Topics in Portfolio Construction

From the Global Investment Committee

Energy Finds its Footing: Temporary Reversal or Late-Cycle Reprise?

May 8, 2018

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Overview: Topics in Portfolio Construction

Monthly publication from the Global Investment Committee (GIC) for clients and their Financial Advisors who seek to generate strong potential risk-adjusted performance over the next 12 months by applying quantitative analysis to the GIC's views.

In this month's edition, we address a potentially important market development:

Energy Finds its Footing: Temporary Reversal or Late-Cycle Reprise?

Since June 2017, **oil prices have surged** on restraint from major international oil producers, lower capital spending from US firms, buoyant demand fueled by strong global growth, and **geopolitical tensions** that increase risk premiums and threaten to further reduce supply.

Energy stocks may benefit from the oil price reversal, and have historically **performed strongly in late-cycle environments**. We believe this historical pattern may persist, supported by the sector's **stronger fundamentals: higher free cash flow yields** and **cheaper valuations relative to traditional defensive sectors**.

Factor-based investing can help investors select exposures within the Energy sector. We note that **international energy companies** are **higher quality** and appear **more attractive to those in the US**. We also note that **Deep Value and Momentum factors** have been effective in selecting energy exposures.

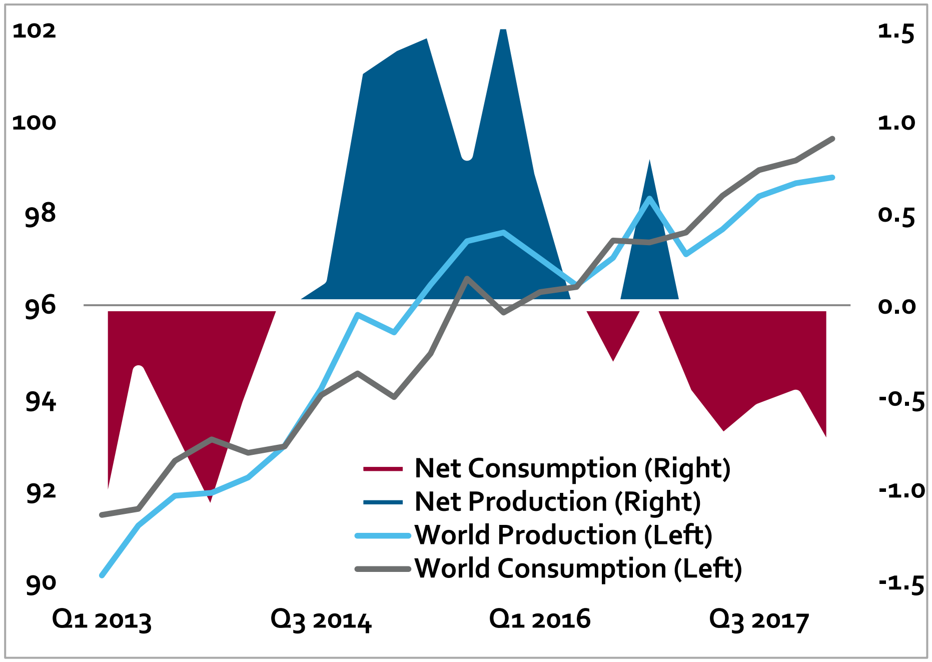
Oil Surged on Demand Growth & Supply Restraint on Geopolitical Conflict

- **Strong global growth**, now estimated at 3.9% for 2018, has **boosted fuel demand, throwing production and consumption out of balance** and pushing oil prices to four-year highs. The US economy is now operating above its sustainable growth rate, which is leading to **rising inflation expectations and prices.** While these conditions prevail, commodity prices may continue to move higher, which would benefit the energy sector.
- OPEC and Russia have recommitted to limiting oil production after competition for market share earlier this cycle resulted in painful revenue shortfalls. The US has become the world's fastest-growing oil producer, but its ability to impact global prices may be muted due **to limited capacities to transport inventories abroad**. Recent **geopolitical tensions** in oil-exporting regions have increased risks to future supply, further supporting prices.

Oil prices have risen to four-year highs on back of rising demand and falling supply…

World Liquid Fuels Production and Consumption Balance

As of April 2018, Million barrels per day



… geopolitical tensions are adding new risks to supply, signaling potentially higher oil prices in the near term.

Recent Headlines Concerning Commodity Prices[1]

As of May 1, 2018

- *President Trump announced his intention to re-negotiate the Iran nuclear accord and potential sanction on Iran's banking and insurance businesses, which could pose challenges on global movement of Iranian oil.*
- *US sanctions against major Russian commodity producers could lead to retaliation by Russia on oil and gas supply.*
- *Syria missile strike by the US may create complexities with Russia and Turkey, disrupting oil flows out of Ceyhan.*
- *Venezuela is expected to see decline in oil production, but is currently pumping significantly below quota, signaling risks on future supply.*
- *Israel Prime Minister Netanyahu accused Iran for violating the nuclear accord*

Source: EIA, Morgan Stanley Wealth Management GIC, FactSet. Note: (1) *Oil's Bullish Bottlenecks* by Michael Warren and Donald Luskin, TrendMacro , April 24, 2018

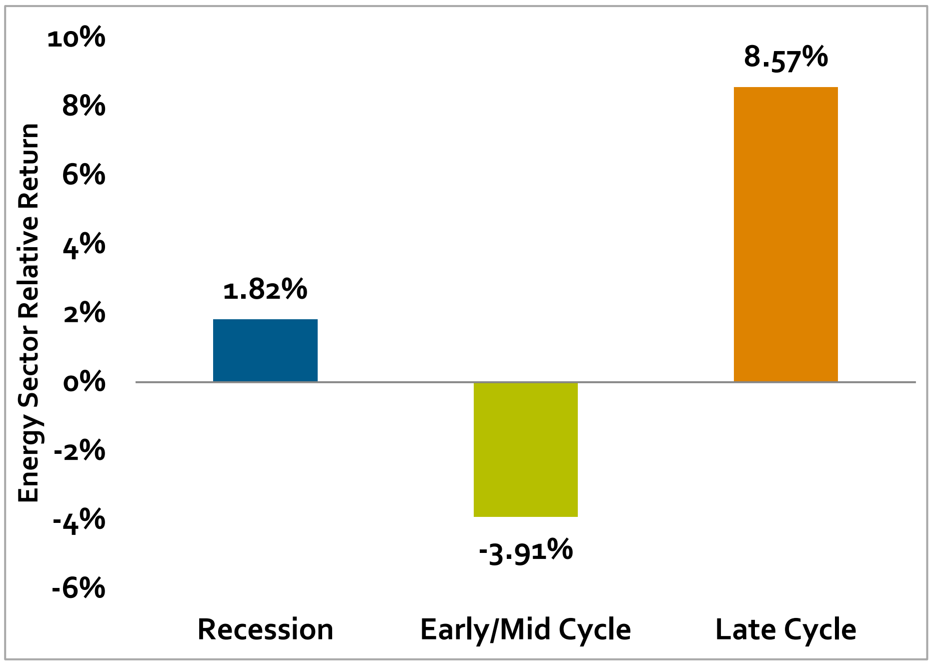
Late-Cycle Environments Have Favored Energy; Is Leadership Rotating?

- Historically, **energy has performed most strongly relative to the market during the final stage of an economic expansion**. Closing output gaps during this period mean the economy is generating inflation, which causes central banks to tighten monetary conditions. That cocktail of factors is particularly challenging for consumer-oriented businesses, but is more favorable for energy whose **profitability is most sensitive to inflation**.
- In the past month, **energy has outperformed the broader market by a considerable margin** (approximately 13% relative to S&P 500), while the previously high-flying tech sector has only achieved market return. This change in leadership may signal that investors' **sentiment is shifting from "growth-at-any-price" to refocus on fundamental value**.

Late in economic expansions has historically been the period where energy company performance is strongest…

Energy Sector Relative Performance by Cycle Stage

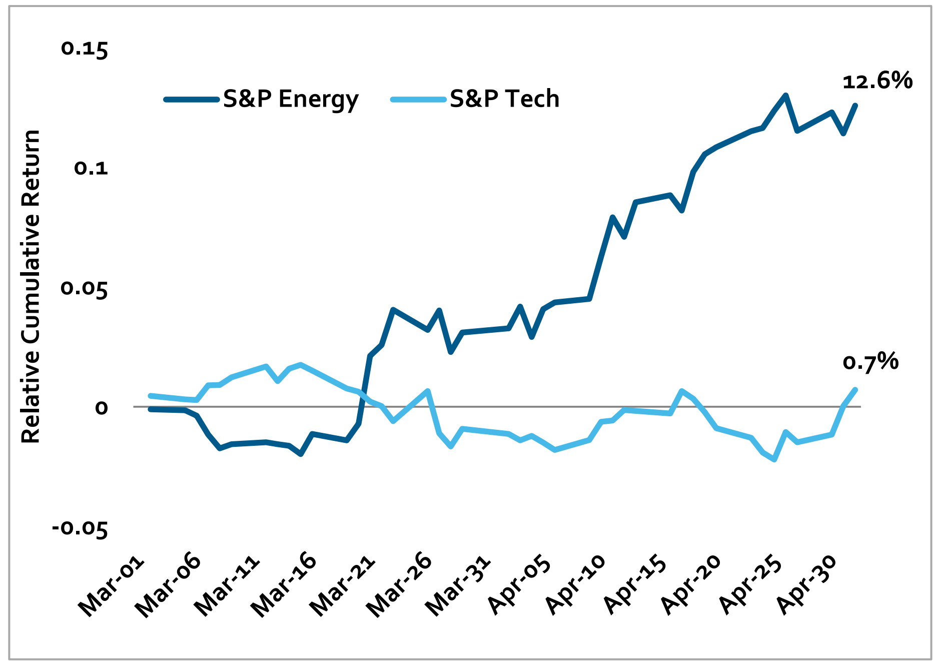
October, 1989 – April, 2018



… the energy sector substantially outperformed the broader market starting from the middle of March, while Tech performed in-line.

US Energy and Technology Sector Relative Performance

As of May 2, 2018



Source: Morgan Stanley Wealth Management GIC, FactSet, Bloomberg

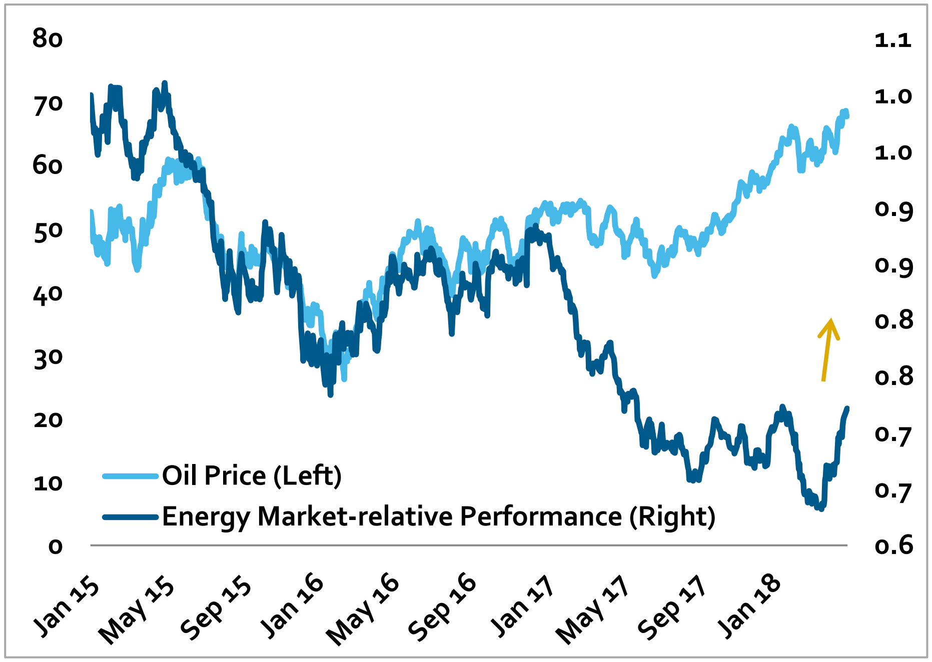
Energy's Rebound Is Very Recent and Has Lagged the Recovery in Oil

- The **healthy rebound in the Energy sector** comes after an extended period of underperformance and **lagged the move in oil prices**. Credit stress in the energy sector and investor enthusiasm for fast-growing Tech companies have accounted for part of this. **Investor wariness about the sustainability of higher oil prices** amid a much-changed producer landscape also contributed, suggesting **upside potential if higher oil prices hold up.**
- Over the past year, **oil prices have explained only 36% of the variation in energy sector returns**, which is **low by historical standards**. Fundamentals like operating efficiency and balance sheet strength, as well as sentiment and technicals, have been factors in the divergence. We believe these factors have begun to swing in favor of the sector.

Oil prices began a breakout in June 2017, but the energy sector only began outperforming the market in March…

Energy Relative Performance vs Oil

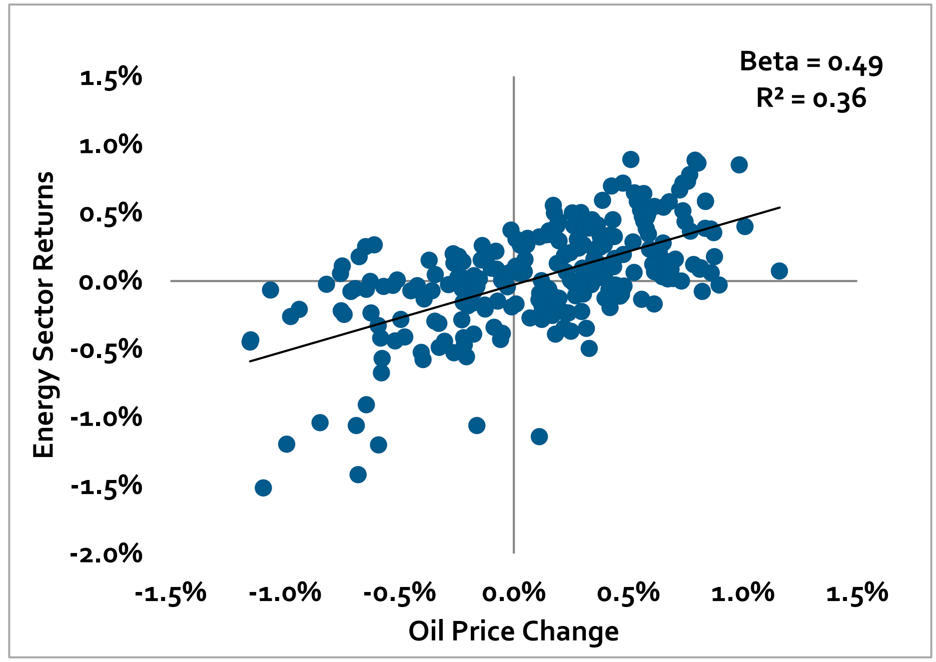
As of April 3, 2018



… although a strong relationship exists, divergence between oil prices and sector returns can be explained by other factors.

Energy Sector Returns vs. Oil Price Change

April 30, 2017 - May 1, 2018



Source: Morgan Stanley Wealth Management GIC, Bloomberg

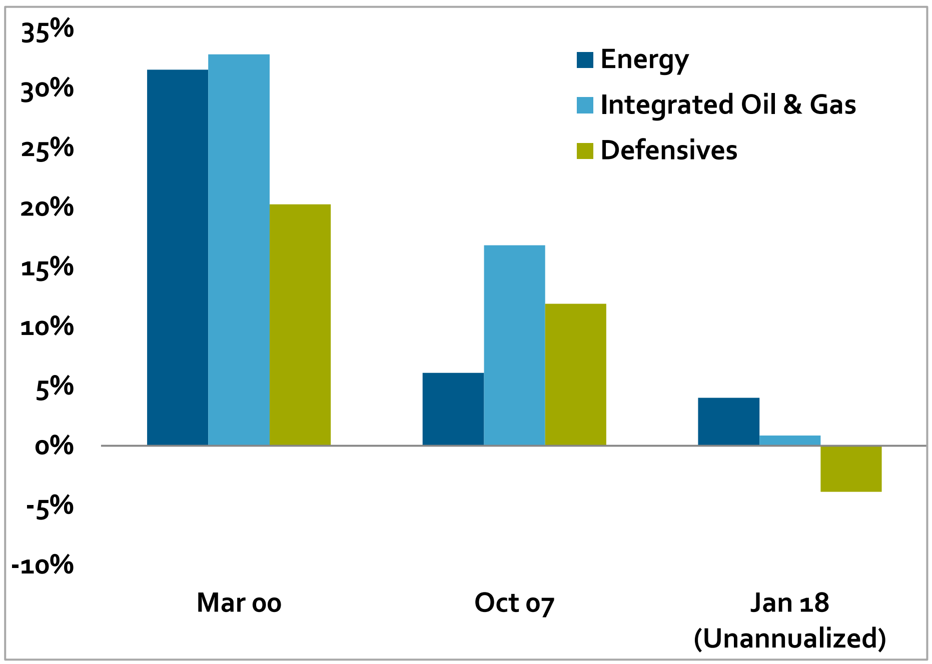
Energy Has Outperformed in Down Markets & Is Cheaper Than Defensives

- Although typically seen as a cyclical sector, Energy stocks **can exhibit defensive qualities during late-cycle periods and help support against market drawdowns**. In past cycles, large-cap **Energy stocks have fared better than traditional defensives[1] after market peaks**, and significantly outperformed the broad market.
- While we would anticipate rates to fall in the event of a recession, benefiting 'bond proxies' such as utilities and consumer staples relative to the broader market, we believe that higher oil prices and **the lower valuations of Energy stocks versus richly valued defensives** establish a sound basis for them to pace the market at that stage of this cycle as well.

In past cycles, Energy has provided a measure of support against market drawdowns…

Large Cap Cohorts Relative Performance after Market Peaks

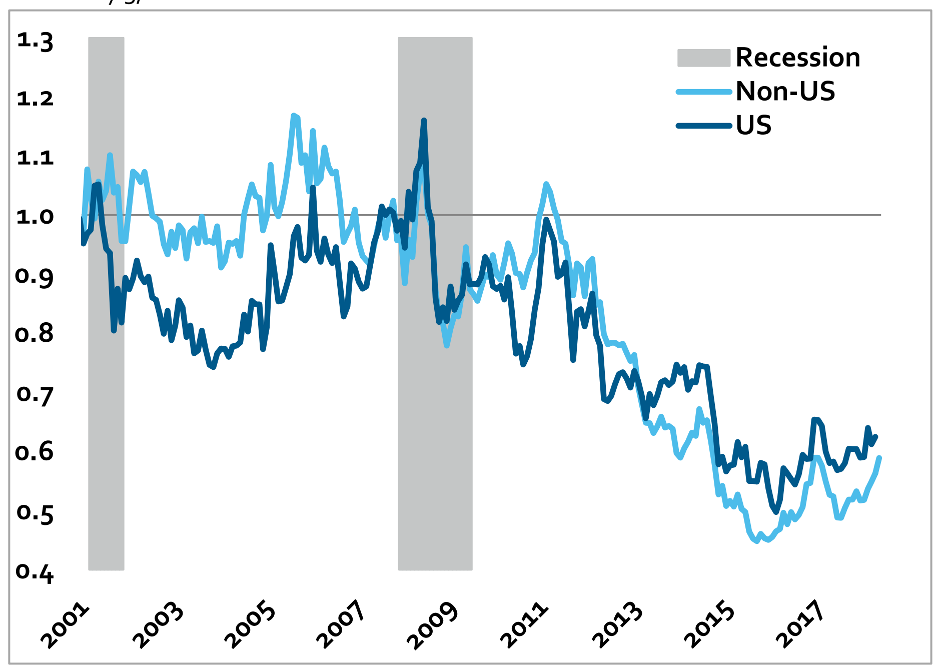
As of April 30, 2018



… and are currently attractively valued compared to traditional defensive sectors based on P/B ratios.

Large Cap Energy vs Defensives Relative P/B

As of May 3, 2018



Source: Morgan Stanley Wealth Management GIC, FactSet, Bloomberg. Note: (1) Defensive sectors include Consumer Staples, Telecom, Real Estate and Utilities.

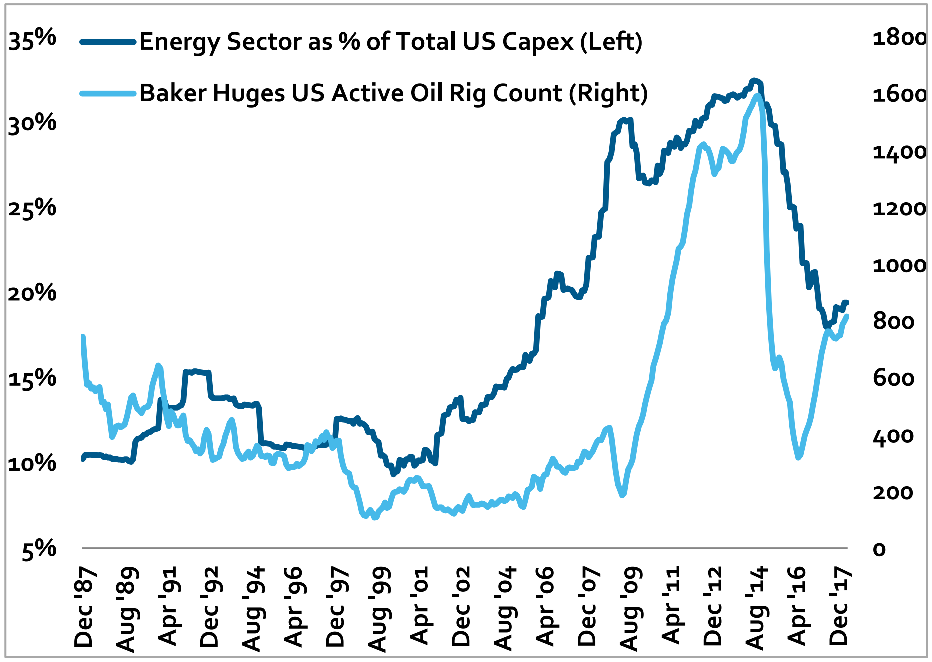
Spending Discipline, Higher Free Cash Flow Means Better Fundamentals

- The energy market collapse in 2014 following a decade of **excessive capital expenditure** has forced Energy companies to cut production and **improve their capital spending discipline**. We believe the low investment rate in the past three years may mitigate the ability of production to catch up to the current oil price, adding momentum to the earnings picture. Spending discipline has also improved the health of these companies' balance sheets.
- Energy companies' ability to generate free cash flow has improved significantly with higher oil prices. Consequently, the sector has a **positive free cash flow yield** for the first time since 2016. Our colleagues at MS & Co. found that Exploration & Production (E&P) companies are now **returning cash to shareholders** at a much higher rate compared to two years ago[1], which improves the attractiveness of the cohort.

Capital spending and production growth have declined significantly after decades of overspending, signaling better discipline…

Energy Sector Capital Spending and Oil Rig Count

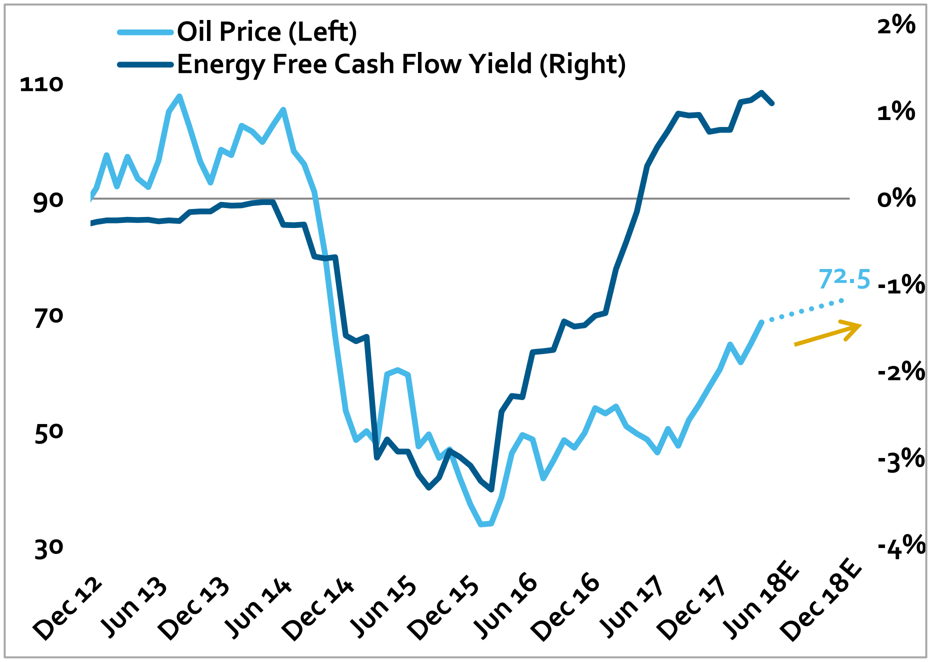
As of April 25, 2018



… Energy companies now have positive free cash flow yields and higher buyback/dividend payout ratios.

Energy Sector Free Cash Flow Yield and Oil Price

As of April 30, 2018



Source: Morgan Stanley Wealth Management GIC, Bloomberg, Haver Analytics. Note: (1) *Will Investors Reward E&Ps for Discipline?* Drew Venker, Morgan Stanely & Co., April 18, 2018.

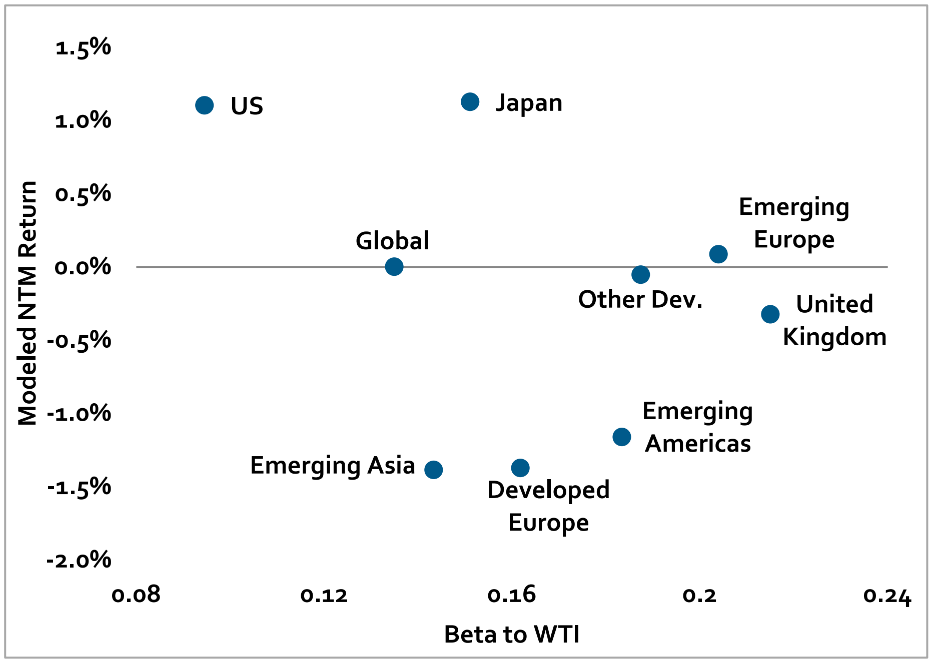
Quality, Oil-Sensitive Market Segments Lean International

- Certain segments of the global equity markets are more **levered to higher oil prices**. In order to identify these opportunities, we calculated different market segments' trailing one-year betas to oil price changes, and plotted them against our modeled next 12-month returns based on our *Tactical Equity Framework*. Notably, **higher quality, more cheaply valued companies** tend to have higher modeled next 12-month returns.
- Within global regions**, non-US markets**, especially Emerging Europe, UK, and Other Developed Markets (Canada, Australia and New Zealand) exhibit **higher sensitivities to oil prices**, as the Energy sector accounts for a larger share of their markets. We also **prefer international energy exposure** based on its higher-quality and lower valuations compared to the US.

Non-US markets exhibit higher sensitivities to oil prices, as the Energy sector accounts for a larger share of their markets…

Modeled NTM Global Market Relative Return vs. Oil Beta

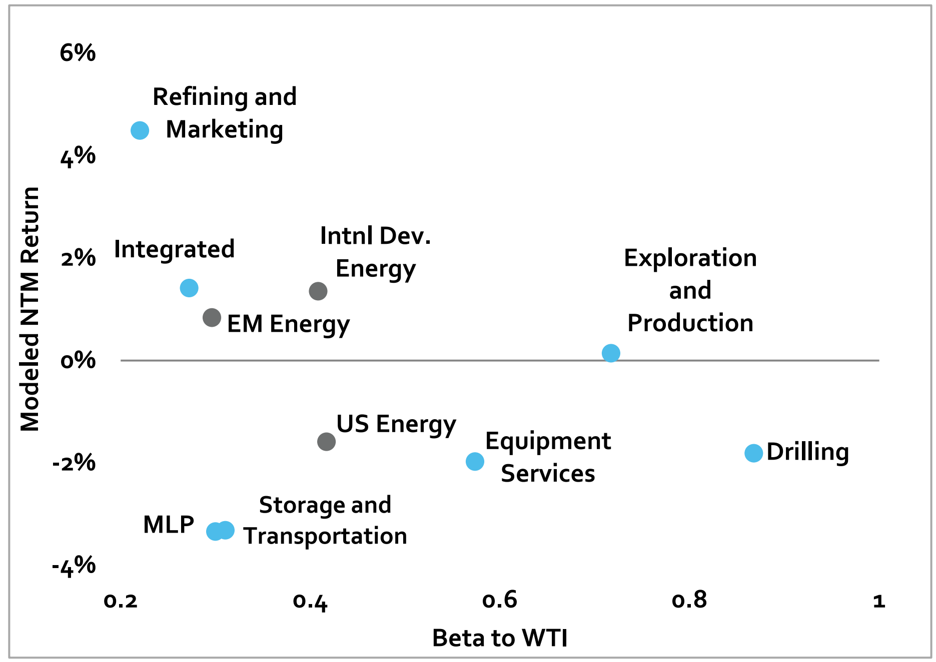
As of April 30 , 2018



… International energy stocks appear more attractive on higher quality and lower valuation.

Modeled NTM US Energy Relative Returns vs. Oil Beta

As of April 30, 2018



Source: Morgan Stanley Wealth Management GIC, FactSet. For definitions of factors and universes, please reference our special report, *Tactical Equity Allocation: Introducing a Systematic Framework for Short-Term Investment Views*, December 2015.

Prefer Energy Exposures with Deep Value and Momentum Characteristics

- Energy is one of the most volatile sectors in the equity market. We believe that factor analysis yields insight into oil market dynamics, and can be used to identify potentially more attractive segments of the sector. Within the US, **Deep Value** has historically been the most effective factor for selecting energy stocks during periods of rising oil prices. Outside the US, **Momentum** has proven to be a more effective way to identify high performers.
- Based on these findings, we leverage our quantitative factor-based *Tactical Equity Framework* to identify US and non-US subindustries with attractive Deep Value and Momentum exposures that screen well on overall factor profiles.

Deep Value and Momentum have proven to be effective in selecting energy stocks…

Historical Factor Relative Return within Energy Sector

As of April 30, 2018

Forward 3-Month Factor Return	US ENERGY		NON-US ENERGY	
	Deep Value	Momentum	Deep Value	Momentum
Long-Term History	1.7	0.2	1.9	2.2
Past Periods of Rising Oil Price	1.6	-0.3	-0.3	2.5
Since 04/2016	0.9	0.0	4.3	2.6

… accordingly we identify US and non-US subindustries based on exposures to these two factors.

Top US and Non-US Subindustries by Select Factor Exposures

As of April 30, 2018

Subindustry	US			NON-US		
	Deep Value	Momentum	Overall	Deep Value	Momentum	Overall
Coal & Consumable Fuels	✔	✔	✔	✔		✔
Integrated Oil & Gas			✔	✔	✔	✔
Oil & Gas Drilling		✔		✔	✔	✔
Oil & Gas Equipment & Services						
Oil & Gas Exploration & Production		✔			✔	
Oil & Gas Refining & Marketing	✔	✔	✔			
Oil & Gas Storage & Transportation						

Source: Morgan Stanley Wealth Management GIC, FactSet. For definitions of factors and universes, please reference our special report, *Tactical Equity Allocation: Introducing a Systematic Framework for Short-Term Investment Views*, December 2015. Note: Factor performance relative to equally weighted stocks, sector performance is cap-weighted.

Glossary and Risk Considerations

ALPHA The excess return of an investment relative to the return of a benchmark index.

BETA A measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

CORRELATION This is statistical measure of how two securities move in relation to each other. This measure is often converted into what is known as correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation coefficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random. A correlation greater than 0.8 is generally described as strong, whereas a correlation less than 0.5 is generally described as weak.

DISPERSION is a measure for the statistical distribution of portfolio returns . It is the asset-weighted standard deviation of individual portfolio returns within a comparable composite from the composite return.

DRAWDOWN is the peak-to-trough decline during a specific recorded period of an investment, fund or commodity.

INFORMATION RATIO (IR) is a ratio of portfolio returns above the returns of a benchmark—usually an index—to the volatility of those returns.

Risk Considerations

Daniel Hunt, Lucy Yan and Aili Chen are not members of the Global Investment Committee and any implementation strategies suggested have not been reviewed or approved by the Global Investment Committee.

For index, indicator and survey definitions referenced in this report please visit the following: http://www.morganstanleyfa.com/public/projectfiles/id.pdf

Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation.

Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

Investing in the market entails the risk of market volatility. The value of all types of securities may increase or decrease over varying time periods.

Master Limited Partnerships (MLPs) Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment.

Derivative instruments: Options, futures contracts, options on futures contracts, forward contracts, swaps and structured products are examples of derivative instruments. Risks of derivative instruments include imperfect correlation between the value of the instruments and the underlying assets; risks of default by the other party to certain transactions; risks that the transactions may result in losses that partially or completely offset gains in portfolio positions; and risks that the transactions may not be liquid. Please see the fund's prospectus for additional information.

International investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging and frontier markets, since these countries may have relatively unstable governments and less established markets and economies.

Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are suitable only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; and Risks associated with the operations, personnel, and processes of the manager. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. All expressions of opinion are subject to change without notice and are not intended to be a forecast of future events or results. Further, opinions regarding Alternative Investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management. This is not a "research report" as defined by FINRA Rule 2241 and was not prepared by the Research Departments of Morgan Stanley Smith Barney LLC or Morgan Stanley & Co. LLC or its affiliates. Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank. In Consulting Group's advisory programs, alternative

Risk Considerations

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Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

Interest on **municipal bonds** is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Also, municipal bonds acquired in the secondary market at a discount may be subject to the market discount tax provisions, and therefore could give rise to taxable income. Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence. The tax-exempt status of municipal securities may be changed by legislative process, which could affect their value and marketability.

Duration, the most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio would be to changes in interest rates. Generally, if interest rates rise, bond prices fall and vice versa. Longer-term bonds carry a longer or higher duration than shorter-term bonds; as such, they would be affected by changing interest rates for a greater period of time if interest rates were to increase. Consequently, the price of a long-term bond would drop significantly as compared to the price of a short-term bond.

Asset-backed securities generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

Credit ratings are subject to change.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

Investing in foreign markets entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks. These risks are magnified in **frontier markets. Investing in currency** involves additional special risks such as credit, interest rate fluctuations, derivative investment risk, and domestic and foreign inflation rates, which can be volatile and may be less liquid than other securities and more sensitive to the effect of varied economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

Investing in **smaller companies** involves greater risks than those associated with investing in more established companies, including significant stock price fluctuations and illiquidity.

Stocks of medium-sized companies entail special risks, such as limited product lines, markets, and financial resources, and greater market volatility than securities of larger, more-established companies.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets. Companies paying dividends can reduce or cut payouts at any time.

Companies paying **dividends** can reduce or cut payouts at any time.

Nondiversification: For a portfolio that holds a concentrated or limited number of securities, a decline in the value of these investments would cause the portfolio's overall value to decline to a greater degree than a less concentrated portfolio. Portfolios that invest a large percentage of assets in only one industry sector (or in only a few sectors) are more vulnerable to price fluctuation than those that diversify among a broad range of sectors.

Risk Considerations and Disclosures

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

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