

Monthly pension update

FEBRUARY 2019



DID YOU KNOW?

With growth assets rebounding, volatility priced in interest rate options markets is showing complacency (again), touching historical lows with potential to move lower on technicals.

FUNDED STATUS FAST FACTS

85.2%

FUNDED STATUS
ROSE 1.3% THIS
MONTH

+3.5% YTD

FUNDED STATUS
INCREASE

-16BPS

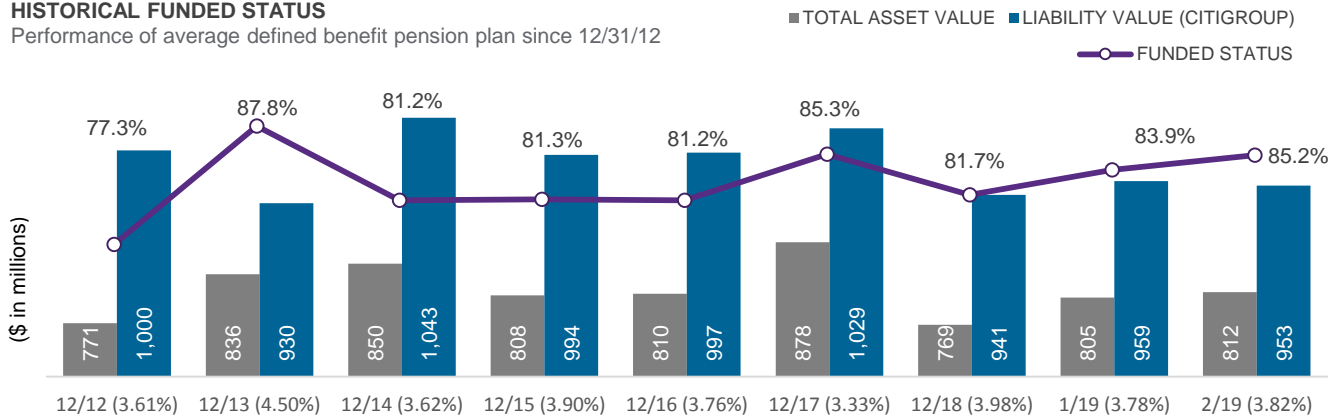
DISCOUNT RATE
YEAR TO DATE
CHANGE

MONTHLY CONTRIBUTORS OF
FUNDED STATUS CHANGE:
**DISCOUNT RATES AND
GROWTH ASSETS**

MONTHLY DETRACTORS OF
FUNDED STATUS CHANGE:
HEDGE PORTFOLIO

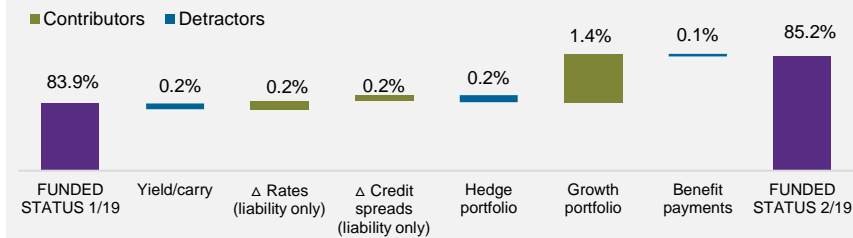
HISTORICAL FUNDED STATUS

Performance of average defined benefit pension plan since 12/31/12



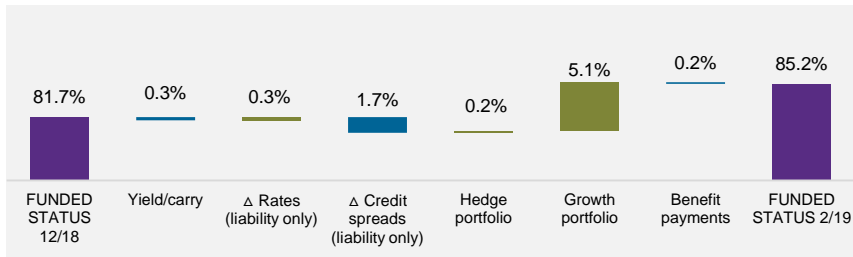
DISCOUNT RATES

MONTHLY FUNDED STATUS ATTRIBUTION



Changes	Month	Year
Funded Status %	▲ 1.3%	▲ 3.5%
Discount Rate (bps)	▲ 4	▼ (16)
Treasury Rates(bps)	▲ 3	▲ 4
Credit Spreads (bps)	▲ 2	▼ (20)
Liabilities (mm)	▲ (\$6.2)	▼ \$12.2
Assets (mm)	▲ \$7.3	▲ \$43.3
Funded Status (mm)	▲ \$13.5	▲ \$31.2

YEAR TO DATE FUNDED STATUS ATTRIBUTION



Note: Arrow indicates effect on funded status.

Source: J.P. Morgan, FTSE Pension Discount Curve, Bloomberg. As of February 28, 2019. For illustrative purposes only. Past performance is not indicative of future results.

MACROECONOMIC TRENDS IMPACTING PENSION PLANS

A breakdown of what you need to watch this month as you consider investment implications for your plan

GROWTH



Global growth has continued to soften during the first quarter, with the U.S. currently tracking around 1.5% SAAR and forecasts for Europe and Asia being revised lower. While it seems reasonable to expect that business investment will remain weak as long as geopolitical issues remain unresolved, the improvement in China's PMI and signs of stabilization in global output suggest that this remains a slowdown, rather than a stall. Looking forward, the combination of a further acceleration in wages against a backdrop of decelerating inflation should provide support for consumption. The risk, however, is that continued uncertainty weighs on confidence, preventing a rebound in consumer spending from occurring.

INFLATION



Inflation has continued to decelerate in recent months, with U.S. CPI falling from a level of 2.5% in October of last year to a level of 1.5% in January. Readings on the personal consumption deflation (PCE deflator) – the Fed's preferred measure of inflation – have been delayed by the government shutdown, but have likely followed the same trend. Recent strength in the U.S. dollar could weigh further on inflation in the coming months, and price growth around the world remains quite muted as well. While inflation should rebound later this year, we still look for global inflation to average around 2% for 2019 as a whole.

RATES



The consensus outlook for monetary policy and interest rates remains fairly benign. The Fed made a dovish pivot in January, and many now expect at most one rate hike this year. The European Central Bank (ECB) signaled that rates in the Eurozone would remain unchanged throughout the rest of 2019, and will be providing another round of cheap loans to banks in an effort to stimulate consumption and growth. Against this backdrop, it seems reasonable to expect EM central banks to remain on hold, particularly given inflation is not a problem. That said, if the economic environment improves, there is resolution on issues such as U.S./China trade, and financial markets remain well behaved, it seems unlikely that the Fed's dovish rhetoric will continue.

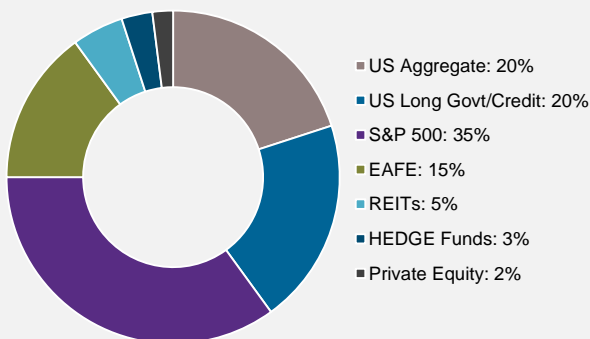
RETURNS



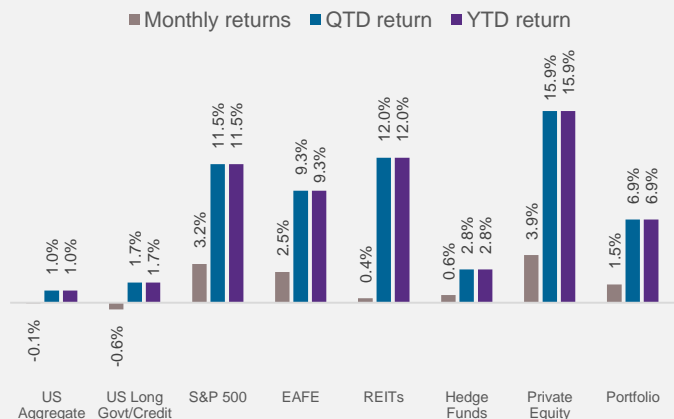
Markets have bounced back aggressively from their December sell-off during the past two months, but have paused to catch their breath in March. With valuations back to average levels, long-term return prospects remain muted, and the greatest opportunity seems to exist in emerging markets. Shorter-term, we see room for markets to grind higher, but believe any returns above and beyond what have already been generated this year will be dependent on earnings. We forecast U.S. earnings can grow 5-6% in 2019, but the risks are tilted to the downside, particularly given the elevated level of corporate profit margins.

ASSET ALLOCATION & MARKET SNAPSHOT (As of 2/28/19)

PLAN ASSET ALLOCATION

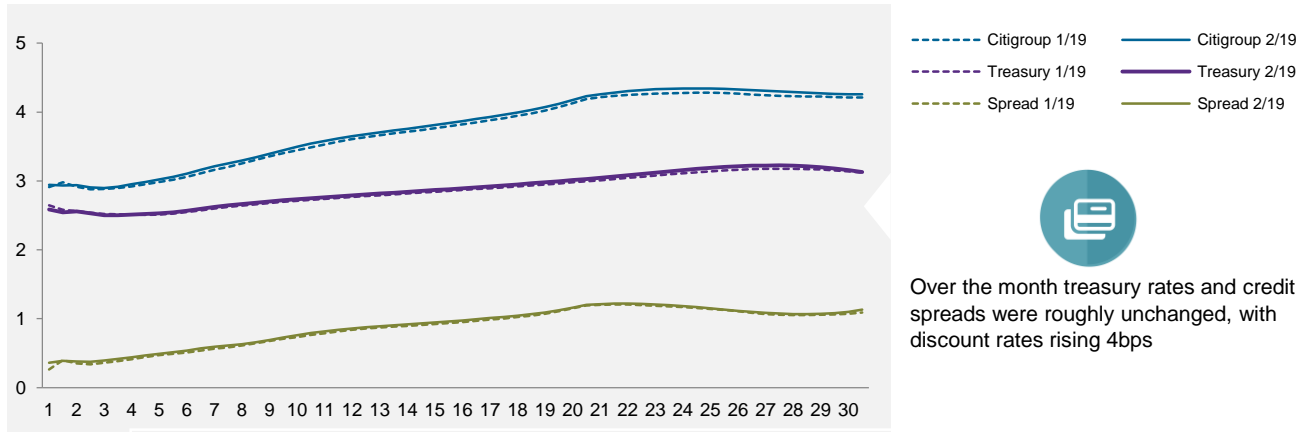


ASSET AND PORTFOLIO RETURNS



Source: J.P. Morgan, FTSE Pension Discount Curve, Bloomberg. As of February 28, 2019. For illustrative purposes only. Past performance is not indicative of future results. For more information on our fixed income outlook, please visit our blog: <http://blog.jp.org/institutional.com>

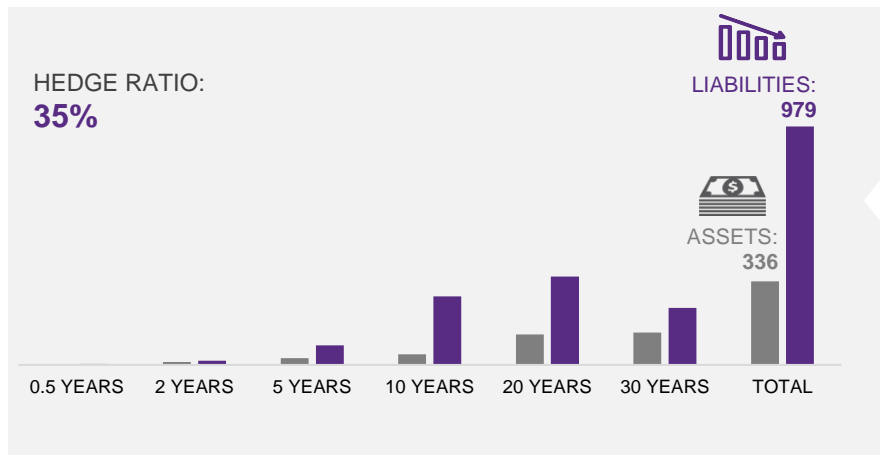
YIELD CURVE CHANGES



INTERESTED IN A DEEPER DIVE ON FIXED INCOME?

[Click here](#) for all the charts you need to understand what is happening in the fixed income markets.

PLAN RISK ANALYTICS



DURATION SENSITIVITY

The overall hedge ratio is defined as the ratio of asset dollar duration to liability dollar duration.

We estimate that this is approximately 35%.

We note that a higher hedge ratio, constructed with better key rate duration (KRD) matching along the curve would reduce funded status volatility. Matching the dollar duration of assets and liabilities across the curve structure would better insulate the plan against non-parallel yield curve movements.

Change in Interest Rates	Change in Growth Portfolio								
	-20%	-15%	-10%	-5%	-	+5%	+10%	+15%	+20%
+100bps	78.6%	81.6%	84.7%	87.8%	90.9%	94.0%	97.0%	100.1%	103.2%
+75bps	77.4%	80.4%	83.4%	86.3%	89.3%	92.3%	95.3%	98.3%	101.3%
+50bps	76.2%	79.1%	82.1%	85.0%	87.9%	90.8%	93.7%	96.6%	99.5%
+25bps	75.2%	78.0%	80.8%	83.7%	86.5%	89.4%	92.2%	95.0%	97.9%
-	74.1%	76.9%	79.7%	82.4%	85.2%	88.0%	90.7%	93.5%	96.3%
-25bps	73.2%	75.9%	78.6%	81.3%	84.0%	86.7%	89.4%	92.1%	94.8%
-50bps	72.3%	74.9%	77.5%	80.2%	82.8%	85.4%	88.0%	90.7%	93.3%
-75bps	71.4%	73.9%	76.5%	79.1%	81.7%	84.2%	86.8%	89.4%	91.9%
-100bps	70.5%	73.0%	75.6%	78.1%	80.6%	83.1%	85.6%	88.1%	90.6%

SCENARIO ANALYSIS

The heat map shows the change in funded status under different instantaneous interest rate and growth portfolio movements.

We note that reducing the allocation to equities and increasing the hedge ratio will likely narrow the change of possible outcomes and help limit downside funded status scenarios.

Source: J.P. Morgan, FTSE Pension Discount Curve, Bloomberg. As of February 28, 2019. For illustrative purposes only. Past performance is not indicative of future results.

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Fixed Income Blog – Our fixed income team's perspective on global fixed income markets and the global economy.

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Credit Risk: There is a risk that issuers and counterparties will not make payments on securities, repurchase agreements or other investments held by the strategy.

Such defaults could result in losses to the strategy. In addition, the credit quality of securities held by the strategy may be lowered if an issuer's financial condition changes. Lower credit quality may lead to greater volatility in the price of a security and in shares of the strategy. Lower credit quality also may affect liquidity and make it difficult for the strategy to sell the security. The strategy may invest in securities that are rated in the lowest investment grade category. Such securities are considered to have speculative characteristics similar to high yield securities, and issuers of such securities are more vulnerable to changes in economic conditions than issuers of higher grade securities.

Interest Rate Risk: Bonds and other debt securities will increase or decrease in value based on changes in interest rates. If rates increase, the investment generally declines. On the other hand, if rates fall, the value of the investments generally increases. Your investment will decline in value if the value of the investment decreases. Securities with greater interest rate sensitivity and longer maturities tend to produce higher yields, but also are subject to greater fluctuations in value. Usually, the changes in the value of fixed income securities will not affect cash income generated, but may affect the value of your investment.

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