Personal
Wealth
Management

2018 Outlook

Rising Tide or Cresting Wave?

Summary

- **The global economy was a rising tide that lifted most risk assets with global equities returning 20 plus percent in 2017.** That trend looks likely to continue with global growth expected to rise from 3.2% in 2017 to 3.4% in 2018. Beyond, global growth may start to plateau.
- **We believe that global equities could see a further 8.0% upside in 2018 as corporate profits continue to rise globally.** Citi Private Bank's Global Investment Committee maintains a preference towards Europe ex United Kingdom, Japan, and Emerging Markets. Further upside seems likely for U.S. shares on the back of tax cuts, but we maintain a neutral stance due to elevated valuations.
- **While maintaining a positive outlook for risk assets in 2018, we do not expect the low levels of volatility in 2017 to persist indefinitely.** Intra-year pullbacks (or corrections) are common and may return in 2018. Importantly, intra-year corrections often tell us very little about how the year will end.
- **Developed market central banks are beginning to shift away from easy monetary policy with the Federal Reserve leading the charge.** Citi is predicting that the Fed will hike interest rates an additional three times in 2018, but it will likely be dependent on more substantial signs of inflation.
- **Politics and policies remain key risks.** Escalating tensions between the U.S. and North Korea, uncertainty in the Middle East, and NAFTA renegotiations all pose unique risks. The potential for overly aggressive central bank tightening and a flattening yield curve also remain concerns.

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Global Economy: A Rising Tide...

The global economy remains on an upswing with synchronized growth likely to continue into 2018

Following a global recession scare at the start of 2016, global economic growth has started to broaden with most developed and emerging market economies now accelerating. Expected to grow by 3.2% in 2017, this will be the fastest pace of global growth since 2010.

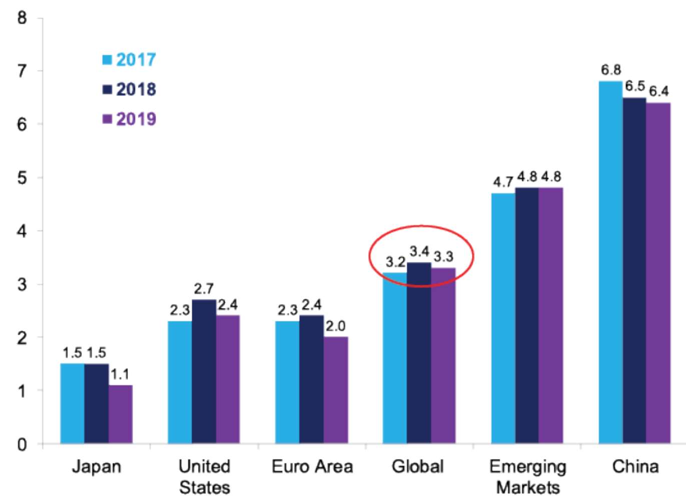
Heading into 2018, this trend appears likely to continue with Citi's economists looking for an uptick in growth to 3.4% before plateauing in 2019 **(see Figure 1).** This expectation is similar to non-governmental organizations that are predicting just six countries in the world to be in recession in 2018.

This is a notable change from 2009 when 91 of the 195 countries were mired in recession. Importantly, this uptick in growth has provided a powerful underpinning to global equity markets this year which have returned 20 plus percent in 2017.

In the United States, real GDP has been close to 3% for two consecutive quarters despite elevated policy uncertainty and looks likely to extend the streak into the fourth quarter of 2017. This seems to be a bit higher than underlying demographics and productivity measures would suggest, but U.S. economic data have been surprising to the upside since mid-2017. Looking forward, the path for U.S. growth seems dependent upon tax reform. When combined with hurricane-related government spending, the recently passed tax cuts could boost real U.S. GDP from 2.3% in 2017 to 2.7% in 2018 **(see Figure 1 again)**.

Regardless of U.S. tax reform, the outlook for the global economy should remain sound in 2018. However, the upward surprises in global economic data may be harder to repeat in 2018. This leaves our expectations for stock gains a bit more muted as the market often cares more about the trend in economic data than the actual data.

Figure 1) Citi's Gross Domestic Product - Forecasts (%)



	2017	2018	2019
Japan	1.5%	1.5%	1.1%
United States	2.3%	2.7%	2.4%
Euro Area	2.3%	2.4%	2.0%
Global	3.2%	3.4%	3.3%
Emerging Markets	4.7%	4.8%	4.8%
China	6.8%	6.5%	6.4%

Sources: Citi Research and Citi Personal Wealth Management as of November 27, 2017. The above chart reflects the views of Citi Investment Research and Analysis (CIRA). All forecasts are expressions of opinion, are not a guarantee of future results, are subject to change without notice and may not meet our expectations due to a variety of economic, market, and other factors.

Global Stocks: Profits Remain Healthy; Favor International Markets

Corporate earnings are one of the most important drivers of equity markets

In 2017, global earnings per share (EPS) have risen by about 16% year-on-year. This has been more than matched by a 20% year-to-date return for global equities (as measured by the MSCI All Country World Index).

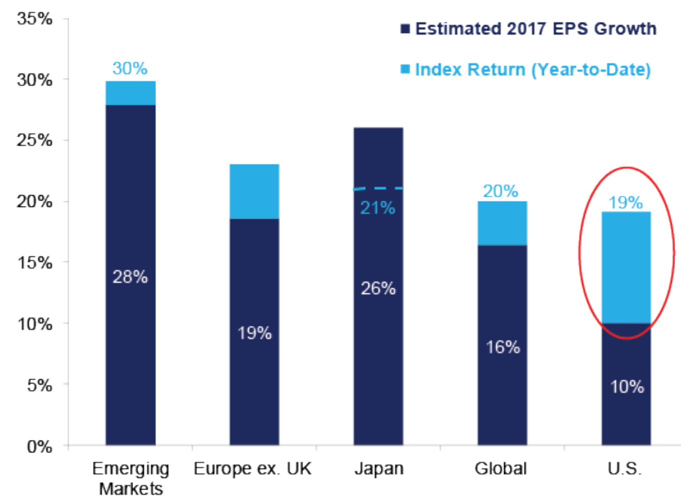
On the international front (non-U.S.), emerging markets have been the clear outperformer year-to-date. Both in terms of earnings growth and equity market gains with the MSCI Emerging Markets Index returning 30 plus percent this year. Gains in both Europe and Japan have been robust as well.

In the U.S., stocks have not only been boosted by solid earnings growth, but also the passage of tax cuts. As **Figure 2 shows**, stocks have clearly rallied beyond what earnings growth would suggest, which implies that U.S. tax cuts have become increasingly priced in.

Heading into 2018, earnings momentum looks likely to continue, but perhaps at a more subdued pace. If global earnings climb by an additional 10% as we suspect they might, then similar gains for global equity markets could be achievable with some caveats.

Like U.S. economic growth, the path forward for U.S. earnings in 2018 will probably be dependent on the success U.S. tax reform. If rule-of-thumb calculations are correct, a cut in the statutory corporate tax rate from 35% to 21% should help to boost 2018 EPS gains to 11% year-on-year. Absent tax cuts, EPS gains would be closer to 6-7%. Importantly, the high expectations for both U.S. earnings and economic growth due to tax cuts will require confirmation. If the current expectations prove to be too high, the U.S. stock market's performance in 2018 may be more muted than many expect (Citi's target for the S&P 500 is 2,800 for year-end 2018).

Figure 2) Regional Earnings Per Share vs. Stock Market Returns (%)



	Estimated 2017 EPS Growth	Index Return (Year-to-Date)
Emerging Markets	28%	30%
Europe ex. UK	19%	23%
Japan	26%	21%
Global	16%	20%
U.S.	10%	19%

Sources: Citi Research, Worldscope, MSCI, Factset, and CitiPersonal Wealth Management as of December 12, 2017. Note 1 (Equities): Global = MSCI All Country World Index (USD), Europe = MSCI Europe (USD); Japan = MSCI Japan (USD); Emerging Markets = MSCI Emerging Markets (USD). Returns for a non-U.S.-based investor can differ significantly depending on the effects of foreign currency exchange. All forecasts are expressions of opinion, are not a guarantee of future results, are subject to change without notice.

Global Fixed Income: Moving from "QE" to "QT"

Central banks are gradually moving away from easy monetary policy

One decade after the Global Financial Crisis, several of the world's central banks are transitioning away from "quantitative easing" to "quantitative tightening" with the Federal Reserve (or the Fed) leading the charge.

In 2017, the Fed not only hiked interest rates three times (versus just one in 2016), but it also started to unwind its $4.5 trillion balance sheet by reducing its bond purchases over time. Assuming its plans aren't derailed by unforeseen economic events, this should reduce the balance sheet to somewhere between $2.4 trillion and $3.5 trillion by 2020 (still well above the Fed's pre-crisis level of just under $900 billion).

Across the pond, the European Central Bank (ECB) remains further behind. While recently agreeing to cut its monthly bond purchases to 30 billion euros per month from 60 billion euros, it also decided to extend its bond-buying program until September 2018 (and perhaps beyond). In Japan, monetary policy still remains extremely accommodative.

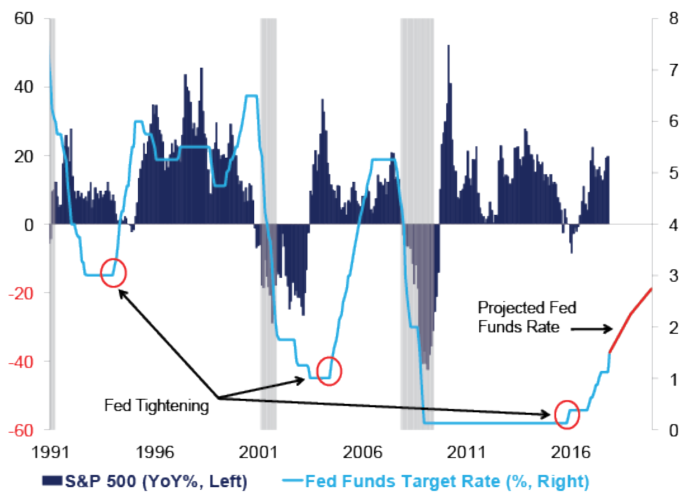
Moving forward, the path of Fed rate hikes will likely depend on signs of inflation. Currently, the Fed's preferred measure of inflation is up just 1.8% year-on-year (vs. the Fed's target inflation rate of 2.0%).

With the U.S. unemployment rate at just 4.1%, healthy labor markets should eventually give way to higher wages as employers compete for workers. However, in the recovery-to-date, wage gains have been subpar at best. The messaging from the Fed seems be that inflation remains stubbornly low, but will rise modestly in 2018. We agree.

Many market participants have argued that global central banks have inflated risk asset prices and that the removal of easy monetary policy will lead to an end of the current bull market in equities. We don't think that we are there just yet **(see Figure 3)**.

The explosion of central bank balance sheets may have happened suddenly, but their unwind is likely to occur much more slowly and cautiously. If the Fed is any example, the path to rate normalization may occur at half the pace of a normal tightening cycle. This should be beneficial to stocks if it further extends the U.S. business cycle.

Figure 3) S&P 500 vs. Fed Funds Target Rate



Sources: Federal Reserve Board of Governors, Standard & Poor's, and Citi Personal Wealth Management as of December 2017. Note: Shaded regions are periods of recession.

Risks to the Outlook: A Flock of "Grey Swans"

Not every financial shock is an unpredictable "Black Swan" event

Some risks are foreseeable, but go ignored due to their low probability of occurring. These types of events are often referred to as "grey swan" events. We think that there is a much higher chance of a "grey swan" event than a "black swan" in 2018.

A military conflict with North Korea, U.S. mid-term elections, a slowdown in China, or a collapse in trade renegotiations (like NAFTA) could probably all be considered "grey swans." Most would seem obvious in hindsight, but we still do not expect them to occur.

As we look at potential risks in 2018, we continue to focus most of our attention on the length of the U.S. business cycle. Assuming a recession does not occur before the early part of 2018, the current U.S. expansion will become the second longest in U.S. history. While this means nothing in and of itself, it does suggest that we are likely in the later stages.

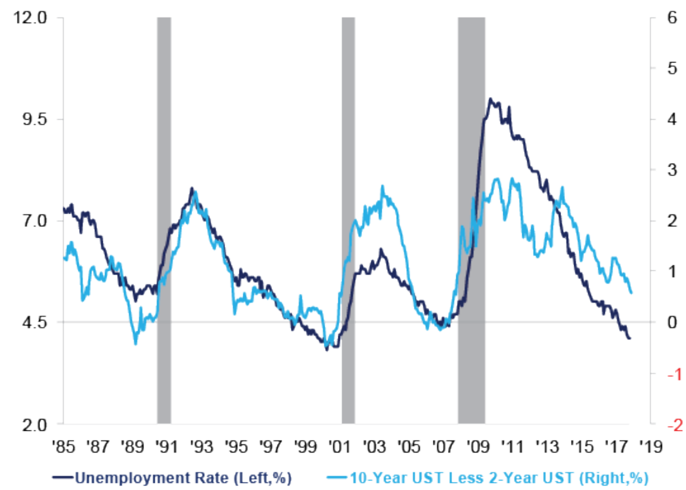
Some investors have been pointing towards a flattening yield curve as cause for concern, but we do not see it as signaling an imminent recession. Based on recession models, the current slope of the yield curve implies just a 10% probability of a recession occurring in the next 12 months. If anything, the yield curve seems to be signaling that a recession is still a few years off (**see Figure 4**).

We see this as a crucial factor to our outlook. With leading U.S. economic indicators rising, we see the odds of a bear market beginning now as relatively low **(see Figure 5)**. Importantly, that does not mean that pullbacks or corrections cannot occur. In fact, in any given year, they are likely to occur.

However, they often tell us very little about how the year will end. Since 2008, five of the nine years have had intra-year declines of at least 10% and yet only one (2015) actually finished the year negative.

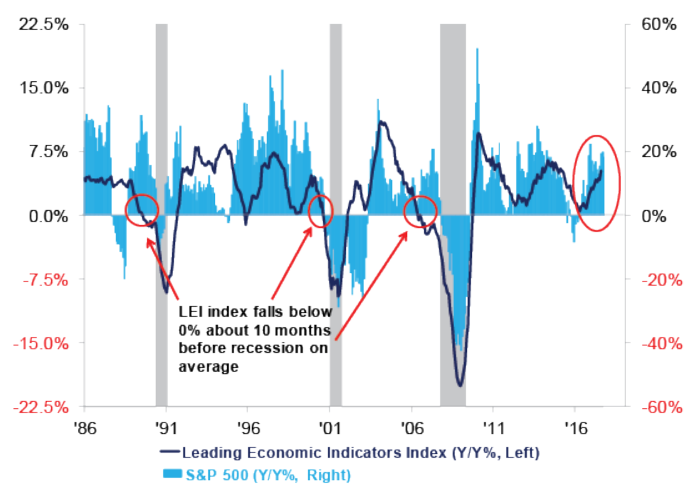
While we think that the global economy will continue to be a "tide that lifts risks assets" in 2018, investors should always be prepared for volatility should unexpected events occur. Given the healthy gains over the past 12 months, we can think of no better time to review portfolios than now.

Figure 4) U.S. Unemployment Rate and Yield Curve



Sources: Bureau of Labor Statistics and Federal Reserve Board as of December 12, 2017. Note: Shaded regions are periods of recession.

Figure 5) Leading Economic Indicators vs. S&P 500



Sources: Conference Board and Standard & Poor's as of December 12, 2017. Note: Shaded regions are periods of recession.

Citi Private Bank Global Investment Committee Asset Class Views (Equities)

Asset Class: Equities	View	Investment Rationale
U.S. Large Cap	•••••• Neutral	We hold a neutral rating on U.S. stocks. Recently passed tax reform should result in modest gains in 2018 as corporate earnings continue to rise. Pullbacks are possible amid elevated valuations, especially if earnings disappoint.
European Large Cap	▲ Overweight	The GIC is overweight European ex-UK stocks. Better valuations than the U.S. and accelerating economic growth should prove to be drivers of equity gains over the next 12 to 18 months.
Japan Large Cap	▲ Overweight	We are overweight Japan large caps. A more "range bound" view of the US dollar for the year ahead and broader positives for Asia should serve as tailwinds for the region.
Developed Market Small and Mid-Cap (SMID)	▼ Underweight	An underweight on UK small-and mid-cap shares and overweight to Europe ex UK shares leaves us neutral in the category. We remain neutral on U.S. small-and mid-cap.
Emerging Asia	▲ Overweight	A broadening global recover and solid domestic economic growth, combined with low valuations, support our overweight to the region across a broader range of countries.
Emerging EMEA	▲ Overweight	With broadly measured EM equity valuations at a large discount to the US, we remain at a slight overweight to EM EMEA.
Emerging Latin America	▲ Overweight	Valuations remain fairly attractive despite strong equity returns and the risks associated with Fed tightening and US trade policies. Overweights remain concentrated in the Andean markets of Chile, Colombia and Peru.

Sources: Citi Private Bank as of December 13, 2017. Note 1: Green Arrow = Overweight; Dashed Line = Neutral, and Red Arrow = Underweight. Note 2: Based on a risk level 3 portfolio, which is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk level 3 may be appropriate for investors willing to subject their portfolio to additional risk for potential growth in addition to a level of income reflective of his/her stated risk tolerance. All allocations are subject to change at discretion of Citi Private Bank's Global Investment Committee and Asset Allocation Team. There can be no assurance that these market conditions will remain in the future.

Citi Private Bank Global Investment Committee
Asset Class Views (Fixed Income)

Asset Class: Fixed Income	View	Investment Rationale
U.S. Sovereign Bonds	•••••• Neutral	We hold neutral weightings across the entire US Treasury curve. With nearly a quarter of the developed market sovereign bond universe with negative yields, higher yielding US Treasuries still provide a better alternative.
European Sovereign Bonds	▼ Underweight	Negative policy rates and slow economic growth have left core European bond yields low. Though sovereign credit risk has subsided some, particularly for EU periphery countries, we continue to be underweight.
Emerging Market (EM) Sovereign Bonds	▲ Overweight	Though likely to remain volatile, LatAm yield premiums are attractive on a global basis. Given a more stable outlook for oil and commodities more broadly in 2017, we remain overweight EM bonds (hard currency & local).
Corporate Investment Grade	▲ Overweight	Despite valuations that have become less compelling, US IG credit remains at an overweight as yields still remain higher than other IG quality assets. For US taxed investors, municipal debt is a stronger choice.
Corporate High Yield	▲ Overweight	US high yield fundamentals are still solid and relative value exists compared to other markets. However, spreads have tightened substantially since last year and selectivity is key.

Sources: Citi Private Bank as of December 13, 2017. Note 1: Green Arrow = Overweight; Dashed Line = Neutral, and Red Arrow = Underweight. Note 2: Based on a risk level 3 portfolio, which is designed for investors with a blended objective who require a mix of assets and seek a balance between investments that offer income and those positioned for a potentially higher return on investment. Risk level 3 may be appropriate for investors willing to subject their portfolio to additional risk for potential growth in addition to a level of income reflective of his/her stated risk tolerance. All allocations are subject to change at discretion of Citi Private Bank's Global Investment Committee and Asset Allocation Team. There can be no assurance that these market conditions will remain in the future.

Citi Private Bank's S&P 500 Sector Views

Sector	View	Investment Rationale
Consumer Discretionary	Overweight	Retail subsector has outperformed the S&P, but heavily weighted towards a large e-commerce retailer. Constructive in the Media subsector yet Consumer Services is dependent on spending capacity going forward
Consumer Staples	Neutral	Neutral as defensive strategy to limit risk of policy uncertainty and a potential hit to consumer confidence. Selectivity to names with strong dividends and ability to grow the dividend, capture limited upside relative to other sectors.
Energy	Overweight	A base support for $50 WTI could set the foundation for a more balanced market in 2018. Prefer Big Oil and select servicers as balance sheets have been reconstructed and assets divested in order to bump Return on Equity even in a lower oil price environment.
Financials	Overweight	Banks are under owned, benefit from higher rates, positioned for better growth from an increased economic outlook, and are a lower risk due to higher capital.
Health Care	Overweight	An aging population will drive growth and earnings may be boosted by innovations at drug makers and medical devices. Should changes be made to the Affordable Care Act & Insurers, Biotech and Large Cap Pharma could benefit at the expense of hospitals and medical devices.
Industrials	Neutral	Defense sector remains attractive on the back of an expected increase in defense and military spending. Marginally positive views on Machinery with the expectation of infrastructure spending, but Transports could be hurt under restrictive trade policies.
Information Technology	Overweight	Artificial intelligence and cloud computing are major thematic drivers for the industry. Largest players continue to consolidate in advertising and e-commerce, fundamentals remain strong among Internet of Things (IoT) and valuations are reasonable.
Materials	Neutral	New administration promises spending on infrastructure – names and exposures to plastics and coatings could benefit. A retreat from global free trade damages chemical, paper & packaging exporters. A more lax corporate tax structure supports most material companies, as well as reduced emission standards.
Real Estate	Neutral	Threat of higher interest rates has dampened sector expectations – earnings have taken a dip as Lodging industry has seen weak demand and decelerating growth in Retail fundamentals.
Tele-communications	Underweight	Most dividend paying names that should underperform into YE17, independent of new administration policy.
Utilities	Underweight	Negative on the sector as weak forward earnings growth and a run-up in performance throughout the year.

Sources: Citi Private Bank as of November 28, 2017. Note 1: Green Arrow = Overweight; Dashed Line = Neutral, and Red Arrow = Underweight. All allocations are subject to change at discretion of Citi Private Bank's Global Investment Committee and Asset Allocation Team. There can be no assurance that these market conditions will remain in the future.

Forecasts, Indicators and Returns

Global Economic Forecasts

	GDP Growth			CPI Inflation			10-Year Yields			Exchange Rate vs. USD		
	2017 (F)	2018 (F)	2019 (F)	2017 (F)	2018 (F)	2019 (F)	2017 (F)	2018 (F)	2019 (F)	2017 (F)	2018 (F)	2019 (F)
Global: Overall	3.2	3.4	3.3	2.4	2.4	2.4	N/A	N/A	N/A	N/A	N/A	N/A
Global: Based on PPP Weights	3.7	3.9	3.9	3.1	2.9	2.9	N/A	N/A	N/A	N/A	N/A	N/A
Industrial Countries	2.2	2.4	2.1	1.6	1.6	1.7	N/A	N/A	N/A	N/A	N/A	N/A
United States	2.3	2.7	2.4	1.7	1.8	2.0	2.45	2.75	2.90	N/A	N/A	N/A
Euro Area	2.3	2.4	2.0	1.5	1.4	1.5	0.42	0.66	1.02	1.14	1.23	1.25
Japan	1.5	1.5	1.1	0.4	0.8	0.9	0.06	0.09	0.20	112	111	109
Emerging Markets	4.7	4.8	4.8	3.6	3.4	3.3	N/A	N/A	N/A	N/A	N/A	N/A
China	6.8	6.5	6.4	1.6	2.1	2.1	N/A	N/A	N/A	6.75	6.64	6.23

Sources: Citi Research and Citi Personal Wealth Management as of December 12, 2017. There can be no assurance that these projections will be met. Actual results may differ materially from the forecasts / estimates. Pas performance is no guarantee of future results. The above table reflects the views of Citi Investment Research and Analysis (CIRA). CIRA forecasts take into consideration underlying economic, demographic, political, and psychological forces that drive market behavior. CIRA looks for trends and markets that offer potential as long-term investment ideas. ***You should carefully consider investment objectives, risk, charges, and expenses before investing.***

Global Equity Market Returns and Valuations

	Level	Equity Returns (%)								Valuations		Dividend Yield (%)
	Level	2012	2013	2014	2015	2016	Month To Date	Quarter To Date	Year To Date	Price to Earnings	12 Month Forward Price to Earnings	Current
Global	513	13.4	20.3	2.1	-4.3	5.6	1.5	5.4	21.6	21.6	16.7	2.3
S&P 500	2,674	13.4	29.6	11.4	-0.7	9.5	1.0	6.1	19.4	23.0	18.8	1.8
DJIA	24,719	7.3	26.5	7.5	-2.2	13.4	1.8	10.3	25.1	21.2	18.6	2.1
NASDAQ	6,903	15.9	38.3	13.4	5.7	7.5	0.4	6.3	28.2	68.9	22.9	1.1
Europe	3,142	13.8	18.0	1.2	3.9	0.7	-1.2	-1.0	21.2	18.8	14.4	3.2
Japan	3,435	22.9	56.7	7.1	9.1	0.4	0.6	8.3	21.8	12.6	11.8	2.4
Emerging Markets	1,158	15.2	-5.0	-4.6	-17.0	8.6	3.4	7.1	34.3	16.4	13.1	2.2

Note: Global = MSCI All Country World Index (USD); Europe = Euro Stoxx 50 Price Index (USD); Japan = MSCI Japan (USD); Emerging Markets = MSCI Emerging Markets (USD). Most equity index returns shown here are based on a U.S. dollar basis. International returns for a U.S-based investor can differ significantly depending on the effects of foreign currency exchange.

Sources: Citi Personal Wealth Management as of December 29, 2017. Past performance is no guarantee of future results. ***You should carefully consider investment objectives, risk, charges, and expenses before investing.***

Global Bond Market Returns and Other Key Rates

		Fixed Income Returns (%)								Other Key Rates	
	Year To Maturity	2012	2013	2014	2015	2016	Month To Date	Quarter To Date	Year To Date	Instrument	Current (%)
Global	1.68	5.6	-0.1	7.9	0.9	3.3	0.1	0.5	2.1	**10 Year U.S. Treasury**	2.41
U.S.	2.70	4.2	-2.0	5.9	0.5	2.7	0.5	0.4	3.6	**30 Year U.S. Treasury**	2.74
Europe	0.53	10.7	2.1	11.2	1.1	3.3	-0.6	0.5	0.5	**1 Year CD Rate**	1.71
EM Sovereign	4.97	17.7	**-6.2**	7.1	0.6	9.6	0.8	0.7	9.8	**30 Year Fixed Mortgage**	3.85
U.S. High Yield	6.35	15.2	7.2	1.8	-5.6	17.8	0.3	0.5	7.0	**Prime Rate**	4.50

Note: Global = Citi U.S Broad Investment Grade Bond Index (USD); Europe = Citi Euro Broad Investment Grade Index (EUR); EM Sovereign = Citi Emerging Markets Government Bond Index (USD); and U.S. High Yield = Citi High-Yield Market Index (USD).

Sources: Citi Personal Wealth Management as of December 29, 2017. Past performance is no guarantee of future results. ***You should carefully consider investment objectives, risk, charges and expenses before investing.***

Global Asset Class Returns (Sorted by Year-to-Date Performance)

Emerging Markets (MSCI EM)	34.3%
Euro (Euro STOXX 50)	21.2%
Japan (MSCI Japan)	21.8%
United States (S&P 500)	19.4%
E M Government Bond	9.8%
U.S. High Yield	7.0%
U.S. Broad Investment Grade	3.6%
Euro Broad Investment Grade	0.5%

S&P 500 Sector Total Returns Year-to-Date

Information Technology	38.8%
Materials	23.8%
Consumer Discretionary	23.0%
Financials	22.2%
Healthcare	22.1%
S&P 500	21.8%
Industrials	21.0%
Consumer Staples	13.5%
Utilities	12.1%
Energy	-1.0%
Telecommunications	-1.3%

Note: Euro = Euro Stoxx 50 Price Index (USD); Japan = MSCI Japan (USD); Emerging Markets = MSCI Emerging Markets (USD). Most equity index returns shown here are based on a U.S. dollar basis. International returns for a U.S.-based investor can differ significantly depending on the effects of foreign currency exchange. Note U.S. Broad Investment Grade = Citi U.S. Broad Investment Grade Bond Index (USD); Europe Broad Investment Grade = Citi Euro Broad Investment Grade Index (EUR); EM Government Bond = Citi Emerging Markets Government Bond Index (USD); and U.S. High Yield = Citi High-Yield Market Index (USD).

Sources: Bloomberg, Standard & Poor's and Citi Personal Wealth Management as of December 29, 2017. Past performance is no guarantee of future results. ***You should carefully consider investment objectives, risks, charges, and expenses before investing.***

Glossary

- **The Citi Economic Surprise Indexes** are objective and quantitative measures of economic news, covering all G10 economies. A positive reading of the Economic Surprise Index suggests that economic releases have on balance beating consensus.

- **The Citi Emerging Market Sovereign Bond Index** (ESBI) includes Brady bonds and US dollar-denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.

- **The Citi U.S. Broad Investment-Grade Bond Index** (USBIG) tracks the performance of US Dollar-denominated bonds issued in the US investment-grade bond market. Introduced in 1985, the index includes US Treasury, government sponsored, collateralized, and corporate debt providing a reliable representation of the US investment-grade bond market. Sub-indices are available in any combination of asset class, maturity, and rating.

- **The Citi World Broad Investment Grade Bond index** is weighted by market capitalization and includes fixed rate Treasury, government sponsored, mortgage, asset backed, and investment grade (BBB–/Baa3) issues with a maturity of one year or longer and a minimum amount outstanding of $1 billion for Treasuries, $5 billion for mortgages, and $200 million for credit, asset-backed and government-sponsored issues.

- **Correlation** is the extent to which the values of different types of investments move in tandem with one another in response to changing economic and market conditions. Correlation is measured on a scale of -1 to +1. Investments with a correlation of +.5 or more tend to rise and fall in value at the same time, while investments with a negative correlation of -.5 to -1 are more likely to gain or lose value in opposing cycles.

- **Corporate high yield** is measured against the Citigroup US High Yield Market Index, which includes all issues rated between CCC and BB+. The minimum issue size is $50 million.
All issues are individually trader priced monthly.

- **Corporate investment grade** is measured against the Citi World Broad Investment Grade Index (WBIG) – Corporate, a subsector of the WBIG. This index includes fixed rate global investment grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. The index is rebalanced monthly.

- **Developed market large cap equities** are measured against the MSCI World Large Cap Index. This is a free-float adjusted, market-capitalization weighted index designed to measure the equity market performance of the large cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.

- **Developed market small and mid cap equities** are measured against the MSCI World Small Cap Index, a capitalization-weighted index that measures small cap stock performance in 23 developed equity markets.

- **Developed sovereign** is measured against the Citi World Government Bond Index (WGBI), which consists of the major global investment grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment grade benchmark, a minimum credit quality of BBB–/Baa3 by either S&P or Moody's is imposed. The index is rebalanced monthly.

- **Dow Jones Industrial Average (DJIA)** is a price-weighted average of 30 significant stocks traded on the New York Stock Exchange (NYSE) and the NASDAQ.

- **Emerging markets equities** are measured against the MSCI Emerging Markets Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure equity market performance of 22 emerging markets.

- **Emerging sovereign** is measured against the Citi Emerging Market Sovereign Bond Index (ESBI). This index includes Brady bonds and US dollar-denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.

- **The Euro Broad Investment-Grade Bond Index** (EuroBIG) is a multi-asset benchmark for investment-grade, Euro-denominated fixed income bonds. Introduced in 1999, the EuroBIG includes government, government-sponsored, collateralized, and corporate debt.

- **Europe ex UK equities** are measured against the MSCI Europe ex UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the performance of large cap stocks in each of Europe's developed markets, excluding the United Kingdom.

- **The EURO STOXX 50 Index** covers 50 blue-chip stocks from 12 Eurozone countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain.

- **Fed Funds Rate** is the rate at which depository institutions (banks) lend reserve balances to other banks on an overnight basis. Reserves are excess balances held at the Federal Reserve to maintain reserve requirements. The fed funds rate is one of the most important interest rates in the U.S. economy since it affects monetary and financial conditions, which in turn have a bearing on critical aspects of the broad economy including employment, growth, and inflation. The Federal Open Market Committee (FOMC) that meets eight times a year, sets the fed funds rate, and uses open market operations to influence the supply of money to meet the target rate.

- **Global bonds** are measured against the Citigroup Broad Investment Grade Bond. The index is weighted by market capitalization and includes fixed rate Treasury, government sponsored, mortgage, asset backed, and investment grade (BBB–/Baa3) issues with a maturity of one year or longer and a minimum amount outstanding of $1 billion for Treasuries, $5 billion for mortgages, and $200 million for credit, asset-backed and government-sponsored issues.

- **Global equities** are measured against the MSCI All Country World Index, which represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.

- **Gross Domestic Product** is the total value of goods produced and services provided in a country during one year.

- **The High-Yield Market Index** is a US Dollar-denominated index which measures the performance of high-yield debt issued by corporations domiciled in the US or Canada. Recognized as a broad measure of the North American high-yield market, the index includes cash-pay, deferred-interest securities, and debt issued under Rule 144A in unregistered form. Sub-indices are available in any combination of industry sector, maturity, and rating.

- **Leading economic indicators** are measurable economic factors that change before the economy starts to follow a particular pattern or trend. Leading indicators are used to predict changes in the economy, but they are not always accurate.

- **MSCI All Country World Index** captures all sources of equity returns in 23 developed and 23 emerging markets.

- **MSCI Emerging Markets Index** reflects performance of large and mid-cap stocks in roughly 20 emerging markets.

- **MSCI Japan Large Cap Index** is a free-float-adjusted market-capitalization-weighted index designed to measure large-cap stock performance in Japan.

- **The NASDAQ** is a composite index is a market-capitalization weighted index of more than 3,000 common equities listed on the Nasdaq stock exchange.

- **The Nikkei 225** is Japan's leading index. It is a price-weighted index comprised of Japan's top 225 blue-chip companies on the Tokyo stock exchange.

- **Price-to-Earnings Ratio (P/E ratio)** is the ratio for valuing a company that measures its current share price relative to its per-share earnings. The price-earnings ratio is also sometimes known as the price multiple or the earnings multiple. The P/E ratio can be calculated as: Market Value per Share / Earnings per Share

- **S&P 500 index** is a capitalization-weighted index which includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.

- **The unemployment rate** is a measure of the prevalence of unemployment and it is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the labor force. During periods of recession, an economy usually experiences a relatively high unemployment rate.

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