

Client Conversations

The Outlook on Oil



The Oil Market Is a Supply and Demand Story

As of August 31, 2017

- During 2014 to early 2016, oversupply in the oil market sent crude oil crashing, with prices falling below \$30/barrel early in 2016, after averaging more than \$100/barrel in the first half of 2014. Since then, the story has shifted, as a supply response in the US and healthy demand growth globally has allowed prices to recover off the lows.
- The supply story focuses around OPEC and the US.
 - At a recent meeting in Vienna, OPEC announced it would cut production by 1.2 million barrels per day and extend these cuts through March of 2018. This is a significant shift as OPEC members since 2014 have adopted policies of flooding the market with hopes of gaining market share. On top of this, Non-OPEC major producers have informally joined the cartel's cut, pledging a decrease of 600,000 barrels per day (half of which are expected to come from Russia). The promises of these production cuts have helped stabilize oil prices and pull the supply/demand rebalancing story forward.
 - In the US, rig counts declined significantly in response to the dramatic price decreases but have now rebounded with crude stabilizing. After declining since late 2015, US production is now inflecting upward as rigs come back online.
- The demand story relies on strong continued demand growth from developing economies like India and China, as well as stable growth in the developed world (e.g., global recession is avoided).
- **Consider:** With crude oil markets forecasted to balance this year, the next energy upcycle has begun with the price recovery still likely in its early or middle innings. Midstream MLPs may be a particular beneficiary, as they could benefit from both commodity price recovery and US volume growth.

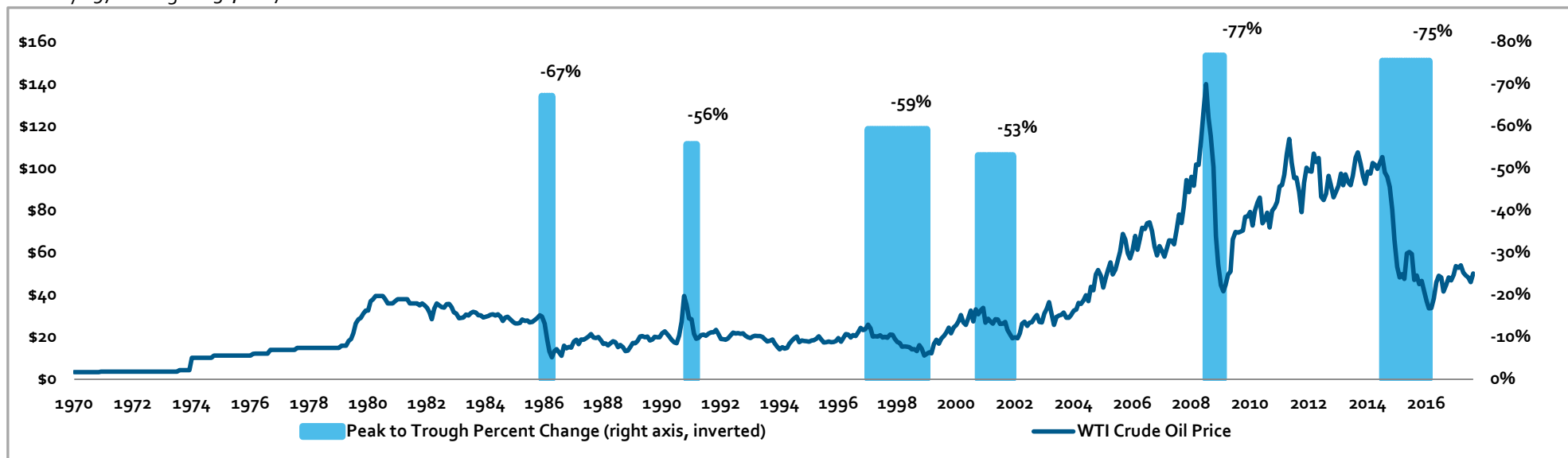
Source: Morgan Stanley Wealth Management GIC

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Crude Prices Have Declined Significantly

WTI Crude Oil Price

January 1970 – August 31, 2017



WTI Crude Oil Price Declines and Subsequent 1-Year S&P 500 Total Returns

January 1970 - July 31, 2017

Date	Change in WTI Peak to Trough	S&P 500 One-Year Total Return After Oil Trough
11/20/1985 to 3/31/1986	-67%	26%
10/11/1990 to 2/22/1991	-56%	16%
12/19/1996 to 12/21/1998	-59%	21%
9/20/2000 to 11/15/2001	-53%	-17%
7/3/2008 to 12/19/2008	-77%	26%
6/13/2014 to 2/11/2016	-75%	29%
Average	-65%	17%

S&P 500 averaged 15% returns one year after hitting a trough in WTI oil price declines greater than 50%

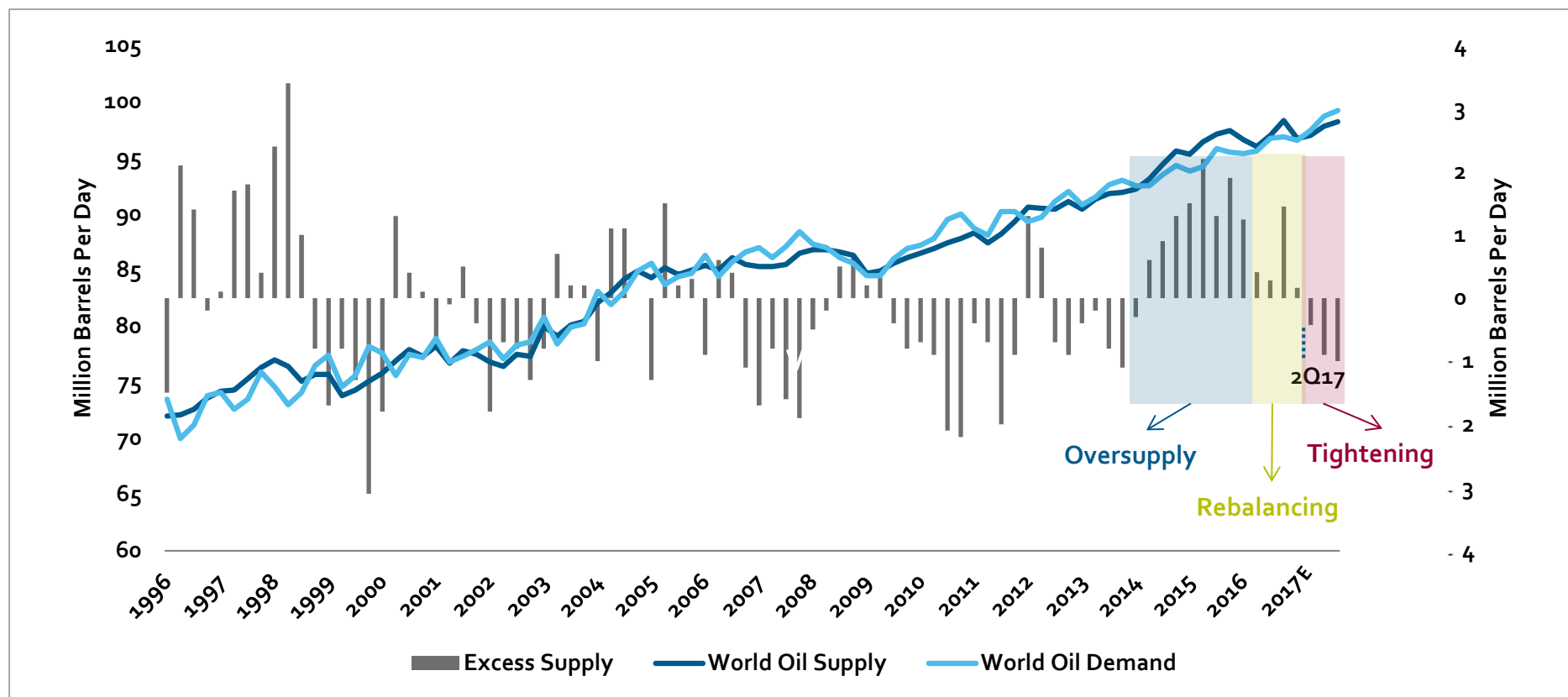
Source: Bloomberg, Ibbotson, Morgan Stanley Wealth Management GIC. Calculated by Morgan Stanley Wealth Management using data provided by Morningstar. (c) 2017 Morningstar, Inc. All rights reserved. Used with permission. This information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information.

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Oil Market Tightening is Imminent

World Oil Supply and Demand

Forecasts as of August 31, 2017 for data through December 31, 2017E



Oversupply Extreme oversupply sends prices crashing down. Capex plunges as profits are tested and rigs shut down.

Rebalancing Inventories stabilize as prices come back to normal.

Tightening Under-supplied markets send prices higher. Higher prices spur a rebound in capex. Rigs come back online as prices are above breakevens.

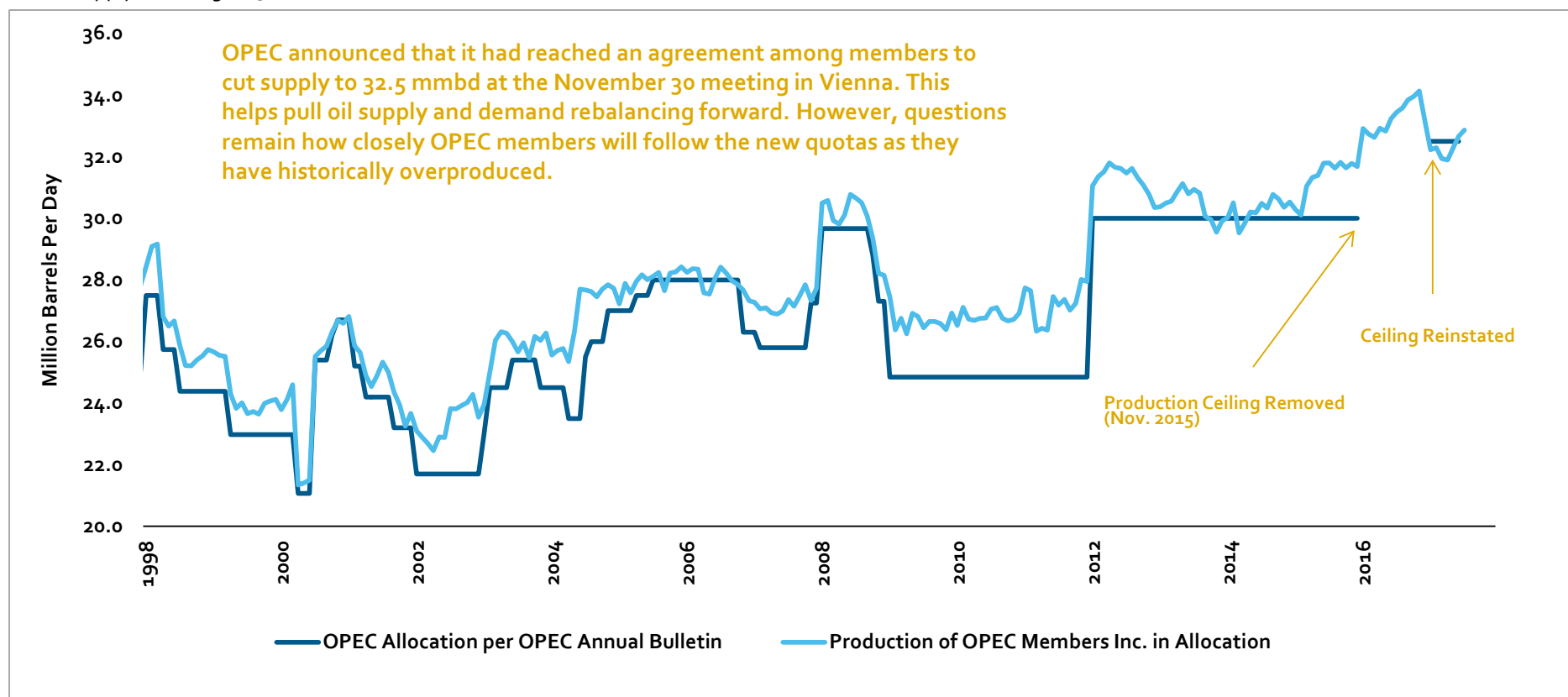
Source: Morgan Stanley Wealth Management GIC, International Energy Agency Oil Market Report, OPEC Supply Forecasts held at 33 MMbpd based off of latest OPEC agreement holding production at 32.5.

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OPEC Supply: How Closely Will Members Adhere to the Quota?

OPEC Supply and Production Quotas

OPEC Supply as of August 31, 2017



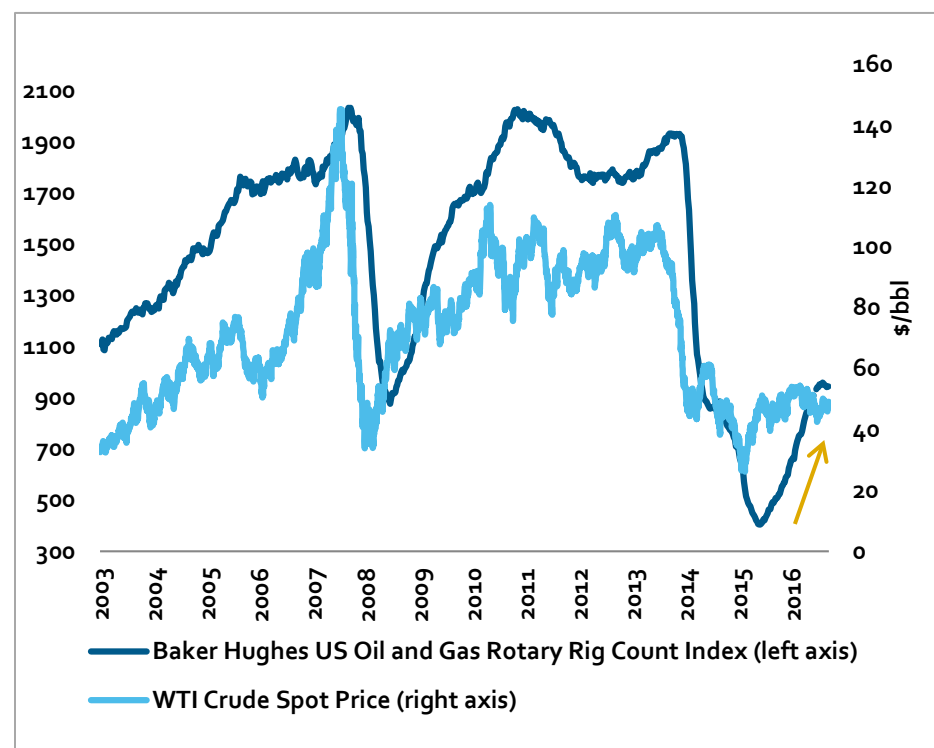
1. Source: OPEC, Bloomberg, Morgan Stanley & Co. Commodity Research

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US Supply: Production Inflecting as Rigs Come Back Online

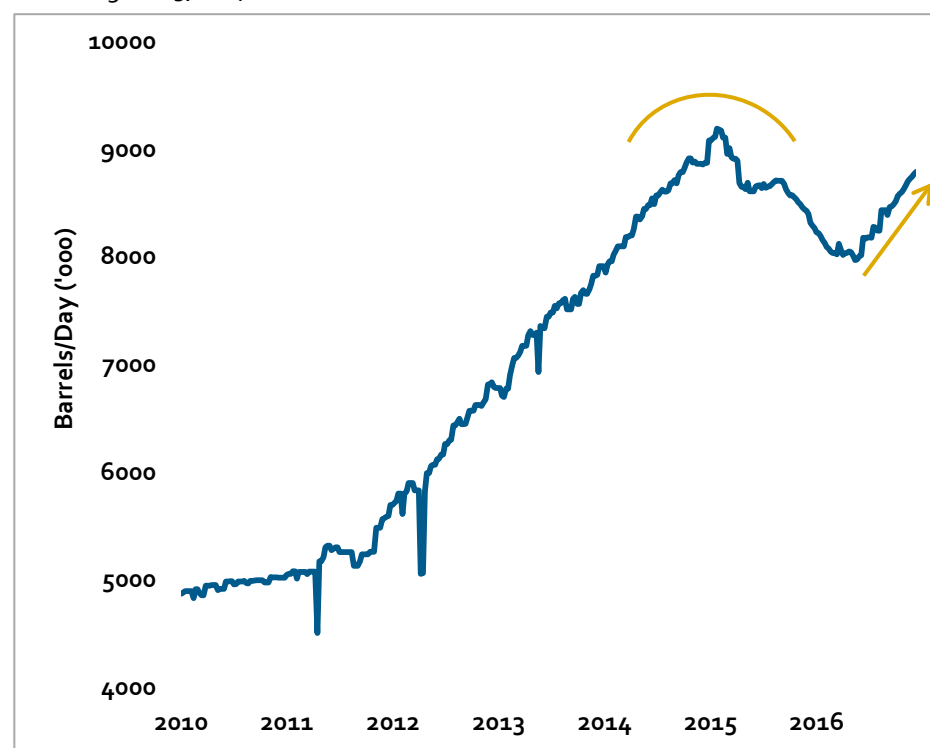
Baker Hughes Rig Count and WTI Crude Price

As of September 8, 2017



US Crude Oil Production¹

As of August 25, 2017



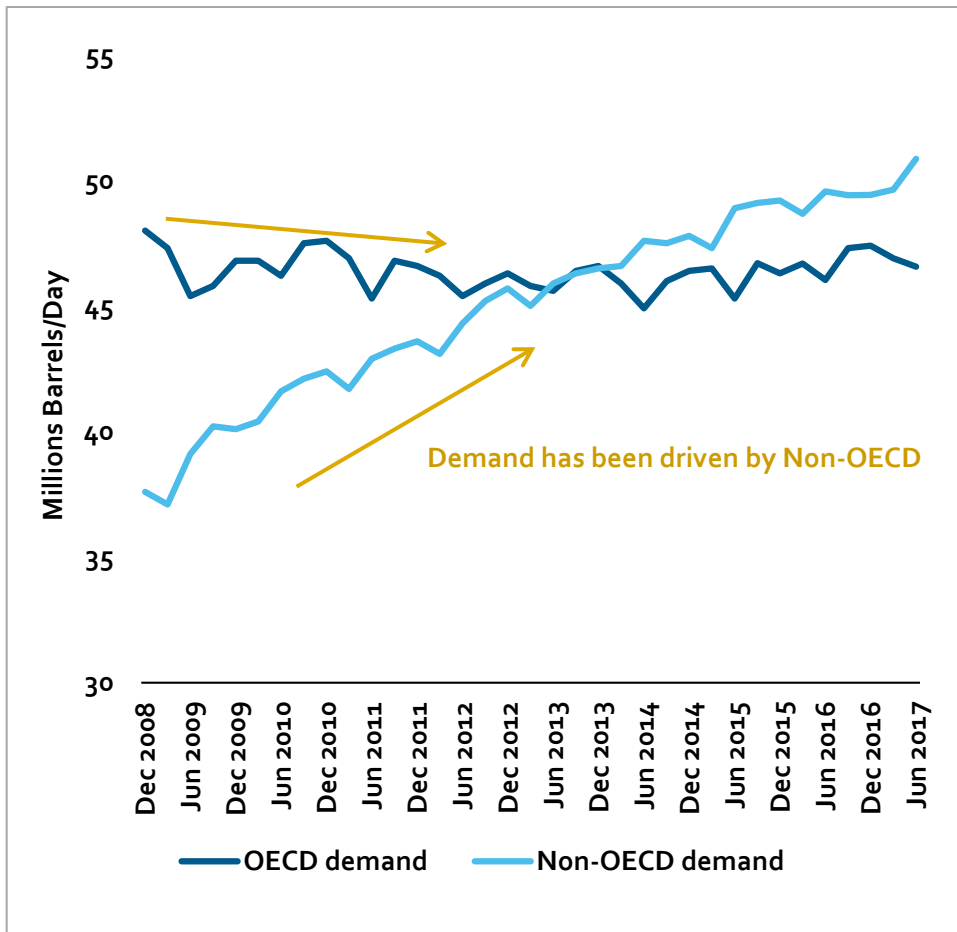
Source: Haver Analytics, Bloomberg, Morgan Stanley Wealth Management GIC. (1) Crude Oil Production represented by DOE Crude Oil Lower 48 States Production Index.

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Demand: Growth Has Been Driven by Developing Economies

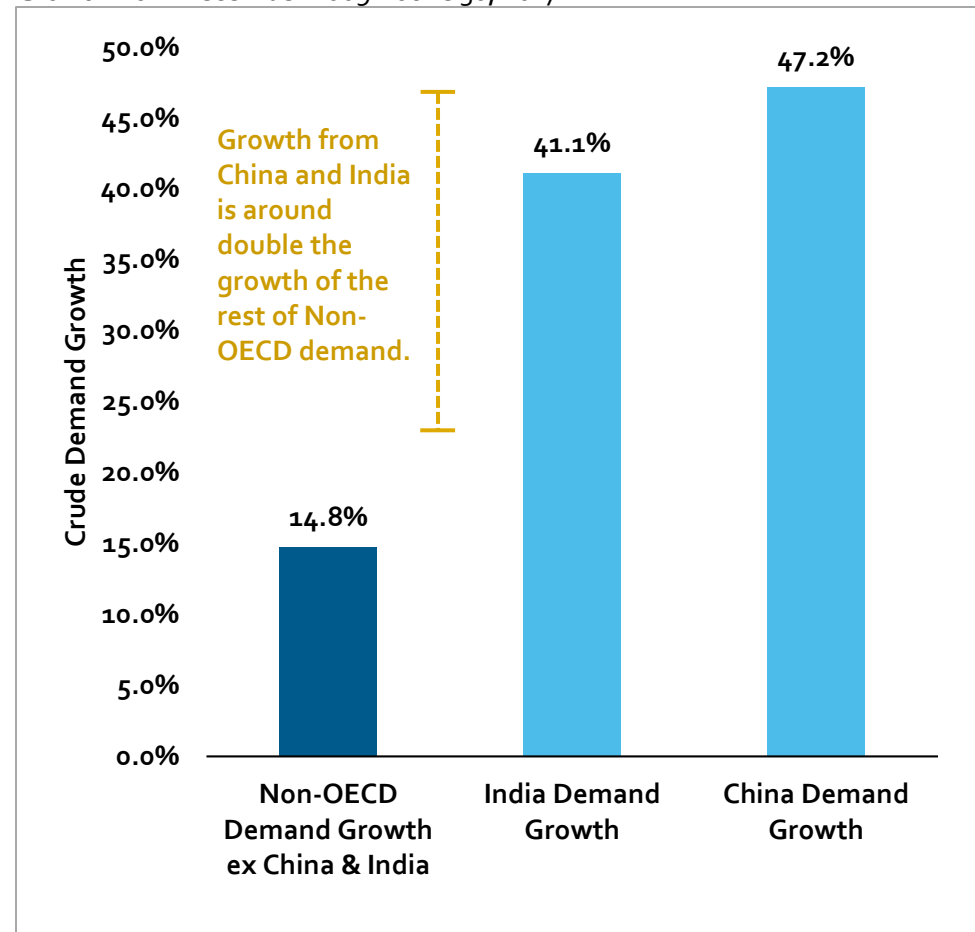
OECD vs. Non-OECD Oil Demand

As of June 30, 2017



China and India Are Key to Future Demand Growth

Growth from December 2009 – June 30, 2017



Source: International Energy Agency (IEA), Haver Analytics, Bloomberg, Morgan Stanley Wealth Management GIC

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North American Shale Appears Poised to Gain Market Share

Minimum Breakeven for Potential Oil Sources vs. Price of Oil

As of September 8, 2017



	OPEC	North American Shale	Canadian Oil Sands	Offshore
Breakeven	\$10-\$30	\$50-\$70	\$55-\$80	\$55-\$80
Speed to Market	Generally very fast, but varies	6-12 months	2-4 years	3-5 years
Capacity	Limited	Substantial	Substantial	Substantial

Low cost and can respond quickly to market needs, but questions remain about spare capacity

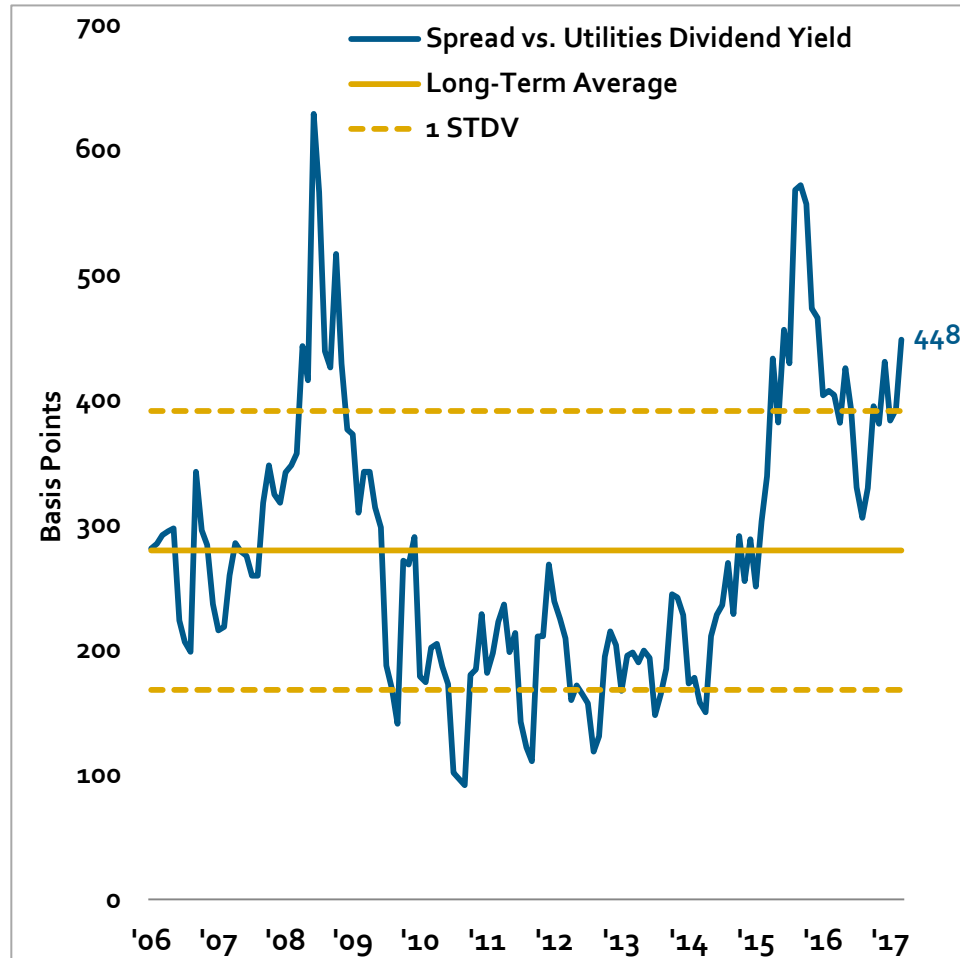
With ample undeveloped resources, moderate costs and relatively fast speed to market, Shale may gain significant market share as more supply is needed

Both sources are expensive and slow to market

MLPs Could Be a Key Beneficiary of Increased Shale Production While Providing Potential Income in a Low-Interest-Rate World

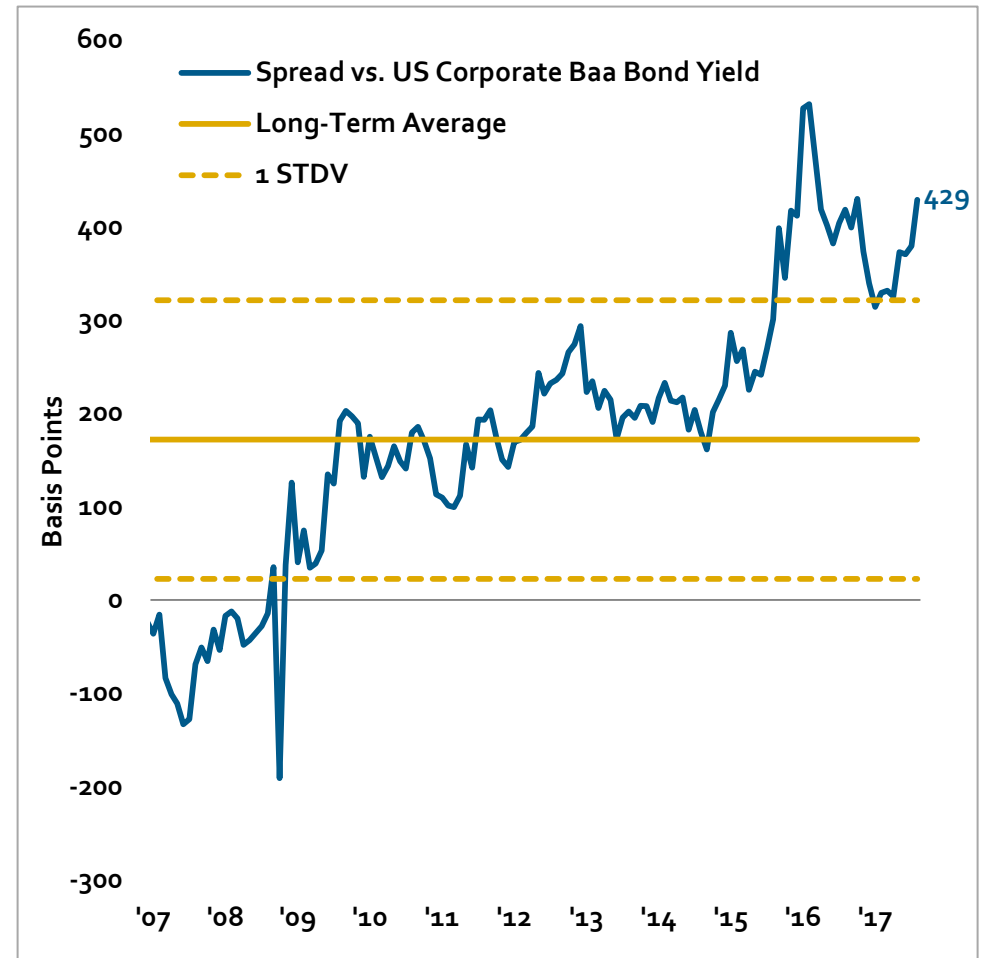
MLP Distribution Rate vs. S&P 500 Utilities Dividend Yield

As of August 31, 2017



MLP Distribution Rate vs. Baa Bond Yield

As of August 31, 2017



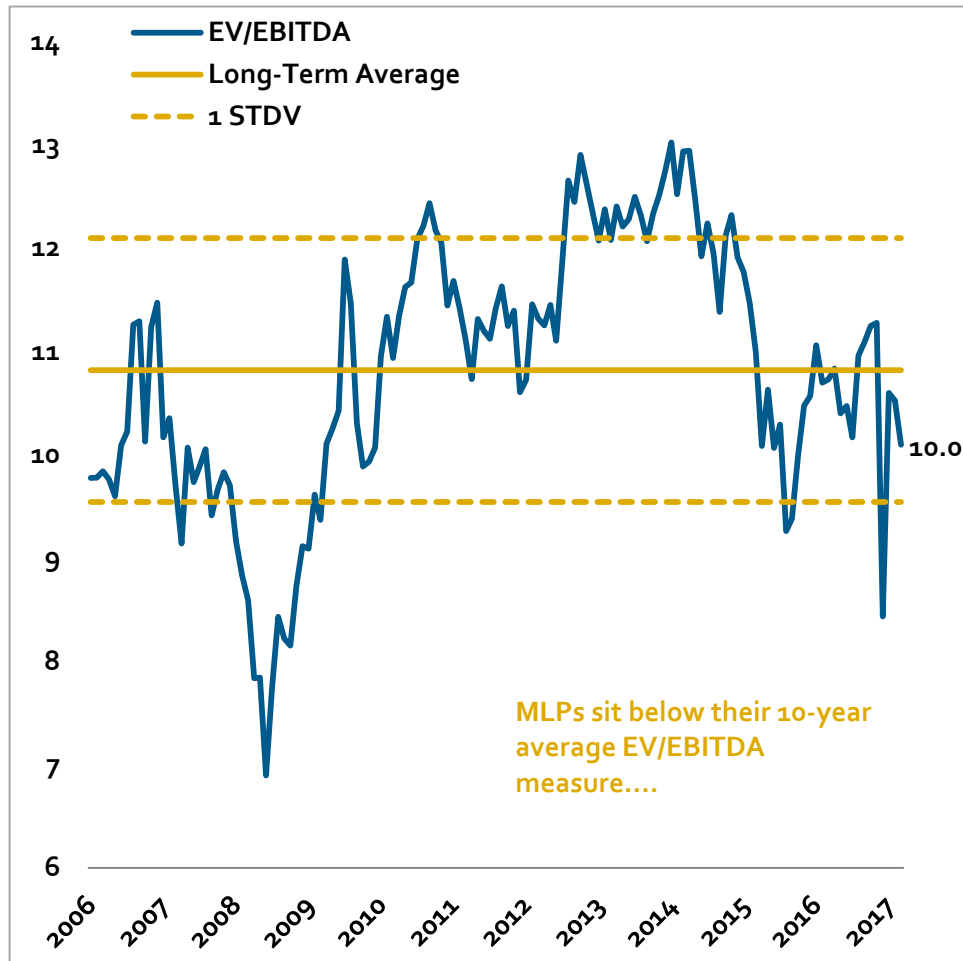
Source: Bloomberg, Morgan Stanley Wealth Management Investment Resources. Distribution rate is the most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or return of capital. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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MLPs Are Undervalued Compared to Other Income-Oriented Equities

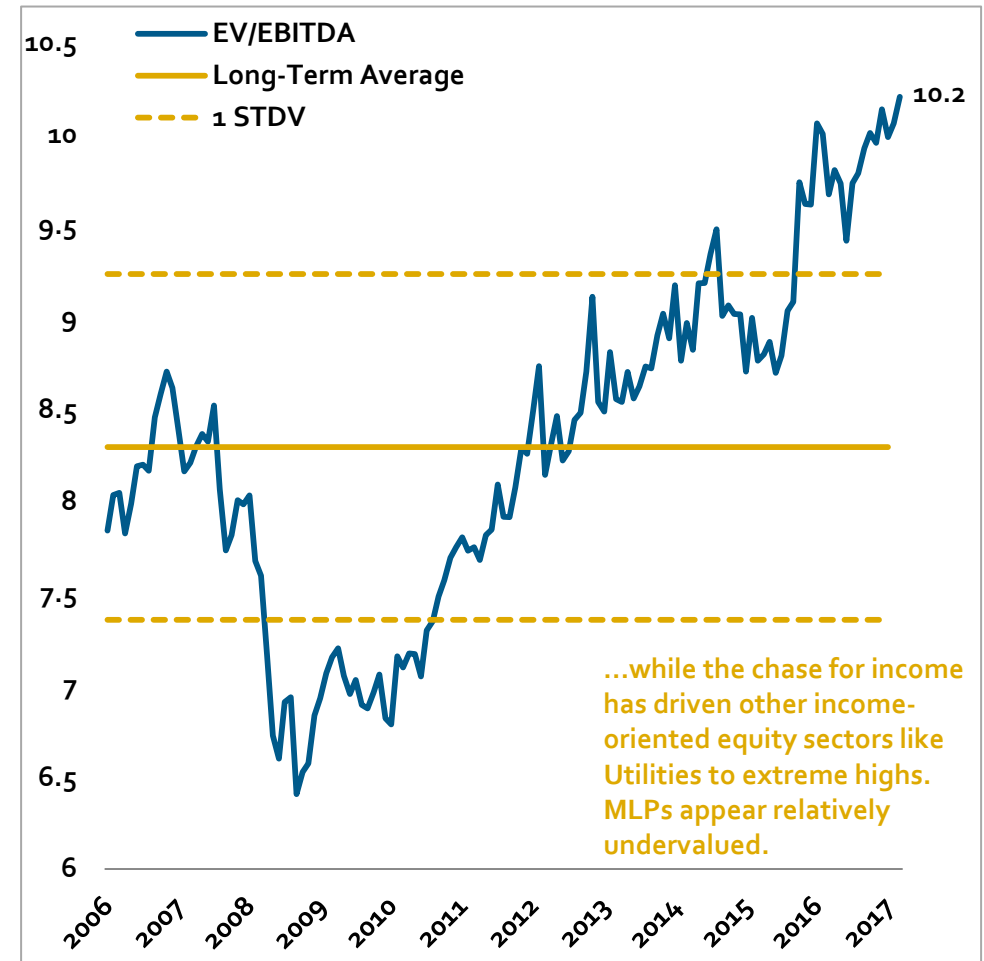
Alerian MLP Infrastructure Index

As of August 31, 2017



S&P 500 Utilities Sector

As of August 31, 2017



Source: Bloomberg, Morgan Stanley Wealth Management Investment Resources. Distribution rate is the most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or return of capital. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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While the HFRI indices are frequently used, they have limitations (some of which are typical of other widely used indices). These limitations include survivorship bias (the returns of the indices may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one

another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indices, and the index may omit funds, the inclusion of which might significantly affect the performance shown. The HFRI indices are based on information self-reported by hedge fund managers that decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these indices may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways.

It should be noted that the majority of hedge fund indexes are comprised of hedge fund manager returns. This is in contrast to traditional indexes, which are comprised of individual securities in the various market segments they represent and offer complete transparency as to membership and construction methodology. As such, some believe that hedge fund index returns have certain biases that are not present in traditional indexes. Some of these biases inflate index performance, while others may skew performance negatively. However, many studies indicate that overall hedge fund index performance has been biased to the upside. Some studies suggest performance has been inflated by up to 260 basis points or more annually depending on the types of biases included and the time period studied. Although there are numerous potential biases that could affect hedge fund returns, we identify some of the more common ones throughout this paper. Self-selection bias results when certain manager returns are not included in the index returns and may result in performance being skewed up or down. Because hedge funds are private placements, hedge fund managers are able to decide which fund returns they want to report and are able to opt out of reporting to the various databases. Certain hedge fund managers may choose only to report returns for funds with strong returns and opt out of reporting returns for weak performers. Other hedge funds that close may decide to stop reporting in order to retain secrecy, which may cause a downward bias in returns. Survivorship bias results when certain constituents are removed from an index. This often results from the closure of funds due to poor performance, “blow ups,” or other such events. As such, this bias typically results in performance being skewed higher. As noted, hedge fund index performance biases can result in positive or negative skew. However, it would appear that the skew is more often positive. While it is difficult to quantify the effects precisely, investors should be aware that idiosyncratic factors may be giving hedge fund index returns an artificial “lift” or upwards bias.

Hedge Funds of Funds and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns. An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. An investment in a **target date portfolio** is subject to the risks attendant to the underlying funds in which it invests, in these portfolios the funds are the Consulting Group Capital Market funds. A target date portfolio is geared to investors who will retire and/or require income at an approximate year. The portfolio is managed to meet the investor's goals by the pre-established year or “target date.” A target date portfolio will transition its invested assets from a more aggressive portfolio to a more conservative portfolio as the target date draws closer. An investment in the target date portfolio is not guaranteed at any time, including, before or after the target date is reached. **Managed futures** investments are speculative, involve a high degree of risk, use significant leverage, are generally illiquid, have substantial charges, subject investors to conflicts of interest, and are suitable only for the risk capital portion of an investor's portfolio. Managed futures investments do not replace equities or bonds but rather may act as a complement in a well diversified portfolio. Managed Futures are complex and not appropriate for all investors. **Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. **Asset allocation and diversification** do not assure a profit or protect against loss in declining financial markets. Past performance is no guarantee of future results. Actual results may vary.

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

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The benchmark indices for these asset classes are not issued on a daily basis. When calculating model performance on a day for which no benchmark index data is issued, we have assumed straight line growth between the index levels issued before and after that date. **FEES REDUCE THE PERFORMANCE OF ACTUAL ACCOUNTS:** None of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, fees) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models. The GIC Asset Allocation Models and any model performance included in this presentation are intended as educational materials. Were a client to use these models in connection with investing, any investment decisions made would be subject to transaction and other costs which, when compounded over a period of years, would decrease returns. Information regarding Morgan Stanley's standard advisory fees is available in the Form ADV Part 2, which is available at www.morganstanley.com/adv. The following hypothetical illustrates the compound effect fees have on investment returns: For example, if a portfolio's annual rate of return is 15% for 5 years and the account pays 50 basis points in fees per annum, the gross cumulative five-year return would be 101.1% and the five-year return net of fees would be 96.8%. Fees and/or expenses would apply to clients who invest in investments in an account based on these asset allocations, and would reduce clients' returns. The impact of fees and/or expenses can be material. **Insurance products disclosures:** **Variable annuities** are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options. Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract. If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection. Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value. **Equity securities** may fluctuate in response to news on companies, industries, market conditions and general economic environment. **Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk. **Master Limited Partnerships (MLPs)** are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. 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. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV, and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked. **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. **Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be suitable for investors who require current

income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. **REITs** investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions. Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage. Principal is returned on a monthly basis over the life of a **mortgage-backed security**. Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. **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. **Yields** are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision. **Credit ratings** are subject to change. The majority of \$25 and \$1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per \$25 or \$1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price. The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk. The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield. Some \$25 or \$1000 **par preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date. 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. The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time. Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. **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. **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. 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