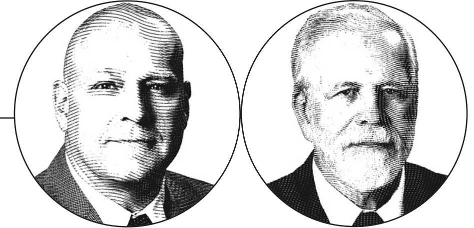
MuhlenkampMemorandum

Issue 133 | **Published First Quarter** | **January 2020**

Quarterly Letter



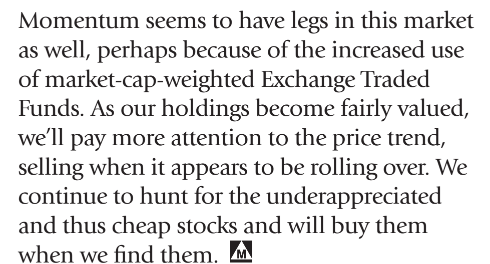
By Jeff Muhlenkamp, Portfolio Manager and Ron Muhlenkamp, Founder

In round numbers, the S&P 500 Index had a total return of 31% in 2019, the Russell 3000 rose 30%, the Dow Jones Industrial Average rose 25%, and our accounts increased by about 14%. (Individual performance varies by account, see your annual statement.) Why the difference? While recognizing the limitations of all generalizations, we would argue that there are two categories of companies that the market continues to award a premium to: very safe, defensive companies (think utilities and Real Estate Investment Trusts) and disruptive or high-growth companies (examples include Amazon, Tesla, and Mastercard). We own little of either category, so the market is bidding up stocks we mostly don't own. We remain interested primarily in profitability over the longer term and the price at which we can buy it while the market appears to be less concerned than we are about profitability and pretty price insensitive for popular companies. We expect eventually the market will come back to our way of thinking, but it sure didn't in 2019. On an absolute basis we had a good year, on a relative basis we did not.

Looking back over 2019 only two things really mattered much to the economy of all the things that hit the headlines: tariffs and the Federal Reserve. The imposition of tariffs on imported goods forced a re-evaluation of a lot of supply chains and was a headwind for businesses. The Fed reversed the direction of policy in January: shifting from raising rates and reducing their balance sheet to lowering rates and expanding their balance sheet. This avoided a problem: when the Fed is raising rates and pulling money out of the economy by shrinking the balance sheet, sooner or later highly indebted companies have a problem rolling over their debt. This is the concern we voiced over two years ago when they began this "tightening." Now that they've reversed themselves our long-standing concern is deferred to a later date to be replaced by worries that higher inflation is now more likely. There is no free lunch. On average, the economy continued to grow at a modest pace, but if you look at it by sector the results were mixed. Housing improved, but industrial production declined. Energy was weak due to low oil prices, retail was a mixed bag, etc. Inflation remained low. Unemployment continued its downtrend and median wages picked up. We spoke on a number of occasions during the year about the areas where we see warning signs and areas that look pretty good. It's been a mixed bag all year and remains so at year end.

Looking forward, what do we expect? We think the point of maximum uncertainty in trade rules is behind us and businesses will stop postponing strategic decisions. If inflation remains low, the Fed will keep short-term interest rates low and market-based long-term interest would also stay low. Rising inflation would be a problem for stock and bond markets and force some hard decisions on the Fed—we have no strong opinion on the direction of inflation in 2020. We'll be watching measures of industrial activity closely, a further or extended decline would be worrisome. We will also watch credit metrics closely—they look pretty good right now. Our baseline is for continued moderate economic growth in the U.S. and we'll let you know if we are seeing signs of a further slowdown or acceleration.

The bull market in stocks has run for a decade now and there are portions of the market that look expensive to us. Safety, disruption, and high growth are all attributes of companies that have been bid up.



Momentum seems to have legs in this market as well, perhaps because of the increased use of market-cap-weighted Exchange Traded Funds. As our holdings become fairly valued, we'll pay more attention to the price trend, selling when it appears to be rolling over. We continue to hunt for the underappreciated and thus cheap stocks and will buy them when we find them.

The comments made in this article are opinions and are not intended to be investment advice or a forecast of future events.

Dow Jones Industrial Average (DJIA) is one of several stock market indices, created by 19th century Wall Street Journal editor Charles Dow to gauge the performance of the industrial sector of the American stock market. The DJIA consists of 30 of the largest and most widely held public companies in the United States. Note the "industrial" portion of the name is largely historical; many of the 30 modern companies have little to do with traditional heavy industry. *You cannot invest directly in an index.*

Russell 3000 Index acts as a benchmark of the performance of stock prices for 3,000 of the largest publicly-traded companies in the U.S. stock market, as measured by market capitalization. The stocks represented in the index are only updated every June to take a snapshot of the current stock market, therefore the index is passively managed except for its annual reconstitution. *You cannot invest directly in an index.*

S&P 500 Index is a widely recognized, unmanaged index of common stock prices. The S&P 500 Index is weighted by market value and its performance is thought to be representative of the stock market as a whole. *You cannot invest directly in an index.*

Muhlenkamp & Company, Inc.
Intelligent Investment Management

Prolific Natural Gas in the United States: Looking Back Over the Last Decade

By Jeff Muhlenkamp, Portfolio Manager and Ron Muhlenkamp, Founder

A bit more than a decade ago the combination of horizontal drilling and hydraulic fracturing began to transform the energy industry in the United States. These techniques unlocked oil and natural gas trapped in shale rock formations: energy resources our geologists were well aware of but which could not be recovered economically before then. The practitioners of the new methods spent billions of investor dollars developing these newly accessible resources in Texas, Pennsylvania, West Virginia, Ohio, and North Dakota. The output of these gas and oil fields first drove down the price of natural gas, then the price of oil.

We've used Figure 1 for years to illustrate the effect of the new technology on energy prices. Let me walk you through this chart a little bit. The price of oil in dollars per barrel is the black line, charted against the left vertical axis. The price of natural gas, in dollars per Million British Thermal Units (MMBTU) is the blue dashed line, plotted against the right vertical axis. The two axes are scaled so that when the two plots overlap a quantity of energy in the form of crude oil is the same price as an equal quantity of energy in the form of natural gas. You can see that from 2000 to 2005 energy was the same price whether you bought it in liquid (crude oil) or gaseous (natural gas) form with the exception of a couple of cold winters when natural gas prices spiked. In 2006 that changed, and energy in the form of natural gas got cheaper than energy in the form of crude oil. That difference in energy prices (or spread) widened from 2009 until 2014 when oil prices dropped from $100 per barrel to $40 per barrel and the spread was cut in half. Today crude oil is roughly $55 per barrel and natural gas is $2.50 per MMBTU. If energy were priced the same regardless of form, either natural gas would be $10/MMBTU or oil would be $13.50/BBL, so the spread remains pretty wide and natural gas is still a far cheaper source of energy than oil.

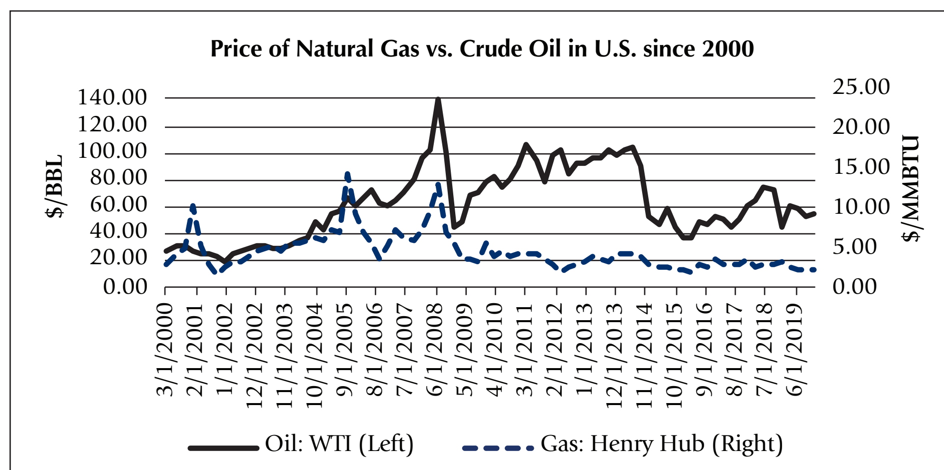


Figure 1 - Source: Bloomberg WTI - Western Texas Intermediate

U.S. Electricity Generation

Source	2008	2018	Change
Total	4.12 BN MWH	4.20 BN MWH	+ 1.9%
Coal	49%	28%	- 21%
Oil	1%	0%	- 1%
Natural Gas	22%	36%	+ 14%
Wind	2%	7%	+ 5%
Nuclear	20%	20%	0%
Hydro	6%	7%	+ 1%
Solar	0%	2%	+ 2%

Figure 2 - Source: US EIA

We thought for a period of time that the price difference between oil and natural gas would result in a shift in fuels for part of the transportation industry. Companies experimented with natural gas powered trucks, cars, and even locomotives, but none of those applications got much traction with consumers or businesses. Today, in large part due to tighter regulations on emissions by the maritime shipping industry there is experimentation in the use of natural gas to power oceangoing vessels. It remains to be seen whether natural gas adoption becomes widespread in that application or not.

What has happened is that cheap natural gas coupled with tighter emissions standards has dramatically shifted the mix of how we generate electricity in America. Data from the U.S. Energy Information Administration (U.S. EIA) in Figure 2 shows the breakdown of electricity generation in the U.S. in 2008 and 2018. First, note that the total amount of generation didn't change meaningfully over the course of the decade. In 2008, total electricity generation was 4.12 billion megawatthours (MWH) and in 2018, it was 4.20 billion megawatthours. Second, notice that the percentage of electricity generated by coal dropped from 49% of the total in 2008 to 28% of the total in 2018—a huge change. What picked up the slack? Natural gas, which went from 22% of the total in 2008 to 36% in 2018, wind which went from 2% to 7%, and all forms of solar energy which went from 0% to 2% over that period.

The combination of the change in power sources and stricter emissions regulations drastically reduced the emissions of carbon dioxide, sulfur dioxide, and nitrogen oxides from our power plants. Natural gas is a

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much cleaner burning fuel than either coal or oil, so simply changing the fuel source improves emissions. Scrubbers added to existing coal plants contributed to the improvement as well. The chart in Figure 3 shows the magnitude of the decline in three key emissions.

Perhaps somewhat surprisingly, those changes did not result in higher electricity prices on an inflation-adjusted basis. Take a look at Figure 4. The black dashed line is the average cost of electricity in cents per kilowatthour in the U.S. from 2008 to 2018. The line rises gradually over time, but if we adjust electricity prices for inflation, we get the solid blue line which is gradually falling over time. So the price of electricity has risen less than the rate of inflation over the last ten years.

From a consumer perspective it's hard to argue that this hasn't been a great deal: electricity has gotten cleaner and cheaper fueled by low cost natural gas. For anyone that uses natural gas for heat in the winter the benefits have been even more direct, as the cost of heating has dropped with the cost of natural gas. (Look again at figure 1. Natural gas was approximately $6/MMBTU in 2004 and is roughly $2.50/MMBTU today!)

Investors haven't fared nearly as well. Figure 5 is a chart of the S&P 500 Energy Index from the end of 2008 until December 2019. From 2008 to March 2014 the index roughly doubled. We consider this the "Boom phase" of the energy sector as investors poured money into energy companies hand over fist. Then oil and gas prices collapsed in mid-2014 and the index dropped 35% by the end of 2015. It hasn't recovered since. We consider this the "Bust Phase" of the energy sector.

As the industry entered the "Bust Phase" investor dollars dried up and companies were forced to live within their cash flows. As a result they have drastically cut capital spending from prior levels. At some point, the reduced capital spending will reduce the supply of oil and gas which should improve pricing a little bit. Until then, the industry will struggle and weaker companies will go out of business. We saw the first round of bankruptcies in 2015 after the collapse in oil prices and we are seeing some more

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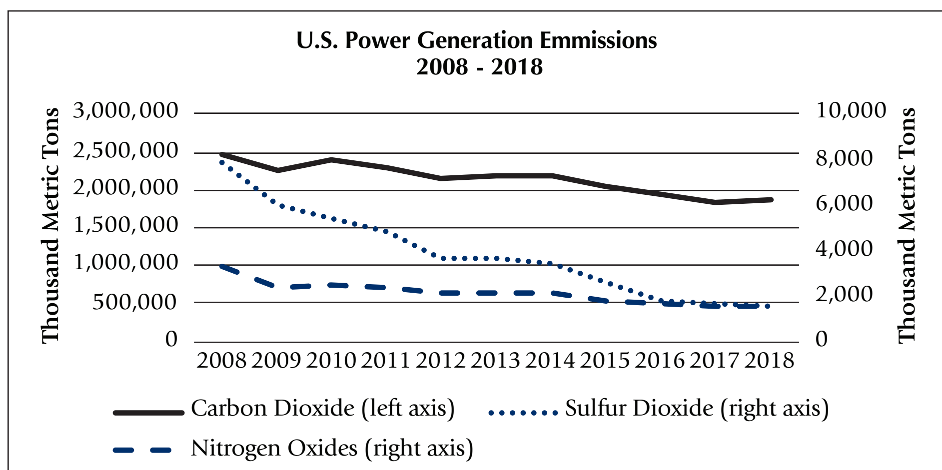

Figure 3 - Source: U.S. EIA

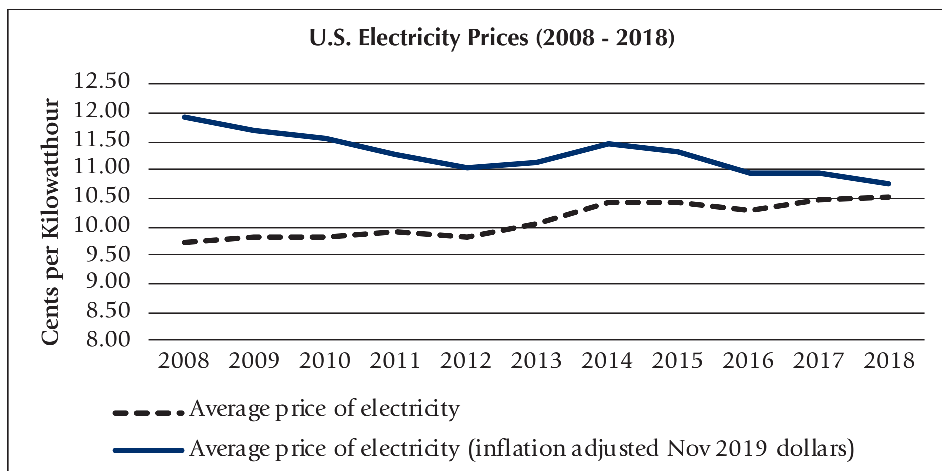

Figure 4 - Source: U.S. EIA and Muhlenkamp and Company

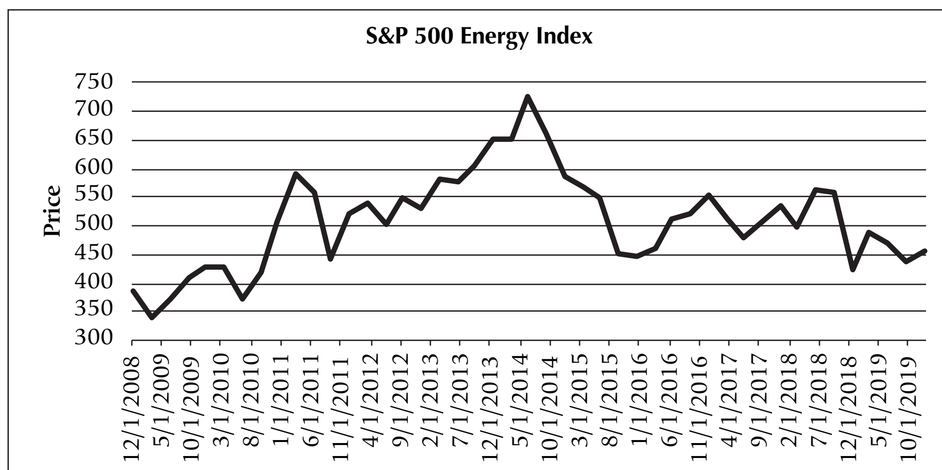

Figure 5 – Source: Bloomberg

S&P 500 Energy Index is a subindex of the S&P 500 Index, it includes only companies that are classified in the energy sector. *You cannot invest directly in an index.*

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Upcoming Webcast
February 27, 2020
4:00 - 5:00 p.m. ET
Register at www.muhlenkamp.com
or (877)935-5520.

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Prolific Natural Gas

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bankruptcies now. That will likely continue until prices improve enough to support the remaining companies.

The other way prices improve, besides tightening supply, is expanding demand. A number of companies are working very hard to grow demand for natural gas either by shipping it to our neighbors via pipeline or by liquefying it and shipping it overseas. Figure 6 is a chart of U.S. natural gas exports since 2000. The volume of gas we export has increase over **14 times** during that period. The increase in exports until 2016 was almost exclusively via pipeline to Canada and Mexico. Beginning in 2016, we began exporting significant quantities of liquefied natural gas (LNG) via ship. Of the 3.6 trillion cubic feet of gas we exported in 2018, 47% went to Mexico, 30% was exported as LNG, and 23% went to Canada. We expect natural gas exports to continue to grow for the next few years as additional pipeline capacity and additional LNG capacity is still being built.

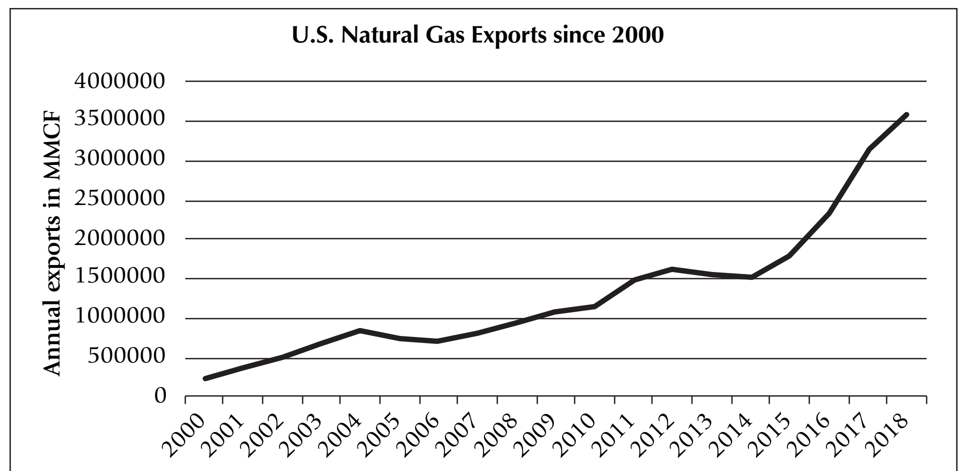
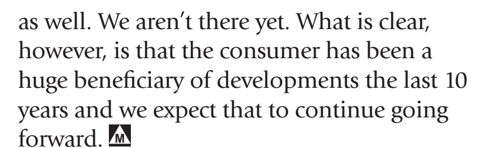


Figure 6 - Source: U.S. EIA

As we stated previously we think the U.S. energy industry is in the "Bust" phase of a "Boom/Bust" cycle. Currently we find that companies whose profits are tied to energy volumes, as opposed to energy prices or drilling activity, are very interesting, and very cheap. At some point supply and demand will come into balance and support better pricing, at which point other energy companies will become interesting



as well. We aren't there yet. What is clear, however, is that the consumer has been a huge beneficiary of developments the last 10 years and we expect that to continue going forward.

The comments made in this article are opinions and are not intended to be investment advice or a forecast of future events.

MuhlenkampSMA All-Cap Value

For the period ended 12/31/2019

Muhlenkamp & Company's All-Cap Value SMA (Separately Managed Account) is designed for investors' accounts over $100,000. We employ full discretion, applying fundamental analysis.

Investment Objective

We seek to maximize total after-tax return through capital appreciation, and income from dividends and interest, consistent with reasonable risk.

Investment Strategy

We invest in undervalued assets wherever they may be found. Typically, this results in holding a portfolio of companies we believe are materially undervalued by the market. Bonds may be included in the portfolio if they are a good investment.

Investment Process

We start with a bottom-up scan of domestic companies, typically looking at most U.S. companies at least four times per year. We add to that an understanding of the sector dynamics in which companies are operating, an assessment of the business cycle, and a review of macroeconomic conditions.

Our primary screening metric is return on shareholder equity (ROE). We are looking for companies with stable returns that can be purchased cheaply, or for companies with improving returns that have not yet been recognized by the market.

We don't believe that a holding period of "forever" is appropriate in all cases, but are comfortable holding companies as long as they continue to meet expectations.

Investment Risk

We define investment risk as the probability of losing purchasing power over long periods of time, which is quite different from Wall Street's definition of price volatility in very short periods of time. Taxes, inflation, and spending will ALL impact the purchasing power of your assets.

Muhlenkamp & Company, Inc.
Intelligent Investment Management

All-Cap Value Composite Performance (Net of Fees)

	Year to Date	One Year	Annualized Past 3 Years	Past 5 Years	Past 10 Years	Past 15 Years
Return	13.79%	13.79%	4.43%	0.94	5.27%	2.14%
S&P 500 Total Return*	31.49%	31.49%	15.28%	11.70%	13.56%	9.00%
Consumer Price Index**	2.38%	2.05%	2.14%	1.72%	1.75%	2.00%

* **The S&P 500 is a widely recognized, unmanaged index of common stock prices. The figures for the S&P 500 reflect all dividends reinvested but do not reflect any deductions for fees, expenses, or taxes. One cannot invest directly in an index.**

** Consumer Price Index (CPI) – As of November 2019 – U.S. CPI Urban Consumers NSA (Non-Seasonally Adjusted), Index. The Consumer Price Index tracks the prices paid by urban consumers for goods and services and is generally accepted as a measure of price inflation. Price inflation affects consumers' purchasing power.

Consolidated performance with dividends and other earnings reinvested. Performance figures reflect the deduction of broker commission expenses and the deduction of investment advisory fees. Such fees are described in Part II of the adviser's Form ADV. The advisory fees and any other expenses incurred in the management of the investment advisory account will reduce the client's return. It should not be assumed that recommendations made in the future will be profitable or will equal the performance of the above accounts. A list of all security recommendations made within the past twelve months is available upon request.

Top Twenty Holdings

Company	Industry	% of Net Asset
Apple Computer Inc.	Technology Hardware, Storage & Peripherals	6.34%
Microsoft Corporation	Software	6.17%
Microchip Technology Inc.	Semiconductors & Semiconductor Equipment	4.03%
Invesco Buyback Achievers	Exchange Traded Funds	3.75%
CVS Health Corp.	Health Care Providers & Services	3.34%
SPDR Gold Shares	Exchange Traded Funds	3.29%
Alerian MLP ETF	Exchange Traded Funds	3.18%
Dow Inc.	Chemicals	3.18%
Berkshire Hathaway Class B	Diversified Financial Services	3.16%
Bristol-Myers Squibb Company	Pharmaceuticals	3.13%
Broadcom Inc.	Semiconductors & Semiconductor Equipment	3.10%
McKesson Corporation	Health Care Providers & Services	2.95%
Jazz Pharmaceuticals Inc.	Pharmaceuticals	2.92%
Lockheed Martin Corp.	Aerospace & Defense	2.84%
Annaly Capital Management Inc.	Mortgage Real Estate Investment Trusts	2.80%
Gilead Sciences, Inc.	Biotechnology	2.78%
Lennar Corp Class A	Household Durables	2.66%
Meritage Homes Corp.	Household Durables	2.59%
Alliance Data Systems Corporation	IT Services	2.40%
Cameco Corporation	Oil, Gas, & Consumable Fuels	2.25%

Composite holdings are subject to change and are not recommendations to buy or sell any security.

Composite Top Twenty Holdings are presented as supplemental information to the fully compliant presentation on the next page.

Return on Equity (ROE) is a company's net income (earnings), divided by the owner's equity in the business (book value).

Portfolio Manager

Jeffrey P. Muhlenkamp, Portfolio Manager, CFA, has been active in professional investment management since 2008. He is a graduate of both the United States Military Academy and Chapman University.

SMA Facts

Average Number of Equity Holdings	30
Cash & Cash Equivalents	13.51%
Portfolio Turnover	23.57%‡

‡ *Trailing 12 months*

SMA Facts are presented as supplemental information.

SMA Information

The All-Cap Value Composite was created in December 2003 and includes fee-paying accounts over $100,000, full discretion, under management for at least one full quarter which are invested in the All-Cap Value strategy. The composite excludes the Muhlenkamp Fund and any wrap fee account.

Minimum Initial Investment	$100,000.00
Management Fee*	1% (first $1 million); 0.5% on the remainder

** May vary by account.*

Investment Adviser

Muhlenkamp & Company, Inc.
5000 Stonewood Drive, Suite 300
Wexford, PA 15090-8395
(877)935-5520
services@muhlenkamp.com

www.muhlenkamp.com

Muhlenkamp & Company serves individual and institutional investors through our no-load mutual fund and separately managed accounts.

Muhlenkamp & Company, Inc. All-Cap Value Composite Annual Disclosure Presentation

				ANNUAL PERFORMANCE			THREE-YEAR ANNUALIZED STANDARD DEVIATION*		
Year End	Total Firm Assets (USD) (millions)	Composite Assets (USD) (millions)	Number of Accounts	Composite Gross	Composite Net	S&P 500 Total Return Index	Composite	S&P 500 Total Return Index	Composite Dispersion**
2019	258	34	48	14.70	13.79	31.49	10.33	12.10	1.37
2018	254	32	51	(11.71)	(12.45)	(4.38)	9.24	10.80	1.21
2017	342	40	52	15.24	14.30	21.83	8.70	9.92	2.12
2016	339	39	52	(1.86)	(2.68)	11.96	9.73	10.59	1.17
2015	422	48	67	(4.66)	(5.45)	1.38	10.41	10.47	0.68
2014	541	51	67	10.27	9.37	13.69	9.55	8.97	2.06
2013	585	50	60	35.50	34.39	32.39	11.29	11.94	3.13
2012	491	41	66	11.29	10.34	16.00	12.02	15.09	1.14
2011	555	45	74	(2.84)	(3.67)	2.11	16.60	18.70	0.85
2010	724	59	82	2.96	2.15	15.06			1.45
2009	839	90	107	32.68	31.72	26.46			2.80
2008	759	112	155	(40.53)	(40.94)	(37.00)			1.97
2007	1886	327	289	(7.61)	(8.19)	5.49			3.77
2006	3393	371	337	6.09	5.34	15.79			3.70
2005	3471	287	289	10.04	9.22	4.91			3.38

The objective of this All-Cap Value Composite is to maximize total after-tax return, consistent with reasonable risk—using a strategy of investing in highly profitable companies, as measured by Return on Equity (ROE), that sell at value prices, as measured by Price-to-Earnings Ratios (P/E).

Muhlenkamp & Company, Inc. ("Muhlenkamp") claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Muhlenkamp has been independently verified for the periods December 31, 1993 through June 30, 2016 by Ashland Partners & Company LLP and for the periods July 1, 2016 through June 30, 2019 by ACA Performance Services, LLC.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The All-Cap Value Composite has been examined for the periods December 31, 1993 through June 30, 2019. The verification and performance examination reports are available upon request.

Muhlenkamp is an independent registered investment advisory firm registered with the Securities and Exchange Commission. The firm's list of composite descriptions is available upon request.

Returns are based on fully discretionary accounts under management, including those accounts no longer with the firm. Composite may invest in American Depositary Receipts (ADRs).*** Accounts may be shown gross or net of withholding tax on foreign dividends based on the custodian. Past performance is not indicative of future results.

The U.S. dollar is the currency used to express performance. Returns are expressed as percentages and are presented gross and net of management fees and include the reinvestment of all income. Net of fee performance was calculated using actual management fees. The annual Composite dispersion presented is an asset-weighted standard deviation calculated for the accounts in the Composite the entire year. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.

* **Three-Year Annualized Standard Deviation** *is a measure of volatility, calculated by taking the standard deviation of 36 monthly returns, then multiplying the result by the square root of 12 to annualize it. Since standard deviation measures the dispersion of a set of numbers from its mean, higher results indicate more variation in monthly returns over the trailing three years.*

** **Composite Dispersion** *is a measure of the similarity of returns among accounts in the Composite. It is the standard deviation of the annual returns for all accounts which were in the Composite for the entire year.*

*** **American Depositary Receipts (ADRs)** *are shares that trade in U.S. markets, but represent shares of a foreign company. A bank (the depository) purchases a number of the foreign shares and holds them in a trust or similar account; in turn, the bank issues shares tradable in the U.S. that represent an interest in the foreign company. The ratio of ADRs to foreign shares is set by the bank. ADRs do not mitigate currency risk, but can reduce transaction costs and simplify trading compared to buying the local shares in the foreign markets.*

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