Pipeline companies in a rising rate environment

December 2022

- Historically, pipeline companies have outperformed bonds and other yield-oriented securities in a rising rate environment.
- MLPs and pipelines companies outperformed bond returns in 13 of 16 periods of rising rates since 2000 by an average margin of 13.7% and 10.9%, respectively. Pipeline companies have typically fared better than bonds and other yield-oriented securities during a rising interest rate environment, but it is important to remember that they are not immune.
- While the persistence of this inflation continues to be debated, the result remains a clear preference for inflation protected holdings including commodities and real assets.

	10-year Treasury yield change	MLP Index returns	Pipeline company returns	Bond returns	Equity returns
Average return during time periods with rising rates since 2000	**1.0%**	**11.2%**	**8.4%**	**-2.5%**	**6.5%**

10-year Treasury yield change source = Bloomberg. MLPs = Tortoise MLP Index®. Pipelines = Tortoise North American Pipeline Index℠. Bonds = Bloomberg Barclays U.S. Aggregate Bond Index. Equities = S&P 500® Index. It is not possible to invest directly in an index. Returns shown are period specific and are not annualized. Please see chart below for more information.

Past performance is no guarantee of future results.

Let's take a look at both the potential direct and indirect effects of rising rates on pipeline companies.

Direct effects

The direct relationship is fairly simple as it reflects how increasing interest expenses can affect variable or floating rate debt held by companies. The key mitigating factor is that pipeline companies have historically been very conservative in terms of their debt structure. Midstream companies, including long-haul crude oil, refined product and natural gas pipeline companies generally utilize 80% to 100% fixed-rate debt, making their cash flow growth and longer-term performance less sensitive to higher rates. In short, we believe the direct impact of rising rates on pipeline companies is minimal and in our view will not significantly hinder growth.

Indirect effects

The indirect effect of higher interest rates on midstream energy relates to their impact on total return. There are three main factors that can provide a buffer to rising rates:

1. ability to pass through inflation in tariff rates or benefit from increased demand
2. focus on internal growth versus external growth - this has shifted significantly in recent years as companies are now free cash flow positive and any spending comes from internal cash flow from operations
3. excess coverage can allow for slightly lower returns on invested capital

The catalyst for rising rates is typically either rising inflation or an improving economy. Both have potential benefits for midstream energy:

- A strengthening economy benefits pipeline companies transporting energy because an increase in aggregate demand typically leads to more volumes transported.
- If inflation is the catalyst, liquids pipeline companies can receive a boost in their tariff rate by an amount based on the change in the producer price index (PPI).

History as teacher

MLP and pipeline companies, like all distribution-paying entities, can experience some short-term volatility during periods of rising rates. Historically, midstream energy companies have experienced short-term volatility when interest rates increased, followed by a rebound and solid long-term performance.

The following table reflects our analysis of the past 16 periods of one or more consecutive months with a 50 basis point or more increase in the 10-year Treasury since 2000. During those periods, the 10 year treasury yield change has averaged 1.0%, MLPs returned 11.2% and pipeline companies returned 8.4%, compared to -2.5% for bonds and 6.5% for U.S. equities.

As of 12/31/2022 *Time periods are determined using end of month yields and returns. Periods shown are those where the 10-year Treasury yield increased

Impact of rising interest rates on pipeline companies

Time period	10-year Treasury yield change	MLP returns	Pipeline company returns	Bond returns	Equity returns
3/2001 - 6/2001	0.5%	11.0%	-1.4%	1.1%	-0.9%
11/2001 - 3/2002	1.2%	0.8%	1.7%	-1.9%	8.9%
10/2002 - 11/2002	0.6%	0.2%	2.7%	-0.5%	15.2%
6/2003 - 8/2003	1.1%	7.3%	2.6%	-2.9%	5.1%
4/2004 - 5/2004	0.8%	-8.6%	-2.8%	-3.0%	-0.2%
9/2005 - 6/2006	1.1%	-0.2%	5.0%	-1.2%	5.7%
4/2008 - 5/2008	0.6%	8.3%	11.5%	-0.9%	6.2%
1/2009 - 6/2009	1.3%	32.9%	10.9%	1.9%	3.2%
12/2009	0.6%	6.9%	7.0%	-1.6%	1.9%
9/2010 - 3/2011	1.0%	24.6%	32.1%	-0.8%	27.8%
5/2013 - 8/2013	1.1%	-0.9%	-2.6%	-3.7%	3.0%
2/2015 - 6/2015	0.7%	-5.1%	-1.9%	-2.2%	4.4%
8/2016 - 1/2017	1.0%	9.4%	10.6%	-3.0%	6.0%
9/2017 - 4/2018	0.8%	-4.2%	-3.5%	-2.3%	8.4%
10/2020 - 3/2021	1.1%	57.2%	39.1%	-2.7%	19.1%
8/2021-10/2022	2.8%	38.9%	23.7%	-16.6%	-10.2%
Averages	**1.0%**	**11.2%**	**8.4%**	**-2.5%**	**6.5%**

by at least 50 basis points over one or more consecutive months. Returns are period-specific and are not annualized. 10-year Treasury yield change source = Bloomberg. MLP returns source = Tortoise MLP Index® (as of 1/1/2000). Pipeline returns source = Tortoise North American Pipeline Index℠ (as of 1/1/2000). Bond returns source = Bloomberg Barclays U.S. Aggregate Bond Index. Equity returns source = S&P 500® Index. It is not possible to invest directly in an index.
Past performance is no guarantee of future results.

Looking ahead

We believe pipeline companies remain attractive long-term investments in both periods of economic growth and uncertainty. If higher interest rates are a result of accelerating economic growth and / or increased inflation, pipeline companies are well positioned to benefit through greater volumes transported and / or higher tariffs.

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MLPs are subject to many risks, including those that differ from the risks involved in an investment in the common stock of a corporation. Holders of MLP units have limited control and voting rights on matters affecting the partnership. Holders of units issued by an MLP are exposed to a remote possibility of liability for all of the obligations of that MLP in the event that a court determines that the rights of the holders of MLP units to vote to remove or replace the general partner of that MLP, to approve amendments to that MLP's partnership agreement, or to take other action under the partnership agreement of that MLP would constitute "control" of the business of that MLP, or a court or governmental agency determines that the MLP is conducting business in a state without complying with the partnership statute of that state. Holders of MLP units are also exposed to the risk that they will be required to repay amounts to the MLP that are wrongfully distributed to them. In addition, the value of an investment in an MLP will depend largely on the MLP's treatment as a partnership for U.S. federal income tax purposes. If an MLP does not meet current legal requirements to maintain partnership status, or if it is unable to do so because of tax law changes, it would be treated as a corporation for U.S. federal income tax purposes. In that case, the MLP would be obligated to pay income tax at the entity level and distributions received by an investor generally would be taxed as dividend income. Furthermore, MLP interests may not be as liquid as other more commonly traded equity securities.

The Tortoise MLP Index® is a float-adjusted, capitalization-weighted index of energy master limited partnerships (MLPs). The Tortoise North American Pipeline Index℠ is a float-adjusted, capitalization-weighted index of pipeline companies domiciled in the U.S. and Canada. The Bloomberg Barclays U.S. Aggregate Bond Index is a broad-based flagship benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes treasuries, government-related and corporate securities, mortgage-backed securities (agency fixed-rate and hybrid adjustable rate mortgage pass-through securities), commercial mortgage-backed securities (agency and non-agency) and asset-backed securities. The S&P 500® Index is an unmanaged, market-value weighted index of stocks that is widely regarded as the standard for measuring large-cap U.S. stock market performance. It is not possible to invest directly in an index.

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