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The US Agg has changed

Implications for passive bond allocations

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IN BRIEF

Investors in passive strategies designed to track the Bloomberg Barclays US Aggregate Bond Index (the Agg) have little recourse in the face of ongoing bond market trends and their impact on the Agg as a portfolio stabilizer.

- The Agg's allocation rules are based on the amount of debt an issuer has; the most indebted borrowers, therefore, receive the highest weighting.
- Quantitative easing (QE) has influenced debt issuance in ways that have weakened the Agg's risk-return profile, leaving it more concentrated in U.S. Treasuries (which offer no spread cushion), less diversified across sectors and more sensitive to a rise in rates.
- Passive investors in the Agg are becoming forced buyers of U.S. Treasuries; concentration of these securities in the index will continue to increase as QE unwinds.
- Given the Agg's current reduced yield and extended duration, a roughly 50 basis point increase in yield could wipe out the coupon component of the index's return; a more pronounced increase would likely result in a negative total return.

With rates still low but normalizing, investors may want to reassess how closely to tie their fixed income assets to the rules-based Agg—and consider how they can loosen the constraints.

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NOW IS AN OPPORTUNE TIME FOR INVESTORS TO REASSESS WHETHER PASSIVE BOND INVESTING CAN DELIVER ON THEIR FIXED INCOME ALLOCATION OBJECTIVES.

Investors look to core bonds as a reliable source of income and a stabilizer of portfolio returns. Many gain fixed income exposure (in whole or in part) by investing in passive strategies, such as those designed to track the Bloomberg Barclays US Aggregate Bond Index. Granted, over a bull market for bonds that has lasted more than 35 years, the Agg's performance hasn't raised many red flags, but we believe reasons for caution are compounding.

We highlight some of the limitations of the Agg and the factors that have altered its risk-return profile, pointing to the potential implications for passive bond investors. We suggest what concerned investors can do to help ensure that objectives for their fixed income allocations continue to be met.

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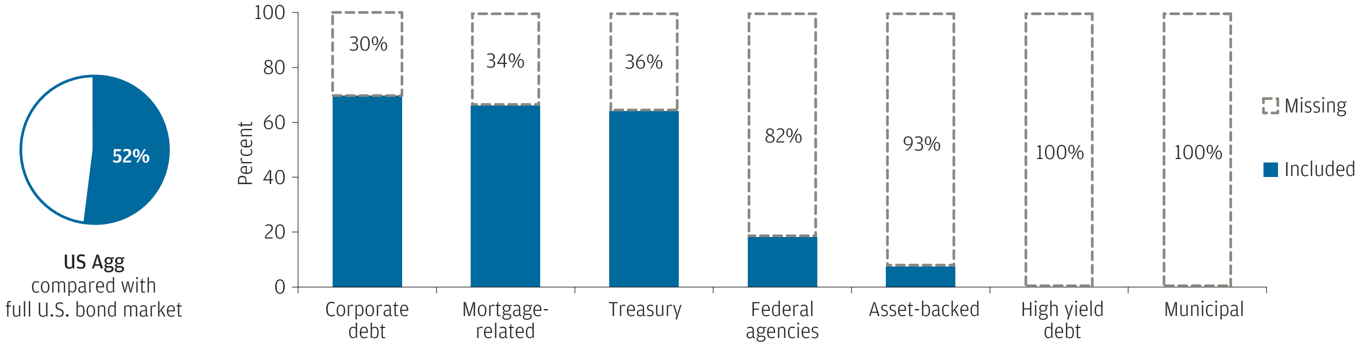
The US Agg excludes almost half of the U.S. bond market

EXHIBIT 1: COMPOSITION OF THE AGG VS. TOTAL U.S. BOND MARKET

	Corporate debt	Mortgage-related	Treasury	Federal agencies	Asset-backed	High yield debt	Municipal
Total market size ($ trillions)	$7.4	$9.2	$11.7	$1.9	$1.4	$1.3	$3.8
Missing from Agg	$2.3	$3.1	$4.3	$1.6	$1.3	$1.3	$3.8



Source: Bloomberg and SIFMA; data as of December 31, 2017. Percentages equal Bloomberg Barclays US Aggregate outstanding/SIFMA total outstanding U.S. bond market debt (excluding money markets); discrepancies may exist due to rounding.

PASSIVE INVESTING IS DIFFERENT FOR FIXED INCOME VS. EQUITIES

Know what you own—and what you don't. While the Agg is often viewed as representing "the U.S. bond market," in fact, it captures only about 52% of that market (**EXHIBIT 1**). Compare that with equity indices like the CRSP U.S. Total Market Index, incorporating 99% of the U.S. public equity market—or even the S&P 500, covering 86%.[1]

The Agg, by definition, measures the investment grade, U.S. dollar-denominated, fixed rate, taxable bond market. Even for pure core investors, that means the Agg excludes, for example: TIPs and STRIPs, certain agency mortgage securities, most asset-backed securities and roughly one-third of all corporate bonds. Those seeking a more diversified "all-weather" portfolio should keep in mind that the index excludes all municipal and high yield bonds and non-agency mortgage-backed securities (MBS) as well. One result of the index's construction rules is a heavy concentration in U.S. government-related securities, namely U.S. Treasuries and agency MBS, which now make up about two-thirds of the index by allocation.[2] In a portfolio construction context, the Agg excludes many fixed income securities generally relied on to enhance yield and/or diversify and stabilize returns.

Understand how equity and bond indices differ in their dynamics. For market-cap weighted equity indices, a company's exposure within the index generally grows as its stock price increases relative to that of other stocks in the index, often as a result of favorable investor views. However, market-value weighting has a different consequence in fixed income; in the case of the Agg, weighting changes are primarily the result of issuers deciding to increase their amount of debt. Perversely, this means that passive bond strategies end up with greater allocations to the largest borrowers.

[1] Bloomberg, SIFMA, Haver Analytics; data as of December 31, 2017.

[2] Bloomberg Barclays; data as of December 31, 2017.

THE AGG ISN'T WHAT IT USED TO BE

After the 2008-09 financial crisis, unprecedented quantitative easing spurred debt issuance that altered the Agg's risk-return profile in a number of ways—not necessarily for the better:[3]

- Sector-based risk factors have become more concentrated—U.S. Treasuries and corporate bonds each accounted for roughly 20% of the index in 2007; they now account for 37% and 26%, respectively. The 37% allocation to U.S. Treasuries is the result of enormous U.S. government borrowing in the post-financial crisis environment and offers no spread to investors—unwelcome news for those searching for yield.
- The sensitivity of the Agg to changes in interest rates (duration) increased, from 4.4 years to 6.0 years, as rates fell and borrowers issued longer-dated debt—leaving passive bond strategies in a precarious position should rates continue to rise.
- As a result of longer-dated debt issuance in recent years, the Agg is *now more exposed to changes in long-term rates* (**EXHIBIT 2**). Roughly 40% of the interest rate sensitivity in today's Agg is to changes in 20- and 30-year yields (up from just 25% in 2007), while less than 2% is to changes in the fed funds rate. Clearly, exposures to rates across the yield curve are not equal and have changed dramatically over time. To illustrate the impact of this change, holding all other rates constant, an instantaneous 1% increase in 20- and 30-year Treasury yields would have produced a 1.10% loss for holders of the Agg in 2007 but would have resulted in a more significant 2.43% loss in 2017—worse by 1.33 percentage points.

[3] Changes are from December 31, 2007, to December 31, 2017, unless otherwise noted.

The Agg is now more exposed to changes in 20- to 30-year rates

EXHIBIT 2: SENSITIVITY OF THE AGG'S PRICE TO A 1% CHANGE IN THE "RATES" AT INDIVIDUAL MATURITY POINTS

Maturity	Fed funds	2-year Treasury	5-year Treasury	10-year Treasury	20- and 30-year Treasury	Total Agg duration
2017–key rate duration (yrs)*	0.09	0.67	1.48	1.33	2.43	**6.00**
2007–key rate duration (yrs)*	0.13	0.60	1.19	1.34	1.10	**4.36**
Change since 2007 (yrs)	0.04 less	0.07 more	0.29 more	0.01 less	1.33 more	**1.64 more**

Source: Bloomberg Barclays; data as of December 31 of each respective year.

*Key rate durations for the Agg measure the sensitivity of the value of the Agg to a 1 percentage point change in the yield at a specific maturity point, holding yields at all other maturities constant.

WHY THIS MATTERS FOR YOUR PORTFOLIO

The Federal Reserve (Fed) has begun raising rates and unwinding quantitative easing policies, shrinking its balance sheet. No one knows precisely how policy normalization, a moderate growth environment and an expanding fiscal deficit will impact the Agg, but investors relying on its passive strategies for income and stability may want to consider the following:

Agg investors will be forced buyers of Treasuries

Passive investors in the Agg are about to become forced buyers of Treasuries—despite the index's already large allocation to the sector. Here's why:

The $2.4 trillion of Treasury securities purchased by the Fed, largely as part of its QE program, have been *excluded* by the Agg's rule-based construction methodology since 2009. Now, as the Federal Open Market Committee (FOMC) carries out its normalization process, those Treasuries have started to roll off the Fed's balance sheet; the magnitude is substantial, with $1 trillion of U.S. Treasuries held by the Fed scheduled to mature over the next three years.[4] Without cash on hand to repay those maturing securities held by the Fed (due to the lack of a budget surplus), the U.S. Treasury will need to issue new debt in a like amount in order to refinance. Additionally, given declining tax rates and increased fiscal spending, Treasury borrowing will likely exceed refinancing needs during this period. All of this new Treasury supply *will* be included in the Agg, further increasing the percentage of Treasuries in the index.

Technicals may put extra pressure on Agg pricing

Not only is the amount of outstanding Treasuries going to go up, all those bonds will need to find a home. In addition, as the Fed winds down its mortgage purchases, new agency mortgages will also need to find a home. While the supply of new mortgage financings may be reduced somewhat by rising rates, the effect of a large buyer stepping away from the market may impact pricing.

[4] As stated in the FOMC's addendum to Policy Normalization Principles and Plans, dated June 2017.

The coupon cushion has deflated

Bonds have two basic return components: coupon income and valuation gain (loss). Both components have changed dramatically, and for passive bond strategies the impact can't be managed.

On average, over the last 30 years, coupon income accounted for approximately 90% of the Agg's total return, providing a cushion to offset price volatility along the way.[5] But that cushion has been deflated. Over the period from 1989 through 2017, the Agg's yield declined substantially, reducing protection from its coupon income, while its duration increased, heightening the sensitivity of the index to yield changes (**EXHIBIT 3**). The result is that at year-end 2017 an increase of 45 basis points (bps) in the passive Agg index would have resulted in a price decline sufficient to wipe out an entire year's coupon income; in 1989, a similar result would have required a much larger 200bps increase. The impact can be seen in year-to-date numbers, where rates have risen by more than the amount of coupon received, leaving the Agg's total return at -2.19%.[6]

INVESTOR CONSIDERATIONS

Investors have to ask themselves: In this still low but normalizing rate environment, how closely do I want to be tied to a rules-based Agg, with its duration and yield characteristics, limited exposure to spread product, increasing ownership of Treasuries—and lack of flexibility to respond to economic, market and policy trends?

Activating fixed income allocations

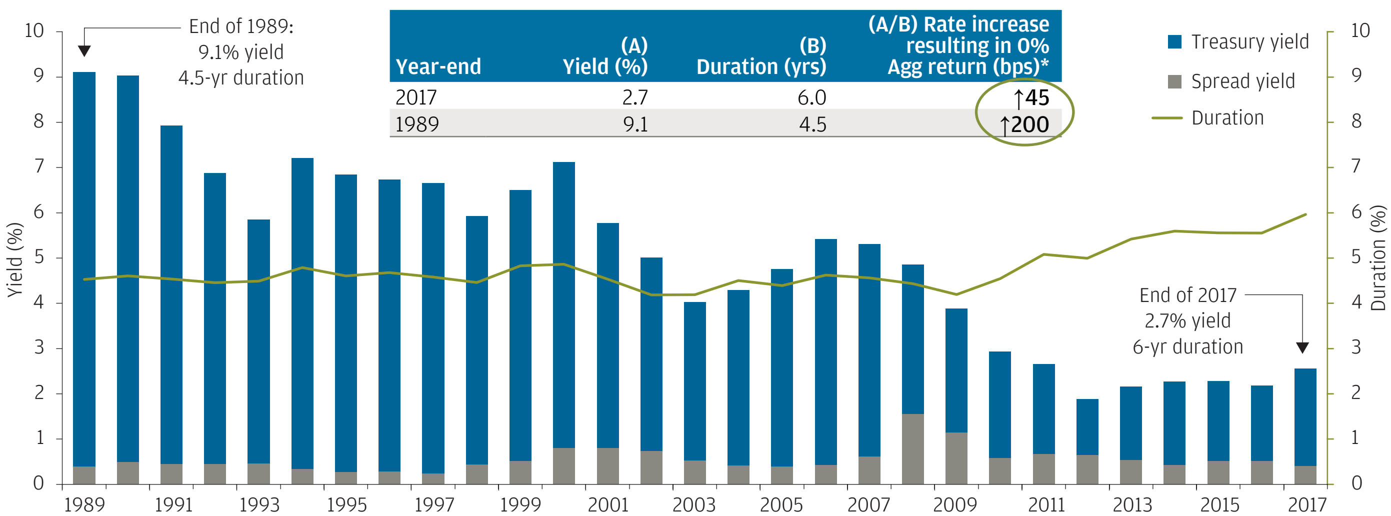
What investors should do depends on what they want from their fixed income allocations. Those concerned about whether passive Agg strategies can continue to deliver the predictability and stability they need may want to start by considering an active fixed income manager who can access core-appropriate investments from outside the pool of securities in the index. Those that are looking for added income and flexibility to go beyond a pure core strategy may want to consider adding or increasing their allocation to spread product, diversifying internationally and working with skilled, experienced fixed income managers that can actively manage duration and allocate within and across sectors. This can take many forms, with solutions to fit various desired outcomes.

[5] Bloomberg Barclays; data as of December 31, 2017.
[6] As of April 30, 2018.

Today a much smaller increase in rates can wipe out the coupon component of the Agg's total return

EXHIBIT 3: AGG YIELD AND DURATION (1989-2017)

Year-end	(A) Yield (%)	(B) Duration (yrs)	(A/B) Rate increase resulting in 0% Agg return (bps)*
2017	2.7	6.0	↑45
1989	9.1	4.5	↑200



Source: Bloomberg Barclays, J.P. Morgan Asset Management; data as of December 31, 2017. Annual figures above reflect that year's average, using monthly observations.

*Yield increase for a 0% return on the Agg uses the rule of thumb defining duration as the percentage point decrease (increase) in bond prices resulting from a 1 percentage point increase (decrease) in bond yields. For example: -(0.45% yield increase x 6 years duration) = -2.7% change in price (a loss, in this case, equivalent to its yield).

As fiduciaries, retirement plan sponsors typically focus on minimizing fees and maximizing performance. Those accustomed to viewing the active/passive decision primarily through an equity lens may be surprised to learn that, over the past 10 years, 84% of active intermediate-term bond funds (made up mostly of Core and Core Plus strategies) have outperformed the Agg, on a fee-adjusted basis.[7]

Defined contribution plan sponsors using target date funds (TDFs) as the plan's qualified default investment alternative (QDIA) may consider an actively managed TDF. Passive fixed income strategies, especially those limited to a single index like the Agg, can only adjust the total allocation to bonds (vs. stocks) over the glide path. Active managers, with more building blocks and flexibility, have two additional ways to potentially enhance portfolio performance:

- through a more diversified fixed income glide path—with strategic allocations that shift and become even more diversified as participants approach retirement and the fixed income allocation increases
- by actively allocating around those strategic allocations in an attempt to capitalize on market opportunities

In short, fixed income assets can be strategically and tactically managed throughout the participant life cycle to enhance returns, diversify risk and mitigate the impact of drawdowns, rising rates and inflation on retirement security.

CONCLUDING COMMENTS

The Agg has a long history and is solidly entrenched as a benchmark for fixed income performance. But that doesn't mean it can be viewed as a proxy for the robust fixed income opportunity set that has evolved over the past decades. Those invested in passive Agg strategies should, as with any allocation, evaluate on an ongoing basis whether those strategies are continuing to meet portfolio objectives.

[7] Morningstar; data as of September 30, 2017.

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