To Hedge or Not to Hedge…

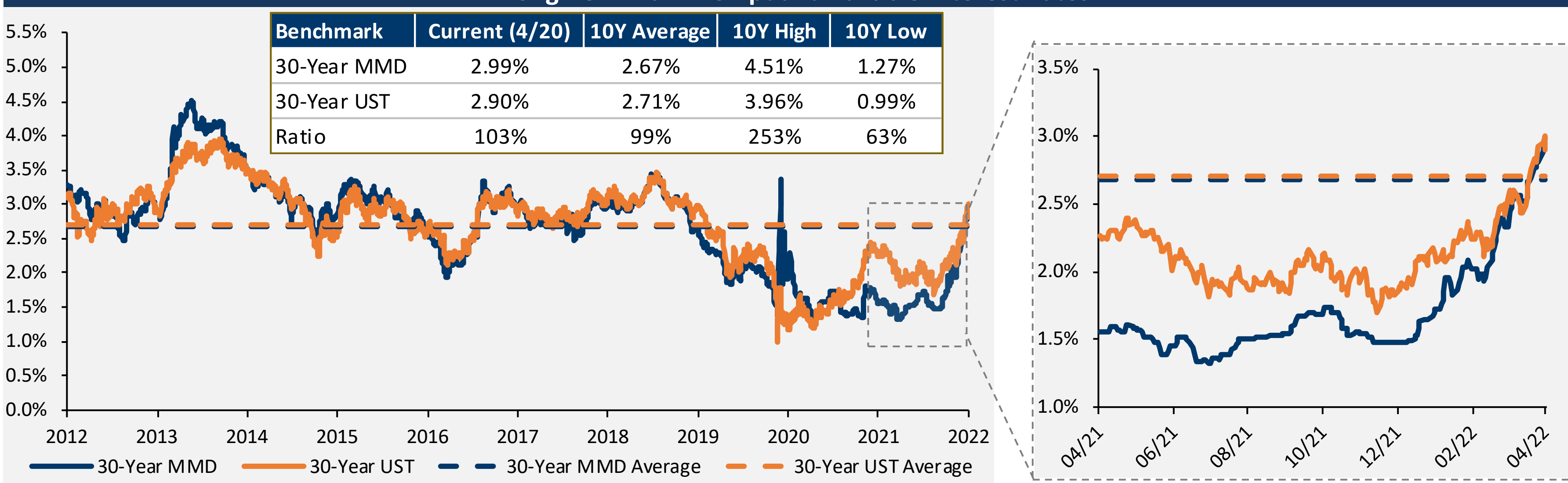
April 26, 2022

A Changing Market…

- Tax-exempt and taxable long-term interest rates have been increasing
  - Since January 2022
    - 30-year MMD has increased by 149 bps
    - 30-year Treasury has increased by 89 bps
  - After 3+ years of below average interest rates, we are above the 10-year average for long-term taxable and tax-exempt rates

Long-Term Tax-Exempt and Taxable Interest Rates

Benchmark	Current (4/20)	10Y Average	10Y High	10Y Low
30-Year MMD	2.99%	2.67%	4.51%	1.27%
30-Year UST	2.90%	2.71%	3.96%	0.99%
Ratio	103%	99%	253%	63%



Source: Thomson Municipal Market Monitor and the U.S. Department of the Treasury, as of April 20, 2022.

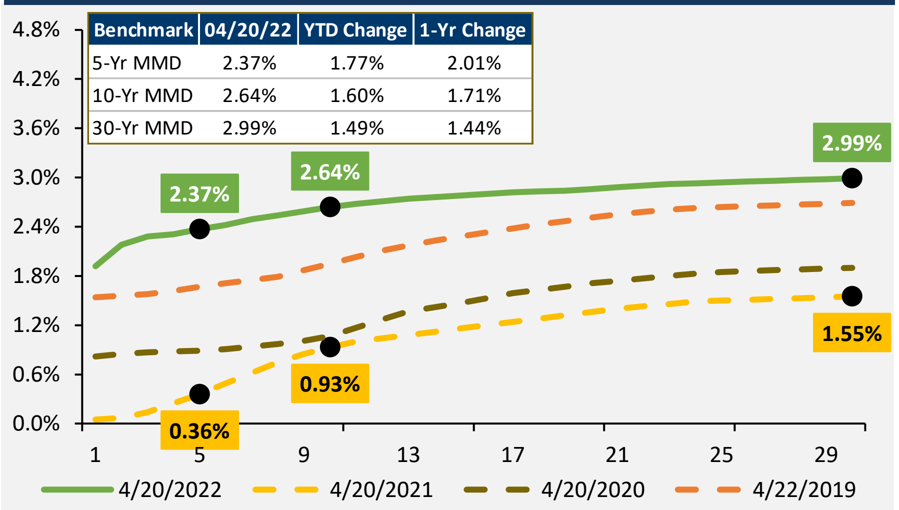
Rates are Increasing and the Yield Curve is Flattening

- Short-term rates are increasing faster than long-term rates
  - The yield curve is flattening as short-term rates increase at a faster pace than long-term rates
  - Currently, taxable short-term rates are approximately the same as taxable long-term rates
- Drivers include real and perceived inflation, the Fed rate hike in March 2022 with more rate hikes expected, and geo-political risk factors, particularly with Russia’s invasion of Ukraine
- Economic forecasts indicate continued rate hikes (market consensus is an increase of 175 bps by year-end)

Tax-Exempt and Taxable Yield Curves Recent Trends

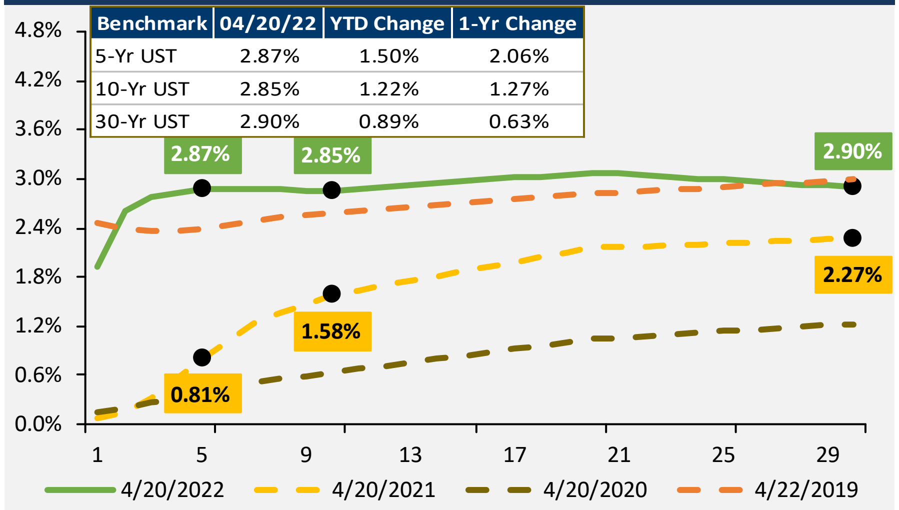
MMD Yield Curve

Benchmark	04/20/22	YTD Change	1-Yr Change
5-Yr MMD	2.37%	1.77%	2.01%
10-Yr MMD	2.64%	1.60%	1.71%
30-Yr MMD	2.99%	1.49%	1.44%



UST Yield Curve

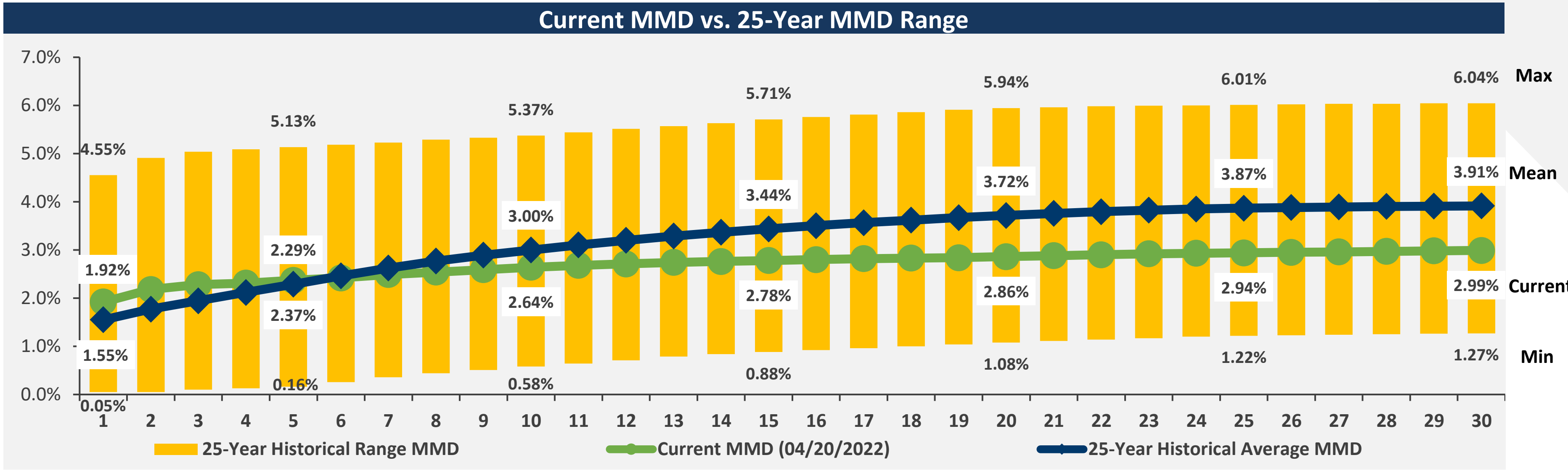
Benchmark	04/20/22	YTD Change	1-Yr Change
5-Yr UST	2.87%	1.50%	2.06%
10-Yr UST	2.85%	1.22%	1.27%
30-Yr UST	2.90%	0.89%	0.63%



Source: Thomson Municipal Market Monitor and the U.S. Department of the Treasury, as of April 20, 2022.

However, Rates are Still Well Below Their 25-year Averages

- While rates have clearly increased, on a historic basis, long term interest rates are still in the bottom half when looking at a 25-year history
- As of April 20, the 30-year tax-exempt rate of 2.99% was 92 basis points below the 25-year average of 3.91%



Source: Thomson Municipal Market Monitor and the U.S. Department of the Treasury, as of April 20, 2022.

Our Clients Are Asking: Should We Hedge?

- <u>Melio & Company's Words of Wisdom</u>:
  - Don't try to outsmart the market, especially the bond market
  - While rates may be trending up, it's difficult to predict what will happen in the future
    - Often what is known/expected is already reflected in today's rates
    - Long term fixed rates are still low relative to historic averages
    - Do you (borrower) have a strong view on the direction of rates?
  - It is impossible to structure a perfect hedge and the closer we get to perfect, the more expensive the forward premium is
    - You can't eliminate all pricing risk
    - There is credit spread risk (which can reflect more than just "pure" credit)
  - Are we trying to lock in savings through a refunding? If so, there may be more compelling reasons to hedge
  - If new money, can we break the financing into multiple parts to achieve a semblance of a hedge, ie enter markets at different points?
    - We almost always recommend not hedging more than half of a bond issue
  - Hedges are not free – there are fees, which are often obscure at best

Our Clients Are Asking: Should We Hedge?

- There's no perfect hedge…
  - The closer you get to perfect, the more you'll pay…