INVESTING IN MASTER LIMITED PARTNERSHIPS: RISKS AND OPPORTUNITIES

Andrew Brett, CAIA, Senior Research Analyst, Private Markets
Tim Bruce, Senior Research Consultant, Hedge Funds

Executive Summary

Master Limited Partnerships ("MLPs") have attracted increased investor interest in recent years. This interest has been spurred by strong historical returns, high levels of income yield, and concentration in the energy and natural resources sector which benefit from unique economic return drivers. Yet MLPs remain, for many investors, a relatively unknown segment of the global capital markets. In this paper we describe the MLP segment, assess the relative potential benefits of investing in MLPs along with the associated risks, and place them within the broader opportunity set of energy infrastructure investments.

An MLP is a type of legal structure utilized by certain businesses that own or operate real or tangible assets and is especially prevalent in the energy and natural resources sectors. MLP units are exchange-traded public securities that are characterized by a high level of income distributed to investors. The complex partnership structure allows for the higher distribution levels but results in more complex tax and accounting implications. As a result, the MLP market has historically been retail investor-dominated.

Energy-focused MLPs represent the largest component of the MLP universe and are primarily concentrated in the midstream sector of the energy value chain. Institutional interest has primarily been in midstream energy MLPs, which own and operate the infrastructure necessary to transport, refine, and store oil and gas for end users. These businesses generally generate stable cash flows from fee-based revenues. The focus of this paper will be on energy-related MLPs, and more specifically those that operate primarily in the midstream sector.

NEPC believes that the secular growth story within the North American energy landscape creates a number of compelling investment opportunities. MLPs represent a single and somewhat narrow way to invest in this opportunity, and we recommend that investors consider them within a broader energy infrastructure investing strategy.

MLP UNITS ARE EXCHANGE-TRADED PUBLIC SECURITIES THAT ARE CHARACTERIZED BY A HIGH LEVEL OF INCOME DISTRIBUTED TO INVESTORS.

Background

What is an MLP?

A Master Limited Partnership ("MLP") is a business that operates under a partnership structure rather than as a typical C-Corporation ("C-Corp"). Equity shares of these partnerships are called units which are publicly traded on exchanges, just like C-Corp securities. MLPs are pass-through entities that are not taxed at the corporate level; instead the tax burden is borne by individual MLP unit holders ("limited partners" or "LPs"). Cash payouts to MLP unit holders are called distributions instead of dividends.

An MLP is managed by a General Partner ("GP") that is responsible for overseeing the business operations of the MLP on behalf of LPs. GPs typically hold a small stake in the partnership (generally around 2%) as well as Incentive Distribution Rights ("IDRs"), which entitle the GP to a higher percentage of cash distributions as cash flows grow over time.[1] LPs own the majority of the shares in an MLP; however, LP unit holders have no voting rights or management responsibilities. MLP is the term most commonly used to refer to an energy-related publicly traded limited partnership or LLC.

History of MLPs

Congress established the modern MLP structure to encourage investment in energy infrastructure by passing the Tax Reform Act of 1986 and The Revenue Act of 1987. These acts defined the mechanics of the pass-through partnership structure and established the requirements necessary for a company to be eligible to operate as an MLP. To do so, a business is required to generate at least 90% of its income from "qualified sources".[2] This means that income must be derived from business operations in the real estate, natural resources and minerals sectors.[3] Qualified income is largely generated through activities related to the exploration and production, development, mining, processing, refining, transportation, storage or marketing of minerals or natural resources. [4]

The adoption of the MLP structure by real asset businesses, especially in the energy sector, has become more prevalent in recent years. MLPs with midstream energy assets are viewed as an especially attractive part of the market. Midstream businesses provide relatively stable revenues from toll-like fee arrangements, which minimize the impact of commodity price volatility on revenues.[5] These businesses typically operate in industries with high barriers to entry and in regulated segments of the energy value chain.

The composition of the MLP segment has evolved over the years to become more concentrated in energy-related operations. The shift into more stable, fee-based industries has been especially prevalent which is illustrated by the large market share of MLPs operating midstream energy assets. This is because MLPs need stable revenue generation to meet distribution expectations and regulated or fee-based businesses are a good fit for the MLP structure. Overall, energy-related MLPs represent roughly 77% of publicly-traded partnerships ("PTP") currently listed on US Exchanges. [6]

Exhibit 1: Energy Value Chain

Upstream Oil & Natural Gas Production	Midstream Energy Infrastructure	Downstream End-Users
Exploration Drilling Production	Transportation Storage Pipelines Gathering & Processing Shipping and Trucking	Commercial Industrial Residential Refinery Retail

Source: NEPC, Cushing Asset Management

Exhibit 2: MLP Industry Composition—1990 vs. 2012 (number of companies)

Industry	1990	2012
Oil & Gas Midstream	10%	44%
Oil & Gas Exploration & Production	21%	14%
Propane and Refined Fuel Distribution	0%	7%
O&G Marine Transportation	1%	6%
Coal Leasing or Production	0%	6%
Other Minerals, Timber	5%	4%
Real Estate - Income Properties	14%	3%
Real Estate - Developers, Homebuilders	4%	0%
Real Estate - Mortgage Securities	13%	3%
Hotels, Motels, Restaurants	12%	0%
Investment or Financial	5%	10%
Other Businesses	15%	4%

Note: May not equal 100% due to rounding
Source: National Association of Publicly Traded Partnerships

How do MLPs Work?

MLPs distribute nearly all free cash flow to unit holders, which requires these partnerships to rely on capital markets to finance business growth. To add assets that increase the value of an MLP, the GP can invest in "new-build" projects or acquire new assets. Acquisitions allow an MLP to increase the value of the partnership while increasing distributions from the addition of operational assets. MLPS may also finance growth through new equity issuance or private investment in public equity ("PIPEs"). MLPs typically seek to grow through acquisitions due to their relatively lower cost of capital.

MLPs can be created by corporations through spin-offs or through a public offering of a new entity. An MLP with a parent C-Corp GP with midstream assets can access organic growth if the parent company is willing to "drop down" assets into the MLP on a transparent schedule. This allows the market to have visibility into an MLP's growth plan while the GP can avoid more competitive acquisition processes or risky new-build projects. The parent C-Corp benefits from the sale by monetizing lower returning midstream assets to reinvest in higher returning projects. The parent company will typically own 49% of the LP unit interests as well as a 2% GP share that becomes more valuable as distributions grow. MLPs are generally valued at a premium relative to C-Corps because net income at the partnership level is pre-tax income.

MLPs pay out a high percentage of income to LPs (generally around 90%) in the form of quarterly distributions. Unlike REITs, MLPs are not required to pay out a certain percentage of income; however the two structures are similar in that they can pay out higher distributions because they do not pay corporate taxes.[7] Additionally, unit holders can defer taxes on MLP distributions for a number of years. The high percentage of revenues distributed to unit holders means that these partnerships typically have little available cash and must access capital markets to facilitate growth through new build projects or acquisitions.

Tax Treatment[8]:

An MLP structure appeals to many natural resource-related businesses because of the tax shield which provides higher net income at the partnership level. This means that distributions are higher; however, the tax burden has been shifted to the investor. The administrative burden and potentially confusing nature of the unique tax treatment is the main reason institutional investors have historically not invested in the space.

MLP distributions are tax-deferred but MLP investors are responsible for the taxes allocated to each unit's share of net taxable income. The net taxable income is adjusted for deductions and gains and is payable even if an MLP does not make a distribution in a given period. Typically, MLPs are able to minimize the amount of taxable income through the depreciation, depletion, and amortization of assets. Net taxable income is generally 10-20% of an MLP's total distributable cash flow, meaning that investors are effectively receiving distributions that are 80-90% tax-deferred.

Distributions to unit holders are classified as return of principal and remain tax-deferred until the units are sold or the cost basis reaches zero.[9] Once a unit is sold or the cost-basis reaches zero, an investor is responsible for the taxes on the distributions that have been deferred to this point (cost basis minus adjusted cost basis).[1] An investor is also responsible for the taxes on this portion of the taxable income once the unit is sold or the cost basis reaches zero.[10] Any capital appreciation gain from the sale of an MLP unit is taxed at the standard capital gains rate.

Direct investors in MLPs also have to deal with the administrative burden of the IRS K-1 forms (instead of Form 1099) issued by each individual MLP. The K-1 includes information regarding a unit holder's share of partnership net income, gain, loss, and deductions. Investors are required to file income tax returns (and responsible for the potential tax burden) in each state in which an MLP generates income.

MLPs are likely to generate unrelated business taxable income (UBTI), which is income earned from business activities unrelated to an investing entity's tax-exempt purpose. If a tax-exempt organization generates UBTI in excess of $1,000 per year, the organization is required to document this with the IRS and may be required to pay taxes on UBTI in excess of this amount. This can be a hurdle for institutions that are unwilling to undertake the administrative burden and bear the costs of incurring UBTI. Larger institutions may be well equipped to handle UBTI issues with experience from other investments or an ability to offset UBTI from other areas.[11]

Tax-exempt institutional investors are not responsible for taxes on capital gains once a unit is sold. There are differing opinions as to whether tax-exempt organizations are responsible for the de-

Exhibit 3: Public Partnership and C-Corp Structure Comparison

Structure Comparison	MLP	LLC	C-Corp
Non-taxable entity	Yes	Yes	No
Tax burden flow through to investors	Yes	Yes	No
Distribution Tax Shield (to investors)	Yes	Yes	No
Tax Reporting	K-1	K-1	1099
General Partner (GP)	Yes	No	No
Incentive Distribution Rights (IDRs)	Yes	No	No
Voting Rights	No	Yes	Yes

Source: Morgan Stanley Research, Wells Fargo Securities, LLC, Credit Suisse, National Association of Publicly Traded Partnerships (NAPTP) ferred tax burden associated with the distributions that are considered return of principal. Most tax-exempt institutional investors have proceeded with the assumption that they are not responsible for taxes during the "recapture" of the cost basis. This means that the drag on tax-exempt institutions boils down to how institutions view the UBTI burden (if greater than $1,000) as well as any associated administrative costs.

Income shielded during the holding period is taxed as UBTI upon the sale of a unit for tax-exempt plans.

Some public pension plans have decided that they do not have to pay taxes on UBTI. MLP investment managers can discuss different approaches to considering UBTI.

MLP Investment Considerations

The Energy Infrastructure Market Opportunity:

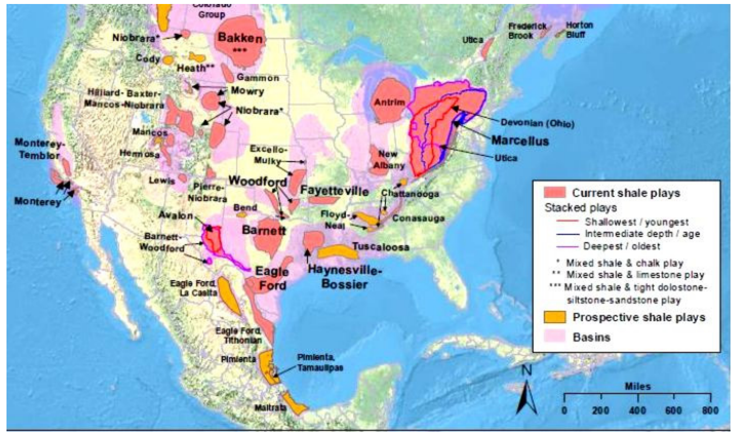
The North American energy sector is poised for growth from increased investment in "unconventional" hydrocarbon production. This process, commonly known as fracking, allows producers to drill horizontal wells in shale formations to extract natural gas and oil. Technological advances have lowered the costs of drilling horizontal wells, significantly increasing the estimated supply of recoverable oil and natural gas reserves in the United States. This has also prompted producers to move into shale formations in parts of the US that have not traditionally been significant energy producing regions.

The changing energy landscape means that a sizeable midstream infrastructure build-out is required to support increasing upstream production. The North American power sector is also expected to contribute to the changing energy landscape as more natural gas-fired power facilities are brought online to replace older, coal-burning facilities. The Interstate Natural Gas Association of America ("INGAA") estimates that future gas, oil, and NGL (Natural Gas Liquids) production will require roughly $250 billion in new expenditures through 2035.[12]

The three largest production areas (with estimated reserves) in the US are:

- Bakken Shale (North Dakota) – 3-5 billion barrels oil, 2 trillion cubic feet of natural gas

Exhibit 4: Map of Unconventional Oil & Gas Reserves



Source: Energy Information Administration

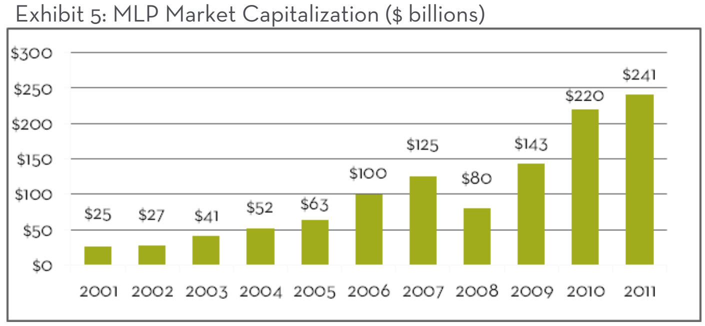
- Eagle Ford Shale (South Texas) – 10 billion barrels oil
- Marcellus Shale (Northeast) – 4.5 trillion cubic feet natural gas

The midstream energy infrastructure build out is not the only theme fueling the growth of MLPs. Corporate balance sheets continue to hold a large supply of the types of assets that investors view as attractive and accretive to MLP growth. Risks to these drivers of growth for MLPs include the potential for steeper decline rates from horizontal production and very low natural gas prices. Despite this uncertainty, the midstream energy sector is expected to experience a high degree of growth over the next decade.

Changing investor base and market dynamics:

The MLP market has changed dramatically with growth in overall market capitalization and greater involvement from institutional investors. Since 1996, the market cap of MLPs has increased from $8 billion to more than $240 billion.[13] This has represented a change from the traditionally retail-oriented MLP investor base to the current composition in which institutions are estimated to own more than 30% of outstanding MLP units.[14]

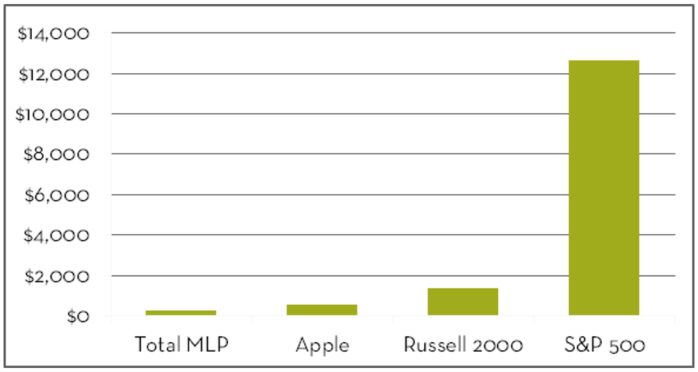
Exhibit 5: MLP Market Capitalization ($ billions)



Source: Alerian, Thomson Reuters, Morgan Stanley Research

Despite the recent growth in the segment, the MLP market remains relatively small. As the chart below shows, the total MLP universe has a market capitalization that is smaller than Apple. When compared to the Russell 2000 and the S&P 500, the modest relative size of this market is even more pronounced. The small size of the MLP segment represents an opportunity to exploit inefficiencies, but also creates risks in terms of liquidity and diversification.

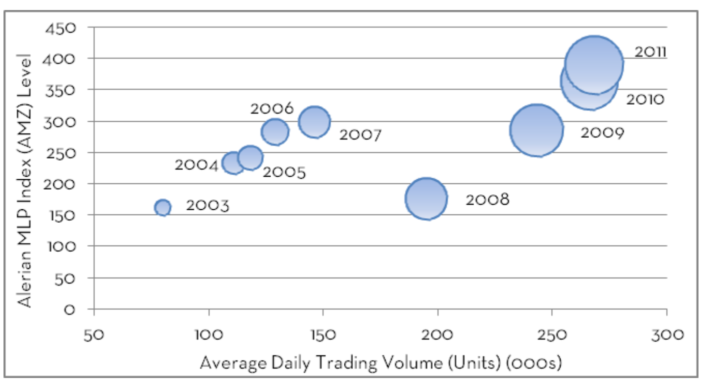
Exhibit 6: MLP Market Cap ($ billions) relative to Apple (AAPL), the S&P 500 and the Russell 2000 (as of June 30, 2012)[15]



Source: NEPC, Bloomberg, Morgan Stanley Research

Trade volume has grown for the MLP market in recent years as assets have flowed into the segment. The result has been a dramatic increase in liquidity as daily trading volume has increased from $6 million in 1996 to roughly $600 million at the beginning of 2012.[16] Despite this, trading volume in the MLP universe is still low on a relative basis when compared to large cap equities.

Exhibit 7: MLP Average Daily Trading Volume (units) from 2003 to 2012



Source: NEPC, Bloomberg, Wells Fargo, Harvest Fund Advisors LLC

How are MLPs valued by investors?

MLP investors have historically focused on yield as the key value driver; however, the opportunity set should also be evaluated based on total return potential. While MLP units are traded as equity, typically valuation methodologies such as Price-to -Earnings (P/E) ratios do not accurately represent unit value due to the unique nature of the MLP structure.

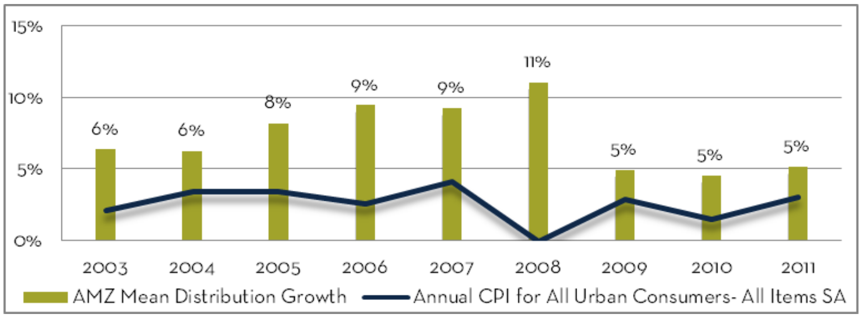
Investment managers typically look at current yields as well as yield growth expectations and asset quality when assessing the relative value of an MLP unit. Price-to-Distributable Cash Flow (P/DCF) and the distribution coverage ratio, which is the amount of available cash flow relative to expected distributions, are used to evaluate yield stability. Other methods that are typically incorporated when evaluating the MLP opportunity set include the Dividend Discount Model, Enterprise Value-to-EBITDA (EV/EBIDTA), and the Yield Spread relative to the 10-year Treasury. The small opportunity set as well as the complicated nature of determining the relative attractiveness of MLPs have led to less analyst coverage of the segment. The argument can be made that this represents inefficiency in the MLP market that can be exploited.

MLPs as an Inflation Hedge:

The underlying businesses of energy MLPs provide a degree of inflation protection from fee-based contracts tied to the Producer Price Index ("PPI") or the Consumer Price Index ("CPI"). For example, the Federal Energy Regulatory Commission ("FERC") regulates pipelines and has established tariff rates that are adjusted on an annual basis to the PPI for finished goods plus 2.65%. MLPs also own real assets that provide value over replacement costs that generally increase during inflationary periods. Additionally, some MLPs considered to be "midstream" also have diversified business lines with commodity exposure through upstream operations and experience increased revenues during periods of inflation due to higher commodity prices.

While MLP distribution growth has outpaced inflation in recent years, MLPs are not highly correlated with inflation when measured by the Consumer Price Index ("CPI"). For this reason, NEPC believes that MLPs should not be considered as a core allocation for inflation-hedging purposes. The IDR structure for MLPs that increases the GP's share of distributions also dampens the inflation link for LPs. Finally, MLPs have historically not performed well during periods of rising interest rates, which typically occurs

Exhibit 8: Alerian Index Distribution Growth vs. Consumer Price Index



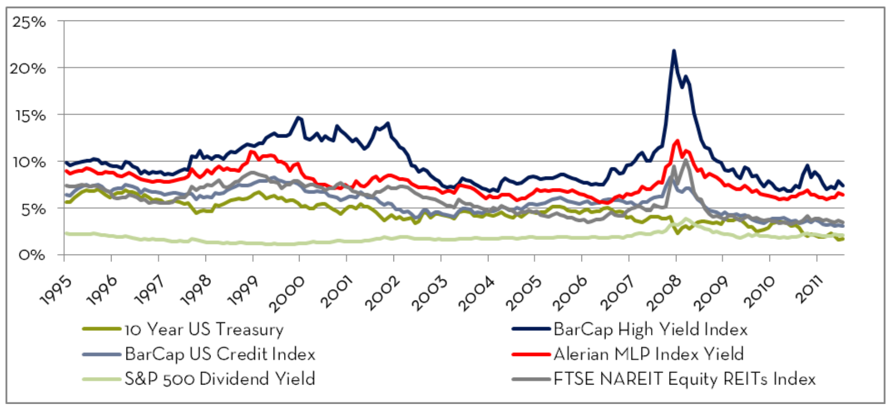
Source: Alerian, Bureau of Labor Statistics

in periods of unexpected inflation. As Exhibit 8 shows, distribution growth has outpaced inflation in recent years; however, we believe this has largely been the result of the rapid expansion experienced in the industry, rather than from inflation-linked drivers.

Yield:

In a depressed interest rate environment, MLPs offer attractive yields. As Exhibit 9 illustrates MLPs have generated higher yields than 10 Year Treasury notes, investment grade corporate bonds, and the S&P 500. High Yield bonds have offered a higher yield historically, although the spread with MLPs has tightened in recent years. Of course dividends and coupons are only one portion of the total return equation. MLPs are more volatile than High Yield or Investment Grade debt and are subject to equity-like price fluctuations.

Exhibit 9: Yield Comparison from January 1996 to June 2012 [17]



Source: Bloomberg, Barclays, Alerian, NAREIT, Federal Reserve Economic Data

Performance

MLPs' historical performance is a significant driver of current interest in the investment category. In this section, we evaluate MLP performance, risk (as measured by volatility and drawdown), and correlations with other asset categories. As we discuss in a later section, there are many different MLP indices but for the purposes of simplicity and presentation, the Alerian MLP Index will serve as the proxy for an investment in MLPs for the following analyses.

As shown in Exhibit 10, the Alerian MLP index has exceeded the S&P 500 in every calendar year for the past decade.

Indeed, one of the most compelling elements of MLPs for many investors is that they have generated strong returns for an extended period of

Exhibit 10: Calendar Year Returns

Index	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Alerian MLP Index TR	-3.4%	44.5%	16.7%	6.3%	26.1%	12.7%	-36.9%	76.5%	35.9%	13.9%
S&P 500 TR	-22.1%	28.7%	10.9%	4.9%	15.8%	5.5%	-37.0%	26.5%	15.1%	2.1%
Russell 2000 Index TR	-20.5%	47.3%	18.3%	4.6%	18.4%	-1.6%	-33.8%	27.2%	26.9%	-4.2%
HFRI Equity Hedge (Total) Index	-4.7%	20.5%	7.7%	10.6%	11.7%	10.5%	-26.7%	24.6%	10.5%	-8.4%
GSCI Commodity Index	32.1%	20.7%	17.3%	25.6%	-15.1%	32.7%	-46.5%	13.5%	9.0%	-1.2%
FTSE NAREIT Equity REIT (TR)	3.8%	37.1%	31.6%	12.2%	35.1%	-15.7%	-37.7%	28.0%	28.0%	8.3%

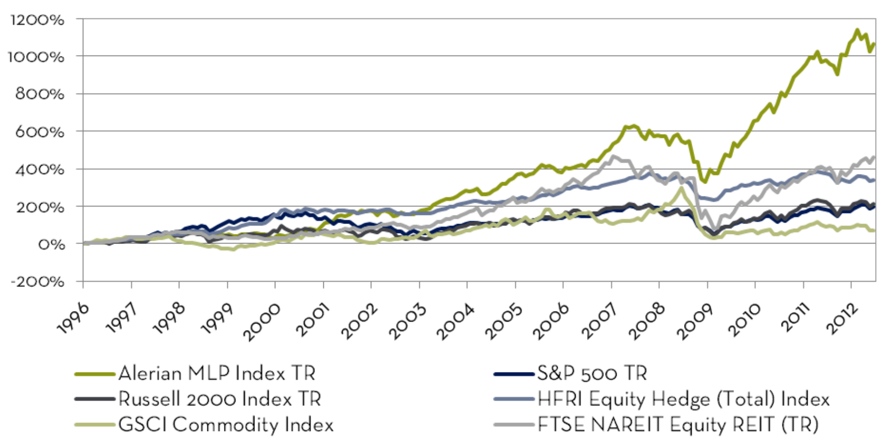
Source: NEPC, Alerian, HFRI, Pertrac, Bloomberg

Exhibit 11: Annualized Returns (as of June 30, 2012)

Index	1 Year	3 Years	5 Years	7 Years	10 Years
Alerian MLP Index TR	7.8%	27.0%	9.9%	13.0%	16.7%
S&P 500 TR	5.4%	16.4%	0.2%	4.1%	5.3%
Russell 2000	-2.1%	17.8%	0.5%	4.6%	7.0%
HFRI Equity Hedge (Total) Index	-7.4%	4.7%	-0.7%	3.4%	4.9%
GSCI Commodity Index	-10.7%	2.1%	-5.5%	-4.3%	3.4%
FTSE NAREIT Equity REIT (TR)	12.9%	32.4%	2.6%	6.2%	10.3%

Source: NEPC, Alerian, HFRI, Pertrac, Bloomberg

Exhibit 12: Cumulative Return from January 1996 to June 2012



Source: NEPC, Alerian, HFRI, Pertrac, Bloomberg

Exhibit 13: Risk/Reward Comparison (January 1996 to June 2012)

Index	Annualized Return	Standard Deviation	Sharpe Ratio	Max Draw-down
Alerian MLP Index TR	16.0%	15.8%	0.81	-41.1%
S&P 500 TR	6.9%	16.2%	0.28	-50.9%
Russell 2000 Index TR	7.2%	21.1%	0.27%	-52.9%
HFRI Equity Hedge (Total) Index	9.4%	9.8%	0.62	-30.6%
GSCI Commodity Index	3.3%	23.4%	0.11	-67.6%
FTSE NAREIT Equity REIT (TR)	11.0%	21.6%	0.44	-68.3%

Source: NEPC, Alerian, HFRI, Pertrac, Bloomberg

time. Exhibit 11 shows trailing annualized performance of the Alerian MLP Index relative to equity, commodity, and REIT indices.

This outperformance over common time periods is shown graphically in Exhibit 12, illustrating the strong performance of the Alerian MLP index relative to US equity benchmarks, equity hedge funds, commodities, and REITs.

Volatility and Drawdown:

Investors considering an investment in MLPs should be aware of potential for high volatility and large drawdowns in-line with equities and commodities. Despite the high volatility and equity-like drawdown potential, MLPs have still generated returns with a higher Sharpe ratio than other asset classes. When considering the potential for large drawdowns alongside other asset classes, it should be noted that the MLP segment rebounded to pre-financial crisis levels at a faster pace than other security types.

Exhibit 14 displays the risk and return of MLPs and the comparative benchmarks. Over this time period, the MLP index has generated very strong monthly returns but with significant volatility.

Correlation:

Correlation of MLP returns to US equities and equity hedge funds are modest, but positive. As Exhibit 15 shows, the correlation of the Alerian MLP index to the representative equity indices and equity hedge funds has been less than 0.4 over the period since inception. MLPs also exhibit a modest correlation to REITs, another type of tax sheltered and yield-oriented investment option. Of note, MLPs are less correlated with commodities (even the energy-heavy, GSCI Commodity Index) than they are with equities. This highlights the relatively limited inflation-hedging characteristics of the MLP segment.

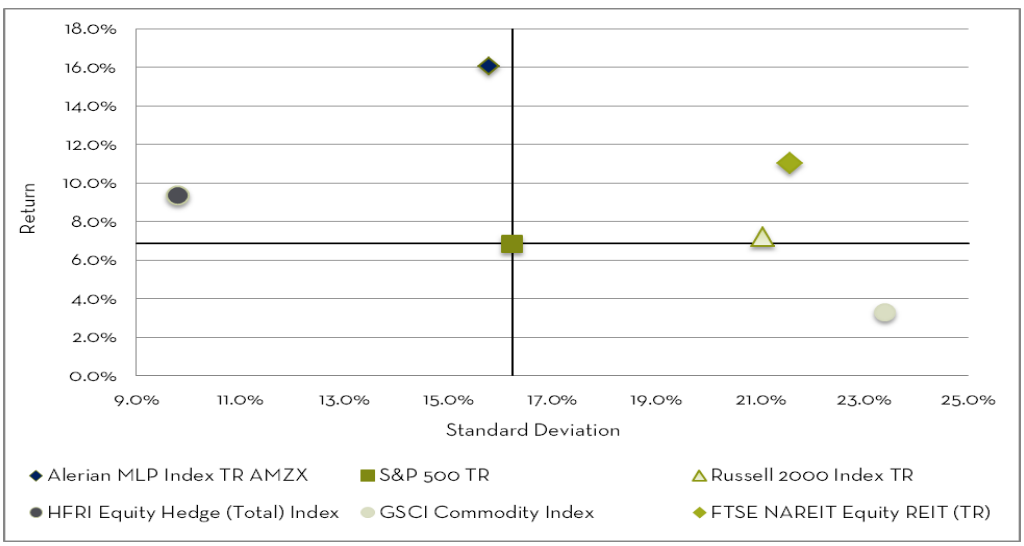
Importantly, the correlation of MLPs to other risk assets including stocks and commodities increased during 2008. Investors should be cognizant of this and have an expectation of increased correlations during periods of stress in the market.

MLP Benchmarking:

There are a limited number of MLP benchmarks available. In Exhibit 16 we highlight the characteristics of the various indices.

While these indices are the most commonly used amongst MLP investors, there are a number of custom indices utilized by managers in the segment as well. Investors should also note that the above indicies also include upstream and other energy-related MLPs, including publicly traded GPs, in the investable universe. There are dedi-

Exhibit 14: Annual Average Return and Standard Deviation (Jan 1996 to June 2012)



Source: NEPC, Alerian, HFRI, Pertrac, Bloomberg

Exhibit 15: Correlations from January 1996 to June 2012

	Alerian MLP Index TR AMZX	S&P 500 TR	Russell 2000 Index	HFRI Equity Hedge (Total) Index	GSCI Commodity Index	FTSE NAREIT Equity REIT (TR)
Alerian MLP Index TR AMZX	1.00					
S&P 500 TR	0.38	1.00				
Russell 2000 Index	0.39	0.81	1.00			
HFRI Equity Hedge	0.39	0.76	0.84	1.00		
GSCI Commodity	0.29	0.26	0.31	0.44	1.00	
FTSE NAREIT Equity	0.39	0.58	0.66	0.45	0.21	1.00

Source: NEPC, Alerian, HFRI, Pertrac, Bloomberg

Exhibit 16: MLP Index Comparison

Structure Comparison	Alerian MLP Index TR	Wells Fargo MLP Total Return Index	S&P MLP Index
Number of Constituents	50	65	55
Index Weighting	Float-Adjusted Market Cap	Float-Adjusted Market Cap	Float-Adjusted Market Cap No MLP can be more than 15% of the Index All stocks with a weight above 4.5% cannot collectively represent greater than 45% of the index
Rebalancing	Quarterly	Quarterly	Annually (July)
Market Cap Requirement	>$500 million float-adjusted	>$200 million, avg. market cap; must remain above $175 million for 30 day minimum prior to evaluation to stay in index	>$300 million float-adjusted
Liquidity Requirements	Median daily trading volume for trailing six months of 25,000 units	None	3 month average daily value traded above $2 million (preferred)
Distribution Stability Requirement	Distribution level maintained or grown quarter over quarter for	None	None
Inception Date	12/29/1995	12/31/1989	7/20/2001

Source: NEPC, Alerian, Wells Fargo, Standard and Poors

cated midstream or infrastructure MLP indexes within these universes; however they are even more concentrated in a smaller number of holdings.

For the purpose of the performance analyses in the preceding sections, we used the market capitalization-weighted Alerian MLP index. Important goals of benchmarking are representing the investable universe to capture the opportunity set available to investment managers in the segment. While the market-capitalization weighted methodology may skew the returns due to the large concentration in a small number of names, it remains representative of the opportunity set. The weighting of the Alerian biases the returns towards a handful of large MLPs, as illustrated in Exhibit 17.

Risks of MLP Investing

Valuation and Performance Regression to the Mean:

As shown in Exhibit 10, the Alerian MLP Index has generated annualized returns that have outperformed equity, equity-linked hedge fund and commodity indices for all trailing periods up to ten years. As Exhibits 4 and 6 illustrate, the size of the market has experienced tremendous growth as institutions have increased the amount of capital flowing into the space. While current MLP yield levels do not indicate that the segment is over-valued and the fundamental growth drivers appear to be strong, such sustained historical outperformance often creates significant overvaluation and the possibility of a regression of performance toward long-term averages for comparable-risk assets.

Volatility and Drawdown:

An investment in the MLP segment has the potential to generate returns that are highly volatile with large drawdowns that are in-line with equities and commodities, as illustrated in Exhibit 12.

Exhibit 17: Alerian Index Top 10 Holdings (as of June 15, 2012 quarterly rebalancing)

Index	Ticker	Market Cap ($ billion)	Adjusted Market Cap ($ billion)[18]	Weight in Index
Enterprise Products Partners LP[19]	EPD	$42.5	$26.4	15.5%
Kinder Morgan Energy Partners LP	KMP	$18.4	$16.4	9.6%
Plains All American Pipeline LP	PAA	$12.4	$11.4	6.7%
Energy Transfer Equity LP	ETE	$11.3	$8.2	4.8%
Magellan Midstream Partners LP	MMP	$7.6	$7.6	4.4%
Energy Transfer Partners LP	ETP	$10.0	$7.6	4.4%
Linn Energy LLC	LINE	$7.1	$7.0	4.1%
ONEOK Partners LP	OKS	$11.6	$6.6	3.8%
Kinder Morgan Management LLC	KMR	$7.1	$6.4	3.7%
Enbridge Energy Partners LP	EEP	$7.2	$5.5	3.2%
Total		**$135.1**	**$103.0**	**60.2%**

Source: Alerian

Liquidity:

While the trading volume and the market capitalization of the MLP universe has grown dramatically, it remains a very small segment relative to other asset classes. Liquidity becomes a greater concern if trading volumes drop dramatically during periods of stress and an investor holds positions in smaller MLPs with limited trading volumes. Importantly, MLPs are still primarily owned by retail investors. Strong recent performance and high yields raise concerns of more short-term investors entering the space. This investor composition could lead to elevated selling pressure in the event of negative news or poor short-term performance.

Concentration and Diversification:

As Exhibit 17 illustrates, the ten largest MLPs make up more than 60% of the investable universe captured by the Alerian MLP Index. This results in performance being driven by a small number of MLPS and limits the ability to diversify within the segment.

Correlation with Equities:

MLPs have a modest positive correlation to broader equity markets that has averaged approximately 0.40. This correlation is expected to increase dramatically during periods of market stress.

Idiosyncratic Risks:

The individual partnerships within the MLP opportunity set have diverse businesses with risks associated with individual issuers. As such, there are a number of additional risks to MLP businesses, as detailed below.

Regulatory and Legislative Risk:

The potential for regulatory or legislative changes that could eliminate the tax benefits enjoyed by MLPs remains a significant risk to the segment. This risk is mitigated somewhat by the support for increasing domestic energy production from both the President and Congress. The Federal Energy Regulatory Commission ("FERC") is the independent agency that regulates interstate transportation of natural gas, crude oil and electricity as well as natural gas and hydropower projects. The highly regulated nature of the business creates the perception of revenue stability for these businesses; however, a change to the fee structure for these businesses remains a remote risk. Drilling activity could potentially decline as a result of environmental regulations enacted on "fracking", which is increasingly being viewed in a negative light by environmentalists.

Energy Sector Risk:

MLPs have commodity price risk, which can have a direct impact on businesses operating in the oil and natural gas production, gathering and processing, and coal sectors. Commodity price swings can also impact the businesses of MLPs that do not own the actual commodities by affecting demand which in turn has an impact on volumes.

Furthermore, the expected growth in the MLP midstream sector is predicated on the continued growth in drilling activity, a decline in which could affect volume and revenues for midstream energy businesses. A decline in drilling activity could occur as a result of regulatory action or from findings that determine original estimates of shale reserves are overstated. Either scenario would result in a shortfall versus projected hydrocarbon production which would seriously impair midstream revenues and growth expected from new projects.

The segment is also prone to business execution risk. Operational issues may occur as a result of a bad investment in a non-accretive asset or could arise as a result of a weather event or other disruptive occurrence inherent in the hard asset segment (such as an accident or a pipe breaking). Such an occurrence would negatively affect returns for the MLP in question. The recent trend has seen variable distribution MLPs enter the market. These businesses have less stable cash flows but have attracted the attention of investors due to their often initial high initial yields. These businesses may seem attractive in the short-term but could struggle in poor economic conditions.

Capital Market Risk:

MLPs are also heavily dependent on capital markets to facilitate continued growth because of the high percentage of revenues that are paid out each quarter to unit holders. The ability of energy MLPs to continue to access debt from the capital markets and retain strong credit ratings is crucial for continued growth. A severe economic downturn could negatively impact MLPs' ability to access the capital markets and could also lower profitability by reducing energy demand. Additionally, MLPs tend to underperform in a rising interest rate environment as the cost of capital for acquisitions rises.

Ownership Structure Risk:

The GP/LP relationship within an MLP structure creates a situation where conflicts of interests may arise. The IDRs increasingly favor the GP as distributions grow. This increases the cost of capital as each new asset acquired by the MLP must increase returns to meet IDR hurdles. This could potentially entice the GP to grow cash distributions at an unsustainable rate for the purpose of increasing their share of distributions. Such actions may increase the performance of an MLP in the short-term but may threaten the business in the long-term. GPs may also sell parent company assets to an MLP ("drop down"), which represents a potential conflict on acquisition price. This represents one of the ways an MLP could be mismanaged by a GP, which may be more concerned with other business aspects of the company to the detriment of the MLP.

MLP Investment Approaches

There are a number of ways for institutional investors to access the MLP segment. There are investment managers that can actively manage a portfolio of MLPs as well as passive strategies that will closely track selected MLP benchmarks. Exhibit 18 lists these approaches.

NEPC does not recommend investing directly in individual MLP units but rather to choose from a number of available options that provide diversified exposure to the segment. When considering different investment options, investors should be aware of the type of the strategy and costs asso-

Exhibit 18: Comparison of MLP Investment Approaches[20]

Structure Comparison	Separate Account	Commingled Fund	Closed-End Fund	Exchange-Traded Fund (ETFs)	Exchange-Traded Note (ETNs)
Fund Type	SMA	Partnership	Closed-End	Open-Ended	Structured Note
Management Style	Active	Active	Active or Passive	Passive	Passive
Publicly Traded	No	No	Yes	Yes	Yes
Tax Status	Partnership	Partnership	Taxable C-Corp	Taxable C-Corp	Taxable Note
Tax Reporting	Multiple K1's	Multiple or Consolidated K-1s or Form	Form 1099	Form 1099	Form 1099
Leverage	Possible	Possible	Yes	No	Sometimes
Liquidity	Daily	Typically Monthly	Daily or Monthly	Daily	Daily
Distribution Treatment	Typically Return of Capital	Typically Return of Capital	Typically Return of Capital	Typically Return of Capital	Ordinary Income
UBTI	Yes	Typically yes, some can block	No	No	No
Management Fees	75-125 bps and could include a performance fee	~100 bps and could include a performance fee	95-150 bps	~85 bps	~85 bps
Number of Individual Holdings	20-35	20-35	20-60	Matched to an Index	Matched to an Index
Benefits	Client-Directed Active Management	Active Management	Liquidity in the form of fund shares	Provides diversification and liquidity	Provides diversification and liquidity through synthetic exposure
Considerations	Administrative burden and costs	Fees Administrative burden and costs	Shares typically trade at a premium or discount to the NAV of the underlying holdings	Double taxation	Passive strategy that masks an index Bank credit risk

Source: NEPC, Tortoise Capital Advisors, Swank Capital ciated with certain approaches such as a long/short strategy. Some managers do offer solutions that address administrative and tax issues associated with MLP investing.

Conclusion

The need for increased investment in energy infrastructure in North America provides the foundation for continued growth of the MLP segment. While recent MLP performance has been strong, plan sponsors considering the segment need to be aware of the potential risks. First, volatility comparable to equities should be expected. It should also be understood that MLPs have historically exhibited modest positive correlations to broader markets and these correlations have increased dramatically during periods of market stress. As a result, MLPs cannot be counted on to provide diversification across all market conditions. Finally, the degree to which MLPs provide a hedge for inflation is limited.

The businesses and performance of MLPs are diverse which means there is the potential for alpha generation in the segment, however the market is relatively small and highly concentrated which can limit the size and frequency of alpha opportunities. Manager and vehicle selection is a critical aspect to meeting investment goals as well as addressing any administrative burdens or tax implications unique to particular plan sponsor types.

As a result of these considerations, we suggest that MLPs should not be viewed as a standalone asset class but rather as one component of a natural resources equity or diversified real assets allocation. In this framework, a properly sized MLP allocation may play a role as part of a comprehensive investment approach to the strong expected growth of the energy infrastructure sector.

Endnotes

1. Incentive Distribution Rights (IDRs) provide GPs with an increased share of revenues as distributions grow, a schedule of which is specified in MLP agreements. A small number of companies that can be grouped into the MLP classification for the purposes of this paper are structured as LLCs. LLCs do not have a GP or IDRs, investors are called members instead of partners, and all members are granted voting rights; however, this is a tax advantaged structure that operates in a similar fashion to MLPs.
2. US Internal Revenue Code Section 7704
3. Qualified natural resources include crude oil, natural gas, petroleum products, coal, other minerals, timber and any other resource that can be depleted as defined in Section 613 of the US Internal Revenue Code. Section 7704 was amended in 2008 to include industrial source carbon dioxide, ethanol, biodiesel and other alternative fuels.
4. Other sources of qualifying income were defined to include interest, dividends, real property rents, income from the sales of property, gains from the sale of assets, income from the sale of stock, gains from commodities and commodity-related futures/options. Retail operations are generally excluded except in the propane sector.
5. Most MLPs have multiple business lines and any reference to midstream energy MLPs means that these partnerships generate the largest portion of their revenues from operations in the midstream energy sector.
6. Excludes oil and gas royalty trusts in PTP form, commodity funds, open- and closed-end MLP funds, MLP ETFs and MLP Indexes.
7. MLPs set a Minimum Quarterly Distribution ("MQD") requirement for common equity units held by investors. These units will typically be backstopped by subordinated units held by the parent company that are used to replace any shortfalls in distributions.
8. NEPC is not a tax advisor and this is not intended to constitute tax advice. The tax treatment of an MLP investment is an important issue, which is why it is being addressed here. This discussion is intended to describe the tax treatment as clearly as possible, but does not address certain nuances that may occur in some instances.
9. MLPs are attractive for individual investors' estate planning purposes because the cost basis gets reset when transferred to an heir.
10. Income shielded during the holding period is taxed as UBTI upon the sale of a unit for tax-exempt plans.

11. Some public pension plans have decided that they do not have to pay taxes on UBTI. MLP investment managers can discuss different approaches to considering UBTI.
12. The INGAA Foundation, Inc. "North American Natural Gas Midstream Infrastructure Through 2035: A Secure Energy Future", June 28, 2011
13. Morgan Stanley Research
14. Morgan Stanley Research
15. MLP market capitalization data as of 12/31/11
16. Morgan Stanley Research
17. The 10 Year US Treasury data is courtesy of the Federal Reserve Economic Data ("FRED") database and is the US 10 Year Treasury Constant Maturity Index (Not Seasonally Adjusted, End of Period Data). The BarCap US Credit and BarCap High Yield Indices utilize yield to worst calculations and assumptions from Bloomberg. The S&P 500 dividend yield is the 12 month cumulative dividend divided by the current price index level, calculated on a rolling monthly basis. The FTSE NAREIT Equity REIT yield is provided by National Association of Real Estate Investment Trusts ("NAREIT") and the Alerian MLP Index Yield is calculated by Alerian.
18. Adjusted Market Cap takes into account non-common units, lock-up common units, insider-owned common units and the GP-owned units.
19. Enterprise Products Partners LP has been an NEPC client since 2008.
20. There are also mutual funds that invest in MLPs that are not included in this exhibit. Mutual funds cannot be more than 25% allocated to MLPs or own more than 10% of an MLP or the vehicle will lose its tax-exempt status

Disclaimers and Disclosures

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.
- The information in this report has been obtained from sources NEPC believes to be reliable. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- This report contains summary information regarding the investment management approaches described herein but is not a complete description of the investment objectives, portfolio management and research that supports these approaches. This analysis does not constitute a recommendation to implement any of the aforementioned approaches.