
Consumer and Wealth Management

Connecticut Retirement Plans and Trust Funds

Investment Strategy Group

Presenter Biographies



Sharmin Mossavar-Rahmani

Partner, Head of the Investment Strategy Group (ISG) and CIO for the Consumer and Wealth Management Division

+1 (212) 902 – 2300

Sharmin is head of the Investment Strategy Group and chief investment officer for the Consumer and Wealth Management Division, responsible for the overall strategic asset allocation and tactical investment strategy.

Sharmin joined Goldman Sachs as a partner in 1993. Prior to joining the firm, Sharmin worked at Fidelity Management Trust Company, where she was chief investment officer for all separate and co-mingled fixed income accounts. Sharmin is a member of the Board of Trustees and the Investment Committee of New York-Presbyterian Hospital and Harvard University's Global Advisory Board. She is a former member of the Board of Trustees, and former chair of the Investment Committee of the Trinity School in New York City. Sharmin has published two books, one on bond indexing and one on OPEC natural gas, as well as numerous articles on portfolio management issues. Sharmin earned a BA from Princeton University and an MS from Stanford University.



Lisa Rotenberg

Managing Director, Goldman Sachs Senior Coverage Responsibility for CRPTF

+1 (212) 902 – 7987

Lisa is a managing director with senior coverage responsibility for many of Goldman Sachs' largest institutional investors globally, and leverages her experience with portfolio solutions to advise clients. She has held many roles in the Asset Management Division (AMD) including serving as co-head of the US Public Fund business, co-head of the Corporate Pension business, and as global head of the Consultant Relations business. Lisa was named a Goldman Sachs managing director in 2003. She joined as a vice president in 1994. Prior to joining the firm, Lisa served as Minnesota's deputy state auditor representing the state auditor in all plan sponsor decisions related to the Minnesota State Board of Investment. She also served as Minnesota's chief deputy commerce commissioner with oversight responsibility for the securities, insurance, banking, and real estate industries. Prior to joining the Minnesota Department of Commerce, Lisa served as a special assistant attorney general for the State of Minnesota. She previously served on the Minnesota Governor's Task Force on Small Business Capital Formation. Lisa earned an AB in Government from Harvard University and a JD from the University of Minnesota Law School, where she also served on the Board of Advisors.

US Resilient

Consumer and Wealth Management



Durability is one of the chief elements of strength. Nothing is either loved or feared but that which is likely to endure.

– Alexis de Tocqueville, *Democracy in America*

Economic and Financial Market Outlook

Overview of Today's Call

- Economic and Financial Market Outlook
- US Preeminence
- Stay Invested
- Risks

Economic Growth to Recover in 2021 – Developed Markets

Real GDP Growth Forecasts (% YoY) – As of April 6, 2021

Period	United States			Eurozone			United Kingdom			Global		
	ISG	GIR	Consensus	ISG	GIR	Consensus	ISG	GIR	Consensus	ISG	GIR	Consensus
2020	-3.5	-3.5	-3.5	-6.6	-6.6	-6.6	-9.9	-9.9	-9.9	-3.8	-3.4	-3.3
2021	6.6	7.2	5.7	4.6	5.1	4.2	5.2	7.1	4.7	5.6	6.8	5.6
2020-21 Combined	2.9	3.5	2.0	-2.3	-1.8	-2.7	-5.2	-3.5	-5.7	1.6	3.2	2.1

- While global GDP was hit significantly, contracting by an estimated 3.8% in 2020, our base case calls for a solid recovery in 2021, with global GDP expanding by 5.6%. Across major developed regions, we expect the US to outperform.
- The near-term momentum remains challenging while the level of infections is elevated, particularly in the Eurozone. However, we think this setback will prove temporary once the operational challenges of mass vaccinations are surmounted.
- As the pandemic is brought under control, we expect a meaningful acceleration in economic activity, particularly in the services sectors.
- We expect monetary and fiscal policy to remain very accommodative, supporting the recovery.

Source: Investment Strategy Group, Goldman Sachs Global Investment Research, Bloomberg.

Note: Forecasts are estimated, based on assumptions, are subject to revision and may change as economic and market conditions change. There can be no assurance the forecasts will be achieved.

Economic Growth to Recover in 2021 – Emerging Markets

Real GDP Growth Forecasts (% YoY) - As of April 6, 2021

Period	China			Brazil			India			Russia			Emerging Markets		
	ISG	GIR	Consensus	ISG	GIR	Consensus	ISG	GIR	Consensus	ISG	GIR	Consensus	ISG	GIR	Consensus
2020	2.3	2.3	2.3	-4.1	-4.1	-4.1	-7.0	-7.0	-7.0	-3.0	-3.0	-3.0	-1.9	-2.0	-1.3
2021	7.5	8.5	8.5	3.8	4.0	3.5	11.1	10.9	9.5	3.3	4.5	3.0	6.2	7.5	6.7
2020-21 Combined	10.0	11.0	11.0	-0.5	-0.3	-0.7	3.3	3.1	1.8	0.2	1.4	-0.1	4.2	5.3	5.3

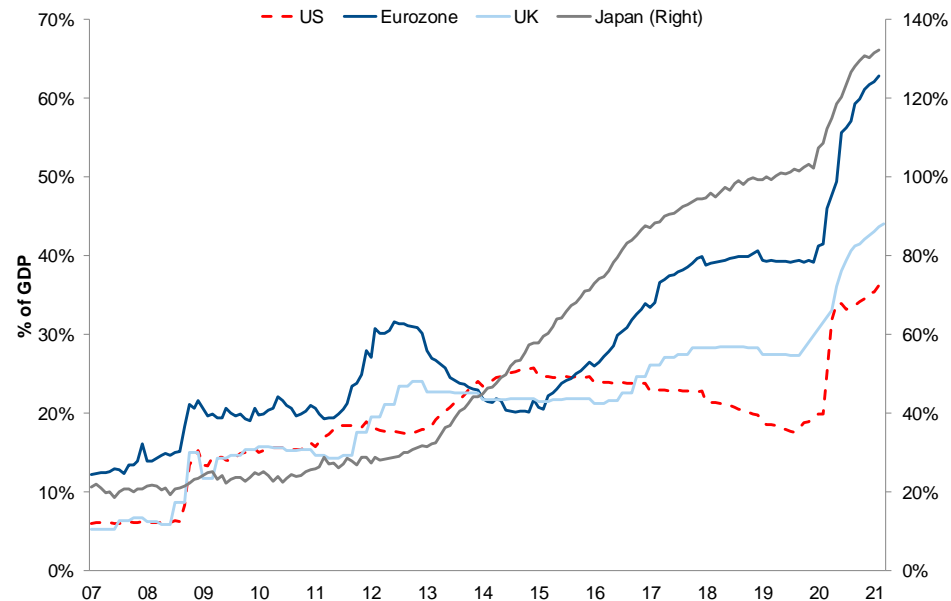
- EM GDP shrank 1.9% in 2020, the worst performance in data going back to 1980.
- The recession was short-lived, however, with most economies rebounding by last summer.
- EM economies have entered 2021 with a healthy momentum with upside surprises to growth in Q4 2020. We expect EM growth to rebound to 6.2% this year. There are upside risks from strong external demand driven by reopenings and policy support in DM economies (particularly the US), and downside risks from a rise in infections in Brazil and India.
- In China, we expect 2021 GDP growth to accelerate to 7.5% from 2.3% last year. While fiscal and monetary policy will remain accommodative to support the recovery, policymakers may slowly dial back the level of stimulus given debt concerns—we estimate total debt in China stood at 288% of GDP as of December 2020, up sharply from 270% at the end of 2019.

Source: Investment Strategy Group, Goldman Sachs Global Investment Research, Bloomberg.

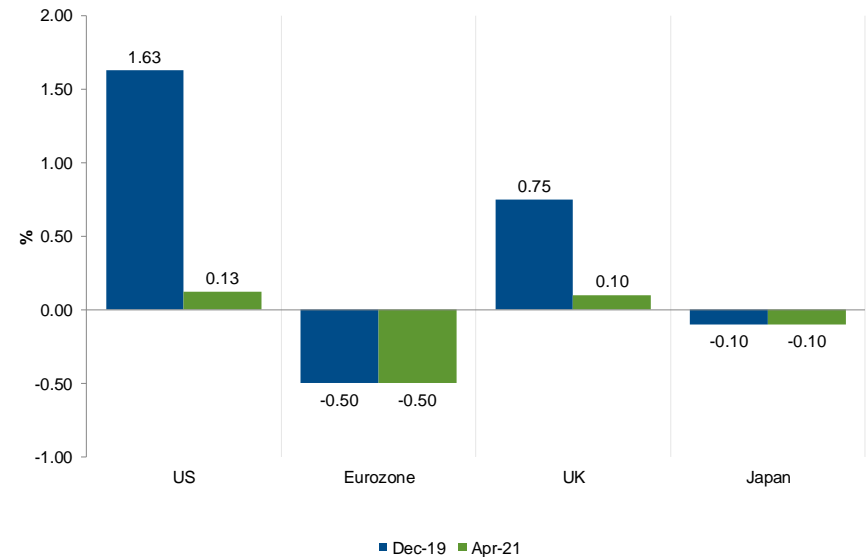
Note: Forecasts are estimated, based on assumptions, are subject to revision and may change as economic and market conditions change. There can be no assurance the forecasts will be achieved.

Monetary Policy to Remain Accommodative

1. Central Bank Balance Sheets¹



2. Central Bank Main Policy Rates

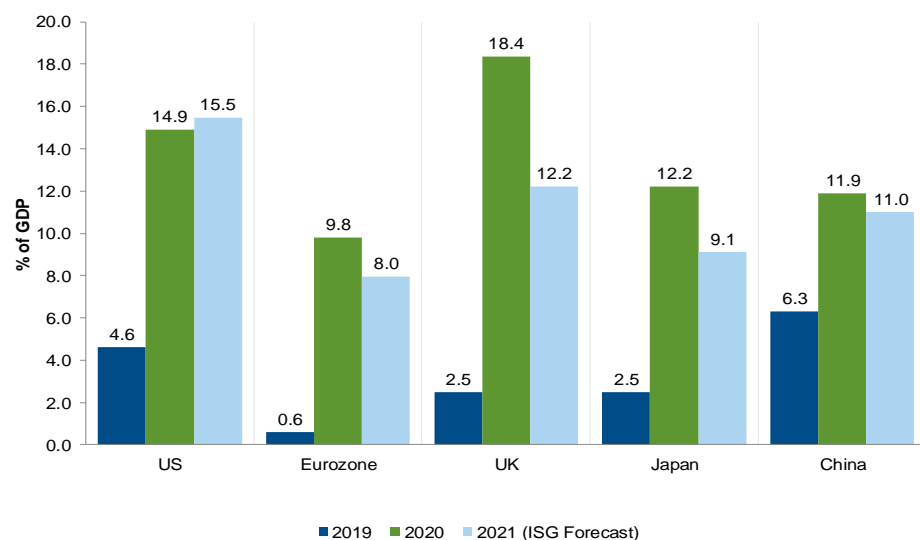


- In response to the pandemic, major central banks eased monetary policy substantially by cutting policy rates and expanding their balance sheets via asset purchases and credit easing operations.
- Looking ahead, we expect central banks to maintain a very accommodative policy stance for an extended period of time.
- We expect policy rates across major developed economies to remain on hold at their current low levels for a while and for central banks to continue their asset purchase programs and maintain credit support measures in 2021.
- This accommodative monetary stance should contain increases in yields, which is reflected in our end-2021 10-year yield forecasts for US Treasuries, German bunds, and UK gilts of, respectively, 1.50 – 2.00%, -0.4 – 0%, and 0.5 – 1.25%.

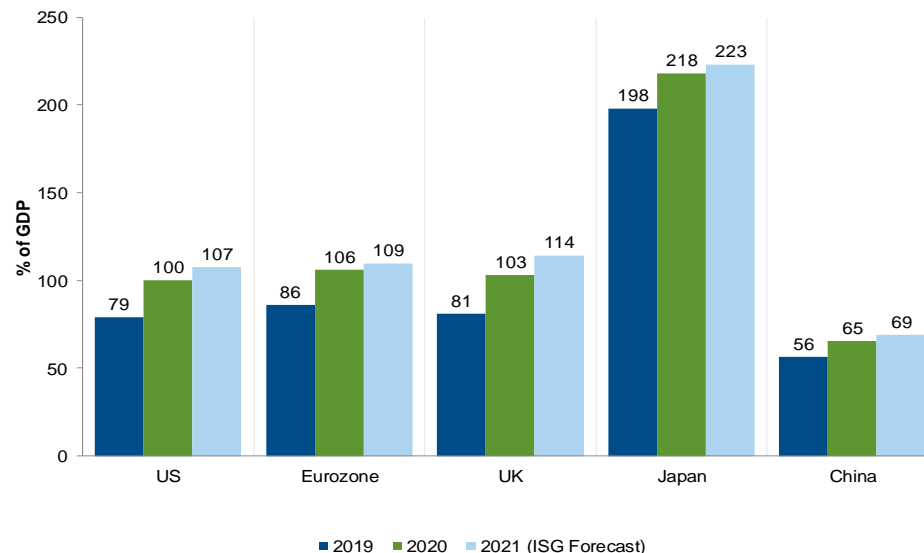
(1) Data are presented as % of annual nominal GDP. UK balance sheet data after Q4 2019 is based on the BoE's Weekly Reports.
Source: Investment Strategy Group, Bloomberg, Haver Analytics.

Fiscal Policy to Remain Accommodative

1. Government Budget Deficits¹



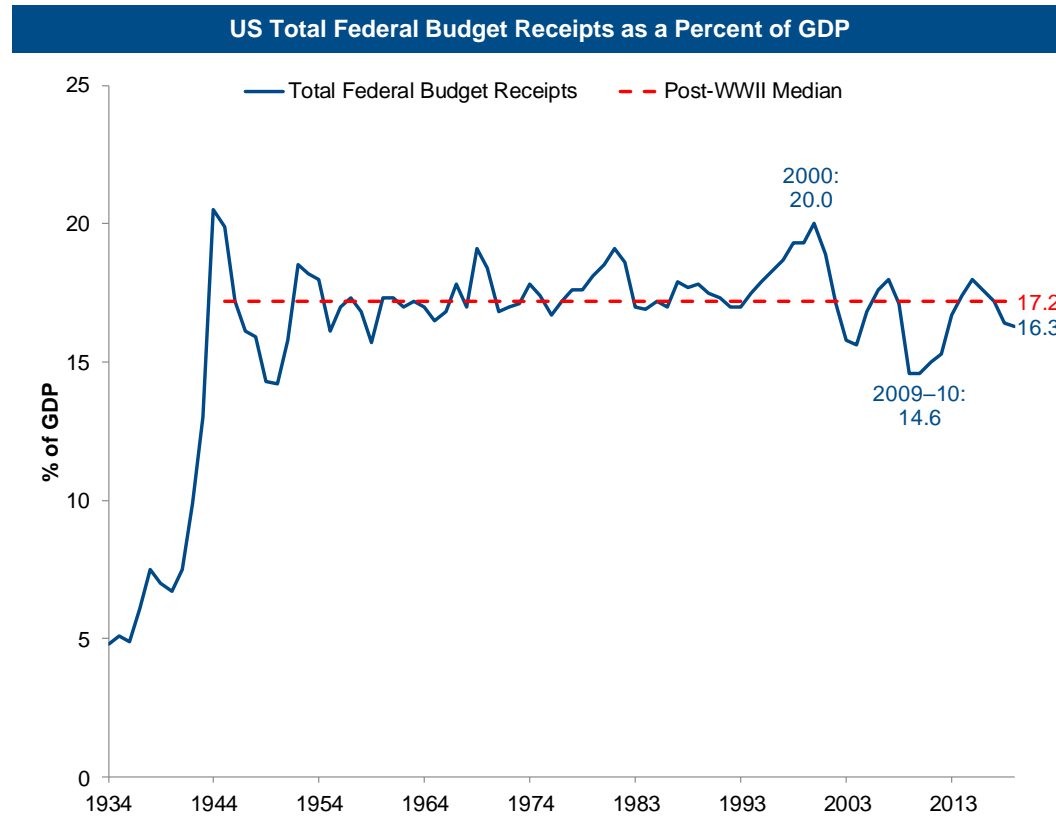
2. Government Debt-to-GDP Ratios¹



- In response to the pandemic, policymakers globally have delivered unprecedented fiscal stimulus, supporting household incomes and containing corporate bankruptcies.
- We expect fiscal policy to continue supporting the recovery in 2021. Notably, additional near-term fiscal measures in the US reflect the \$1.9tn phase 5 coronavirus bill. In Europe, many national fiscal measures were extended into 2021, while the EU-wide Next Generation fund remains on track to start disbursing funds this year.
- As a result, government debt across major economies is expected to increase significantly relative to pre-pandemic levels. However, low interest rates (supported by accommodative monetary policy) will keep the debt burden sustainable, in our view.

(1) Estimates reflect current fiscal policy. The Eurozone aggregate forecast is computed as a weighted average of Germany, France, Italy, Spain. US and UK data are on a fiscal year basis. Source: Investment Strategy Group, IMF, Haver Analytics.

US Federal Budget Receipts

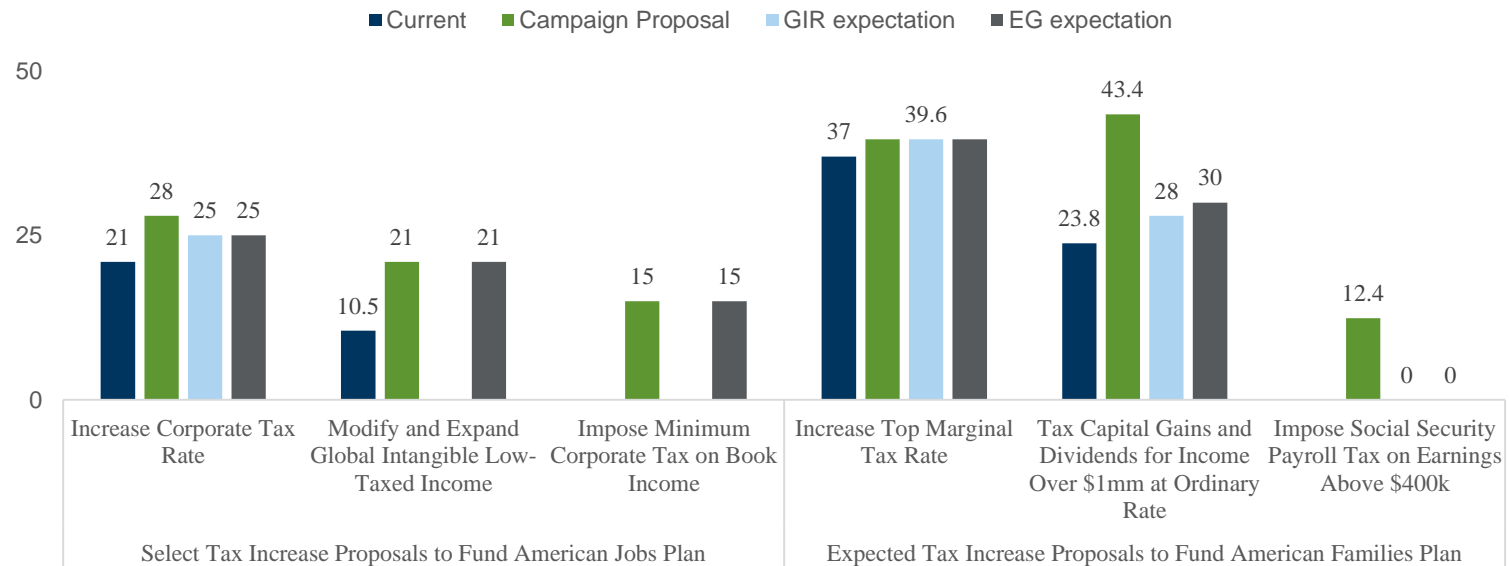


Biden Administration Unveils an Initial Set of Proposed Tax Increase

Consumer and
Wealth
Management

Goldman
Sachs

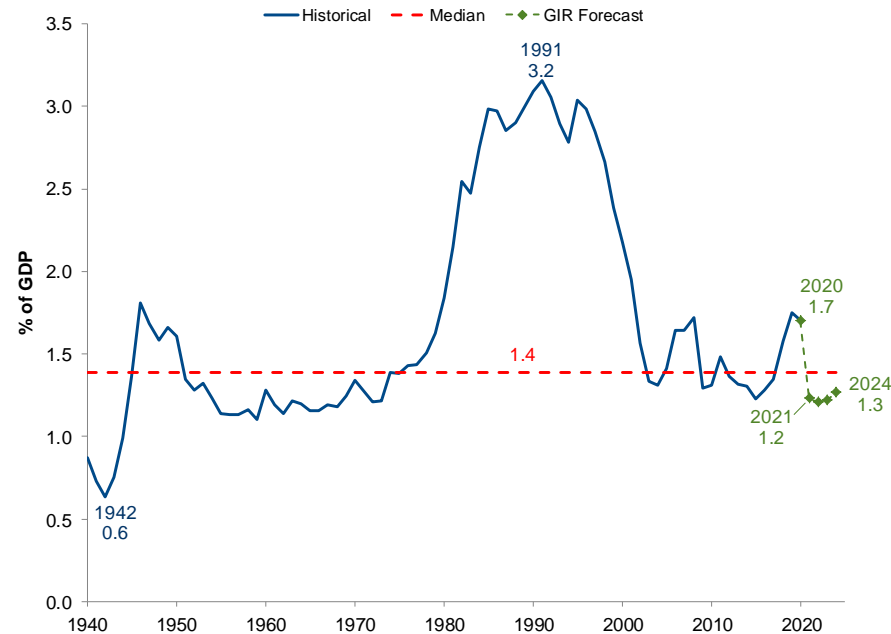
Select Tax Increase Proposals from the 2020 Presidential Campaign and Expected Outcome



- The Administration has unveiled an initial set of tax increase proposals. These increases are intended to offset the costs of the \$2.3 trillion American Jobs Plan (physical infrastructure) over 15 years. These proposals focus on corporations.
- The next set of proposed increases is expected in late April. These increases are intended to offset the costs of the yet-to-be-published ~\$2tn American Families Plan (human infrastructure). These proposals will likely focus on individuals.
- Passage of these tax increases in Congress will be a considerably heavier political lift than the COVID-19 rescue plan. Of the tax increases, corporate tax rate and top marginal tax rate appear most likely to secure enough political support to pass – though the exact levels remain uncertain. None of the potential tax increases are expected to be retroactive.

US Interest Expense Expected to Decline Due to Low Rates

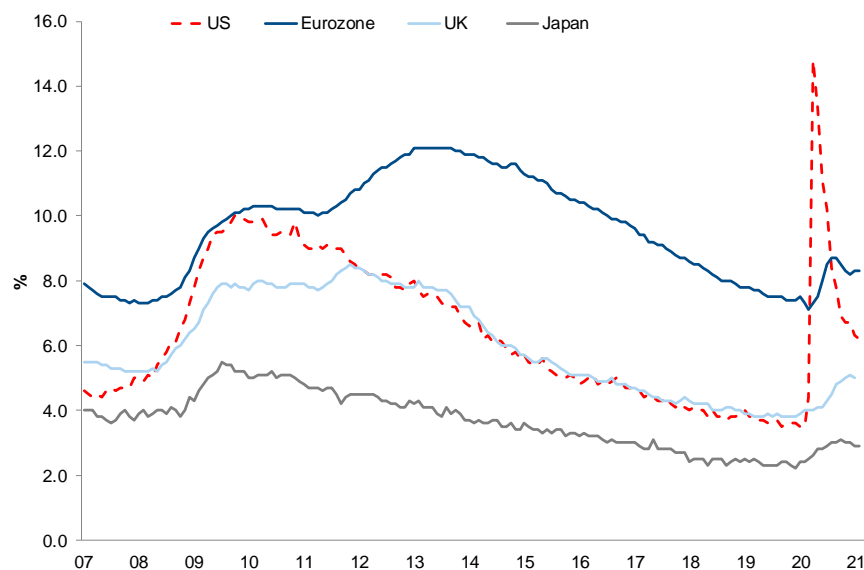
US Interest Expense as Percent of GDP: Realized + GIR Forecasts Through 2023



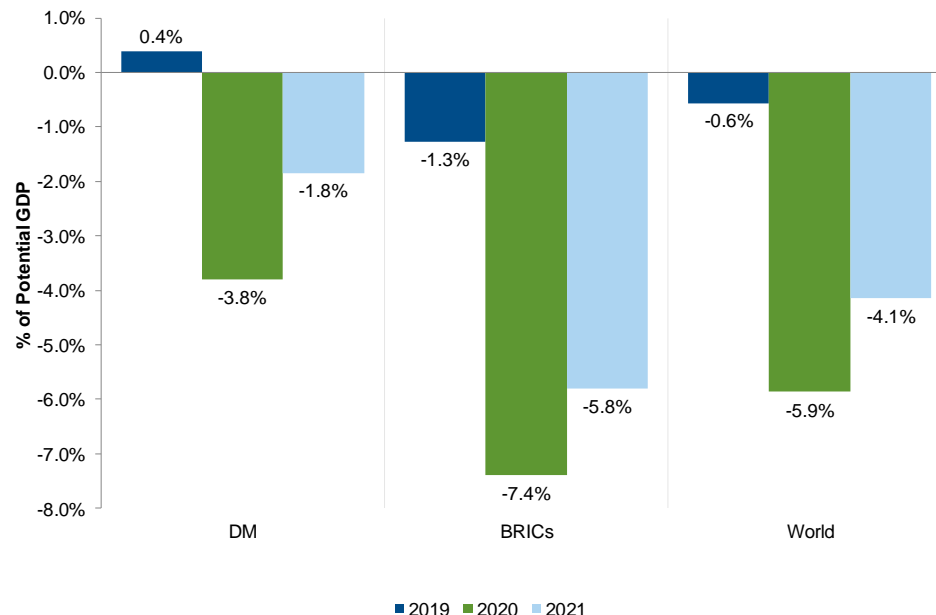
- GIR expects US interest expense as a percent of GDP to be the lowest since the 1960s.

Large Output Gaps Have Opened Up as a Result of the Pandemic

1. Unemployment Rate – Through March 2021¹



2. Output Gap Estimates²



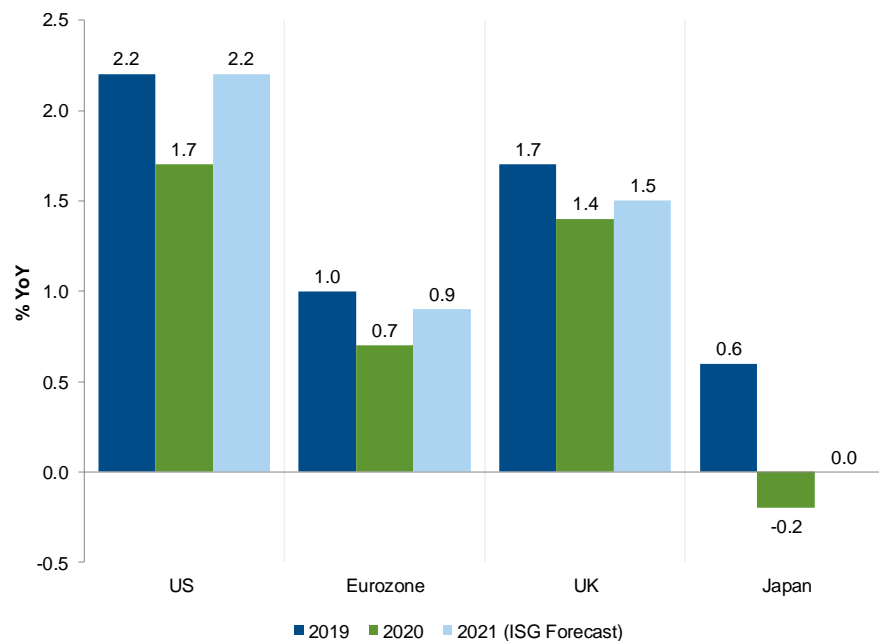
- Labor markets suffered a very large hit from the pandemic. Unemployment rates have surged across regions, albeit less so in Europe and Japan because of the extensive use of short-time work schemes. Still, aggregate hours worked contracted significantly across major developed countries.
- Growth in job vacancies remains soft, but labor markets have started to improve, especially in the US.
- Even as economies have begun to recover, unemployment rates are still elevated and output gaps remain wide. We estimate a world output gap of around -5.9% of potential GDP in 2020, narrowing to -4.1% in 2021².

(1) Unemployment rate through March 2021 for the US, February 2021 for the Eurozone and Japan, and through January 2021 for the UK. (2) World output gap estimated as a weighted average of the IMF's output gap estimate for developed economies and the ISG's output gap estimate for the BRICs.

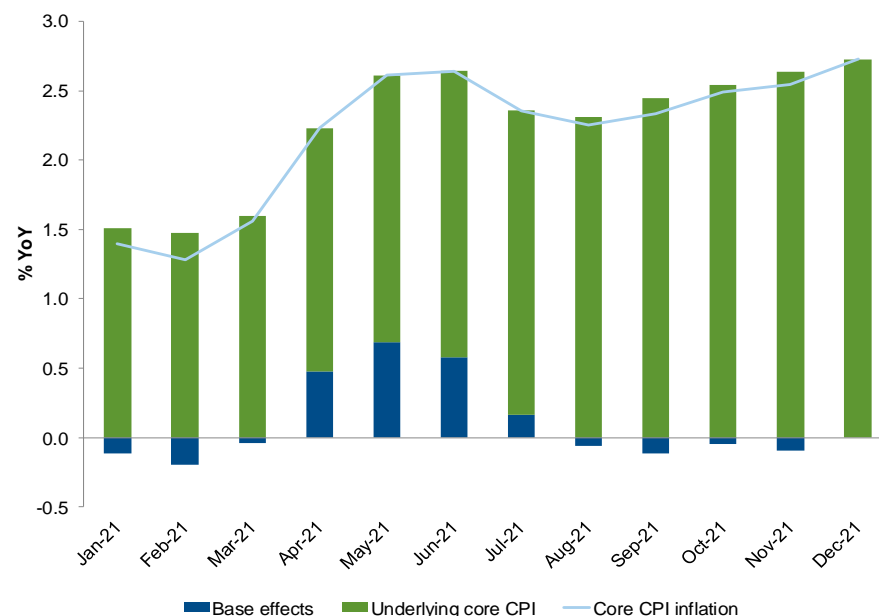
Source: Investment Strategy Group, IMF, Haver Analytics.

Inflation is Expected to Rise

1. Core CPI Inflation¹



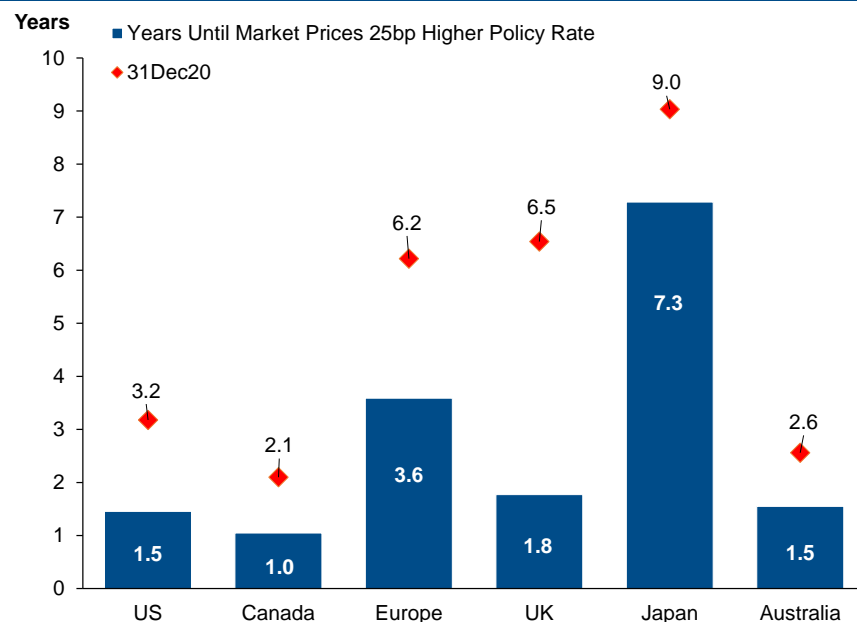
2. Decomposition of US Core CPI into Base Effects and Underlying Inflation



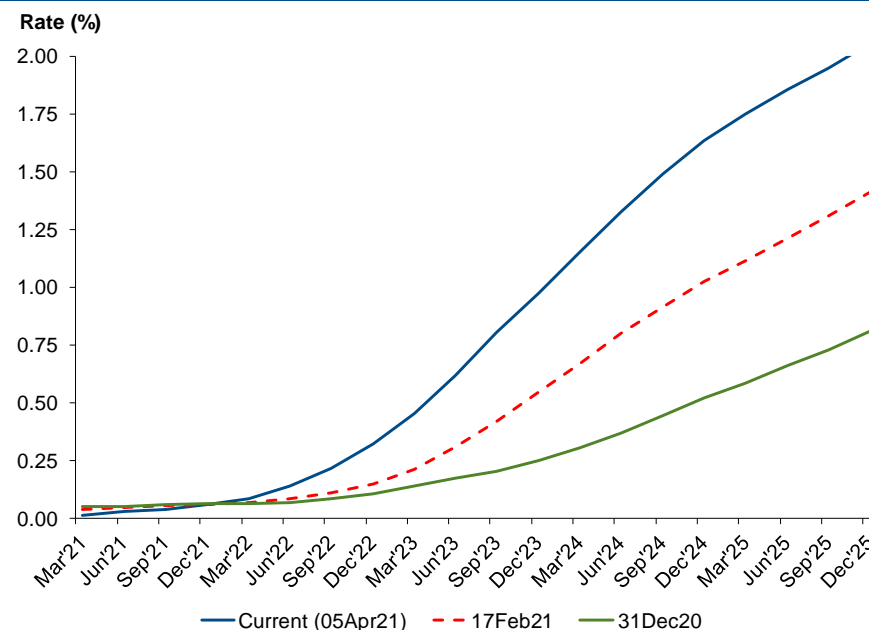
- Still-sizeable slack in the economy—evident in the elevated unemployment level—represents a powerful headwind to inflation, although in the US labor market slack is diminishing at a faster-than-expected pace.
- In the US, inflation is likely to rise this year as the economy rebounds and prices recover from currently depressed levels. While in the near term this largely reflects transient drivers, including a low base effect and temporary supply constraints in certain sectors, beyond 2021 diminishing slack is likely to keep inflation above 2%.

Market Expectations for Policy Normalization

1. Front End Policy Rates – As of 05Apr2021



2. US Front End Market Pricing – SOFR¹ futures curve

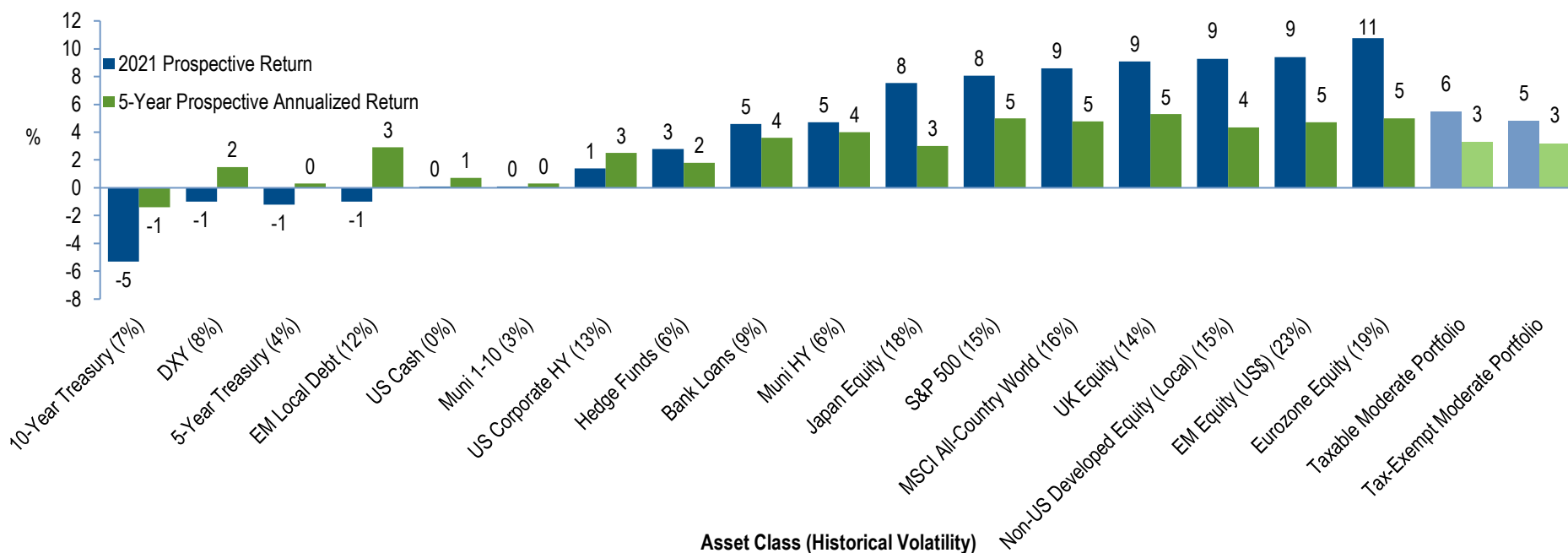


- Since the end of 2020, market expectations for the timing of policy normalization have shifted across developed markets.
- Focusing on US rates and the Federal Reserve, the market is now pricing for lift off to occur by Q4'22 and for ~3 hikes to occur by the end of 2023. This pricing shifted in the past couple months, as the market had been indicating a mid-2023 lift off in February.

¹ SOFR = secured overnight financing rate, risk-free rate benchmark in the US.
Source: Investment Strategy Group, Bloomberg.

ISG 2021 and 5-Year Prospective Total Returns

2021 and Five-Year Prospective Annualized Pre-Tax Return Projections (Rounded) – As of March 29, 2021

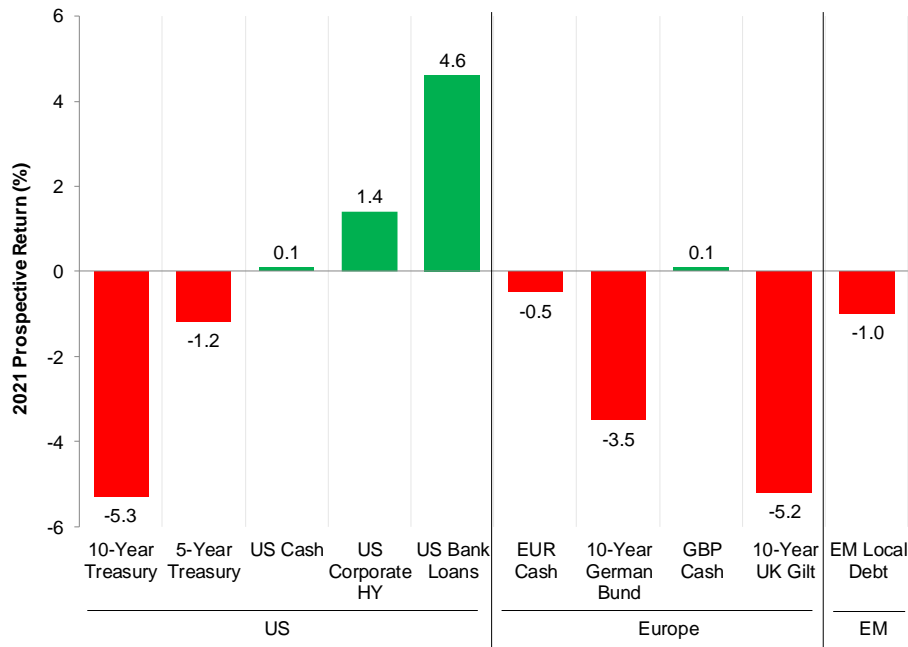


- We expect a base case total return of 8% for US equities and 8.6% for the MSCI All Country World Index.
- In the year ahead, non-US developed equities and emerging market equities are forecast to outperform US equities, but match or lag it over the next five years. These non-US markets also typically have higher volatility.
- Equities should outperform cash and bonds; US Treasuries are projected to have negative returns in coming years.

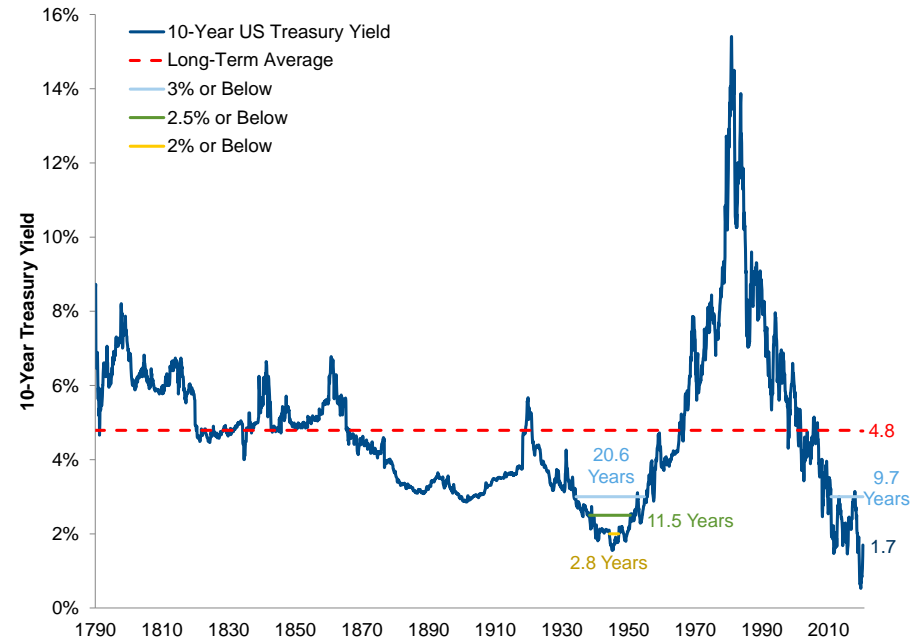
Note: These forecasts have been generated by ISG for informational purposes. Return targets are based on ISG's framework, which incorporates historical valuation, fundamental and technical analysis. Dividend yield assumptions are based on each indexes trailing 12-month dividend yield. They are based on proprietary models and there can be no assurance that the forecasts will be achieved. Please see additional disclosures and indices used at the end of this publication. Source: Investment Strategy Group.

Higher Interest Rates in 2021 Will Weigh on High Quality Bond Returns. We Prefer Credit Over Duration

1. ISG Prospective 2021 Fixed Income Returns by Asset Class

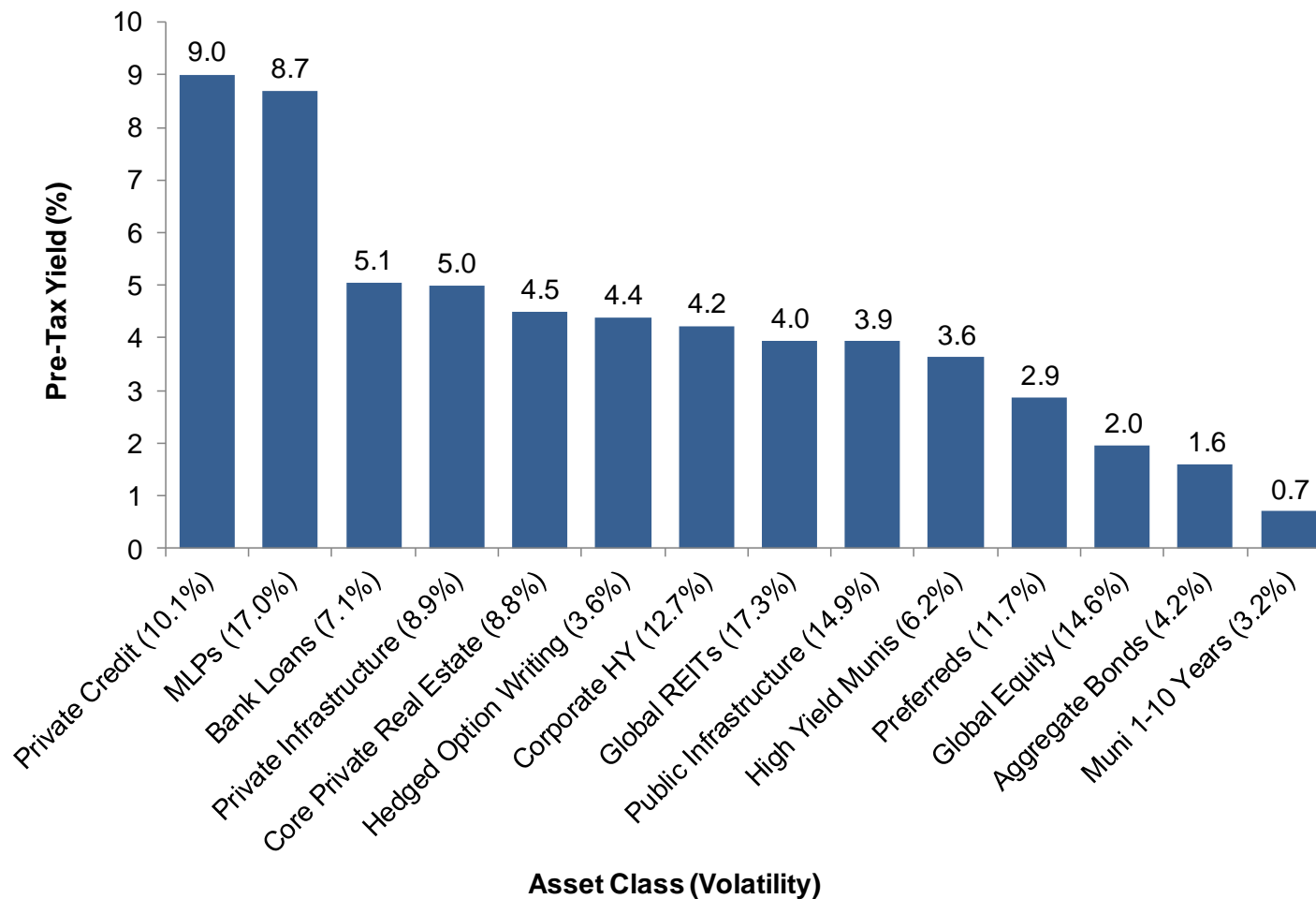


2. US 10-Year Treasury Yield Since 1790



- Several factors make bond returns vulnerable to rising interest rates this year: a strengthening global economic recovery on the back of widespread vaccinations, already record low yields, receding flight-to-safety premiums in sovereign bond prices, and high government issuance to finance fiscal measures.
- But a disorderly backup in rates is unlikely given today's economic slack and the lingering disinflationary impacts of the pandemic. This backdrop will provide cover for central banks to maintain stimulative monetary policy this year.
- We expect the 10-year Treasury yield to be between 1.50% and 2.00% by the end of 2021. While we expect rates to increase, history reminds us that interest rates can remain low for long periods of time.

Yield of Various Asset Classes – As of March 31, 2021

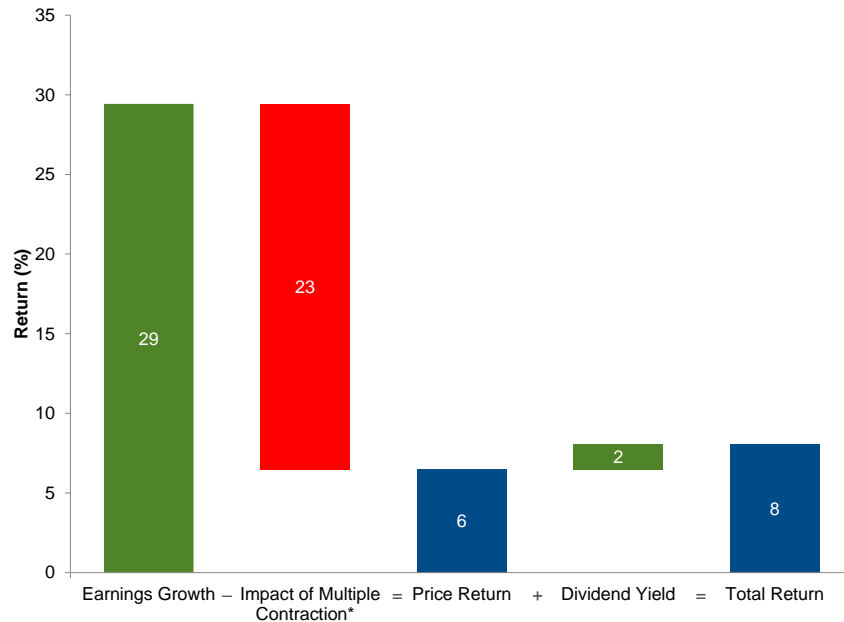


Note: Preferreds not adjusted for taxes.

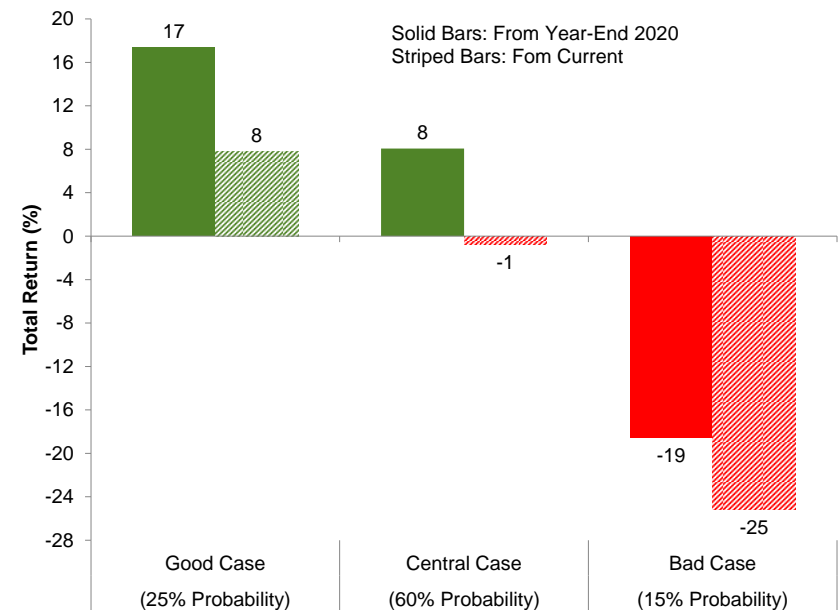
Source: Investment Strategy Group, Bloomberg.

We Expect Attractive Returns for US Equities in 2021

1. Decomposition of ISG Central Case S&P 500 Return for the Year 2021



2. ISG S&P 500 Total Return Forecast at Year-End 2021 – As of April 6, 2021



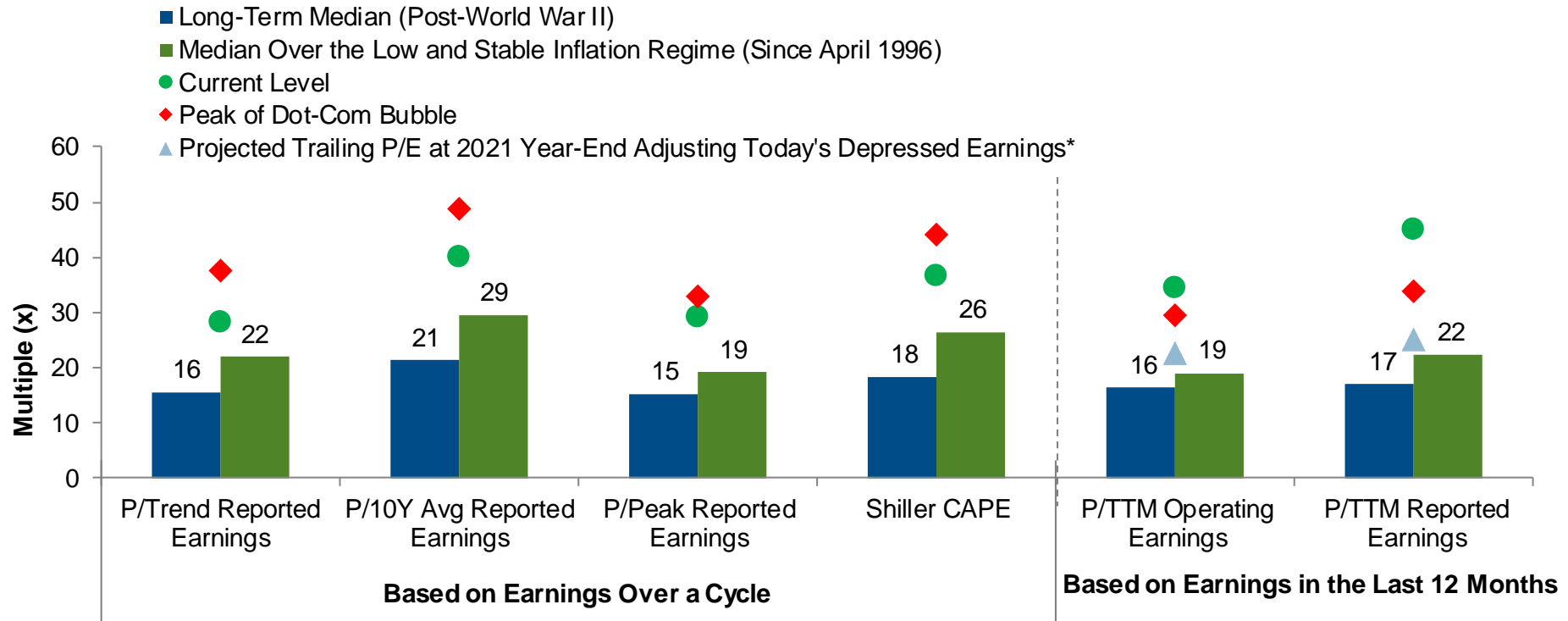
- With a 60% probability, we expect the S&P 500 to reach 3950–4050 by the end of 2021 in our central case:
 - Total returns of 7–9% (8% midpoint)
 - Earnings growth of 28–31% (29% midpoint), reflecting \$141 in 2020 and \$180–185 in 2021
 - Dividend yield of 2%
 - A compression in valuation multiples
- Our good case implies a 17% total return (or 4350 price) with 25% odds, reflecting a faster and more widespread rollout of vaccinations and better-than-expected economic growth.
- Our bad case implies a -19% total return (or 3000 price) with 15% odds, reflecting the potential for a more deleterious turn in COVID-19 developments and unfriendly regulatory or tax policies.

* Includes the compounding effect between earnings and multiples.

Source: Investment Strategy Group, Bloomberg.

Valuations Have Been Higher During Periods of Low and Stable Inflation Than Over the Entire Post-WWII Period

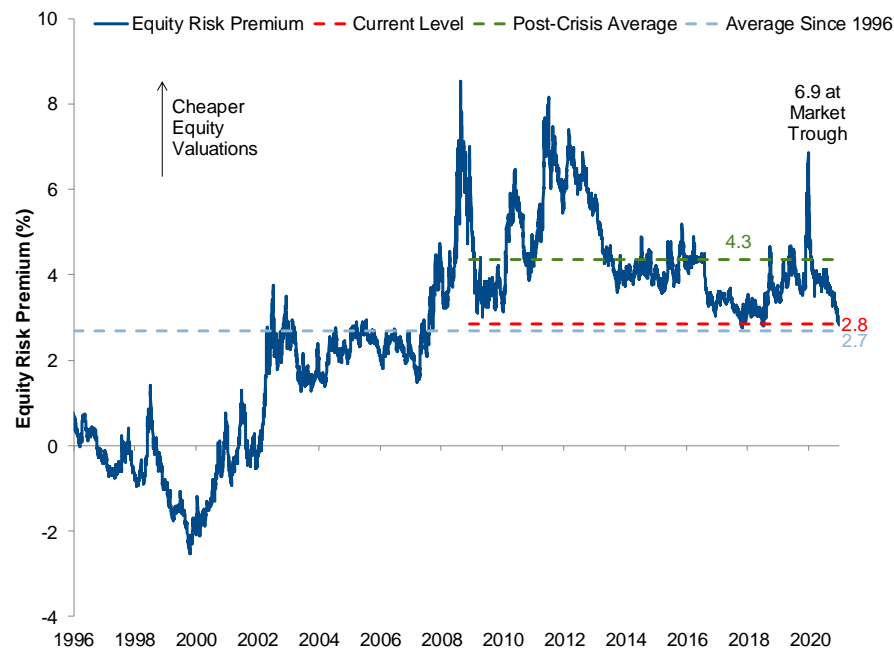
S&P 500 Valuation Multiples – As of April 6, 2021



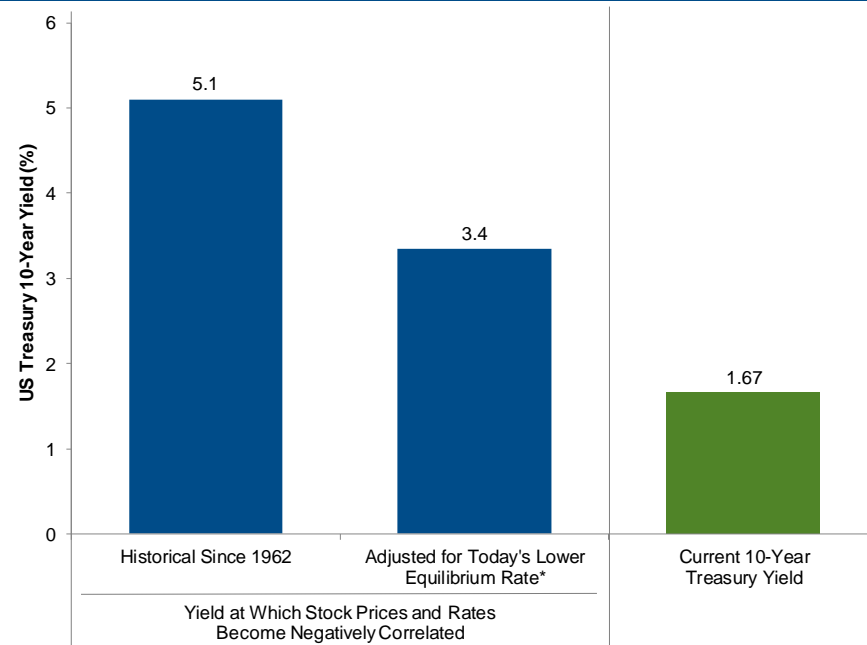
* Based on the midpoint of ISG's central case forecast range for the S&P 500 at 2021 year-end.

Today's Low Interest Rates Support Higher Valuations and Have Room to Rise Before Becoming a Headwind for Equities

1. S&P 500 Implied Equity Risk Premium: Forward 12-Month Earnings Yield Less US Treasury 10Y Yield – As of April 1, 2021



2. Inflection Point for Negative Correlation Between Stock Prices and Bond Yields – As of April 6, 2021

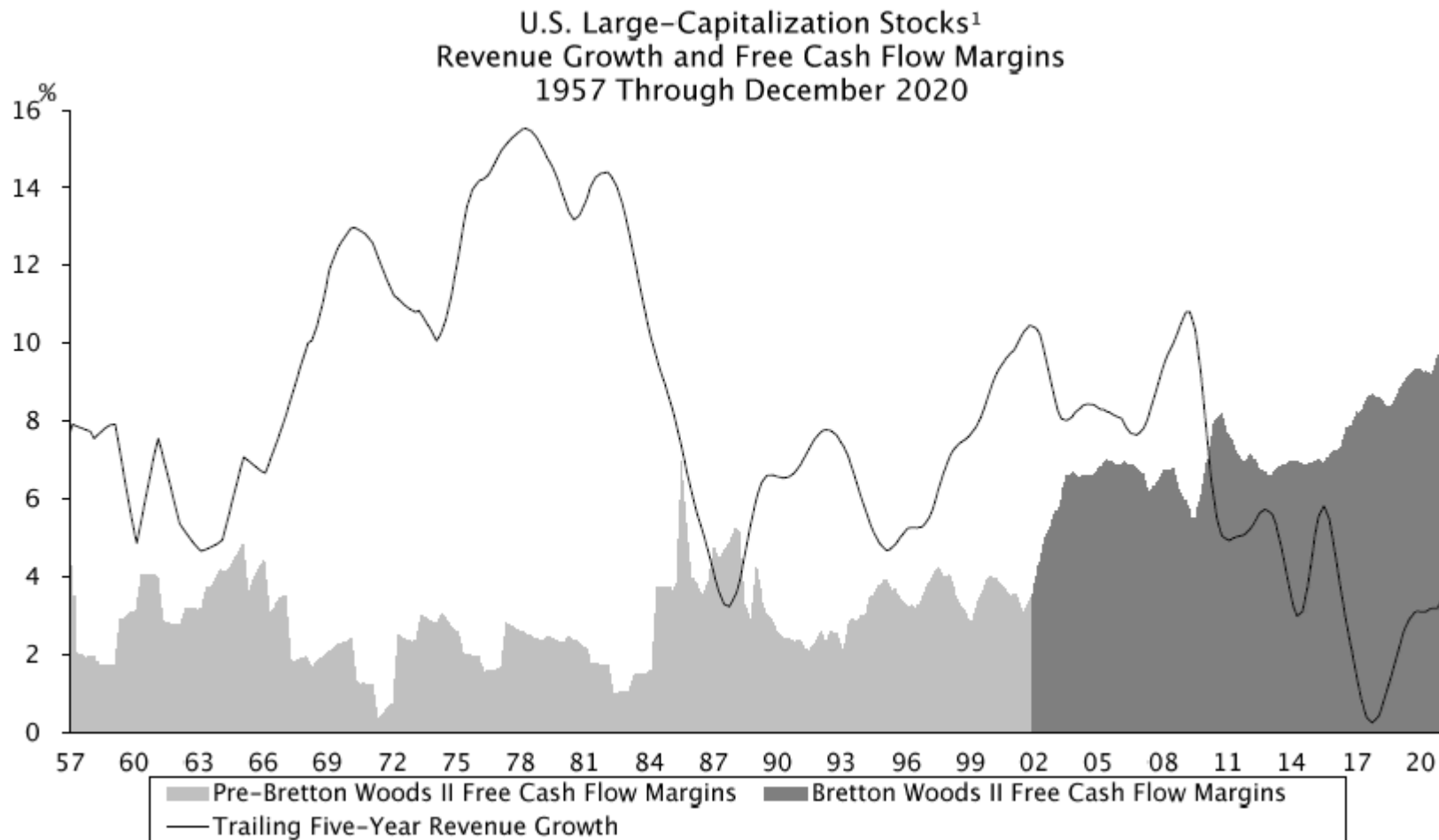


- The implied equity risk premium (ERP)—the difference between the earnings yields and the bond yield—is still an attractive 2.8% and is considerably better than the negative ERP seen during the technology bubble.
- Although we expect rising rates to compress valuations this year, interest rates have ample room to increase before they would jeopardize the bull market, provided they are rising in response to improving real growth.
- Keep in mind that 92% of S&P 500 debt is fixed-rate debt and only 14% matures over the next two years, so it would take a number of years for higher rates to negatively impact aggregate S&P 500 interest expense.

* Adjusts for the reduction of 1.75 percentage points in the long-run equilibrium nominal rate, in line with the shift in Federal Reserve projections since 2012.

Source: Investment Strategy Group, FactSet, Bloomberg, Global Financial Data, Haver Analytics.

Constructing Stock-Picking Models Requires Judgements About Fundamentals



1. Equally-weighted returns.

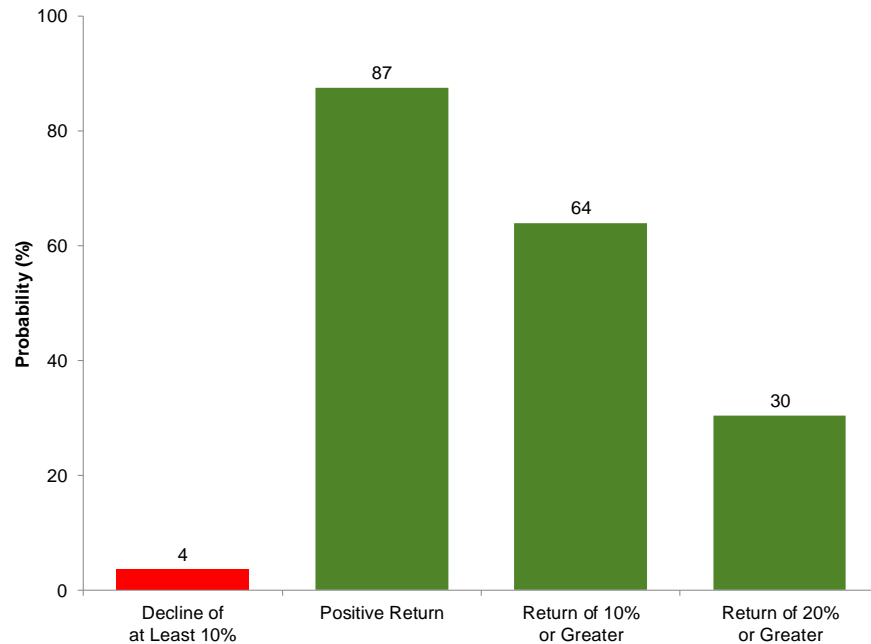
Source: Corporate Reports, Empirical Research Partners Analysis.

Equities are Likely to Deliver Attractive Returns During This Economic Expansion, as They Have in the Past

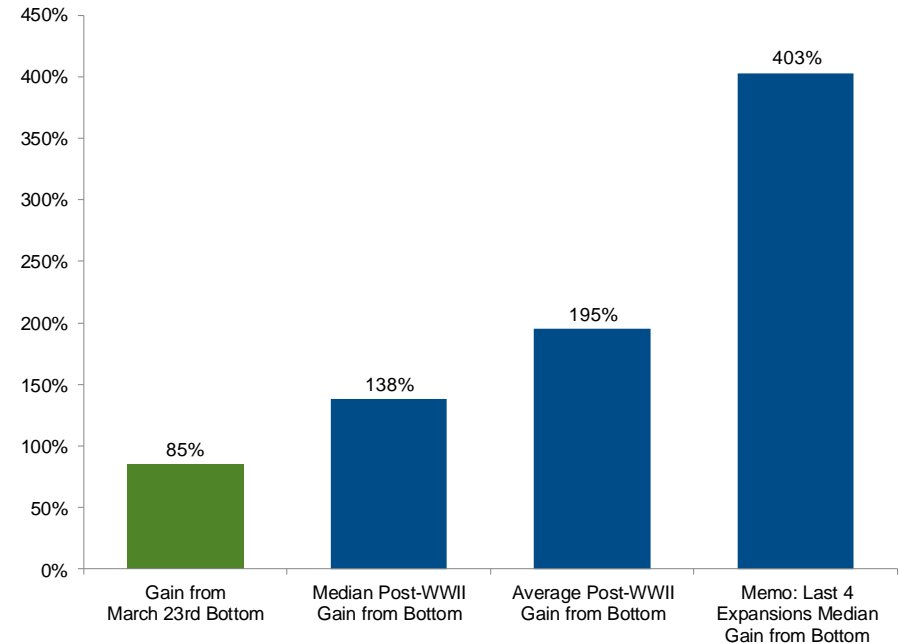
Consumer and
Wealth
Management

Goldman
Sachs

1. Odds of Various S&P 500 One-Year Total Returns During US Economic Expansions¹



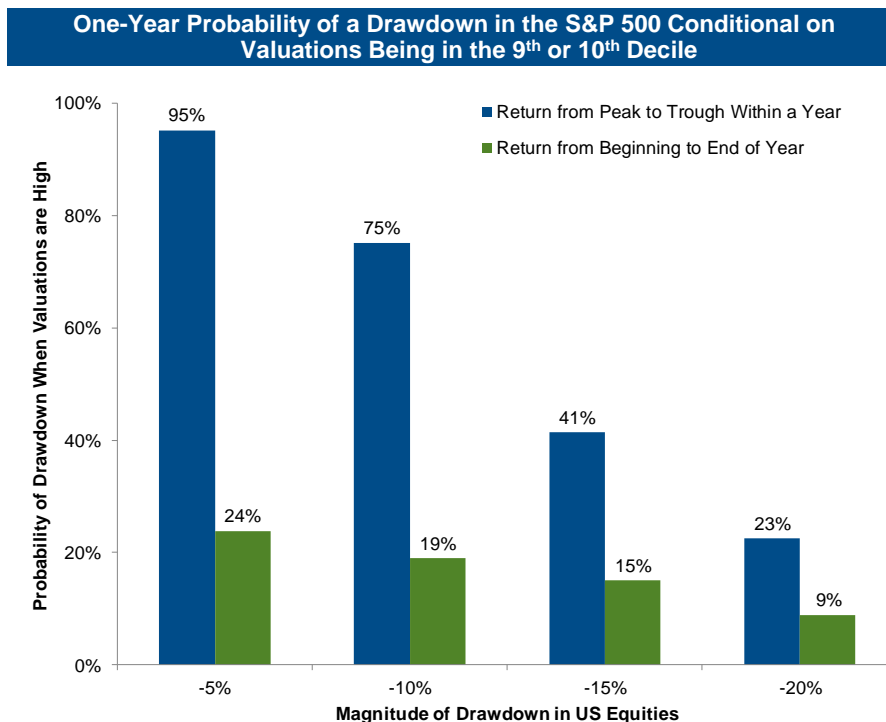
2. S&P 500 Total Return from Equity Trough to Beginning of Next Recession² – As of April 6, 2021



- Investors have enjoyed 87% odds of a positive return—and a much greater likelihood of large gains than of large losses—in years when the economy is expanding.
- In fact, nearly three-fourths of historical equity declines in excess of 20% occurred during US economic contractions. With our forecast placing just 10% odds on a recession this year, the economic backdrop in 2021 is favorable for stocks.
- Past economic expansions have been associated with sizable cumulative equity gains, implying ample upside despite the 85% equity rally from last year's March low.
- Given these historical analogs and our fundamental views, we expect equities to deliver mid-single-digit annualized returns that will be superior to cash and bonds for the foreseeable future.

(1) Based on data since 1945. (2) Recession start date is defined as the first date of the NBER business cycle peak month.

S&P 500 Drawdown Probability Over One Year Window



- Over a 12-month period the historical probability of a 5% correction from current valuation levels is 95%, and the probability of a 10% correction is 75%.
- The odds of a pullback persisting through the year have been much lower. The historical probability of a 5% correction from beginning to end of year is only 24%.

We are Tactically Overweight Value vs. Growth and Small-Cap vs. Large-Cap Equities

Consumer and
Wealth
Management

Goldman
Sachs

1. US Russell 1000 Value vs. Growth Relative Total Return – Through April 6, 2021



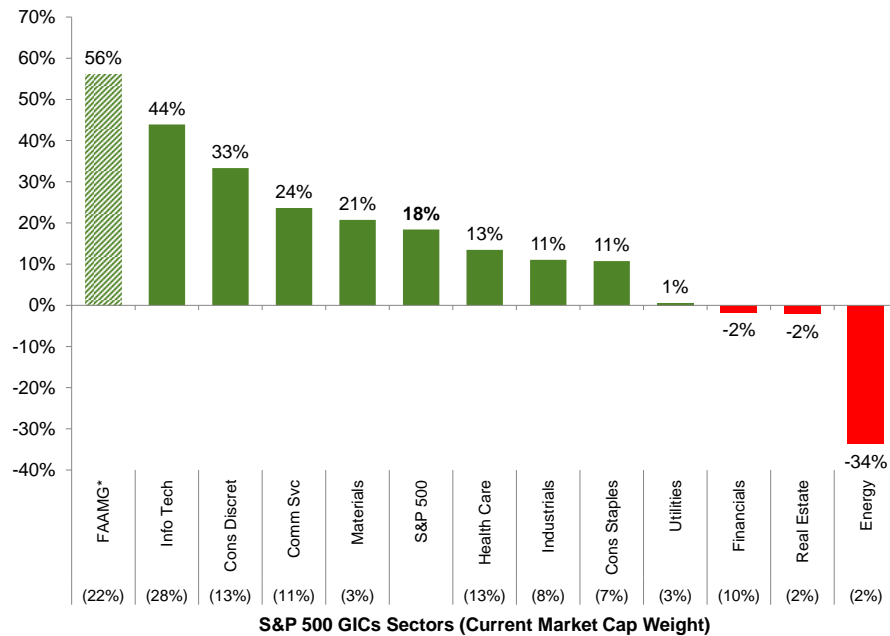
2. US Small-Capitalization vs. Large-Capitalization Relative Total Return – Through April 6, 2021



- Value has underperformed growth by 336 percentage points (pp) (or 5.6pp ann.) since August 2006, and by 36% in 2020 given the global pandemic/zero rates. Relative performance is now at levels last seen during the technology bubble.
- The valuation spread between cheap and expensive stocks stands about 1.3 standard deviations above its mean. Such wide spread reflect the higher risk premiums offered by value stocks, which have been associated with subsequent outperformance.
- Small cap stocks have lagged large cap stocks by about 1.8% a year since July 1983. As a result, the Russell 2000 index's price to cash flow multiple stands in the bottom 20% of its past range relative to the S&P 500.
- We expect the economic recovery fueled by broad vaccine rollout to be the catalyst for value's and small cap's outperformance this year. Similar periods of economic recovery have supported returns of value and small cap stocks in the past.

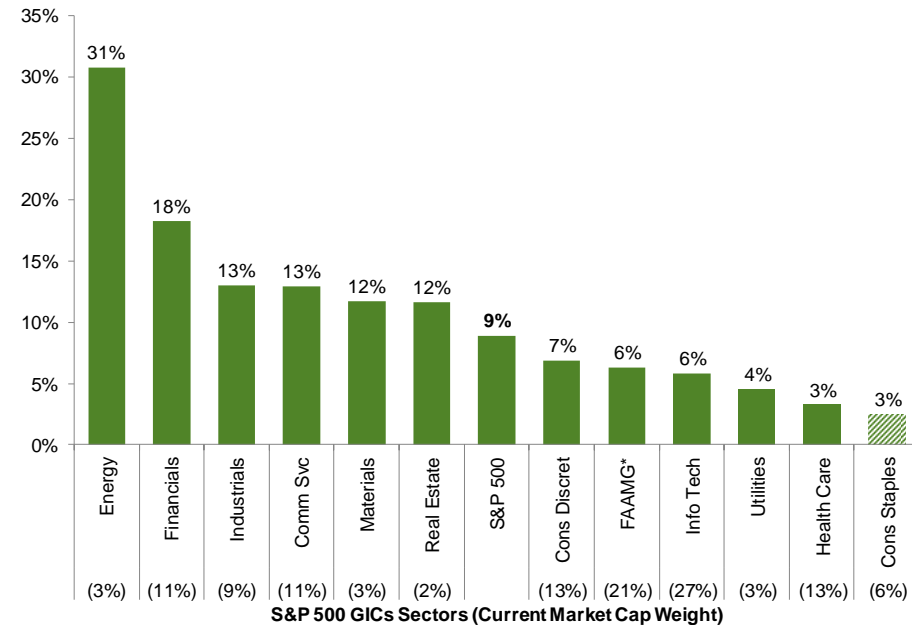
Growth versus Value Outperformance Accelerated in 2020 (I)

1. S&P 500 Sector Total Returns in 2020



* FAAMG includes Facebook, Apple, Amazon, Microsoft and Google.

2. S&P 500 Sector 2021 YTD Total Returns – As of April 6, 2021

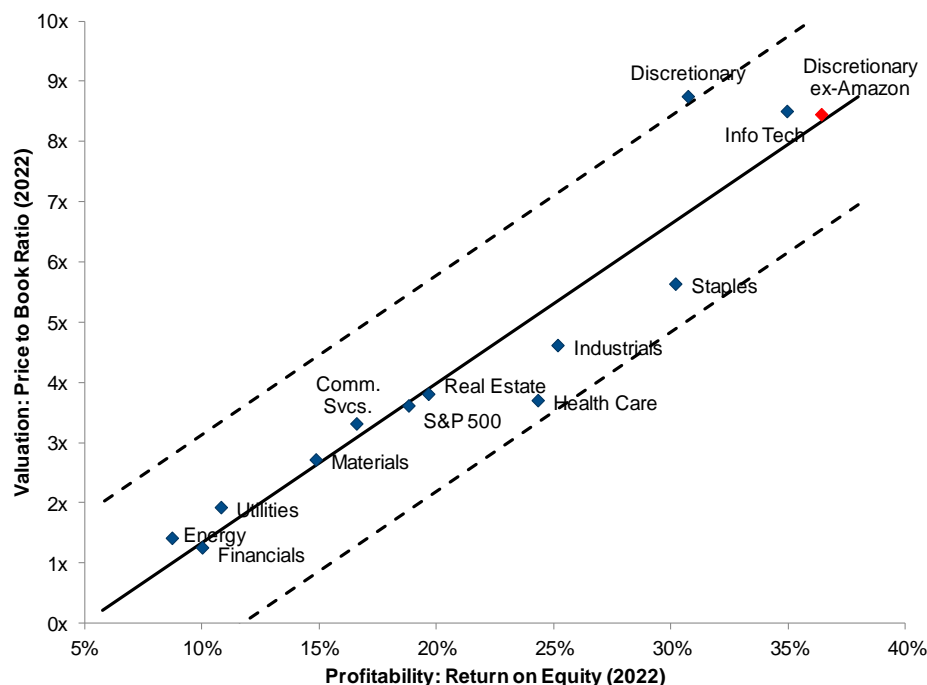


* FAAMG includes Facebook, Apple, Amazon, Microsoft and Google.

- The Russell 1000 Growth index outperformed the Russell 1000 Value index by around 36 percentage points in 2020 given the global pandemic and its hit to growth and interest rates.
- The significant underperformance of cyclical equities in 2020, particularly energy and financials, suggests investors remain highly skeptical of the economic trajectory despite the recovery in the headline S&P 500.
- The weak growth backdrop has led investors to pay a premium for growth, leading to crowding in popular tech names.

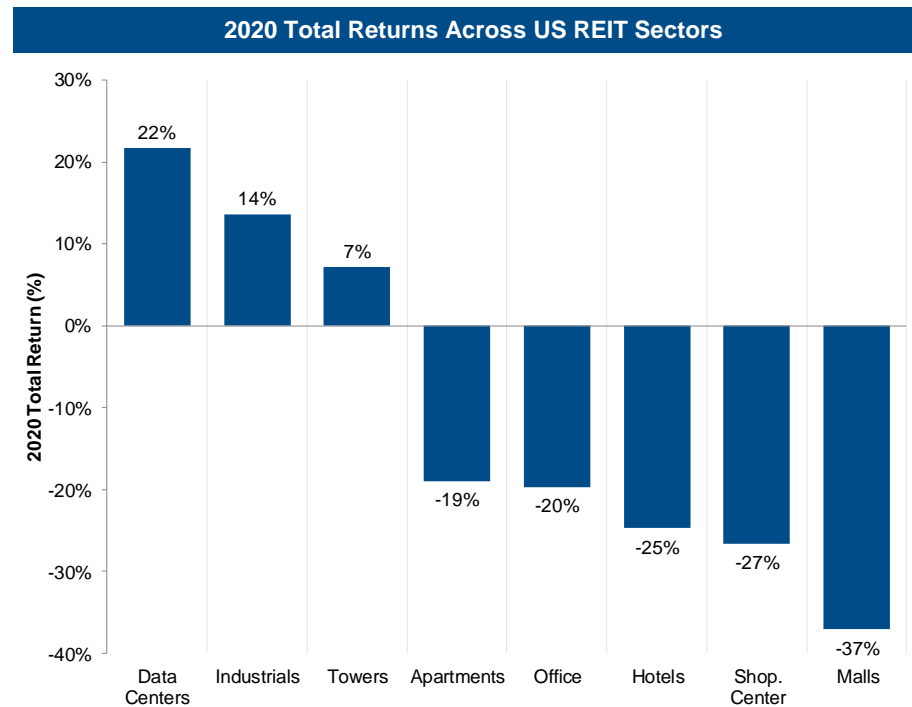
Growth versus Value Outperformance Accelerated in 2020 (II)

S&P 500 Sector Dispersion: Normalized (2022 Consensus) P/B vs. ROE



- When we look at normalized (using 2022 estimates) valuation relative to profitability, sectors like Information Technology and Consumer Discretionary trade at a slight premium, while Healthcare, Industrials and Staples trade at a discount. When we adjust the valuation of Consumer Discretionary for Amazon, the sector trades at a valuation inline with its profitability.

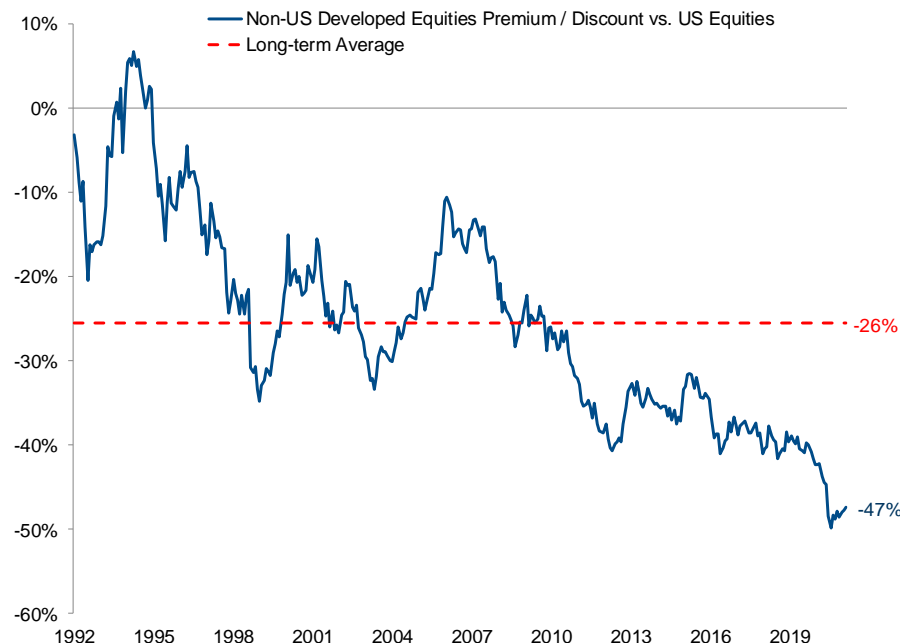
Sizable Dispersion in Performance Across Real Estate Sub-sectors During 2020



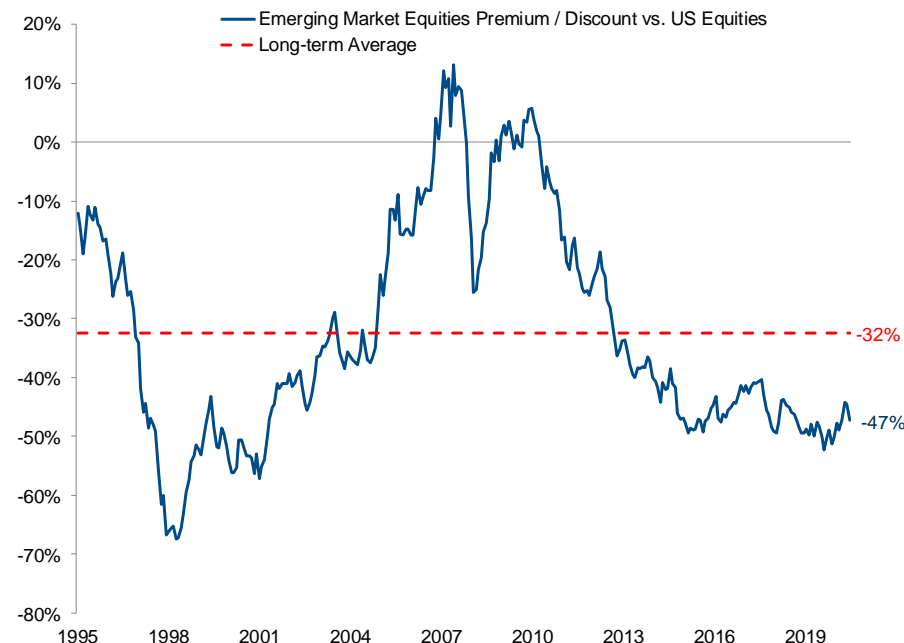
- 2020 saw considerable dispersion in sector performance among REITs. Malls, shopping centers and hotels that were severely affected by COVID-19 underperformed, as well as companies with higher leverage and shorter lease terms.
- Newer non-core REIT sectors such as datacenters and towers have outperformed, along with industrials/warehouses which benefit from a physical to digital transition.

Non-US Equities Trade at Large Discounts to the US, but Valuation has no Bearing on Subsequent Performance

1. Non-US Developed Equity Valuation Premium / Discount to US Equities – As of March 2021



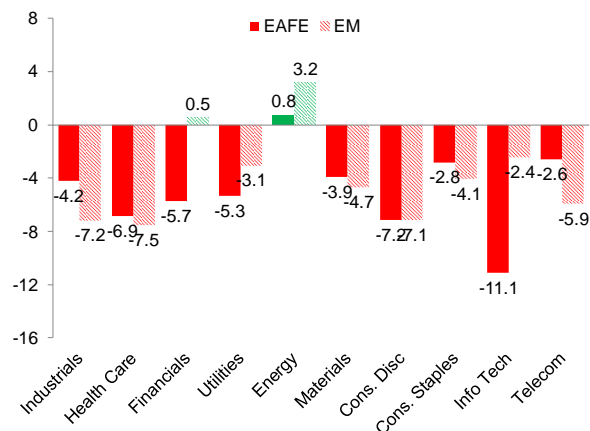
2. EM Equity Valuation Premium / Discount to US Equities – As of March 2021



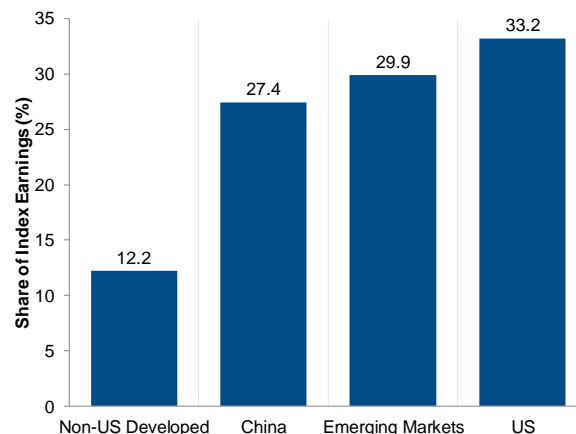
- Non-US developed markets and EM equities continue to trade at large valuation discounts to US equities.
- However, we do not recommend a broad tactical tilt to either funded out of US equities, given:
 - No evidence that significant discounts have led to outperformance over the subsequent one and five years.
 - Non-US developed and EM equities do not typically outperform US equities in a downdraft.
 - Underlying fundamental factors do not present compelling rationale to overweight non-US equities.

No Compelling Rationale to Overweight EAFE or EM Equities versus the US

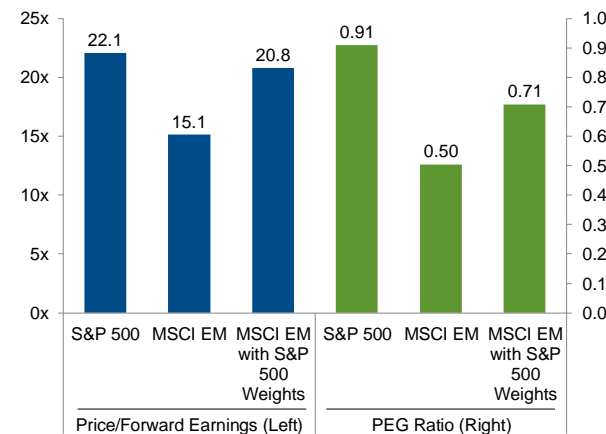
1. Annualized US vs. Non-US Earnings Growth Gap Since 2007¹ – Through March 2021



2. Technology Stocks' Earnings Weight Across Regions² – As of April 2, 2021



3. Price/Forward Earnings and PEG Ratios³ – As of April 2, 2021



- Earnings outside the US have substantially lagged those of the US across most sectors since the peak in earnings growth in 2007.
- The divergence in earnings can be partly attributed to the higher exposure of the US equity market to the broader technology sector. However, even adjusting for sector weights, US companies in aggregate earn more than their non-US counterparts.

1. Indices are based on annual MSCI data, beginning in 2007. Analysis uses 12-month forward earnings in order to mitigate the impact of negative earnings periods.

2. Includes information technology, internet and direct marketing retail, and interactive media services.

3. Using ISG estimates for 12-month forward EPS growth.

Source: Investment Strategy Group, Bloomberg, Datastream, FactSet.

Equities

- **MLPs**
Long MLPs, funded from investment grade fixed income.
- **Long S&P 500 Energy Sector**
Long S&P 500 energy sector, funded from investment grade fixed income.
- **Long S&P 500 Healthcare Sector Relative Value**
Long S&P 500 healthcare sector vs. short beta-adjusted S&P 500 index.
- **Systematic Downside Mitigation Tilt**
Short Systematic Downside Mitigation basket, long S&P 500 futures (delta-neutral).
- **Systematic Upside Improvement Tilt**
Long Systematic Upside Improvement basket, short S&P 500 futures (delta-neutral).
- **Short S&P 500 Put**
Short a Dec. 31, 2021 put struck 5% OTM.
Short a Dec. 31, 2021 put struck 10% OTM.
- **Short Russell 2000 Put**
Short a Dec. 31, 2021 put struck at-the-money.
- **Eurozone Banks**
Long Eurozone bank equities on a currency hedged basis, funded from investment grade fixed income.
- **Short Eurozone Banks Put**
Short a 12-month put struck at-the-money.
- **Long Europe Stoxx 600 Call vs. Short Stoxx 600 Put**
Long Europe Stoxx 600 call struck 5% OTM, funded by a short position in Stoxx 600 put struck 15% OTM, both expiring Dec. 17, 2021.

Fixed Income, Currencies and Commodities

- **Higher US 30Y Swaps**
Short a 9M30Y receiver swaption struck at-the-money.
- **Long US Bank Loans**
Long US bank loans, funded from investment grade fixed income.
- **Long US dollar vs. Yen**
Long a 2-year USDJPY call struck at-the-money-spot.
- **Long US dollar vs. Swiss franc**
Long a 2-year USDCHF call struck at-the-money-spot.
- **Short Euro vs. US dollar**
Long a 2-year EURUSD put struck at-the-money-spot.
- **Short Gold**
Long a July 16, 2021 put struck 5% OTM.

ISG Tactical Views by Asset Class – As of April 6, 2021

Asset Class	Current Tactical View
Fixed Income	
Investment Grade	Underweight
US Bank Loans	Overweight
Global Equity	
US Equity	Overweight
MLPs	Overweight
Energy Sector	Overweight
Healthcare Sector	Overweight
Small Cap Equity	Overweight
EAFE Equity	Neutral
Eurozone Banks	Overweight
Emerging Market Equity	Neutral
Currencies	
Euro (vs. USD)	Underweight
Swiss Franc (vs. USD)	Underweight
Japanese Yen (vs. USD)	Underweight
British Pound (vs. USD)	Neutral
Commodities	
WTI Crude Oil	Neutral
Gold	Underweight
Real Estate	Neutral

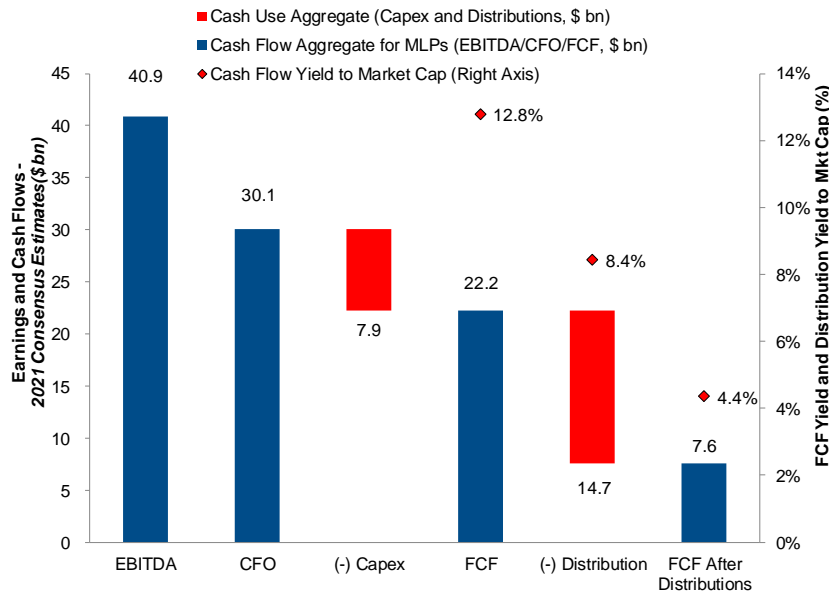
Overweight MLPs / Midstream Companies

Continued Cash Flow Discipline Leads to Potential for Appreciation in 2021

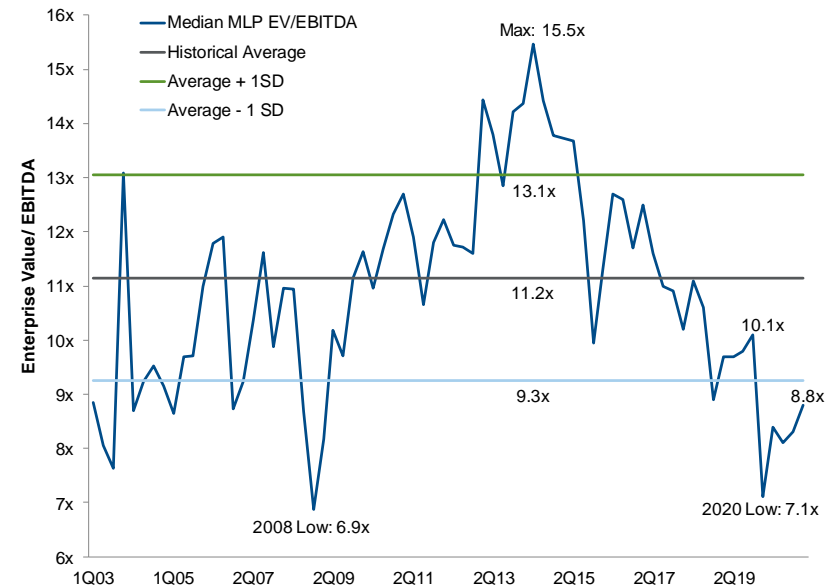
Consumer and
Wealth
Management

Goldman
Sachs

1. 2021 Cash Flow Waterfall Estimates for Alerian Index Constituents (\$ bn)



2. Median EV / EBITDA³ Multiple for MLPs (Forward 12-Month EBITDA)

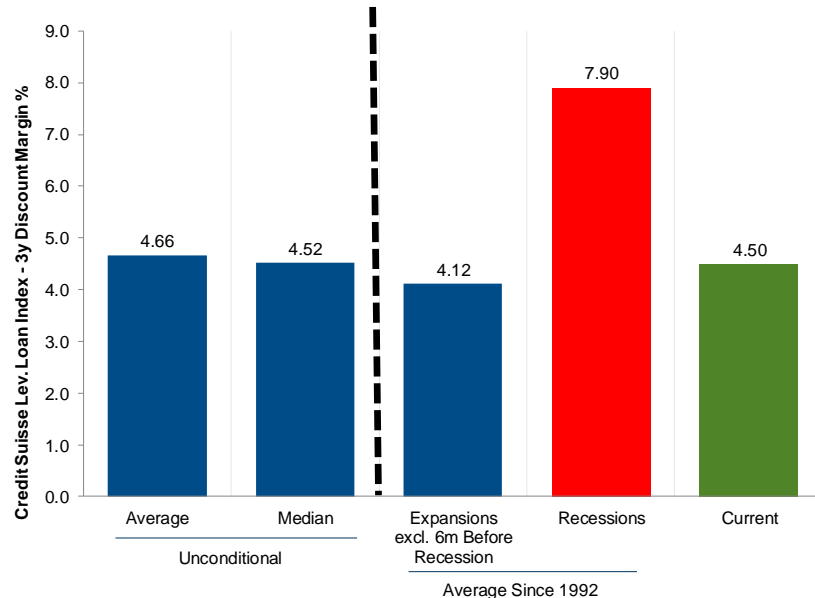


- **Continued Capital Discipline:** 2021 earnings (EBITDA¹) estimates for the midstream sector have risen 2% since the start of the year, while capital expenditure estimates have declined 7.8% over the same period. Put simply, companies are spending less on new project construction given reduced production from E&Ps and are retaining more cash flow.
- **Attractive Cash Flow Yields:** Given improved capital discipline, the sector is priced to deliver a free cash flow yield of 12.8%² before distributions based on 2021 estimates (versus 4.1% for the S&P 500) and 4.4%² after distributions.
- **Attractive Valuations:** The sector's valuation still stands at a discount relative to history and more than one standard deviation from historical average. A return to valuations at the end of 2019 still implies healthy returns from current levels. We expect the sector to appreciate 23% in 2021 through a combination of distributions and price appreciation.

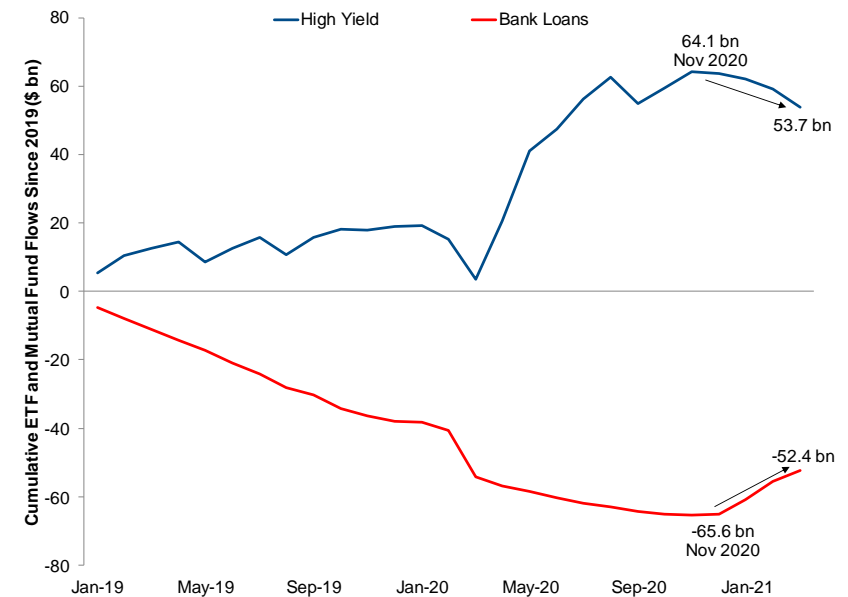
Overweight Bank Loans

Spreads are Wide Relative to Expansionary Medians and High Yield Bonds

1. Leveraged Loan Spreads, Current Levels Versus Recessions/Expansions



2. Cumulative ETF and Mutual Fund Flows, HY and Bank Loans Since 2019



- **Attractive Spreads:** Leveraged loan spreads stand at around 450 bps and are close to historical medians. The sector also offers 157 bps of incremental compensation relative to high yield bond spreads¹, which are in their 7th percentile relative to history. Spreads are also around 40 bps higher than the average seen during economic expansions.
- **Limited Interest Rate Duration:** US leveraged loan's 0.25 year rate duration is attractive in the modestly higher interest rate environment we expect. This has manifested itself in fund flows. Bank loans had seen outflows and high yield bonds had seen inflows until late Nov 2020, but these flows have reversed in recent months as rates have risen.
- **Attractive Returns:** Our default models as well as realized default rates point to a decline in defaults during 2021. Coupled with incremental spread and low duration, we expect the sector to deliver 5-6% returns in 2021.

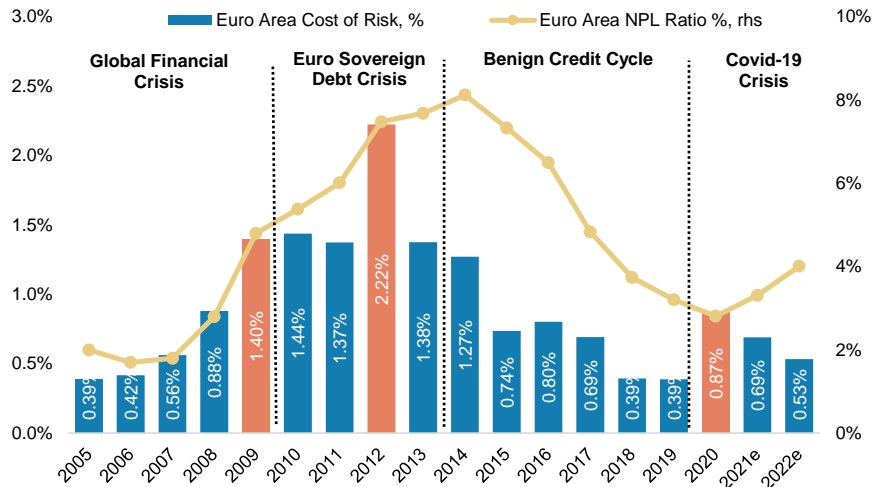
Overweight Eurozone Banks

Attractive Valuation and Rising Earnings Should Continue to Generate Positive Returns

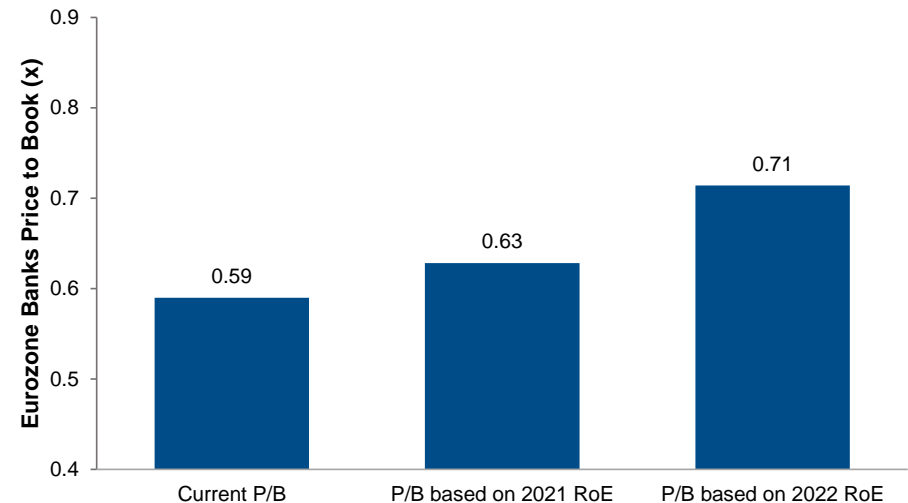
Consumer and
Wealth
Management

Goldman
Sachs

1. Covid-Related Impairments Likely Peaked in 2020



2. We Expect Bank Valuations to Rise With Improving Return on Equities



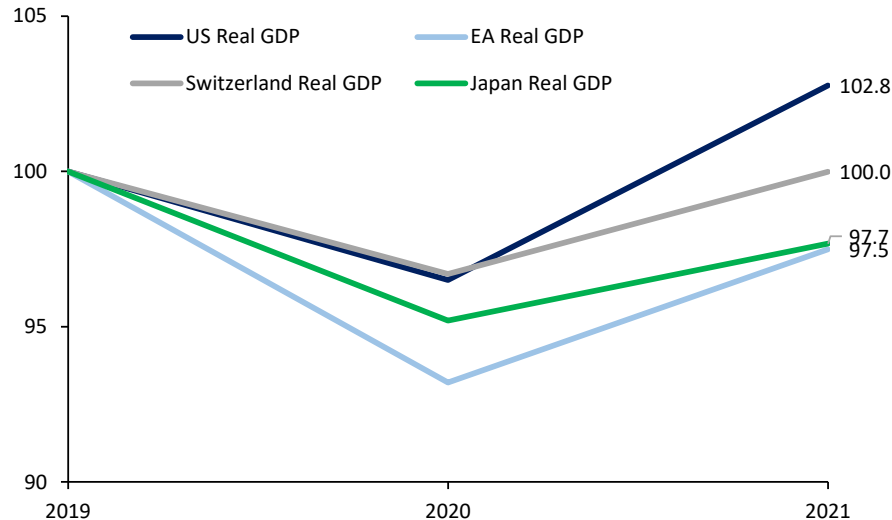
- **Rising Earnings:** Improving global growth and gradually rising interest rates should boost earnings, which have already benefitted from lower-than-expected provisions for loan losses.
- **Attractive Valuation:** The sector's rise in earnings will also boost return on equity, thereby warranting a higher price to book multiple. We expect Eurozone banks to deliver 15% total return over the next 12 months.
- **Increased Capital Return:** In contrast to the years following the global financial crisis, banks are well-capitalized and don't need to raise capital. In fact, banks are expected to be net buyer of their own shares after the ECB lifts ECB restrictions in the fourth quarter.

We Expect the Dollar to Strengthen Relative to the Euro and Swiss Franc

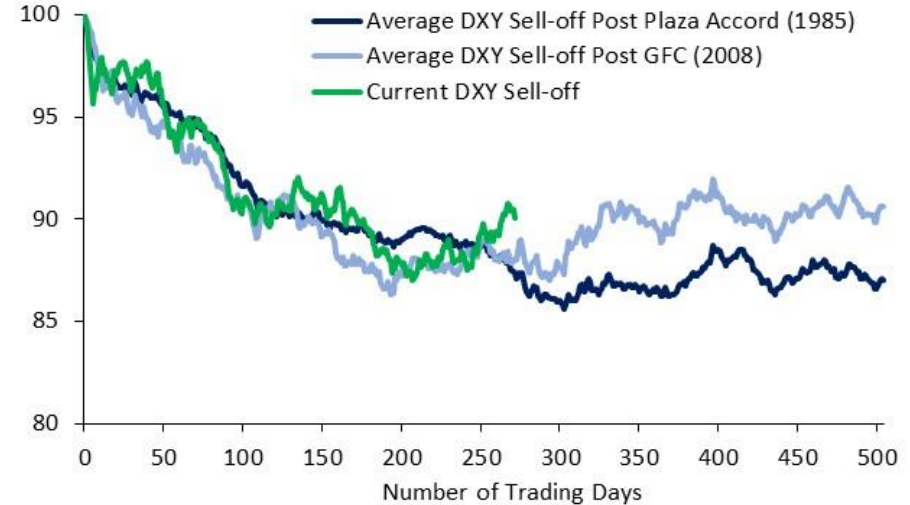
Consumer and
Wealth
Management

Goldman
Sachs

1. Major DMs Real GDP¹ (Indexed to 100, 2019 End)



2. Average Dollar Index Decline



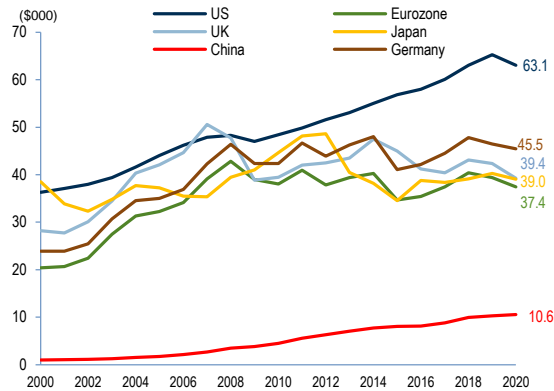
- **US Economic Growth to Outperform Developed Market Peers:** US economic growth is on pace to outperform that of the Eurozone, Japan and Switzerland by 3-5 percentage points over 2020 and 2021 combined. In fact, the US is the only developed economy whose GDP is set to exceed its pre-pandemic level by the end of the 2021.
- **Relative Central Bank Postures:** The euro, yen and franc will continue to be attractive funding currencies relative to the dollar as the Federal Reserve is likely to begin preparing the market for the tapering of its quantitative easing program well before similar policy normalization steps from other developed market central banks.
- **Historic Dollar Analogues:** Dollar bear cycles on average stabilized after drawdowns similar to the contemporary sell-off. Therefor, past performance suggests the dollar may have limited downside relative to current market pricing

(1) Based on ISG Forecast except for Switzerland, which is based on average of IMF and BBG Consensus Forecast.

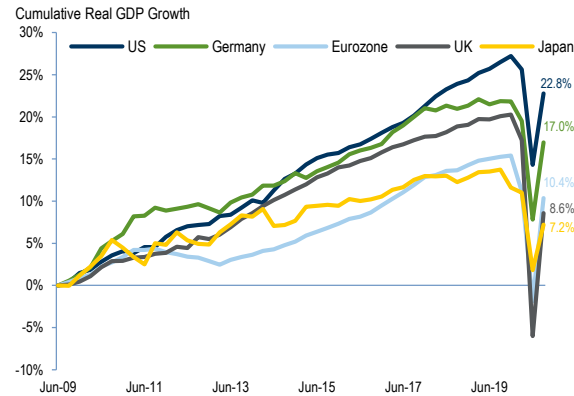
Source: ISG, IMF, Bloomberg.

US Preeminence (I)

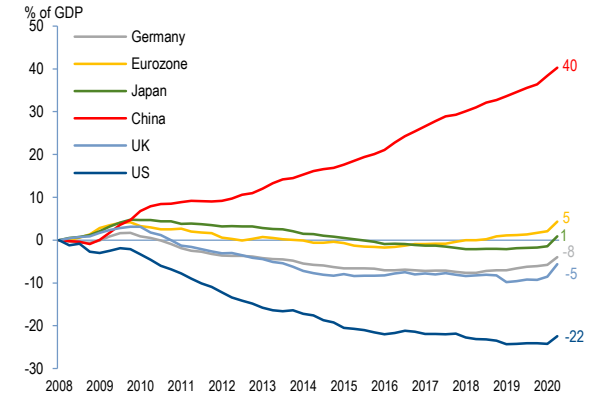
1. GDP Per Capita



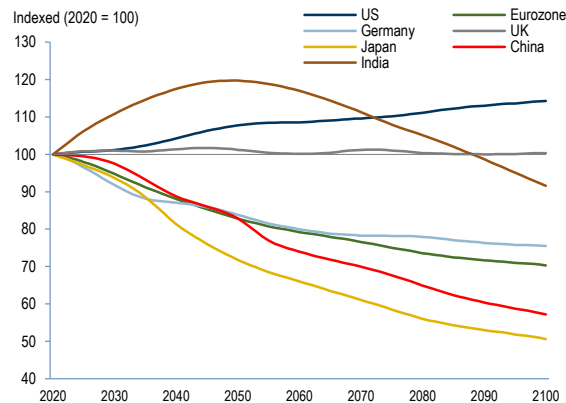
2. Post-GFC Cumulative Real GDP Growth



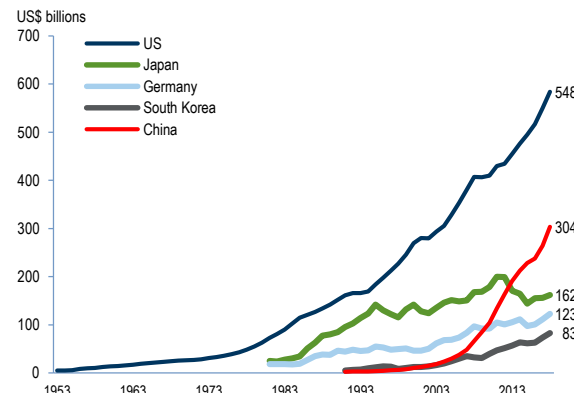
3. Cumulative Change in Household Leverage



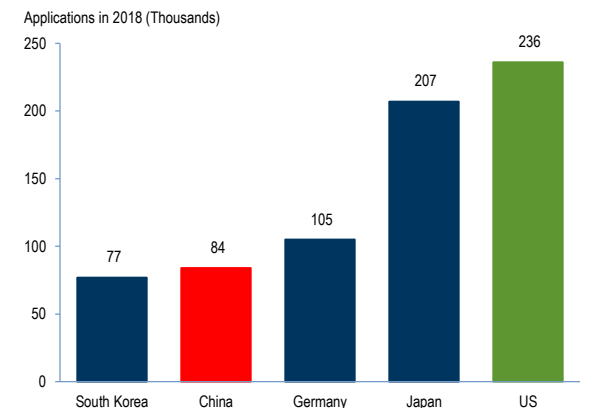
4. Working-Age Population Projections



5. Research and Expenditure Development Over Time

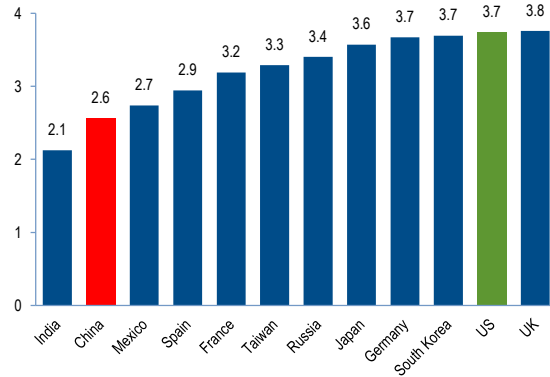


6. Applications for Invention Patents Filed Abroad

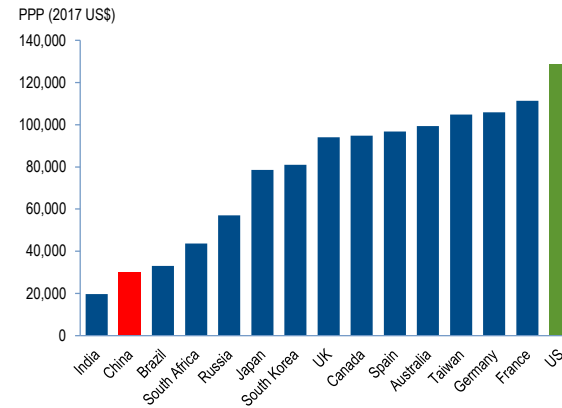


US Preeminence (II)

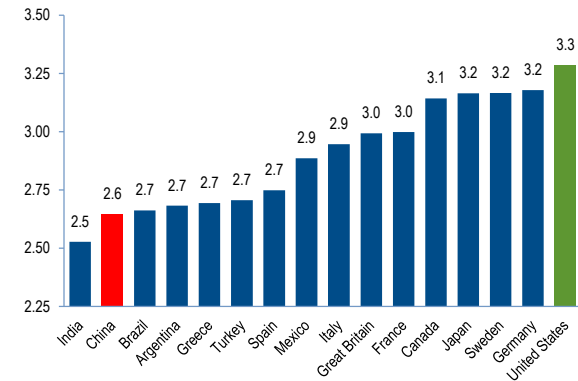
1. Human Capital Index



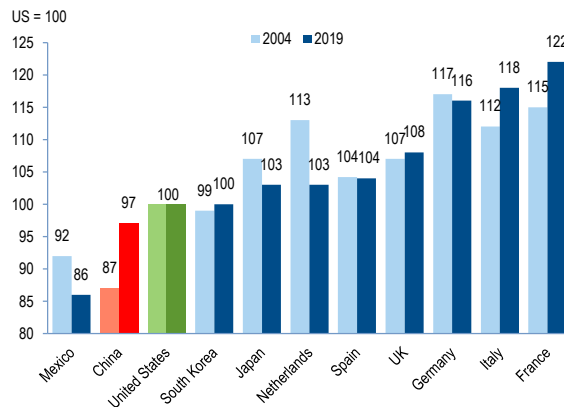
2. Countries' Level of Output Per Worker



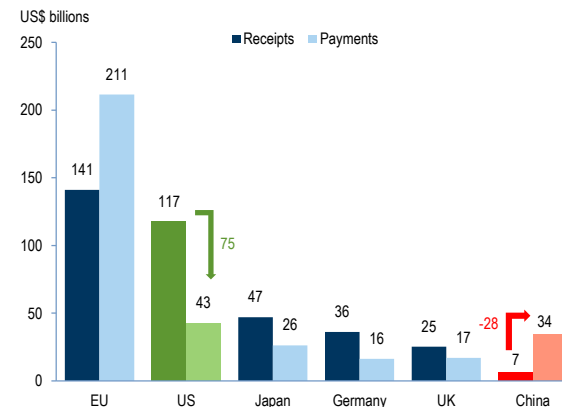
3. Average Corporate Management Score



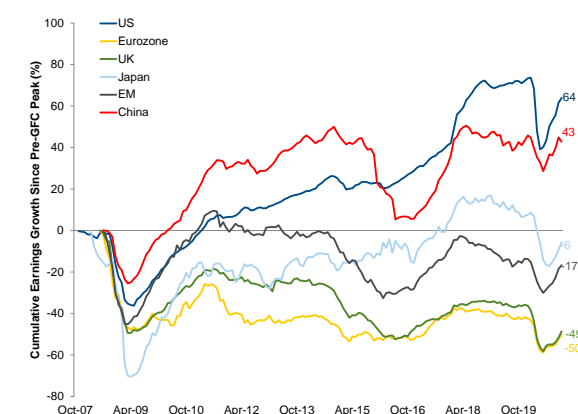
4. Global Manufacturing Cost-Competitiveness Index



5. Charges for the Use of Intellectual Property

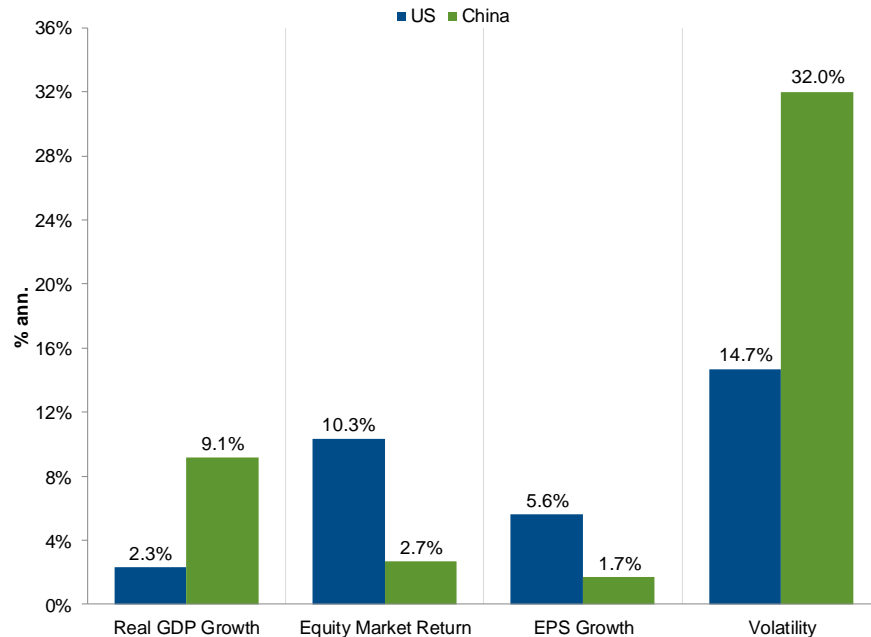


6. Earnings Growth since Pre-GFC Peak



US Preeminence (III)

1. Real GDP Growth and Equity Market Characteristics (%ann.)¹ – As of March 2021



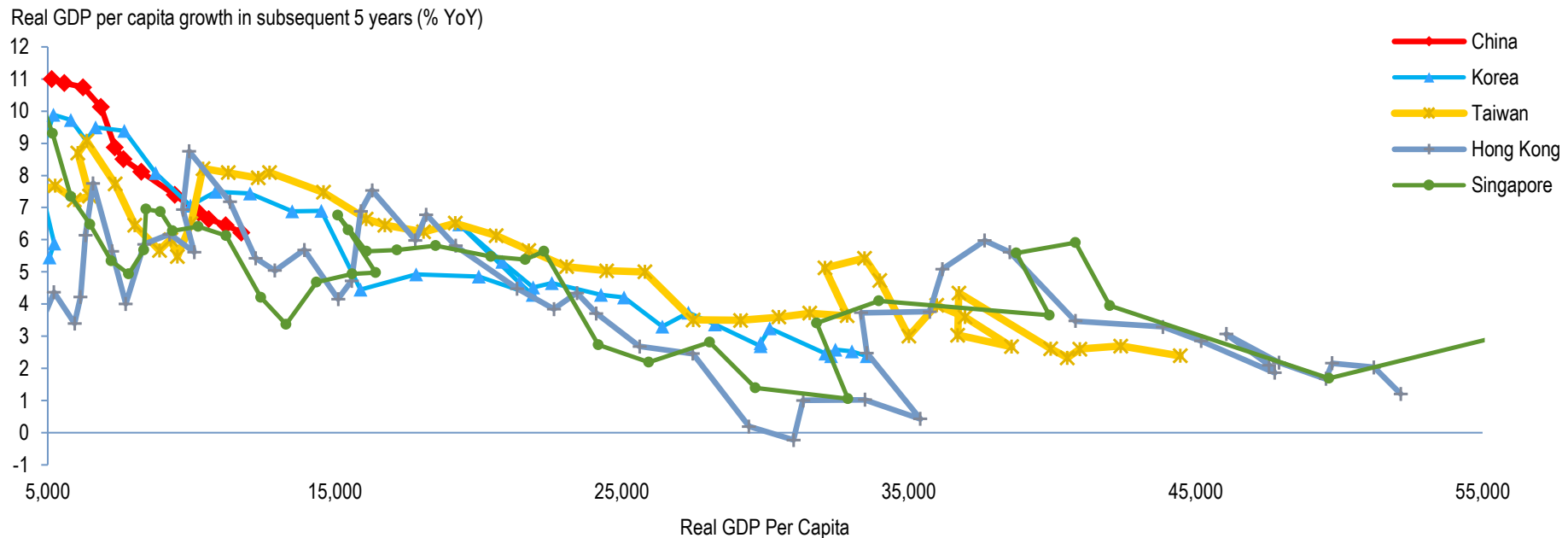
2. Large Chinese Companies and US and/or Israeli Predecessors

	Chinese Companies	US/Israeli Companies
E-Commerce	Alibaba (1999)	Amazon (1994)
	JD.com (1998)	eBay (1995)
	Pinduoduo (2015)	Groupon (2008)
Social Network	Tencent (1998)	Facebook (2004)
Instant Messaging	Tencent OICQ/QQ (1998)	ICQ (1996)
Web Search	Baidu (2000)	Google (1998)
Smartphones	Huawei (1987)	Apple (1976)
	Xiaomi (2010)	
Streaming	iQiyi (2010)	Netflix (1997)
Microblogging	Sina Weibo (2009)	Twitter (2006)
Online Payments	Alipay (2004)	PayPal (1998)

(1) Based on data since inception of the MSCI China Index on 12/31/1992.
Source: Investment Strategy Group, Datastream, MSCI.

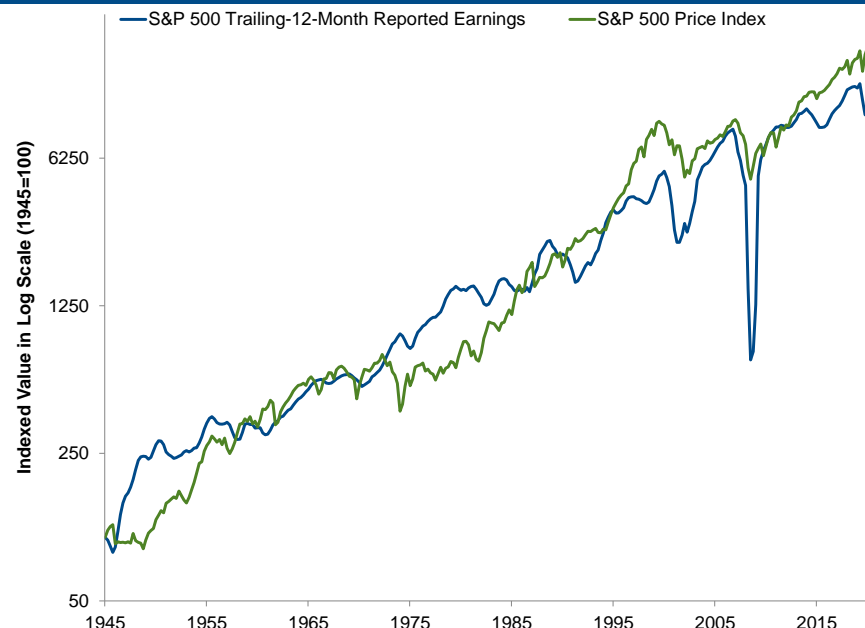
US Preeminence (IV)

GDP Per Capita vs. Growth in Subsequent 5 Years

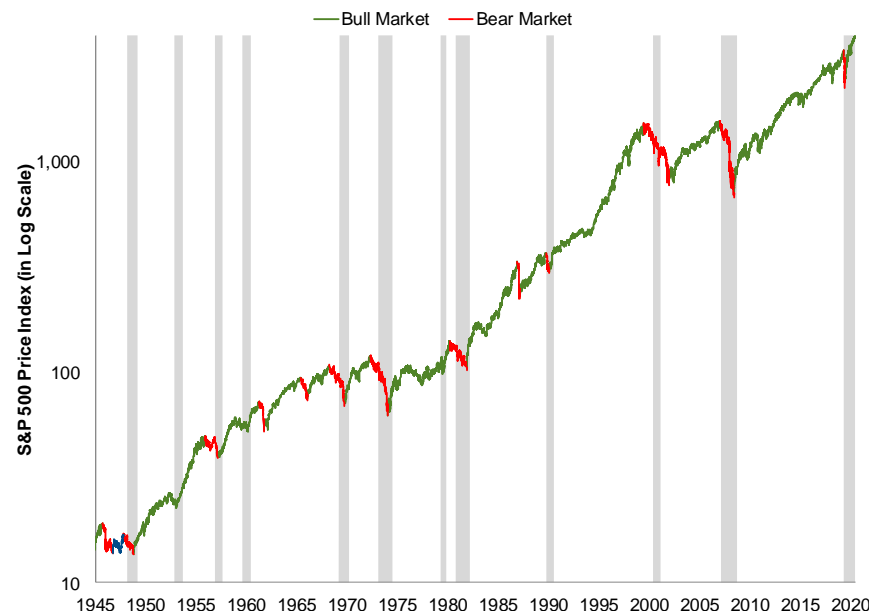


Stay Invested: The Hurdle to Underweight Equities is High Given the Upward Trend in the Earnings and Prices

1. S&P 500 Price Index vs. Earnings



2. S&P 500 Bull and Bear Markets Over the Post-WWII Period¹



- **Tailwind of Earnings Growth:** S&P 500 companies have grown their earnings at a steady rate of 6% per year since WWII. Earnings also grow more often than not, as they have increased 69% of the time and declined 31% of the time since WWII.
- **Long-Term Trend of Prices:** Prices of US equities follow the path of corporate earnings in the long run. The correlation between 10-year price returns and 10-year earnings growth has been 0.50.
- **Asymmetry of Tactical Asset Allocation:** Overweighting equities when they are cheap has a greater probability of success than underweighting equities when they are expensive. Equities are an appreciating asset class whose earnings grow with the economy, and have always recovered from bear markets eventually, typically within two years, on average.
- We do not endorse a buy-and-hold investment strategy but instead recognize that the odds of success when underweighting equities is low unless valuations and the odds of recession are both excessively high, neither of which apply today.

(1) Shaded periods denote US recessions. 1947-1948 is colored blue because it was neither a bull nor a bear market.

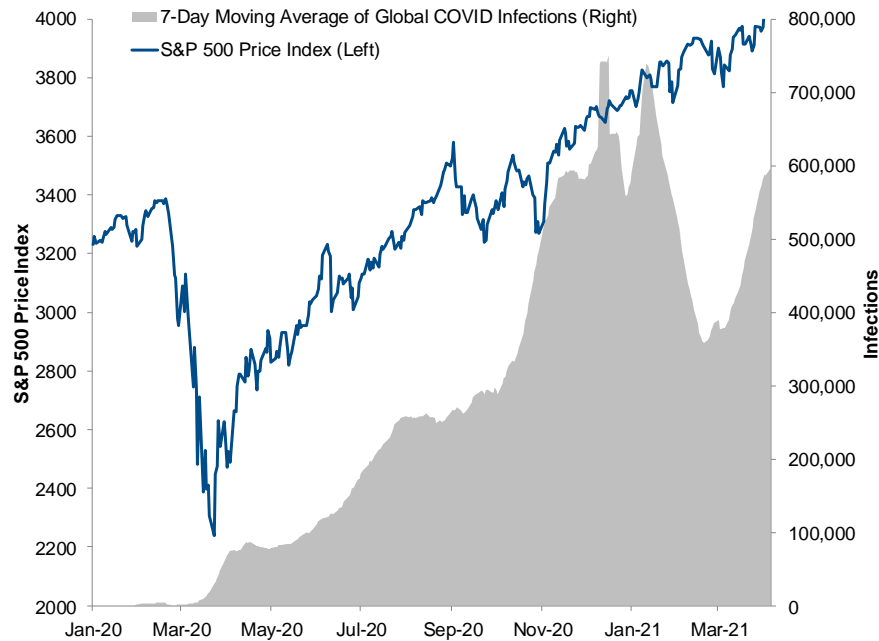
Source: Investment Strategy Group, Bloomberg, S&P Global, Robert Shiller, NBER.

Financial Market Reaction to Catastrophes and Surprises is Unpredictable

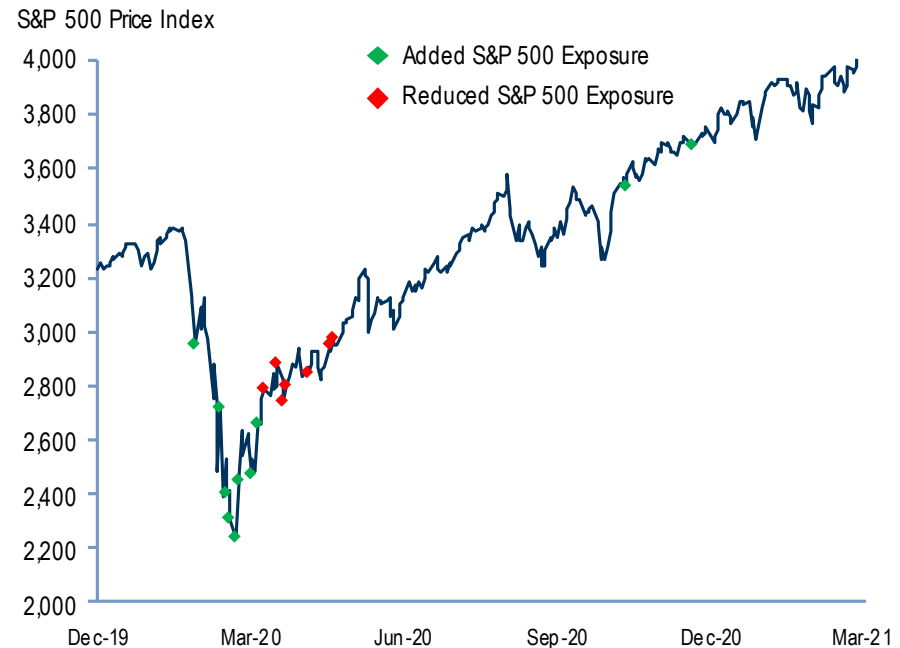
Consumer and
Wealth
Management

Goldman
Sachs

1. S&P 500 Index Performance in the Context of COVID-19 Infections – Through April 5, 2021



2. S&P 500 Price Index and ISG Tactical Tilts¹ – Through April 6, 2021



- Shocks like pandemics, tsunamis and wars are inevitable, but since they cannot be predicted, it is best to ride them out.
- No equity investor would have predicted a US equity market return of 18% in 2020 in the face of nearly 20 million reported coronavirus infections and 345,000 fatalities, an estimated GDP decline of 3.5%, an estimated earnings decline of 17%, and about 11 million unemployed people in the US.
- Our strategy was to increase equity exposure as the S&P 500 became cheap enough to offer compelling value for a long-term investor and reduce it as prices recovered. All told, we recommended 19 tactical tilts on the S&P 500 last year.
- The recommendation for clients to rebalance their portfolios after they had deviated 5% from their strategic target was even more impactful, adding an incremental 1.9% returns to a moderate risk portfolio last year.

(1) Tactical tilts shown are only those published during the year 2020 related to the S&P 500.

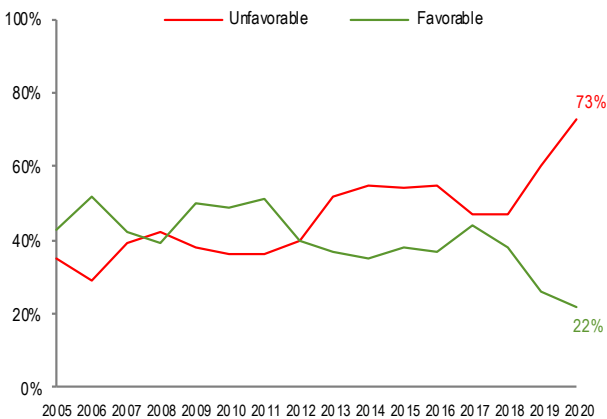
Source: Investment Strategy Group, Bloomberg, Datastream, WHO, National Health Commission of PRC, John Hopkins University, NEJM.

Risks to Our 2021 Outlook

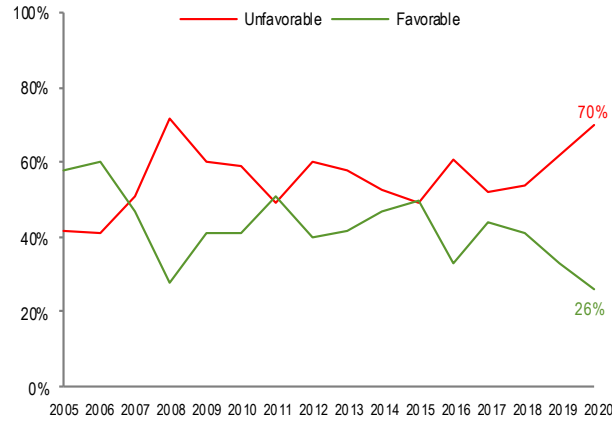
- COVID-19 Pandemic
- US-China Relations
- Geopolitical
- Cybersecurity
- Domestic Policies
- “Techlash”
- Recession

Western Developed Countries' Perception of China

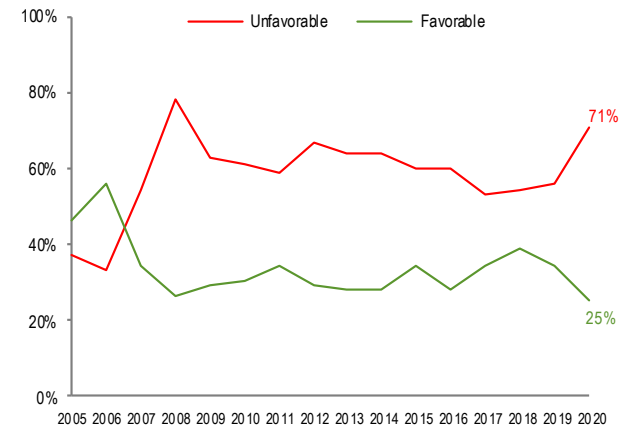
1. % of Americans Surveyed with Opinion



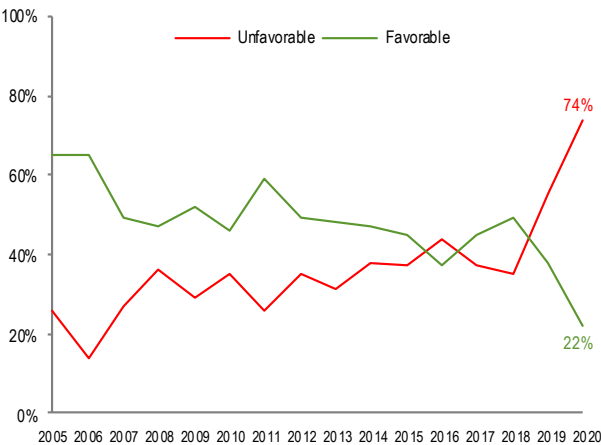
2. % of French Surveyed with Opinion



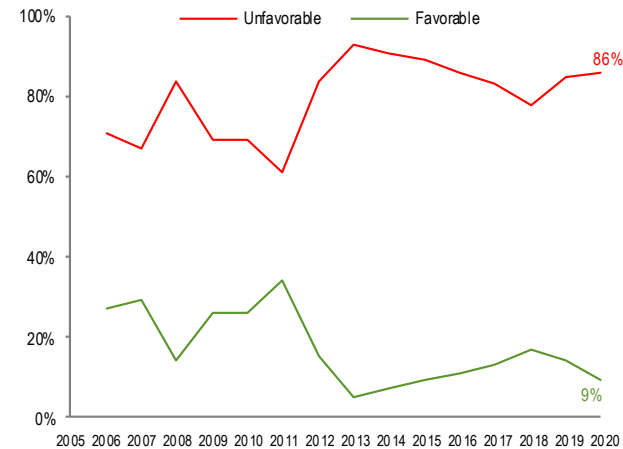
3. % of Germans Surveyed with Opinion



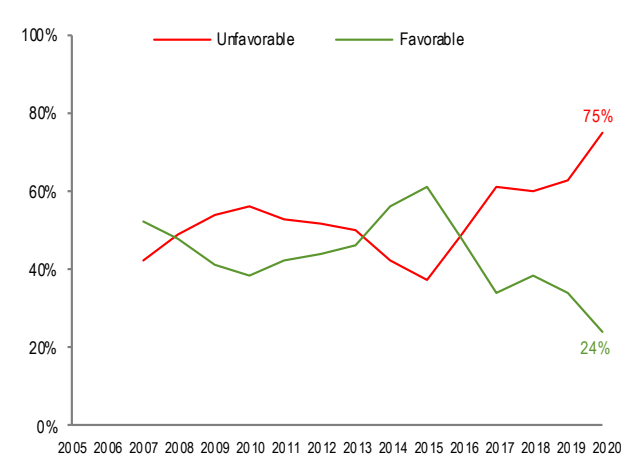
4. % of Britons Surveyed with Opinion



5. % of Japanese Surveyed with Opinion



6. % of Koreans Surveyed with Opinion



Key Takeaways

- **Strong pickup in global growth:** We expect most countries to grow above trend as they recover from the pandemic-induced recession. The US and China will likely be the only two large economies whose GDP levels at the end of 2021 will be higher than in 2019.
- **Accommodative monetary and fiscal policy:** : Among those in developed economies, we expect the US Federal Reserve to be the first to raise policy rates, but our base case is that the first such tightening is still some two and a half years away. In the US, the Biden administration is set to deliver more fiscal stimulus.
- **Low risk of recession:** We have assigned a 10% risk of recession in the US and globally over the next year.
- **Abundance of risks:** The two greatest risks we face are a worsening of the pandemic and a deterioration in US-China relations.
- **Attractive portfolio returns:** We expect moderate-risk and well-diversified portfolios to return just under 6% in 2021, driven by 8–10% return from US and non-US equities and modestly negative returns in high-quality fixed income securities.
- **Stay invested:** While the margin of safety has declined given current high valuations in equities, we recommend clients stay invested at this time. We believe we are in the nascent stage of a multiple-year economic expansion that supports mid-single-digit annualized equity returns that are superior to cash and bonds.
- **US preeminence is intact,** supported by economic strength, abundant natural resources, human capital advantages, and a vibrant, innovative and efficient private corporate sector.

Consumer and Wealth Management

Appendix

Global Equities: Sector Composition

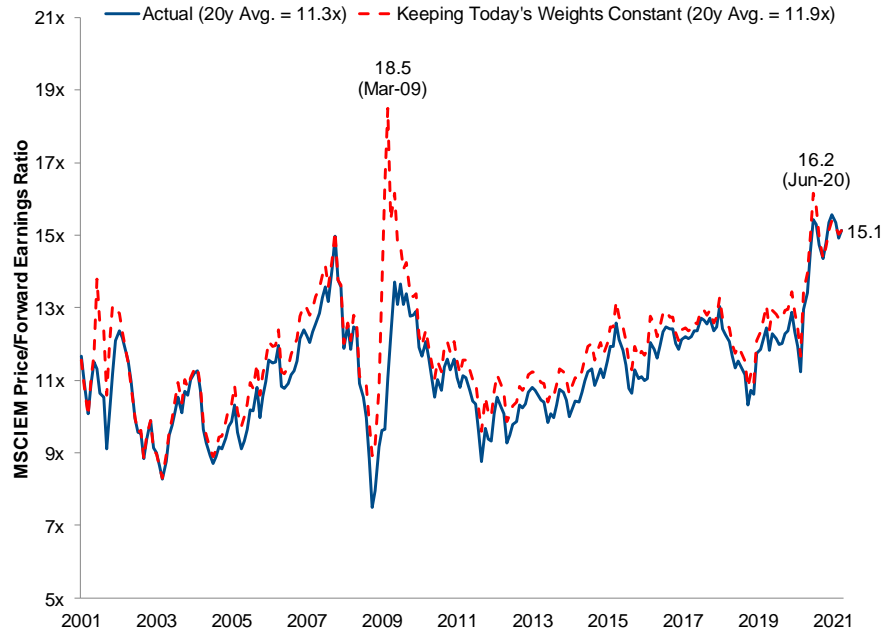
Sector Composition (% of Index Market Cap) – As of April 2, 2021

Sector	S&P 500	MSCI EAFE		MSCI EM	
		Weights	Difference vs S&P 500	Weights	Difference vs S&P 500
Communication Services	11.0%	5.3%	-5.7pp	12.0%	1.0pp
Consumer Discretionary	12.4%	12.8%	0.4pp	17.8%	5.4pp
Consumer Staples	6.1%	10.2%	4.1pp	5.6%	-0.5pp
Energy	2.8%	3.3%	0.4pp	4.8%	1.9pp
Financials	11.3%	17.3%	5.9pp	18.0%	6.6pp
Health Care	12.8%	11.9%	-0.9pp	4.5%	-8.4pp
Industrials	8.8%	15.5%	6.7pp	4.3%	-4.5pp
Information Technology	26.9%	9.1%	-17.8pp	21.1%	-5.8pp
Materials	2.7%	7.9%	5.3pp	8.0%	5.3pp
Real Estate	2.5%	3.1%	0.6pp	2.1%	-0.4pp
Utilities	2.6%	3.6%	1.0pp	2.0%	-0.7pp

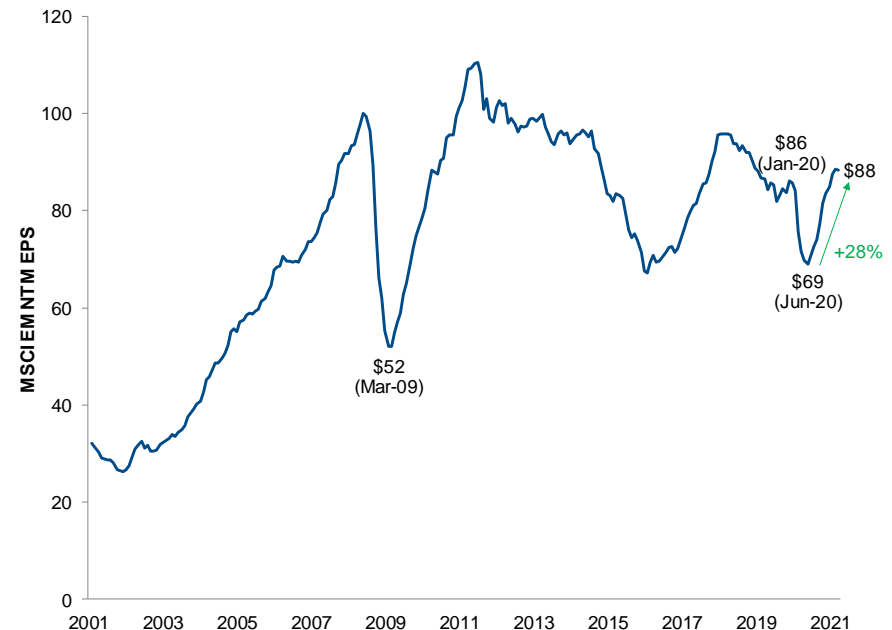
- Compared with international equities, the S&P 500 is overweight information technology and underweight financials and commodities.

EM Equity Valuations Are Expensive Even When Adjusting for Today's Sector Composition

1. MSCI EM Price/Forward Earnings Ratio – Through April 2, 2021



2. MSCI EM NTM EPS – Through April 2, 2021



- Some investors argue that MSCI EM valuations *should* be expensive relative to history given the change in the index's sector composition over the last several years, with a larger weight in growth sectors such as info tech and consumer discretionary and a smaller weight in value sectors such as financials and commodities.
- That said, EM equity valuations still look very elevated even when taking that into account. The only other points in time over the last two decades when MSCI EM's P/E ratio was meaningfully more expensive than today were in March 2009 and June 2020, but that was entirely due to depressed earnings estimates—which is not the case currently.

Presenter Biographies



Sharmin Mossavar-Rahmani

Partner, Head of the Investment Strategy Group (ISG) and CIO for the Consumer and Wealth Management Division

+1 (212) 902 – 2300

Sharmin is head of the Investment Strategy Group and chief investment officer for the Consumer and Wealth Management Division, responsible for the overall strategic asset allocation and tactical investment strategy.

Sharmin joined Goldman Sachs as a partner in 1993. Prior to joining the firm, Sharmin worked at Fidelity Management Trust Company, where she was chief investment officer for all separate and co-mingled fixed income accounts. Sharmin is a member of the Board of Trustees and the Investment Committee of New York-Presbyterian Hospital and Harvard University's Global Advisory Board. She is a former member of the Board of Trustees, and former chair of the Investment Committee of the Trinity School in New York City. Sharmin has published two books, one on bond indexing and one on OPEC natural gas, as well as numerous articles on portfolio management issues. Sharmin earned a BA from Princeton University and an MS from Stanford University.



Lisa Rotenberg

Managing Director, Goldman Sachs Senior Coverage Responsibility for CRPTF

+1 (212) 902 – 7987

Lisa is a managing director with senior coverage responsibility for many of Goldman Sachs' largest institutional investors globally, and leverages her experience with portfolio solutions to advise clients. She has held many roles in the Asset Management Division (AMD) including serving as co-head of the US Public Fund business, co-head

of the Corporate Pension business, and as global head of the Consultant Relations business. Lisa was named a Goldman Sachs managing director in 2003. She joined as a vice president in 1994. Prior to joining the firm, Lisa served as Minnesota's deputy state auditor representing the state auditor in all plan sponsor decisions related to the Minnesota State Board of Investment. She also served as Minnesota's chief deputy commerce commissioner with oversight responsibility for the securities, insurance, banking, and real estate industries. Prior to joining the Minnesota Department of Commerce, Lisa served as a special assistant attorney general for the State of Minnesota. She previously served on the Minnesota Governor's Task Force on Small Business Capital Formation. Lisa earned an AB in Government from Harvard University and a JD from the University of Minnesota Law School, where she also served on the Board of Advisors.

Consumer and Wealth Management

Disclosures

Important Information – Investment Risks

Risks vary by the type of investment. For example, investments that involve futures, equity swaps, and other derivatives, as well as non-investment grade securities, give rise to substantial risk and are not available to or suitable for all investors. We have described some of the risks associated with certain investments below. Additional information regarding risks may be available in the materials provided in connection with specific investments. You should not enter into a transaction or make an investment unless you understand the terms of the transaction or investment and the nature and extent of the associated risks. You should also be satisfied that the investment is appropriate for you in light of your circumstances and financial condition.

Any reference to a specific company or security is not intended to form the basis for an investment decision and are included solely to provide examples or provide additional context. This information should not be construed as research or investment advice and should not be relied upon in whole or in part in making an investment decision. Goldman Sachs, or persons involved in the preparation or issuance of these materials, may from time to time have long or short positions in, buy or sell (on a principal basis or otherwise), and act as market makers in, the securities or options, or serve as a director of any companies mentioned herein.

Alternative Investments. Alternative investments may involve a substantial degree of risk, including the risk of total loss of an investor's capital and the use of leverage, and therefore may not be appropriate for all investors. Private equity, private real estate, hedge funds and other alternative investments structured as private investment funds are subject to less regulation than other types of pooled vehicles and liquidity may be limited. Investors in private investment funds should review the Offering Memorandum, the Subscription Agreement and any other applicable disclosures for risks and potential conflicts of interest. Terms and conditions governing private investments are contained in the applicable offering documents, which also include information regarding the liquidity of such investments, which may be limited.

Commodities. Commodity investments may be less liquid and more volatile than other investments. The risk of loss in trading commodities can be substantial due, but not limited to, volatile political, market and economic conditions. An investor's returns may change radically at any time since commodities are subject, by nature, to abrupt changes in price. Commodity prices are volatile because they respond to many unpredictable factors including weather, labor strikes, inflation, foreign exchange rates, etc. In an individual account, because your position is leveraged, a small move against your position may result in a large loss. Losses may be larger than your initial deposit. Investors should carefully consider the inherent risk of such an investment in light of their experience, objectives, financial resources and other circumstances. No representation is made regarding the suitability of commodity investments.

Important Information – Investment Risks

Currencies. Currency exchange rates can be extremely volatile, particularly during times of political or economic uncertainty. There is a risk of loss when an investor is exposed to foreign currency or is in foreign currency traded investments.

Derivatives. Investments that involve futures, equity swaps, and other derivatives give rise to substantial risk and are not available to or suitable for all investors.

Emerging Markets and Growth Markets. Investing in the securities of issuers in emerging markets and growth markets involves certain considerations, including: political and economic conditions, the potential difficulty of repatriating funds or enforcing contractual or other legal rights, and the small size of the securities markets in such countries coupled with a low volume of trading, resulting in potential lack of liquidity and in price volatility.

Equity Investments. Equity investments are subject to market risk, which means that the value of the securities may go up or down in respect to the prospects of individual companies, particular industry sectors and/or general economic conditions. The securities of small and mid-capitalization companies involve greater risks than those associated with larger, more established companies and may be subject to more abrupt or erratic price movements.

Fixed Income. Investments in fixed income securities are subject to the risks associated with debt securities generally, including credit/default, liquidity and interest rate risk. Any guarantee on an investment grade bond of a given country applies only if held to maturity.

Futures. Security futures involve a high degree of risk and are not suitable for all investors. The possibility exists that an investor could lose a substantial amount of money in a very short period of time because security futures are highly leveraged. The amount they could lose is potentially unlimited and can exceed the amount they originally deposited with your firm. Prior to buying a security future you must receive a copy of the Risk Disclosure Statement for Security Futures Contracts.

Non-US Securities. Investing in non-US securities involves the risk of loss as a result of more or less non-US government regulation, less public information, less liquidity and greater volatility in the countries of domicile of the issuers of the securities and/or the jurisdiction in which these securities are traded. In addition, investors in securities such as ADRs/ GDRs, whose values are influenced by foreign currencies, effectively assume currency risk.

Options. Options involve risk and are not suitable for all investors. Options investors may lose the entire amount of their investment in a relatively short period of time. Before entering into any options transaction, be sure to read and understand the current Options Disclosure Document entitled, The Characteristics and Risks of Standardized Options. This booklet can be obtained at <http://www.theocc.com/about/publications/character-risks.jsp>.

Important Information – Investment Risks

Tactical Tilts. Tactical tilts may involve a high degree of risk. No assurance can be made that profits will be achieved or that substantial losses will not be incurred. Prior to investing, investors must determine whether a particular tactical tilt is suitable for them.

Forecasts. Economic and market forecasts presented herein reflect our (ISG's) judgment as of the date of this material and are subject to change without notice. Any return expectations represent forecasts as of the date of this material and are based upon our capital market assumptions. Our (ISG's) return expectations should not be taken as an indication or projection of returns of any given investment or strategy and all are subject to change. These forecasts are estimated, based on assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Goldman Sachs has no obligation to provide updates or changes to these forecasts. If shown, case studies and examples are for illustrative purposes only.

Important Information



Thank you for reviewing this presentation. Please review the important information below.

Our Relationship with Clients. Depending on our relationship with you, we may act as an advisor, a broker-dealer, or both. Our role and obligations vary depending on the capacity in which we act. Where we act as an advisor, our primary role is to give you advice, help you manage your investments or, where applicable, help you hire another advisor to do so. Where we act as a broker, our primary role is to execute trades for you based on your instructions and any advice we give you is incidental to our brokerage services. How we are compensated by you (and sometimes by issuers or managers of investments who compensate us based on what you buy) and how your Private Wealth Management ("PWM") team is compensated may change over time and will vary depending on various factors including, but not limited to, whether you are classified as a professional or retail client, have an advisory or brokerage account, and on the investments made in your account. Please ask us questions to make sure you understand your rights and our obligations to you, the difference between advisory and brokerage accounts, and / or how we are compensated based on the capacity in which we act. We are part of a full-service, integrated investment banking, investment management, and brokerage firm. Other firm businesses may implement investment strategies that are different from the strategies used or recommended for your portfolio. Please see <https://www.goldmansachs.com/disclosures/customer-relationship-summary-form-crs/index.html> for important disclosures regarding Regulation Best Interest.

Entities Providing Services. Investment advisory services may be provided by Goldman Sachs & Co. LLC ("GS&Co."), an affiliate, or an external manager under the wrap program sponsored by GS&Co. Brokerage services are provided by GS&Co., member Financial Industry Regulatory Authority ("FINRA") / Securities Investor Protection Corporation ("SIPC"). Brokerage services, banking services (including check-writing, debit cards, direct debit, direct deposit, electronic bill pay, overdraft protection and Bank to Bank Transfers via ACH), custody, margin loans and strategic wealth advisory services are provided by GS&Co. Financial counseling services are provided by The Ayco Company, L.P. Over-The-Counter ("OTC") derivatives, foreign exchange forwards and related financing are offered by GS&Co. Trust services are provided by The Goldman Sachs Trust Company, N.A. or The Goldman Sachs Trust Company of Delaware. All of these affiliated entities are subsidiaries of The Goldman Sachs Group, Inc. ("Firm" or "GS"). Deposit products, mortgages, and bank loans are offered by Goldman Sachs Bank USA, member Federal Deposit Insurance Corporation ("FDIC") and an Equal Housing Lender.

GS&Co. may provide family office services to clients ("Family Office Services"). Some Family Office Services may be provided by GS&Co. and/or its affiliates; other Family Office Services may be provided by subcontractors, independent service providers, or other third parties (collectively, "Third Party Vendors"), who are not acting as financial or investment advisors. The scope, duration, deliverables, assigned personnel, referrals to Third Party Vendors, and delivery channels through which Family Office Services are provided will vary among clients, based upon the facts, requested services, circumstances, personal financial goals, net worth, complexity, and/or needs of each client. Third Party Vendor services are wholly independent of those provided by GS&Co. and additional terms of service may apply for clients entering into any separate agreements with Third Party Vendors in furtherance of Family Office Services.

Investment Strategy Group ("ISG"). ISG is focused on asset allocation strategy formation and market analysis for PWM. ISG material represents the views of ISG in the Consumer and Wealth Management Division ("CWMD") of GS. It is not financial research or a product of GS Global Investment Research ("GIR") and may vary significantly from those expressed by individual portfolio management teams within CIMD, or other groups at Goldman Sachs. It was not prepared in compliance with applicable provisions of law designed to promote the independence of financial analysis and is not subject to a prohibition on trading following the distribution of financial research. If shown, ISG Model Portfolios are provided for illustrative purposes only. Your actual asset allocation may look significantly different based on your particular circumstances and risk tolerance. If a model performance calculation is provided, it assumes that (1) each asset class was owned in accordance with the recommended weight; (2) all tactical tilts were implemented at the time the recommendation was made; and (3) the portfolio was rebalanced every time a tactical tilt change was made and at the end of every quarter (unless a tactical tilt was made within a month of quarter-end). If model performance is shown, it is calculated using the daily returns (actual or interpolated) of indices that ISG believes are representative of the asset classes included in the model. Results shown reflect the total return but generally do not take into account any investment management fees, commissions or other transaction expenses, which would reduce returns. The results shown reflect the reinvestment of dividends and other earnings. All returns are pre-tax and are not adjusted for inflation. Additional information about the model portfolio performance calculation, including asset class benchmarks used for modeling performance and a history of tactical tilts, is available upon request.

Investment Risks and Information. Risks vary by the type of investment. Additional information regarding investments and risks may be available in applicable product materials. Before transacting or investing, you should review and understand the terms of a transaction/investment and the nature and extent of the associated risks, and you should be satisfied the investment is appropriate for you in light of your individual circumstances and financial condition.

- Alternative Investments.** Alternative investments may involve a substantial degree of risk, including the risk of total loss of an investor's capital and the use of leverage, and may not be appropriate for all investors. Private equity, private real estate, hedge funds, and other alternative investments structured as private investment funds are subject to less regulation than other types of pooled vehicles and liquidity may be limited. You should review the Offering Memorandum, the Subscription Agreement, and any other applicable offering documents for risks, potential conflicts of interest, terms and conditions and other disclosures.
- Commodities.** Commodity investments may be less liquid and more volatile than other investments. The risk of loss in trading commodities can be substantial due, but not limited, to volatile political, market and economic conditions. An investor's returns may change radically at any time since commodities are subject to abrupt changes in price. Commodity prices are volatile because they respond to many unpredictable factors including weather, labor strikes, inflation, foreign exchange rates, etc. In a single account, because your position is leveraged, a small move against your position may result in a large loss. Losses may be larger than your initial deposit. No representation is made regarding the suitability of commodity investments.

- **Currencies.** Currency exchange rates can be extremely volatile, particularly during times of political or economic uncertainty. There is a risk of loss when an investor has exposure to foreign currency or holds foreign currency traded investments.
- **Over-the-Counter ("OTC") Derivatives** You should carefully review the Master Agreement, including any related schedules, credit support documents, addenda and exhibits. You may be requested to post margin or collateral at levels consistent with the internal policies of GS to support written OTC derivatives. Prior to entering into an OTC derivative transaction you should be aware of the below general risks associated with OTC derivative transactions:
 - Liquidity Risk: There is no public market for OTC derivative transactions and, therefore, it may be difficult or impossible to liquidate an existing position on favorable terms.
 - Risk of Inability to Assign: OTC derivative transactions entered into with one or more affiliates of Goldman Sachs cannot be assigned or otherwise transferred without Goldman Sachs' prior written consent and, therefore, it may be impossible for you to transfer any OTC derivative transaction to a third party.
 - Counterparty Credit Risk: Because Goldman Sachs may be obligated to make substantial payments to you as a condition of an OTC derivative transaction, you must evaluate the credit risk of doing business with Goldman Sachs. Depending on the type of transaction, your counterparty may be Goldman Sachs & Co. LLC, a registered U.S. broker-dealer, or other affiliate of The Goldman Sachs Group, Inc. As a broker dealer regulated by the Securities and Exchange Commission ("SEC"), Goldman Sachs & Co. LLC is subject to net capital, financial responsibility rules, and other regulatory requirements designed to protect customer assets. Other subsidiaries of The Goldman Sachs Group, Inc. may not be registered as a U.S. broker dealer and therefore are not be subject to similar SEC regulation.
 - Pricing and Valuation: The price of each OTC derivative transaction is individually negotiated between Goldman Sachs and each counterparty and Goldman Sachs does not represent or warrant that the prices for which it offers OTC derivative transactions are the best prices available. You may therefore have trouble establishing whether the price you have been offered for a particular OTC derivative transaction is fair. OTC derivatives may trade at a value that is different from the level inferred from interest rates, dividends and the underlying. The difference may be due to factors including, but not limited to, expectations of future levels of interest rates and dividends, and the volatility of the underlying prior to maturity. The market price of the OTC derivative transaction may be influenced by many unpredictable factors, including economic conditions, the creditworthiness of Goldman Sachs, the value of any underlyers, and certain actions taken by Goldman Sachs.
 - Early Termination Payments: The provisions of an OTC derivative transaction may allow for early termination and, in such cases, either you or Goldman Sachs may be required to make a potentially significant termination payment depending upon whether the OTC derivative transaction is in-the-money at the time of termination.
 - Indexes: Goldman Sachs does not warrant, and takes no responsibility for, the structure, method of computation or publication of any currency exchange rates, interest rates, indexes of such rates, or credit, equity or other indexes, unless Goldman Sachs specifically advises you otherwise.
- **Emerging Markets and Growth Markets.** Emerging markets and growth markets investments involve certain considerations, including political and economic conditions, the potential difficulty of repatriating funds or enforcing contractual or other legal rights, and the small size of the securities markets in such countries coupled with a low volume of trading, resulting in potential lack of liquidity and price volatility.
- **Equity Investments.** Equity investments are subject to market risk. The value of the securities may go up or down in respect to the prospects of individual companies, particular industry sectors and/or general economic conditions. The securities of small and mid-capitalization companies involve greater risks than those associated with larger, more established companies and may be subject to more abrupt or erratic price movements.
- **Fixed Income.** Fixed income securities investments are subject to the risks associated with debt securities generally, including credit/default, liquidity and interest rate risk. Any guarantee on an investment grade bond of a given country applies only if held to maturity.
- **Master Limited Partnerships ("MLPs").** MLPs may be generally less liquid than other publicly traded securities and as such can be more volatile and involve higher risk. MLPs may also involve substantially different tax treatment than other equity-type investments, and such tax treatment could be disadvantageous to certain types of retirement accounts or charitable entities.
- **Money Market Funds.** Money market fund investments are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although money market funds seek to preserve the value of your investment at \$1.00 per share, it is possible to lose money.
- **Non-US Securities.** Non-US securities investments involve the risk of loss as a result of more or less non-US government regulation, less public information, less liquidity, and greater volatility in the countries of domicile of the issuers of the securities and/or the jurisdiction in which these securities are traded. In addition, investors in securities such as ADRs/GDRs, whose values are influenced by foreign currencies, effectively assume currency risk.
- **Options.** Options involve risk and are not suitable for all investors. The purchase of options can result in the loss of an entire investment and the risk of uncovered options is potentially unlimited. You must read and understand the current Options Disclosure Document before entering into any options transactions. The booklet entitled Characteristics and Risk of Standardized Options can be obtained from your PWM team or at <http://www.theocc.com/components/docs/riskstoc.pdf>. A secondary market may not be available for all options. Transaction costs may be significant in option strategies that require multiple purchases and sales of options, such as spreads. Supporting documentation for any comparisons, recommendations, statistics, technical data, or other information will be supplied upon request.

- **Real Estate.** Real estate investments involve additional risks not typically associated with other asset classes, such as sensitivities to temporary or permanent reductions in property values for the geographic region(s) represented. Real estate investments (both through public and private markets) are also subject to changes in broader macroeconomic conditions, such as interest rates.
- **Structured Investments.** Structured investments are complex, involve risk and are not suitable for all investors. Investors in structured investments assume the credit risk of the issuer or guarantor. If the issuer or guarantor defaults, you may lose your entire investment, even if you hold the product to maturity. Structured investments often perform differently from the asset(s) they reference. Credit ratings may pertain to the credit rating of the issuer and are not indicative of the market risk associated with the structured investment or the reference asset. Each structured investment is different, and for each investment you should consider 1) the possibility that at expiration you may be forced to own the reference asset at a depressed price; 2) limits on the ability to share in upside appreciation; 3) the potential for increased losses if the reference asset declines; and 4) potential inability to sell given the lack of a public trading market.
- **Tactical Tilts.** Tactical tilts may involve a high degree of risk. No assurance can be made that profits will be achieved or that substantial losses will not be incurred. For various reasons, GS&Co. and its affiliates may implement a tactical tilt, invest in an affiliated fund that may invest in tactical tilts, or unwind a position for its client advisory accounts or on its own behalf before your advisor does on behalf of your account, or may implement a tactical tilt that is different from the tactical tilt implemented by advisors on client accounts, which could have an adverse effect on your account and may result in poorer performance by your account than by Goldman Sachs or other client accounts.
- **U.S. Registered Mutual Funds / Exchange Traded Funds ("ETFs") or Exchange Traded Notes ("ETNs").** You should consider a fund's investment objectives, risks, charges and expenses, and read the summary prospectus and/or the Prospectus (which may be obtained from your PWM Team) carefully before investing, as they contain this and other relevant information. You may obtain documents for ETFs or ETNs for free by 1) visiting EDGAR on the SEC website at <http://www.sec.gov/>; 2) contacting your PWM team; or 3) calling toll-free at 1-866-471-2526. Unlike traditional mutual funds, ETFs can trade at a discount or premium to the net asset value and are not directly redeemable by the fund. Leveraged or inverse ETFs, ETNs, or commodities futures-linked ETFs may experience greater price movements than traditional ETFs and may not be appropriate for all investors. Most leveraged and inverse ETFs or ETNs seek to deliver multiples of the performance (or the inverse of the performance) of the underlying index or benchmark on a daily basis. Their performance over a longer period of time can vary significantly from the stated daily performance objectives or the underlying benchmark or index due to the effects of compounding. Performance differences may be magnified in a volatile market. Commodities futures-linked ETFs may perform differently than the spot price for the commodity itself, including due to the entering into and liquidating of futures or swap contracts on a continuous basis to maintain exposure (i.e., "rolling") and disparities between near term future prices and long term future prices for the underlying commodity. You should not assume that a commodity-futures linked ETF will provide an effective hedge against other risks in your portfolio.

Security-Specific References. Any reference to a specific company or security is not intended to form the basis for an investment decision and is included solely to provide examples or provide additional context. This information should not be construed as research or investment advice and should not be relied upon in whole or in part in making an investment decision. GS, or persons involved in the preparation or issuance of these materials, may from time to time have long or short positions in, buy or sell (on a principal basis or otherwise), and act as market makers in the securities or options, or serve as a director of any companies mentioned herein. In addition, GS may have served as manager or co-manager of a public offering of securities by any such company within the past 12 months. Further information on any securities mentioned in this material may be obtained upon request.

Assets Held at a Third Party Custodian. Any information (including valuation) regarding holdings and activity in accounts held by third party custodians is for your convenience and has been supplied by third parties or by you. GS assumes no responsibility for the accuracy of such information. Information may vary from that reflected by your custodian and is as of the date of the materials provided to us. As an accommodation to you, we may also reflect certain investments unrelated to services provided by GS, for which GS does not perform any due diligence, verify the accuracy of information, or provide advice. Unless otherwise agreed in writing, we have not assessed whether those investments fit within your investment objective and the asset classification shown may not be accurate.

Off-Platform Investments. To the extent you ask us for guidance in connection with investment opportunities not offered by GS, such as investments in private funds, private debt or equity, real estate or other opportunities you source away from us, any such guidance, views, or other information we may provide is on an accommodation basis only and we will not be acting as your advisor. We assume no obligation to determine whether the opportunity is suitable for you in connection with such investment decisions and will not assume any liability for such investment decisions. Please review our Form ADV for information on conflicts of interest we may have in connection with any such requests.

ISG/GIR Forecasts. Economic and market forecasts presented ("forecasts") reflect either ISG's or GIR's views and are subject to change without notice. Forecasts do not take into account specific investment objectives, restrictions, tax and financial situation or other needs of any specific client. Forecasts are subject to high levels of uncertainty that may affect actual performance and should be viewed as merely representative of a broad range of possible outcomes. Forecasts and any return expectations are as of the date of this material, and should not be taken as an indication or projection of returns of any given investment or strategy. Forecasts are estimated, based on capital market assumptions, and are subject to significant revision and may change materially as economic and market conditions change. Any case studies and examples are for illustrative purposes only. If applicable, a copy of the GIR Report used for GIR forecasts is available upon request. Forecasts do not reflect advisory fees, transaction costs, and other expenses a client would have paid, which would reduce return.

Client Specific Markets. Investments held in your name with a subcustodian in the local market where traded in order to comply with local law will be indicated on your statements.

Important Information

Performance / Estimated Income / Estimated Cash Flow. Past performance is not a guide of future results and may include investments no longer owned in current or closed accounts. Current performance may be lower or higher than the performance data quoted. To request the most current or historical performance data, or asset classification schema information, please contact your PWM team at the number provided on your monthly statement or toll-free in the U.S. at 1-800-323-5678. Performance reports, where shown, generally present the relevant time weighted performance, which is a combination of daily returns compounded over a specified time period with the removal of the deposit and withdrawal impacts, and may show internal rate of return calculations where requested. Aggregate performance may not equal the sum of returns at an investment level. Performance for advisory accounts is currently calculated net of any management fees and might include investments for which actual market prices are not currently available, and does not include private equity positions. Performance for alternative investments is calculated using the value of the last available partnership capital statement or NAV. If included, estimated income figures and estimated private equity future cash flows are estimates of future activity, and actual results may vary substantially. GS&Co. has adjusted performance calculations for certain asset classes or strategies and may do so in the future. Performance of net cash (i.e., cash less margin debit) is generally included in the total performance calculation but not displayed separately. Option performance is included in the performance of the asset class of the underlier. Margin loans are generally excluded from advisory performance but included in brokerage performance calculations. Mutual fund and ETF investment returns and the principal value of your investment will fluctuate. As a result, your shares when redeemed may be worth more or less than their original cost. The performance data for ETFs does not reflect a deduction for commissions that would reduce the displayed performance. You are not subject to a sales charge for mutual funds purchased through PWM. If a sales charge were applicable, the sales charge would reduce the mutual fund's performance.

Indices / Benchmarks. Any references to indices, benchmarks, or other measure of relative market performance over a specified period of time are provided for your information only and is not indicative of future results. In addition to the benchmark assigned to a specific investment strategy, other benchmarks ("Comparative Benchmarks") may be displayed, including ones displayed at your request. Managers may not review the performance of your account against the performance of Comparative Benchmarks. There is no guarantee that performance will equal or exceed any benchmark displayed. Where a benchmark for a strategy has changed, the historical benchmark(s) are available upon request. Inception to date ("ITD") returns and benchmark / reference portfolio returns may reflect different periods. ITD returns for accounts or asset classes only reflect performance during periods in which your account(s) held assets and / or were invested in the asset class. The benchmark or reference portfolio returns shown reflect the benchmark / portfolio performance from the date of inception of your account or your initial investment in the asset class. If displayed, estimated income figures are estimates of future activity obtained from third party sources.

Indices are unmanaged. The figures for the index reflect the reinvestment of all income or dividends, as applicable, but do not reflect the deduction of any fees or expenses which would reduce returns. Investors cannot invest directly in indices. Where appropriate, relevant index trademarks or index information has been licensed or sub-licensed for use. Inclusion of index information is not intended to imply that the relevant index or its affiliated entities sponsor, endorse, sell, or promote the referenced securities, or that they make any representation or warranty regarding either the advisability of investing in securities (generally or specifically) or regarding the ability of the index to track market performance. Contact your PWM team for more information.

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

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

Pricing and Valuations. Prices do not necessarily reflect realizable values and are based on information considered to be reliable but are not guaranteed for accuracy, currency, or as realizable values. Certain positions may be provided by third parties or may appear without a price if GS is unable to obtain a price and/or the security is not actively traded for a certain amount of time. Pricing sources and methods are available upon request and are subject to change.

Fees and Charges. We have two pricing models for advisory relationships: a comprehensive fee model and a product based model. You should consider factors, including, but not limited to, your financial needs and circumstances, investment objectives, services provided under the model, your preferences, and the size of your account. Certain account fees and expenses may be more or less expensive depending on the model chosen. Actual fees may differ from estimated fees due to differences in strategies and amounts invested in particular strategies or overall. Charges applied to your accounts and transactions may include execution charges (including commissions, commission equivalents, mark-ups, mark-downs and dealer spreads), investment advisory fees, and custody fees. When we act as broker, we are generally compensated by an execution charge on a trade by trade basis. When we act as advisor, we generally earn a fee based on assets under management and may also be earning execution charges. More information about fees and charges is included in our account agreements, fee schedules and trade confirmations. If estimated fees are shown herein, we have included a description of our fee calculation methodology.

Where applicable, GS receives fees for certain of the Family Office Services. In the course of providing such Family Office services, GS or its subsidiaries or affiliates may offer additional services and/or products for which additional fees or commissions are charged. These offerings create a conflict of interest and clients may be asked to acknowledge their understanding of such conflict. Certain fees associated with Family Office Services are either charged as a single bundled fee while other fees are charged as supplemental fees, which are identified in the Family Office Services Supplement to clients' Customer Agreement. GS reserves the right to adjust the Family Office Services fees in the event of extraordinary circumstances.

Consolidated Reporting. Any consolidated report that GS may provide is at your request and is for informational purposes only; it is not your official statement. Information (including valuation) regarding holdings in third party accounts or other non-GS investments may be included as a courtesy and is based on information provided by you. GS does not perform review or diligence on, independently verify the accuracy of information regarding, or provide advice on such non-GS investments; GS assumes no responsibility for the accuracy of the source information and such assets may not be included on GS's books and records. While we may inform you of how a non-GS investment fits within your overall asset allocation, our classification of the investment may be different

than your custodian or external adviser's classification. You should review and maintain the original source documents (including third party financial statements) and review them for any notices or relevant disclosures. Assets held away may not be covered by SIPC. Please contact your PWM Team with any questions regarding the consolidated reporting process, including its limitations.

Tax Information. GS does not provide legal, tax or accounting advice, unless explicitly agreed in writing between you and GS, and does not offer the sale of insurance products. You should obtain your own independent tax advice based on your particular circumstances. Where clients receive Family Office Services, the Family Office may review with you the general income tax consequences of your investments, estate planning, philanthropic endeavors, real estate holdings, and certain other activities that may affect your income tax. The information included in this presentation, including, if shown, in the Tax Summary section, does not constitute tax advice, has not been audited, should not be used for tax reporting, and is not a substitute for the applicable tax documents, including your Form 1099, Schedule K-1 for private investments, which we will provide to you annually, or your monthly GS account statement(s). The cost basis included in this presentation may differ from your cost basis for tax purposes. Information regarding your alternative investments and transactions for retirement accounts are not included in the Tax Summary section.

Notice to ERISA / Qualified Retirement Plan / IRA / Coverdell Education Savings Account (collectively, "Retirement Account") Clients: Information regarding your Retirement Account(s) included in this presentation is for informational purposes only and is provided solely on the basis that it will not constitute investment or other advice or a recommendation relating to any person's or plan's investment or other decisions, and that none of GS, its affiliates or their employees is a fiduciary or advisor with respect to any person or plan by reason of providing the material or content in the presentation including under the Employee Retirement Income Security Act of 1974 or Department of Labor Regulations. Unless GS agrees otherwise, any target allocation shown for such Retirement Account represents decisions you have communicated to GS regarding such asset allocation, without any advice or recommendations from GS, after considering your financial circumstances, objectives, risk tolerance and goals.

GS Family Office Services. Where GS provides or refers Family Office Services, it will do so based on individual client needs. Not all clients will receive all services and certain activities may fall beyond the scope of the Family Office Services. Any asset management services provided are governed by a separate investment management agreement (as may be applicable). Personnel providing Family Office Services do not provide discretionary management over client investments. Where GSFO provides art advisory services, such services are generally limited to education; GS does not recommend purchasing art or collectibles as an investment strategy, provide formal or informal appraisals of the value of, or opine on the future investment potential of, any specific artwork or collectible. Upon your request, the Family Office Wealth Advisory Services ("WAS") team may discuss with you various aspects of financial planning; the scope of such planning services will vary among clients and may only include episodic and educational consultations that should not be viewed as tax advice. GS assumes no duty to take action pursuant to any recommendations, advice, or financial planning strategies discussed with you as part of WAS services. It is your responsibility to determine if and how any such recommendations, advice, or financial planning strategies should be implemented or otherwise followed, and you are encouraged to consult with your own tax advisor and other professionals regarding your specific circumstances. GS is not liable for any services received from your independent advisors or the results of any incident arising from any such services or advice. Cybersecurity consultations provided by GS&Co. are intended to provide a general overview of cyber and physical security threats, but are not comprehensive; GS is not liable for any incident following such consultations. GS is not liable for clients' ultimate selection and utilization of any Third Party Vendor for any Family Office Services, or the results of any incident arising from any such referral. GS is not responsible for the supervision, monitoring, management, or performance of such Third Party Vendors and is not liable for any failure of Third Party Vendors to render services or any losses incurred as a result of such services.

Other Services. Any provided financial planning services, including cash flow analyses based on information you provide, are a hypothetical illustration of mathematical principles and are not a prediction or projection of performance of an investment or investment strategy. Such services may not address every aspect of a client's financial life; topics that were not discussed with you may still be relevant to your financial situation. In providing financial services, GS will rely on information provided by, or on behalf of, clients and is not responsible for the accuracy or completeness of any such information, nor for any consequences related to the use of any inaccurate or incomplete information. Where materials and/or analyses are provided to you, they are based on the assumptions stated therein, which are likely to vary substantially from the examples shown if they do not prove to be true. These examples are for illustrative purposes only and do not guarantee that any client will or is likely to achieve the results shown. Assumed growth rates are subject to high levels of uncertainty and do not represent actual trading and may not reflect material economic and market factors that may have an impact on actual performance. GS has no obligation to provide updates to these rates.

Not a Municipal Advisor. Except in circumstances where GS expressly agrees otherwise, GS is not acting as a municipal advisor and the opinions or views contained in this presentation are not intended to be, and do not constitute, advice, including within the meaning of Section 15B of the Securities Exchange Act of 1934.

Additional Information for Ayco Clients. References in this presentation to "PWM team" shall include your Ayco team. Ayco may provide tax advice, accounting advice, bill pay, and bookkeeping services to certain clients. Ayco does not provide brokerage services. As part of its financial counseling services, Ayco may provide you with certain reports where similar information contained herein is presented differently or in more or less detail. You should view each report independently and raise any questions with your Ayco team.

No Distribution; No Offer or Solicitation. This material may not, without GS' prior written consent, be (i) copied, photocopied or duplicated in any form, by any means, or (ii) distributed to any person that is not an employee, officer, director, or authorized agent of the recipient. This material is not an offer or solicitation with respect to the purchase or sale of any security in any jurisdiction in which such offer or solicitation is not authorized or to any person to whom it would be unlawful to make such offer or solicitation. We have no obligation to provide any updates or changes to this material.