



# Taking the Passive Versus Active Debate to MLPs

## // Table of Contents

Executive Summary	3
A Crowd of MLP Investment Products	4
Study Parameters and Assumptions	5
<b>Excess Return: We Can't All Be Above Average</b>	6
<i>Compares AMZ performance against that of actively managed MLP funds</i>	
<b>Distribution Growth: Show Me the Money</b>	7
<i>Compares AMZ/AMJ distribution growth against that of actively managed MLP funds</i>	
<b>Fund Overlap, Beta, and R-Squared: Closet Indexing?</b>	8
<i>Addresses whether actively managed MLP funds are engaging in closet indexing</i>	
<b>Sharpe, Treynor, Alpha: What's the Trade-Off?</b>	10
<i>Compares risk-adjusted returns and quantifies alpha generation by active managers</i>	
<b>Fees and Turnover: What's the Cost?</b>	
<i>Fees: Details the spectrum of fees charged by MLP investment products</i>	12
<i>Turnover: Compares AMZ turnover against that of actively managed MLP funds</i>	13
<b>Other Considerations</b>	
<i>Taxes: All C-corp MLP funds accrue taxes at the fund level</i>	14
<i>Return of Capital: Not all distribution characteristics always flow through</i>	15
<b>Exhibits</b>	16

## // Executive Summary

**Passive versus active investing?** Advocates of passive investing note that over the long term and after factoring in fees, active managers are unable to consistently outperform the index to which they benchmark their performance. Advocates of active investing argue that with extensive research on individual companies, selective investing, and close monitoring of a portfolio, a portfolio manager can generate alpha, or risk-adjusted outperformance versus a benchmark. This white paper is intended to narrow the passive versus active discussion to the context of MLP investing, where 90 passively and actively managed products have been launched since 2004.

While Alerian's corporate model is built on indices and passive investing, our brand depends on our ability to present all available facts on a given topic to equip investors to make the most informed decision when it comes to their MLP investment.

In this study, actively managed MLP funds are compared against the Alerian MLP Index (AMZ), the leading gauge of energy MLPs, with standard investment metrics such as performance, Sharpe ratio and alpha, as well as MLP-specific metrics such as distribution growth. Moreover, MLPs were thinly traded relative to other asset classes until recently.<sup>1</sup> The investment bias towards liquid, large-cap names demands a closer look as to whether instances of closet indexing are occurring.

Of the 29 funds evaluated in this study, 15 funds currently use the AMZ as their primary benchmark or as one of many benchmarks.<sup>2</sup> The remaining 14 funds do not use the AMZ as a benchmark.<sup>3</sup>

The study is divided into four sections assessing return, closet indexing, risk trade-off, and other considerations.

### The following conclusions can be drawn from this study:

#### Over the long term, actively managed MLP funds underperform the AMZ

Over the trailing 10- and 5-year periods, MLP closed-end funds underperformed the AMZ. MLP mutual funds have not been in existence long enough to have 10- and 5-year track records. During the last four years, even when an implied tax rate was applied to the AMZ, MLP mutual funds underperformed their benchmark. However, during the three-year period between 2012-2014, MLP closed-end funds and mutual funds outperformed their benchmark by 1.4% and 1.3%, respectively.

#### MLP distribution growth outpaces that of actively managed MLP funds

Over the trailing nine- and three-year periods, MLP closed-end funds increased their distributions to investors by an annual average of 4% and 5%, respectively, as compared to the benchmark at 7% for both time frames. Over the last three years, MLP mutual funds increased their distributions by an annual average of 1%, as compared to the benchmark at 7%. Investors favoring distribution growth in an actively managed MLP fund should consequently seek out MLP closed-end funds.

#### MLP mutual funds display a strong case of closet indexing

While MLP mutual funds fall short on performance, they have comparable volatility numbers (beta: 0.9) and high correlations (R-squared: 0.9) to the AMZ, presenting a strong case for closet indexing. The data on MLP closed-end funds is not statistically significant, and therefore inconclusive as to whether closet indexing is occurring. Closet indexing is viewed negatively because an investor could have invested in an index fund with lower fees to achieve similar risk-adjusted results.

#### MLP mutual funds have not generated strong alpha over the long term

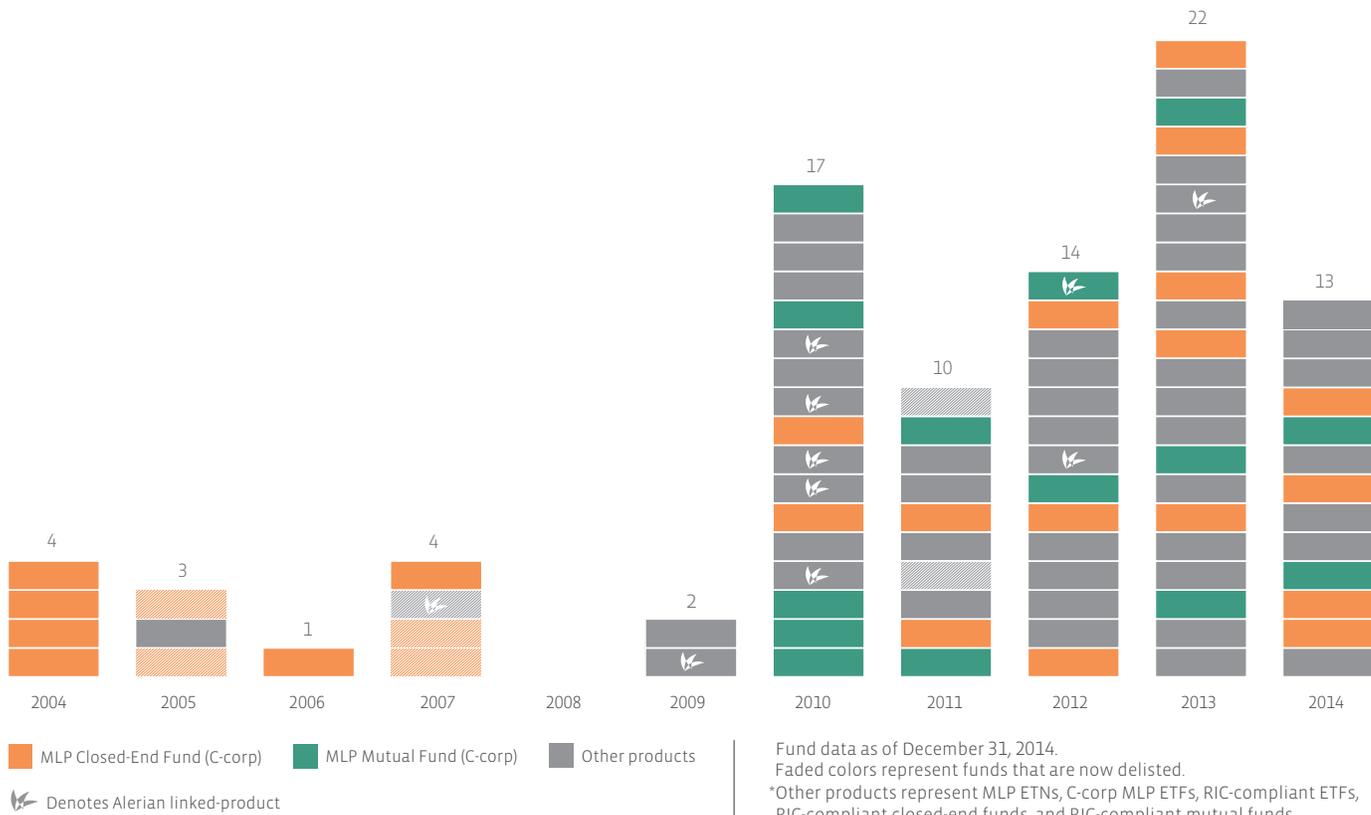
In 2014, MLP mutual funds generated a median alpha of 3.5%. However, over the trailing four- and three-year periods, MLP mutual funds generated low median alphas of -1.2% and 0.1%, respectively. High R-squared values (0.9) for MLP mutual funds versus the AMZ during these time periods further strengthen the statistical significance of the alpha data. R-squared values for MLP closed-end funds versus the AMZ were not high for the trailing 10-year, 5-year, and 3-year periods, rendering the data inconclusive as to whether they generated strong alpha.

1 // Median daily trading volume for all MLPs was \$1.2 billion as of June 30, 2015, or 15.8 times higher than 10 years ago, when trading volume totaled \$73.8 million.

2 // Alternative benchmarks to the AMZ include the S&P 500 (6 funds), Wells Fargo Midstream MLP Index (2 funds), Barclays Capital US Credit Index of Corporate Bonds (1 fund), and Lipper Energy MLP Funds Average (1 fund).

3 // Alternative benchmarks include the S&P 500 (5 funds), Lipper Energy MLP Closed End Funds Average (4 funds), and Tortoise MLP Index (4 funds). Three funds did not mention a benchmark in their public filings.

# // A Crowd of MLP Investment Products

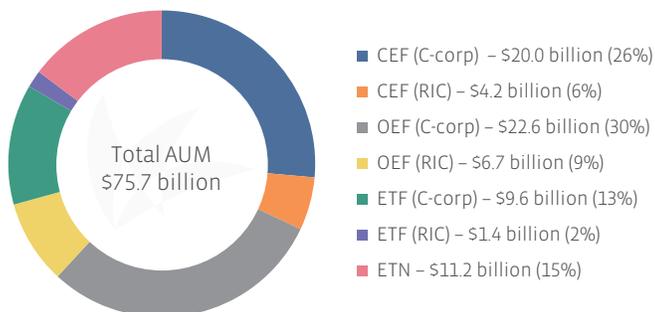


Since 2004, managers have launched 90 MLP investment products, and 83 are still in existence today.<sup>4</sup> These products fall into four categories: closed-end funds, mutual funds, exchange-traded funds (ETFs), and exchange-traded notes (ETNs). Aside from ETNs, each of these categories can be further divided into “C-corp” MLP funds and “RIC-compliant” MLP funds.<sup>5</sup> In total, investors seeking MLP exposure can choose between seven types of investment products. The charts below break out these products by total assets and number.

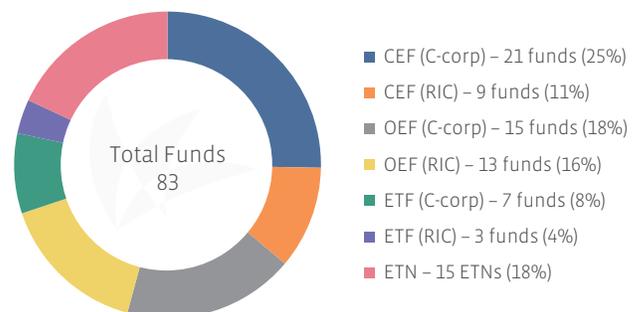
While many of these funds are marketed as MLP funds, the performance, distribution growth, and yield of a C-corp mutual fund should not be directly compared to a RIC-compliant MLP fund, as the latter is limited to 25% MLP exposure.

This study only evaluates C-corp MLP closed-end funds launched before 2014 (17 funds) and C-corp MLP mutual funds launched before 2014 (12 funds) that are actively managed.

## MLP investment product profile



AUM data as of February 28, 2015 for funds existing as of December 31, 2014  
OEF, or open-end fund, refers to mutual fund in the chart above



Fund data as of December 31, 2014

4// The investment product number excludes futures, international products, variable insurance portfolios, and unit investment trusts (UITs), among others.

5// Under current law, 40 Act funds seeking to retain pass-through status are prohibited from owning more than 25% of their assets in MLPs. Funds that abide by this law have come to be called “RIC-compliant” MLP funds. There are funds that have more than 25% of their assets in MLPs; however, these funds are no longer pass-through structures and are required to pay taxes at the fund level. Functionally, this means that fund performance is reduced by the amount of taxes accrued. The taxes will be owed when positions are sold. Think of it like your employer withholding a certain portion of income taxes. In this case, the fund withholds (or accrues) a portion of the returns. Despite the tax accrual, these funds are also able to preserve the return of capital benefit for their investors, and since they can own 100% MLPs, the percentage of income that is classified as return of capital is generally higher. Funds that own more than 25% MLPs in their portfolio have come to be called “C-corp” MLP funds. For more information, refer to the “Taxes” subsection on page 14.

## // Study Parameters and Assumptions

### Study parameters

- The study only evaluates actively managed C-corp MLP closed-end funds and C-corp MLP mutual funds. These funds generally have a mandate to own at least 80% MLPs in their portfolios.
- The study does not evaluate actively managed RIC-compliant closed-end funds and mutual funds, as these funds are limited to 25% MLP exposure. It would consequently be inappropriate to benchmark these RIC-compliant funds to an index that is entirely composed of MLPs.
- The study does not evaluate exchange-traded notes (ETNs) and exchange-traded funds (ETFs) because most of these products track an index and are not actively managed.<sup>6</sup> The study is intended to compare active MLP strategies to their benchmark, and not compare indices to each other.

### Data parameters

- All data has been compiled from US Securities and Exchange Commission (SEC) filings and publicly available press releases.
- For comparison purposes, only full-year data was used in the study. For example, if a fund launched in May 2012, only full-year 2013 performance has been used. Thus, funds launched in 2014 have not been included in the study.
- Fund averages and medians are used to present study findings. Some funds have outperformed their benchmark during certain time periods. Performance, dividend growth, holdings overlap, beta, R-squared, Sharpe ratio, Treynor ratio, and alpha for individual funds are available in the Exhibits section starting on page 16.

### Passive benchmarks

- The AMZ was assigned as the appropriate benchmark for C-corp MLP closed-end funds.<sup>7</sup>

C-corp MLP closed-end funds are subject to taxation at the fund level, resulting in the accrual of deferred tax liabilities (DTLs) associated with the capital appreciation of investments. However, closed-end funds can employ leverage—typically up to 33% of the fund's net assets—which can offset a significant amount of fund taxation.

- The AMZ (After Tax) was assigned as the appropriate benchmark for C-corp MLP mutual funds.

C-corp MLP mutual funds are also subject to taxation at the fund level, resulting in the accrual of DTLs associated with the capital appreciation of investments. With one exception, C-corp MLP mutual funds do not employ leverage. Thus, for comparison purposes, an “AMZ (After Tax)” benchmark was calculated whereby an assumed 37.5% tax rate was applied to daily performance changes of the AMZ.

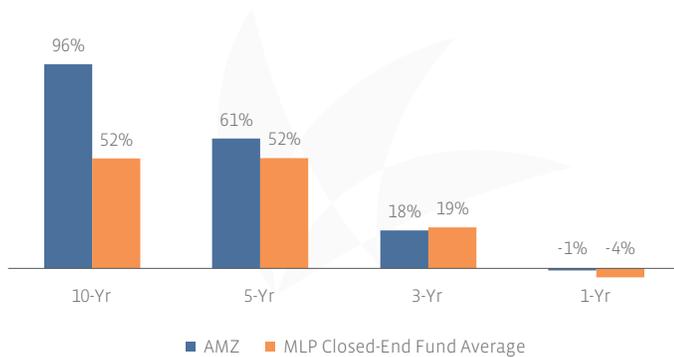
<sup>6</sup> // As of June 30, 2015, there is one actively managed C-corp MLP ETF and one actively managed RIC-compliant MLP ETF.

<sup>7</sup> // As of June 30, 2015, there are 127 energy MLPs. The Alerian MLP Index (AMZ) is the leading gauge of large- and mid-cap energy Master Limited Partnerships (MLPs). The float-adjusted, capitalization-weighted index, includes 50 prominent companies and captures approximately 75% of available market capitalization.

## // Excess Return: We Can't All Be Above Average

While there are many factors that investors consider when choosing an investment product, the one that garners the most attention is performance. The widespread theory is that over the long term, after factoring in fees, most active managers fail to consistently outperform the index to which they benchmark. Has this been the case for actively managed MLP funds?

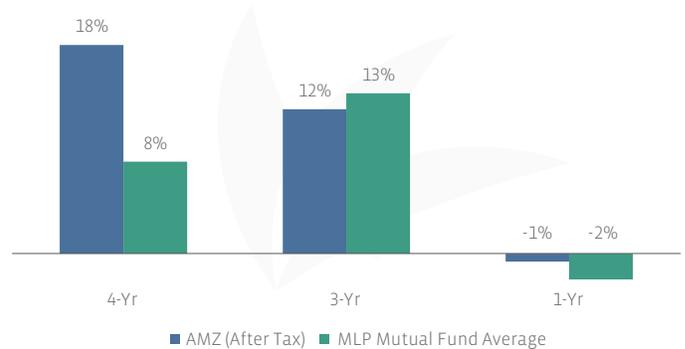
### Price performance: AMZ vs. MLP closed-end funds (2005–2014)



The first four MLP closed-end funds were launched in 2004. Over the last 10 years (December 31, 2004 to December 31, 2014), these four funds returned an average of 52%. In the same time frame, the AMZ returned 96%.<sup>8</sup> However, during the three-year period from December 31, 2011 to December 31, 2014, the average performance of MLP closed-end funds exceeded that of the AMZ by 1.4%.

While the study only looks at price performance, it is important to note that when MLP closed-end funds employ leverage, the resulting yield of the fund may be higher. Thus, all else being equal, the outperformance of the AMZ versus MLP closed-end funds could narrow in the 10-year and 5-year periods when taking into account total return.

### Price performance: AMZ (After Tax) vs. MLP mutual funds (2011–2014)



The first MLP mutual funds were launched in 2010. Over the last four years (December 31, 2010 to December 31, 2014), these five funds returned an average of 8%. In the same time frame, the AMZ (After Tax) returned 18%. Similar to MLP closed-end funds, during the last three years, MLP mutual funds outperformed the AMZ (After Tax) by 1.3%.

For a breakout of performance by fund, refer to Exhibits 1.1 and 1.2 on page 16.



#### Outperformance?

Historically, passive MLP investment strategies generated higher returns over longer periods.

<sup>8</sup> // The data does not take into account an annual fee for the AMZ, as indices do not have annual fees. For comparison purposes, annual fees for index-linked MLP exchange-traded products range from 0.45% to 0.95%, with an average of 0.83%.

## // Distribution Growth: Show Me the Money

In the MLP world, cash is king. This section compares annual distribution growth rates between actively managed MLP funds and their passive benchmark.

While an index is designed to capture the overall market, an active strategy may focus on delivering above-average returns by investing in MLPs with stronger distribution growth profiles.

Note: Since the AMZ is not investable and does not pay distributions, the income growth numbers since 2011 of the JPMorgan Alerian MLP Index ETN (AMJ) have been used as a comparable passive investment option.<sup>9</sup>

The chart below shows that over the long and short term, AMZ/AMJ distribution growth exceeded that of both MLP closed-end funds and MLP mutual funds.

It is also worth noting that MLP mutual fund distribution growth is significantly lower than that of AMJ and MLP closed-end funds.

For a breakout of distribution growth by fund, refer to Exhibit 2.1 and Exhibit 2.2 on page 16.

### Distribution growth: AMZ/AMJ vs. MLP closed-end funds (2006–2014) vs. MLP mutual funds (2012–2014)

2006	2007	2008	2009	2010	2011	2012	2013	2014	3-Yr Annualized	9-Yr Annualized
AMZ 11%	AMZ 10%	AMZ 11%	AMZ 3%	AMZ 6%	AMJ 6%	AMJ 6%	AMJ 8%	AMJ 6%	AMJ 7%	AMZ/AMJ 7%
MLP CEFs 11%	MLP CEFs 10%	MLP CEFs 9%	MLP CEFs -9%	MLP CEFs -2%	MLP CEFs 4%	MLP CEFs 5%	MLP CEFs 4%	MLP CEFs 4%	MLP CEFs 5%	MLP CEFs 4%
						Mutual Fund 2%	Mutual Fund 1%	Mutual Fund 0%	Mutual Fund 1%	

**AMZ:** Weighted-average year-over-year distribution growth. Weights are based off quarterly rebalancing weights. **AMJ:** Year-over year distribution growth based off the sum of distributions paid in the calendar year. **MLP closed-end fund average, MLP mutual fund average:** The average of annual distribution growth rates. Distribution growth rate per fund is based off the sum of distributions paid in the calendar year. Base year must represent a full year of distributions.



#### Higher distribution growth?

Distribution growth is highest for the passive benchmark, followed by MLP closed-end funds. MLP mutual fund distribution growth has been marginal since inception.

<sup>9</sup> // AMJ was launched in April 2009. Annual income growth values are calculated based off a full year of income paid. Thus, the first income growth value calculated for AMJ represents full-year 2011 income paid compared to full-year 2010 income paid.

## // Fund Overlap, Beta, and R-Squared: Closet Indexing?

If an actively managed fund owns many of the same securities as its benchmark, has a volatility level similar to that of its benchmark, and has a strong performance correlation to its benchmark, this fund might be diagnosed with a case of closet indexing. Investors in so-called "index huggers" might be better off saving money on fees and finding product exposure to the benchmark. This section analyzes fund overlap, beta values, and R-squared values to determine whether or not actively managed MLP funds are engaging in closet indexing.

### Fund overlap

Fund overlap is determined by comparing the holdings and weights of a fund with its benchmark. As of November 30, 2014, the weight overlap between the AMZ and the average MLP closed-end fund was 46%; the overlap between the AMZ and the average MLP mutual fund was 39%.<sup>10</sup> In other words, a majority of the weight of actively managed MLP funds looks different than the benchmark.<sup>11</sup> Fund overlap analysis only represents one point in time, and while easy to calculate, may not always paint the full picture.



For a breakout of overlap by fund, refer to Exhibits 3.1 and 3.2 on page 17.

### Beta and R-squared values

Another way to determine if a fund is engaging in closet indexing is to look at beta and R-squared values, which take into account performance and correlation over time. Before comparing actively managed MLP funds to the AMZ, here's a refresher on beta and R-squared values, using the AMZ and the S&P 500 as an example.

Beta is a way of measuring volatility versus a particular benchmark. For US equities, the commonly accepted proxy for the "overall market" is the S&P 500. A beta significantly above 1.0 is considered high and implies that the investment is more volatile than the market. A beta around 1.0 is considered average and implies that the investment has a volatility that is comparable to the market's. A beta significantly below 1.0 may mean that an investment is less volatile than the market, or it could mean that the investment's price movements are uncorrelated to the market.<sup>12</sup> A positive beta implies a positive correlation to the market, whereas a negative beta implies a negative correlation to the market.

The trailing 10-year beta of the AMZ versus the S&P 500 is 0.57. This means that MLPs are either less volatile than the S&P 500, moderately correlated to the broader US equity market, or both. The beta of the AMZX—the total return version of the AMZ—versus the S&P 500 Total Return Index is even lower at 0.43.

R-squared values are often used in conjunction with beta to determine the significance of the beta value and the strength in correlation. Generally, an R-squared less than 25% is indicative of a less relevant beta value and a low correlation versus the benchmark, an R-squared value between 50%-75% suggests a moderately useful beta value and average correlation, and an R-squared value above 75% points to useful beta values and strong correlation.<sup>13</sup> An R-squared above 90% is generally accepted as being statistically significant.

The R-squared value for MLPs versus the S&P 500 is 0.26. While a low R-squared value is generally inconclusive, given that MLPs have both a low beta and a low R-squared value as well as a standard deviation comparable to the S&P 500, it is reasonable to conclude that MLPs are weakly correlated to the S&P 500 over the long term. As such, MLPs may offer opportunities for investors seeking diversified alternative investments.

Now we can compare actively managed MLP funds with the AMZ, representing the overall MLP market and a beta of 1. Low R-squared values may render conclusions drawn to be statistically insignificant.

10 // Most MLP closed-end funds and mutual funds have fiscal years ending November 30.

11 // When narrowing the benchmark to energy infrastructure MLPs, as measured by the Alerian MLP Infrastructure Index (AMZI), the overlap is slightly higher at 49% for MLP closed-end funds and 43% for MLP mutual funds.

12 // An investment may be highly volatile but not move in the same direction or at the same time as the market does.

13 // A good value for R-squared depends on different variables, including how values are measured and the decision-making context. "What is a good value for R-squared?" Robert Nau, Duke University. 2014. <http://people.duke.edu/~rnau/rsquared.htm>

If an actively managed MLP fund has a high R-squared value, the following conclusions could be drawn:

<b>High beta, high R-squared</b>	Investor may be taking on more absolute risk versus benchmark	<i>Compare Sharpe ratios to assess risk-adjusted returns</i>  <i>See Sharpe, Treynor, Alpha Section on following page</i>
<b>Average beta, high R-squared</b>	May be a case of closet indexing	
<b>Low beta, high R-squared</b>	Active management may be suitable if manager performance exceeds passive performance on a risk-adjusted basis	

Recall, the farther beta is from 1, the less likely the case of closet indexing; the closer beta is to 1, the greater the likelihood. Actively managed MLP funds have exhibited average (close to 1.0) betas versus the AMZ. The average beta for MLP closed-end funds has ranged from 0.79 to 0.90 over the trailing 1-, 3-, 5-, and 10-year periods. The average beta for MLP mutual funds has ranged from 0.88 to 0.97 over the trailing one-, three-, and four-year periods.

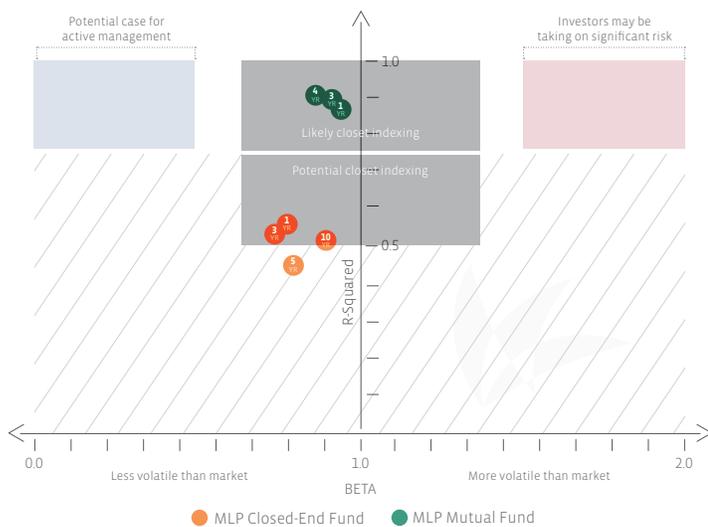
R-squared values for MLP closed-end funds have been of moderate value over the trailing 1-, 3-, 5-, and 10-year periods, ranging from 0.45–0.58.

However, R-squared values for MLP mutual funds have been high and statistically significant for the trailing one-, three-, and four-year periods, with a range of 0.88–0.91. In other words, 90% of fund movements can be explained by movements in the benchmark AMZ. This, paired with a beta value close to 1, makes a strong case for closet indexing by MLP mutual funds.

One explanation for this behavior is that the vast majority of MLP liquidity and market cap is concentrated in a select number of MLPs. As a result, large active managers may have to choose between closet indexing or taking on significant concentration and liquidity risk.

For context, total energy MLP market capitalization was \$477 billion as of June 30, 2015, and the 11 largest MLPs represented nearly half of that total.<sup>14</sup>

In terms of liquidity, the median daily trading volume for all energy MLPs is \$1.2 billion.<sup>15</sup> The 10 most liquid MLPs represent more than half of that volume, and the 50 names in the AMZ account for nearly three-quarters of it.<sup>16</sup> Roughly 41% of MLPs trade less than \$2.5 million a day. If a \$1 billion fund were to take a 1% fund position in an MLP that trades less than \$2.5 million a day and the fund manager did not want to be more than 10% of the total daily trading volume, it would take 40 days to enter/exit such a position.



For a breakout of beta and R-squared values by fund, refer to Exhibits 3.3 and 3.4 on page 18.



**Risk-reward trade-off?**

While falling short on returns, MLP mutual funds are similarly volatile (beta) and highly correlated to the AMZ, suggesting a high likelihood of closet indexing. The evidence for MLP closed-end funds is not statistically significant enough to conclude whether closet indexing is occurring.

14 // EPD, ETE, WPZ, ETP, PAA, MMP, SEP, EEP, MWE, CQP, WGP.

15 // Represents the sum of median 30-day dollar volume of 124 energy MLPs trading at June 30, 2015. Excludes GPP, PTXP, and CNXC since they completed their IPOs in June 2015.

16 // ETP, WPZ, ETE, EPD, PAA, MWE, MMP, NGLS, PAGP, OKS.

## // Sharpe, Treynor, Alpha: What's the Trade-Off?

Suppose there are two funds that both returned 10% in the past year. One fund bought stocks that swung sharply up and down throughout the year, whereas the other fund bought stocks that steadily went up each month. Hindsight being 20/20, if each fund was adjusted for the risk undertaken, the less volatile fund was the better investment. This section highlights the metrics used to measure volatility-adjusted returns: Sharpe ratios, Treynor ratios, and alpha.

First, a refresher using the AMZ and the S&P 500 as an example. A phrase you'll hear thrown around in the MLP community is that "MLPs generate superior risk-adjusted returns." Is this even true?

The Sharpe ratio measures return per unit of risk, where risk is the standard deviation of the portfolio, fund, or index in question.<sup>17</sup> The trailing 10-year Sharpe ratio for the AMZ is 0.41, which compares favorably to the S&P 500's at 0.32. The relative risk-adjusted returns look even stronger when factoring in distributions, with the AMZX at 0.78 versus the S&P 500 Total Return at 0.48.

While Sharpe ratios tend to be quoted more often, the Treynor ratio can also be an excellent measure of risk to reward. Performance is the numerator for both; however, the denominator of the Treynor ratio is beta (market risk or systemic risk) instead of the standard deviation of the portfolio being measured (portfolio risk). The Sharpe ratio is calculated independent of how a benchmark performs, whereas the Treynor ratio takes that benchmark's return into account. Since this white paper compares active strategies versus a benchmark in the context of MLPs, the Treynor ratio is just as relevant as the Sharpe ratio.

The trailing 10-year annualized price return for the AMZ is 6.9%. During the same period, the Treynor ratio for the AMZ was 6.4%, meaning that the AMZ returned 6.4% per unit of risk as measured by beta. This compares very favorably to the 2.2% return per unit of risk on the S&P 500.<sup>18</sup> Now let's compare the risk-adjusted returns for actively managed MLP funds against the AMZ. For purposes of this exercise, the beta for the AMZ is assumed to be 1.

When accounting for portfolio risk, the Sharpe ratio ends up telling a similar story that pure performance does (see Section: Excess Return):

- The AMZ outperformed the MLP closed-end fund average over the medium (5 years) and long term (10 years).
- The AMZ (After Tax) outperformed the MLP mutual fund average over the last four years, but more recently (trailing one- and three-year periods), MLP mutual funds have outperformed.

By using systemic risk (or market risk), the Treynor ratio assumes an investor already has a diversified portfolio; therefore, unsystemic risk, or the risk that can be eliminated through diversification, is not taken into account. The Treynor ratio shows similar results for MLP mutual funds as the Sharpe ratio. However, over the trailing three-year and five-year periods, the Treynor ratio has been higher for MLP closed-end funds than the AMZ, whereas the Sharpe ratio has been lower, as noted in green below. When this occurs, it is likely that MLP closed-end funds exhibited higher unsystemic risk, implying their portfolios were less diversified during these periods.

	AMZ Performance	Average CEF Performance	AMZ Sharpe Ratio	Average CEF Sharpe Ratio	AMZ Treynor Ratio	Average CEF Treynor Ratio
<b>10-Year</b>	96%	52%	0.41	0.24	3.7	1.0
<b>5-Year</b>	61%	52%	0.75	0.54	8.6	9.4
<b>3-Year</b>	18%	19%	0.46	0.46	5.0	7.8
<b>1-Year</b>	-1%	4%	0.00	-0.03	-1.1	-0.8

	AMZ (After Tax)	Average Mutual Fund Performance	AMZ (After Tax) Sharpe Ratio	Average Mutual Fund Sharpe Ratio	AMZ (After Tax) Treynor Ratio	Average Mutual Fund Treynor Sharpe Ratio
<b>4-Year</b>	18%	8%	0.46	0.24	3.5	1.3
<b>3-Year</b>	12%	13%	0.44	0.45	3.3	3.8
<b>1-Year</b>	-1%	-1%	-0.01	0.11	-0.8	1.0

For Sharpe and Treynor ratio breakout by fund, see Exhibits 4.1 – 4.4 on pages 18–19.

<sup>17</sup> // In 1990, William F. Sharpe shared a Nobel Memorial Prize in Economics with Harry M. Markowitz and Merton H. Miller for their pioneering work in the theory of financial economics.

<sup>18</sup> // As the S&P 500 represents the overall market, the systemic risk for the S&P 500 measured against itself is 1.

The final measure of the risk-to-reward tradeoff is alpha, short for Jensen's alpha.<sup>19</sup> It takes the risk-adjusted performance of a fund and compares it to the return of a benchmark.<sup>20</sup> Basically, it determines if the risk that the fund manager took was worth it.

An alpha value of 1% means that the fund outperformed its benchmark on a risk-adjusted basis by 1%, so positive alphas are good. In some cases, a manager might outperform the benchmark, but because excess risks were taken, the fund generated negative alpha. A single year's alpha is not necessarily indicative of a manager's ability, because sometimes you get lucky. Alpha, like other metrics, should be evaluated over time.

A fund's beta value is only meaningful if its R-squared value is high. Similarly, a manager's alpha value is only meaningful if the fund's R-squared value is high, and the two numbers should be taken into consideration together.

If the AMZ represents the benchmark, or beta = 1, exactly how much alpha has been generated by MLP closed-end funds and mutual funds?

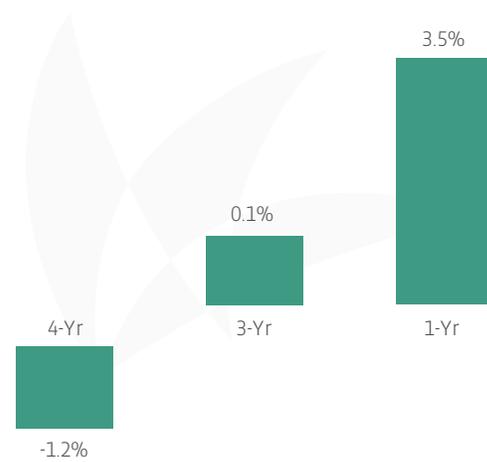
**Median alpha: MLP closed-end funds (2005–2014)**<sup>21</sup>



During the trailing 10-year, 5-year, and 3-year periods, the R-squared values for MLP closed-end funds have been below 75%, so the alpha values of these periods have been excluded from the study. Of the four time intervals studied, the only one during which any MLP closed-end fund generated an R-squared value above 75% was the trailing one-year period. Four MLP closed-end funds met this criterion, and their median alpha was 0.5%.

On a related note, MLP closed-end funds have access to IPOs and private investments in public equity (PIPEs), which tend to be solid alpha generators.<sup>22</sup> This alone should set expectations higher.

**Median alpha: MLP mutual funds (2011–2014)**



All MLP mutual funds except one had an R-squared value above 75% during the trailing four-year, three-year, and one-year periods. The median alpha for these funds during these periods was -1.2%, 0.1%, and 3.5%, respectively.

For alpha breakout by fund, see Exhibits 4.5 and 4.6 on page 19.



**Risk-reward trade-off?**

MLP mutual funds have not generated strong alpha over the long term. The evidence for MLP closed-end funds is not statistically significant enough to conclude whether strong alpha is being generated.

19 // While Jensen never received a Nobel Prize for his work, he did work with Professor Merton Miller while at the University of Chicago Booth School of Business for his MBA and PhD. Professor Miller was a co-winner of the 1990 Nobel Prize in Economics for his work in the theory of financial economics.

20 // Alpha = Expected fund return - [Risk-free rate + Beta \* (Expected market return - Risk-free rate)]

21 // For data significance, MLP closed-end funds with R-squared values below 75% have been excluded.

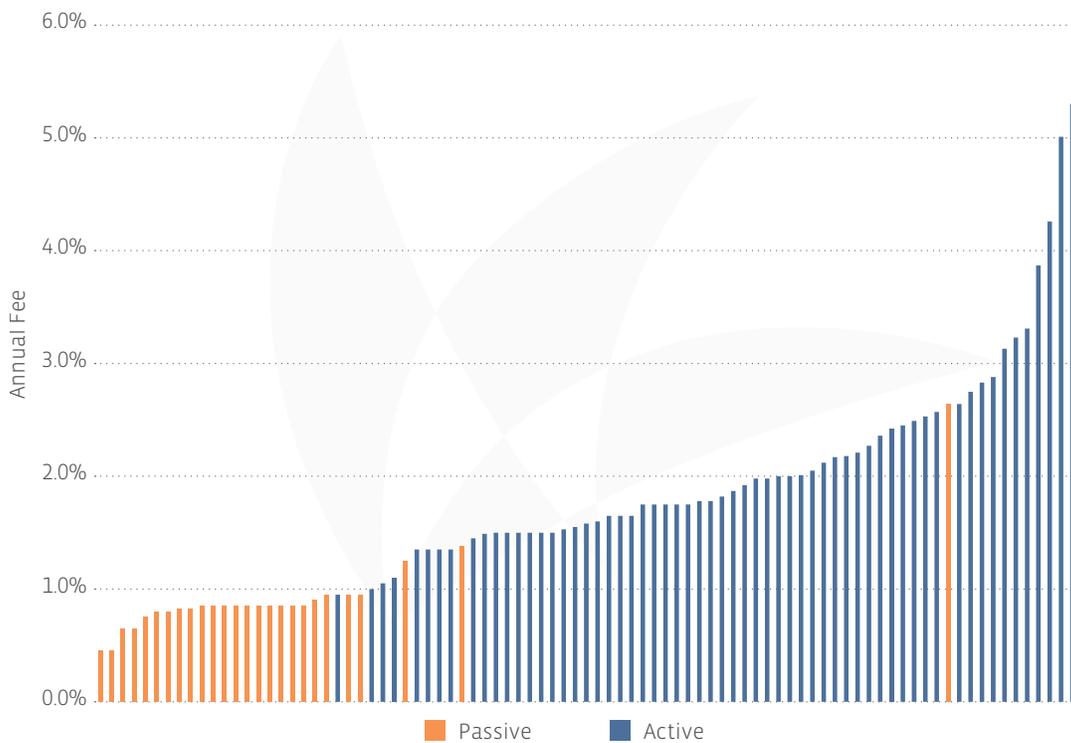
22 // Since 2006, there have been 112 MLP IPOs. The average one-day "pop" was 5.9% and the median was 3.1%. A PIPE transaction does not depend on an SEC review process before securities are issued. Instead, a PIPE issuer files the SEC registration documentation after the PIPE transaction closes. While this makes PIPEs a fast way to raise capital, PIPE investors cannot resell or short securities purchased until the SEC says the registration statement is effective. To compensate investors for this illiquidity, PIPE issuers usually offer the securities at a discount to market price. "The Rise of the PIPE Market." Na Dai, Assistant Professor, University of New Mexico, Anderson School of Management. 2008.

## // Fees and Turnover: What's the Cost?

### Fees

The range of fees for MLP investment products is wide. Management fees are not the only types of fees to consider before making an investment. Other fees include sales load, leverage, or services fees. Some funds offer waivers after certain thresholds are met. All of these fees can have an impact on returns.

Annual fees for index-linked MLP exchange-traded products range from 0.45% to 0.95%, with an average of 0.83%. Management fees for MLP closed-end funds range from 0.95% to 1.75%, with an average of 1.11%. Management fees for MLP mutual funds range from 0.70% to 1.35%, with an average of 1.04%.



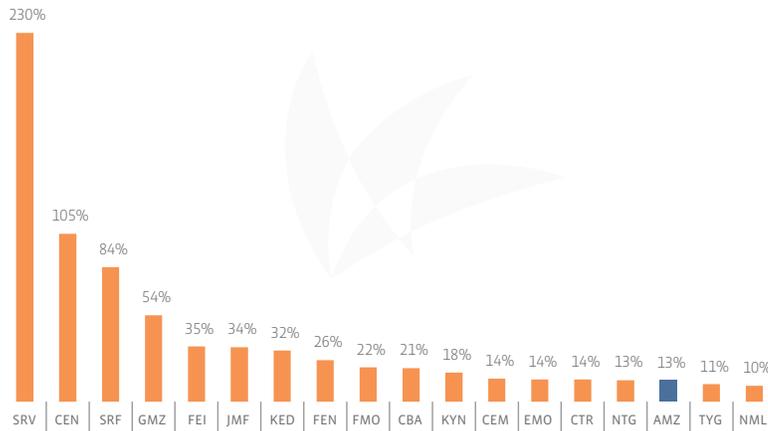
Expenses include management fees, borrowing costs, 12b-1 fees, other expenses as defined in the prospectus (including, but not limited to, shareholder service fees and fund acquisition costs), fee waivers, and expense reimbursements. Current and deferred income tax expenses, trading costs, and commissions, among other costs, are excluded. Annual fees calculated from prospectus at fund launch.

## Turnover

A higher portfolio turnover rate translates into more taxable events at the fund level, in addition to other transactional expenses such as trading and brokerage fees. While this is not unique to MLP funds, there are additional consequences to consider with MLP funds.

Higher turnover can reduce the percentage of fund distributions that are classified as return of capital.<sup>23</sup> In addition, high turnover results in accrued tax liabilities coming due, and also lowers the fund's net DTL position. The smaller the DTL position, the less downside protection there is during portfolio downturns.<sup>24</sup>

### Turnover: AMZ vs. MLP closed-end funds (2005–2014)



### Turnover: AMZ vs. MLP mutual funds (2010–2014)



Note: Turnover represents average annual turnover since the fund's inception.



In general, passive funds should have lower turnover ratios than active funds, as there is an expectation that active managers should be monitoring and trading a portfolio more frequently than an index rebalances. While a turnover ratio similar to or lower than that of a benchmark is not necessarily a bad thing—particularly if the fund's strategy is one of low turnover—it is something to be wary of if overlap is high and closet indexing is a concern.

<sup>23</sup> // A higher return of capital percentage lowers the portion of the distribution that is taxable in the current year. Taxes on such portion generally are not paid until sale.

<sup>24</sup> // In simplified terms, unlevered MLP funds provide roughly two-thirds of the upside and two-thirds of the downside due to the accrual of corporate taxes. Once a DTL position becomes zero, the downside becomes 1:1.

## // Other Considerations

### Taxes

A 40 Act fund such as a mutual fund, closed-end fund, or ETF which owns more than 25% MLPs will be taxed as a C-corporation. As the underlying positions increase in value, the fund will accrue a DTL to account for taxes that will be owed should the position be sold. This DTL is assessed at the corporate tax rate of 35% plus an assumed rate attributable to state taxes (up to 2.5%). The DTL is subtracted from the portfolio value of the fund, meaning that if the value of the underlying portfolio rises from \$100 to \$110, the fund's net asset value (NAV) will move from \$100 to \$106.25. The remaining \$3.75 has been booked as a DTL. When the fund is in a net DTL position, the DTL effectively reduces the volatility of the underlying portfolio, assuming no leverage is employed. If the positions in a fund fall, the DTL will be reduced. If the fund has no DTL to unwind, it will track the underlying portfolio on a one-for-one basis.

The DTL that a fund has accrued over the year is reflected as a static number, typically labeled "income tax expense" in a fund's annual report. This can be misleading, as it does not represent the actual amount of cash taxes paid by the fund. Instead, it represents the amount of taxes accrued, known as deferred taxes, during the year divided by average net assets for the year. Importantly, it also does not represent an additional expense that the fund is charging the investor on top of the management fee. A higher "income tax expense" may indicate that a fund performed well, because DTLs are only accrued if there are gains on the underlying investments. In 2008, the majority of closed-end funds had negative DTLs, i.e. a reversal of their DTLs.

### Deferred "income tax expense"

#### MLP Closed-End Funds

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average
11/30/05	6.0%	6.0%	6.4%	5.9%*														6.1%
11/30/06	16.1%	10.8%	13.8%	13.0%	N/A													13.4%
11/30/07	6.4%	4.6%	3.5%	5.7%	0.8%	-7.2%*												2.3%
11/30/08	-32.2%	-15.2%	-29.7%	-32.0%	-15.5%	2.2%												-20.4%
11/30/09	30.0%	22.5%	25.4%	23.3%	6.9%	0.0%												18.0%
11/30/10	17.9%	17.5%	20.5%	22.4%	16.3%	0.0%	18.5%*	10.4%										15.4%
11/30/11	4.6%	6.3%	4.8%	7.3%	10.0%	0.0%	3.9%	3.1%		4.6%								5.0%
11/30/12	8.4%	7.2%	7.2%	5.0%	5.6%	0.3%	9.1%	3.9%	3.5%	6.9%	-9.5%	8.6%						4.7%
11/30/13	14.1%	9.5%	14.4%	11.3%	17.1%	2.5%	11.9%	11.1%	11.3%	12.6%	0.3%	12.0%	7.9%					10.4%
11/30/14	7.8%	11.3%	8.3%	8.8%	9.0%	0.5%	8.6%	7.0%	8.5%	8.2%	-3.3%	6.9%	9.5%	6.0%	4.2%	6.3%	N/A	6.7%
Average	7.9%	8.0%	7.5%	7.1%	6.3%	-0.2%	10.4%	7.1%	7.8%	8.1%	-4.2%	9.2%	8.7%	6.0%	4.2%	6.3%	N/A	

#### MLP Mutual Funds

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMPLX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	Average
11/30/10	12.9%*	17.1%*	14.7%*	3.9%*								12.1%
11/30/11	1.7%	-0.8%	1.9%	0.7%	7.2%*	8.5%*						3.2%
11/30/12	5.6%	2.0%	4.1%	1.7%	2.8%	6.0%	4.0%*	0.2%*	N/A*			3.3%
11/30/13	8.1%	7.0%	8.4%	7.9%	7.5%	9.7%	8.4%	0.5%	6.2%	7.9%*		7.2%
11/30/14	5.4%	4.4%	5.2%	5.5%	5.6%	7.2%	5.5%	1.2%	-0.4%	2.1%	1.6%*	3.9%
Average	6.7%	5.9%	6.9%	3.9%	5.8%	7.9%	6.0%	0.7%	2.9%	5.0%	1.6%	

\* Represents partial year.



The purpose of the charts is not to compare DTLs, but rather to show that any MLP fund that owns more than 25% MLPs in its portfolio is taxed as a C-corporation and accrues DTLs that are reported as "income tax expense" in the annual report. Investment decisions should not be made based on the amount of a fund's reported income tax expense.

## Return of capital

Typically 70%-100% of MLP distributions are classified as tax-deferred return of capital, with the remaining portion taxed at ordinary income rates in the current year.<sup>25</sup> A 40 Act MLP fund is able to retain the tax characteristics of the distributions it receives from MLPs and subsequently pass those characteristics on to the investors in their fund. However, the two return of capital percentages may not be the same if the fund chooses to pass along a different amount than it brings in or if the fund owns some non-MLP holdings.

The charts below show the return of capital characteristics of distributions paid by MLP closed-end funds and mutual funds, as well as the return of capital characteristics of the distributions the fund received from the actual MLP investments themselves.

**Note:** Some funds estimate their return of capital percentages and amend them when actual tax forms are distributed. As such, the takeaway from the charts is that fund distribution return of capital percentages will not always equal MLP distribution return of capital percentages.

### Return of capital

#### MLP Closed-End Fund Distributions to Fund Shareholders

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average
11/30/05	100.0%	34.2%	91.2%	N/A*														75.0%
11/30/06	89.0%	100.0%	100.0%	N/A	N/A*													96.3%
11/30/07	58.7%	0.0%	95.4%	N/A	17.9%	100.0%*												54.4%
11/30/08	100.0%	0.0%	100.0%	N/A	100.0%	100.0%												80.0%
11/30/09	100.0%	79.9%	100.0%	N/A	100.0%	100.0%												96.0%
11/30/10	46.0%	84.8%	56.3%	0.0%	57.5%	100.0%	84.3%*	100.0%*										66.1%
11/30/11	0.0%	63.8%	57.4%	26.6%	0.0%	98.0%	100.0%	100.0%	100.0%*	100.0%*								64.6%
11/30/12	0.0%	16.3%	35.4%	41.3%	0.0%	79.0%	100.0%	100.0%	100.0%	100.0%	71.5%*	100.0%*						62.0%
11/30/13	0.0%	22.9%	32.6%	6.7%	0.0%	12.0%	0.0%	95.0%	9.4%	42.8%	85.2%	79.2%	74.3%*					35.4%
11/30/14	0.0%	0.0%	10.1%	26.8%	0.0%	0.0%	100.0%	8.0%	90.8%	100.0%	94.9%	100.0%	100.0%	100.0%	100.0%	12.8%	70.6%	53.8%
<b>Average</b>	49.4%	40.2%	67.9%	20.3%	34.4%	73.6%	76.9%	80.6%	75.0%	85.7%	83.9%	93.1%	87.2%	100.0%	100.0%	12.8%	70.6%	

#### Distributions from MLPs to MLP Closed-End Funds

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average
11/30/05	83.5%	N/A	88.8%	87.0%*														86.4%
11/30/06	85.1%	N/A	88.5%	77.5%	99.4%*													87.6%
11/30/07	85.7%	100.0%	84.3%	88.7%	94.8%	81.0%*												89.1%
11/30/08	81.7%	100.0%	86.9%	99.9%	88.8%	91.6%												91.5%
11/30/09	79.9%	100.0%	88.0%	100.0%	67.6%	99.8%												89.2%
11/30/10	92.3%	84.1%	89.2%	99.5%	89.6%	96.2%	83.2%*	89.0%*										90.4%
11/30/11	98.9%	100.0%	89.5%	100.0%	51.8%	92.9%	100.0%	96.0%	100.0%*	100.0%*								92.9%
11/30/12	91.5%	90.1%	87.2%	98.4%	77.9%	87.3%	97.0%	99.5%	100.0%	98.0%	100.0%*	97.4%*						93.7%
11/30/13	90.9%	98.8%	86.2%	95.8%	79.3%	96.5%	94.2%	99.2%	100.0%	98.6%	100.0%	98.6%	100%*					94.9%
11/30/14	85.2%	89.0%	86.0%	96.8%	71.8%	77.9%	93.0%	102.5%	100.0%	95.7%	100.0%	93.4%	98.9%*	92.9%	96.9%	92.6%	79.8%	90.8%
<b>Average</b>	87.5%	95.2%	87.4%	94.4%	80.1%	90.4%	93.5%	97.2%	100.0%	98.1%	100.0%	96.5%	99.4%	92.9%	96.9%	92.6%	79.8%	

\* Represents partial year.

#### MLP Mutual Fund Distributions to Fund Shareholders

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	Average
11/30/10	100.0%*	100.0%*	100.0%*	N/A*								100.0%
11/30/11	100.0%	100.0%	100.0%	100.0%	100.0%*	100.0%*						100.0%
11/30/12	100.0%	89.7%	100.0%	100.0%	100.0%	100.0%	100.0%*	100.0%*	0.0%*			87.7%
11/30/13	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.8%	100.0%*		91.7%
11/30/14	100.0%	100.0%	100.0%	56.1%	55.2%	91.0%	100.0%	100.0%	83.5%	76.0%	100.0%*	87.4%
<b>Average</b>	100.0%	97.9%	100.0%	89.0%	88.8%	97.7%	100.0%	100.0%	33.4%	88.0%	100.0%	

#### Distributions from MLPs to MLP Mutual Funds

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	Average
11/30/10	95.0%*	95.0%*	95.0%*	95.0%*								95.0%
11/30/11	100.0%	100.0%	100.0%	95.0%	100.0%*	90.0%*						97.5%
11/30/12	100.0%	100.0%	100.0%	95.0%	100.0%	95.6%	100.0%*	90.3%*				97.6%
11/30/13	100.0%	100.0%	100.0%	96.5%	100.0%	96.4%	100.0%	81.7%	89.4%	89.6%*		95.3%
11/30/14	100.0%	100.0%	100.0%	87.6%	100.0%	100.9%	100.0%	85.5%	90.0%	79.7%	99.1%*	94.8%
<b>Average</b>	99.0%	99.0%	99.0%	93.8%	100.0%	95.7%	100.0%	85.8%	89.7%	84.7%	99.1%	

\* Represents partial year.

<sup>25</sup> // Due to the pass-through nature of a partnership, a unitholder's cost basis is adjusted upward by the amount of partnership income allocated to that unitholder and adjusted downward by the amount of cash distributions (or actual payments) received. For most MLPs, cash distributions exceed allocated income, and the difference between distributed cash and allocated income is treated as "return of capital" to the unitholder and reduces the unitholder's basis in the units.

## // Exhibits

### Exhibit 1.1

Price performance: AMZ vs. MLP closed-end funds (2005–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average	AMZ
<b>10-Yr</b>	60%	63%	53%	31%	-	-	-	-	-	-	-	-	-	-	-	-	-	52%	96%
<b>5-Yr</b>	41%	56%	52%	45%	146%	-31%	-	-	-	-	-	-	-	-	-	-	-	52%	61%
<b>3-Yr</b>	9%	29%	26%	22%	67%	-34%	23%	8%	17%	24%	-	-	-	-	-	-	-	19%	18%
<b>1-Yr</b>	-8%	13%	-4%	3%	28%	-26%	1%	2%	4%	2%	-54%	-3%	8%	-8%	-11%	-3%	-16%	-4%	-1%

### Exhibit 1.2

Price performance: AMZ (After Tax) vs. MLP mutual funds (2011–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	Average	AMZ (After Tax)
<b>4-Yr</b>	14.3%	-3.2%	11.6%	3.7%	12.2%	-	-	-	-	-	-	7.7%	17.6%
<b>3-Yr</b>	15.1%	3.2%	11.8%	4.7%	7.0%	29.5%	23.1%	-	-	-	-	13.5%	12.1%
<b>1-Yr</b>	1.2%	-3.9%	0.6%	-1.5%	1.7%	7.1%	2.8%	-45.5%	3.8%	2.9%	6.6%	-2.2%	-0.7%

### Exhibit 2.1

Distribution growth: AMZ/AMJ vs. MLP closed-end funds (2006–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	Average	AMZ	AMJ
<b>2006</b>	13%	4%	17%	-	-	-	-	-	-	-	-	-	11%	11%	-
<b>2007</b>	8%	11%	11%	9%	-	-	-	-	-	-	-	-	10%	10%	-
<b>2008</b>	2%	9%	3%	7%	24%	-	-	-	-	-	-	-	9%	11%	-
<b>2009</b>	-3%	6%	-3%	-4%	-22%	-30%	-	-	-	-	-	-	-9%	3%	-
<b>2010</b>	0%	2%	-1%	-5%	-8%	0%	-	-	-	-	-	-	-2%	6%	-
<b>2011</b>	2%	4%	3%	4%	14%	0%	-	-	-	-	-	-	4%	-	6%
<b>2012</b>	2%	5%	6%	8%	18%	0%	3%	1%	-	-	-	-	5%	-	6%
<b>2013</b>	2%	6%	9%	8%	9%	0%	6%	1%	0%	2%	-	-	4%	-	8%
<b>2014</b>	4%	4%	10%	3%	16%	0%	4%	1%	1%	2%	0%	0%	4%	-	6%

### Exhibit 2.2

Distribution growth: AMJ vs. MLP mutual funds (2012–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	Average	AMJ
<b>2012</b>	2%	1%	2%	3%	-	-	-	-	2%	6%
<b>2013</b>	0%	0%	0%	0%	3%	0%	1%	-	1%	8%
<b>2014</b>	0%	0%	0%	0%	2%	0%	0%	0%	0%	6%

## // Exhibits

### Exhibit 3.1

#### Holdings overlap: AMZ vs. MLP closed-end funds

	AMZ	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average
<b>AMZ</b>	100.0%	66.9%	41.4%	57.7%	49.3%	44.2%	27.5%	60.7%	65.2%	49.4%	60.8%	6.1%	54.6%	36.5%	23.7%	51.6%	43.5%	36.0%	45.6%
<b>TYG</b>	-	100.0%	43.0%	56.5%	50.4%	43.2%	19.5%	66.9%	75.6%	49.0%	65.0%	0.0%	59.1%	36.7%	23.2%	52.4%	51.7%	32.7%	-
<b>FEN</b>	-	-	100.0%	43.6%	43.4%	28.0%	16.2%	47.2%	36.0%	42.4%	47.7%	0.3%	41.9%	73.1%	30.0%	38.0%	39.7%	21.5%	-
<b>KYN</b>	-	-	-	100.0%	58.4%	71.0%	26.3%	63.0%	64.2%	58.0%	61.7%	2.7%	60.6%	30.5%	23.8%	59.9%	54.0%	36.9%	-
<b>FMO</b>	-	-	-	-	100.0%	44.8%	19.5%	64.2%	45.2%	89.6%	62.0%	3.7%	57.6%	33.0%	28.4%	47.3%	50.5%	29.7%	-
<b>KED</b>	-	-	-	-	-	100.0%	30.4%	46.1%	50.0%	43.5%	43.8%	5.9%	47.9%	21.3%	21.7%	53.4%	45.5%	32.8%	-
<b>SRV</b>	-	-	-	-	-	-	100.0%	18.0%	19.5%	19.4%	18.6%	27.3%	19.1%	15.1%	20.1%	22.1%	14.1%	30.0%	-
<b>CEM</b>	-	-	-	-	-	-	-	100.0%	64.6%	62.8%	77.9%	0.4%	76.4%	37.6%	27.0%	62.0%	54.6%	31.0%	-
<b>NTG</b>	-	-	-	-	-	-	-	-	100.0%	45.9%	62.9%	0.0%	59.2%	33.3%	21.4%	60.5%	55.2%	36.3%	-
<b>JMF</b>	-	-	-	-	-	-	-	-	-	100.0%	62.7%	4.2%	57.2%	30.5%	24.8%	42.5%	51.4%	26.3%	-
<b>EMO</b>	-	-	-	-	-	-	-	-	-	-	100.0%	1.0%	79.1%	38.8%	28.3%	54.6%	51.2%	35.6%	-
<b>SRF</b>	-	-	-	-	-	-	-	-	-	-	-	100.0%	2.6%	0.4%	0.3%	2.4%	1.2%	5.4%	-
<b>CTR</b>	-	-	-	-	-	-	-	-	-	-	-	-	100.0%	34.1%	25.3%	60.1%	49.5%	33.2%	-
<b>FEI</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0%	30.9%	36.5%	31.3%	20.3%	-
<b>NML</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0%	28.8%	11.2%	29.7%	-
<b>CBA</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0%	46.4%	29.2%	-
<b>CEN</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0%	29.9%	-
<b>GMZ</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0%	-

As of November 30, 2014

### Exhibit 3.2

#### Holdings overlap: AMZ vs. MLP mutual funds

	AMZ	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMPLX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	Average
<b>AMZ</b>	100.0%	56.5%	35.1%	56.7%	43.9%	33.1%	34.7%	56.6%	6.1%	38.3%	38.1%	30.7%	39.1%
<b>MLPAX</b>	-	100.0%	26.4%	68.2%	52.7%	42.0%	49.0%	99.7%	1.5%	49.7%	51.4%	33.4%	-
<b>MLPDX</b>	-	-	100.0%	36.2%	24.7%	21.5%	9.8%	26.5%	2.9%	18.5%	11.7%	21.3%	-
<b>MLPFX</b>	-	-	-	100.0%	55.4%	40.2%	43.6%	68.1%	3.6%	52.5%	55.1%	42.5%	-
<b>CSHAX</b>	-	-	-	-	100.0%	36.7%	39.8%	52.6%	5.8%	59.9%	48.1%	44.0%	-
<b>CCCAX</b>	-	-	-	-	-	100.0%	31.2%	41.9%	0.0%	37.6%	33.0%	27.8%	-
<b>AMPLX</b>	-	-	-	-	-	-	100.0%	48.9%	0.0%	50.5%	44.8%	39.1%	-
<b>MLPLX</b>	-	-	-	-	-	-	-	100.0%	1.5%	49.5%	51.3%	33.3%	-
<b>CURAX</b>	-	-	-	-	-	-	-	-	100.0%	3.9%	1.3%	0.0%	-
<b>HEFAX</b>	-	-	-	-	-	-	-	-	-	100.0%	54.2%	51.0%	-
<b>GLPAX</b>	-	-	-	-	-	-	-	-	-	-	100.0%	51.3%	-
<b>PRPAX</b>	-	-	-	-	-	-	-	-	-	-	-	100.0%	-

As of November 30, 2014

## // Exhibits

### Exhibit 3.3

Beta vs. AMZ: MLP closed-end funds (2005–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average
10-Yr	1.07	0.91	0.74	0.87	-	-	-	-	-	-	-	-	-	-	-	-	-	0.90
5-Yr	0.99	0.66	0.64	0.87	0.65	0.98	-	-	-	-	-	-	-	-	-	-	-	0.80
3-Yr	0.96	0.62	0.67	0.79	0.64	0.99	0.65	0.67	0.91	0.68	-	-	-	-	-	-	-	0.76
1-Yr	0.68	0.46	0.61	0.75	0.69	1.11	0.39	0.58	0.90	0.72	2.02	0.70	0.37	1.08	0.85	0.75	0.78	0.79

R-squared: MLP closed-end funds (2005–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average
10-Yr	0.64	0.58	0.31	0.53	-	-	-	-	-	-	-	-	-	-	-	-	-	0.51
5-Yr	0.58	0.56	0.32	0.62	0.24	0.36	-	-	-	-	-	-	-	-	-	-	-	0.45
3-Yr	0.55	0.53	0.39	0.74	0.24	0.43	0.54	0.60	0.67	0.60	-	-	-	-	-	-	-	0.53
1-Yr	0.48	0.53	0.58	0.89	0.35	0.38	0.35	0.60	0.81	0.69	0.44	0.82	0.30	0.86	0.67	0.56	0.47	0.58

### Exhibit 3.4

Beta vs. AMZ (After Tax): MLP mutual funds (2011–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	BPMAX	Average
4-Yr	0.93	0.85	0.96	0.83	0.86	-	-	-	-	-	-	-	0.88
3-Yr	0.93	0.82	0.94	0.85	0.84	0.89	1.16	-	-	-	-	-	0.92
1-Yr	0.81	0.76	0.81	0.97	0.83	0.93	1.08	2.02	0.84	0.91	0.75	0.73	0.95

R-squared: MLP mutual funds (2011–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	BPMAX	Average
4-Yr	0.93	0.90	0.94	0.85	0.94	-	-	-	-	-	-	-	0.91
3-Yr	0.94	0.91	0.94	0.85	0.94	0.77	0.93	-	-	-	-	-	0.90
1-Yr	0.95	0.98	0.94	0.92	0.96	0.77	0.95	0.66	0.89	0.89	0.87	0.77	0.88

### Exhibit 4.1

Sharpe ratio: MLP closed end funds (2005–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average	AMZ
10-Yr	0.261	0.273	0.249	0.168	-	-	-	-	-	-	-	-	-	-	-	-	-	0.238	0.406
5-Yr	0.460	0.775	0.595	0.571	1.066	-0.225	-	-	-	-	-	-	-	-	-	-	-	0.540	0.752
3-Yr	0.248	0.747	0.592	0.540	1.026	-0.460	0.595	0.274	0.407	0.615	-	-	-	-	-	-	-	0.458	0.459
1-Yr	-0.428	1.211	-0.300	0.256	1.318	-0.868	0.173	0.226	0.310	0.192	-1.190	-0.187	0.754	-0.351	-0.556	-0.112	-0.886	-0.026	0.004

### Exhibit 4.2

Sharpe ratio: MLP mutual funds (2011–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMLPX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	BPMAX	Average	AMZ (After Tax)
4-Yr	0.396	-0.054	0.324	0.140	0.373	-	-	-	-	-	-	-	0.236	0.461
3-Yr	0.529	0.157	0.424	0.204	0.295	0.907	0.624	-	-	-	-	-	0.449	0.435
1-Yr	0.166	-0.395	0.101	-0.074	0.211	0.604	0.265	-1.870	0.402	0.306	0.755	0.899	0.114	-0.014

## // Exhibits

### Exhibit 4.3

Treynor ratio: MLP closed-end funds (2005–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Average	AMZ
<b>10-Yr</b>	1.4	1.9	1.4	-0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	3.7
<b>5-Yr</b>	5.8	12.0	11.6	7.4	28.3	-8.5	-	-	-	-	-	-	-	-	-	-	-	9.4	8.6
<b>3-Yr</b>	2.6	13.3	10.9	7.9	28.2	-13.6	10.0	3.2	5.3	10.0	-	-	-	-	-	-	-	7.8	5.0
<b>1-Yr</b>	-12.1	28.2	-7.1	3.3	40.1	-23.9	3.3	3.5	4.3	2.4	-26.6	-4.5	20.2	-7.3	-12.5	-4.2	-20.8	-0.8	-1.1

\*Assumes AMZ beta = 1

### Exhibit 4.4

Treynor ratio: MLP mutual funds (2011–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMPLX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	BPMAX	Average	AMZ (After Tax)
<b>4-Yr</b>	3.0	-1.7	2.3	0.4	2.7	-	-	-	-	-	-	-	1.3	3.5
<b>3-Yr</b>	4.5	0.6	3.4	1.1	2.0	9.5	5.7	-	-	-	-	-	3.8	3.3
<b>1-Yr</b>	1.4	-5.2	0.6	-1.7	2.0	7.6	2.5	-22.6	4.4	3.1	8.7	11.2	1.0	-0.8

\*Assumes AMZ (After Tax) beta = 1

### Exhibit 4.5

Alpha vs. AMZ: MLP closed end funds (2005–2014)

	TYG	FEN	KYN	FMO	KED	SRV	CEM	NTG	JMF	EMO	SRF	CTR	FEI	NML	CBA	CEN	GMZ	Median
<b>10-Yr</b>	-2.4%	-1.6%	-1.7%	-3.8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.0%
<b>5-Yr</b>	-2.8%	2.3%	1.9%	-1.1%	12.7%	-16.9%	-	-	-	-	-	-	-	-	-	-	-	0.4%
<b>3-Yr</b>	-2.3%	5.2%	4.0%	2.3%	14.8%	-18.4%	3.3%	-1.2%	0.3%	3.4%	-	-	-	-	-	-	-	2.8%
<b>1-Yr</b>	-7.6%	13.5%	-3.7%	3.3%	28.4%	-25.4%	1.7%	2.6%	4.8%	2.5%	-51.6%	-2.4%	8.0%	-6.8%	-9.7%	-2.4%	-15.4%	-2.4%

### Exhibit 4.6

Alpha vs. AMZ (After Tax): MLP mutual funds (2011–2014)

	MLPAX	MLPDX	MLPFX	CSHAX	CCCAX	AMPLX	MLPLX	CURAX	HEFAX	GLPAX	PRPAX	BPMAX	Median
<b>4-Yr</b>	-0.5%	-4.4%	-1.2%	-2.6%	0.7%	-	-	-	-	-	-	-	-1.2%
<b>3-Yr</b>	1.1%	-2.2%	0.1%	-1.9%	-1.1%	5.5%	2.8%	-	-	-	-	-	0.1%
<b>1-Yr</b>	1.8%	-3.4%	1.1%	-0.9%	2.3%	7.8%	3.5%	-44.0%	4.4%	3.6%	7.1%	8.7%	2.9%

## // Disclaimers

### Contact

www.alerian.com  
index@alerian.com // 972.957.7700  
1717 McKinney Avenue, Suite 1450 // Dallas, TX 75202

**This Document Is Impersonal and Not a Solicitation.** In jurisdictions where Alerian or its affiliates do not have the necessary licenses, this document does not constitute an offering of any security, product, or service. Alerian receives compensation in connection with licensing its indices to third parties. All information provided by Alerian in this document is impersonal and not customized to the specific needs of any entity, person, or group of persons. Alerian and its affiliates do not endorse, manage, promote, sell, or sponsor any investment fund or other vehicle that is offered by third parties and that seeks to provide an investment return linked to or based on the returns of any Alerian index.

**No Advisory Relationship.** Alerian is not an investment advisor, and Alerian and its affiliates make no representation regarding the advisability of investing in any investment fund or other vehicle. This document should not be construed to provide advice of any kind, including, but not limited to, tax and legal.

**You Must Make Your Own Investment Decision.** It is not possible to invest directly in an index. Index performance does not reflect the deduction of any fees or expenses. Past performance is not a guarantee of future returns. You should not make a decision to invest in any investment fund or other vehicle based on the statements set forth in this document, and are advised to make an investment in any investment fund or other vehicle only after carefully evaluating the risks associated with investment in the investment fund, as detailed in the offering memorandum or similar document prepared by or on behalf of the issuer. This document does not contain, and does not purport to contain, the level of detail necessary to give sufficient basis to an investment decision. The addition, removal, or inclusion of a security in any Alerian index is not a recommendation to buy, sell, or hold that security, nor is it investment advice.

**No Warranties.** The accuracy and/or completeness of any Alerian index, any data included therein, or any data from which it is based is not guaranteed by Alerian, and it shall have no liability for any errors, omissions, or interruptions therein. Alerian makes no warranties, express or implied, as to results to be obtained from use of information provided by Alerian and used in this service, and Alerian expressly disclaims all warranties of suitability with respect thereto.

**Limitation of Liability.** While Alerian believes that the information provided in this document is reliable, Alerian shall not be liable for any claims or losses of any nature in connection with the use of the information in this document, including but not limited to, lost profits or punitive or consequential damages, even if Alerian has been advised of the possibility of same.

**Research May Not Be Current.** This document has been prepared solely for informational purposes based on information generally available to the public from sources believed to be reliable. Alerian makes no representation as to the accuracy or completeness of this document, the content of which may change without notice. Alerian expressly disclaims any obligation to update the contents of this document to reflect developments in the energy Master Limited Partnership sector. The methodology involves rebalancings and maintenance of indices that are made periodically throughout the year and may not, therefore, reflect real-time information.

**Linked Products.** Alerian licenses its indexes to third parties for the creation of investment funds or other vehicles. Alerian is not responsible for the information on these websites or for anything that they provide.

**Policies and Procedures.** Analytic services and products provided by Alerian are the result of separate activities designed to preserve the independence and objectivity of each analytic process. Alerian has established policies and procedures to maintain the confidentiality of material non-public information received during each analytic process. Alerian and its affiliates provide a wide range of services to, or relating to, many organizations, and may receive fees or other economic benefits from these organizations.

**Copyright.** No Unauthorized Redistribution. Alerian © 2015. All rights reserved. This document, in whole or in part, may not be redistributed, reproduced, and/or photocopied without prior written permission.