Goldman Sachs

Room to Grow

Consumer and Investment Management Division

The majestic Baobab, known as the Tree of Life, lives for over a thousand years.
But like all other trees, the Baobab does not grow to the sky.

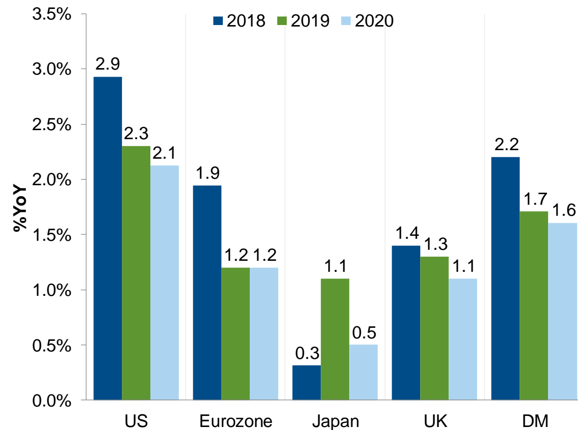
Investment Strategy Group

Discussion Topics

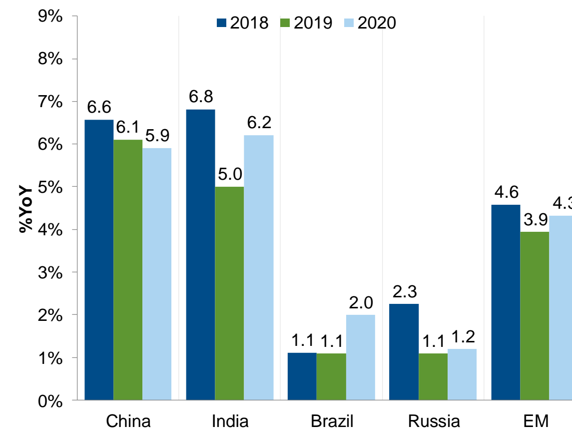
- Economic and Policy Backdrop
- Low Probability of Recession
- Asset Class Returns
- Stay Invested
- Risks

Economic Growth Backdrop

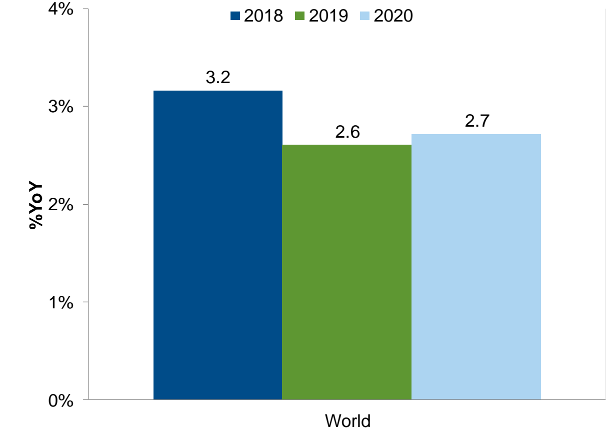
1. Developed Markets: Real GDP Growth (ISG Forecast for 2020)



2. Emerging Markets: Real GDP Growth (ISG Forecast for 2020)



3. World: Real GDP Growth (ISG Forecast for 2020)



- We expect global economic activity to be modestly higher than it was last year, driven by a rebound in India, Brazil and Russia, a modest pickup in sequential growth in the Eurozone, and partially offset by slower growth in the US, Japan, UK and China.
- In the US and the Eurozone, the risk of recession remains low, at 20–25%, which is modestly higher than it was last year. We expect an even lower likelihood of recession in most emerging markets. Japan may experience negative growth for a quarter.

Source: Investment Strategy Group, Datastream, IMF.

Fiscal and Monetary Policy Backdrop

Monetary and Fiscal Policy Stance

	Monetary policy	Fiscal policy
United States	On hold	Neutral
Eurozone	On hold	Neutral/Expansionary
Japan	On hold	Expansionary
United Kingdom	Easing	Expansionary
China	Easing	Expansionary
India	Easing	Expansionary
Brazil	Easing	Contractionary
Russia	Easing	Expansionary

- Central banks will maintain their current monetary policy in the US, Europe and Japan. The Bank of England may be the only major central bank of a developed economy to ease further. China will use a number of monetary policy tools to ease the pace of the inevitable slowdown in its growth rate.
- China is likely to provide some additional fiscal policy stimulus. We expect the Eurozone to provide some limited fiscal stimulus as well. As we noted during the European sovereign debt crisis, Europe will continue to be incremental, reactive and inconsistent in responding to the slowdown in the Eurozone. Japan will be the most aggressive in pursuing fiscal stimulus, having announced additional real spending of 1.4% of GDP.

Source: Investment Strategy Group.

Low Probability of a US Recession

- Historically, there have been three recession triggers in the US. None are being set off at this time:

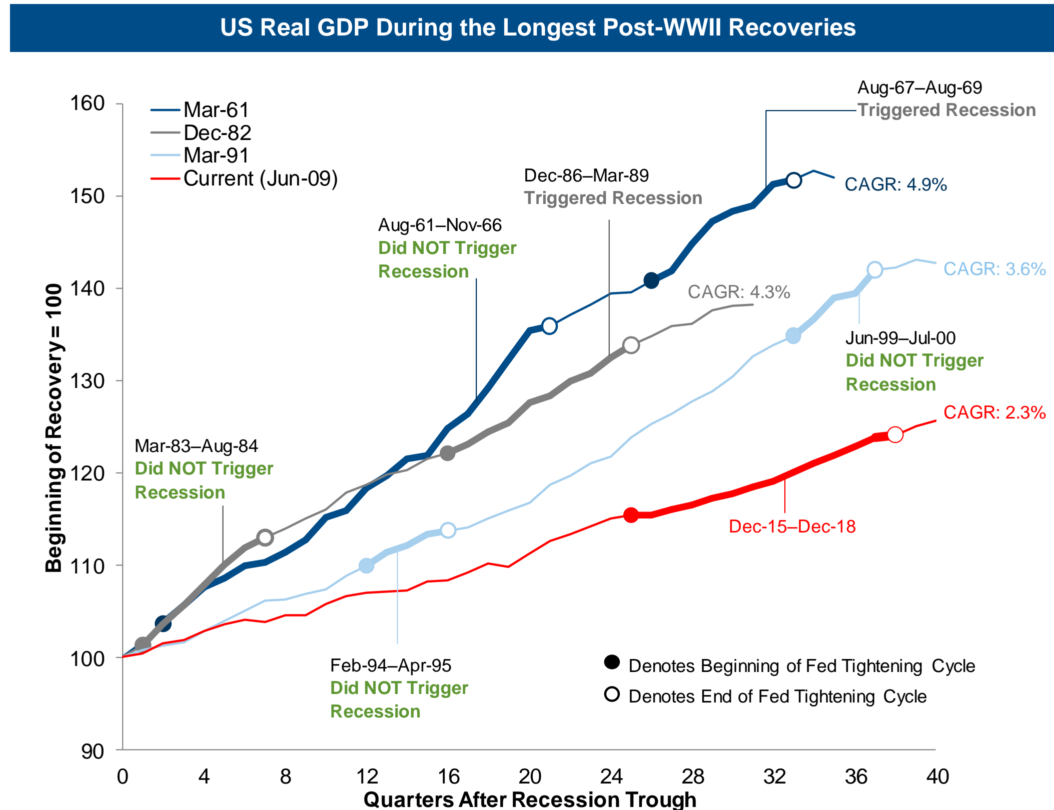
1. Aggressive tightening of monetary policy by the Federal Reserve
   – Tightening monetary policy contributed to nine of the 11 recessions in the post-WWII period.

2. Economic and financial market imbalances
   – Real estate imbalances and excessive valuations and leverage contributed to the three recessions since 1990.

3. Significant domestic and non-US exogenous shocks
   – The Arab oil embargo in 1973 and the Iran-Iraq War in 1980 each led to supply shocks and a near-tripling of oil prices, triggering recessions.

Source: Investment Strategy Group.

Federal Reserve Has Reversed Course

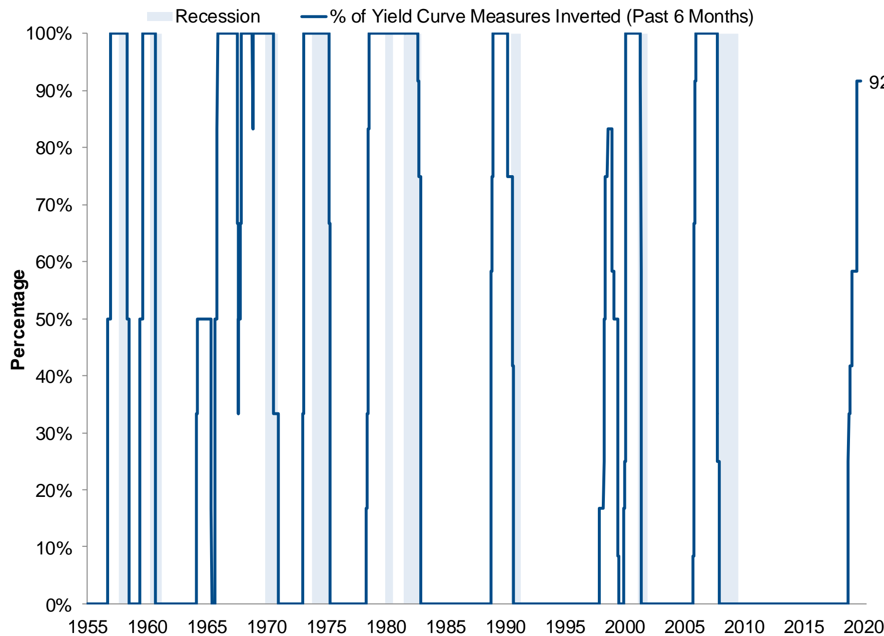


- In the three longest expansions preceding the current one, the expansion was extended when the Federal Reserve reversed course and lowered the federal funds rate.
- We believe the Federal Reserve's mid-cycle adjustment to its tightening cycle in 2019 will extend the life of this expansion for at least another year and possibly beyond 2020.

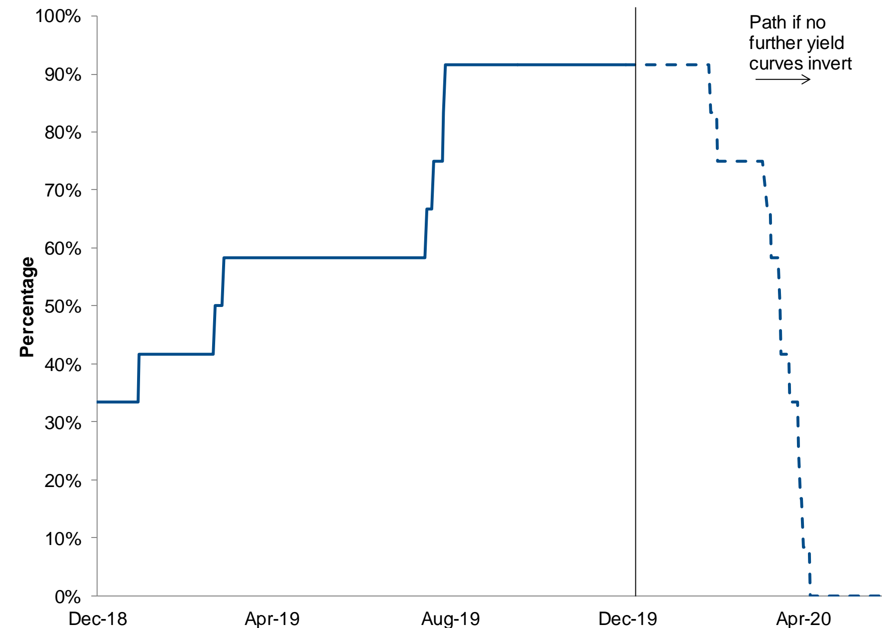
Source: Investment Strategy Group, Bloomberg, The National Bureau of Economic Research.

Our Proprietary Yield Curve Inversion Diffusion Index Did Not Reach 100% in the Recent Tightening Cycle

1. ISG Proprietary Yield Curve Inversion Diffusion Index[1]



2. ISG Proprietary Yield Curve Inversion Diffusion Index Projected Trajectory



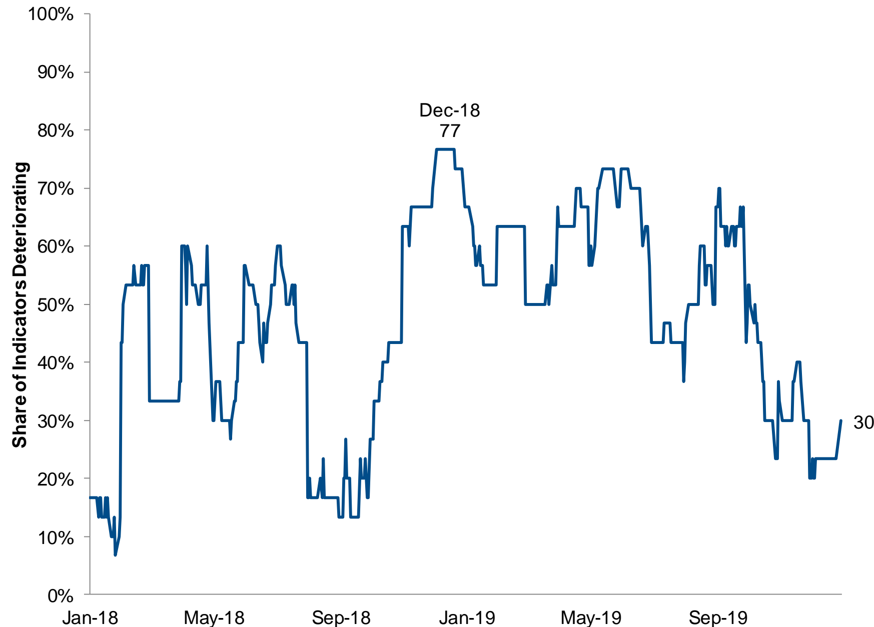
- The Federal Reserve's reversal in monetary policy has avoided setting off one of our recession monitors: our proprietary Yield Curve Inversion Diffusion Index.
- In the recent tightening cycle, this diffusion index peaked at 92% in August 2019. With the Federal Reserve holding rates steady for the foreseeable future, we expect this index to start declining in February and reach zero by May 2020.

(1) The diffusion index measures the percentage of yield curve measures inverted in the previous 6 months based on 12 different yield curve measures.

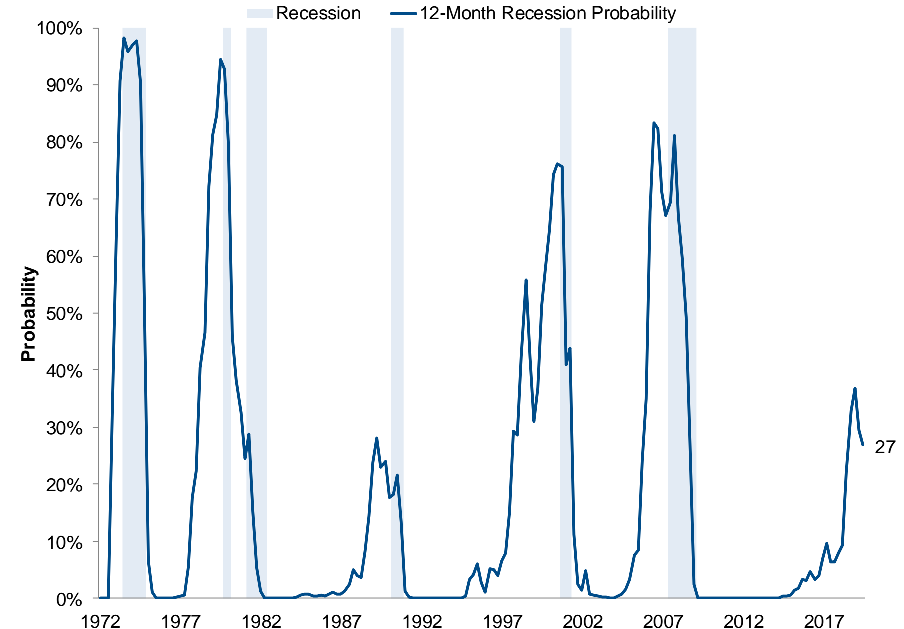
Source: Investment Strategy Group, Bloomberg, Haver Analytics.

The Risk of Recession Has Trended Lower Recently

1. Share of ISG Recession Indicators Deteriorating[1]



2. ISG Proprietary Recession Risk Indicator[2]



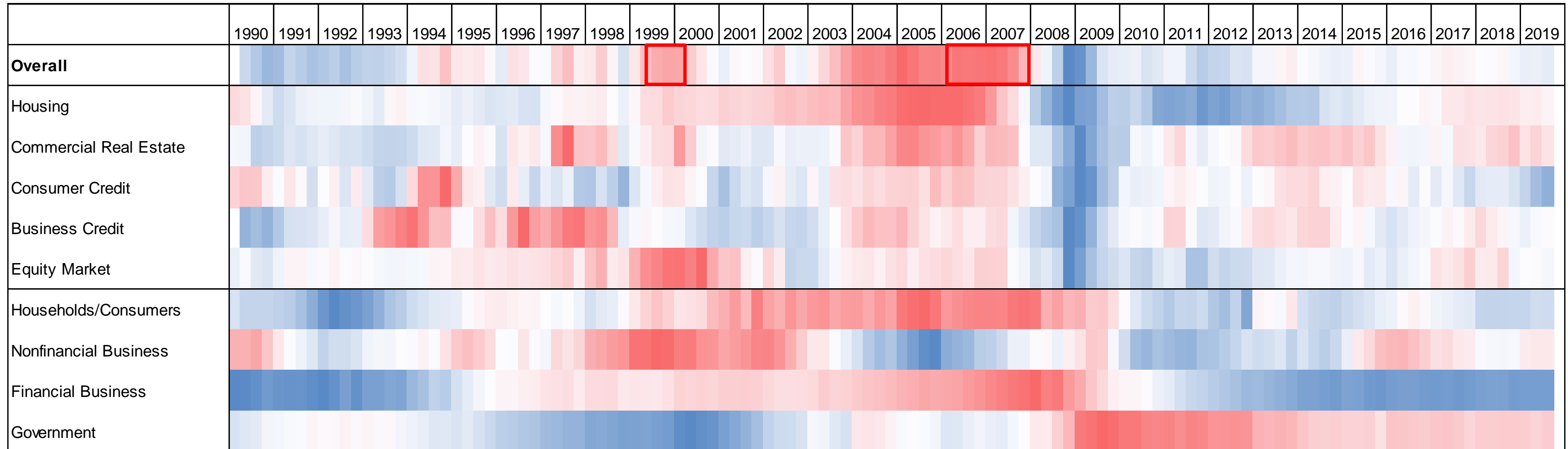
- We have developed several tools to monitor a range of economic and financial market indicators.
- Early in 2019, our models indicated a rising risk of recession, but the risk has trended lower more recently.
- We continue to rely on a series of tools since no one model has a solid enough track record to reliably predict the start of a recession.

(1) The chart shows a breadth index based on a total of 30 ISG recession indicators. It measures the percentage of indicators that have been deteriorating relative to the previous month. A lower value means fewer recession indicators have been deteriorating.

(2) Showing the median reading of a number of ISG proprietary recession models that are based on different economic and financial market variables, which we combine into a composite.

Source: Investment Strategy Group.

Absence of Economic and Financial Market Imbalances

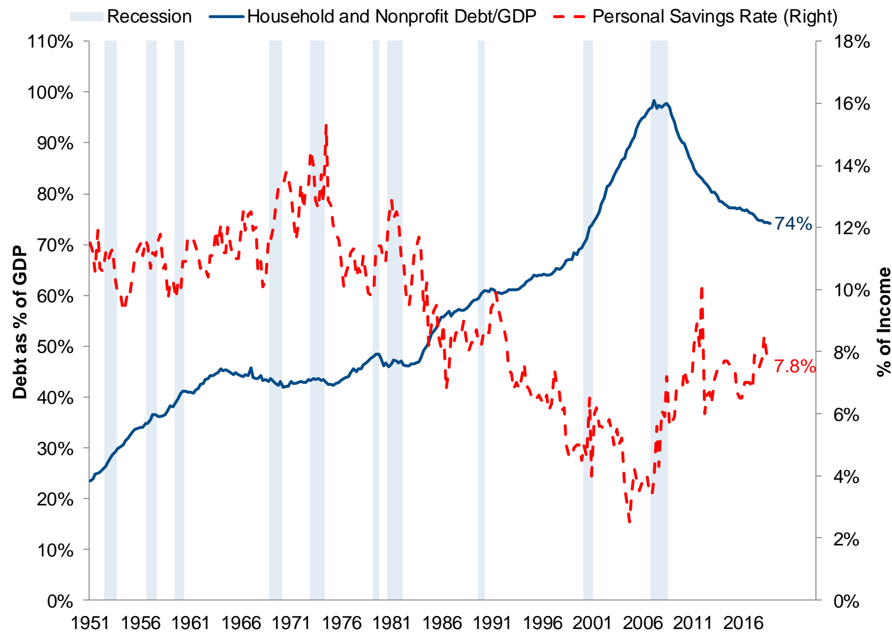


- The overall level of the GIR Financial Excess Monitor is currently slightly below its historical average and significantly below the levels seen in the 2000 dot-com bubble era or in 2007, prior to the global financial crisis (GFC).
- The key factors that are driving risks lower, shown in various shades of blue, are:
  - Higher interest rates and tighter lending standards in consumer credit
  - Higher savings rates and low levels of leverage in the household sector
  - Low levels of leverage in the financial sector

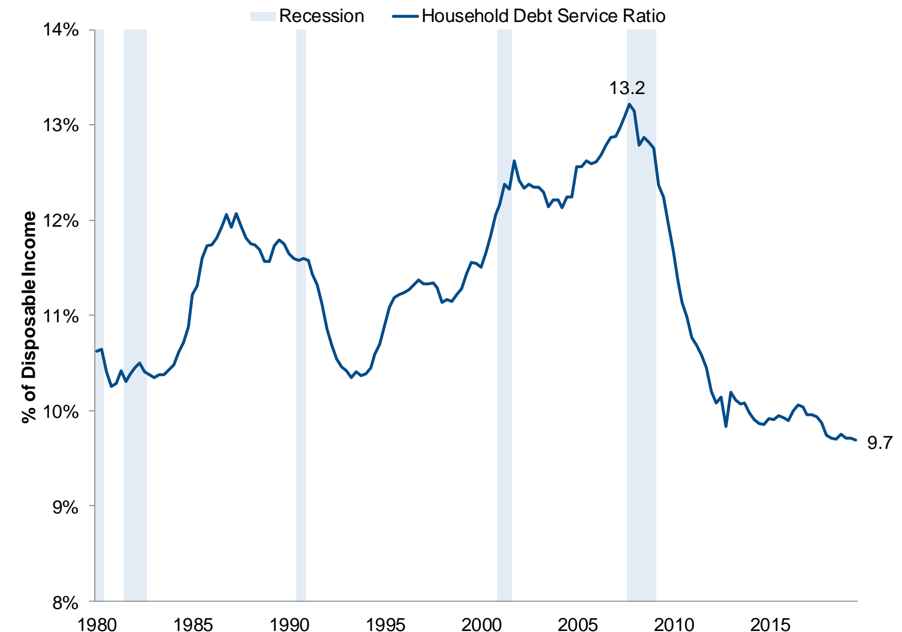
Source: Investment Strategy Group, Goldman Sachs Global Investment Research.

Household Balance Sheets are Strong and Debt Service Ratios are Low

1. US Household Debt and Personal Savings Rate



2. Household Debt Service Ratio

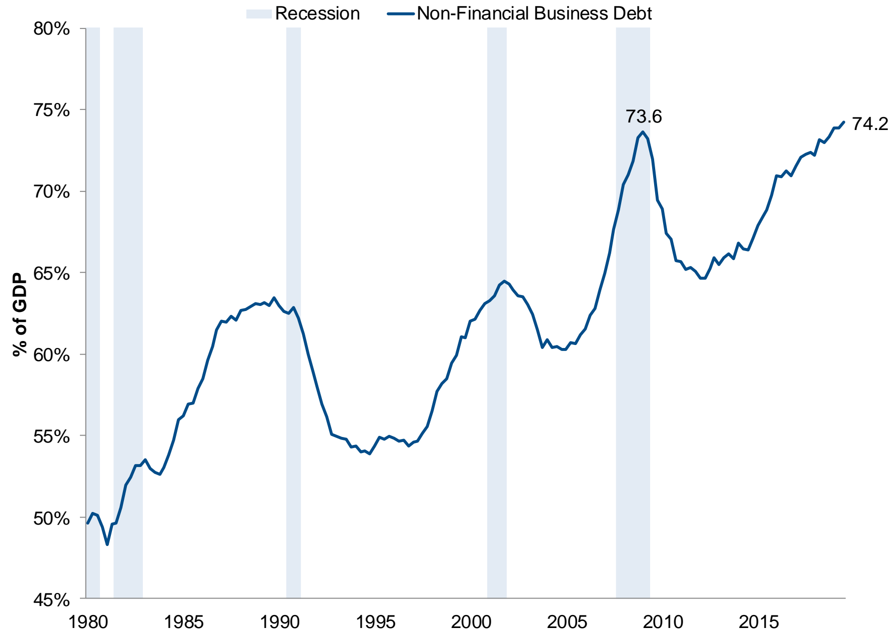


- The household sector enters 2020 with strong balance sheets and favorable debt service ratios:
  - Household debt has declined from 98% of GDP in Q1 2008 to 74% in Q3 2019.
  - The personal savings rate has increased from 3.4% in Q4 2007 to 7.8% in Q3 2019.
  - The household debt service ratio, measured as payments on outstanding mortgage and consumer debt divided by disposable personal income, has declined from 13.2% in Q4 2007 to a 40-year low of 9.7% in Q3 2019.

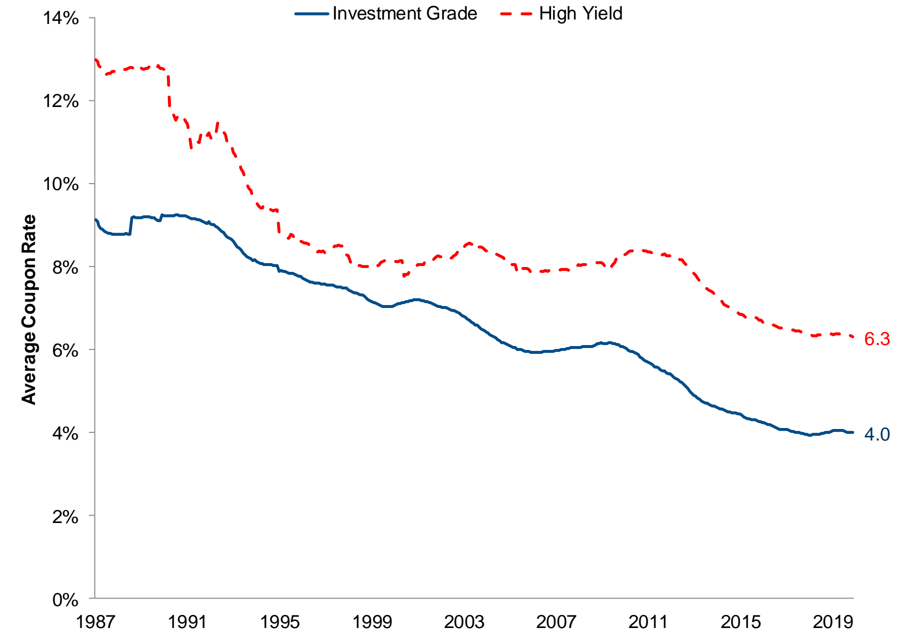
Source: Investment Strategy Group, Haver Analytics.

Rising Non-Financial Business Debt is a Concern, But Several Facts Mitigate the Risks Posed by it

1. US Non-Financial Business Debt



2. US Corporate Debt Average Coupon Rates

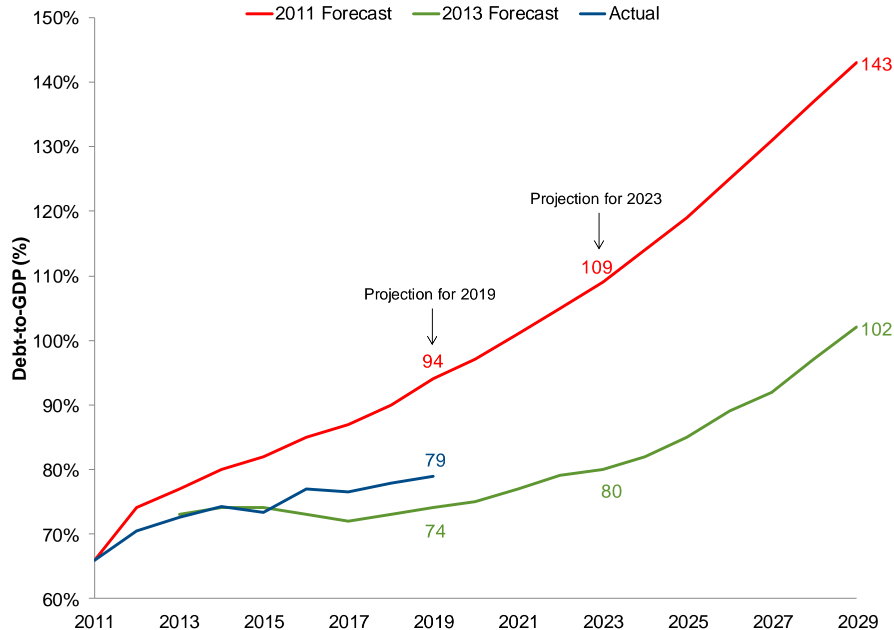


- Non-financial business debt has increased rapidly and is now at its historical high.
- While the rising level of debt is a concern, several facts mitigate the risks posed by it:
  - The interest burden of such leverage is at historically low levels because of very low interest rates.
  - Corporations have taken advantage of low interest rates to issue longer-term debt.
  - The sectors that have experienced the fastest growth in their debt levels have favorable interest coverage ratios.
  - Companies’ positive financing gap means they are unlikely to face financing pressures.

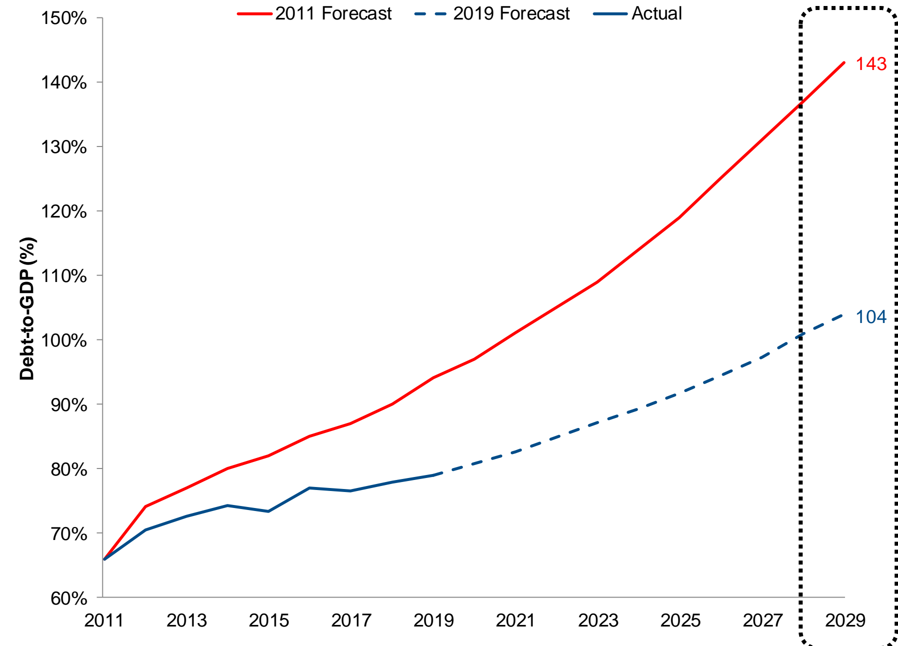
Source: Investment Strategy Group, Bloomberg, Haver Analytics.

Government Debt is Not a Short- or Intermediate-Term Concern

1. US Federal Government Debt-to-GDP Forecasts



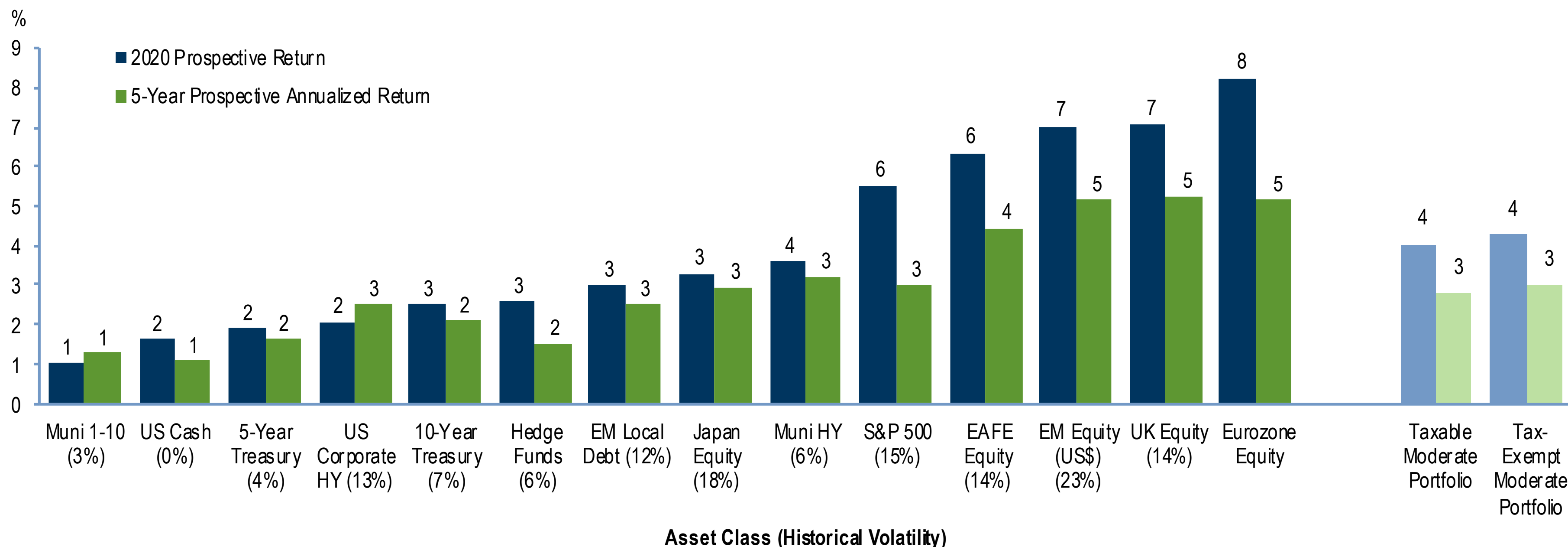
2. US Federal Government Debt-to-GDP Forecasts



- The key driver of the downward shift in the debt trajectory earlier in the decade was President Barack Obama's Budget Control Act (BCA) of 2011 and American Taxpayer Relief Act (ATRA) of 2012.
- President Donald Trump's Tax Cuts and Jobs Act (TCJA) of 2017 and the Bipartisan Budget Acts of 2018 and 2019 have added about $4.7 trillion of debt.
- The current level of debt-to-GDP is not a short- or intermediate-term concern that could create a financial crisis, given the preeminence of the US.
- The US attracts the largest amount of capital flows globally.

Source: Investment Strategy Group, Congressional Budget Office, Committee for a Responsible Federal Budget.

ISG 2020 and 5-Year Prospective Total Returns

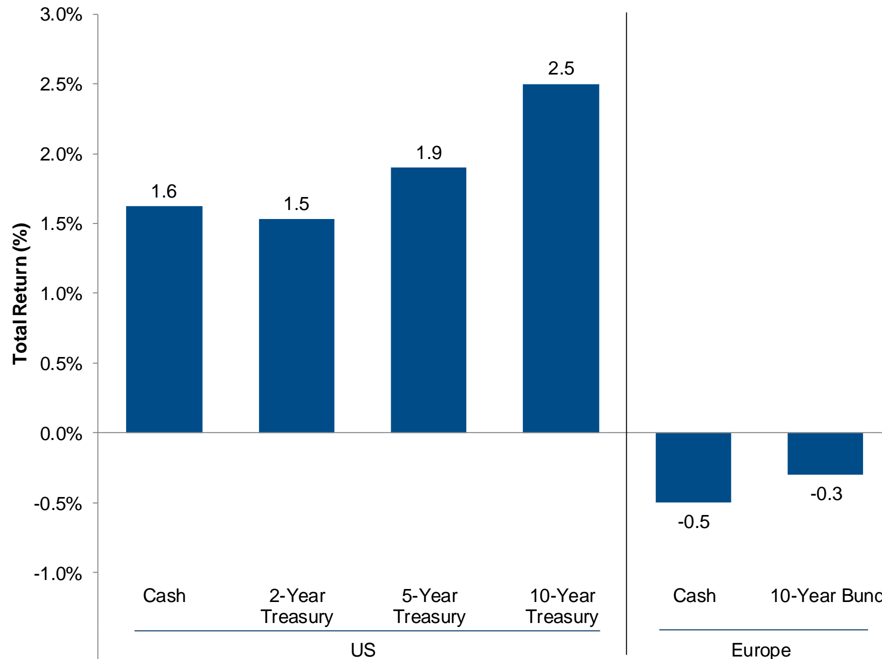


- We expect equities to offer 6–8% returns in 2020.
- Returns across fixed income assets are likely to be more modest.
- Our five-year forecasts somewhat lower than our forecasts from prior years.

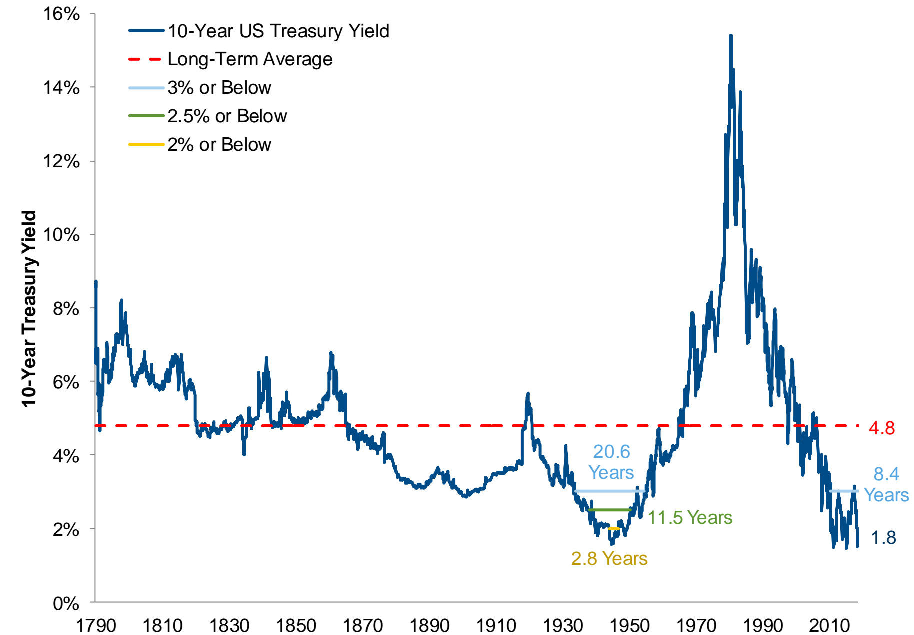
Note: These forecasts have been generated by ISG for informational purposes. Return targets are based on ISG's framework, which incorporates historical valuation, fundamental and technical analysis. Dividend yield assumptions are based on each indexes trailing 12-month dividend yield. They are based 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.

We Expect Range-Bound Interest Rates and Modest Fixed Income Returns in 2020

1. ISG Prospective 2020 Fixed Income Returns by Asset Class



2. US 10-Year Treasury Yield Since 1790

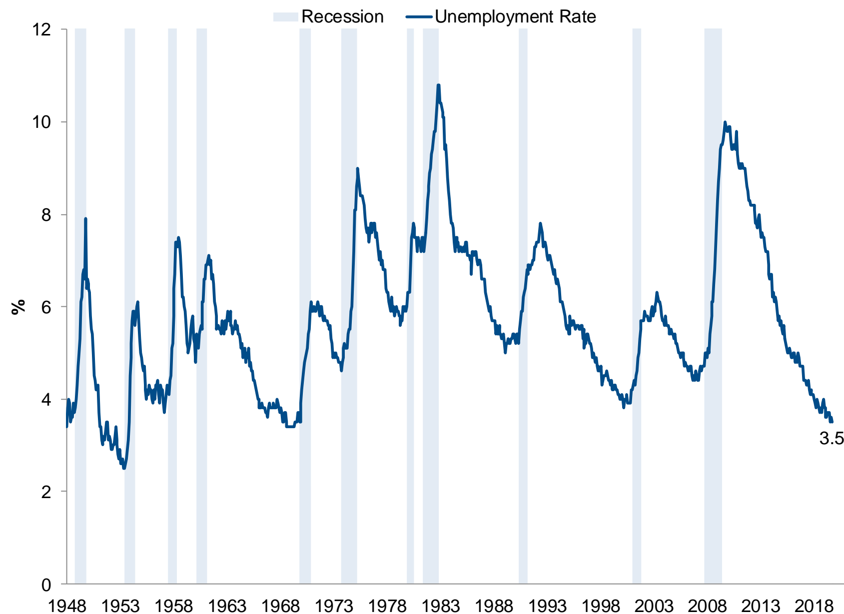


- Modest global growth, and the willingness of developed market central banks to ease policy more aggressively rather than tighten it, are likely to keep interest rates and credit spreads range-bound in 2020.
- We expect the 10-year Treasury bond yield to be between 1.6% and 2.1% by the end of 2020.
- Interest rates can remain low for a long time.

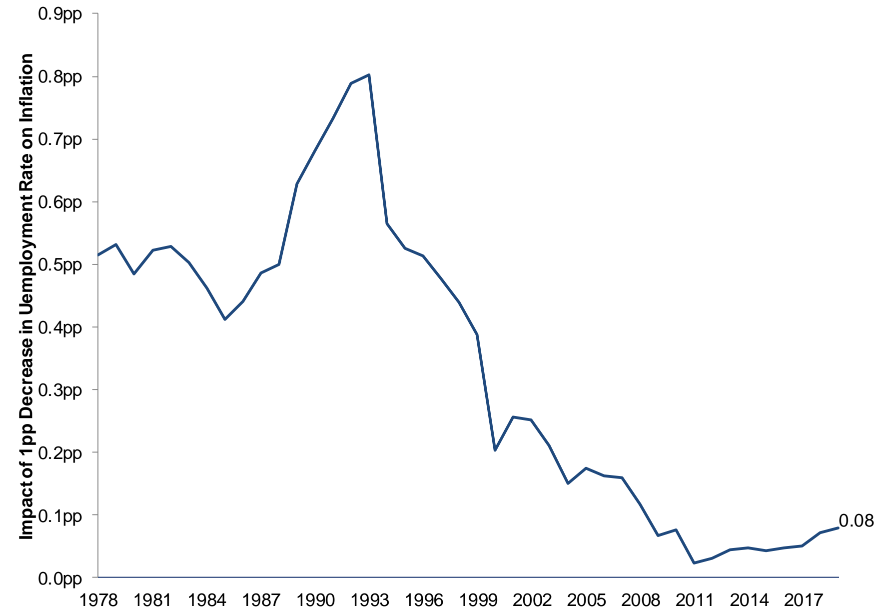
Source: Investment Strategy Group, Datastream, Bloomberg, Global Financial Data.

An Upside Inflation Surprise Would Disrupt Both Stock and Bond Markets but is a Low Probability Risk in our View

1. Unemployment Rate with NBER Recessions



2. 20-Year Rolling Estimates of the Slope of the Phillips Curve: Impact on Inflation of 1pp of Unemployment Rate Slack[1]

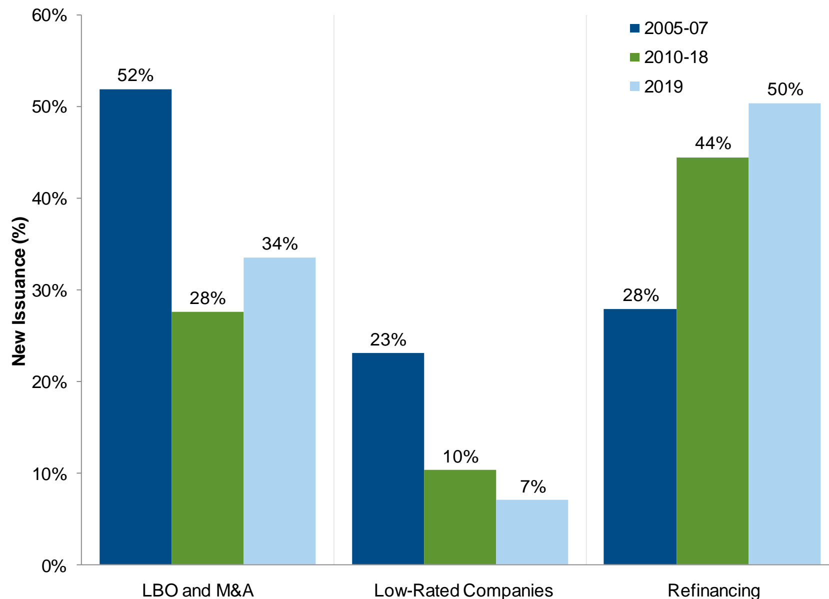


- An eleven-year economic expansion has helped push unemployment to a five-decade low, stoking inflation concerns.
- An upside inflation surprise would be very disruptive to bond markets—given today's negative term premium—and equity markets, given it would undermine the low and stable inflation environment that is supporting valuations.
- Yet we think this is a low-probability risk for several reasons. Labor unions represented a quarter of the workforce in the 1970s vs. less than 10% today. Moreover, inflation-targeting central banks have better anchored inflation expectations, while technological disruption, such as online retail, is disinflationary.
- Reflecting these factors, the relationship between unemployment and inflation stands near its all-time lows today.

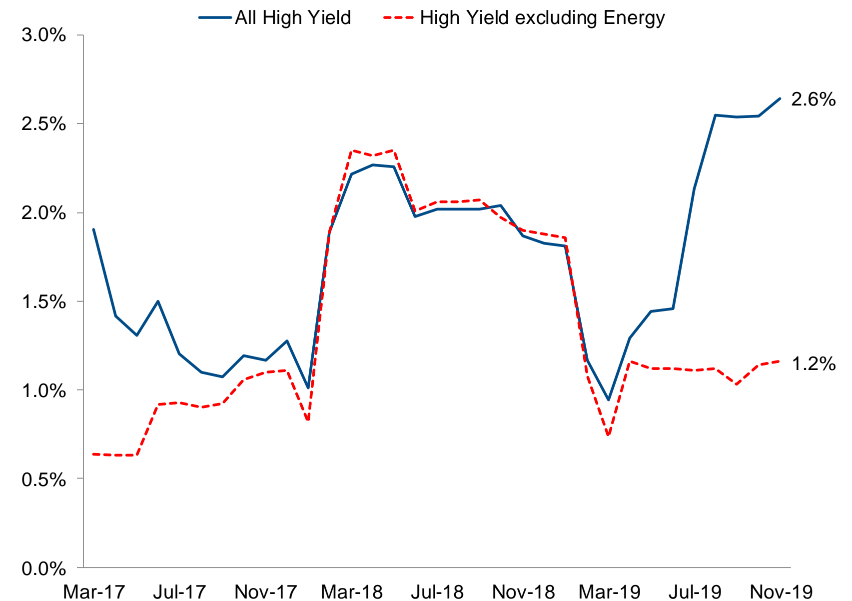
(1) "Monetary Policy and Risk Management at a Time of Low Inflation and Low Unemployment" Chair Powell Oct. 2018 Sources: Investment Strategy Group, Haver, Federal Reserve.

Concerns About High Yield Issuance and Default Trends Seem Less Ominous on Closer Inspection

1. Characteristics of High Yield New Issuance



2. High Yield Default Rate, With and Without Energy Firms



- The composition of high yield issuance in recent years has been much healthier than that of the pre-financial crisis period, evident in fewer leveraged transactions, fewer low-rated issuers and more refinancing activity.
- While last year's uptick in debt-intensive M&A activity has drawn attention, it is a small inflow into a large stock of otherwise healthy debt. It is also partially offset by fewer low-rated issuers and more refinancing activity last year.
- The recent increase in default activity is largely energy sector-related with little signs of contagion.
- Despite a benign view on credit fundamentals, we are neutral on high yield because our estimate of the incremental return investors earn for taking default risk stands in its worst 3rd percentile historically.

Source: Investment Strategy Group, Bank of America Merrill Lynch, JP Morgan, Goldman Sachs Global Investment Research, Bloomberg.

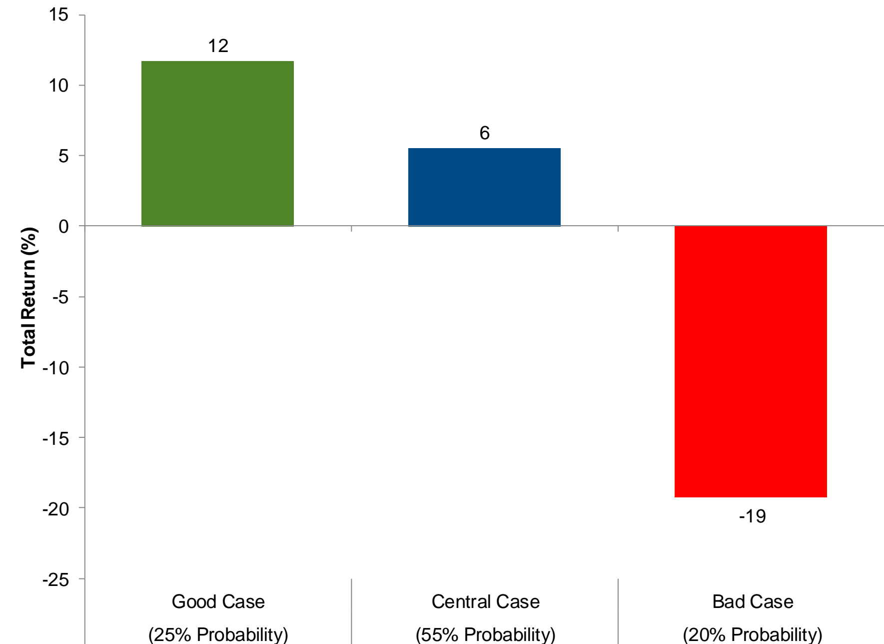
Outlook for US Equities

Consumer and Investment Management Division

Goldman Sachs

1. ISG Central Case Return Decomposition for S&P 500 at 2020 Year-End

2. ISG S&P 500 Total Return Forecast – Year-End 2020

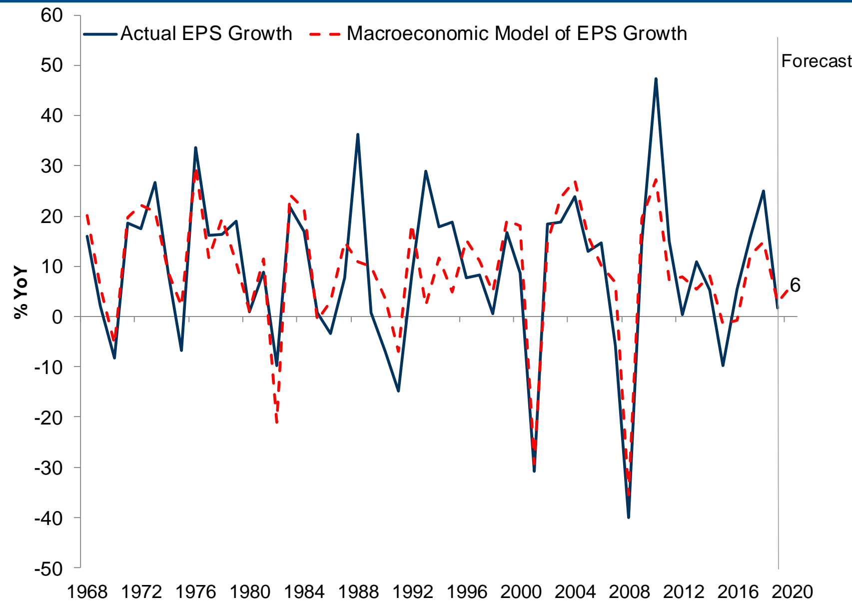


- We assign a 55% probability to our central case for US equities:
  - Total returns of 4–7% (6% midpoint)
  - Earnings growth of 5–8% (6% midpoint)
  - Dividend yield of 2%
  - A modest compression in valuation multiples
- With a 25% probability, we expect a total return of 12% by the end of 2020 in our good case.
- With a 20% probability, we expect a total return of -19% by the end of 2020 in our bad case.

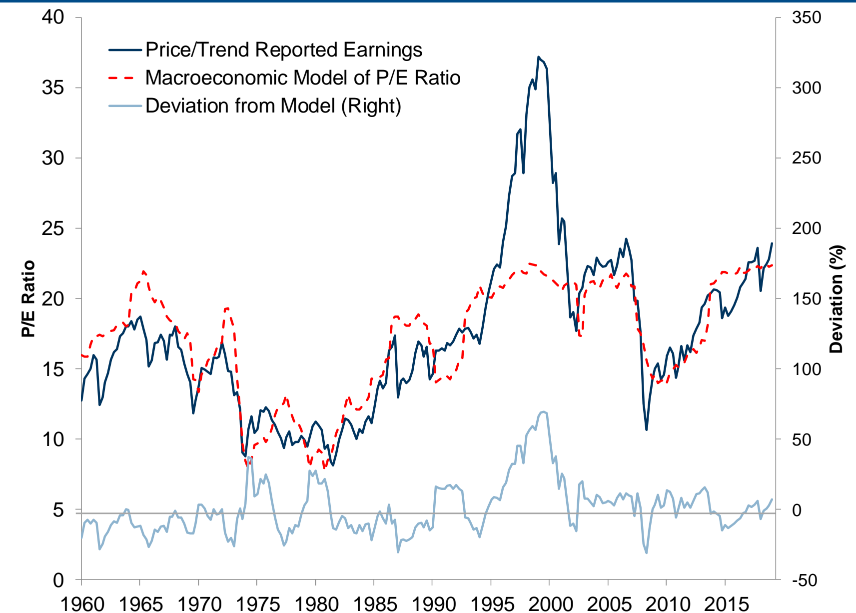
Source: Investment Strategy Group, Bloomberg.

We Expect Earnings Growth to be the Main Driver of US Equity Returns in 2020

1. S&P 500 Annual Operating EPS Growth: Actual vs. Macroeconomic Model[1]



2. S&P 500 Trend P/E Ratio: Actual vs. Macroeconomic Model[2]



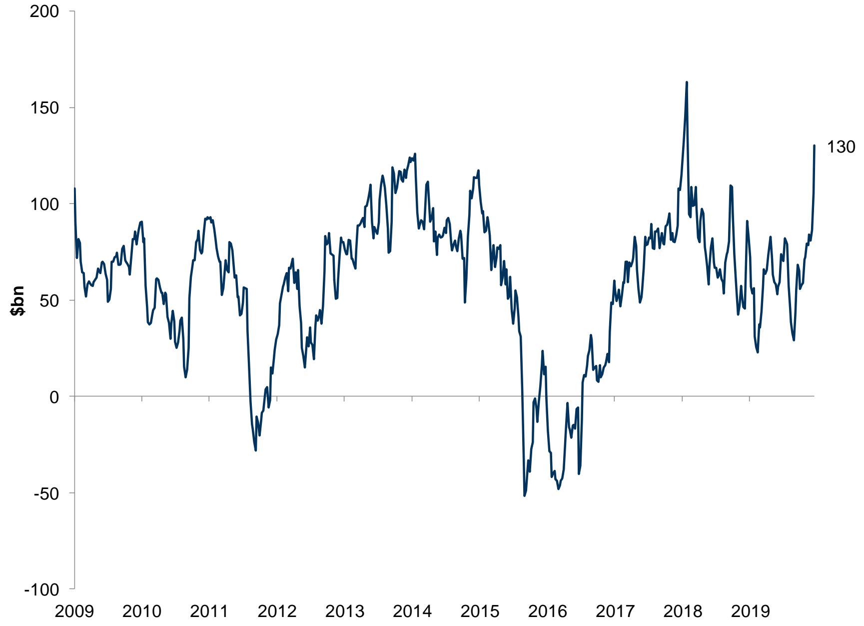
- We expect earnings growth to recover to a 5–8% pace in 2020, driven by our broader macroeconomic assumptions and consistent with our bottom-up forecast for 5% revenue growth, flat profit margins and a 1% boost from buybacks.
- Earnings growth could surprise to the upside if US-China trade relations improve further, as some analysts have estimated the drag from the trade war is worth 7-8 percentage points of earnings growth.
- Compression in valuations will partially offset earnings growth in 2020, as the current P/E ratio is slightly above the level justified by today's low and stable inflation rate.
- But unlike the late 1990's technology bubble, today's valuations are not excessive.

(1) Based on GDP growth, USD and oil prices, with the 2020 forecast reflecting our assumptions for these variables. (2) Based on the US unemployment and inflation dynamics.

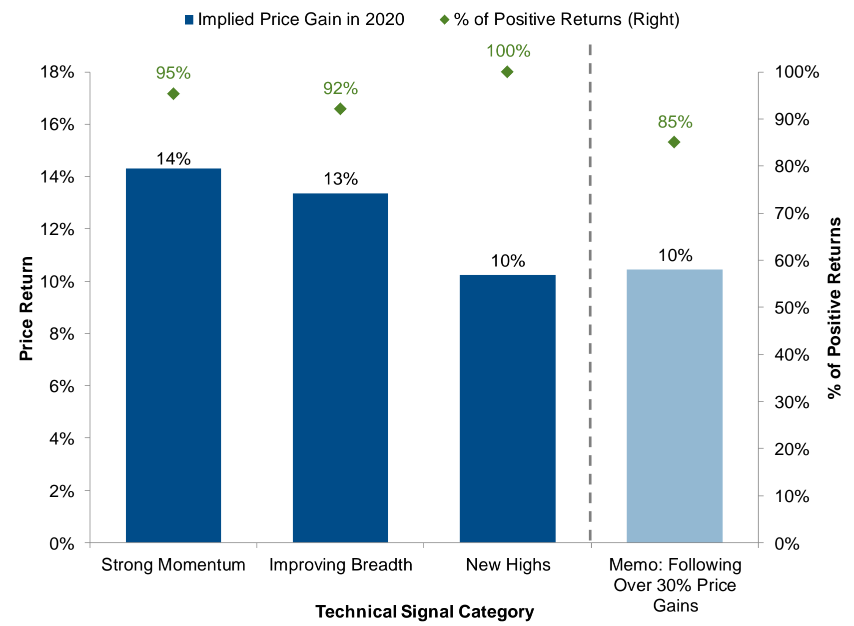
Source: Investment Strategy Group, S&P Global, Goldman Sachs Global Investment Research, BLS, Bloomberg, JPMorgan

The Breadth and Strength of Last Year's Rally Support Further Upside in 2020 Despite Short-Term Sentiment Headwinds

1. Non-Dealers Position in US Equity Index Futures



2. S&P 500 Price Returns in 2020 Implied by Market-Based Technical Signals

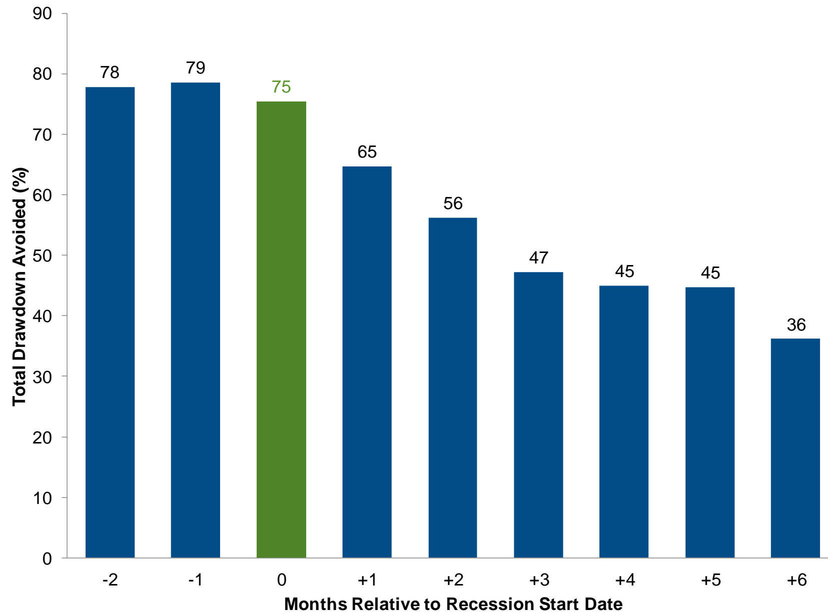


- Last year's strong equity performance has emboldened investors, evident in measures that show elevated investor optimism. The equity exposure of non-dealers, for example, has been lower 99% of the time historically.
- Yet similar levels of investor optimism have been only a short-term headwind to equity prices in the past.
- In contrast, the magnitude of—and breadth of stocks participating in—last year's equity rally have consistently been associated with above-average equity returns in the year following similar episodes historically.
- An average of ten technical indicators that capture these dynamics imply an S&P 500 price target of 3641 (or 13% price return) in 2020, with 95% odds of a positive return. This is a key factor in our 25% odds of a 12% S&P 500 gain this year.

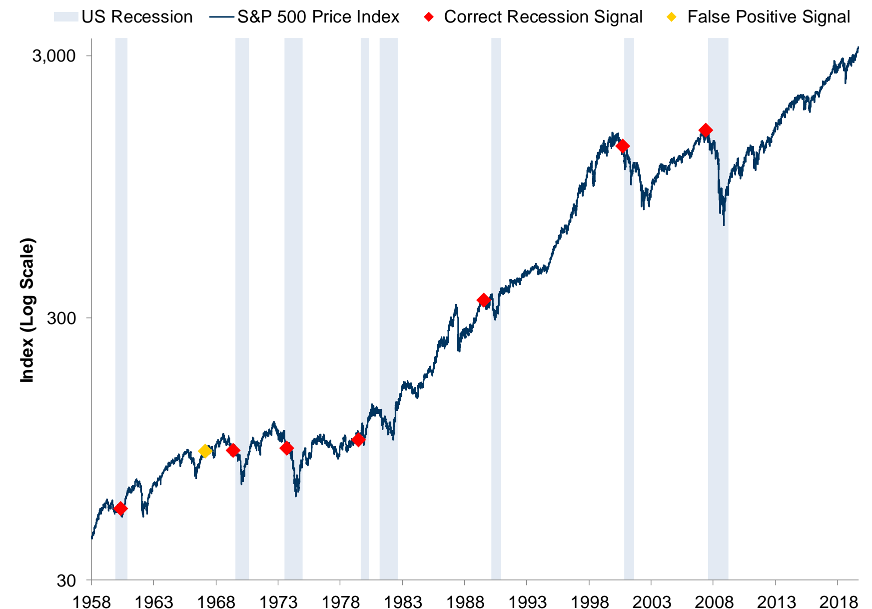
Source: Investment Strategy Group, US Commodity Futures Trading Commission (CFTC), Bloomberg, SentimenTrader.

Identifying the Start of a Recession is More Useful Than Forecasting a Future One

1. Percent of S&P 500 Drawdown Avoided Relative to Recession Start Date[1]



2. Point-in-Time Recession Signals from One of Many ISG Recession Indicators[2]



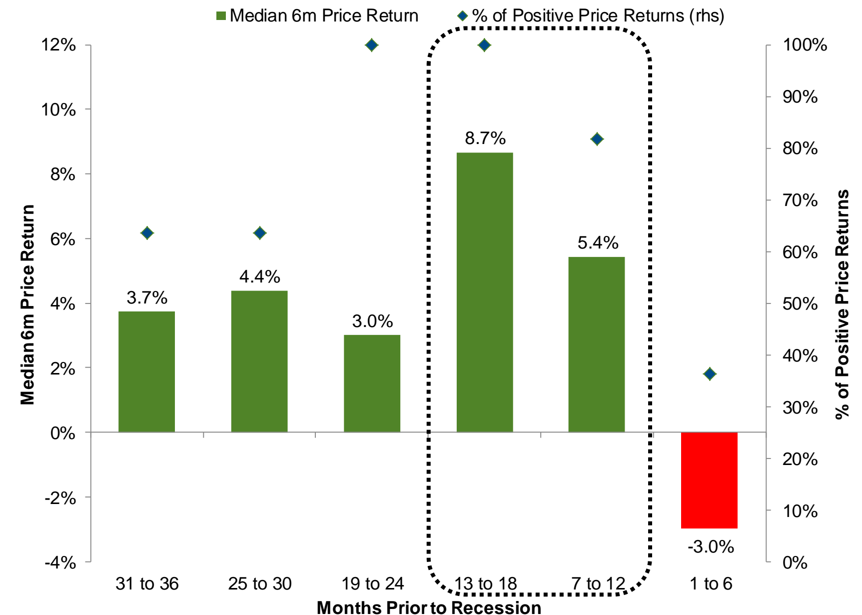
- An investor who exited the market when past recessions started still avoided between 2/3rds - 3/4ths of the total downdraft.
- This distinction is critical, because our tools for identifying when a recession has started are more consistently reliable than those for forecasting a future recession. That said, such tools are not foolproof and are just one of many inputs that we would consider before recommending clients underweight risky assets.
- There are a number of defensive tactical steps in response to a recession: eliminate existing risk positions, increase the size of our Systematic Downside Mitigation Tilt, purchase put spreads and short S&P 500 futures.
- Despite our best efforts, we may miss the next recession's start or fail to sidestep the bulk of the market downdraft. In that case, we would focus on opportunistically going overweight risky assets, which has added significant value in the past.

(1) Average across 11 post-WWII US recessions. Recession start date is defined as the first of the NBER business cycle peak months. (2) The approach uses a combination of yield curve and labor market indicators, based on point-in-time data that has not been revised or restated. Source: Investment Strategy Group, NBER, BLS, Bloomberg, Haver Analytics.

Stay Invested: Part I

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

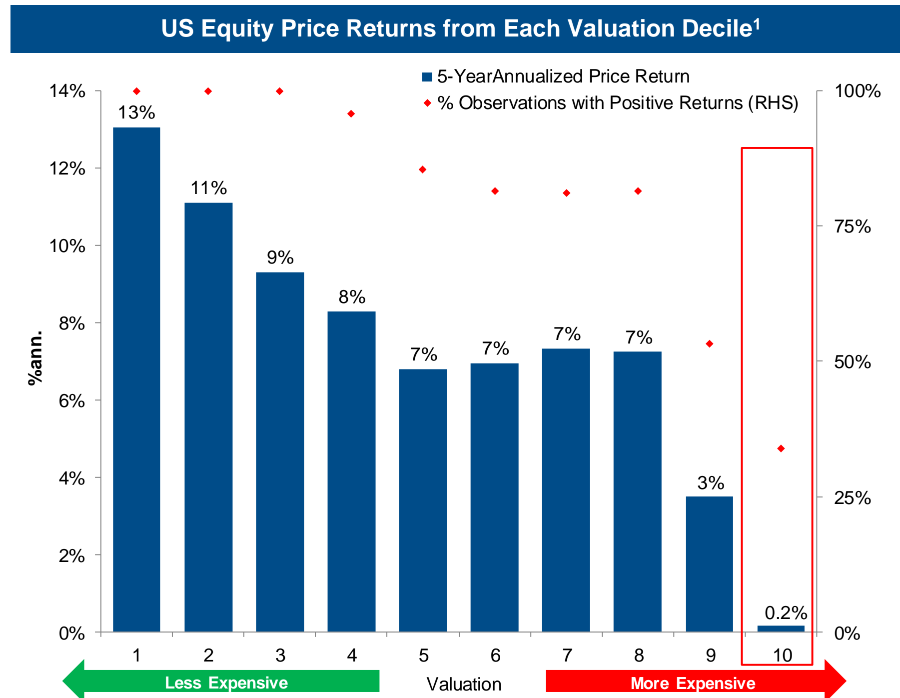
2. S&P 500 Price Returns Relative to Onset of Next Recession



- The probability of a positive one-year return in US equities in an expansion is 87%. Furthermore, the probability of having a return greater than 10% is 64%, whereas the probability of a decline of at least 10% is only 4%.
- The returns preceding the onset of recession by more than six months have been very attractive. Furthermore, the frequency of positive returns has been 100% when the recession is 13 to 24 months away.
- Exiting the market too far ahead of a recession may have a significant opportunity cost of forgone returns. It is better to be a little late than early in exiting the market.

Source: Investment Strategy Group, Bloomberg.

Stay Invested: Part II



- As noted by Howard Marks, a highly respected investor and prolific writer on the principles of investing, there are two risks that have to be considered when overweighting and underweighting equities: "*the likelihood of permanent capital loss*" and "*the likelihood of missing out on potential gains.*"[2]
- The probability of success in outperforming a passive benchmark is greater with a one-way strategy of overweighting equities when they are cheap than it is with a strategy of both overweighting and underweighting equities.

(1) Based on five valuation metrics for the S&P 500, beginning in September 1945: Price/Trend Earnings, Price/Peak Earnings, Price/Trailing 12m Earnings, Shiller Cyclically Adjusted Price/Earnings Ratio (CAPE) and Price/10-Year Average Earnings. These metrics are ranked from least expensive to most expensive and divided into 10 valuation buckets ("deciles"). The subsequent realized, annualized 5-year price return is then calculated for each observation and averaged within each decile. (2) From MASTERING THE MARKET CYCLE by Howard Marks. Used by permission from the publisher, HMH Media & Books, all rights reserved. Source: Investment Strategy Group, Bloomberg, Shiller.

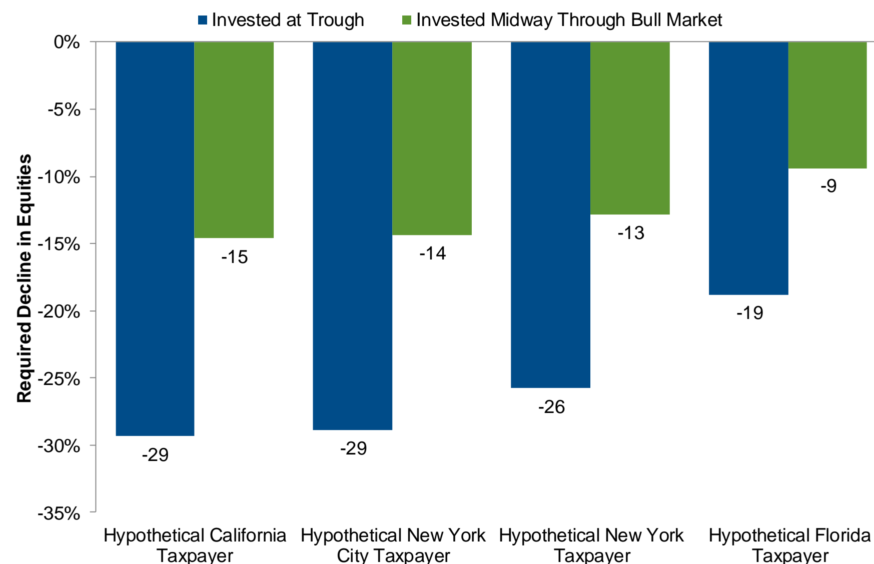
Past performance is not indicative of future returns.

Stay Invested: Part II (Cont'd.)

1. Overweight and Underweight Strategies Based on S&P 500 Valuations

	Strategy A	Strategy B	Strategy C
	Symmetric strategy: Overweights and underweights equities based on valuations.	Asymmetric strategy: Underweights equities only after crossing into 10th decile.	Asymmetric strategy: Never underweights equities, overweights based on valuations.
Strategy			
Pre-Tax Return	8.79%	8.96%	8.97%
Volatility	7.77%	8.29%	8.50%
Benchmark			
Pre-Tax Return	8.50%	8.50%	8.50%
Volatility	7.83%	7.83%	7.83%
Strategy vs. Benchmark			
Excess Return	**0.29%**	**0.46%**	**0.47%**
Tracking Error	2.30%	1.53%	1.37%
Information Ratio	12.49%	30.23%	34.21%
After-Tax Excess Returns	**-0.03%**	**0.17%**	**0.29%**

2. Required Decline in US Equities to Offset Tax Consequences of Selling



- In a back test[1] of three strategies, Strategy C, which never underweighted equities and overweighted equities based on valuations, produced superior returns to Strategies A and B, both of which underweighted equities based on valuations.
- The results are more compelling if we add the tax impact of selling equities.

(1) Beginning with a neutral position relative to a 50% bond/50% equity portfolio, the strategy moves to a 5pp overweight/underweight in equities at the third/eighth deciles, respectively. The deviation increases to 10pp at the second and ninth deciles and reaches a maximum deviation in the equity weight of 20pp at the first and 10th deciles. Based on data since 1945. These hypothetical strategies are for illustrative purposes only. Returns are gross of fees. See the disclosures for a discussion on how fees can affect the returns. Federal tax rates are assumed: Stocks' dividends are taxed at the long-term capital gains federal tax rate of 23.8%. Stocks' long-term (short-term) capital gains are taxed at the long-term (short-term) capital gains federal tax rate of 23.8% (40.8%). Bonds are assumed to be tax-exempt. Excess return refers to the return of the hypothetical strategy versus the benchmark. Source: Investment Strategy Group, Bloomberg.

Past performance is not indicative of future returns.

Risks to Our Views

- President Trump continues to face a slew of investigations including congressional, federal, and state and local investigations. While the ebb and flow of these investigations may contribute to some market volatility, it is unlikely that the outcome or lack of outcome of these investigations will destabilize the US economy.

- US presidential and congressional elections may introduce additional volatility, but their outcome is unlikely to destabilize the US economy or financial markets.

- Non-US exogenous shocks
  - China
  - Brexit
  - Auto Tariffs
  - Iran
  - North Korea
  - Russia
  - Cyberattacks
  - Terrorism
  - Techlash

Source: Investment Strategy Group.

Impact of Presidential Elections on US Equity Returns

S&P 500 Average One-Year Price Returns Following Elections[1]

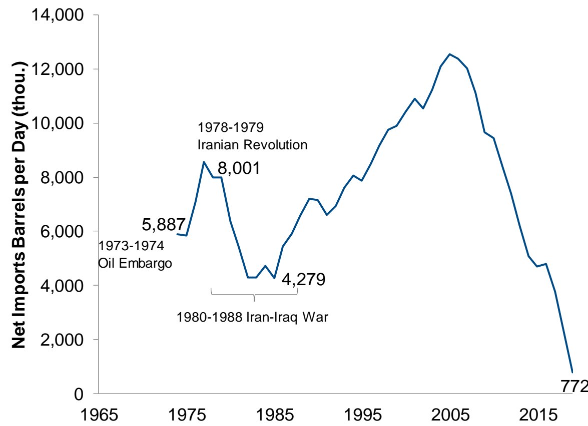
	Since 1928			Since 1945	
	All				
	1931 Divided	1931 Single Party	Excl. Recessions	All	Excl. Recessions
Divided	6.0%	6.9%	13.6%	7.8%	13.6%
Single Party	8.1%	7.1%	7.6%	9.0%	7.5%
Divided - Single Party	-2.1%	-0.2%	6.0%	-1.2%	6.0%
Statistical Confidence Level of Different Return Averages	45%	5%	94%	29%	95%

- Given that the Senate is likely to retain its Republican majority and the House is likely to retain its Democratic majority, the US will most likely have a divided government irrespective of the presidential election's outcome.
- The data does not reveal any difference in US equity returns between divided and single-party government that is statistically significant, unless we exclude recessions.
  - When we exclude 12-month periods that experienced a recession, the difference in returns between divided and single-party government increases substantially and becomes statistically significant with 94% confidence.
  - We conclude that in nonrecessionary periods, equity returns are higher under divided governments and the difference is statistically significant.
- Since we are not expecting a recession in 2020 and are more likely to end up with a divided government, our recommendation to stay invested should be further supported by the tailwind of divided government.

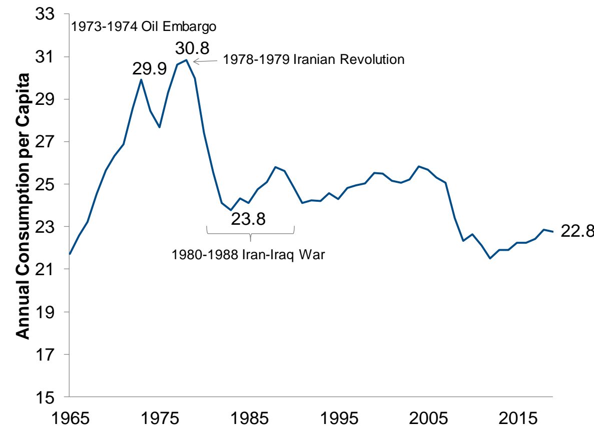
(1) The first column assumes that 1931 was a year of divided government because a number of special elections held that year to replace members of both parties who passed away resulted in shifting the House majority from Republican to Democratic. The second column assumes that 1931 remained a single-party government.
Source: Investment Strategy Group, Bloomberg.

US and Global Oil Backdrop

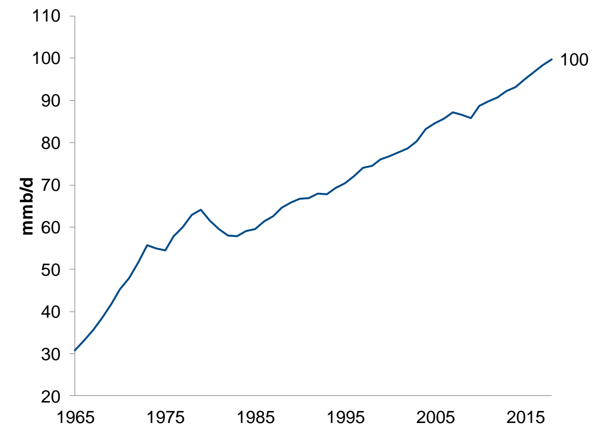
1. US Net Oil Imports (Thousand Barrels per Day)



2. Annual US Oil Consumption per Capita (Barrels)



3. Global Oil Demand (Million Barrels per Day)

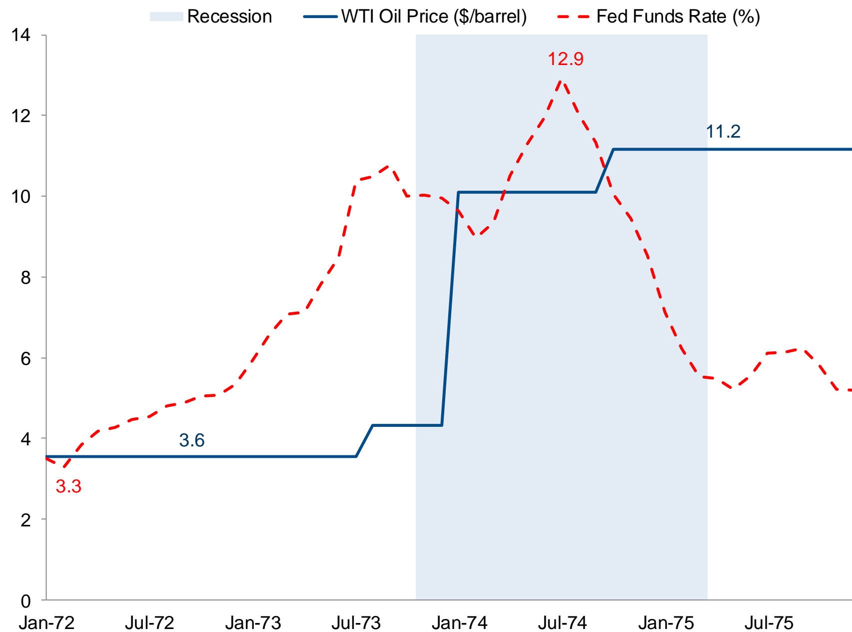


- In 2019, US oil net imports fell to 772 thousand barrels per day.
- US consumption per capita fell in response to high oil prices in the 1980s.
- Global demand has increased to about 100 million barrels per day.

Source: Investment Strategy Group, Haver Analytics.

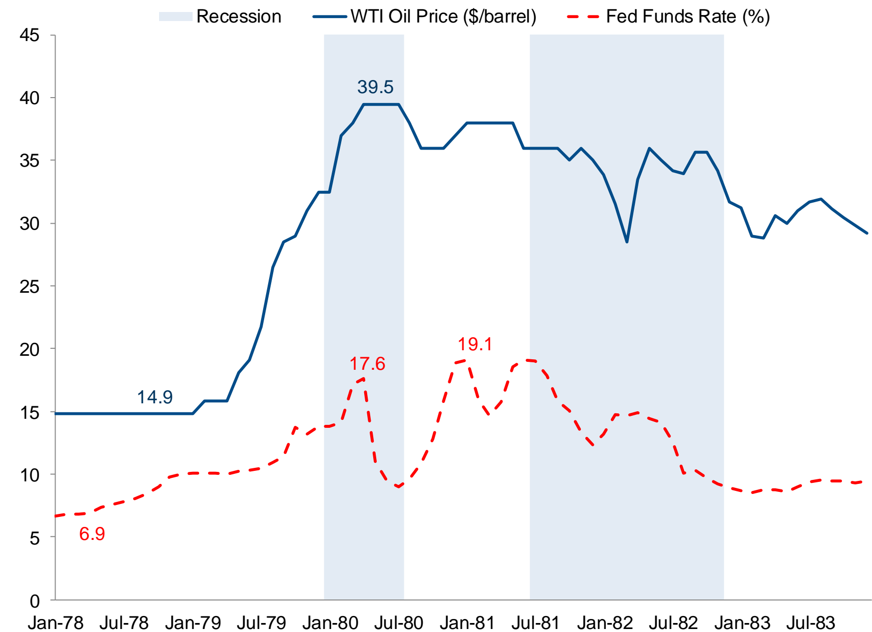
Economic Impact of Oil Shocks

1. Arab Oil Embargo



- Oil prices increased over threefold
- Federal funds rate rose 9.6 percentage points
- Recession followed
- US equity prices declined -48.2%
- An ISG US taxable moderate portfolio[1] would have lost -21.7% in nominal terms (-33.9% in real terms)

2. Iran Revolution and Iran-Iraq War



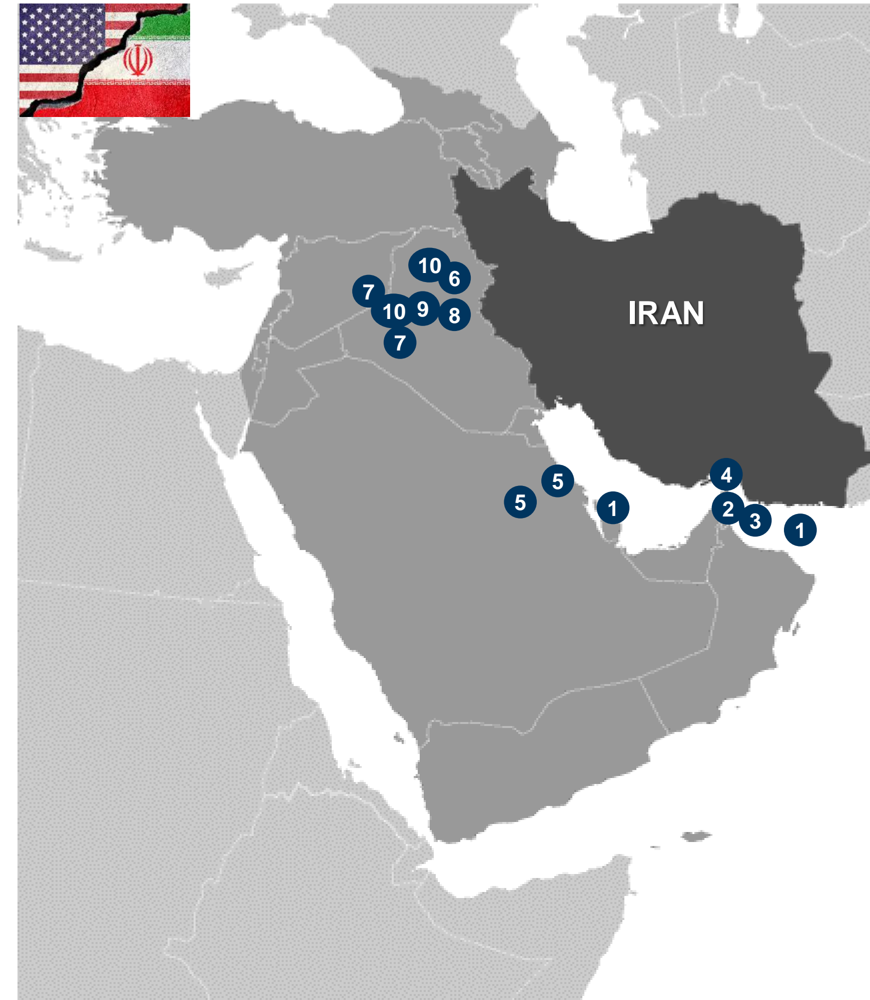
- Oil prices increased nearly threefold
- Federal funds rate rose 12.2 percentage points
- Recession followed
- US equity prices declined -27.1%
- An ISG US taxable moderate portfolio would have gained 4.1% in nominal terms (-8.6% in real terms)

(1) See endnote 1 in the disclosures for more information on the taxable moderate portfolio. Source: Investment Strategy Group, Haver Analytics.

US-Iran Escalation

1. Road to crisis

Date	#	Event
8 May 2018		US withdraws from the nuclear agreement
5 Nov 2018		US re-imposes sanctions
5 May 2019	1	US deploys an aircraft carrier and bomber task force
8 May 2019		Iran begins reversing its nuclear concessions in 5 phases
12 May 2019	2	4 commercial vessels are reportedly sabotaged
13 May 2019	3	2 oil tankers are attacked in the Gulf of Oman
20 June 2019	4	Iran shoots down an unmanned US drone
14 Sept 2019	5	Iran attacks Saudi oil infrastructure
11 Oct 2019		US deploys additional forces, for a total of 14,000 since May
→ 27 Dec 2019	6	Kata'ib Hezbollah attack kill 1xUS contractor & injuring 4xUS soldiers
29 Dec 2019	7	US conducts 5 strikes on Kata'ib Hezbollah sites; 3 in Iraq and 2 in Syria
→ 31 Dec 2019	8	US Embassy Baghdad comes under attack
3 Jan 2020	9	US kills Qasem Soleimani and Abu Mahdi al-Mohandes
5 Jan 2020		Iran announces it is no longer bound by limits in the nuclear deal
8 Jan 2020	10	Iran conducts missile attacks against 2 bases with US forces in Iraq



Source: Investment Strategy Group, Eurasia Group, CIA, Department of Defense, Various News Outlets.

Others on the Crisis

"There is now an urgent need for de-escalation. We call on all parties to exercise utmost restraint and responsibility… We stand ready to continue our engagement with all sides in order to contribute to defuse tensions and restore stability to the region."

– Joint Statement by President Macron, Chancellor Merkel, and PM Johnson, January 6, 2020

"This action can seriously aggravate the situation in the region."

– Vladimir Putin, January 3, 2020

"China pays high attention to the intensification of U.S.-Iran conflict, opposes the abuse of force in international relations, and holds that military adventures are unacceptable."

– Chinese Foreign Minister Wang Yi, January 5, 2020

"President Trump's order to take out Qasem Soleimani was morally, constitutionally and strategically correct. It deserves more bipartisan support than the begrudging or negative reactions it has received thus far from my fellow Democrats."

– Joe Lieberman, The Wall Street Journal, January 5, 2020

"It is impossible to overstate the importance of this particular action. It is more significant than the killing of Osama bin Laden or even the death of al-Baghdadi… The question of course is how does Iran respond."

– General (ret.) David Petraeus, Foreignpolicy.com, January 3, 2020

Source: Gov.uk, Daily Mail, Xinhua, WSJ, Foreignpolicy.com, Investment Strategy Group.

"Iran, with a 100% probability, will initiate some form of an attack that is a few steps above the attack on Saudi Arabian oil facilities. Iran needs to go far enough to get the attention of the United States, but not so far as to trigger a dust-up with the United States."

– Dr. Ash Carter, 25th US Secretary of Defense and ISG external advisor, call with the Investment Strategy Group, December 6, 2019

Potential Scenarios

	IRAN ✓ Conducted ➢ Attempted ❖ Capable	UNITED STATES • Potential
De-escalate	✓ Denial of service and defacement cyberattacks ✓ Reversal of nuclear concessions ✓ Proxy rocket attacks in Iraq & Syria with no mass casualties ❖ Drone attacks in Iraq & Syria with no US casualties ✓ Maritime attacks by Houthis with no US casualties ❖ Foment anti-US riots in the region ✓ Missile attacks against US bases in Iraq with no casualties	• Sanctions • Cyber counterattacks • Additional force and embassy protection measures • Precision military strike against source of attack
Escalate	➢ Crippling oil infrastructure attack in the Persian Gulf region ➢ Cyber attacks on US critical infrastructure ❖ High profile assassination of US officials ❖ Disruption of flow of commerce in the Strait of Hormuz ❖ High casualty rocket / missile / mine attacks ❖ Expansion of nuclear program ➢ Attack in the homeland	• Cyber counterattacks • Military strikes outside Iran proper • Deterrence strikes inside Iran • Preemptive strikes
Delegate	❖ Kata'ib Hezbollah (Iraq and Syria) ❖ Asa'ib Ahl al-Haq (Iraq and Syria) ❖ Houthis (Yemen, Red Sea) ❖ Lebanese Hezbollah (Lebanon, Syria, Americas)	• Additional force and embassy protection measures • Precision military strikes against source of attack • Law enforcement and intelligence operations • Deterrence strikes against Iran

Source: Investment Strategy Group.

Key Takeaways

- **Modest pickup in global growth:** We expect global economic activity to be modestly higher than it was last year.
- **Supportive monetary and fiscal policies:** Central banks will maintain their current monetary policy in the US, Europe and Japan. The Bank of England may be the only major central bank of a developed economy to ease further. China, the Eurozone and Japan should provide some fiscal stimulus to their economies.
- **Low risk of recession:** In the US and the Eurozone, the risk of recession remains low, at 20–25%, which is modestly higher than it was last year. We expect an even lower likelihood of recession in most emerging markets.
- **Geopolitical concerns:** There is no dearth of geopolitical concerns, with a high likelihood of disruptions from a more adventurous or aggressive Iran and North Korea. The ongoing US-China trade negotiations, US elections and Brexit may introduce some additional volatility.
- **Attractive returns:** We expect equities to offer modest returns, with US equities expected to return about 6%, non-US equities about 7% and high-quality US bonds about 1–2%. We expect moderate-risk and well-diversified taxable and tax-exempt portfolios to return about 4% in 2020.
- **Remain vigilant:** There is no shortage of economic risks. We heed the first pillar of our investment philosophy: history is a useful guide. The current US expansion has exceeded all others in length, and the current US equity bull market has exceeded all others in length and all but one in strength. Neither run will continue indefinitely.
- **Stay invested:** While we remain vigilant about the broad range of risks that could undermine this expansion and bull market, we continue to recommend staying invested in equities. We also encourage our clients to weigh the risks of underweighting US equities early against the benefits of overweighting US equities early.

Source: Investment Strategy Group.

Goldman Sachs

Consumer and Investment Management Division

Disclosures

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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.

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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.

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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.

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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.

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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.

Glossary of Terms

Correlation is a measure of the linear relationship between the returns of two asset classes.

Current Allocation is your present allocation based on information in our records and / or you have provided to us.

Estimated Range of Risk Premium reflects the level of certainty we have regarding each Risk Premium estimate as measured by its Standard Error. A wider range reflects a lower level of certainty.

Factor Risk Premia represent the key sources of long-term return for asset classes. In our multi-factor model, the risk premium of each asset class is a unique combination of the six factor risk premia explained below:

Factor Risk Premium	Rewards investors for bearing the risk associated with:
Equity	Fluctuations in the present value of future corporate earnings
Term	Fluctuations in inflation expectations and real interest rates
Funding	Fluctuations in the ease and cost of short-term borrowing
Liquidity	Marketwide fluctuations in the ease and cost of transacting
Exchange Rate	Systematic currency fluctuations
Emerging Markets	Economic, political, and institutional uncertainties in emerging markets

Probability of Loss illustrates the chance of experiencing a negative return during the specified time period. For example, a 1-year Probability of Loss of 30% means there is a 30% probability that the portfolio would lose principal over any one-year period.

Risk-Free Rate is the hypothetical rate of return of an investment that is assumed to bear no risk of loss.

Risk Decomposition is a breakdown of the portfolio risk contributed by each asset class included in your asset allocation.

Risk Premium is the estimated long-term return of an asset class on an annual basis in excess of the Risk-Free Rate.

Risk Premium Decomposition illustrates the contribution of each factor to the total risk premium of the portfolio. It shows the key sources of long-term return (our six Factor Risk Premia) in an asset allocation.

Sharpe Ratio is a measure of excess return per unit of risk, where risk is represented by volatility. In general, the higher the ratio, the better the asset's or portfolio's risk-adjusted performance is expected to be over the long term.

Standard Error is the standard deviation, or measure of variability, of a sample statistical estimate (e.g., Risk Premium); higher standard error means higher uncertainty.

Strategic Allocation is your customized long-term allocation, excluding tactical tilts.

Tactical Tilts are short-term shifts in portfolio weights in response to prevailing market conditions.

Target Allocation is your customized long-term allocation, including tactical tilts.

Value at Risk with 99% Confidence illustrates the percentage of portfolio value that is at risk, with a 99% confidence level during the specified time period. For example, a 1-year Value at Risk of 30% means the portfolio has a 1% chance of losing 30% or more during any one-year period.

Volatility measures the possible fluctuation in the return of an asset class. For example, equities tend to have a higher volatility than fixed income.

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• ***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/about/publications/character-risks.jsp. 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.

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Important Information

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

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

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ENDNOTES:

(1) A moderate risk portfolio is allocated among equities, fixed income and additional asset classes and designed to track 8.1% volatility.