PPM AMERICA

The What And Why Of LDI

KEY TAKEAWAYS

- Demand for fixed income Liability Driven Investment (LDI) strategies is being pushed higher by rising corporate pension funding levels and corporate tax reform deadlines
- Long duration bonds and Treasuries required for LDI strategies are a small part of the overall fixed income universe
- A manager needs to be right-sized, in our view; large enough to get favorable allocations in the primary market but small enough to add value through less liquid issues/issuers given limited trading volume in the secondary market
- This makes active management important in being able to accurately match liabilities to duration and source the right credits, and to manage the capacity of the strategy to ensure ongoing viability

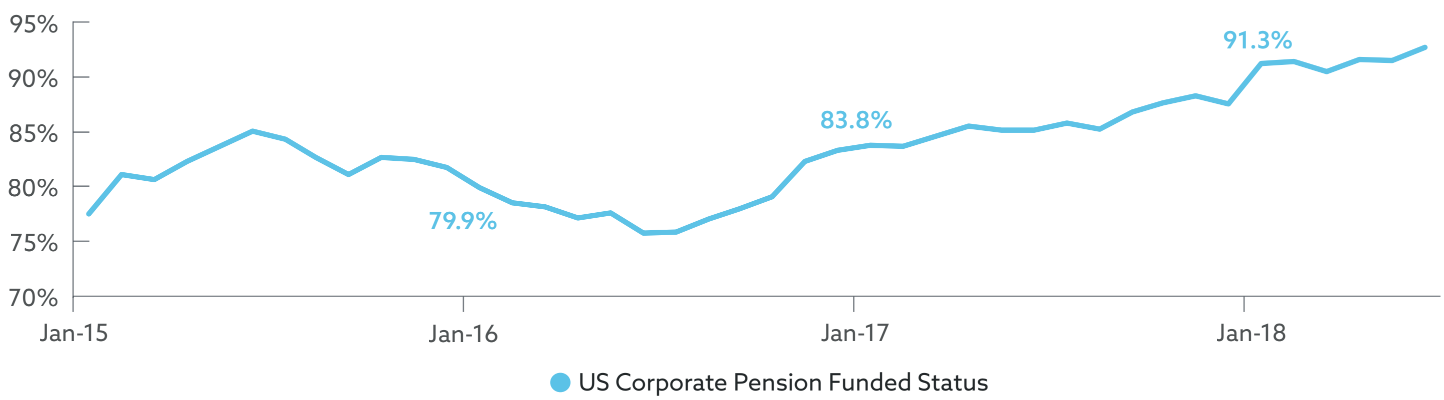
DRIVERS OF CURRENT DEMAND FOR LDI

Demand for LDI strategies is being driven by rising funding levels for corporate pension funds. Funding levels are a significant input in determining the risk appetite of a corporate pension fund, and subsequent asset allocation.

The consequence of a higher funding level is to encourage pension funds to shift assets from equities and into more 'defensive' assets such as long-duration corporate bonds. This shift is designed to de-risk the portfolio, lock in those gains and minimize volatility around future mismatches.

Funding levels climbed following strong equity market performance, and rising rates have also led to higher discount rates being applied by pension funds.[1] These strong equity returns and higher discount rates have helped push the funded status of corporate pension funds to nearly 94% as of 31 July 2018.

US CORPORATE PENSION FUNDING STATUS IMPROVING[2]



CORPORATE CONTRIBUTIONS OVER $1B IN 2018[3]

	2018 Contribution ($M)	2017 Contribution ($M)	Pension Funding Level (2017)
Deere & Co.	$1,000	$62	91.7%
FedEx Corp.	$2,500	-	89.5%
PepsiCo	$1,575	$164	85.1%
Lockheed Martin	$5,000	-	68.0%
General Electric Co.	$6,000	$1,720	67.2%
Exxon Mobil Corp.	$1,210	$1,059	66.2%
FirstEnergy Corp.	$1,250	$18	65.9%

[1] JP Morgan. 13 July 2018. [2] JP Morgan, EPFR, Milliman. 22 June 2018. [3] Pensions & Investments. 12 September 2018.

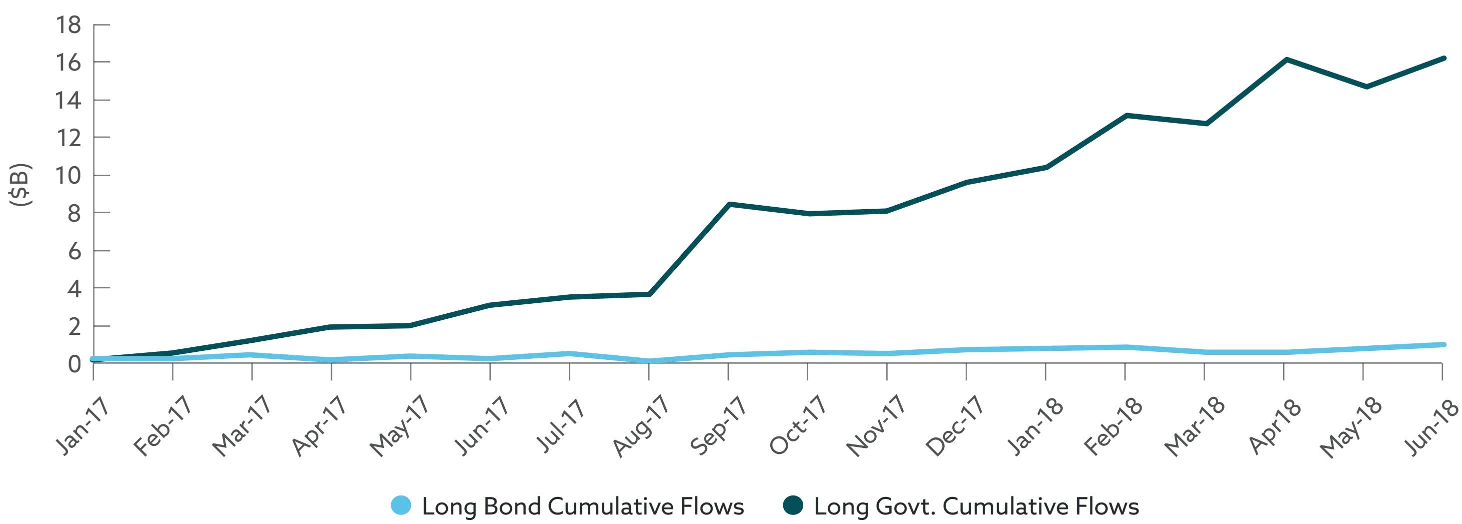
An additional incentive to contribute to pension plans, and thus the demand for LDI strategies, comes from US corporate tax reform passed in December 2017.[4] Until 15 September 2018 corporate pensions had been able to make contributions to their pension funds and expense the expenditure at the old, higher tax rate (35%). It is worth note that their portfolio management teams can make investment decisions after this date. This meant that the contribution, which was tax deductible, was worth an additional 14% in tax saving as the tax rate on corporate profits then fell to 21%. This naturally spurred corporations to announce large contributions to lock in the lower rate. (See chart on previous page)

Long duration flows are a useful proxy for LDI strategy demand. However, year-to-date flows into long duration corporate bonds have been disappointing. While the lack of demand has partly been the result of less demand from foreign life insurance companies due to high and rising hedging costs, a large portion of long duration flow has been directed toward Treasuries. Further, flows into mutual funds and ETFs in the long government category have been much stronger than corporate long bond funds.[5]

Conversely, Principal STRIPS have seen strong demand over the last few years. Principal STRIPS are US Treasury securities stripped of interest payments that are sold at a deep discount and mature at par. These securities offer the highest duration possible for a fixed income security. Principal STRIPS are sold to pension funds and other investors who want to carefully match their duration against a longer benchmark.

According to the latest data, July's stripping activity brings the total quantity of 2036 and longer bonds stripped over the past 12 months to $41.2B, which is the largest 12-month total since 2011.[6]

LONG GOVERNMENT FLOWS STRONGER THAN LONG CORPORATE[5]



US TREASURIES HELD IN STRIPPED FORM GROWING[7]

[4] Milliman. 15 August 2018. [5] Morningstar. Based on estimated monthly flows for the US OE Long Government Bond and Long Bond categories (including ETFs) through 30 June 2018. [6] Goldman Sachs. 6 August 2018. [7] US Treasury, Bloomberg. 31 July 2018.

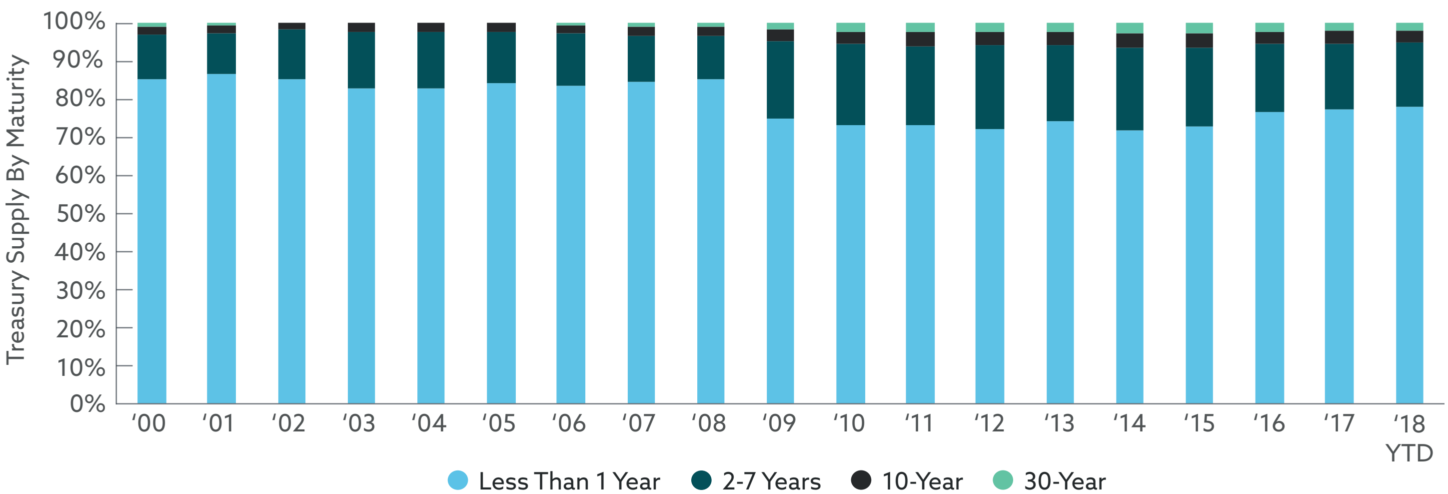
SUPPLY DYNAMICS IMPACTING LDI

However, as much as there is strong demand for longer dated government bonds and consistent demand for corporate bonds, the supply side of the equation presents more of a challenge.

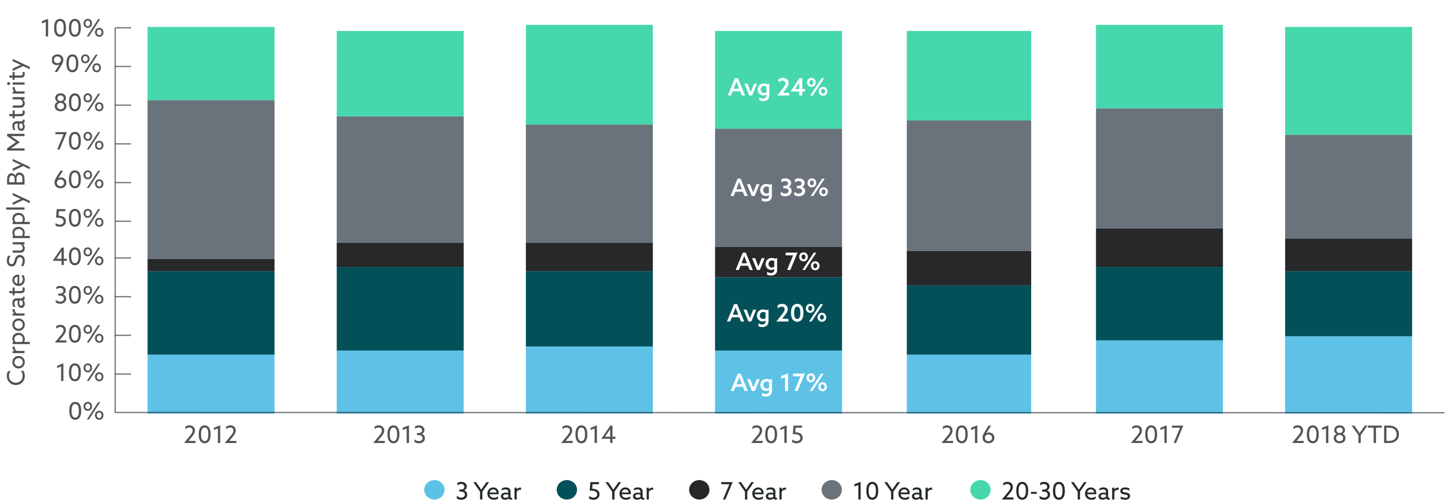
The short end of the government market vastly outweighs that of the longer end.[8] This is partly due to the Treasury Department constantly rolling over short-term debt, but also a general lack of long-term issuance in the longer end. This has firstly restricted the amount of bonds that can be found on both the primary and secondary markets for these instruments, and secondly driven demand for STRIPS, which has helped keep the 30-year Treasury yield down.

The picture for corporates is more mixed. There is a larger segment of supply in the 20-30-year bucket, although it remains small by the context of average annual issuance by maturity.[9] This share has been higher year-to-date than in other recent periods as firms have not only made the decision to stretch their maturity profiles and lock in relatively lower rates while they can but also to take advantage of the flat yield curve relative to historical averages. However, it is still a minority of bonds (20% of supply YTD vs 45% for 1-5-year bonds). Due to the increased credit risk of a longer dated bond, it is important to have strong underwriting and research teams to evaluate the relative merits of long duration corporate bonds, which have a larger weighting toward the industrial and utility sectors. On the other hand, the short end of the corporate universe has a higher weighting toward financials.[9]

SHORT END TREASURY SUPPLY DOMINATES[8]



LONG END CORPORATE SUPPLY LARGER[9]



[8] SIFMA. 3 July 2018. [9] JP Morgan. 3 July 2018.

HOW WE MANAGE AN LDI STRATEGY

The idiosyncrasies of managing an LDI strategy require different skills from a manager than a broader fixed income mandate. We believe the manager needs to be of the optimal size to be able to work with the new issuance market (the primary market) to be able to get allocations of a meaningful size from the sell-side when longer-dated bonds of the right criteria are issued. Smaller firms may not be allocated sufficiently when it comes to longer dated, oversubscribed issues.

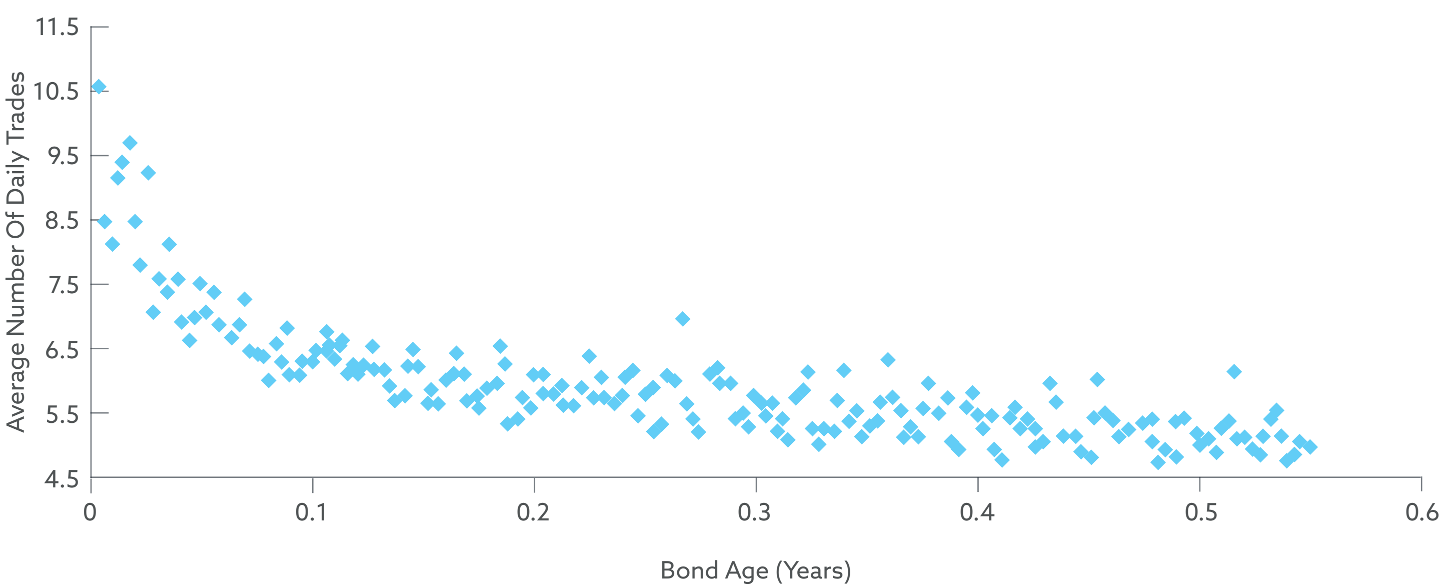
We believe PPM is right-sized to not only get meaningful allocations on primary market trading, but also small enough to add smaller, less liquid issues that can have a measurable impact on portfolio risk levels. Larger managers could struggle to get enough of a less liquid bond to have a consequential impact on the portfolio. Long-duration strategies focused on maturities 10 years and greater will have a higher percentage of less liquid credits than a broad investment grade portfolio. Liquidity is dependent largely on size of issue/issuer and the time since issuance. The relationship between liquidity and time from issuance tends to be non-linear as after issuance liquidity tends to decline rapidly.[10] Since corporate bond issuance tends to be issued in shorter tenors (2-10-years) and 30-year tenors, a 10-year+ strategy will have a high percentage of well-seasoned 30-year bonds.[11]

A large LDI manager may have a difficult time sourcing well-seasoned 30-year bonds on a scale that will have a significant impact on the portfolio's risk profile. Due to this impediment, the LDI manager may be forced to make larger single-name and spread curve bets when adding exposure. This therefore adds something of a capacity constraint on the strategy as a fund that grows beyond the ability of the manager to make use of the smaller issues and more seasoned bonds will drift away from the intended optimal size.

This strategy results in higher tracking error and less flexibility to diversify. One advantage of PPM is our size as a long-duration manager which allows us to take advantage of less liquid issues and issuers. These issues trade in very limited quantities and frequencies, helping us gain exposure to more idiosyncratic parts of the long duration spread curve and to credits other than the largest issuers. This is helpful not only in a spread tightening environment which typically results in outperformance of higher-spread, less-liquid issues but also allows us to take advantage of mispricings of less liquid bonds during a spread widening cycle.

At PPM we place a strong emphasis on fundamental credit analysis, but are always mindful of the macroeconomic environment. We carefully examine companies for criteria that would be credit negative, such as M&A activity. We will often hold underweight positions in such credits and opportunistically add exposure post-announcements or during debt financing. We also analyze credits for improving fundamentals such as management efforts to lower leverage. Over this fundamental approach we apply our top-down economic perspective to anticipate changes and construct what we consider a balanced portfolio.

AVG NUMBER OF DAILY TRADES VS. BOND AGE, IG BONDS[10]



[10] Citi Research. 10 Sept 2018. [11] 20-year bond issuance has become increasingly common in recent years but 20-year tenors are mainly issued by companies financing large M&A transactions.

ABOUT PPM AMERICA

PPM America, Inc. (PPM) is a client-focused investment manager. As part of one of the world's leading financial organizations, PPM has the expertise, global reach and substantial resources to provide our clients with investment solutions across markets, including fixed income, public and private equity, and commercial real estate. However, like a smaller shop, PPM remains nimble, investment-led and responsive to the opportunities that our teams discover together. Our mission is to deliver specific client solutions and service to investors around the world with the goal of meeting investors' unique investment objectives. In addition, PPM employees are committed to building our community and supporting local nonprofits that strengthen families and increase economic opportunities.