**Richard Bernstein Advisors**

Richard Bernstein Advisors LLC (RBA) is an investment manager focusing on longer-term investment strategies that combine top-down, macroeconomic analysis and quantitatively-driven portfolio construction. We strive to be the leading provider of innovative investment solutions for investors, and our competitive edge is our research-driven macro style of investing.

Our top-down macro approach differentiates our firm from the more common, traditional bottom-up approach of most asset managers. Our extensive array of macro indicators allows us to construct portfolios for clients that are innovative, risk-controlled, and focused on overall portfolio construction instead of individual stock selection.

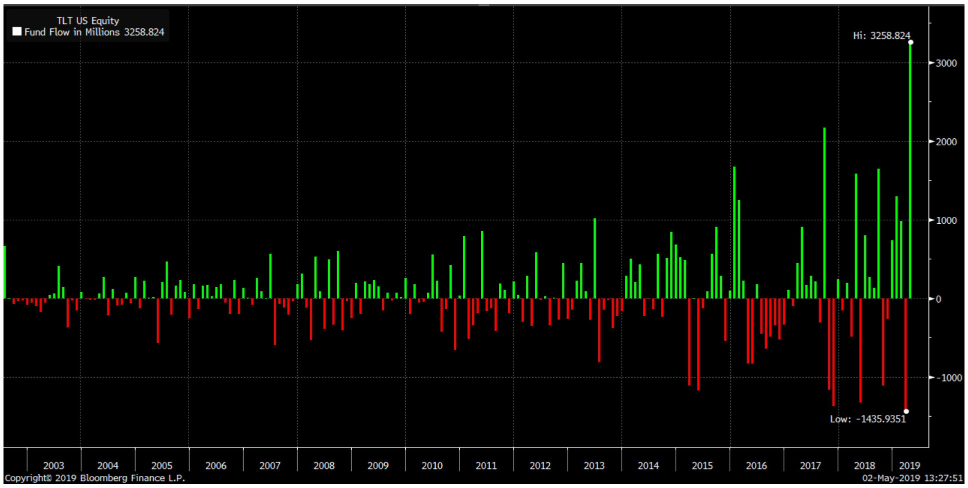
# Duration = Risk

For many years RBA's fixed-income holdings had substantially longer duration than that of our benchmark. Today, our holdings have only a fraction of the benchmark's duration. Our portfolios' bond durations are now only about 15-20% of benchmark duration versus the 200% of benchmark duration we held for the earlier part of the decade.

Although flows into bond ETFs and funds have been strong, short duration bonds seem to be relatively out of favor versus longer duration bonds. Chart 1 highlights that the iShares 20+ Year Treasury Bond ETF just had its largest monthly inflow ever.

Investors may be underestimating the risks associated with longer duration fixed-income. Investors continue to focus on equity market risk and volatility, but they seem oblivious to the risks in long duration fixed-income.

**CHART 1:**
**Fund Flows: The iShares 20+ Year Treasury Bond ETF (Jul. 2002 – Apr. 2019)**




Source: Bloomberg Finance L.P.

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## The long end of the yield curve appears historically overvalued

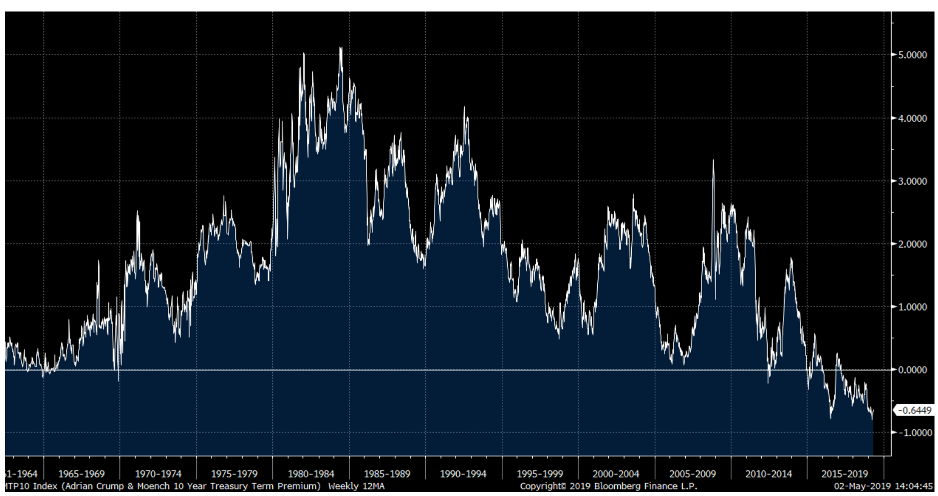
Determining an asset class's valuation is always questionable. Changes to inputs, time horizons, and various assumptions can significantly change valuation conclusions. If valuation is truly extreme, however, the choice of valuation model and inputs often doesn't alter the conclusion. In those cases, the asset class appears overvalued regardless of the inputs or model.

This extreme situation appears true today at the long end of the yield curve. There are numerous models that attempt to compare the relative attractiveness between short duration and long duration bonds, and today they are all signaling that the long end of the yield curve is overvalued. The term premium is a measure that can be used to compare the attractiveness of fixed-income strategies by maturity. For example, the most common measure of the term premium compares the expected return from buying a 10-year note to that from buying a 1-year note in anticipation of rolling it over ten times.

Chart 2 shows the most commonly used version of the term premium is historically negative. The extremely negative term premium suggests that investors are underpricing duration risk, and thus that the long end of the yield curve is historically overvalued relative to the short end of the curve. At RBA, we simply have great difficulty investing in assets that appear historically overvalued.

### CHART 2:

**Adrian Crump & Moench (ACM) 10-Yr Treasury Term Premium**
**(Jun. 1961 – Apr. 2019)**




Source: Bloomberg Finance L.P. For Index descriptors, see "Index Descriptions" at end of document.

One could scoff at the term premium theory, but it does seem as though long duration bonds' relative returns are indeed waning since the term premium turned negative. Chart 3 shows bond index returns for the five years before the term premium turned negative (2010-2014). Bond returns increased as duration increased, and 20+ year Treasuries substantially outperformed shorter durations. However, Chart 4 shows that longer duration bonds' relative outperformance has largely evaporated since the term premium turned negative.

**CHART 3:**
**US Treasury Bonds Performance by Maturity**
**(Dec. 2009 – Dec. 2014)**


**CHART 4:**
**US Treasury Bonds Performance by Maturity**
**(Dec. 2014 – Apr. 2019)**

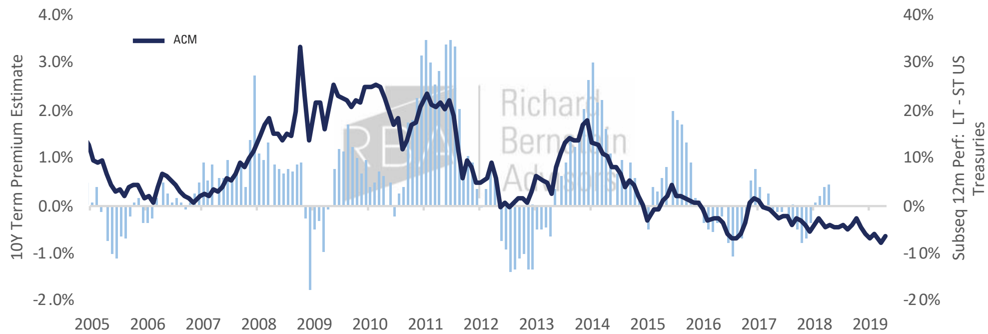

Source: Bloomberg Finance L.P. For Index descriptors, see "Index Descriptions" at end of document.



 PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS 

The magnitude of the term premium also has implications for short-term returns. Chart 5 shows the relationship between the term premium (line) and the 12-month subsequent relative returns between longer-term Treasury bonds and 3-month T-bills (bars). Through time, the probability of longer-term bonds outperforming 3-month T-bills goes up as the term premium expands, and vice versa.

## CHART 5:
**The Term Premium and Long-Term vs. Short-Term Performance***
**(2005 - 2019)**




*ACM 10Y Term Premium Estimates vs. Subsequent 12m Outperformance of 15+ Year Treasuries - 3 month T-Bills. Source: FRBNY, FRBSF, Federal Reserve Board, Bloomberg, ICE BAML, Morningstar® (Ibbotson).

The implied returns from numerous term premium models suggest that it may be currently advantageous to invest in shorter durations rather than longer durations. Table 1 compares three widely accepted term premium models. In most cases, the models suggest that 15+ year notes will underperform 3-month T-bills by between 100 and 350 basis points (using medians) over the next 12 months given the models' extreme readings (i.e., in the worst historical quintile).

## TABLE 1:
**Term Premium Models and Long-Term vs. Short-Term Performance**

| | 10 YR Term Premium | | | Current Quintile: Subsequent 12m Outperformance of 15+ Yr Treasuries - 3m Treasuries | | |
|---|---|---|---|---|---|---|
| **Term Premium Model** | **Current Estimate** | **As Of Date** | **Current Quintile** | **Mean** | **Median** | **% of Obs LT > ST** |
| *ACM (2013)* | -0.786 | 3/31/19 | 1 | -1.7% | -1.2% | 38.0% |
| *Kim-Wright (2005)* | -0.466 | 12/31/18 | 1 | 0.4% | -1.0% | 47.8% |
| *Christensen-Rudebusch (2012)* | -0.091 | 3/31/19 | 1 | -2.7% | -3.5% | 34.7% |

Source: FRBNY, FRBSF, Federal Reserve Board, Bloomberg, ICE BAML, Morningstar® (Ibbotson). 10 year term premium quintiles are calculated for each model using its full history of term premium estimates.

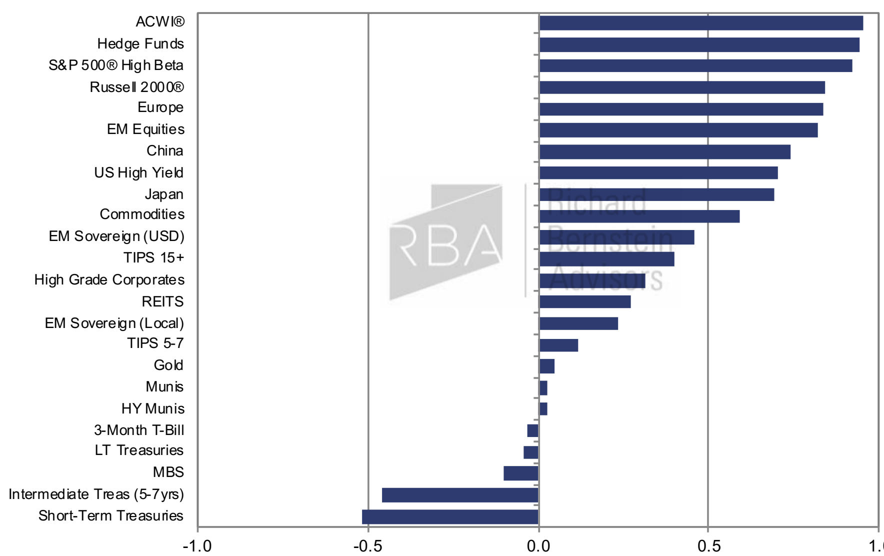

 

## Long duration bonds don't offer as much diversification

One reason we favored longer-duration bonds for so many years was that long-term bonds offered better diversification to stocks than did shorter-duration bonds. That is no longer true. Chart 6 shows assets classes' correlation to the S&P 500®. Treasuries are not positively correlated to equities, but the advantages that previously favored investing in long duration Treasuries no longer exist. Short-term Treasuries now offer greater diversification than do long-term Treasuries.

**CHART 6:**

**Historical 5-Yr Correlation of Selected Asset Classes to the S&P 500®**
**(as of 3/31/19)**




Source: Richard Bernstein Advisors LLC, MSCI, Standard & Poors, HFRI, ICE® BofAML® Bond Indices, Bloomberg. For Index descriptors, see "Index Descriptions" at end of document.

## Will the Fed have to re-pivot and do a 360?

An overwhelming consensus has formed that the Federal Reserve is done raising interest rates for this cycle, and that their next change to monetary policy will be to cut interest rates. That conclusion seems odd to us because inflation expectations have risen since the Fed last raised rates in December as shown in the breakeven rates in Chart 7. If inflation expectations were falling in reaction to the last interest rate increase, then the consensus view of future monetary policy might be justified. However, it seems inexplicable that investors are certain that the Fed has "pivoted" toward lowering rates from raising rates when inflation expectations have continued to increase.



## CHART 7:
**Inflation Expectations on the Rise**
**(Dec. 18, 2018 – May 3, 2019)**


Source: Bloomberg Finance L.P.  For Index descriptors, see "Index Descriptions" at end of document.

## Duration = Risk

Investors seem to have forgotten that bond duration is a measure of risk, and that amnesia is occurring during a period during which the long end of the yield curve seems to be getting riskier. The long end of the curve appears significantly overvalued, relative performance is starting to wane, the diversification benefits of longer duration bonds seems to be dissipating, and inflation expectations appear alive and well.

We feel our positions in short duration Treasuries will prove prudent through time.

*Special thanks to Matt Poterba for his insightful research on the topic.*

*To learn more about RBA's disciplined approach to macro investing, please contact your local RBA representative.*
[www.rbadvisors.com/images/pdfs/Portfolio_Specialist_Map.pdf](www.rbadvisors.com/images/pdfs/Portfolio_Specialist_Map.pdf)

## INDEX DESCRIPTIONS:

*The following descriptions, while believed to be accurate, are in some cases abbreviated versions of more detailed or comprehensive definitions available from the sponsors or originators of the respective indices. Anyone interested in such further details is free to consult each such sponsor's or originator's website.*

The past performance of an index is not a guarantee of future results.

Each index reflects an unmanaged universe of securities without any deduction for advisory fees or other expenses that would reduce actual returns, as well as the reinvestment of all income and dividends. An actual investment in the securities included in the index would require an investor to incur transaction costs, which would lower the performance results. **Indices are not actively managed and investors cannot invest directly in the indices.**

**MSCI ACWI Index:** The MSCI ACWI Index is a widely recognized, free-float-adjusted, market-capitalization-weighted index designed to measure the equity-market performance of global developed and emerging markets.

**S&P 500®: Standard & Poor's (S&P) 500® Index:** The S&P 500® Index is an unmanaged, capitalization-weighted index designed to measure the performance of the broad US economy through changes in the aggregate market value of 500 stocks representing all major industries.

**S&P 500® High Beta: The S&P 500® High Beta Index** is designed to measure the performance of the 100 constituents in the S&P 500 that are most sensitive to changes in market returns. For this index, the market is represented by the performance of the S&P 500®.

**Small Caps: Russell 2000 Index.** The Russell 2000 Index is an unmanaged, capitalization-weighted index designed to measure the performance of the small-cap segment of the US equity universe. The Russell 2000 Index is a subset of the Russell 3000® Index.

**Europe: MSCI Europe Index.** The MSCI Europe Index is a free-float-adjusted, market-capitalization-weighted index designed to measure the equity-market performance of the developed markets in Europe. The MSCI Europe Index consists of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**EM: MSCI Emerging Markets (EM) Index.** The MSCI EM Index is a free-float-adjusted, market-capitalization-weighted index designed to measure the equity-market performance of emerging markets.

**Japan: MSCI Japan Index.** The MSCI Japan Index is a free-float-adjusted, market-capitalization-weighted index designed to measure the equity-market performance of Japan.

**China:** The MSCI China Index is a free-float-adjusted, market-capitalization-weighted index designed to measure the equity-market performance of China.

**Gold: Gold Spot USD/oz Bloomberg GOLDS Commodity.** The Gold Spot price is quoted as US Dollars per Troy Ounce.

**Commodities: S&P GSCI® Index.** The S&P GSCI® seeks to provide investors with a reliable and publicly available benchmark for investment performance in the commodity markets, and is designed to be a "tradable" index. The index is calculated primarily on a world production-weighted basis and is comprised of the principal physical commodities that are the subject of active, liquid futures markets.

**REITS: THE FTSE NAREIT Composite Index.** The FTSE NAREIT Composite Index is a free-float-adjusted, market-capitalization-weighted index that includes all tax qualified REITs listed in the NYSE, AMEX, and NASDAQ National Market.

**The Bloomberg Barclays 20+ Year US Treasury Index:** The Bloomberg Barclays US Treasury Index 20+ Year Total Return Index Value Unhedged USD measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury representing 20+ year maturities.

**The Bloomberg Barclays 7-10 Year US Treasury Index:** The Bloomberg Barclays US Treasury Index 7-10 Year Total Return Index Value Unhedged USD measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury representing 7-10 year maturities.

**The Bloomberg Barclays 3-7 Year US Treasury Index:** The Bloomberg Barclays US Treasury Index 3-7 Year Total Return Index Value Unhedged USD measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury representing 3-7 year maturities.

**3-Mo T-Bills: ICE® BofAML® 3-Month US Treasury Bill Index.** The BofA Merrill Lynch 3-Month US Treasury Bill Index is comprised of a single issue purchased at the beginning of the month and held for a full month. The Index is rebalanced monthly and the issue selected is the outstanding Treasury Bill that matures closest to, but not beyond, three months from the rebalancing date.

**Long-term Treasury Index: ICE® BofAML® 15+ Year US Treasury Index.** The BofA Merrill Lynch 15+ Year US Treasury Index is an unmanaged index comprised of US Treasury securities, other than inflation-protected securities and STRIPS, with at least $1 billion in outstanding face value and a remaining term to final maturity of at least 15 years.

**Intermediate Treasuries (5-7 Yrs): ICE® BofAML® 5-7 Year US Treasury Index**. The BofA Merrill Lynch 5-7 Year US Treasury Index is a subset of The BofA Merrill Lynch US Treasury Index (an unmanaged Index which tracks the performance of US dollar denominated sovereign debt publicly issued by the US government in its domestic market). Qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of $1 billion. including all securities with a remaining term to final maturity greater than or equal to 5 years and less than 7 years.



**Short-term Treasuries (1-3 Yrs): ICE® BofAML® 1-3 Year US Treasury Index**. The BofA Merrill Lynch 1-3 Year US Treasury Index is a subset of The BofA Merrill Lynch US Treasury Index (an unmanaged Index which tracks the performance of US dollar denominated sovereign debt publicly issued by the US government in its domestic market). Qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of $1 billion. including all securities with a remaining term to final maturity greater than or equal to 1 years and less than 3 years.

**TIPS 15+ Years: ICE® BofAML® 15+ Year US Inflation-Linked Treasury Index** is a subset of ICE BofAML US Inflation-Linked Treasury Index including all securities with a remaining term to final maturity greater than or equal to 15 years. ICE BofAML US Inflation-Linked Treasury Indices track the performance of US dollar denominated inflation-linked sovereign debt publicly issued by the US government in its domestic market. Qualifying securities must have at least 18 months to maturity at point of issuance, at least one year remaining term to final maturity, interest and principal payments tied to inflation and a minimum amount outstanding of $1 billion. Strips are excluded from the Index; however, original issue zero coupon bonds are included in the Index and the amounts outstanding of qualifying coupon securities are not reduced by any portions that have been stripped. Securities issued or marketed primarily to retail investors do not qualify for inclusion in the index.

**TIPS 5-7 Years: ICE® BofAML® 5-7 Year US Inflation-Linked Treasury Index** is a subset of ICE BofAML US Inflation-Linked Treasury Index including all securities with a remaining term to final maturity greater than or equal to 5 years and less than 7 years. ICE BofAML US Inflation-Linked Treasury Indices track the performance of US dollar denominated inflation-linked sovereign debt publicly issued by the US government in its domestic market. Qualifying securities must have at least 18 months to maturity at point of issuance, at least one year remaining term to final maturity, interest and principal payments tied to inflation and a minimum amount outstanding of $1 billion. Strips are excluded from the Index; however, original issue zero coupon bonds are included in the Index and the amounts outstanding of qualifying coupon securities are not reduced by any portions that have been stripped. Securities issued or marketed primarily to retail investors do not qualify for inclusion in the index.

**Municipals: ICE® BofAML® US Municipal Securities Index.** The BofA Merrill Lynch US Municipal Securities Index tracks the performance of USD-denominated, investment-grade rated, tax-exempt debt publicly issued by US states and territories (and their political subdivisions) in the US domestic market. Qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule, and an investment-grade rating (based on an average of Moody's, S&P and Fitch). Minimum size requirements vary based on the initial term to final maturity at the time of issuance.

**High Grade Corporates: ICE® BofAML® 15+ Year AAA-AA US Corporate Index.** The BofA Merrill Lynch 15+ Year AAA-AA US Corporate Index is a subset of the BofA Merrill Lynch US Corporate Index (an unmanaged index comprised of USD-denominated, investment-grade, fixed-rate corporate debt securities publicly issued in the US domestic market with at least one year remaining term to final maturity and at least $250 million outstanding) including all securities with a remaining term to final maturity of at least15 years and rated AAA through AA3, inclusive.

**U.S. High Yield: ICE® BofAML® US Cash Pay High Yield Index.** The BofA Merrill Lynch US Cash Pay High Yield Index tracks the performance of USD-denominated, below-investment-grade-rated corporate debt, currently in a coupon-paying period, that is publicly issued in the US domestic market. Qualifying securities must have a below-investment-grade rating (based on an average of Moody's, S&P and Fitch) and an investment-grade-rated country of risk (based on an average of Moody's, S&P and Fitch foreign currency long-term sovereign debt ratings), at least one year remaining term to final maturity, a fixed coupon schedule, and a minimum amount outstanding of $100 million.

**MBS ICE® BofAML® US Mortgage Backed Securities Index** tracks the performance of US dollar denominated fixed rate and hybrid residential mortgage pass-through securities publicly issued by US agencies in the US domestic market. 30-year, 20-year and 15-year fixed rate mortgage pools are included in the Index provided they have at least one year remaining term to final maturity and a minimum amount outstanding of at least $5 billion per generic coupon and $250 million per production year within each generic coupon. Hybrid, interest-only, balloon, mobile home, graduated payment and quarter coupon fixed rate mortgages are excluded from the index, as are all collateralized mortgage obligations.

**EM Sovereign: ICE® BofAML® US Dollar Emerging Markets Sovereign Plus Index.** The BofA Merrill Lynch US Dollar Emerging Markets Sovereign Plus Index tracks the performance of US dollar denominated emerging market and cross-over sovereign debt publicly issued in the Eurobond or US domestic market. Qualifying countries must have a BBB1 or lower foreign currency long-term sovereign debt rating (based on an average of Moody's, S&P and Fitch). Countries that are not rated, or that are rated "D" or "SD" by one or several rating agencies qualify for inclusion in the index but individual non-performing securities are removed. Qualifying securities must have at least one year remaining term to final maturity, a fixed or floating coupon and a minimum amount outstanding of $250 million. Local currency debt is excluded from the Index.

**Hedge Fund Index: HFRI Fund Weighted Composite Index.** The HFRI Fund Weighted Composite Index is a global, equal-weighted index of over 2,000 single-manager funds that report to the HFR (Hedge Fund Research) database. Constituent funds report monthly net-of-all-fees performance in USD and have a minimum of $50 million under management or a twelve (12)-month track record of active performance. The Index includes both domestic (US) and offshore funds, and does not include any funds of funds.

**Adrian Crump & Moench (ACM) 10-Year Treasury Term Premium:** The ACM 10-year treasury term premium estimates are from the Federal Reserve Bank of New York using the methodology and model described in Adrian, Crump, and Moench, "Pricing the Term Structure with Linear Regressions," 2013.

**Kim-Wright 10-Year Treasury Term Premium:** Term premium estimates are from the Federal Reserve Board using the methodology and model described in Kim and Wright, "An Arbitrage-Free Three-Factor Term Structure Model and the Recent Behavior or Long-Term Yields and Distant-Horizon Forward Rates," 2005.

**Christensen-Rudebusch 10-Year Treasury Term Premium:** Term premium estimates are from the Federal Reserve Bank of San Francisco using the methodology and model utilized in Christensen and Rudebusch, "The Response of Interest Rates to U.S. and U.K. Quantitative Easing," 2012.

## About Richard Bernstein Advisors

Richard Bernstein Advisors LLC is an investment manager. RBA partners with several firms including Eaton Vance Corporation and First Trust Portfolios LP, and currently has $9.4 billion collectively under management and advisement as of April 30th, 2019. RBA acts as sub-advisor for the Eaton Vance Richard Bernstein Equity Strategy Fund, the Eaton Vance Richard Bernstein All-Asset Strategy Fund and also offers income and unique theme-oriented unit trusts through First Trust. RBA is also the index provider for the First Trust RBA American Industrial Renaissance® ETF. Additionally, RBA runs ETF asset allocation SMA portfolios at UBS, Merrill Lynch, Morgan Stanley Smith Barney and on select RIA platforms. RBA's investment insights as well as further information about the firm and products can be found at ***www.RBAdvisors.com***.