stocks have since rebounded in 2021 and 2022 and are up 41% YTD. We are long oil, energy, real assets on inflation.

Industrial stocks vs. S&P 500 since 1926

Chart 51: De-globalization drives industrial sector underperformance
Industrials vs. S&P 500, relative price performance (USD)



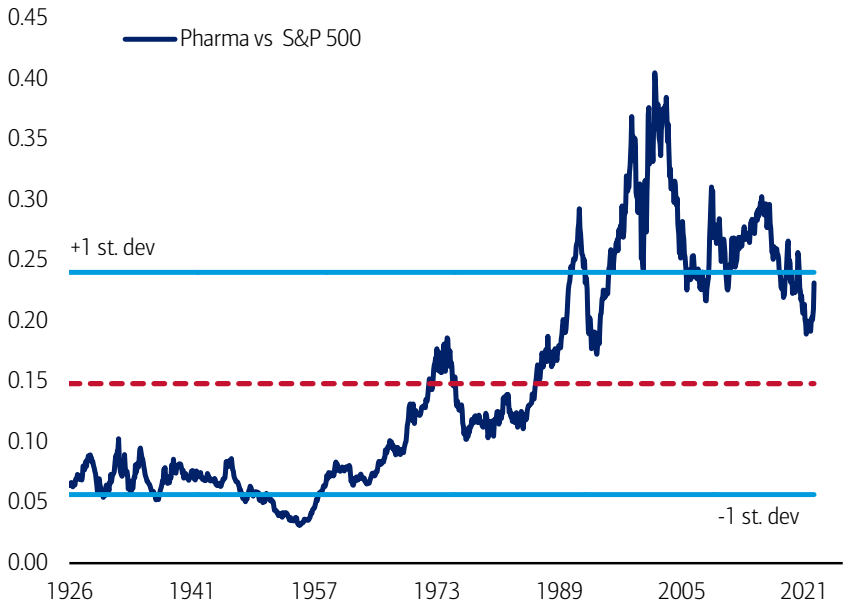
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Industrials are currently close to their lowest since 2000 relative to the S&P500.
- As the global economy recovered from the Great Depression in the 1930s, US industrials began to significantly outperform the broad market; this outperformance was interrupted by WW2 and then resumed with the announcement of the Marshall Plan.
- The two early decade recessions of the 1950s and 1960s saw industrials underperform, but aside from these periods, industrials enjoyed an outperformance until the 1970s.
- In the 1980s and 1990s industrials underperformed and were punished during the tech bubble when industrials' share of the US index declined from over 14% to 9%.
- Like many cyclical sectors, industrials enjoyed a quick, sharp recovery from their GFC-lows, but their relative performance has been historically disappointing due to lackluster global growth.
- COVID-19, the theme of de-globalization, and the trade wars have all led to industrials stocks falling to their lowest price relative since the 1930s and 2000s.

Healthcare stocks vs. S&P 500 since 1926

Chart 52: Healthcare has underperformed over past 10y on regulation & valuation
Pharma vs. S&P 500, relative price performance (USD)



Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- In November 2021, Pharma fell to the lowest relative to the S&P500 since July '94; healthcare stocks have since recovered slightly.
- Pharma enjoyed a long period of trend outperformance from the mid-1950s, until the global peak in 2001, albeit with some interruptions (late 1970s, early 1990s recession, Asia crisis of '98).
- The weakest secular period has been from late-2001 to mid-2008 during the China/commodity boom.
- After the Global Financial Crisis healthcare stocks were sought after for their defensive qualities, although concerns about regulation and the popping of the biotech bubble have hit the sector in recent years.
- 2020s should see Pharma outperformance on transition from wealth to health.

Bank stocks vs. S&P 500 since 1941

Chart 53: US bank stocks have rebounded from lows but remain in range
Banks vs. S&P 500, relative price performance (USD)

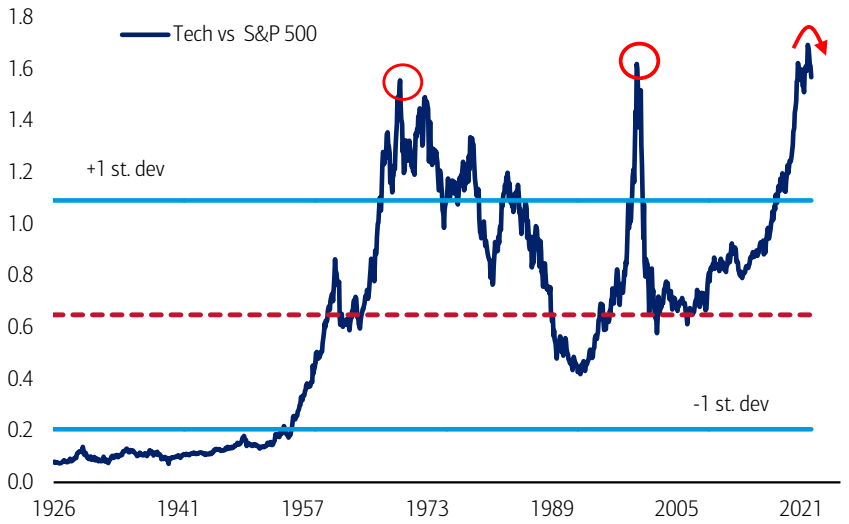
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- US banks vs. S&P500 have rebounded from a record low but have remained within a tight range post-GFC.
- The underperformance of banks in the past 10 years has been despite the longest S&P500 bull markets of all time as excess liquidity, historically low interest rates and regulations hamper banks profitability.
- Since interest rates peaked in the early-1980s, the performance of banks has been hit by periodic debt crises (Latin America in the '80s, Asia/Russia in the late-90s, and the Global Financial Crisis of '07-'09).
- Note how the chart of bank relative performance looks very similar to a chart of the level of interest rates; and banks performed more strongly in recent years when US interest rates increase. The secular contrarian would buy US bank stocks on rising rates.

Technology stocks vs. S&P 500 since 1926

Chart 54: Tech outperformance rolling over from all-time highs
Technology vs. S&P 500, relative price performance (USD)



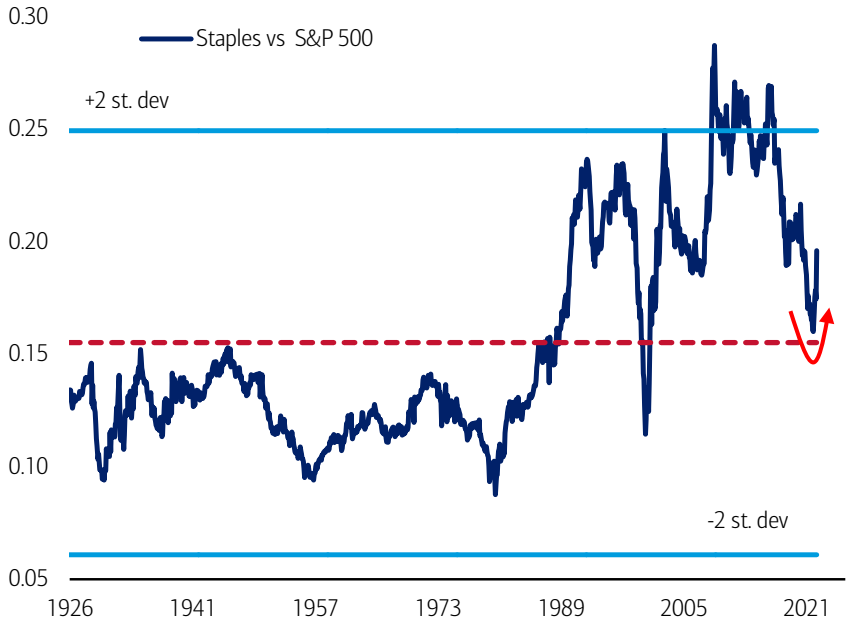
Monthly data
Note: Computer Hardware sector index was used prior to 1990
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Technology outperforms during periods of rapid adoption of new technologies… Personal computing (70s/80s), Internet retail/dotcom (90s/00s) and social media/internet applications (20s).
- Technology stocks continued to outperform while the S&P 500 saw a 34% decline in Mar'20 (COVID-19).
- Although not (quite) as dramatic as the two prior bull markets/bubbles of the "Nifty 50" bull market in the 1960s and the internet bubble of the 1990s, still…
- Fed's determination to stoke Wall St exuberance and Main St inequality has been particularly positive to the US tech sector; tech stocks one of the biggest winners in QE-era…market cap of FAAMG >$10tn = 3rd largest "country" by GDP after US and China.
- Tech the biggest winner from the pandemic, but the 3R's of Rising Rates, Rising Redistribution, Rising Regulation…we believe tech will be the worst performing US sector in the 2020s.

Consumer Staples stocks vs. S&P 500 since 1926

Chart 55: Consumer staples performance vs S&P 500 has rebounded
Staples vs. S&P 500, relative price performance (USD)



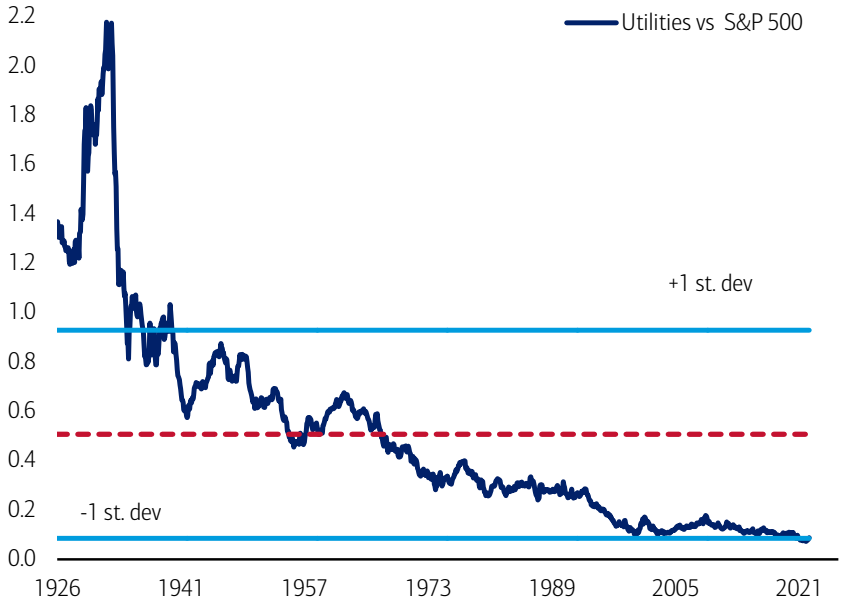
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Consumer Staples are at their highest since July 2020 vs. the S&P500, back above the historical average.
- US Consumer Staples sector generally outperforms during periods of lower interest rates and a rising share of consumer spending as a % of GDP.
- The outperformance of the prior decades was briefly, albeit violently, interrupted by the internet bubble in the last-1990s.

Utility stocks vs. S&P 500 since 1926

Chart 56: Utilities' relative performance near all-time lows
Utilities vs. S&P 500, relative price performance (USD)



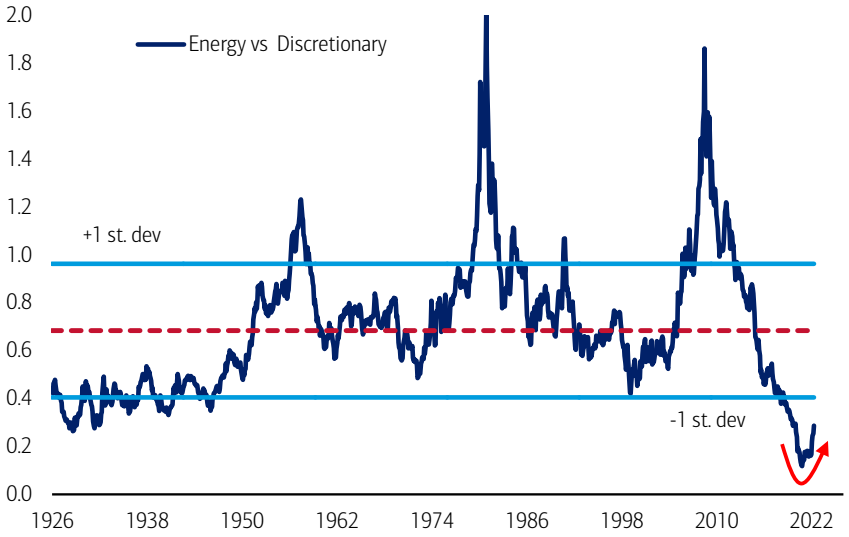
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Utilities hit an all-time low vs. the S&P500 in November 2021.
- Even with investors' strong preference for yield and stable earnings in the aftermath of the Global Financial Crisis, the US Utilities sector underperformed.
- The underperformance of the utility sector reflects investors' preference for growth sectors in recent years despite the central banks' quantitative easing program taking global bond yields to 5,000 year lows.

S&P 500 Energy vs. Discretionary since 1926

Chart 57: Energy bouncing off all-time lows relative to Discretionary
S&P 500 Energy vs. Discretionary, relative price performance (USD)



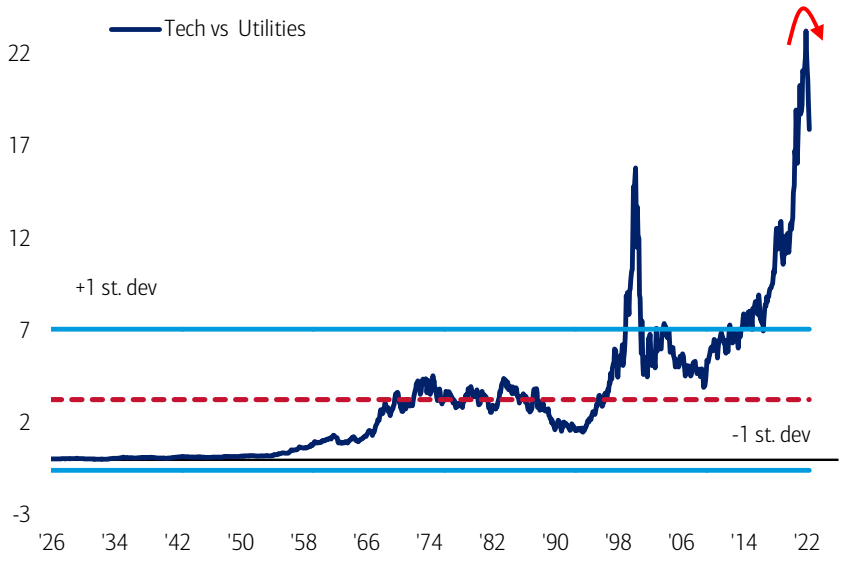
Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- The US Energy sector has recovered slightly from a record low relative to the US Consumer Discretionary sector.
- The post-GFC deflationary bull market of the past 10 years has been concentrated in assets that provide scarce quality (in world of excess debt), scarce yield (in world of low interest rates), and scarce EPS growth (in world of low economic growth).
- The underperformance of energy stocks also reflects the rising focus of investors on climate change.
- The stark contrast between the two sectors is a vivid example of deflation assets outperforming inflation assets in the past decade, a trend that will violently reverse in the coming decade.

S&P 500 Technology vs. Utilities since 1926

Chart 58: Divergence in sector performance has been most extreme in history
S&P 500 Technology vs. Utilities, relative price performance (USD)



Monthly data
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg

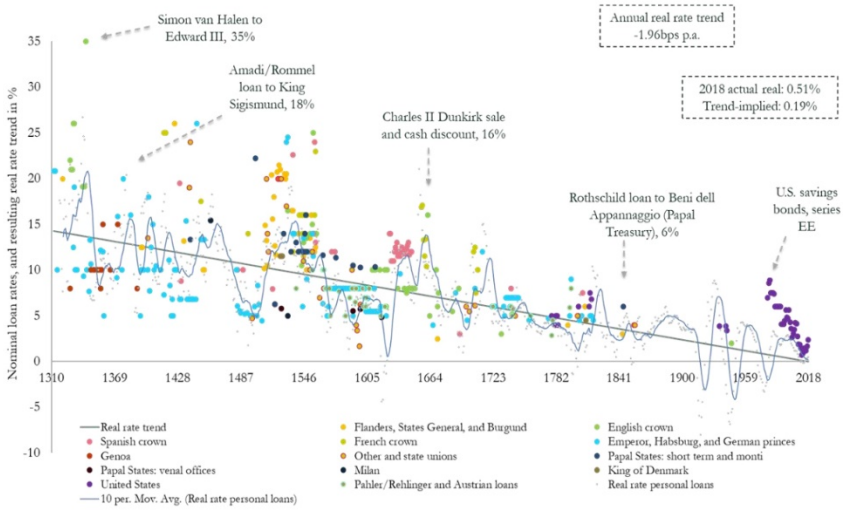
BofA GLOBAL RESEARCH

- The divergence in US tech stocks' performance relative to utility stocks has been the most extreme in history, surpassing 1999/2000 tech bubble highs.
- The outperformance of growth relative to value propelled the relative performance of tech to utilities to 5.5 standard deviations above average in November 2021.
- Tech stocks have since rolled over relative to utility stocks as the era of QE comes to an end.

The Longest Bond & Currency Pictures

Nominal loan rates and annual real rates since 1310

Chart 59: Nominal loan rates and annual real rates since 1310
Nominal loan rates and annual real rates



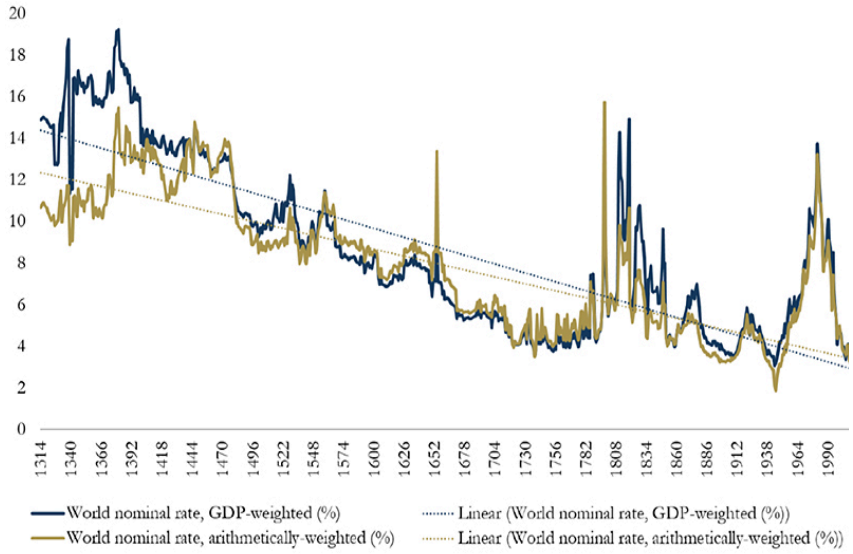
Source: BofA Global Investment Strategy, Bank of England, Visual Capitalist

BofA GLOBAL RESEARCH

- Paul Schmelzing's study of the history of interest rates shows how global real interest rates have experienced an average annual decline of 1.96bp throughout the past eight centuries.
- Nominal rates averaged 3.5% in the 2000s, the joint lowest alongside 1800s for any century since the 1300s.
- Real rates have declined every century since 1400s and averaged just 1.3% in the 2000s driven by a combination of falling productivity, ageing demographics, and subdued economic growth.
- In the past 2 years, real rates in the US and elsewhere have collapsed into deeply negative territory, driven by exorbitant monetary easing, which is now reversing

Global nominal bond yields since 1314

Chart 60: Global nominal bond yields since 1314
Global nominal bond yields



Source: BofA Global Investment Strategy, Bank of England, Visual Capitalist

BofA GLOBAL RESEARCH

- Global nominal bond yields fell to 700-year lows in 2016 and are currently back at the lows.
- The graph illustrates how interest rates and bond yields have been falling across centuries, asset classes, and fiscal regimes.
- The historical record would imply that we will see ever new record lows in real rates in future business cycles in the 2020s/30s; while fortunate for debt-issuers, the trend of falling rates continued to push investors into "scare yield", which drove the bond bubble up to the 2020 crash.

US 10-year Treasury yields since 1790

Chart 61: Big low in bond yields
US 10-year Treasury yields since 1790

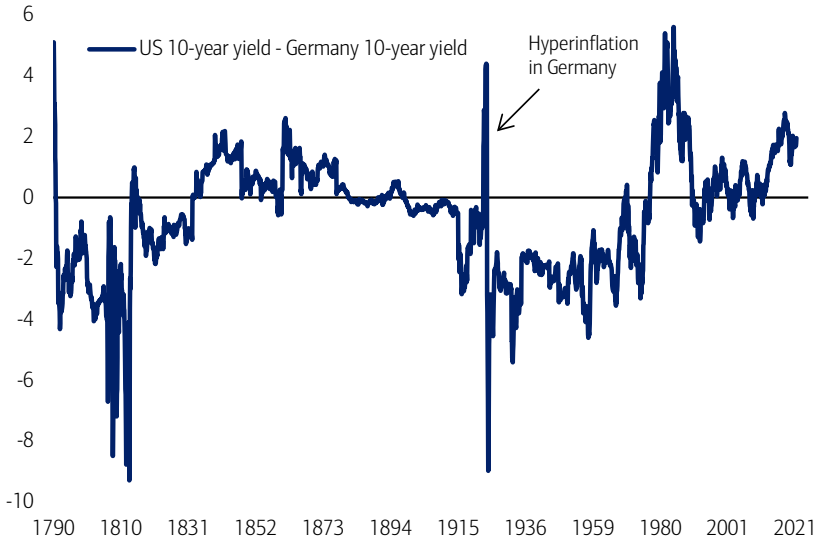
Monthly data; **Source:** BofA Global Investment Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- The US 10 year Treasury yield hit a record 230-year intraday low of 0.31% on March 23rd 2020.
- US bonds have had the following distinct secular bull and bear markets:
  - 1790-1902: erratic yield fluctuations and then a sustained decline in yields to below 3%.
  - 1902-1920: the First Bear Bond Market, yields rise from 3% to 5-6%.
  - 1920-1946: the Great Bull Bond Market, yields decline from 5-6% to below 2%.
  - 1946-1981: the Second Bear Bond Market, yields soar from 2% to above 15% in 1981.
  - 1981-2020: the Greatest Bull Bond Market, as yields tumble from 15% to all-time lows in March 2020.
  - 2020-present: 2020 marked the turning point in rates and inflation and will prove in retrospect to be the beginning of the next Bear Bond Market.

US-Germany 10-year yield spread since 1790

Chart 62: Spread between US and German bonds off recent wides
US-Germany 10-year yield spread since 1790



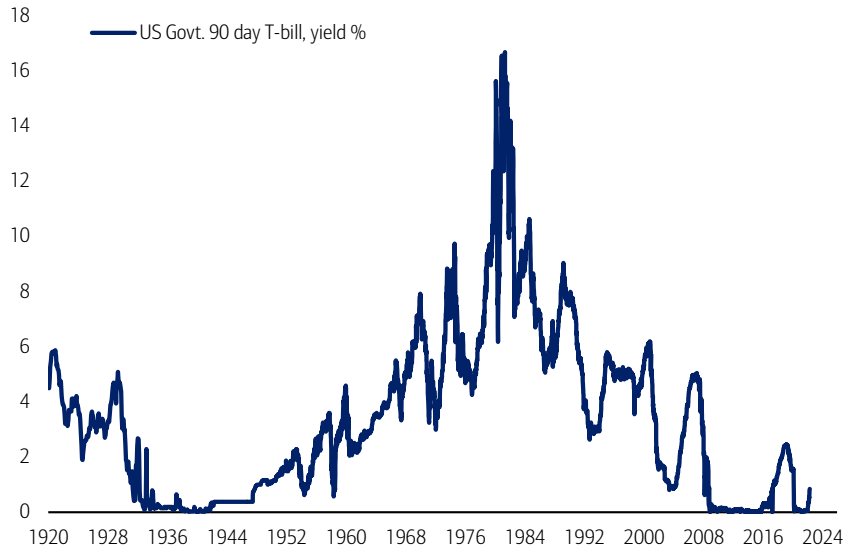
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- The spread between 10-year US and German government bond yields was 195bp in April 2022.
- The spread rose to 560bp in the early 1980s as US rates peaked following inflationary oil shocks & Volcker-era monetary tightening.
- In 2012, the spread was zero but by Dec 2018, negative ECB policy rate and last Fed hike took spread to 280bp, the widest level in nearly 30 years.

US 3-month Treasury Bill since 1920

Chart 63: 3M T-Bill rising from record lows
US 3-month Treasury Bill since 1920



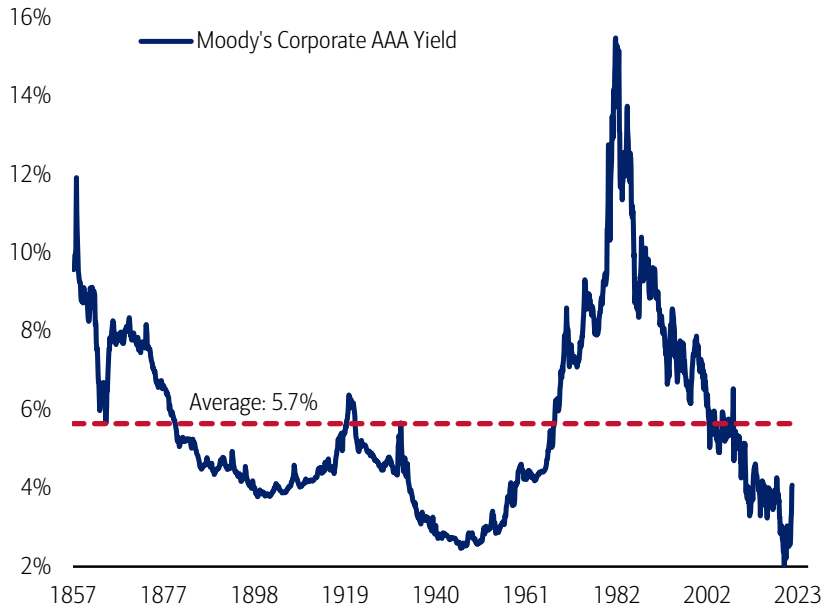
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- The US 3-month Treasury Bill fell to a record low of -25bps in March 2020.
- Rates were close to zero for a good 15 years during the 1930s and early-1940s, thereafter rising in the next 3 decades to an all-time high of 17.1% in December 1980.
- The Fed rate hike in December 2015 marked the end of the longest period (113 months) without a rate rise in Federal Reserve history.
- US short-term rates were essentially zero from Nov'08 to mid-'17, a longer period at zero than even during the 1930s.
- Note, the 3m-10y Treasury curve, a useful coincident predictor of recession risk, inverted in March 2022.

US corporate bond yields since 1857

Chart 64: AAA yield up from lows
AAA corporate bond yield, %



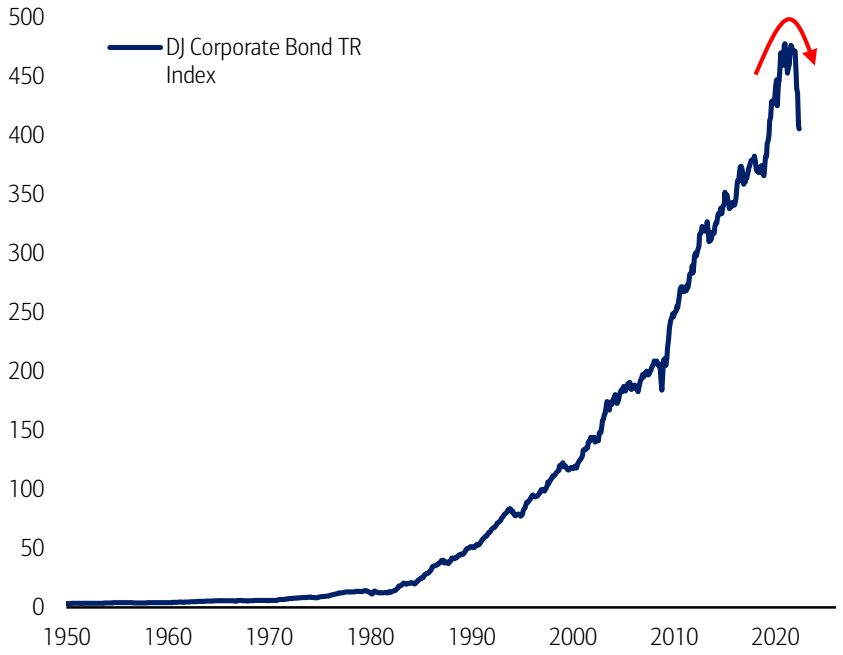
Monthly data. Moody's AAA corporate bond yields
Data unavailable during August-November 1914 (WW1)
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- Moody's AAA US corporate bond yielded 4.0% in April 2022.
- The long-run trend in corporate bond yields largely follows that of government bonds.
- In July 2020, Moody's AAA corporate bond yields fell to an all-time low of 2.0%, prior low was in March 1946.
- In October 1981, yields rose to an all-time high of 15.5%.
- The historical average is 5.7%.

US corporate bond returns since 1950

Chart 65: US corporate bond total returns have rolled over from record high
Dow Jones corporate bond index, Total Return



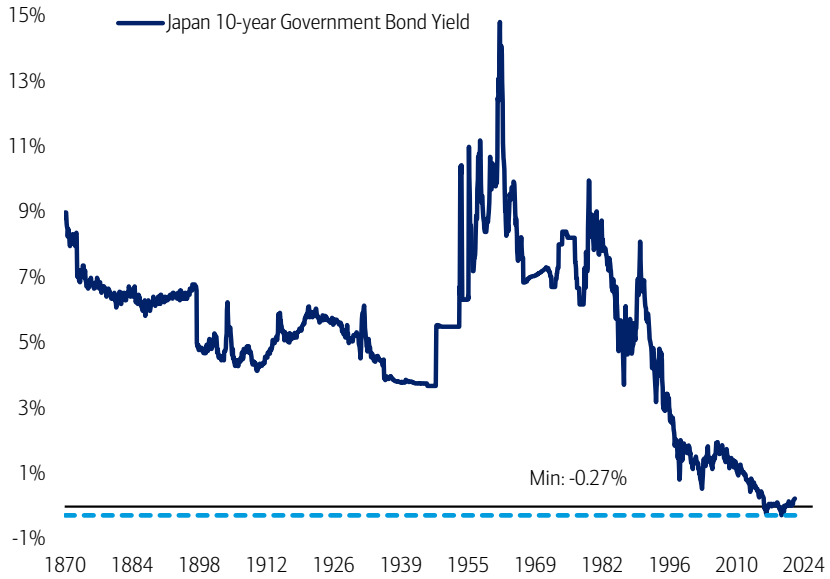
Source: BofA Global Investment Strategy, Bloomberg and Global Financial Data

BofA GLOBAL RESEARCH

- The US corporate bonds total returns index reached its record high of 478 in December 2020 and has since rolled over.
- Since 1980, the DJ Corporate bond index rose 38x...the greatest bond bull market of all-time until the beginning of 2020.
- The only exception in this period was the first 10 months of 2008 when the index fell 12% but it jumped 159% in value until peaking in Dec'20.

Japanese bond yields since 1870

Chart 66: Japanese government bond yields remain low
Japan 10-Year government bond yield, %



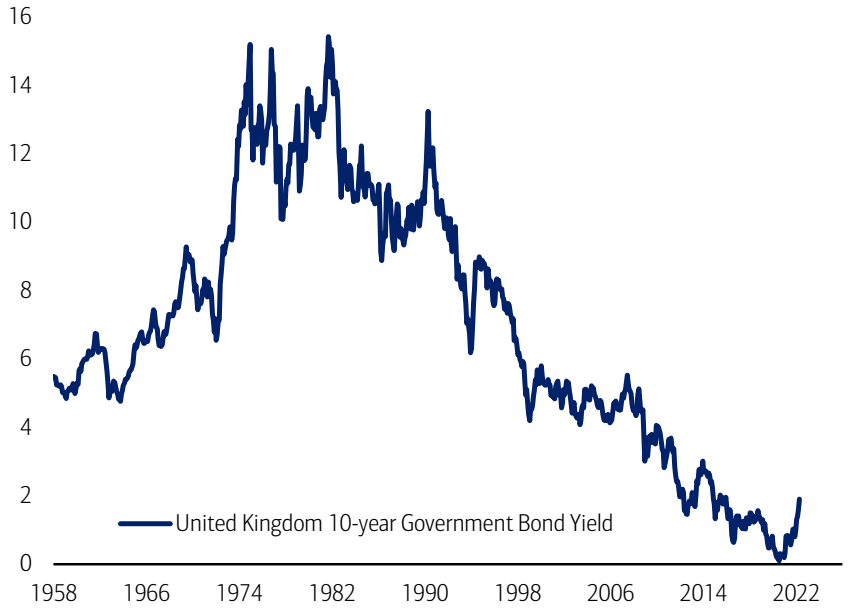
Monthly data. Data was unavailable during February 1915-December 1915; August 1931 – March 1932; July 1936 – November 1940; December 1943 – December 1945
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- The 10-year Japanese government bond yielded 0.24% in April 2022.
- Japanese 10 year government bond yields surged higher after WW2, rising to a peak of almost 15% in December 1961.
- Since 1961, Japanese interest rates have headed decisively lower, interrupted briefly by oil shocks and the late-1980s Japanese equity bubble.
- As the original source of "deflation", JGB yields remain a potent gauge in the battle between global deflation and inflationary monetary policies.
- Japanese 10-year bond yields fell to a 150-year low of -0.27% in August 2019.
- Since September 2016, the Bank of Japan has operated a yield curve control policy anchoring 10-year JGB yields +/-25bp.

UK base rate since 1705

Chart 67: UK government bond yield bouncing from lows
Bank of England base lending rate, %



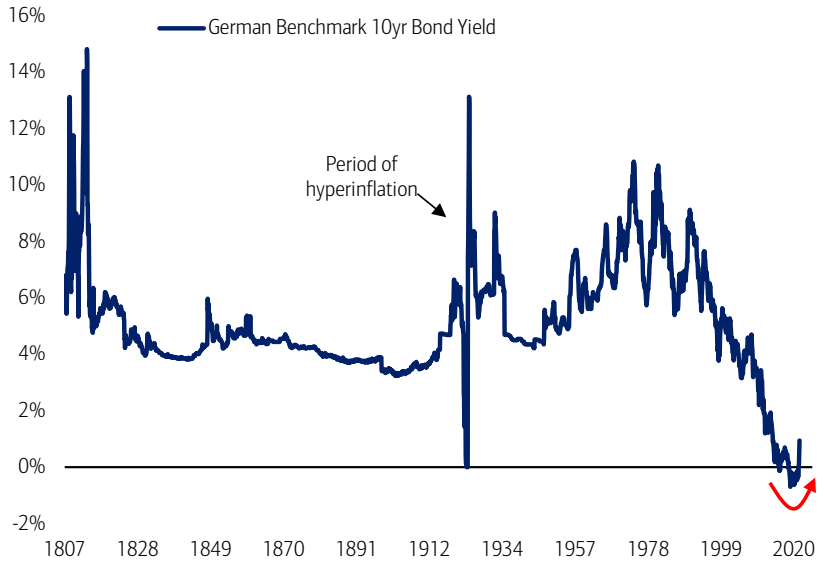
Monthly data. Data was unavailable in 1878 and 1898
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- The 10-year UK government bond yield yielded 1.9% in April 2022.
- The Bank of England, the "Old Lady" of Threadneedle Street, was founded in 1694.
- In 300 years of history, the Bank of England's base rate had never been lower than the 0.5% from 2009 to 2016.
- In August 2016, after the Brexit vote, the Bank of England cut the base lending rate by 25bp to 0.25%, reaching a historical minimum.
- In 2018, the Bank of England hiked rates twice to 0.75%.
- In response to COVID-19, BoE cut rates to record low of 0.10% in Mar'20.

German bond yields since 1807

Chart 68: 10-year Bund yield in positive territory for the first time since 2019
Germany benchmark 10-year bond yield, %



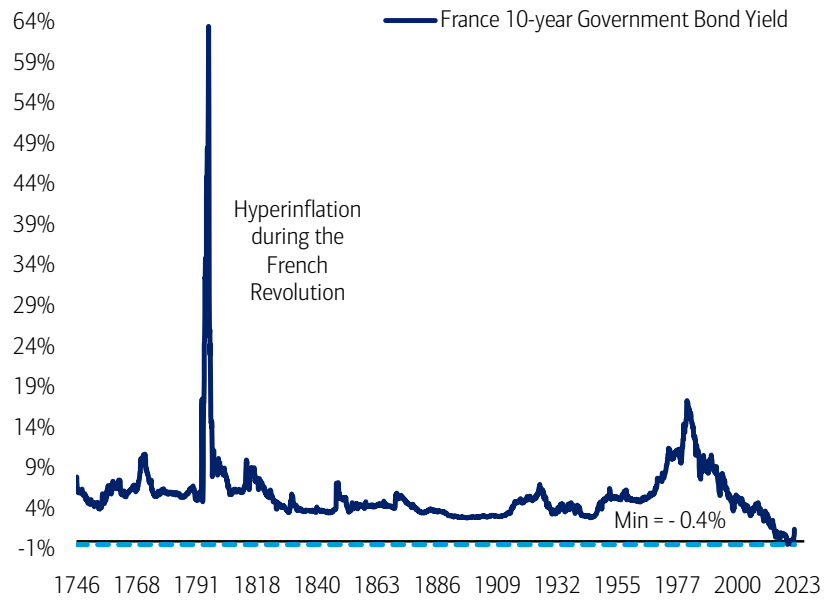
Monthly data. Data was unavailable from August 1931 – March 1932 and December 1943 – December 1945
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- The German 10-year bond is considered the risk-free rate for Eurozone assets.
- The post-WW2 high for German bond yields was 10.8% in July 1974, following the 1973 oil shock and, just ten years ago, the yield was as high as 4.7%, much closer to its long-term average of 5.0%.
- The 10-year Bund yield fell to a record low of -91bp in Mar'20 following the collapse in global bond yields and ECB QE response to COVID-19.
- The 10-year Bund yield turned positive in January 2022 for the first time since May 2019.

French bond yields since 1746

Chart 69: French 10-year government bond yields positive but remain low
France benchmark 10-year bond yield, %



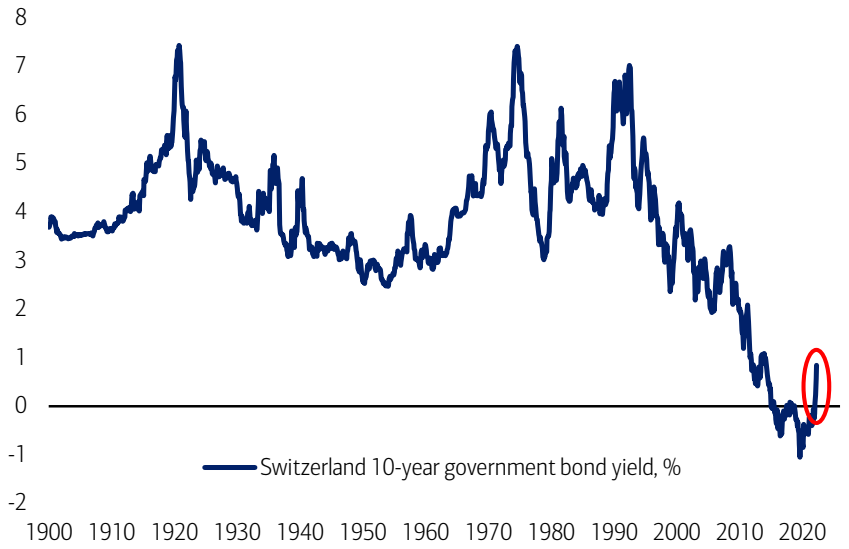
Monthly data. Data was unavailable from July 1793 – December 1796
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- The French 10-year bond yielded 1.46% in April 2022.
- Excluding the 1789-1799 period of the French Revolution, the major historic peak in French yields was 17.3% in June 1981.
- Similar to Germany, French government bond yields are historically low, reaching their all-time low of -44bp in August 2019.

Swiss bond yields since 1900

Chart 70: Swiss government bond yield turn positive for the 1st time since 2018
Swiss benchmark 10-year bond yield, %



Monthly data.
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- Swiss government bonds yielded 0.84% in April 2022; turned positive in January 2022 for the first time since November 2018.
- Between 1992 and 2020 Swiss bonds fell from 7.02% to a low of -116bp in Aug'19.

Spanish bond yields since 1822

Chart 71: Spanish bond yields remain low
Spain benchmark 10-year bond yield, %

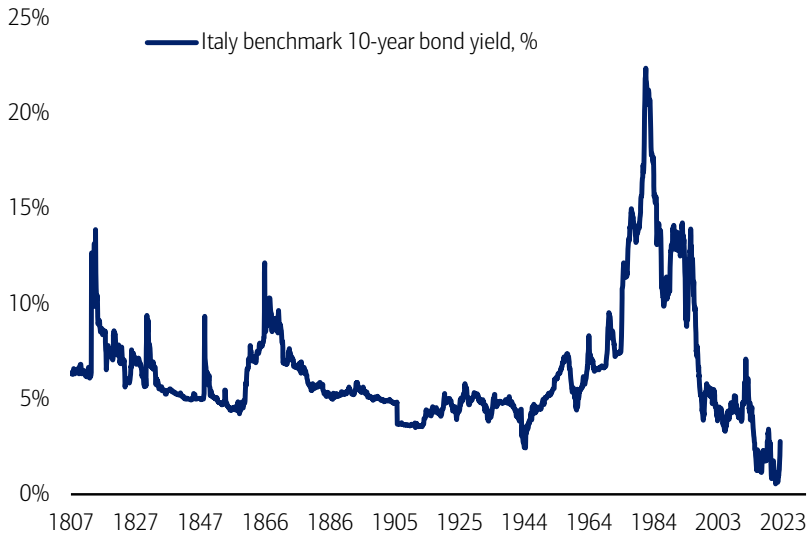
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- Spanish 10-year yielded 1.97% in April 2022.
- Spain has been an EU member since January 1st 1986. Spanish yields peaked at 18.1% in late-1983, a little more than 2 years prior to membership.
- Despite a debt crisis in Spain in recent years, which sent yields up to 7.6% in 2012, Spanish government bonds fell in Aug'19 to 2bp, a 200-year low.

Italian bond yields since 1807

Chart 72: Italian bond yields up from record lows in Feb'21
Italy benchmark 10-year bond yield, %



Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- Italian bond yielded 2.77% in April 2022.
- Italian yields were 22.4% in September 1981 and because of their reputation for debt, default and devaluation, have historically averaged much higher levels than Germany and France.
- The 10-year Italian bond yield fell to historic lows of just 46bp in February 2021.
- The BTP-Bund spread, a measure of core-periphery risk within the Eurozone, is currently around 200bps.

Dutch bond yields since 1517

Chart 73: Dutch government bond yields up from 500-year record lows
Netherlands benchmark 10-year bond yield, %

Annual data prior to 1815, monthly thereafter. Data was unavailable during 1577-1599, 1700-1746, 1748-1761, 1763-1797, 1799-1813

Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- Dutch bond yielded 1.23% in April 2022.
- Dutch government bonds reached their lowest level in 500 years of history in March 2020.
- In the last 100 years, Dutch 10-year government bond yields peaked at 12.5% in August 1981.

Indian bond yields since 1800

Chart 74: Indian bond yields since 1800
India benchmark 10-year bond yield, %

Annual data prior to 1815, monthly thereafter. Data was unavailable during 1577-1599, 1700-1746, 1748-1761, 1763-1797, 1799-1813

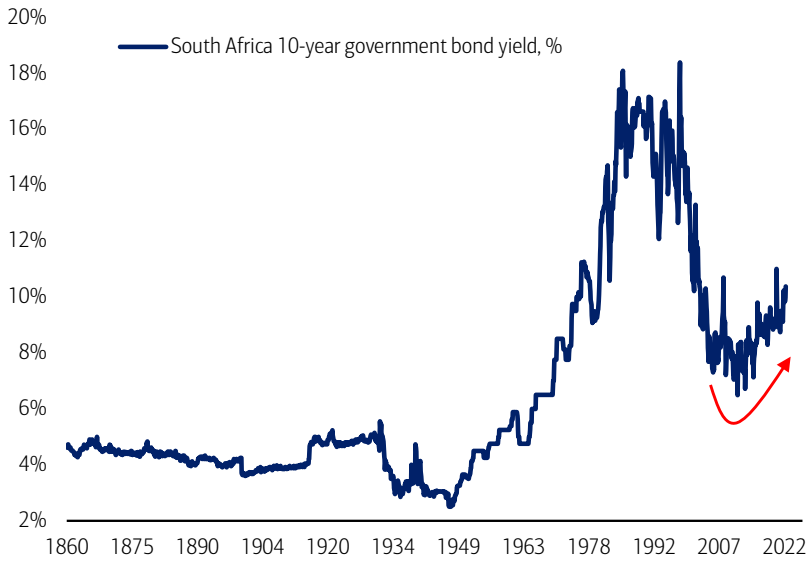
Source: BofA Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- Indian government bonds yielded 7.14% in April 2022.
- Interest rates were linked to the fortunes of the sterling bloc and the London money market for much of the past two centuries.
- Indian yields diverged from developed markets following the 1980s hitting an all-time high of 15.8% in October 1994, much later than the early-80s peak in Developed Markets.
- The two major rallied in Indian bond yields saw yields troughed at 4.95% in Oct'03; and 5.23% in Mar'09.

South Africa bond yields since 1860

Chart 75: South African government bond yields since 1860
South Africa benchmark 10-year bond yield, %



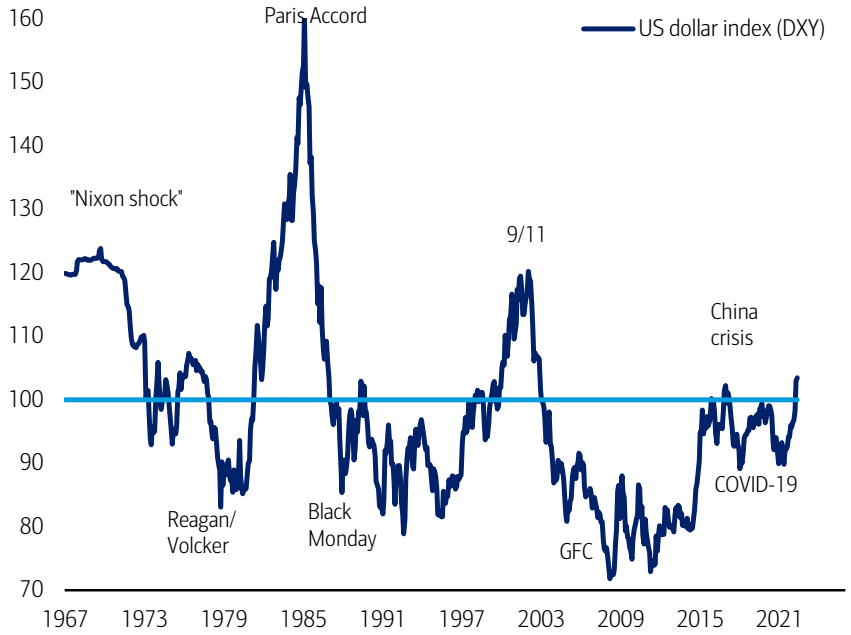
Monthly data
Source: BofA h Global Investment Strategy, Global Financial Data and Bloomberg

BofA GLOBAL RESEARCH

- South African 10-year government bond yielded 10.4% in April 2022; South African yields have trended higher in the past 10 years.
- As with India, South African interest rates were linked to the UK for much of the nineteenth and twentieth centuries.
- South African government bond yields have been relatively stable for long periods but during the 1980s and 1990s, South Africa became a country of relatively high interest rates.
- South African yields peaked at 18.4% in September 1998 during the Asian currency crisis and 5 months prior to the secular low in commodity prices.
- Since then, South African yields have dropped to 7-8% with a recent dip to 6.03% in 2013, the lowest since 1970.

The US dollar since 1967

Chart 76: US dollar since 1967
US dollar index (DXY)



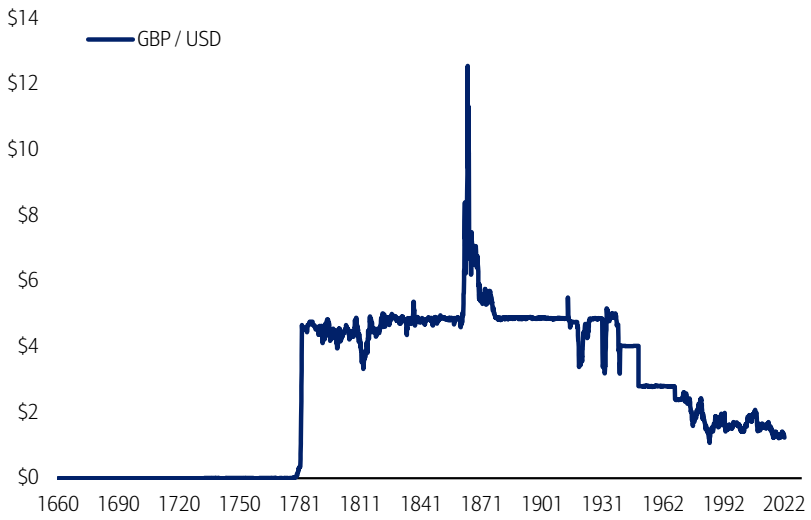
Monthly data
Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

- The US dollar became the world's reserve currency following WW2 with the introduction of the Bretton Woods currency system.
- In August 1971, the US unilaterally terminated convertibility of the US dollar to gold, effectively ending Bretton Woods – the so called "Nixon shock".
- Since 1967, the USD has fallen by more than 20%. But this period enjoyed two bull markets.
- The first was during the early 1980s Reagan-era (tight monetary and loose fiscal policy). This spurred an all-time high of 160 in Feb'85, and the USD approached parity with the British pound.
- The second bull market occurred during the Asia crisis and tech bubble of the late 1990s.
- The US dollar hit an all-time low in March 2008 during the global financial crisis.
- Fed rate hikes, quantitative tightening, divergent growth profiles and the US-China trade war/ protectionism caused a new dollar bull market in recent years.
- Secular regime change in the 2020s from globalization to isolationism (human, social, regional), intervention (sanctions, confiscation, tariffs, fiscal not monetary excess, subservient central banks), insecurity (trust in a "global" financial system)...
- ...new era of inflationary boom-bust investment & economic cycles...
- ...outperformance of cash, commodities, volatility, of inflation vs deflation assets, commodities vs bonds, value vs growth, and ultimately dollar debasement.

The US dollar vs. the British pound since 1660

Chart 77: US dollar vs British pound since 1660
British pound (GBP) / US dollar (USD)



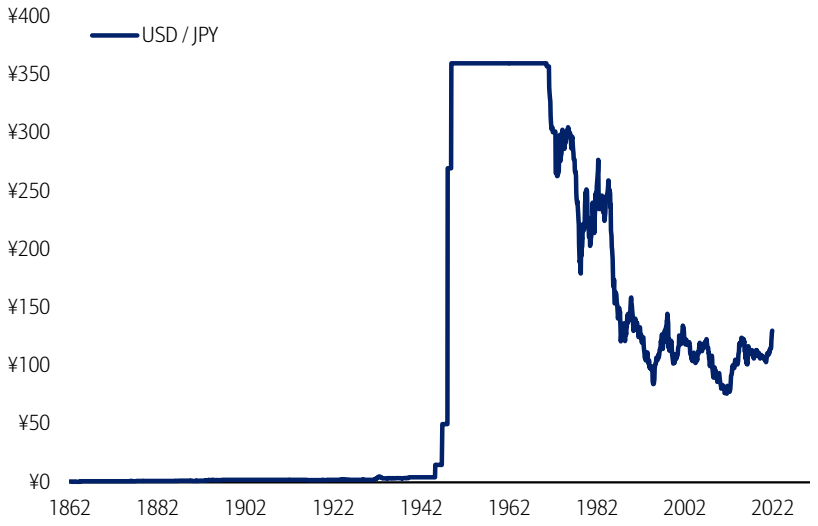
Monthly data
Source: BofA Global Investment Strategy, Bloomberg and Global Financial Data

BofA GLOBAL RESEARCH

- In 1694, the Bank of England was founded and began to issue paper money.
- During the American War of Independence and the Napoleonic Wars, BoE notes were legal tender and their value floated relative to gold.
- In 1776, the US gained independence. And in 1816, the gold standard was officially adopted and the pound was widely considered the international reserve currency for the rest of the nineteenth century.
- The gold standard was suspended at the outbreak of the war in 1914. At the end of WWI, the UK owed money to the US, so in an attempt to resume stability, the gold standard was reintroduced until the Great Depression in 1931.
- In 1940, an agreement with the US pegged the pound to the US dollar at a rate of £1 = $4.03, and was maintained through WW2.
- With the breakdown of the Bretton Woods system, the pound floated from August 1971 onwards. Over the period, the lowest value for sterling vs. the US dollar was $1.08 in Feb'85, and the highest was $2.61 in March'72.
- The pound traded at $1.18 in October 2017 amid the fallout from the Brexit vote, but rose to a recent high of 1.35 following the election of a majority Conservative government and the delivery of Brexit at the end of January 2020.
- The pound is currently trading at $1.24 (5/5/22).

The US dollar vs. the Japanese Yen since 1862

Chart 78: US dollar vs. Japanese Yen since 1862
US dollar (USD) / Japan Yen (JPY)



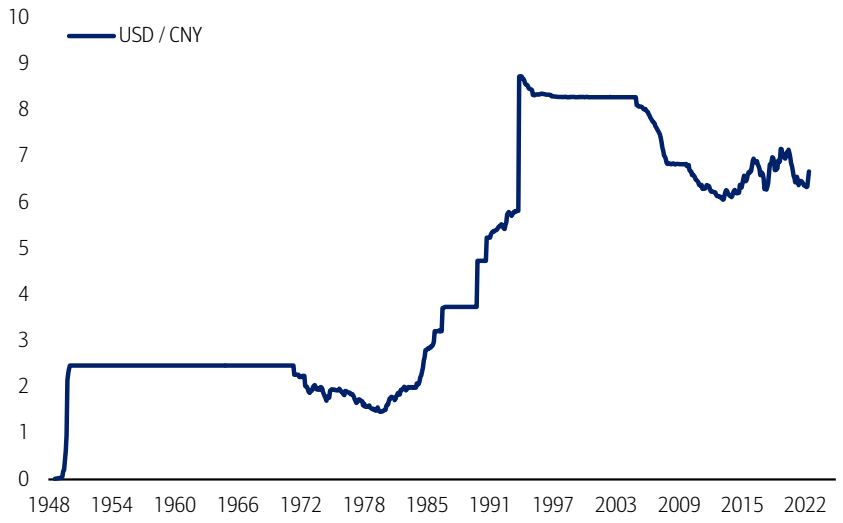
Monthly data
Source: BofA Global Investment Strategy, Bloomberg and Global Financial Data

BofA GLOBAL RESEARCH

- The Japanese Yen was officially adopted by the Meiji government in 1871.
- Japan adopted a gold standard exchange rate in 1897, following the silver devaluation in 1873. This remained in place until 1931. JPY fell to $0.30 in 1932, and fell further at the start of WW2.
- There was no true exchange rate between 1941 and 1949, but following WW2, the US government fixed the value of the yen at ¥360 per US$1, maintaining this rate until 1971.
- Once allowed to float, the yen appreciated over 30%, but stalled in the early 1980s despite strong current account surpluses.
- In 1985, the US and other governments signed the Plaza Accord in order to devalue the dollar, fueling a rapid rise in the yen.
- Since the local (intra-day) high of ¥75.35/$ in Oct'11, yen depreciation has become an important policy target for the Japanese government. Aided by aggressive Bank of Japan QE policies, the yen fell in value to ¥125/$ in 2015.
- In 2022, the Bank of Japan continued to vow unlimited bond buying, sending the yen to the lowest vs the US dollar since 2002.
- The Yen is currently at ¥130/$ (5/5/22).

The US dollar vs. the Chinese renminbi since 1948

Chart 79: US dollar vs. Chinese renminbi since 1948
US dollar (USD) / China renminbi (CNY)



Monthly data
Source: BofA Global Investment Strategy, Bloomberg and Global Financial Data

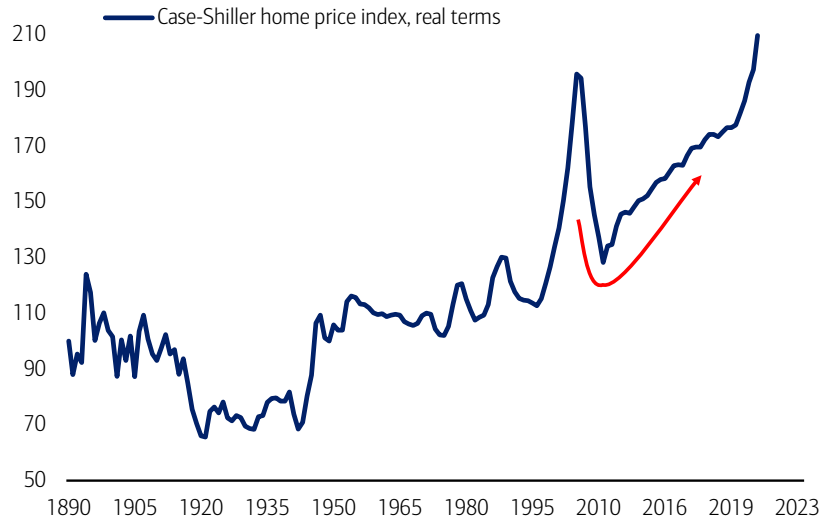
BofA GLOBAL RESEARCH

- The PBoC introduced the renminbi in 1948, replacing various currencies circulating throughout the country. One of the first tasks of the new government was to end hyperinflation.
- For most of its early history, the renminbi was pegged to the US dollar at 2.46 yuan per USD. However, the black-market rate was extremely volatile, reaching an all-time low of 21.30 in 1962.
- When China's economy began to open in the 1980s, the renminbi was devalued to help with Chinese competitiveness.
- From 1997 to 2005, the renminbi was pegged again, but this time at 8.27 yuan per USD.
- The peg was lifted in 2005, which saw a one-off revaluation to 8.11 followed by a steeper market-driven decline to 6.83. The peg was reinstated temporarily during the Global Financial Crisis.
- In Aug'15 the renminbi was devalued in response to weak Chinese export growth.
- Strong global growth saw the renminbi strengthen to $6.26 in Mar'18 before concerns about US-China trade war and China transition to a lower growth, consumer-led economy saw the renminbi weaken back to a 13-year low of $7.18.
- The renminbi is currently $6.67, note the PBoC has used a managed peg for the currency since the 2015 devaluation.

The Longest Real Asset Pictures

US house prices since 1890 in real terms

Chart 80: US house prices at all-time highs
Annual real home price index



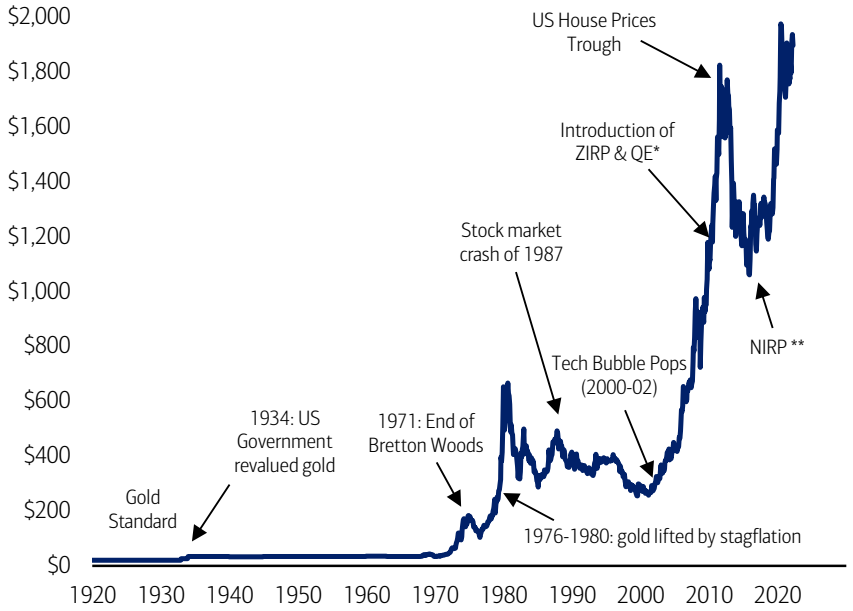
Annual data prior to 1953, quarterly thereafter
Source: BofA Global Investment Strategy, Case-Shiller

BofA GLOBAL RESEARCH

- From the 2006 high to the 1Q12 trough, US housing prices in real terms fell 42%, making it the greatest bear market in housing since 1894-1921, when real home prices declined 47%.
- The first bear market was a long one, with housing prices bottoming in 1921 but moving sideways through the Depression and WW2. Prices jumped following the end of the war, including 21% in 1946 alone.
- Home prices moved modestly upward throughout much of the post-war period, with periods of strength that were then dwarfed by a housing bubble that began in 1997.
- During the 1997-2006 housing bubble, home prices in the United States soared 85%.
- Since the 2012 trough, US real home prices are up more than 70%, and 10% above their 2005 peak.
- US home prices were up 20% YoY in February 2022, surpassing the prior high in August 2004.

The gold price since 1920

Chart 81: Gold price above $1800 but has pulled back from all-time high
Gold spot price per ounce since 1920



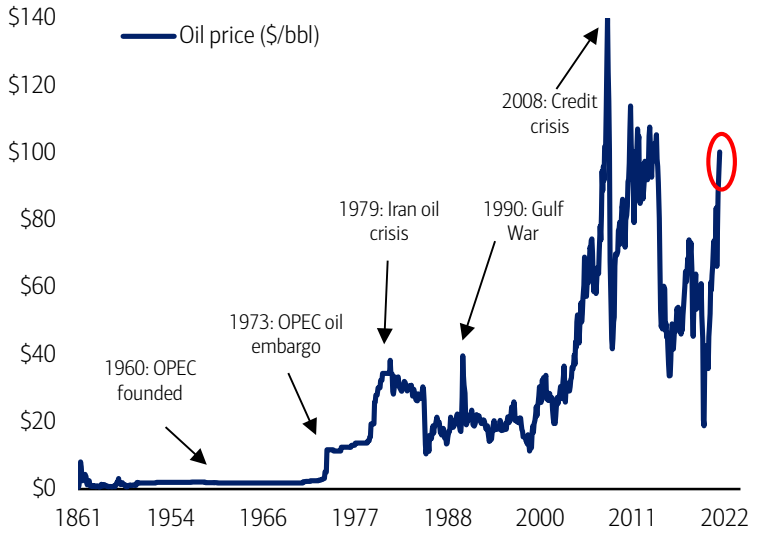
* ZIRP = Zero interest rate policy; QE = Quantitative easing
** NIRP = Negative interest rate policy
Monthly gold spot price ($/oz)
Source: BofA Global Investment Strategy, Bloomberg, World Gold Council

BofA GLOBAL RESEARCH

- Until 1933 the price of gold was fixed at $20/oz under the Gold Standard Act. In the midst of the Great Depression, under the Gold Reserve Act of 1934, Roosevelt revalued gold from $20 to $35.
- In 1944 the Bretton Woods Agreement established a system of fixed exchange rates in terms of gold for major currencies. In 1971, the US abandoned Bretton Woods and gold became a floating asset.
- From 1976-1980, stagflation lifted gold from $100/oz to over $660/oz; the bull market was ended by successful anti-inflationary monetary policy in the early 80s.
- Intense deleveraging and zero interest rate policies across the G7 fueled another bull market in gold, pushing prices from $600/oz to a peak of $1900/oz in September 2011.
- Declines in tail-risk fears and the prospect of the end of QE in the US caused gold to plunge to a 6 year low of $1051/oz by the end of 2015.
- The current gold price is above $1800; the all-time high in gold was $2063 in August 2021 before pulling back since.

The oil price since 1861

Chart 82: Oil price at highest since 2014
Oil price per barrel since 1861



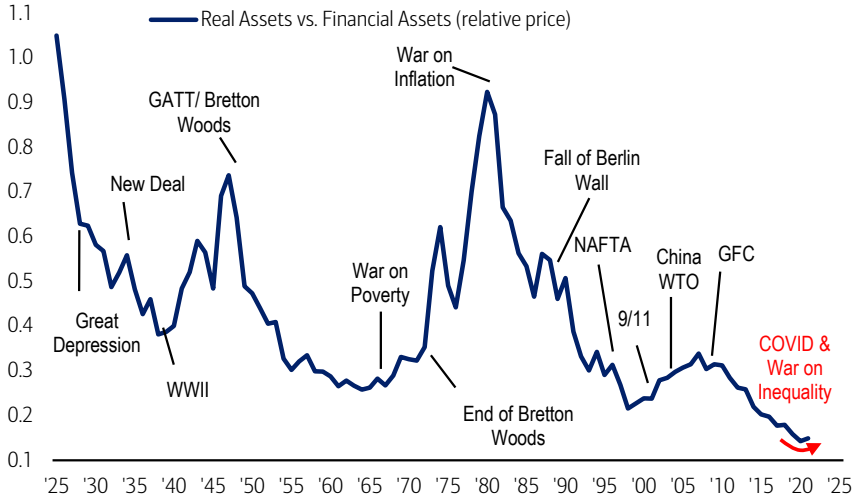
Annual data through 1950, monthly thereafter. Bloomberg Crude Oil History: 1861-1950 from BP statistical review; 1950-1983 Bloomberg Arabian Gulf Arab Light Crude Spot Contracts, 1983-current are Brent Crude Spot prices
Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

- In 1861, a barrel of oil cost 49 cents, an all-time low.
- In 1960, OPEC was founded to stabilize oil prices. Since then, political disruptions in the Middle East have intermittently caused volatility in world oil markets.
- In 1973-4, during the Arab oil embargo, the oil price quadrupled. During the Iranian oil crisis in 1979, the oil price more than doubled.
- The all-time high in oil prices was $145/bbl on July 3rd 2008, before prices plummeted below $40/bbl during the credit crisis.
- Chinese fiscal stimulus in late-2008 coincided with a trough in oil prices, and in the following 2 years, prices rose back above $100/bbl.
- Sparked by the shale gas revolution in the US, coinciding with events in Russia and the Middle East since mid-2014, and exacerbated by the "End of OPEC", oil prices recently plunged from $115/bbl in June '14 to a low of $28/bbl in Jan '16.
- The oil price rallied to $86/bbl in 2018 as the global economy enjoyed 18-months of synchronized growth. In 2020 though the price of oil fell to $20/bbl on oil supply shocks and a demand shock from COVID-19 but rebounded on the reopening trade.
- Oil prices soared in 2022 to its highest level since 2014 on geopolitical tensions (Russia-Ukraine conflict) and rising concerns about energy supplies.

Real assets at all-time lows vs. financial assets

Chart 83: "War on Inequality" likely to spark bull market in real assets
All-time lows...real assets relative to financial assets since 1926



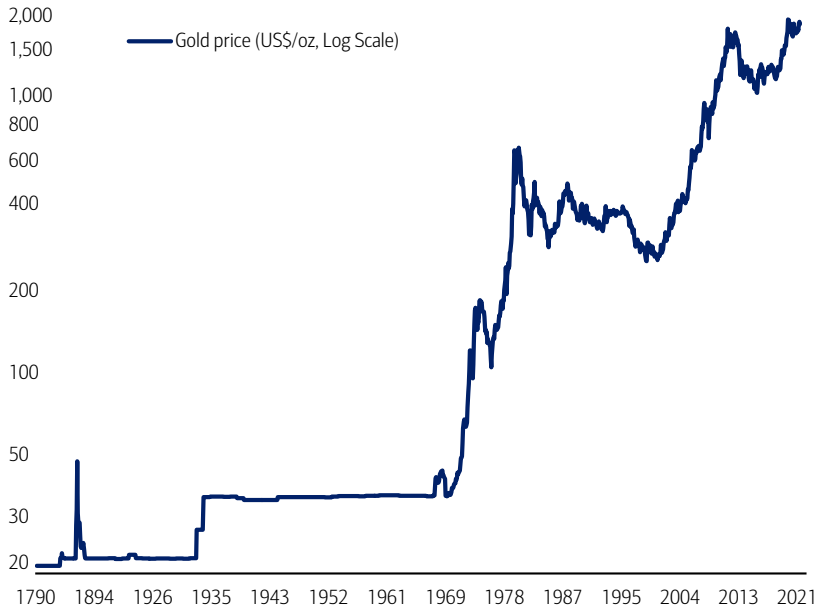
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg, USDA, Savills, Shiller, ONS, Spaenjers, Historic Auto Group. Note: Real Assets (Commodities, Real Estate, Collectibles) vs. Financial Assets (Large Cap Stocks, Long-term Govt. Bonds)

BofA GLOBAL RESEARCH

- The relative value of real assets to financial assets is highly correlated with inflation (~80% since 1970), making them an excellent hedge against rising inflation and interest rates in coming years.
- Bull markets in real assets have coincided with war and major fiscal stimulus programs in the 1940s, the rise of inflation in the 1960s and 1970s, and 9/11 and China accession to WTO in the early years of this century.
- The long-run price relative of real assets (real estate, commodities, and collectibles) to financial assets (stocks & bonds) recently fell to its lowest level since 1926.
- We believe the new "War on Inequality", new fiscal & trade policies, is likely to spark a new bull market in real assets.

The history of gold & silver

Chart 84: Gold prices have retreated slightly from record highs
Gold prices since 1790 (log scale)



Source: BofA Global Investment Strategy, Bloomberg, onlygold.com.
* 1790-1919: World Gold Council (Annual data), 1920 onwards: Bloomberg (Monthly data, XAU Curncy)

BofA GLOBAL RESEARCH

- Until 1933, the price of gold was fixed at $20/oz. under the Gold Standard Act.
- In 1971, the US abandoned Bretton Woods and gold became a floating asset. From 1976-1980, stagflation lifted gold from $100/oz. to over $660/oz.
- QE fuelled another bull market in gold after the Global Financial Crisis, pushing prices to a peak of $1900/oz. in September 2011.
- Prices hit record highs in 2020 as real rates tanked following Fed easing and growth fears, but have since retreated slightly.

Chart 85: Silver prices have rolled over from 7-year highs
Silver prices since 1900 (log scale)

Source: BofA Global Investment Strategy, Bloomberg, United States Geological Survey.
* 1900-1949: USGS (Annual data), 1950 onwards: Bloomberg (Monthly data, XAG Curncy))

BofA GLOBAL RESEARCH

- Silver's greatest bull market was in the 1970's. Silver prices rose to $32/oz. (from $4.3/oz) in 1979 amidst stagflation; the bull market was ended by anti-inflationary policy in the early 1980s.
- Similarly to gold, in April 2011 prices rose to $47/oz. as QE fuelled another bull market in silver.
- Silver prices hit 7-year highs in 2020, but have since rolled over slightly.

The history of platinum, palladium & diamonds

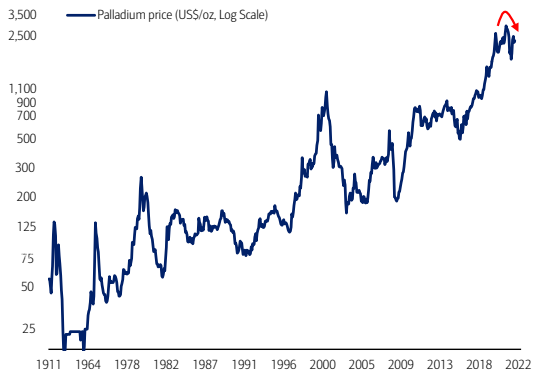
Chart 86: Platinum prices have rolled over
Platinum prices since 1900

Source: BofA Global Investment Strategy, Bloomberg, I-Net Bridge, United States Geological Survey
* 1900-1959: USGS (Annual data), 1960-1986: I-Net Bridge (Monthly data), 1987
onwards: Bloomberg (Monthly data, XPT Curncy)

BofA GLOBAL RESEARCH

- Platinum traded higher in recent decades but hit a peak of $2,250/oz. in March 2008, shortly before the financial crisis.
- In February 2021, platinum rose to $1,305/oz, the highest level since 2014 but has come down slightly.

Chart 87: Palladium has come down from record high
Palladium prices since 1911

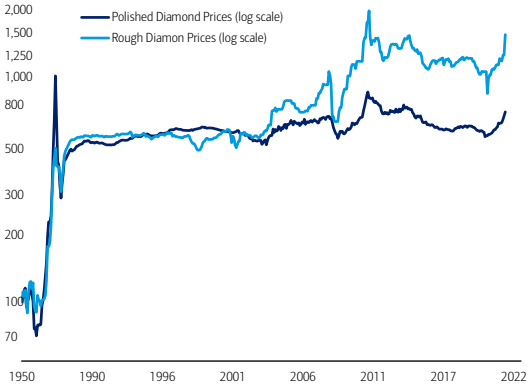


Source: BofA Global Investment Strategy, Bloomberg, I-Net Bridge, United States Geological Survey
* 1911-1974: USGS (Annual data), 1975-1993: I-Net Bridge (Monthly data), 1994
onwards: Bloomberg (Monthly data, XPD Curncy)

BofA GLOBAL RESEARCH

- Palladium rallied to $270/oz. in the 1980s when it was popularized for jewelry & proved useful in industry.
- The 2001 bull market in palladium peaked at $1,045/oz.
- In May 2021, palladium soared to a record $2,985/oz, up 1715% since the GFC-low before collapsing back down to March 2020 lows; currently at ~$2,100/oz.

Chart 88: Diamond prices have rebounded from lows
Diamond prices since 1950



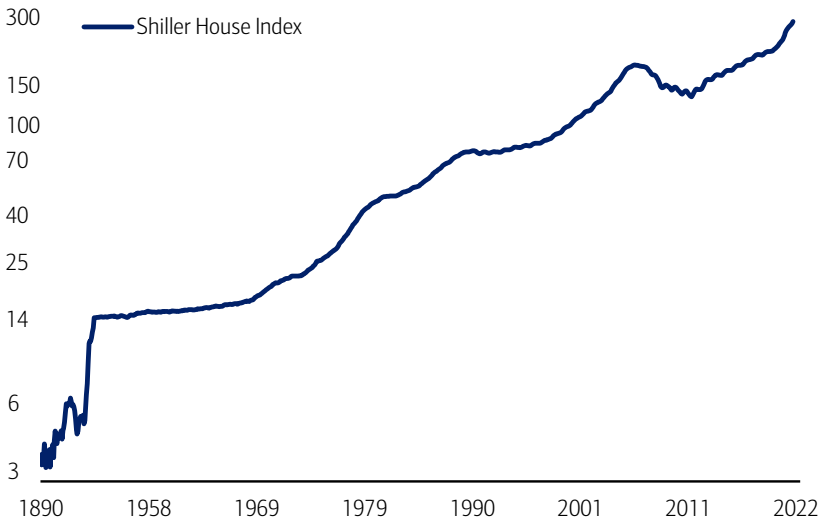
Source: BofA Global Investment Strategy, WWW Diamond Forecasts Ltd, Bloomberg
*1950-1988: WWW Diamonds (Annual data), 1988-2001: WWW Diamonds (Monthly data), 2001-present: Bloomberg (Monthly data, PLPH0AAI Index)

BofA GLOBAL RESEARCH

- Diamond price indexes rallied to a record high in 1980, but fell as new mines were opened in Botswana.
- Prices peaked again in June 2011 after QE drove diamonds higher.
- Diamond prices fell to 11 year lows in 2020, but have since rebounded.

The history of US & UK house prices

Chart 89: Home prices are at all-time highs in the US...
US house prices since 1890

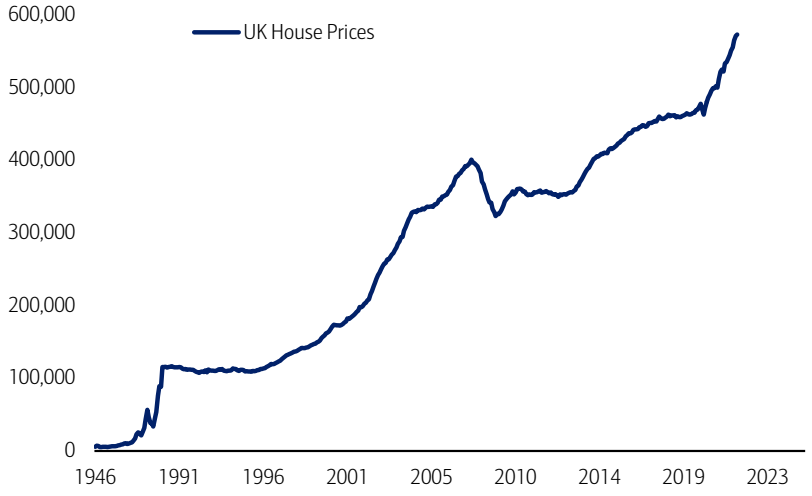


Source: BofA Global Investment Strategy, Shiller
*1890-1952: (Annual data), 1953-present: (Monthly data)

BofA GLOBAL RESEARCH

- US housing prices jumped 21% in 1946 after WWII. Growth was flat until the 1970s and 80s, when housing price growth averaged 7.5% per year.
- During the 1997-2006 housing bubble, prices soared 85%, averaging 8% growth per year.
- The housing bust from 2007-2010 was the first national decline in house prices in 100 years.
- US home prices are currently at all-time highs, up >100% since the trough in 2012.

Chart 90: ...and in the UK
UK house prices since 1946



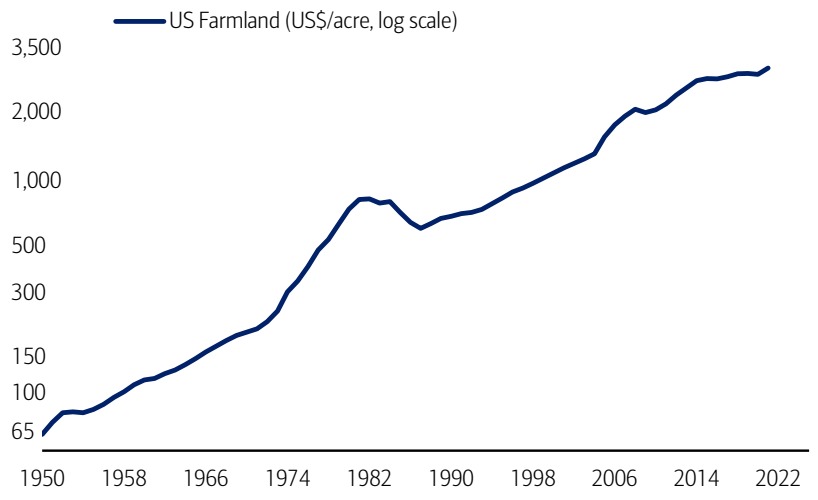
Source: BofA Global Investment Strategy, Office of National Statistics, Bloomberg
*1946-1990: ONS (Annual data), 1991-2001: Bloomberg (Monthly data, UKNBSADJ Index)

BofA GLOBAL RESEARCH

- UK housing prices tripled during the bull market from 1982-1990; after the bubble burst, the market took almost 10 years to recover.
- Another boom carried the market to highs throughout the 2000s until the financial crisis. Since then, house prices have recovered and are now at all-time highs.

The history of US & UK farmland

Chart 91: US farmland prices at all-time highs
US farmland prices since 1950

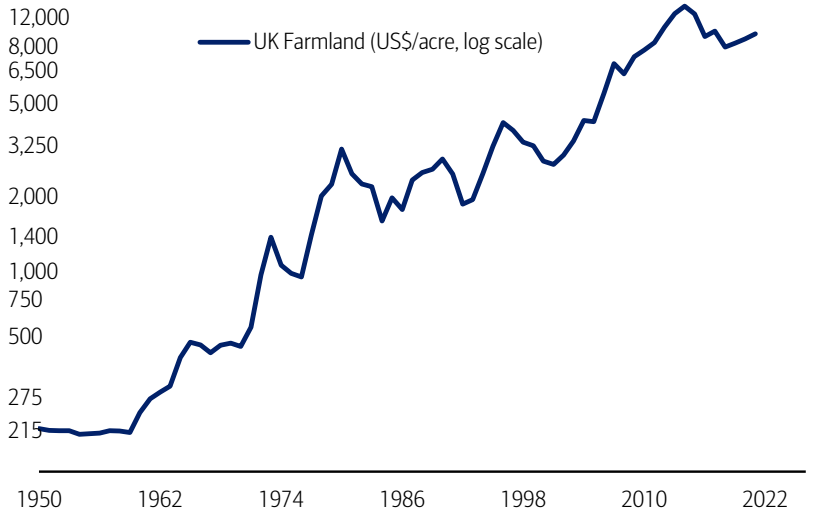


Source: BofA Global Investment Strategy, USDA, Bloomberg
* 1950-2015: USDA (Annual data), 2016: Bloomberg

BofA GLOBAL RESEARCH

- US farmland prices rose to over $800/acre in the bull market of the 1970s and early 1980s.
- Farmland prices peaked again at $2,170/acre in the 2004-2008 rally, and have since risen to all-time highs.

Chart 92: UK farmland prices below 2014 peak
UK farmland prices since 1950



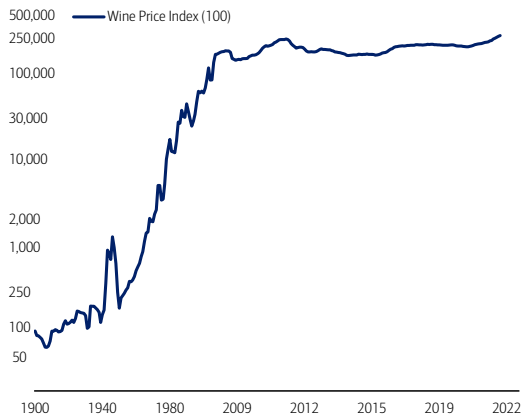
Source: BofA Global Investment Strategy, Savills
* 1950-2015: Savills (Annual data)

BofA GLOBAL RESEARCH

- UK farmland prices saw a major bull market in the 1960s and 1970s, peaking at $3224/acre in 1980.
- After the 2001 trough, another bull market took UK farmland prices to $12,622/acre in 2014.

The price history of wine, art & vintage cars

Chart 93: Wine prices are at new highs
Wine prices since 1900

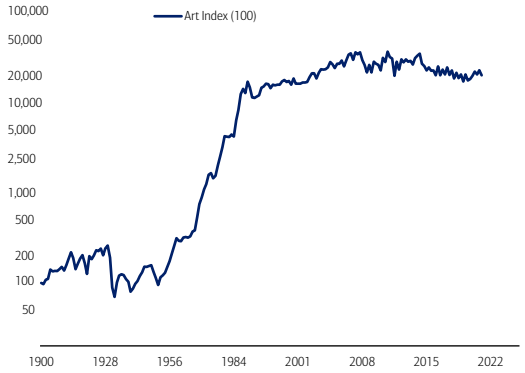


Source: BofA Global Investment Strategy, Spaenjers, Bloomberg
* 1900-2007: Spaenjers (Annual data), 2008-present: Bloomberg (Monthly data, FWIFFWID Index)

BofA GLOBAL RESEARCH

- Wine prices rose tenfold between 1939 and 1946 as WWII disrupted supply.
- After the post-war bust, wine prices enjoyed a bull market from 1950 to 2008.
- Currently wine prices are at all-time highs, surpassing prior 2011 highs.

Chart 94: Art price growth has been lackluster
Art prices since 1900

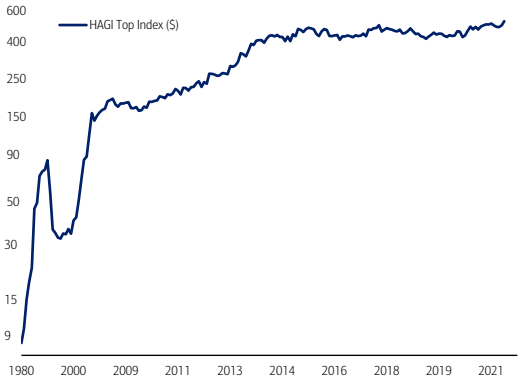


Source: BofA Global Investment Strategy, Spaenjers, Artprice.com
* 1900-1997: Spaenjers (Annual data), 1998-present: ArtPrice Global index (Monthly data)

BofA GLOBAL RESEARCH

- Art prices fell 73% after the 1929 crash and took nearly 30 years to recover.
- The next bull market lasted for 40 years, with art prices peaking in 1990 at 170 times their starting value.
- Growth since then has been lackluster, with art prices hovering near their 2009 lows.
- In 2021, art prices were at their highest since 2018.

Chart 95: Car price growth has been steady
Car prices since 1980



Source: BofA Global Investment Strategy, Historic Auto Group
* 1980-2008: Historic Auto Group Index (Annual data), 2009-present: HAGI (Monthly data)

BofA GLOBAL RESEARCH

- In contrast, vintage cars, which have been the best performing collectible, continue to mark new price highs.
- Vintage car prices rose nearly tenfold during the bull market of the 1980s.
- Car prices saw another bull market from 1995 to 2010, and growth has been steady since then.

Risk & Returns

Risk & return since 1926

Table 2: Risk & return since 1926
US bond and equity risk & returns, 1926-2021

	Arithmetic Mean (%)	Standard deviation (annualized %)
Large company stocks	12.3	19.7
Small company stocks*	16.4	31.1
Long-term corporate bonds	6.4	8.6
Long-term government bonds	6.0	10.0
US Treasury bills	3.4	3.1
Inflation	3.0	4.0

Source: BofA Global Investment Strategy, Ibbotson
* The 1933 Small company stocks total return was 143%

BofA GLOBAL RESEARCH

- The table shows the mean return of US asset classes, together with the associated standard deviation (volatility or "risk") of the returns.
- In the long-run, the higher the risk in any asset class, the higher the expected return.
- T-bills have a historic return of 3.4% per annum in the past 95 years with a standard deviation of 3.1%.
- In contrast, small cap stocks have a historic return of 16.4% with a standard deviation of 31.1%.

A history of interest rate volatility

Chart 96: History of Treasury yield volatility
US 10-year Treasury yield 1-year volatility

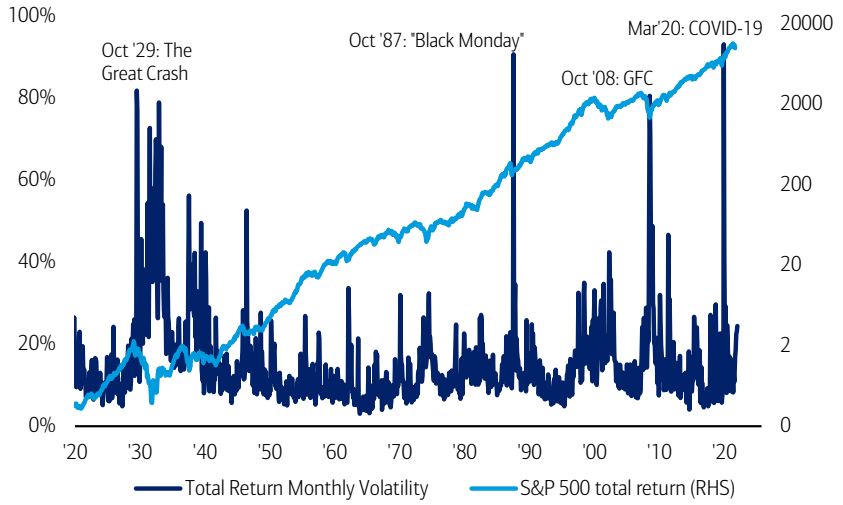
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- The volatility of Treasury yields spiked in January 2020 following the COVID-19 outbreak and yields hitting the lowest level since October 1978.
- The most volatile period in history for Treasuries was 1981, when the aftermath of the OPEC crisis and hikes by the Volcker Fed sent 10-year yields above 15%.
- The MOVE index recently ticked a high of 140 on the back of the "Rates shock" of 2022.

A history of equity volatility

Chart 97: History of equity volatility
US equity market total return and volatility



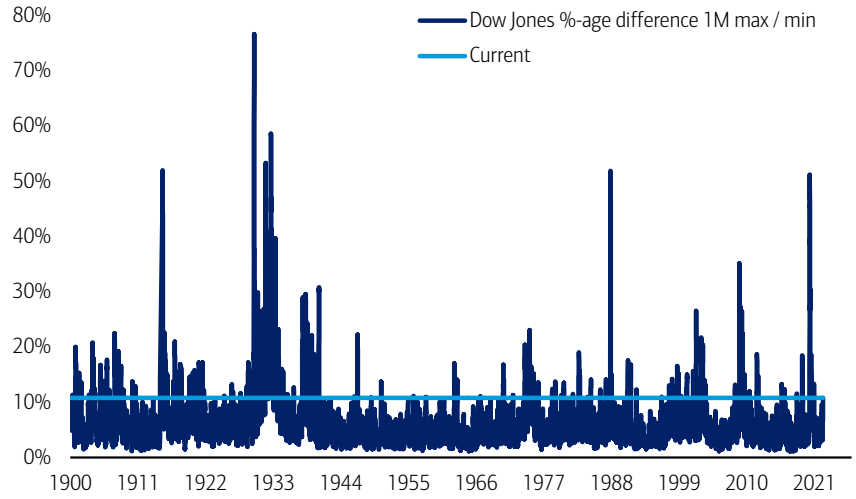
Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

- Equity market realized volatility in March 2020 exceeded volatility in Oct'87 and Oct'29; the "Inflation Shock" and "Rates Shock" of 2022 recently pushed realized volatility to 36.
- A two standard deviation event would be associated with volatility in excess of 36%. On average, such an event has occurred once every 25 months in the past 90 years.
- Note that monthly volatility exceeded 50% on 15 different occasions during the 1930s.
- Since the 1930s, there have been only 6 ">50%" occasions: September 1946, October 1987, September, October & November 2008, and March 2020.
- In the post-GFC era of quantitative easing, equity volatility was one of the biggest losers (-8% CAGR) but volatility will likely rise in the 2020s, an era of quantitative tightening.

Volatility spikes

Chart 98: Dow Jones volatility spikes
Dow Jones monthly trading range



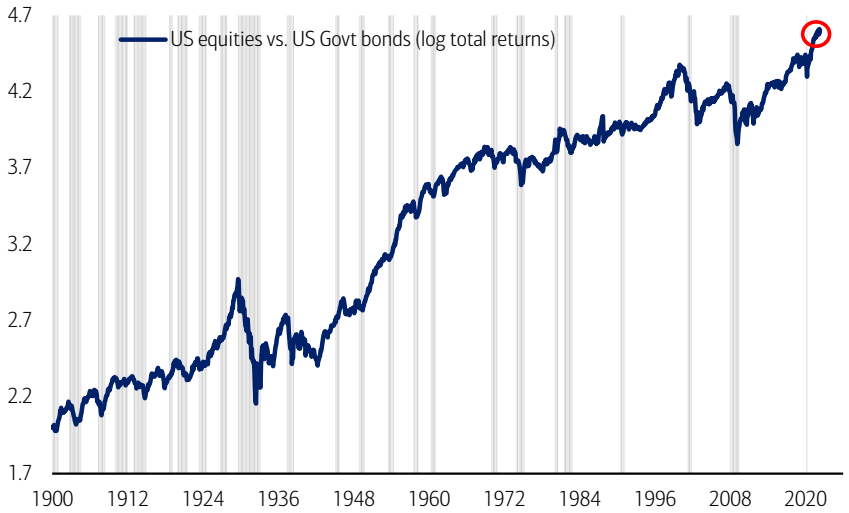
Source: BofA Global Research, Bloomberg; one-month range over 21 trading days.

BofA GLOBAL RESEARCH

- While VIX measures the volatility implied by options prices, equity volatility is also evident in the actual trading range for the Dow Jones Industrial Average.
- In January 2017, the difference between monthly highs and lows in the Dow Jones Industrials was the smallest in 110 years.
- On March 20th 2020, Dow Jones monthly volatility spiked to the highest level since 1988 (51.2%).

US equity vs. US government bond returns

Chart 99: US equities vs government bonds near highs
US equities vs. US government bonds



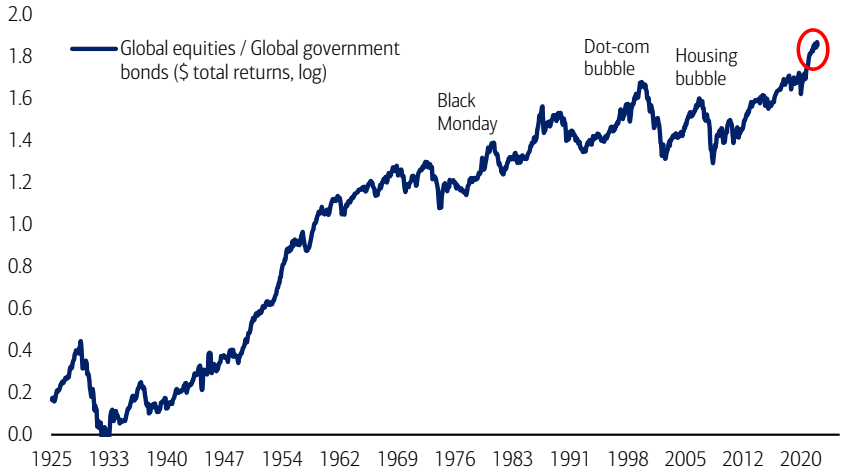
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- US equities remain near relative highs vs bonds following a year of supernova central bank liquidity.
- US stocks were at a high vs. US bonds in 2020 before COVID-19 crash, down -28% from peak to trough; US stocks have since rebounded back up to new highs.
- The previous high of US equities vs. US government bonds was in March 2000, at the height of the tech bubble.
- The 2008 crisis brought the ratio to the lowest level since 1985.

Global equity vs. Global government bond returns

Chart 100: Global equities near highs vs bonds
Global equities vs. Global government bonds



Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- Global equities also peaked vs. global government bonds during the 2000 tech bubble.
- Global equities have since climbed to new highs vs. bonds and remain near those levels.

Equity rolling returns

Table 3: Equity rolling returns
Equity total returns (USD) by country/region since 1926

Country	10 year Annualized Return	Average Annual Return since 1926	Std. Deviation since 1926
US	13.7%	12.3%	19.7%
Germany	5.5%	13.4%	34.5%
EM	3.3%	11.6%	24.2%
Japan	6.0%	11.6%	33.2%
UK	4.5%	11.5%	25.8%
France	6.3%	12.3%	34.7%

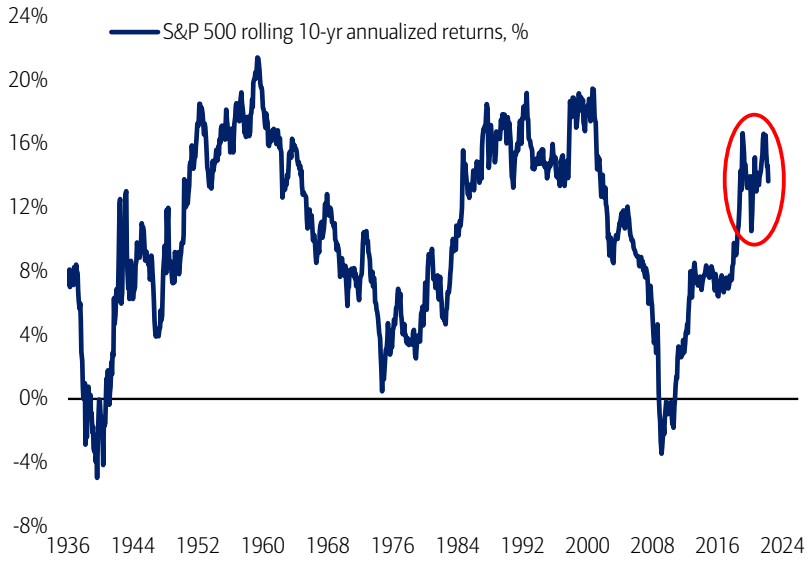
Annualized monthly total returns, USD
Source: BofA Global Investment Strategy, Ibbotson, Bloomberg and Global Financial Data

BofA GLOBAL RESEARCH

- The table shows rolling equity returns (or compound annual total returns) over the past 10 years for each region, average annual returns since 1926, and the standard deviation of those returns since 1926.
- The strongest equity returns over the past 10 years have come from the US.
- The strongest equity returns since 1926 have come from Germany.

US equity rolling returns

Chart 101: US equity rolling returns
US rolling 10-year annualized total returns since 1936, large-cap stocks



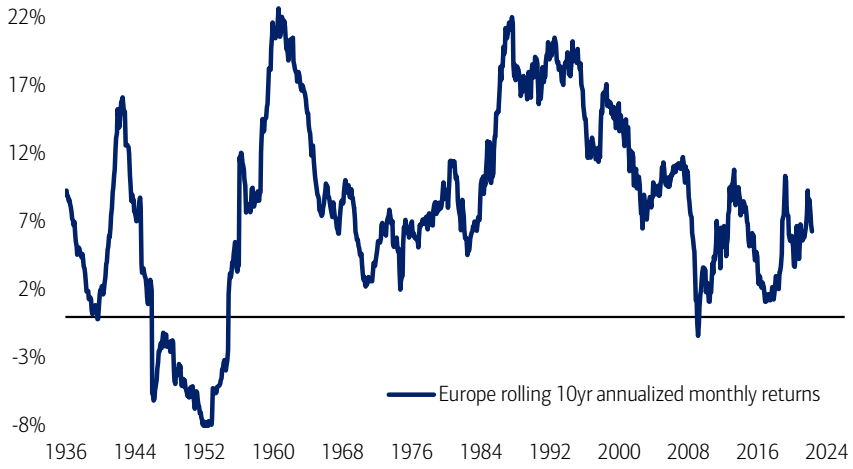
Source: BofA Global Investment Strategy, Global Financial Data; note: shaded area starts from Mar'09 GFC lows

BofA GLOBAL RESEARCH

- Large-cap equities have averaged a return of roughly 10-12% per annum since 1926. But at its low point in February 2009, the rolling return had collapsed to -3.4%, the worst 10-year holding period return since 1939.
- The vigorous rise in equity prices since 2009 boosted the rolling return to 14.0% in January 2020 before falling to 10.5% in March 2020 (COVID-19).
- US equity rolling returns are now at 13.7%, down from the 16.6% peak in September 2021.

European equity rolling returns

Chart 102: 10-year rolling returns for European equities down from highs
Europe rolling 10-year annualized total returns since 1936



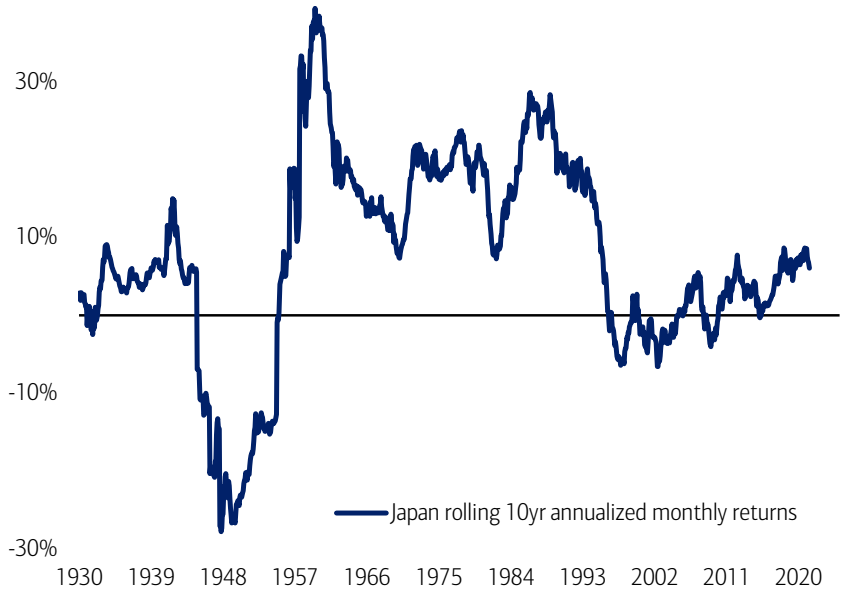
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- European equities have been humiliated in the past decade; long-run returns from European equities have only been worse during the Global Financial Crisis and post-World War II.
- 10-year rolling return for European equities rose to 9.3% (in dollar terms) as of October 2021, the highest since 2019.
- In the months following the start of the Russia-Ukraine war, the 10-year rolling return for European equities retreated back down (6.3% as of April 2022).

Japanese equity rolling returns

Chart 103: Long-run returns for Japanese equities near recent highs but below 8%
Japan rolling 10-year annualized total returns since 1930



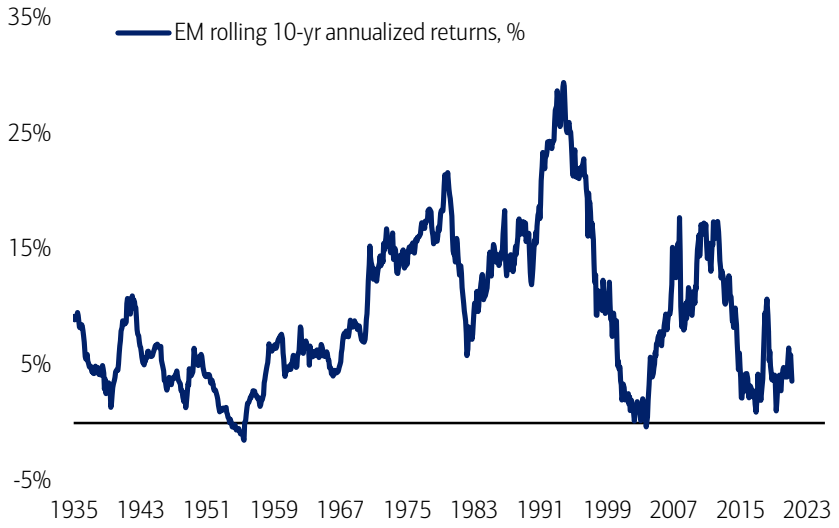
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- From 1956 to 1996, Japanese equities averaged 18.5% annualized returns.
- Long-run returns from Japanese equities remained below 8% from 1996, around the start of the "Lost Decade", until August 2021.
- 10-year rolling return for Japanese equities are back below 8% as of April 2022.

Emerging market equity rolling returns

Chart 104: Long-run returns for EM equities remains below long term average
Emerging market rolling 10-year annualized total returns since 1935



Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- 10-year rolling return for EM equities is currently 3.3%, below the long-term average of 9.4%.
- China, the largest market in EM, is largely responsible for this poor performance.

Government bond rolling returns

Table 4: Strongest government bond returns since 1900 have been in Germany
Government bond total returns (USD) by country since 1900

Country	10 year Annualized Return	Average Annual Return since 1900	Std Dev Annual Return since 1900
UK	-0.8%	5.0%	16.0%
US	1.2%	4.9%	7.7%
France	3.1%	5.9%	7.6%
Netherlands	0.1%	5.7%	14.0%
Germany	-0.3%	6.7%	19.5%
Japan	-3.1%	5.1%	19.7%
India	2.7%	3.8%	14.3%
South Africa	0.0%	5.9%	18.4%

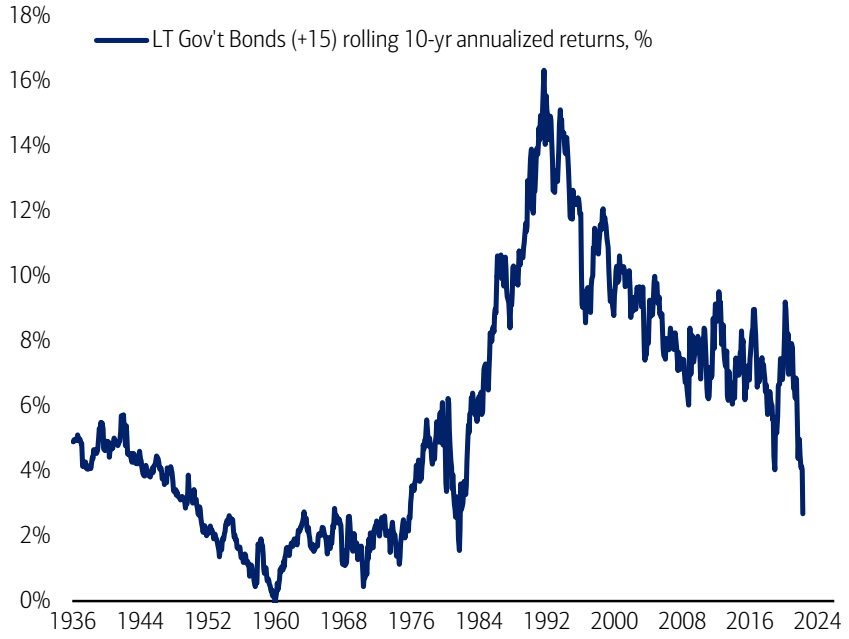
Annualized monthly total returns of 10-year government bonds; Germany data since 1926
Source: BofA Global Investment Strategy, Ibbotson, Global Financial Data

BofA GLOBAL RESEARCH

- The table shows rolling government bond returns (or compound annual total returns) over the past 10 years for each region, average annual returns since 1900, and the standard deviation of those returns since 1900.
- The strongest government bond returns in the past 10 years have been in France and India.
- The strongest government bond returns since 1900 have been in Germany.
- Bond returns in the UK, South Africa, Japan, the Netherlands and Germany have been disappointing in the past 10 years relative to their long-term averages.
- France and the US 10-year government bond returns have been the least volatile since 1900.

US government bond rolling returns

Chart 105: Long-run returns for LT govt bonds at lowest since 1981
Rolling 10yr annualized total returns since 1936, long term (+15yrs) govt bonds



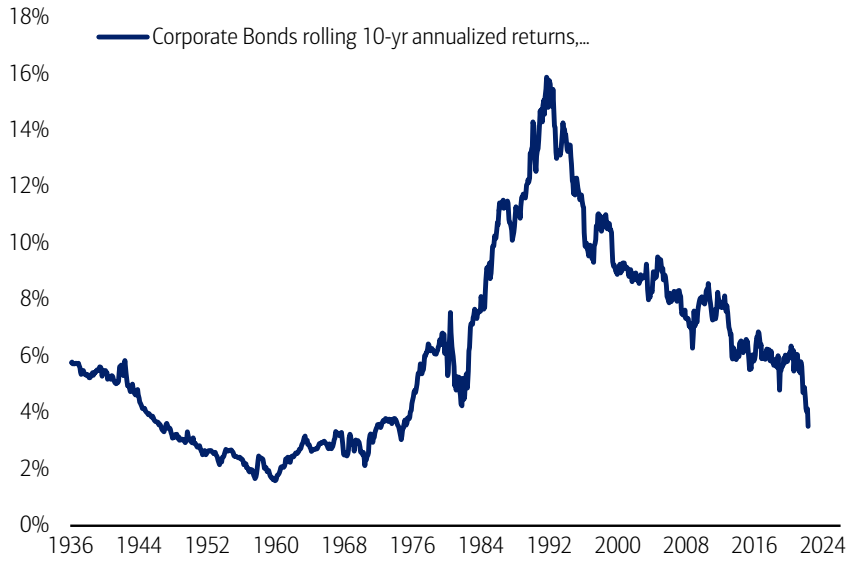
Source: BofA Global Investment Strategy, Ibbotson, Bloomberg and Datastream

BofA GLOBAL RESEARCH

- The 10-year annualized return from long-term US government bonds has pulled back from the 9.2% peak in March 2020 to 2.7% as of April 2022, the lowest since October 1981.
- The only 10-year period of flat returns was in 1950-1960.
- Fixed income returns had been highly competitive in recent years owing to ZIRP (zero interest rate policy) and NIRP (negative interest rate policy) and deflation.
- 2020 marked secular low for inflation and yields with the 3rd great bear bond market now underway (prior great bears were 1899 to 1920 and 1946 to 1981).

US corporate bond rolling returns

Chart 106: 10-year rolling returns from US corporate bonds lowest since 1974
Rolling 10yr annualized total returns since 1936, corporate bonds



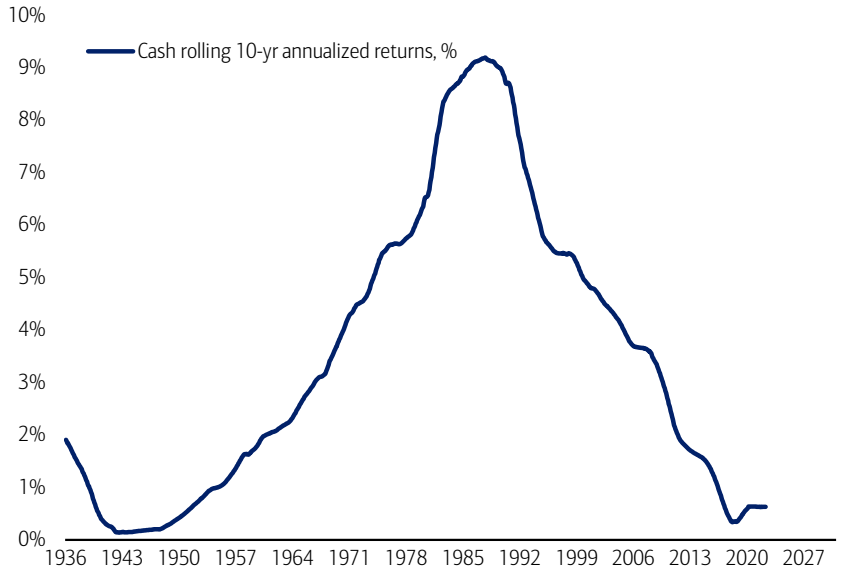
Source: BofA Global Investment Strategy, Ibbotson, Bloomberg and Datastream

BofA GLOBAL RESEARCH

- The 10-year rolling return from long-term US corporate bonds is 3.5%, the lowest since December 1974.
- Returns have been spectacularly strong in the past three decades, but are trending lower.
- There has never been a 10-year period of negative returns for corporate bonds.

US cash rolling returns

Chart 107: 10-year rolling returns on cash have rebounded slightly from lows
Rolling 10yr annualized total returns since 1936, 3-month T-bills (cash)



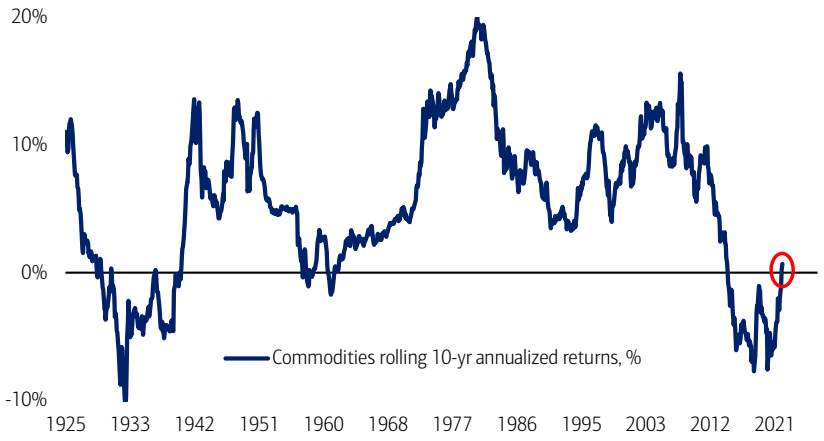
Source: BofA Global Investment Strategy, Ibbotson, Bloomberg and Datastream

BofA GLOBAL RESEARCH

- The annualized return from cash was 0.63% in April 2022.
- The 10-year rolling return on cash in 2018 was the lowest it has been in over 60 years.
- Secular market leadership shifting...QE winners of yesterday e.g. credit, private equity, tech stocks are the new losers...
- ...the new secular winners are cash, volatility, commodities, small cap value.

Commodities rolling returns

Chart 108: Best year for commodities since 1915
Rolling 10yr annualized price returns since 1924, Commodities



Source: BofA Global Investment Strategy, Ibbotson, Bloomberg and Datastream

BofA GLOBAL RESEARCH

- In recent years the return from commodities has collapsed. This has been driven by technological disruption, which has increased the supply of energy and reduced the demand for commodities. It is also related to much slower Chinese growth.
- The annualized 10-year commodity return turned positive as of April 2022 for the first time since November 2014.
- The rolling 10-year return fell to -7.7% in June 2018 which was the lowest since 1933.
- The rolling return from commodities reached an all-time high of 20.2% in Nov'80 following the two oil shocks of the 1970s.
- Commodities performance annualizing 97% in 2022 (on course for the best ever since 1915), following on from bumper 2021.

Copper rolling returns

Chart 109: Copper 10-year rolling returns positive
Rolling 10yr annualized price returns since 1920, Copper

Source: Bofa Global Investment Strategy, Ibboston, Bloomberg, Datastream

BofA GLOBAL RESEARCH

- The rolling return from copper has collapsed since it reached a 90-year high of 20.5% in July 2011.
- The May 2016 annualized 10 year copper return of -5.7% was one of the lowest in recent history.
- Copper has a 10 year annualized return of 1.4% as of April 2022, after turning positive in April 2021 for the first time since July 2019.

US asset & sector returns by decade

The tables on the next two pages show US asset and sector returns by decade.

Investor takeaways:

- In decades of deflation (1930s), bonds outperform stocks.
- In decades of reflation (1940s), stocks outperform bonds.
- In decades of high inflation/stagflation (1970s), real returns from stocks and bonds are poor.
- In decades of disinflation (1980s, 1990s), real returns from stocks and bonds are very good.
- In the following decade of disinflation (2000-2009), bonds and commodities significantly outperformed stocks; only the energy, consumer staples and utility sectors recorded positive equity returns.
- In the prior decade (2010-2019), bonds and commodities significantly outperformed stocks; only the energy, consumer staples and utility sectors recorded positive equity returns. The best performers: small cap stocks, consumer discretionary, financials, industrials, tech, staples and pharma. The worst performers: cash, commodities, value stocks, energy, telecoms, utilities and staples.
- In the current decade, an era of higher interest rates and volatility likely will be driven by inflationary trends in society (inequality), politics (populism/progressivism), geopolitics (war), society (inequality and inclusion), environment (net-zero), economy (end of globalization, demographics (China population decline) and see secular market leadership shifting...QE winners of yesterday e.g. credit, private equity, tech stocks are the new losers while the new secular winners are cash, volatility, commodities, small cap, value.

US asset returns by decade

Table 5: US asset returns by decade
US cross asset returns by decade

	1920s*	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s**
Small Company Stocks	-4.5%	1.4%	20.7%	16.9%	15.5%	11.5%	15.8%	14.9%	5.1%	13.5%	9.2%
Large Company Stocks	19.2%	-0.1%	9.2%	19.4%	7.8%	5.9%	17.6%	18.2%	-0.9%	13.6%	12.9%
LT Corporate Bonds	5.2%	6.9%	2.7%	1.0%	1.7%	6.2%	13.0%	8.4%	7.6%	8.2%	-4.3%
LT Government Bonds	5.0%	4.9%	3.2%	-0.1%	1.4%	5.5%	12.6%	8.8%	7.7%	6.9%	-3.4%
Inflation	-1.1%	-2.0%	5.4%	2.2%	2.5%	7.4%	5.1%	2.9%	2.5%	1.8%	5.2%
Treasury Bills	3.7%	0.6%	0.4%	1.9%	3.9%	6.3%	8.9%	5.0%	2.8%	0.6%	0.3%

Source: BofA Global Investment Strategy, Ibboston, Datastream, Global Financial Data, Bloomberg
*Based on period 1926-1929
**2020s return based on Jan 2020 - present

BofA GLOBAL RESEARCH

US sector returns by decade

Table 6: US sector returns by decade
Annualized monthly price returns by decade

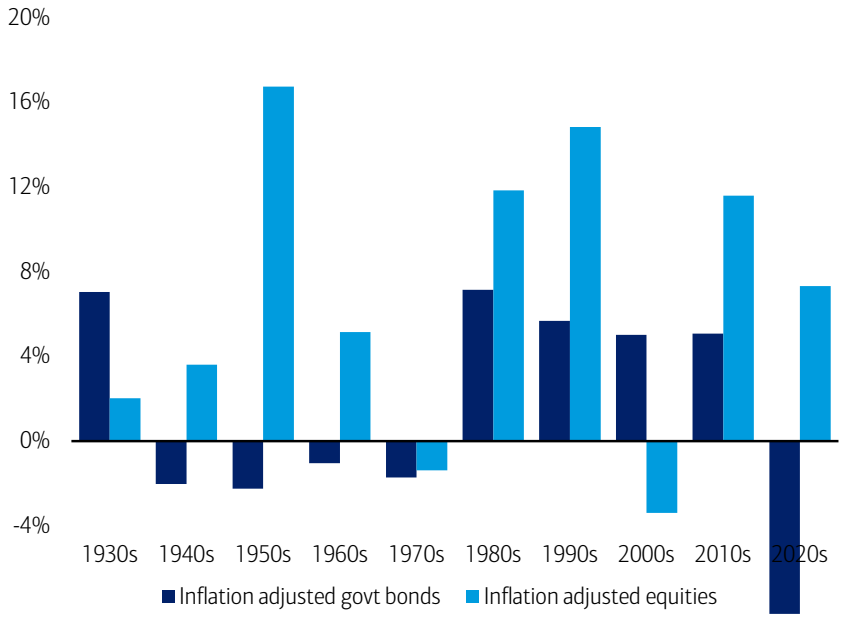
	1920s**	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s***
Discretionary	5.7%	-2.5%	3.7%	11.1%	5.5%	-0.2%	16.8%	15.4%	-2.4%	15.4%	11.5%
Industrials	16.2%	-3.1%	2.6%	15.6%	4.2%	1.7%	9.4%	13.8%	-1.2%	11.0%	7.0%
Tech	22.7%	-6.7%	9.3%	26.9%	16.8%	-1.6%	3.5%	28.7%	-7.5%	15.8%	20.3%
Staples	5.7%	-2.5%	3.7%	11.1%	5.5%	-0.2%	18.6%	12.8%	2.8%	9.0%	10.1%
Pharma	14.3%	-3.4%	0.1%	15.9%	10.6%	0.9%	18.3%	18.1%	-1.8%	9.3%	11.2%
Banks	N/A	N/A	8.1%*	10.8%	3.7%	2.8%	1.0%	12.8%	-7.0%	11.7%	-4.7%
Utilities	19.8%	-10.5%	1.7%	8.4%	2.3%	-1.1%	11.7%	3.2%	1.0%	7.6%	4.3%
Telecoms	14.0%	-2.7%	-1.6%	6.3%	1.9%	0.6%	14.3%	12.4%	-9.8%	4.7%	3.8%
Energy	5.1%	-4.1%	7.2%	14.6%	4.1%	7.4%	11.8%	8.8%	7.3%	0.6%	10.2%

Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg
*Return for banks in 1940s based on the period Feb 1941 - Dec 1949
**Based on period 1926-1929
***2020s return based on Jan 2020 - present
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Tech = Computer Hardware; Telecoms = Integrated Telecoms
Consumer staples and discretionary were the same index until Sept 1989

BofA GLOBAL RESEARCH

Real equity & bond returns by decade

Chart 110: Real bond returns in the 2020s weakest of the past 10 decades
Real annualized US equity & government bond returns by decade



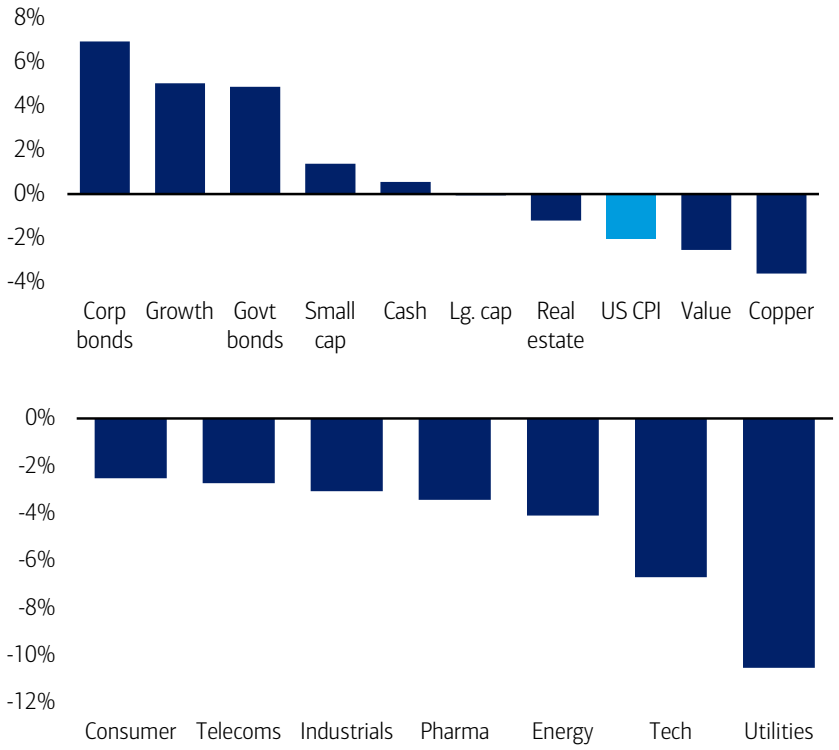
Total returns, USD. 2020s data based on the period 2020-present
Source: Bofa Global Investment Strategy, Ibboston, Bloomberg

BofA GLOBAL RESEARCH

- Asset returns can look very different when adjusted for inflation. This chart shows real annualized returns for US bonds and equities since the 1930s.
- In the 40s, 50s, 60s & 70s, US government bonds had negative returns when adjusted for inflation. But in the past four decades bonds have enjoyed very positive real returns.
- Meanwhile, inflation-adjusted equity returns have only been negative in the 1970s and 2000s.
- Real equity returns in the current decade are the 5th strongest of the past 10 decades.
- Real bond returns in the current decade are the weakest of the past 10 decades.

Asset & sector returns in the 1930s

Chart 111: 1930s: economic depression and deflation
US asset & equity returns – 1930s



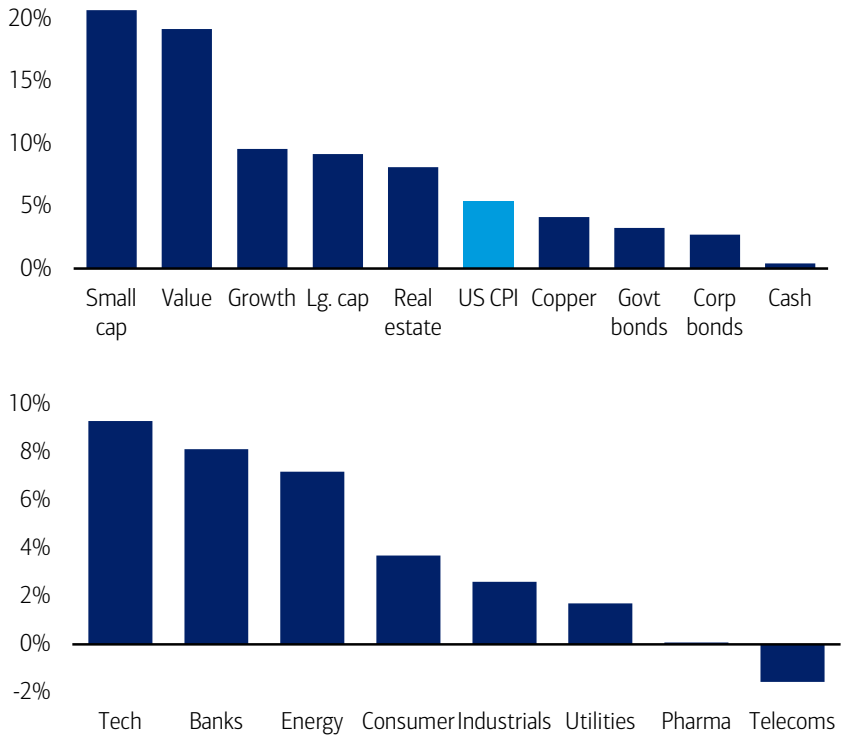
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- How did various asset classes perform during different decades?
- The 1930s was a decade of economic depression and deflation, the Smoot-Hawley Tariff Act, Britain abandoning the gold standard, Glass-Steagall, widespread debt defaults, the New Deal and the beginning of World War II.
- Annual US GDP growth averaged -0.2% and inflation -2%, i.e. the 1930s = deflation.
- Winners: bonds and notably Growth stocks.
- Losers: commodities, Value stocks, real estate, Utilities stocks.

Asset & sector returns in the 1940s

Chart 112: 1940s: war and defense spending
US asset & equity returns – 1940s



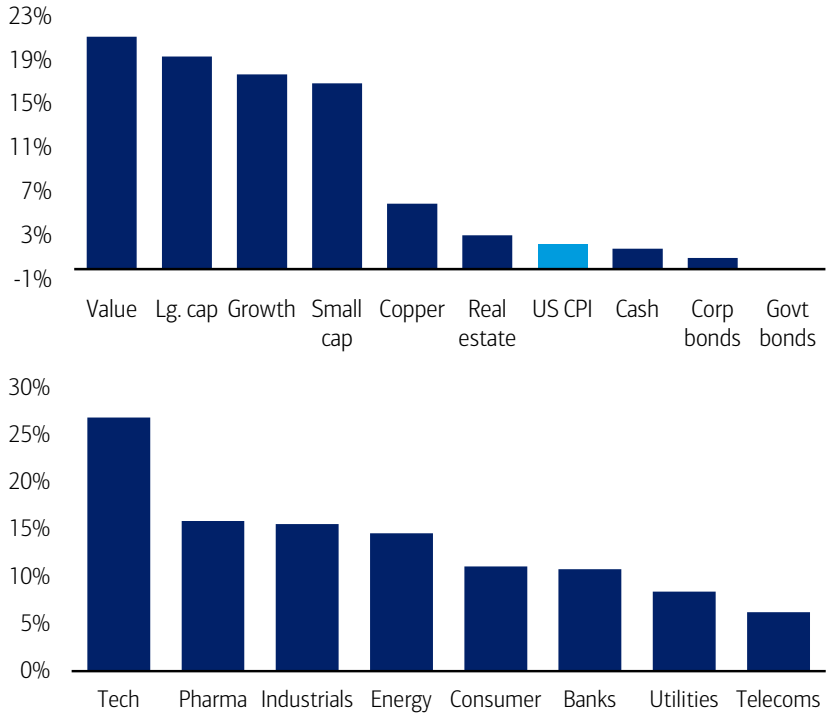
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The decade of World War II, substantial defense spending, Pearl Harbor, atomic bombs, the Marshall Plan, nationalization and restoration of collective bargaining and the beginning of the Cold War.
- There was a surge in nominal economic growth; annual US GDP growth averaged 11.7% and inflation jumped to a rate of 5.4% per annum.
- Winners: equities, especially Small-cap, Value and Tech stocks.
- Losers: cash, bonds, Telecom stocks.

Asset & sector returns in the 1950s

Chart 113: 1950s: economic recovery and lower inflation
US asset & equity returns – 1950s



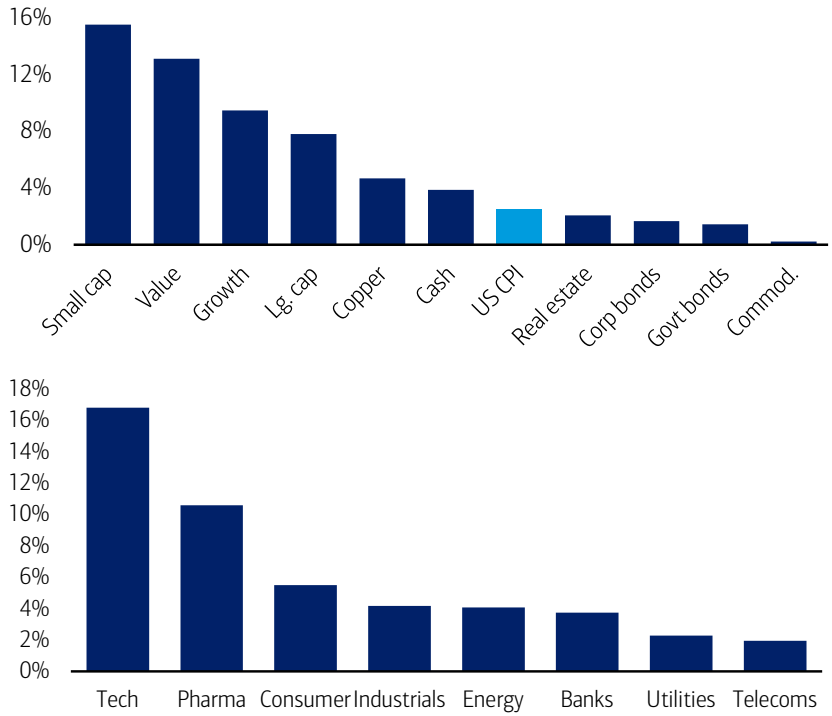
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The decade of the Korean War, the Warsaw Pact, the formation of the EEC (European Economic Community), and the economic recovery of a war-torn Europe.
- There was a very favorable economic climate with strong average annual US GDP growth of 6.7% and much lower inflation of 2.2% per annum.
- Winners: equities, especially Large-cap, Value and Tech stocks and copper.
- Losers: cash, bonds, bond-like stocks.

Asset & sector returns in the 1960s

Chart 114: 1960s: US preeminence to dissent and instability
US asset & equity returns – 1960s



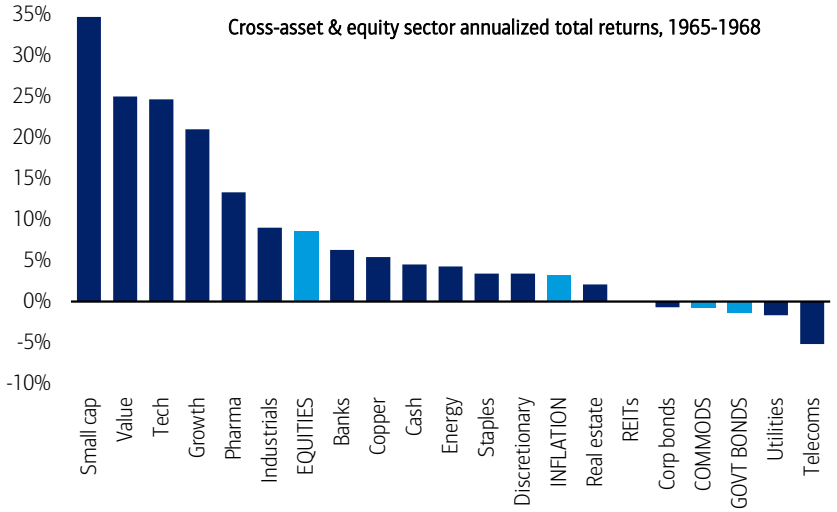
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- A decade which began with US political and economic preeminence and ended with the "American Century" unraveling with Vietnam, social dissent and monetary instability.
- Annual US GDP growth averaged a strong 6.9% and inflation averaged a low 2.5%; but from 1965 onward a dangerous inflationary spiral began.
- Winners: equities, especially Small-cap, Value and Tech stocks.
- Losers: commodities, bonds, bond-like stocks, real estate.

Asset & sector returns in the late 1960s

Chart 115: Returns in the late 1960s
US asset & equity returns – 1965-68



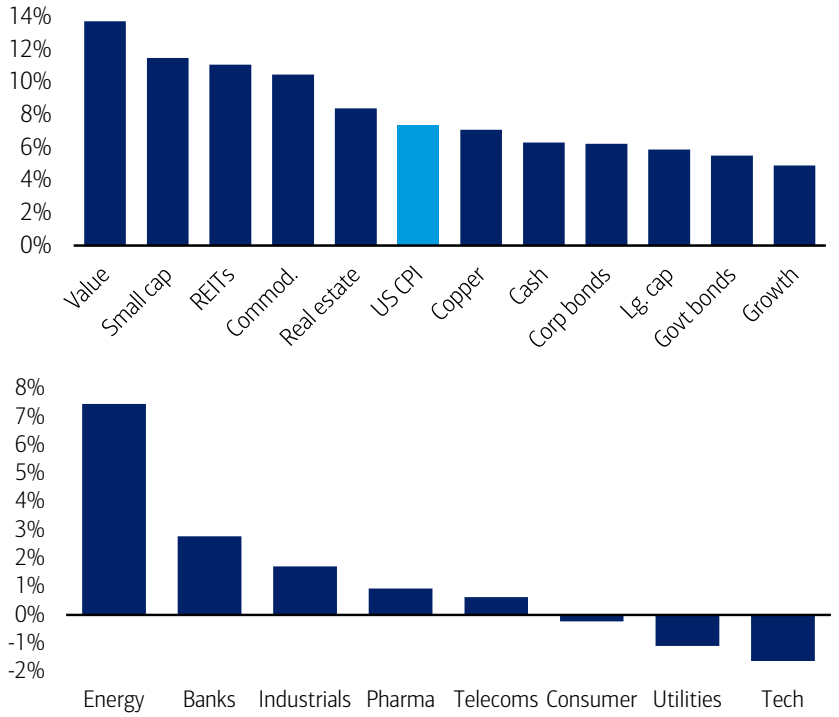
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The late 1960s: when inflation, rates and volatility troughed and deficits soared, implying a volatile, large trading range for equities and ongoing outperformance of a deflation-inflation barbell.
- As a result, the long-term contrarian should raise allocations to "inflation", e.g. cash, commodities, value stocks; max populism (Keynesianism, central bank subservience, trade/capital/wage controls) and full rotation from "deflation" to "inflation" comes after this recession; but asset returns in late'60s show long small cap value, short government bonds optimal trade in cyclical drift to inflationary populism.

Asset & sector returns in the 1970s

Chart 116: 1970s: great inflation
US asset & equity returns – 1970s



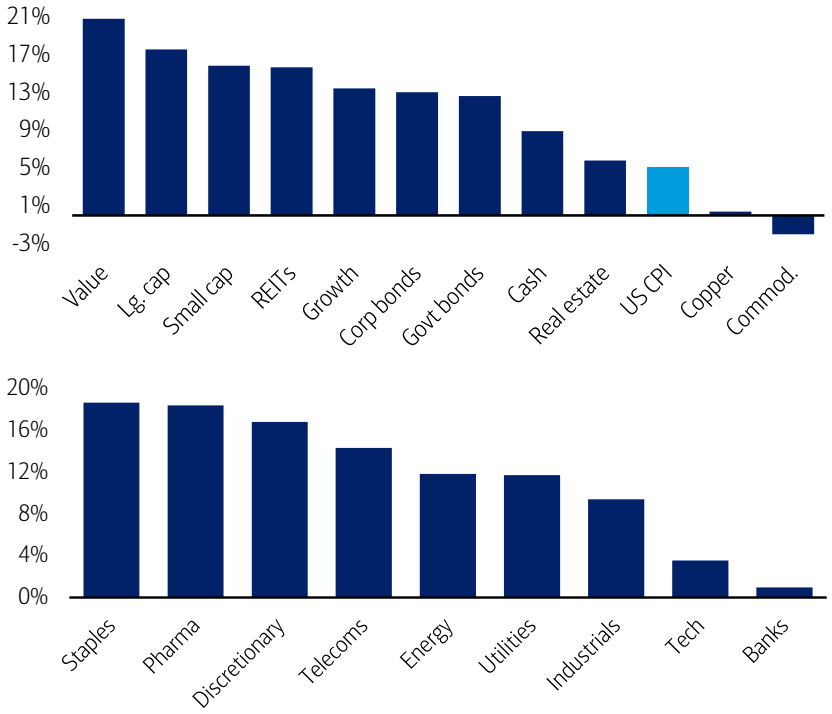
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The decade of great and protracted inflation, monetary instability, large budget and trade deficits, wage and price controls, OPEC-induced spikes in oil prices, Watergate and the Soviet invasion of Afghanistan.
- "Stagflation" arrived with average annual US GDP growth of 10.1% and inflation of 7.4%.
- Winners: Small-cap, Value & Energy stocks, commodities, REITS, real estate.
- Losers: large-cap, Growth, Tech & Utilities stocks.

Asset & sector returns in the 1980s

Chart 117: 1980s: peak in inflation to economic expansion
US asset & equity returns – 1980s



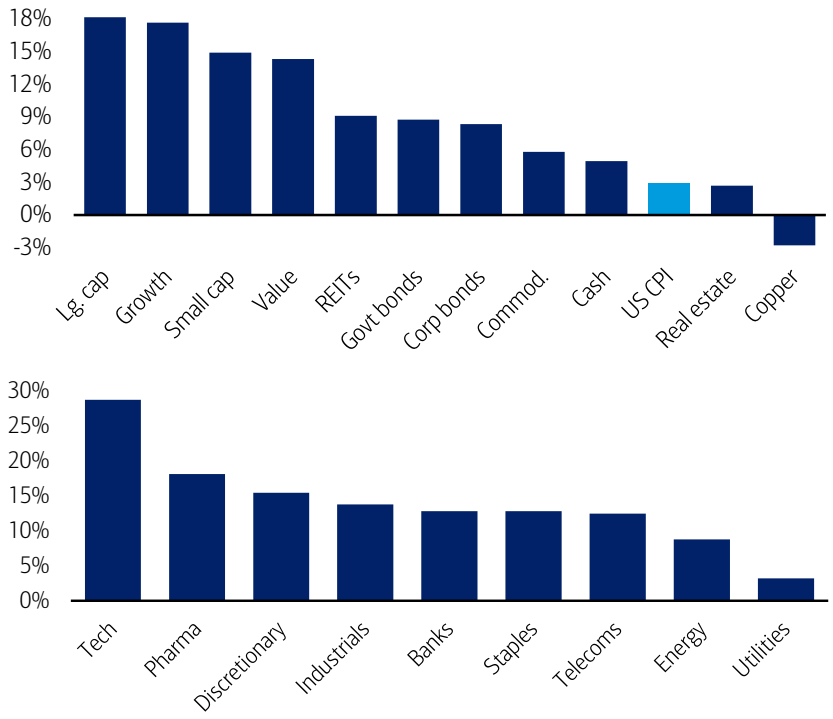
Prior to 1990 Energy = Oil, Gas & Consumable Fuels; Telecoms = Integrated Telecoms
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The decade started with a second oil shock and the LatAm debt crisis, ended with the savings and loan crisis, Black Monday, the fall of the Berlin Wall and an asset bubble in Japan. But critically, the 1980's saw a major peak in global inflation and interest rates and thereafter a sustained economic expansion.
- Annual US GDP growth averaged 7.9% and an era of disinflation began with inflation rates declining sharply to average 5.1% for the decade as a whole.
- Winners: equities, particularly Large-caps, Value stocks, Staples and Pharma, REITs, bonds.
- Losers: commodities, Bank and Tech stocks.

Asset & sector returns in the 1990s

Chart 118: 1990s: Bubble introduction
US asset & equity returns – 1990s



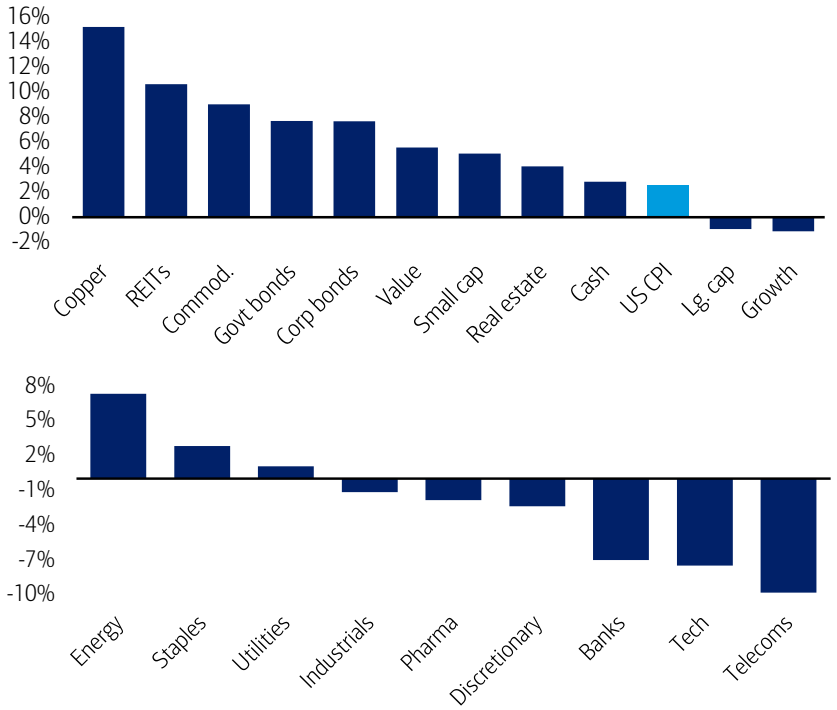
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The decade in which the Japan bubble burst, the Maastricht Treaty, NAFTA, (North America Free Trade Agreement) and Uruguay Round of GATT (General Agreement on Tariffs and Trade) were all signed, balanced budgets, the Tequila and Asian financial crises, the introduction of the Euro and the Tech Bubble.
- Annual US GDP growth averaged a healthy 5.5% and inflation was a low and stable 2.9%.
- Winners: equities, especially Large-cap, Growth, Tech and Pharma stocks, REITS & bonds.
- Losers: real estate, commodities, Utilities and Energy stocks.

Asset & sector returns in the 2000s

Chart 119: 2000s: Bubble bursts
US asset & equity returns – 2000s



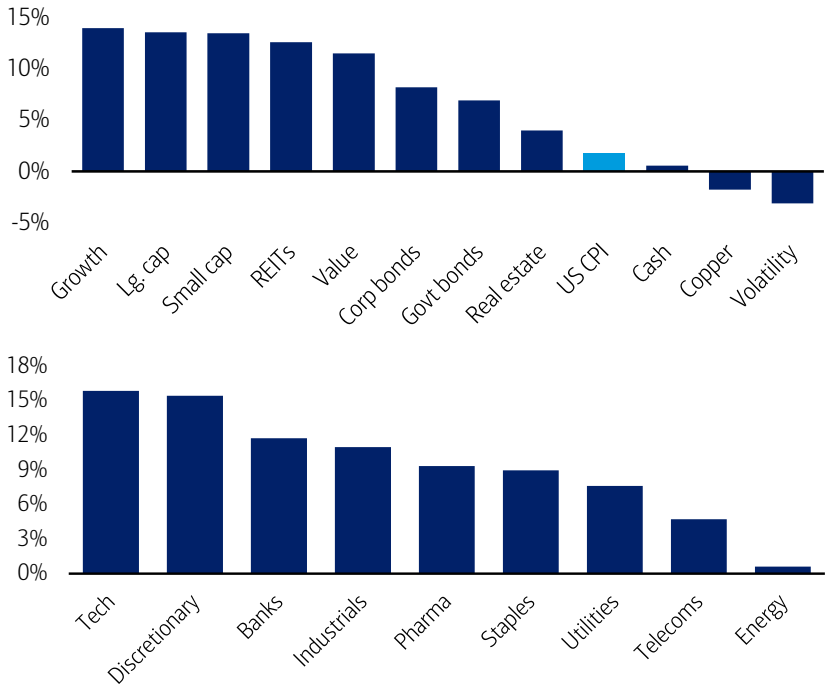
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The decade of the Tech Bubble burst, the 9/11 terrorist attacks, China becoming a WTO member, wars in Afghanistan and Iraq, China's equity market bubble and burst, the subprime mortgage crisis and the global financial crisis.
- US GDP growth averaged 4.1%, the weakest since the 1930s, and inflation declined further, averaging 2.5%. CPI actually turned negative (deflation) in 2009.
- Winners: copper, REITS, bonds, commodities, Energy stocks.
- Losers: equities, especially Large-caps, Growth stocks, Tech and Telecoms.

Asset & sector returns in the 2010s

Chart 120: 2010s: strong returns across most asset classes
US asset & equity returns – 2010s



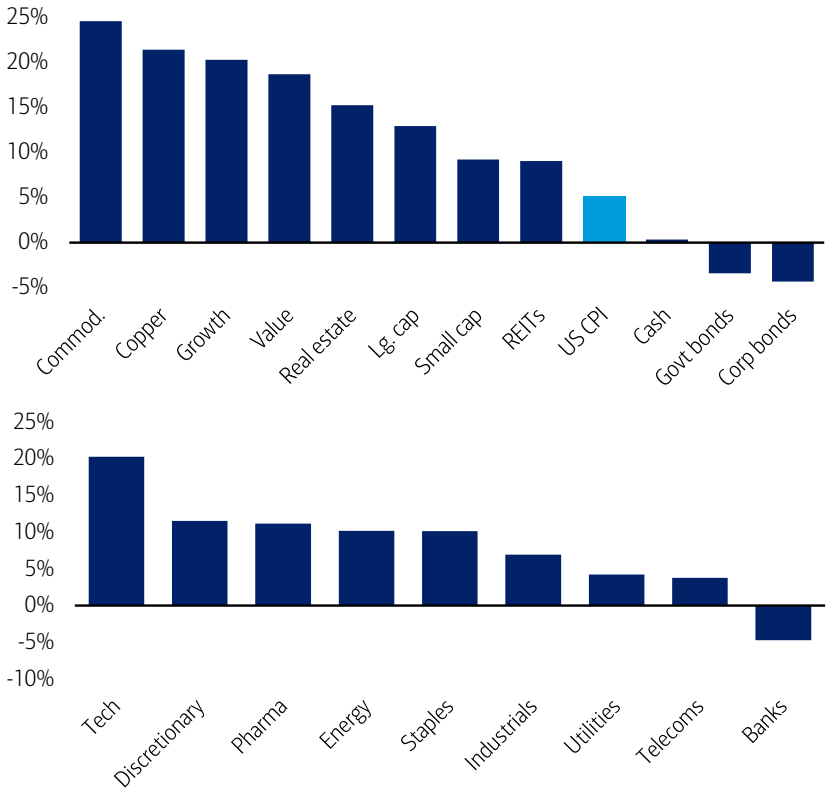
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- The 2010s was a period of very strong returns for most asset classes.
- With the notable exception of commodities, assets have been "inflated" by central bank quantitative easing and zero/negative rate policies.
- Winners: Small and large cap stocks, growth stocks; technology, discretionary and bank sectors.
- Losers: cash, commodities, copper and energy.

Asset & sector returns in the 2020s

Chart 121: 2020s: an era of higher interest rates and volatility
US asset & equity returns – 2020s



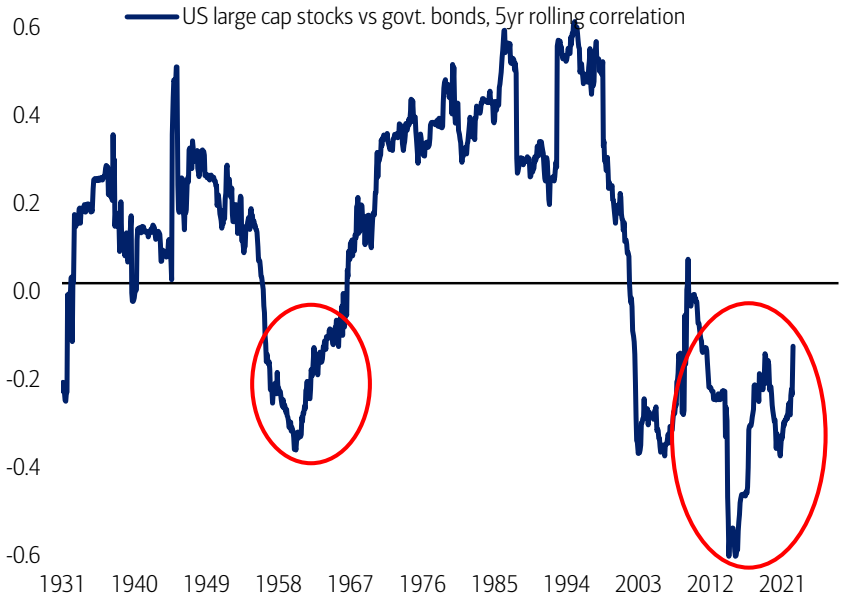
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson, Fama-French growth/value series, Case-Shiller, Bureau of Economic Analysis, Homer & Sylla, *A History of Interest Rates*

BofA GLOBAL RESEARCH

- 2020 marked secular low inflation and interest rates after a 40-year bull market, an era unambiguously positive for financial assets, particularly credit, private equity and tech stocks.
- The 2020s to be an era of higher interest rates and volatility driven by inflationary trends in society (inequality), politics (populism/progressivism), geopolitics (war), society (inequality and inclusion), environment (net-zero), economy (end of globalization, demographics (China population decline)...
- Secular market leadership shifting as QE winners of yesterday e.g. credit, private equity, tech stocks become the new losers...
- ...the new secular winners are cash, volatility, commodities, small cap, and value.

Correlation between bonds & equities

Chart 122: US bond and equity returns negatively correlated since 2009
5yr rolling correlation of US equities & government bonds



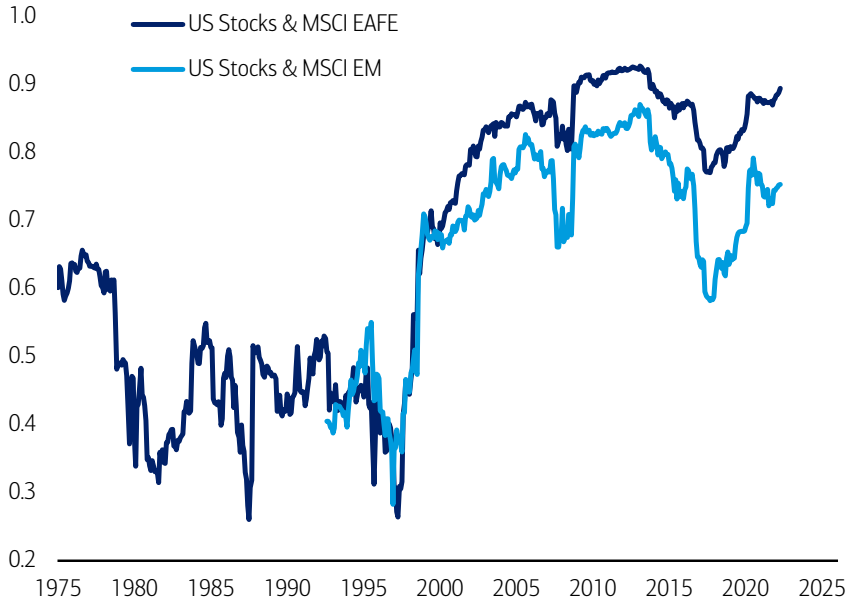
5 year correlation of monthly returns
Source: BofA Global Investment Strategy, Bloomberg, Ibboston

BofA GLOBAL RESEARCH

- This chart shows that the correlation between US equity and US Treasury returns has flipped over time.
- Bond and equity returns have been negatively correlated for the past 13 years.
- In the 1970s, 1980s and 1990s higher bond prices went hand-in-hand with higher equity prices.
- In the 1950s-1960s and during the past 10 years, government bond prices have moved in the opposite direction to equity prices.

Correlation of US, EAFE & EM equities

Chart 123: US and international equities positively correlated
5yr rolling correlation US & international equities



5 year rolling correlations of monthly returns
Source: BofA Global Investment Strategy, Bloomberg, Ibbotson

BofA GLOBAL RESEARCH

- The returns from US and international equities have always been positively correlated but the correlation was relatively low between 1980 and 1997.
- Through the Asia Crisis of the late-90s and the internet bubble the correlation rose sharply, recently the correlation has risen from 58% in 2017 to 75% today.

Correlation matrix with S&P500 index

Table 7: Correlation with S&P 500 by asset class
Correlation with S&P 500

	Small cap	Govt bonds	Corp bonds	Cash	Copper	Commodities	Real Estate	REITs
1930s	89%	15%	23%	-7%	23%	N/A	N/A	N/A
1940s	86%	36%	24%	16%	2%	N/A	3%	N/A
1950s	76%	-16%	-1%	-28%	1%	N/A	14%	N/A
1960s	84%	7%	21%	-13%	8%	13%	-10%	N/A
1970s	79%	41%	52%	-10%	-19%	-12%	15%	65%
1980s	84%	31%	29%	-17%	7%	15%	6%	65%
1990s	68%	36%	45%	1%	-12%	6%	0%	45%
2000s	72%	-15%	12%	-9%	29%	28%	14%	59%
2010s	88%	-45%	-16%	0%	54%	56%	-3%	64%
2020s	86%	-4%	55%	-54%	64%	47%	-2%	89%

*1970s data based on years 1971-1979
**20202s based on Jan 2020-Present
Source: BofA Global Investment Strategy, Bloomberg, Ilbotson, Case-Shiller

BofA GLOBAL RESEARCH

- This table shows the correlation of various asset class total returns with the S&P 500 since the 1930s.
- Over this period, equity and bond returns were mostly positively correlated. But in recent years, the correlation between equities and govt bonds has been negative.

The great US equity bull markets

Table 8: The great US equity bull markets
History of US equity bull markets

Start	End	Total price return	Annualized price return	Duration (months)	Prior Bear Market
6/1/1932	3/5/1937	323%	35%	57	-86%
4/29/1942	5/29/1946	153%	26%	49	-54%
6/14/1949	8/2/1956	265%	20%	86	-30%
10/22/1957	12/12/1961	86%	16%	50	-22%
6/27/1962	2/9/1966	79%	17%	44	-28%
10/7/1966	11/29/1968	48%	20%	25	-22%
5/26/1970	1/11/1973	74%	23%	32	-36%
10/3/1974	11/28/1980	126%	14%	73	-48%
8/12/1982	8/25/1987	229%	27%	60	-27%
12/4/1987	7/16/1990	65%	21%	31	-34%
10/11/1990	3/24/2000	417%	19%	113	-20%
10/9/2002	10/9/2007	101%	15%	60	-49%
3/9/2009	2/19/2020	401%	16%	131	-57%
Average		**182%**	**21%**	**62**	**-39%**

Source: BofA Global Investment Strategy, Ibbotson, Bloomberg

BofA GLOBAL RESEARCH

- The last S&P 500 bull market was "mature" both in terms of duration (131 months vs. an average of 62) and return (401% vs. an average of 182%).
- 2020 was the end of the longest equity bull market in US history, and ended on Feb 19th 2020.

The great US equity bear markets

Table 9: The great US equity bear markets
History of US equity bear markets

Peak	Trough	Decline	Recovery	Event (s)
09/1929	06/1932	86.2%	03/1937	Crash of 1929, 1st part of Great Depression
03/1937	04/1942	60.0%	05/1946	2nd part of Great Depression, WWII
10/2007	03/2009	56.8%	02/2020	Global Financial Crisis
06/1911	12/1920	51.0%	12/1924	WWI, Post-War Auto Bubble Burst
03/2000	10/2002	49.1%	10/2007	Dot-com bubble burst
01/1973	10/1974	48.2%	08/1987	Inflationary Bear Market, Vietnam, Watergate
11/1968	05/1970	36.1%	01/1973	Start of Inflationary Bear Market
01/1906	10/1907	34.2%	08/1908	Panic of 1907
02/2020	03/2020	33.9%	03/2020	COVID-19 Crash of 2020
08/1987	10/1987	33.2%	07/1990	Black Monday
4/1899	06/1900	30.4%	03/1901	Cornering of Northern Pacific Stock
05/1946	06/1949	29.6%	08/1956	Post-war Bear Market
12/1961	06/1962	28.0%	02/1966	Height of Cold War, Cuban Missile Crisis
10/1892	07/1893	27.3%	03/1894	Silver Agitation
11/1886	03/1888	22.0%	05/1889	Depression, Railroad strikes
04/1903	09/1903	21.7%	11/1904	Rich Man's Panic
8/1897	03/1898	21.1%	08/1898	Outbreak of Boer War
09/1909	07/1910	20.6%	02/1911	Enforcement of the Sherman Anti-Trust Act
5/1890	07/1891	20.1%	02/1892	Barings Brothers Crisis

Source: BofA Global Investment Strategy, Ibbotson, SBBI Yearbook, Bloomberg

BofA GLOBAL RESEARCH

- Peak to trough SPX fell 33.9% or $9.8tn market cap loss in 2020.
- Average decline in the past 19 US equity bear markets in the past 140 years is 37.3% and average duration is 289 days...
- Past performance is no guide to future performance, but if it were, today's bear market would end Oct 19th 2022, the 35-year anniversary of the 1987 crash, with S&P500 at 3000.

The great global equity bear markets

Table 10: The great global equity bear markets
History of global equity bear markets

ACWI peak	ACWI trough	ACWI	S&P 500	ACWI xUS	Europe	Japan	USD	Duration (# mnths)
Mar-73	Oct-74	(47%)	(46%)	(46%)	(43%)	(45%)	2%	19
Jan-81	Aug-82	(25%)	(26%)	(29%)	(28%)	(19%)	36%	19
Aug-87	Oct-87	(22%)	(31%)	(17%)	(20%)	(17%)	(1%)	2
Jul-90	Sep-90	(22%)	(17%)	(24%)	(20%)	(29%)	(5%)	2
Mar-00	Oct-02	(51%)	(49%)	(51%)	(52%)	(54%)	2%	30
Oct-07	Mar-09	(60%)	(56%)	(62%)	(64%)	(51%)	16%	16
May-11	Oct-11	(24%)	(17%)	(29%)	(32%)	(12%)	9%	5
May-15	Feb-16	(20%)	(14%)	(25%)	(25%)	(18%)	0%	9
Jan-18	Dec-18	(21%)	(18%)	(23%)	(22%)	(32%)	9%	11
Feb-20	Mar-20	(34%)	(34%)	(34%)	(36%)	(26%)	3%	1
Avg		**(33%)**	**(31%)**	**(34%)**	**(34%)**	**(30%)**	**7%**	**12**

Note: price return in USD terms; ACWI & ACWI xUS prior to 1987 based on full-float equity index
Source: BofA Global Investment Strategy, MSCI, S&P, Datastream

BofA GLOBAL RESEARCH

- There have been 10 bear markets in global equities since 1970.
- The longest (2000-2002) lasted 30 months while the shortest (2020) lasted 1 month.
- Japan (-30%) saw the lowest average drawdown during global bear markets while Europe and ACWI exUS (-34%) fared the worst.

The great equity market crashes

Chart 124: The great equity market crashes
The great equity market crashes

Bubble	Index	Peak	Rise	Decline	Valuation at peak (P/E)	Bond yield	Policy rate	Speed of rise
Mississippi Co.	CAC All-Tradeable	01/1720	2955%	-95%	n/a	↑	↑	73%
South Sea Co.	South Sea Co.	06/1720	707%	-89%	n/a	↓		188%
Roaring 20s	DJ Industrial Average	8/30/1929	101%	-89%	19	↑	↑	20%
Black Monday	DJ Industrial Average	8/21/1987	103%	-34%	19	↑	↑	20%
Japan 1980s	Nikkei 225	12/29/1989	72%	-59%	67	↑	↑	10%
Nasdaq Dot-com	Nasdaq 100	3/10/2000	188%	-76%	205	↑	↑	52%
US Homebuilders	DJ US Select Builders	7/22/2005	155%	-83%	12	→	↑	29%
Saudi Arabia	Tadawul All-Share	2/28/2006	305%	-68%	123	↑	↑	22%
China	Shanghai Composite	10/1/2007	445%	-60%	49	↑	→	37%
EM Technology	EMQQ Emerging Markets	1/26/2018	11186%	-64%	100	↑	↑	23%
Tech Disruptors	DJ Internet + NYSE FANG	2/20/2020	56%	-31%	38	↓	↓	31%

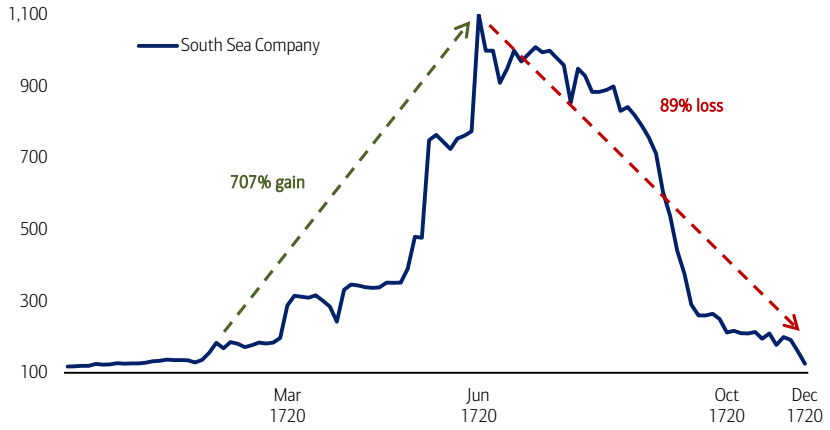
Source: BofA Global Investment Strategy, Frehen (2012), Bloomberg, Global Financial Data;
rise & decline measured approx. 2 years from peak; speed of rise = % distance from 200-day moving average at peak

BofA GLOBAL RESEARCH

- The greatest equity bubbles of all time were in 1720, when the South Sea and Mississippi companies grew rapidly and then failed.
- Rich valuations often precede equity crashes, as was the case with the Dot-com (205x price/earnings) and Saudi Arabian (123x) crashes.
- Crashes are also often preceded by fast rallies (rightmost column), though the Nikkei in 1989 stands out as an exception.

Crashes

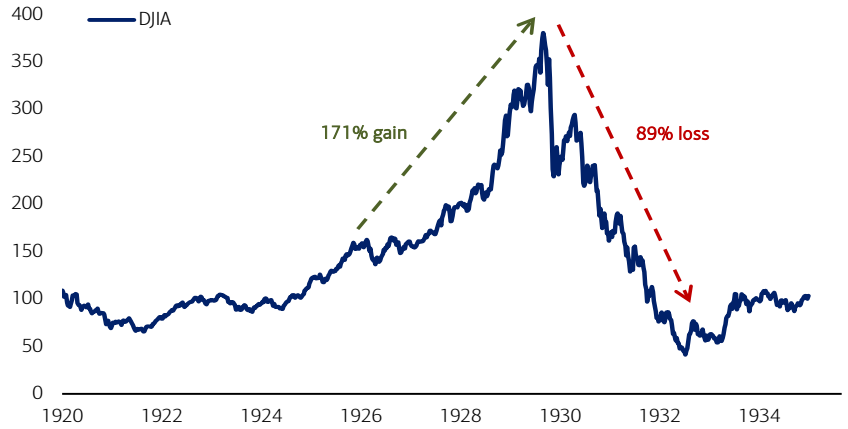
Chart 125: The South Sea Bubble
South Sea Company



Source: BofA Global Investment Strategy, Frehen et al. (2012)

BofA GLOBAL RESEARCH

Chart 126: Great Crash of 1929
Dow Jones Industrial Average



Source: BofA Global Investment Strategy, Global Financial Data

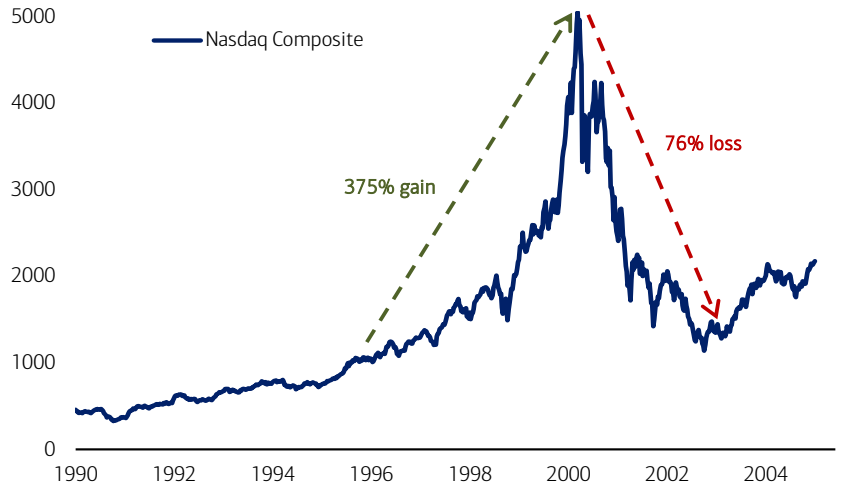
BofA GLOBAL RESEARCH

Chart 127: Japanese real estate & equity bubble
Nikkei 225

Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

Chart 128: Dot-com bubble
Nasdaq Composite



Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

Chart 129: China SHCOMP
Shanghai Stock Exchange Composite Index

Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

Chart 130: Saudi Arabia
Tadawul All Share Index

Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

Chart 131: Crypto
Bitcoin

Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

Chart 132: Biotech
Biotech ETF

Source: BofA Global Investment Strategy, Bloomberg

BofA GLOBAL RESEARCH

US Treasury bond bear markets

Table 11: US Treasury bond bear markets
History of US Treasury bond bear markets

Date of Market Peak	Date of Market Trough	Peak to Trough Performance	Recovery One Year from Trough	Duration of Bear Market (mos)
06/30/1860	05/31/1861	-18.7%	32.4%	12
05/31/1835	12/31/1839	-16.1%	19.0%	56
06/30/1979	02/29/1980	-15.8%	8.2%	9
05/31/1931	01/31/1932	-15.4%	18.5%	9
06/30/1980	09/30/1981	-14.6%	43.1%	16
09/30/1833	03/31/1834	-13.7%	16.5%	7
05/31/1811	03/31/1813	-11.3%	6.8%	23
02/28/1987	09/30/1987	-10.5%	14.7%	8
10/31/1993	11/30/1994	-10.2%	25.1%	14
7/31/2012	12/31/2013	-10.1%	10.8%	18
7/31/2016	7/31/2018	-8.2%	11.5%	25

Source: BofA Global Investment Strategy, Global Financial Data;
"bond bear market" = total return decline of 10% or more

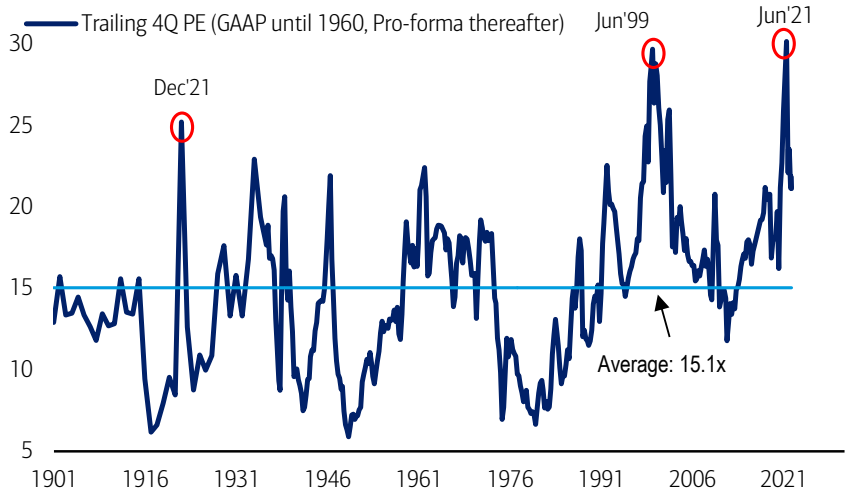
BofA GLOBAL RESEARCH

- There have been 11 bear markets in US Treasury bonds since 1811; only 4 of them in the last 40 years.
- The longest (1835-1839) lasted 56 months while the shortest (1833-34) lasted 7 months.
- The rally from a bear market low tends to be extremely powerful, as column 4 illustrates.

Valuation Trends

US price-earnings ratio since 1901

Chart 133: US price earnings ratio since 1901
S&P 500 Trailing 4Q Price-to-Earnings Ratio



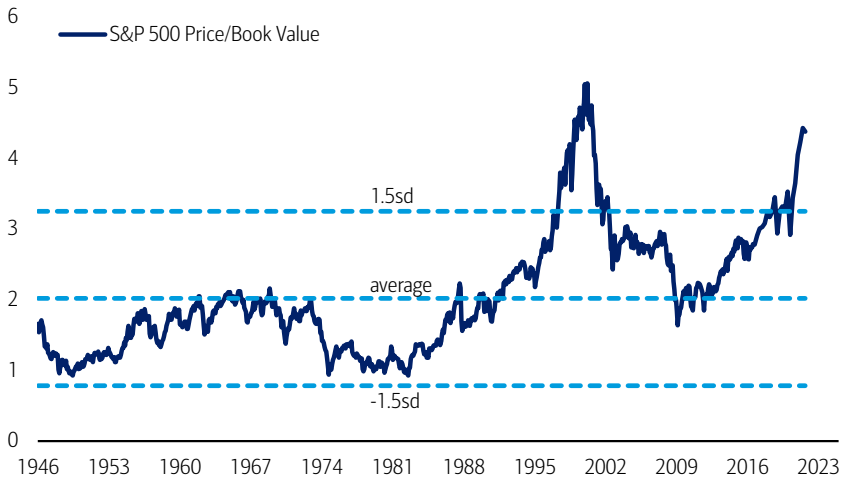
*As of 1Q17. Annual data through 1935, quarterly thereafter
Source: BofA US Equity & Quant Strategy

BofA GLOBAL RESEARCH

- This chart shows the trailing price-to-earnings ratio of the S&P 500 since 1900.
- The S&P500 trailing PE rose to 30x in June 2021, the highest in 100 years (vs average of 15x).
- The all-time low was 5.9x in June 1949.
- The cheapest years to buy equities were 1916 to 1917, 1948 to 1950, 1974 and 1980. During these years the S&P 500 could have been bought for a trailing P/E ratio of less than 7x.
- Great bull markets in equities followed these secular buying opportunities.

US price-book ratio since 1946

Chart 134: US price-book ratio since 1946
S&P 500 Price-to-Book Value Ratio



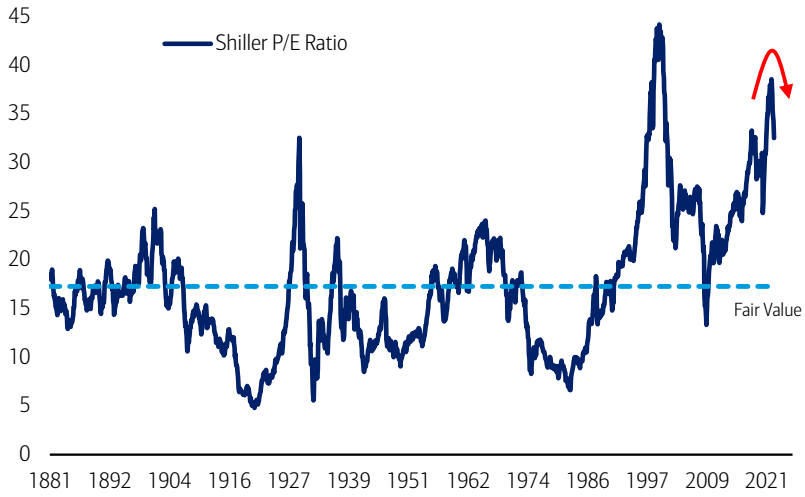
Source: BofA Global Investment Strategy, Global Financial Data

BofA GLOBAL RESEARCH

- This chart shows the price-to-book value ratio of the S&P 500 since 1946.
- The average P/B ratio since 1946 is 2.0, so the latest ratio of 4.4 (Sep'21) is +1SD above the long-run average.
- The all-time P/B high was 5.1 in March 2000.
- The all-time low was 0.9 in September 1974. The ratio fell to 1.6 in February 2009.

Shiller price-earnings ratio since 1881

Chart 135: Shiller price-earnings ratio since 1881
CAPE Price-to-Earnings ratio



Note 1: Shiller PE or CAPE = Cyclically Adjusted Price-Earnings ratio
Source: BofA US Equity & Quant Strategy

BofA GLOBAL RESEARCH

- This chart shows the cyclically-adjusted price-to-earnings (CAPE) ratio for the S&P 500 since 1881.
- Robert Shiller calculates the CAPE P/E by adjusting S&P 500 price levels and EPS for inflation using CPI.
- Today's ratio is 32.5x vs. the average of 17.3x since 1881.
- The all-time P/E high was 44x in December 1999.
- The all-time low was 4.8x in December 1920.
- The Fair Value (FV) line uses the LT avg P/E of 17.0x; stocks are rich when they trade above FV (as they are today); below the line stocks are relatively cheap vs. history.
- Note some academics argue that CAPE is now permanently higher by several points as a result of US accounting changes in 2001.

US vs. World ex-US price-earnings ratio since 1969

Chart 136: US vs World ex-US price earnings ratio since 1969
US vs. World ex-US price-earnings ratio since 1969

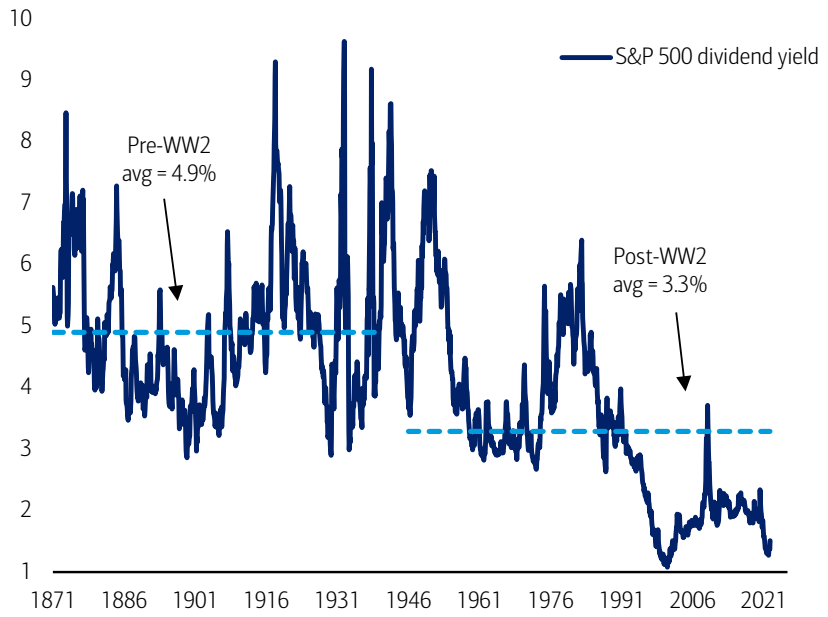
Source: BofA US Equity & Quant Strategy, Factset, Datastream, Global Financial Data

BofA GLOBAL RESEARCH

- This chart shows the P/E ratio of US equities vs. the rest of the world ex-US.
- US equities historically traded at a lower earnings multiple than global equities, reflecting the willingness of investors to pay more for higher anticipated growth.
- In recent years, the US market has traded 1.5stdev above the long term average vs the rest of the world; this valuation disconnect has only been seen before during prior market peaks; 2000 dotcom bubble and the GFC.

US dividend yield since 1871

Chart 137: US dividend yield since 1871
Dividend yield, %



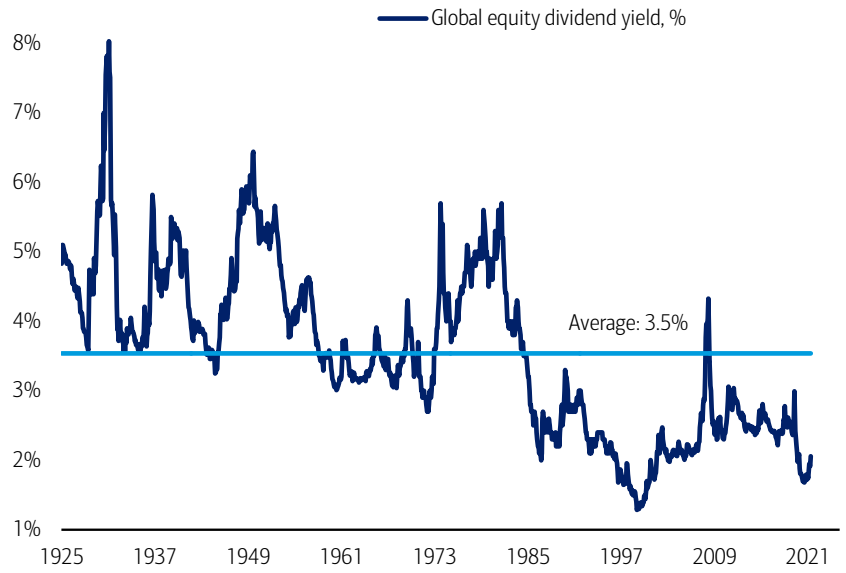
Monthly data. Nominal dividend yield
Source: BofA US Equity & Quant Strategy, Global Financial Data, Bloomberg

BofA GLOBAL RESEARCH

- Dividend yields are an important source of return for investors and would be higher in the US were it not for the modern fashion of stock buybacks.
- The US dividend yield was much higher in the period before WW2 (average was 4.9%) than in the post-war era (when the average has been 3.4%) and peaked at 9.6% in 1932.
- The S&P 500 dividend yield hit an all-time low near 1.1% in 2000; it is currently 1.5%.

Global dividend yield since 1926

Chart 138: Global dividend yield since 1926
Global equity dividend yield, %



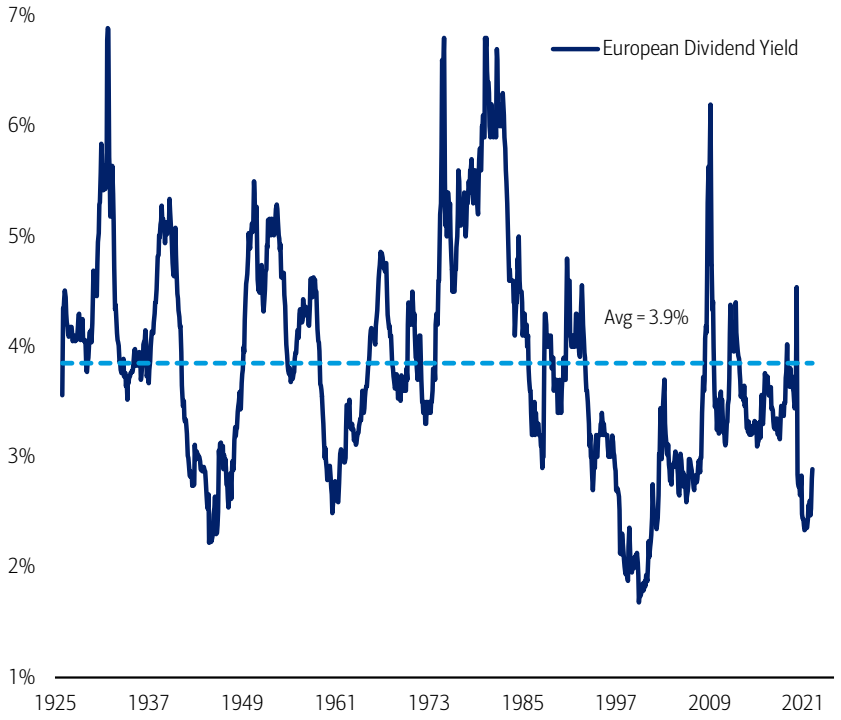
Monthly data. Dividend yields from GFD prior to Oct-1995; from MSCI Datastream thereafter
Source: BofA US Equity & Quant Strategy, Global Financial Data, Datastream

BofA GLOBAL RESEARCH

- The dividend yield on global equities fell to an all-time low of 1.3% in 2000, in the midst of the Tech bubble.
- Since then dividend yields have remained below their long-term average of 3.5%, but have steadily been on the rise; the global dividend yield is now at 2.1%.

European dividend yield since 1925

Chart 139: European dividend yield since 1925
European equity dividend yield, %



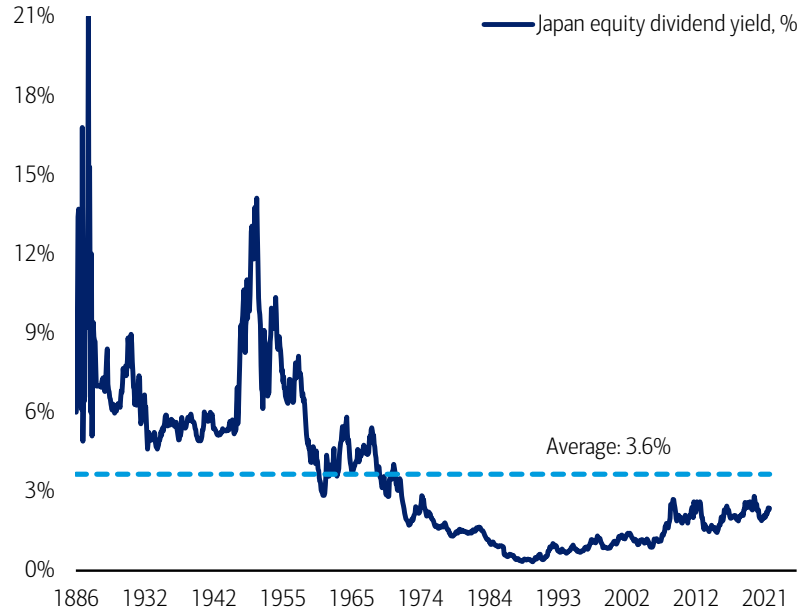
Monthly data. Dividend yields from GFD prior to Dec-1969, MSCI Europe thereafter
Source: BofA US Equity & Quant Strategy, Global Financial Data, Datastream

BofA GLOBAL RESEARCH

- European equity dividend yields have been fairly volatile over the past 85 years, but have risen steadily post the dotcom bubble lows of 1.7%.
- As of Mar 2021, European equities yielded 2.9%, below the long-term average of 3.9%.

Japanese dividend yield since 1886

Chart 140: Japanese dividend yield since 1886
Japan equity dividend yield, %



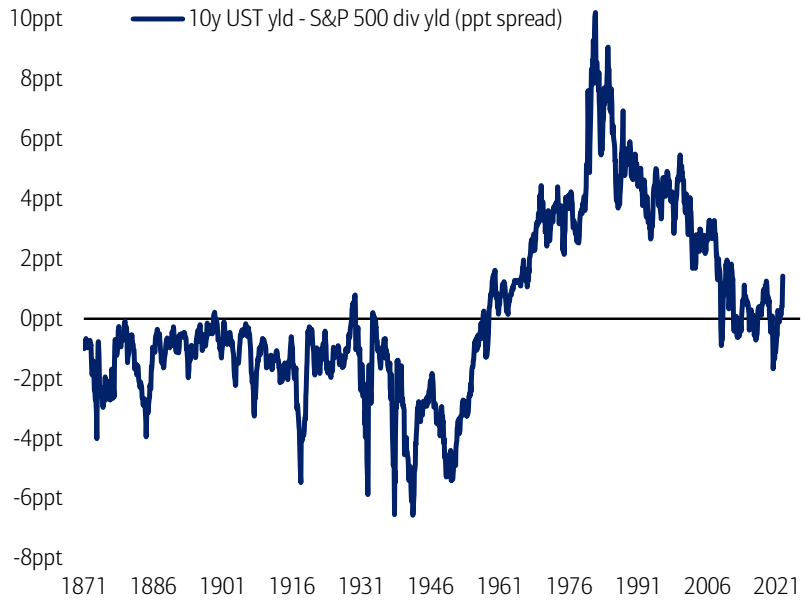
Annual data through 1925, monthly thereafter
Source: BofA Global Investment Strategy, Tokyo stock exchange, Global Financial Data

BofA GLOBAL RESEARCH

- Dividend yields in Japan fell close to zero in 1988, and were relatively flat for well over a decade.
- The Japanese dividend yield was 2.4% at the end of Apr 2022, low vs. its historic average of 3.7%, but similar relative to other equity markets.

Bond & dividend yield spread: US

Chart 141: Bond & dividend yield spread: US
Spread of 10-year US Treasury yields over US equity dividend yield (ppt)



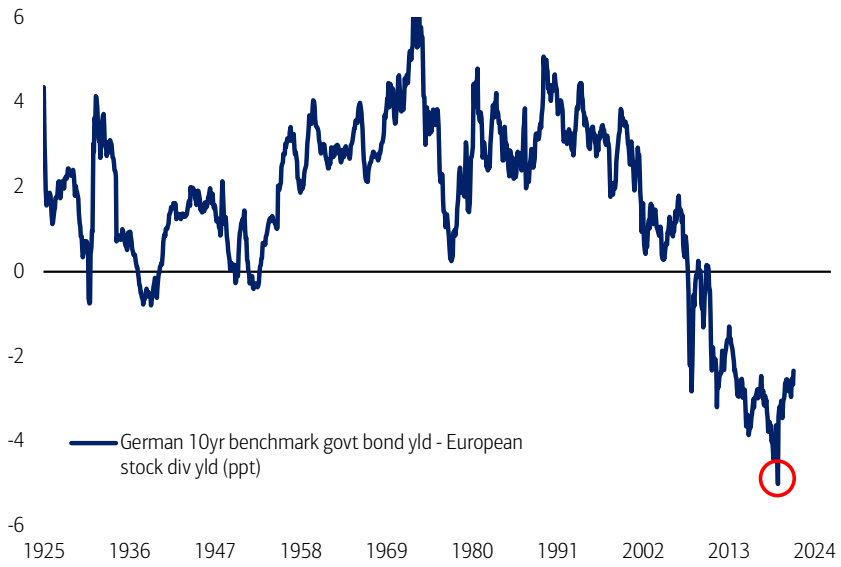
Monthly data
Source: BofA Global Investment Strategy, Bloomberg, Global Financial Data

BofA GLOBAL RESEARCH

- Equities are historically attractive when equity dividend yields exceed Treasury bond yields.
- Before WW2, S&P 500 dividend yields were in excess of the 10 year Treasury yield, with an average premium of 136bps.
- In the post war period, 10 year Treasuries on average yielded 199bps more than equity dividends, though the spread has narrowed in recent years.
- The widest spread of Treasuries over dividend yields was 1,023bps in 1981.
- The spread between Treasury yields and equity dividend yields has widened from its lows in 2020 to 143bp, but remains below the post-war average.

Bond & dividend yield spread: Europe

Chart 142: Bond & dividend yield spread: Europe
Spread of European equity dividend yield over 10-year German Bund yields (ppt)



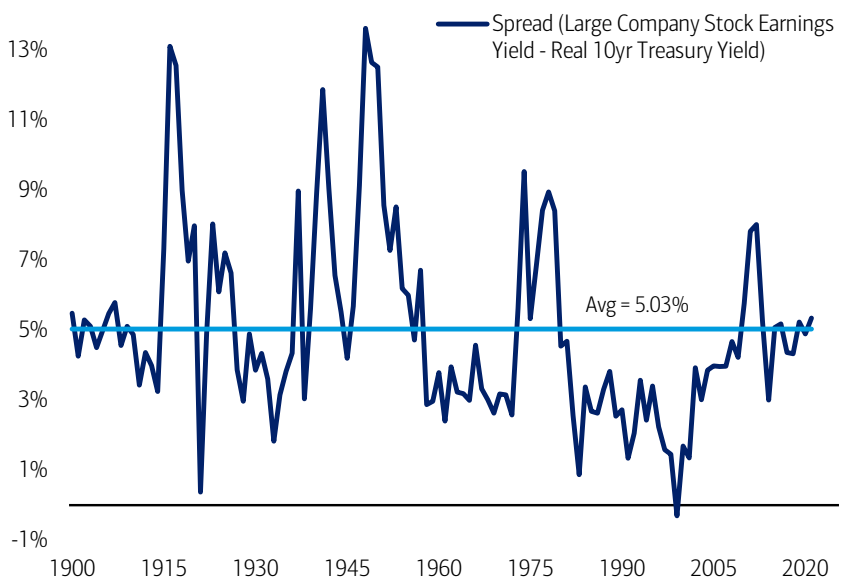
Monthly data. Dividend yield data from Global Financial Data prior to Dec-1969, MSCI Europe thereafter
German bund yield data not available from Aug-1931 to Mar-1932, & Dec-1943 to Dec-1945
Source: BofA Global Investment Strategy, Global Financial Data, Bloomberg, Datastream

BofA GLOBAL RESEARCH

- The spread of the 10-year German bund yield over European equity dividend yield has narrowed slightly to -234bps from its all-time low during COVID of -501bp, the tightest spread since Sep 2014.

Equity risk premium since 1900

Chart 143: Equity risk premium since 1900
Spread of US earnings yield over real 10-year Treasury yields



Annual data
Source: BofA Global Research, Cowles Commission Indices, Livingston Survey

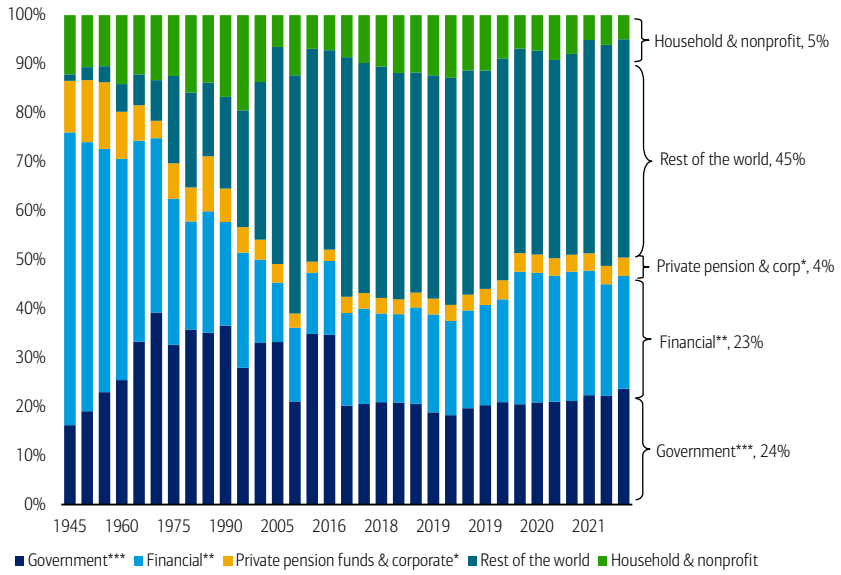
BofA GLOBAL RESEARCH

- The Equity Risk Premium (ERP) is the difference between earnings and bond yields, and represents the return demanded by investors to hold equities over Treasuries.
- At 5.3%, the return demanded by investors to hold equities over Treasuries is slightly above long-term averages.

Ownership Trends

US Treasury ownership since 1945

Chart 144: Foreigners own the largest share of the US Treasury market
US Treasury Ownership since 1945



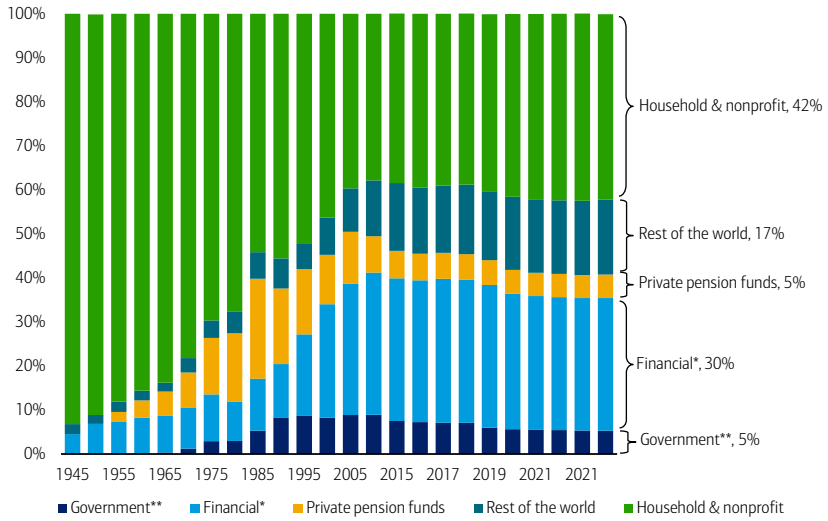
Note: Excludes savings bonds. Households are calculated as residuals in the FoF data, and thus includes data such as domestic hedge funds, private equity funds & personal trusts
*Private pension funds & nonfinancial corporate business
**Financial: Depository institutions, Fgn banking offices in US, Banks in US affiliated areas, Credit unions, Insurance companies, Money mkt mutual funds, Mutual funds, CEFs, ETFs, ABS issuers, Brokers & dealers, Holding companies
***Government: S&L govts, Monetary authority, Federal and S&L retirement funds, GSEs
Source: BofA Global Investment Strategy, Flow of Funds, Factset, Haver

BofA GLOBAL RESEARCH

- Who owns the $17.3 trillion US Treasury market?
- In 1945 foreigners owned 1% of the US Treasury market; today foreigners own 45% vs record highs of 49% in 2010.
- In contrast, the holdings of the financial and household sectors have shrunk from 72% to 28%.

US Equity ownership since 1945

Chart 145: The financial sector has become one of the largest owners of US equities
US Equity ownership since 1945



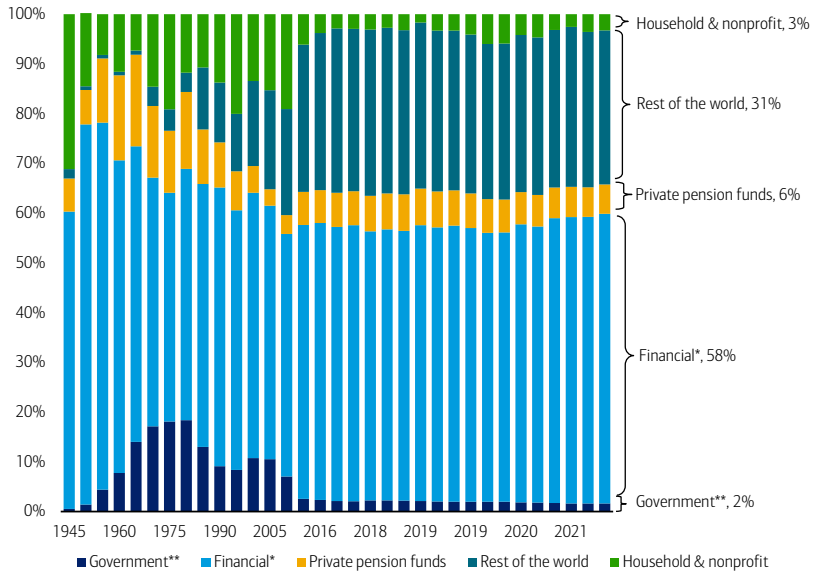
Note: Households are calculated as residuals in the FoF data, and thus includes data such as domestic hedge funds, private equity funds & personal trusts
**State & Local governments, Federal government, Monetary authority, Federal retirement funds, State & local retirement funds
*Insurance, Mutual funds, Commercial & savings banks, CEFs, ETFs, brokers & dealers, funding corporations.
Source: BofA Global Investment Strategy, Flow of Funds, Factset, Haver

BofA GLOBAL RESEARCH

- Who owns the $80 trillion US equity market?
- In 1945, over 90% of equities were owned by households; Q4 2021 it was 42%.
- Over time the financial sector has steadily become one of the largest owners of US equities.
- Since 1980 the share of equities owned by foreigners has risen to new highs at 17%, surpassing the peak in Q3 2015.

US Corporate bond ownership since 1945

Chart 146: The financial sector is the largest owner of US corporate bonds
US Corporate bond ownership since 1945



Note: Includes bonds issued by US corporations both in the US and in foreign countries. Households are calculated as residuals in the FoF data, and thus includes data such as domestic hedge funds, private equity funds & personal trusts
*Financial: Depository institutions, Fgn banking offices in US, Banks in US affiliated areas, Credit unions, Insurance companies, Money mkt mutual funds, Mutual funds, CEFs, ETFs, Finance companies, ABS issuers, Brokers & dealers, Holding companies, Funding corporations
**Government: S&L govts, Monetary authority, Federal and S&L retirement funds, GSEs
Source: BofA Global Investment Strategy, Flow of Funds, Factset, Haver

BofA GLOBAL RESEARCH

- Who owns the $15 trillion US corporate bond market?
- The financial sector is the largest owner, accounting for 58% of the outstanding value.
- The rest of the world is now the second largest owner of corporate bonds, accounting for 31%, and up from 2% back in 1945, and close to the peak of 33% in Q2 2018.

Market Share Trends

US equities as % of world

Chart 147: US share of world market cap rolling over from record high
US as a % of world market capitalization

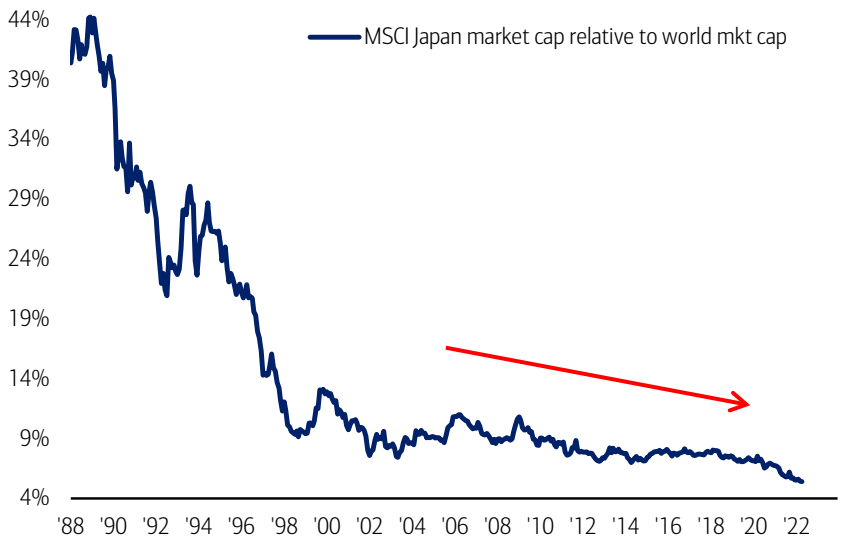
Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Finally a look at the recent market share trends of equity regions and global sectors.
- The US share of world market capitalization rose sharply from the low of 29% in November 1988 to a peak of 55% in 2003 before slipping to a secular low of 41% during the GFC.
- Since 2009 the US has expanded its global share in recent years owing to the strong US dollar, its large tech sector and relatively small financials sector, as well as its high-quality corporations.
- The US was 61.5% of the world equity market capitalization, a new all-time high in Nov'21 but has since rolled over slightly.

Japan equities as % of world

Chart 148: Japan share of world market cap at all-time low
Japan as a % of world market capitalization



Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- In 1988 Japan's equity market was the largest in the world, with a market cap that represented 44% of the MSCI All Country World Index.
- Japan's share began its epic collapse in 1990; its share of world market capitalization fell to below 10% in less than ten years.
- Japan's share of the world market capitalization hit a new low of 5.4% in April 2022, below the prior low of 7.0% reached in mid-2014.

Europe equities as % of world

Chart 149: Europe share of world market capitalization near all-time low
Europe as a % of world market cap

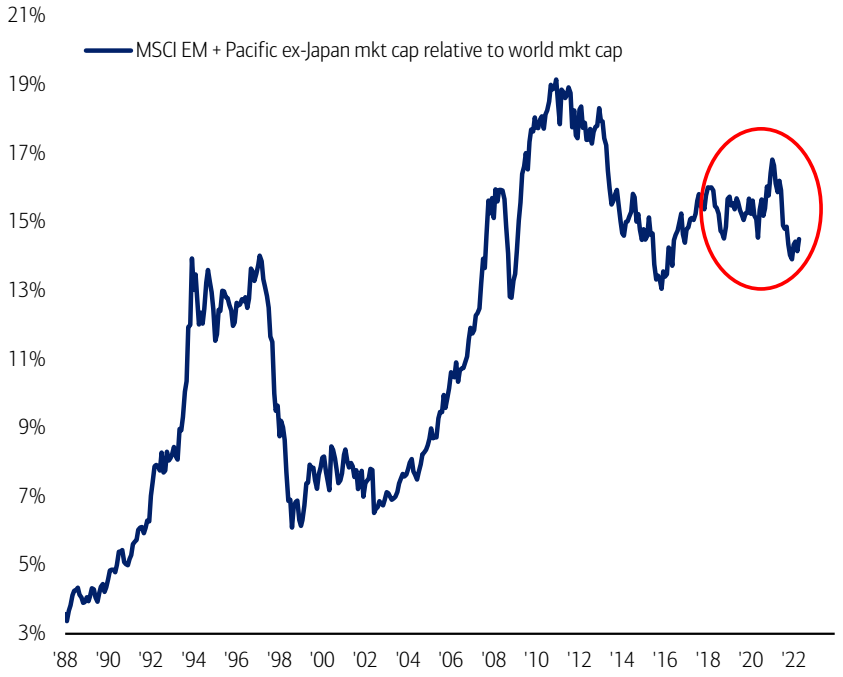
Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Back in 1988, Europe's share of world market capitalization was 21%.
- Europe's high water mark in terms of market cap came in August 1998, at the height of the Asia crisis and just months before the euro was introduced. Back then, Europe represented 35% of world market cap.
- Since 2007, Europe's share has steadily declined from a high of 31% to 17.0% of world market cap in March 2020. Europe's share of world market capitalization dropped further to an all-time low of 15.7% in March 2022.

EM & Asia Pacific equities as % of world

Chart 150: Rise of EM & Asia's share of global markets could continue to stagnate
Emerging Markets and Asia Pac ex-Japan as a % of world market capitalization



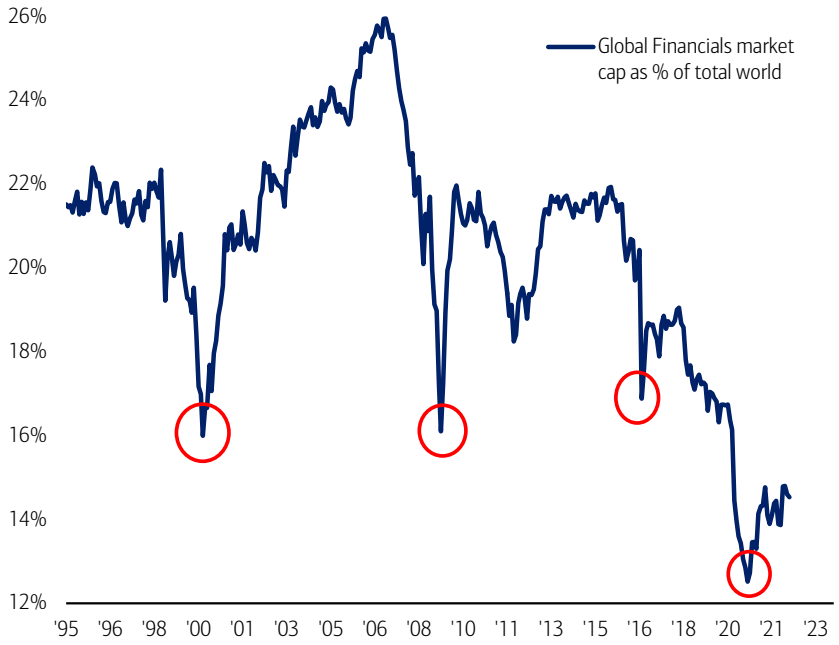
Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- In 1988, the market cap of equities in the Emerging Markets and Asia Pacific ex-Japan was a mere 3%. It reached a record high of 19% at the end of 2010.
- The secular rise of Emerging Markets and Asia Pacific has been marred by three brutal bear markets: 1997-98, 2008 and 2011-2016.
- The share of EM & Asia in global markets declined to 12.1% in November 2015. The share increased to 16.0% in Jan 2018 and further to 17% in Jan 2021 (highest since 2013), but has since fallen back down to 15%. The secular rise of EM & Asia could continue to stagnate with COVID-19 pains as well as slowing in the Chinese economy.

Financials as % of world

Chart 151: Financials as % of world remain below GFC low
Financials as a % of world market capitalization



Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- This chart shows a 20+-year snapshot of the global financial sector share of world equity market cap.
- Financials have undergone big swings in capitalization, falling to 16% of the world total as the Tech Bubble peaked in 2000, and peaking at 26% in 2007 with the global real estate market, before the Global Financial Crisis caused the sector's share to plunge back to 16%.
- Financials made a significant recovery from their financial crisis low of 16% to 20% in August 2016, but are now 14.5% (April 2022).

Technology as % of world

Chart 152: Tech share of world market cap has rolled over from all-time high
Technology as a % of world market capitalization

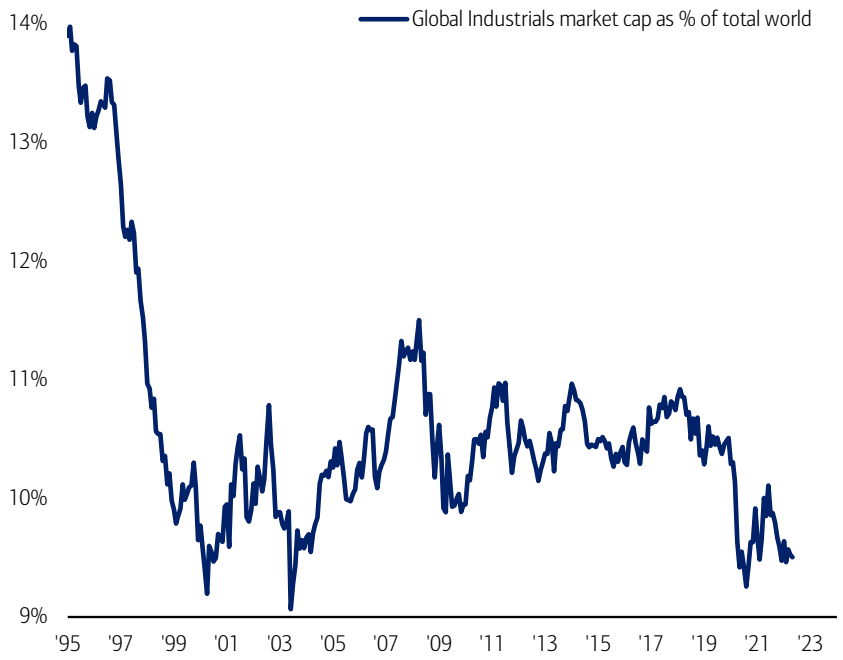
Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- From a mere 6% in 1994, Tech rose rapidly to a high of 24% in 2000, making it the largest sector in the world at the time.
- After the Tech Bubble burst, its market share fell to 11%.
- Tech as a share of world market cap increased in 2016 to 20.2%, its largest share since September 2000.
- As of November 2021 Tech reached 23.8% of world market cap, an all-time high. It has since rolled over to 21.5%.

Industrials as % of world

Chart 153: Industrial share of world market capitalization near lows
Industrials as a % of world market capitalization



Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- In 1994, Industrials were 14% of world equity market capitalization, and represented the world's 3rd largest sector.
- Industrials fell to a low of 9% of world equity market cap in 2003, and since then they moderately rose to 10.7%, just above 20 year average.
- In July 2020, industrials fell to 9.3% of world market cap, lowest since 2003.
- Industrials as a share of world market cap has recovered moderately but remains near lows.

Energy as % of world

Chart 154: Energy share of world market cap has rebounded from all-time low
Energy as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- The global Energy sector's market cap rose from 5% in 2000 to 14% in 2008, reflecting the boom in commodity prices and Emerging Markets in the past decade.
- Energy's share of global market cap has slumped since the 2008 peak amid the slowdown in Chinese growth and the end of the commodity super-cycle.
- The recent rebound in oil prices on reopening demand has helped Energy's share of world market cap rebound now at 4.6% up from the all-time low in March 2020 (3.7%).

Staples as % of world

Chart 155: Staples share of world market cap rebounding from lows
Staples as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- During the tech bubble, investors rapidly moved out of defensive sectors causing the global Consumer Staples sector to drop from 10% to 5% of world market capitalization.
- In contrast, the Global Financial Crisis caused Staples to rise to a high of 11% of market capitalization in 2008-2009.
- In recent years, the share of the classic "defensive growth" sector of Staples had remained stubbornly high above 10%, but it has decreased since 2H16.
- In October 2021 Staples share of world market capitalization fell to 6.6%, the lowest since 2001. Currently, the share is 7.5%.

Consumer Discretionary as % of world

Chart 156: Consumer discretionary share has fallen from a high in 2021
Consumer Discretionary as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Back in 1994 consumer discretionary was the world's second largest sector, accounting for 15% of total equity market cap. Fourteen years later the share of Consumer Discretionary stocks fell to a low of nearly 8%, reflecting higher oil prices and the end of a housing and consumer credit boom.
- In 2018, the share of Consumer Discretionary rose dramatically to 12.2%, one of the highest levels since April 2003, and close to its long-term average of 11.9%.
- The sector continues to be the mirror-image of the secular trend in the Energy sector; the sector has also benefitted from the contribution from Amazon to sector performance.
- Consumer discretionary as a share of reached 13.2% in January 2021, the highest since 2002. Its share is now at 11.3% (April 2022).

Materials as % of world

Chart 157: Materials share of global market cap remains low
Materials as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Materials stocks have been one of the biggest victims of the slowdown in Emerging Market growth and US dollar strength.
- The Materials share of global market capitalization was just 4.4% in March 2020, lowest since 2015. Its share is now at 5.1% (April 2022).

Healthcare as % of world

Chart 158: Healthcare share of world market cap starting to rise again
Healthcare as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Similar to Financials, the market capitalization of the global Healthcare sector has see-sawed since 1994.
- The peak was roughly 13%, reached in 2001-03. The sector's share surged during the Global Financial Crisis, reflecting its defensive posture.
- In recent years, Healthcare has once again been in vogue thanks to the sector's "growth" characteristics, despite the drop after July 2016.
- The sector reached new highs in April 2020 at 13.4% of world equity market capitalization, highest since 2001, off of healthcare concerns on the back of COVID-19.
- Healthcare as a share of world market cap has started to rise again in recent months as sentiment has become more bearish and investors shift defensive.

Telecom as % of world

Chart 159: Telecom as a share of market cap down from pandemic highs
Telecom as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Like Technology, Telecom has demonstrated a classic bubble pattern over the past 17 years; but unlike Tech, the sector has not recovered ground in recent years.
- Telecom grew from just over 5% in 1994 to 12% in 2000. Since then its market capitalization has tumbled.
- Note in 2018, the telecom sector broadened and was renamed Communication Services as Google was added into the sector.
- The share of Telecom stocks as a percentage of world market cap was 7.7% in April 2022.

Utilities as % of world

Chart 160: Utilities has been the smallest global sector since 1994
Utilities as a % of world market capitalization

Monthly data
Source: BofA Global Investment Strategy, MSCI, DataStream

BofA GLOBAL RESEARCH

- Finally, Utilities at 3.0% of global equity market cap has rebounded from an all-time low in October 2021.
- Utilities have been the smallest global sector since 1994.

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