



FINANCE WORKSHOP MINUTES
Wednesday, August 21, 2019

Directors:

J. Worley
V. Starkey
A. Dreher
R. Anderson
M. Dickerson
C. Schierholz
N. Smith

Absent*

Staff: T. Nolan, J. Case, C. Ward, S. Stanley, T. Rose, M. Salanty, C. Mitchell

Others: Chris Blackwood (PFMAM); Mark McClure (PFMAM)

• **PFM Asset Management Investment Presentation**

Chris Blackwood Director of PFM Asset Management LLC (PFMAM) presented an economic update and a summary of the District's portfolio and investment strategy as of June 30, 2019. *(See addendum: PFM HRMD Finance Workshop Presentation June 30, 2019)*

After PFM's presentation the finance workshop took a break for the Study Session and resumed the workshop at the end of the Study Session.



Highlands Ranch Metro District

Review of Investment Performance Quarter-ended June 30, 2019

PFM Asset Management LLC 655 17th Street, Suite 2000, Denver, CO 80202
Chris Bechtold, Managing Director
Mark McClum, CPA, Senior Managing Consultant
Andrew Mann, Investment Manager

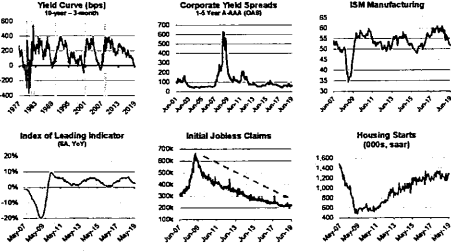
Economic and Market Update

Current Market Themes

- U.S. economic conditions are characterized by
 - Above-trend GDP growth, with one-off factors contributing in Q1
 - Healthy labor market with a low unemployment rate of 3.7%
 - Subdued inflation pressures and a soft but recovering housing market
 - Increasing downside growth risks, including a growing budget deficit, protracted trade wars, and challenges over border security/funding
- U.S. Treasury yields continued to fall in June, reflecting both Fed dovishness and market pricing of multiple cuts as evolving economic data skews to the downside. The yield curve inversion deepened further, with yields on a majority of benchmark US Treasury maturities now at their 18-month lows.
- U.S. GDP remained unchanged at 3.1% in Q1 of 2019. The third estimate reflected a slight downward revision to consumption. Inflation remains subdued. Business investment was revised slightly upwards, though still relatively weak compared to previous quarters. Inventory and real exports, one-off factors, posted positive contributions, underlying perhaps a subdued trend in private domestic demand and increased tariff measures, respectively.
- The Federal Reserve continued to reaffirm its dovish stance. Fed Chair Powell acknowledged muted inflation pressures and the vibrational consequences of escalating trade tensions. In response, the Fed Chair pledges to "act as appropriate to sustain the expansion". The fed funds target range is currently 2% to 2.5%.
- U.S. equities posted the best first half of a year in decades. For the year, the S&P 500 rose 17% and the Nasdaq soared 21%. While the Dow, at 14% year-to-date, had its best June performance since 1936.
- The rising tide of protectionism, weakening manufacturing momentum, and sluggish global growth prompts synchronize swimming by major Central Banks in the form of dovish monetary policy.

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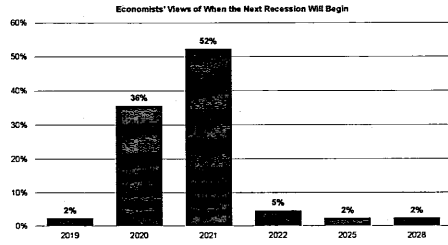
Market Indicators Weakening, But Not Yet Pointing to Imminent Recession



Source: Bloomberg, as of 6/30/2019

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When is the Next Recession?

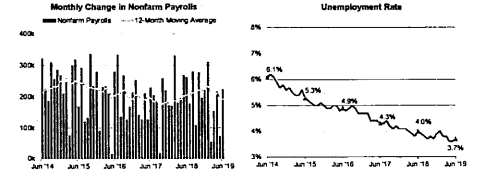


Source: Wall Street Journal, as of 5/31/19

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U.S. Job Growth Rebounds Strongly

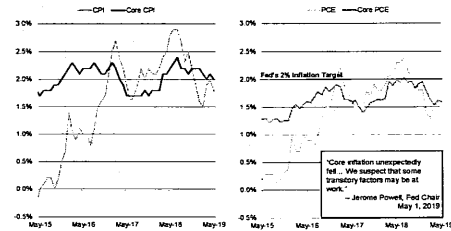
- The U.S. economy added 224,000 jobs in June, a strong comeback after a disappointing May
- The unemployment rate rose slightly to 3.7%, due to an uptick in the labor participation rate
- Average hourly earnings YoY remained at 3.1% in June for a second straight month
- For the year, the economy has added an average of 172,000 jobs, less than the 2018 average of 223,000



Source: Bloomberg, as of June 2019

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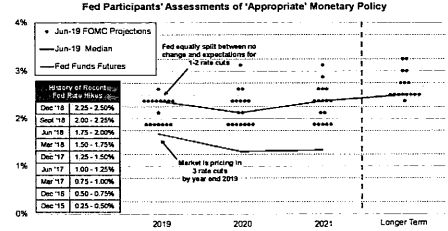
Inflation Running Persistently Below Target



Source: Bloomberg, CPI as of 5/31/19, PCE as of 5/31/19

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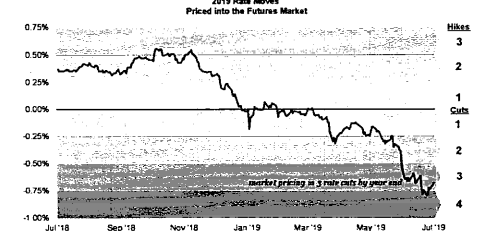
Market Projects Multiple Rate Cuts by Year End



Source: Fidelity/Reuters and Bloomberg. Details of Fed participants' judgment of the midpoint of the appropriate target range for the federal funds rate at each year-end. Fed Funds Futures as of 6/20/19

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Market Now Expects 3 Rate Cuts by Year End

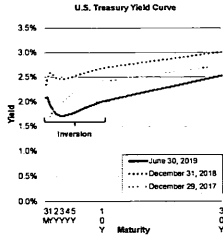


Source: Bloomberg, as of 7/1/2019

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Yield Curve Remains Partially Inverted

Tenor	6/30/2019	Year-End 12/31/18	Year-End 12/31/17
3 month	2.09%	2.35%	1.38%
1 year	1.93%	2.60%	1.73%
2 year	1.75%	2.49%	1.88%
3 year	1.71%	2.46%	1.97%
5 year	1.77%	2.51%	2.21%
10 year	2.01%	2.58%	2.41%
30 year	2.53%	3.01%	2.74%



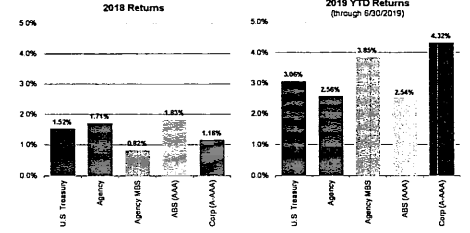
Source: Bloomberg, as of 06/30/19

Yield Environment as of June 30, 2019

Maturity	Treasury	Federal Agency	AA Corporate	A Corporate
3-Month	2.09%	2.04%	2.18%	2.34%
1-Year	1.93%	1.96%	2.15%	2.29%
2-Year	1.75%	1.89%	2.09%	2.26%
3-Year	1.71%	1.88%	2.09%	2.26%
5-Year	1.77%	1.87%	2.23%	2.42%
10-Year	2.01%	2.26%	2.68%	2.93%

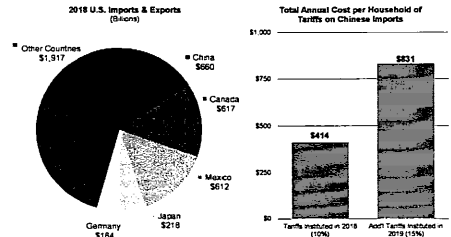
Source: Bloomberg BVAL, yield curves for Treasury and Corporate 3-month corporate yields for commercial paper A-1+ for AA and A-1 for A. Yields are for monthly periods only, actual yields may vary by issue.

Strong Fixed Income Returns Year-To-Date (1-5 Year Indices)



Source: ICE BofAML Indexes. MBS and ABS indices are 0-5 year based on weighted average life.

Trade Tensions with the United States' Largest Trading Partners Increases



Source: U.S. Census Bureau

Portfolio Characteristics and Investment Strategy

Portfolio Recap

- Interest rates plummeted in the second quarter, with yields on 2- to 5-year Treasury securities falling around 50 basis points (0.50%) to the lowest levels since 2017. Rates fell in response to slowing global growth expectations, weakness in manufacturing due to renewed trade tensions, low inflation, and expectations for multiple Fed rate cuts in the second half of the year. Much of the yield curve remains inverted, where longer-term yields are lower than short-term yields.
- U.S. equity markets reached new all-time highs in the quarter and credit-sensitive fixed income assets performed well despite elevated geopolitical risks and yield spreads on corporate bonds widening modestly over the quarter.
- Our strategy throughout the quarter included the following elements:
 - Broad diversification, generally including the widest range of permitted investments, which reduces the overall risk in the portfolio and provides the opportunity for better returns over the long term.
 - We maintained a portfolio duration in line with the benchmark. Maintaining a neutral duration—despite the inverted yield curve—drives strong market-value returns across most fixed-income sectors as market prices on fixed-income securities tend to rise as yields fall.
 - We continued to reduce federal agency and supranational allocations as their yields did not offer much value compared to treasury alternatives. This has been driven mainly by a lack of new supply, particularly in supranationals. Non-callable agencies generated small loss-performance due to their modestly higher yields, but callable agencies underperformed as lower rates increased the likelihood of a call before maturity.
 - Corporate yield spreads remain tight by historical standards but widened briefly amid trade tensions. Corporates generated excess returns for the second consecutive quarter. We focused allocations on high quality issuers with relatively less exposure to international trade risks. We also had a slight preference for industrials over financials in the quarter.
 - We continued to modestly increase agency MBS allocations, specifically agency Commercial MBS (CMBS). Performance in the agency MBS sector was mixed for the second quarter, with agency CMBS outperforming pass-through securities. Asset-backed securities (ABS), while still a core holding, were modestly reduced as spreads widened to 10-year lows throughout the first half of the quarter, providing incremental returns relative to Treasuries. By June, ABS sectors began to widen slightly but still remained low by historical standards.
 - Short-term commercial paper and negotiable bank CD yields narrowed in the second quarter, reducing their overall attractiveness. By quarter-end, the money market yield curve was also inverted.

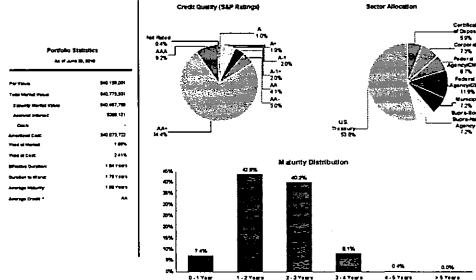
Investment Program Summary

Investment Type	Amount	Yield	Note
CSP Liquid	\$18,897,193	2.44%	Liquidity pool
		Monthly Distribution	
CSP Term	\$15,000,000	2.60%	Term maturities based on cash flow needs
		Weighted Average	
Investment Portfolio	\$40,775,931	2.41%	Yield at Cost
		1.89%	Yield at Market
			Benchmarked to the ICE BofAML 1-3 Year Treasury Index
Total	\$74,673,124		

Source: PFM Internal, 06/30/2019

HIGHLANDS RANCH METRO DISTRICT

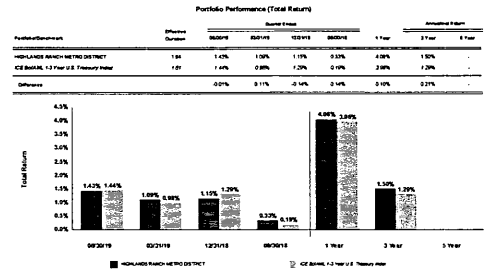
For the Quarter Ended June 30, 2019
Portfolio Snapshot



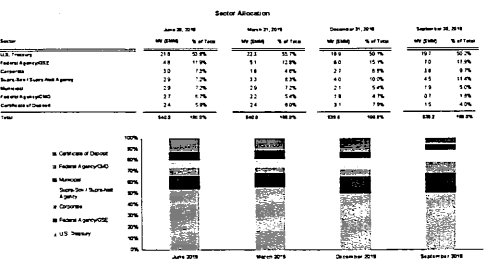
The information and strategy herein are intended to provide a general overview and do not constitute an offer of securities. See prospectus for details.

HIGHLANDS RANCH METRO DISTRICT

For the Quarter Ended June 30, 2019
Portfolio Performance



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Portfolio Holdings



Security Type/Description	Class	SP	Moody's	Trade	Settle	Original	YTM	Adjusted	Amortized	Market
SP	Moody's	Trade	Settle	Original	YTM	Adjusted	Amortized	Market	Value	Value
US Treasury	AAA	10/15/20	10/15/20	10/15/20	1.50%	100,000.00	1.50%	100,000.00	100,000.00	99,500.00
Foreign Government	AAA	01/15/20	01/15/20	01/15/20	3.00%	50,000.00	3.00%	50,000.00	50,000.00	49,800.00
Corporate	AAA	03/15/20	03/15/20	03/15/20	4.50%	200,000.00	4.50%	200,000.00	200,000.00	198,000.00
Municipal	AAA	06/15/20	06/15/20	06/15/20	2.50%	150,000.00	2.50%	150,000.00	150,000.00	149,500.00
Cash						100,000.00		100,000.00	100,000.00	100,000.00



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Investment Strategy Outlook

- While we expect U.S. and global economic growth to moderate in the second half of the year amid elevated rates to the economy, we do not believe a recession is imminent.
- The Fed has officially shifted its stance on monetary policy from "independent" to "accommodative" and rates have continued to move lower. As such, our view is to continue to maintain a positive duration in line with the benchmark in order to minimize risk and optimize performance relative to the benchmark in the event yields continue to decline. While market-implied probabilities and economic surveys strongly suggest that the Fed will cut rates as early as July, the key questions of "when" and "how much" will drive our strategy over the rest of the year.
- Our outlook for each of the major fixed income sectors is as follows:
 - Federal agency spreads are very tight and we expect them to remain so. Although callable agency spreads are wider than they have been in a while, the short-dated more in size has reduced the likelihood of underperformance.
 - In supranationals, supply constraints have led us to recalibrate our strategy to account for lower allocations. We will still seek to add opportunities to the portfolio as attractive issues become available.
 - As a result of the Fed's more accommodative stance and our positive view of the corporate sector, we will maintain corporate allocations and seek to modestly extend the duration of our allocations, while remaining diligent in our issuer and security selection process.
 - AISG spreads have recently widened back to levels that offer attractive incremental income compared to government and credit alternatives. We will seek to maintain allocations.
 - The decline in mortgage rates, increase in paydowns, and the Fed's ongoing reduction in the holdings of agency MBS on their balance sheet are expected to continue. Our focus will be on specific structures, like agency CMBX, that offer incremental income and progressive volatility.
 - Historically tight spreads have also reduced the range of high-quality, short-term credit issues that offer adequate non-market income to warrant purchase. Careful maturity selection around fixed maturity expectations will be an important consideration going forward, particularly with both the Treasury and credit yield curves widened.

IMPORTANT DISCLOSURES

This outline is based on information obtained from sources generally believed to be reliable and available to the public, however, PFM Asset Management LLC cannot guarantee its accuracy, completeness or reliability. This outline is for general information purposes only and is not intended to provide specific advice or a specific recommendation. All investments are in some way or may depend on other circumstances not covered in this outline, such as, but not limited to, the following: Assumptions may or may not be proven correct as actual events occur, and results may represent an overall picture of past or an update. Changes in assumptions may have a material effect on results. Past performance does not necessarily reflect and is not a guarantee of future results. The information contained in this presentation is not an offer to purchase or sell any securities.

- Market values that include accrued interest are shown from closing bid prices as of the last business day of the month as reported by Investment Data, Bloomberg, or Yahoo! where prices are not available from generally recognized sources, the securities are priced using a yield-based model option to price at an otherwise stated value.
- In accordance with generally accepted accounting principles, information is presented on a trade date basis, forward looking purchases are included in the monthly balances, and forward selling sales are included.
- Performance is presented in accordance with the CFA Institute's Global Investment Performance Standards (GIPS). Unless otherwise noted, performance is shown gross of fees. Quarterly returns are presented on an annualized basis. Returns for periods greater than one year are presented on an annualized basis. Past performance is not indicative of future returns.
- Direct of Asset Manager (Leads Index provided by Bloomberg Finance Markets).
- Money market fund returns are included in performance and duration comparisons.
- Standard & Poor's is the source of the credit ratings. Distribution of credit rating is a measure of money market fund, LRD, OP holdings.
- Certain securities in the portfolio are included in the industry distribution analysis for their related industry risk, although, they may be listed prior to industry.
- MBS includes are represented by reported average life.

GLOSSARY

- ACCRUED INTEREST: Interest that is due on a bond or other fixed income security since the last interest payment was made.
- AGENCY: Federal agency securities under Government sponsored enterprises.
- AMORTIZED COST: The original cost of the principal of the security is adjusted for the amount of the periodic reduction of any amount or premium from the purchase date until the date of the report. Discount or premium with respect to short-term securities (those with less than one year to maturity at time of reporting) is amortized on a straight line basis. Such discount or premium with respect to longer term securities is amortized using the constant yield basis.
- BANKRUPT ACCEPTANCE: A bond or bill or exchange accepted by a bank or trust company. The accepting institution guarantees payment of the bill as well as the issuer.
- COUNTERFOLIO PURCHASE: An investment obligation issued by a corporation or bank to finance its short-term credit needs, such as accounts receivable and inventory.
- CONTRIBUTION TO DURATION: Represents each sector or maturity range's relative contribution to the overall duration of the portfolio, measured as a percentage weighting. Since duration is a key measure of interest rate sensitivity, the contribution to duration measures the relative amount or contribution of that sector or maturity range to the total rate sensitivity of the portfolio.
- DURATION TO ADJUST: A measure of the sensitivity of a security's price to a change in interest rates, stated in years, computed from each issue to the maturity date or to the put date, whichever results in the highest yield to the investor.
- EFFECTIVE DURATION: A measure of the sensitivity of a security's price to a change in interest rates, stated in years.
- EFFECTIVE YIELD: The yield paid on a security relative to the nominal price or coupon of a bond. Effective yield takes into account the power of compounding on investment returns, while nominal yield does not.
- FDIC: Federal Deposit Insurance Corporation. A federal agency that insures bank deposits to a specified amount.
- INTEREST RATE: Interest per year divided by principal amount and expressed as a percentage.
- MARKET VALUE: The value that would be received or paid for an investment in an orderly transaction between market participants at the measurement date.
- MATURITY: The date upon which the principal or stated value of an investment becomes due and payable.
- NEGOTIABLE CERTIFICATE OF DEPOSIT: A CD with a very large denomination, usually \$1 million or more, that can be broken in necessary increments.
- PAR VALUE: The nominal face amount of a security.

GLOSSARY

- PASS THROUGH SECURITY: A security representing pooled debt obligations that passes through from issuer to its shareholders. The most common type is the mortgage-backed security.
- REPURCHASE AGREEMENTS: A holder of securities sells them back to the issuer with an agreement to repurchase them at a fixed price on a fixed date.
- SETTLE DATE: The date on which the transaction is settled and commitments are exchanged. If the settle date of the transaction (i.e., coupon payments and maturity payments) occurs on a non-business day, the date is postponed to the next business day.
- TRADE DATE: The date on which the transaction occurred, however, the final consummation of the security transaction and payment has not yet taken place.
- UNSETTLED TRADE: A trade which has been executed, however, the final consummation of the security transaction and payment has not yet taken place.
- U.S. TREASURY: The department of the U.S. government that issues Treasury securities.
- YIELD: The rate of return based on the current market value, the annual interest received, maturity value, and the time period remaining until maturity, stated as a percentage on an annual basis.
- YTM AT COST: The yield to maturity at cost as the expected rate of return based on the original cost, the annual interest received, maturity value, and the time period then purchase date to maturity, stated as a percentage on an annualized basis.
- YTM AT MARKET: The yield to maturity at market as the rate of return based on the current market value, the annual interest received, maturity value, and the time period remaining until maturity, stated as a percentage on an annualized basis.