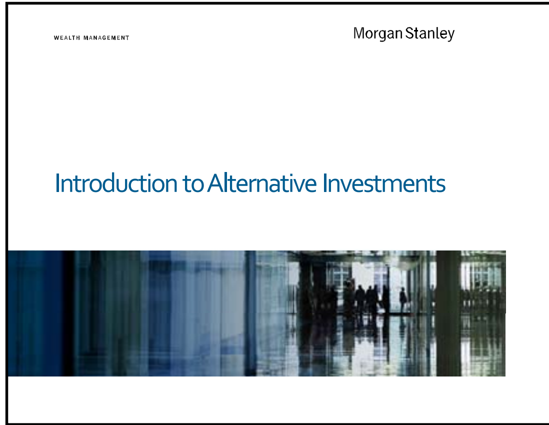

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2 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

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Alternative Investments Differ from Traditional Investments

- Alternative investments describe a spectrum of strategies that cannot be accessed through traditional fixed income and equity markets
- These strategies have the potential to help lower volatility and increase diversification in clients' portfolios

Alternative Investments	Traditional Investments
Absolute performance objective[1]	Relative performance objective[1]
May use leverage	Limited or no leverage
Performance dependent primarily on alternative investment manager skill	Performance generally dependent primarily on market returns
Historically low to moderate correlation with market indices	Historically high correlation with market indices
Typically have reduced liquidity ranging from monthly to 12+ year lock-ups	Typically offers daily liquidity
Generally higher fees which may include performance fees[2]	No performance fees but may include fixed management fees for professional management

1. There is no guarantee that these objectives will be met.
2. Generally includes fees such as management and performance fees for professional management.

Please see the Glossary for key definitions and Appendix for Risk Considerations.

4 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

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Alternative Investments Industry: AUM Projections

ALTERNATIVES ASSETS UNDER MANAGEMENT OVER TIME

From 2015 through 2018…

- **Private Equity** AUM expected to increase from $3.88T to $4.5T, or **+16%**
- **Hedge Funds** AUM expected to increase from $3T to $3.6T, or **+20%**

$ Trn

5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0

91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18

Private Equity / Hedge Funds

Source: Preqin, McKinsey, Hedge Fund Research, Morningstar (Fall/Winter 2014)

5 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

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Large College Endowments Are Heavily Invested in Alternatives

PORTFOLIO ALLOCATIONS FOR FISCAL YEAR 2014

	Total Institutions	Over $1B	$501M - $1B	$101M - $500M	$51M - $100M	$25M - $50M	Under $25M
Alternative Strategies	51	57	44	33	24	18	10
Traditional Strategies	49	43	56	67	76	82	90

AVERAGE 5- AND 10-YEAR NET RETURNS FOR FISCAL YEAR 2014

	Total Institutions	Over $1 Billion	$501 Million – $1 Billion	$101 – $500 Million	$51 – $100 Million	$25 – $50 Million	Under $25 Million
Number of Institutions	832	91	77	262	168	125	109
5 – Year Net Return	11.7%	12.1%	11.8%	11.8%	11.4%	11.4%	12%
10 – Year Net Return	7.1%	8.2%	7.3%	7.1%	6.5%	6.5%	6.6%

Source: National Association of College and University Business Officers (NACUBO) 2014 study of 832 institutions published January 2015. Portfolio returns are based on data ending June 30, 2014. **This study does not indicate the percentage of portfolio returns attributable to the allocation to alternatives. Note: The larger the endowment, the better the ability to diversify. Past performance does not guarantee future results. Real results may vary.** Traditional Strategies include Equity, Fixed Income and Cash. Alternatives Strategies include Real Estate, Hedge Funds, Private Equity, Venture Capital, Natural Resources and Other

6 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

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Academic Leaders Are Significantly Invested in Alternatives

STRATEGIC ENDOWMENT ASSET ALLOCATIONS 2014

	Stanford	Yale	Harvard
Fixed Income	10%	5%	11%
Equities	25%	15%	33%
Private Equity	23%	33%	16%
Hedge Funds	22%	17%	15%
Real Estate	8%	18%	10%
Alts	53%	68%	41%

Source: Stanford University 2014 Annual Financial Report, Yale Endowment 2014 Annual Report, Harvard Management Company Annual Endowment Report 2014. Stanford's portfolio includes a 12% allocation to Natural Resources, Yale's Portfolio includes a 3.5% allocation to cash and 8% to Natural Resources, Harvard's Portfolio includes a 13% allocation to Natural Resources and 2% allocation to Public Commodities.
Note: The allocations represented here are for illustrative purposes only. Alternative investments are not suitable for all investors.

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Hedge Funds

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What Is a Hedge Fund?

- **A hedge fund is an alternative investment strategy that is designed to reduce overall portfolio volatility, increase diversification and provide the potential for enhanced returns**
- **They consist of investments in both domestic and international markets and typically employ sophisticated trading strategies, using leverage and derivative instruments in their goal to generate alpha[1]**
  - A manager's ability to generate alpha is primarily based on its investment strategy often utilizing: leverage, short-selling, derivatives, and Illiquid securities
  - These tools, strategies and securities are used by hedge fund managers with the objective of enhancing returns and reducing risks, however they also increase the risk of losses[2]
- **Hedge funds are not new – they have been in existence for over 50 years**
- **Typically, hedge funds seek an absolute return[3]**
  - Unlike traditional vehicles, which manage to a relative benchmark
- **Primarily invest in publicly-traded securities**
  - Stocks / bonds / commodities / currencies

1. When considering including hedge funds as a portion of an investor's overall portfolio, it is important that an investor considers the various risks associated with these potentially speculative and illiquid investments, and that investors have the financial sophistication to be able to understand and assume such risks.
2. Increased flexibility for the manager may increase risks to the investor.
3. There is no guarantee that this objective will be met.

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Traditional Portfolios May Benefit from Hedge Fund Allocations

HYPOTHETICAL PORTFOLIO ALLOCATIONS USING INDEX RETURNS

January 2000 – December 2014

Compound Annual Return

Data: US Stocks represented by the S&P 500 Index; bonds represented by the Barclays Aggregate Bond Index; hedge funds represented by the HFRI Fund Weighted Composite Index. Sourced from PerTrac Financial Solutions, LLC (Memphis, TN). Indices are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Indices of hedge funds have material inherent limitations. Reference the Appendix for index descriptions and key definitions. This information is for **ILLUSTRATIVE PURPOSES ONLY** and is not intended to represent the performance of any specific investment. **Past performance is no guarantee of future results.**

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Alternative Investments Performance in Bear & Bull Markets

The case study chart below shows an example of what would have happened to a hypothetical $1,000 investment in hedge funds, traditional US stocks and managed futures, respectively, over a 15-year period.

A COMPARISON: HEDGE FUNDS, MANAGED FUTURES, AND US STOCKS

January 2000 – December 2014[1]

1. The hypothetical $1,000 investment is shown for illustrative purposes only. It does not represent the performance for any specific investment. Please see the Appendix for important information about the indexes and a glossary of terms. Index results are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns reflect reinvestment of any dividends and capital gains, but do not reflect any fees or charges, which would lower performance. Indexes are unmanaged and an investor cannot invest directly in them.

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Hedge Fund Risk Return Comparison

RISK RETURN COMPARISON

January 2000 – December 2014

Annualized Compound Return (%)

Source: HFR Global Hedge Fund Industry Report – Year End 2014, Bloomberg, PerTrac. All data from January 1, 2000 through December 31, 2014, except for private equity, which is from March 31, 2001 through December 31, 2014, due to data availability. **Past performance does not guarantee future results. Real results may vary.** Indexes are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Please see the Appendix for index descriptions and key definitions.

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Periodic Table of Select Asset Class Returns

2001	2002	2003	2004	2005	2006	2007
HFRI RV: ConvertArb 13.37%	Barclays Gov't/Credit 12.10%	HFRI Emerging Markets 39.36%	HFRI ED: Distressed 18.89%	HFRI Emerging Markets 21.04%	HFRI Emerging Markets 24.26%	HFRI Emerging Markets 24.92%
HFRI ED: Distressed 13.28%	HFRI RV: ConvertArb 9.05%	HFRI ED: Distressed 29.56%	HFRI Emerging Markets 18.42%	HFRI Equity Hedge 10.60%	HFRI ED: Distressed 15.94%	HFRI Macro 11.11%
HFRI Event-Driven 12.18%	HFRI Macro 7.44%	S&P 500 28.67%	HFRI Event-Driven 15.01%	HFRI Fund Wghtd Comp 9.30%	S&P 500 15.78%	HFRI Equity Hedge 10.48%
HFRI Emerging Markets 10.36%	HFRI Relative Value 5.44%	HFRI Event-Driven 25.33%	S&P 500 10.86%	HFRI ED: Distressed 8.27%	HFRI Event-Driven 15.33%	HFRI FOF Composite 10.25%
Barclays Gov't/Credit 9.40%	HFRI ED: Distressed 5.28%	HFRI Macro 21.42%	HFRI Fund Wghtd Comp 9.03%	HFRI FOF Composite 7.49%	HFRI ED: Merger Arb 14.24%	HFRI Fund Wghtd Comp 9.96%
HFRI Relative Value 8.92%	HFRI Emerging Markets 3.70%	HFRI Equity Hedge 20.54%	HFRI Equity Hedge 7.68%	HFRI Event-Driven 7.29%	HFRI Fund Wghtd Comp 12.89%	HFRI Relative Value 8.94%
HFRI Macro 6.87%	HFRI FOF Composite 1.02%	HFRI Fund Wghtd Comp 19.55%	HFRI FOF Composite 6.86%	HFRI Macro 6.79%	HFRI Relative Value 12.37%	Barclays Gov't/Credit 7.75%
HFRI EH: Eq Mrkt Ntrl 6.71%	HFRI EH: Eq Mrkt Ntrl 0.98%	HFRI FOF Composite 11.61%	HFRI Relative Value 5.58%	HFRI ED: Merger Arb 6.25%	HFRI RV: ConvertArb 12.17%	HFRI ED: Merger Arb 7.05%
HFRI Fund Wghtd Comp 4.62%	HFRI ED: Merger Arb -0.87%	HFRI RV: ConvertArb 9.93%	HFRI Macro 4.63%	HFRI EH: Eq Mrkt Ntrl 6.22%	HFRI Equity Hedge 11.71%	HFRI Event-Driven 6.61%
HFRI FOF Composite 2.80%	HFRI Fund Wghtd Comp (1.45%)	HFRI Relative Value 9.72%	Barclays Gov't/Credit 4.54%	HFRI Relative Value 6.02%	HFRI FOF Composite 10.39%	S&P 500 5.49%
HFRI ED: Merger Arb 2.76%	HFRI Event-Driven (4.30%)	HFRI ED: Merger Arb 7.47%	HFRI EH: Eq Mrkt Ntrl 4.15%	S&P 500 4.91%	HFRI Macro 8.15%	HFRI RV: ConvertArb 5.33%
HFRI Equity Hedge 0.40%	HFRI Equity Hedge (4.71%)	Barclays Gov't/Credit 5.07%	HFRI ED: Merger Arb 4.08%	Barclays Gov't/Credit 2.55%	HFRI EH: Eq Mrkt Ntrl 7.32%	HFRI EH: Eq Mrkt Ntrl 5.29%
S&P 500 (11.85%)	S&P 500 (22.09%)	HFRI EH: Eq Mrkt Ntrl [illegible]	HFRI RV: ConvertArb 1.18%	HFRI RV: ConvertArb (1.86%)	Barclays Gov't/Credit 4.07%	HFRI ED: Distressed 5.08%

2008	2009	2010	2011	2012	2013	2014
Barclays Gov't/Credit 6.09%	HFRI RV: ConvertArb 60.17%	S&P 500 15.08%	Barclays Gov't/Credit 9.24%	S&P 500 15.99%	S&P 500 32.36%	S&P 500 13.65%
HFRI Macro 4.83%	HFRI Emerging Markets 40.24%	HFRI RV: ConvertArb 13.07%	S&P 500 2.09%	HFRI Relative Value 10.59%	HFRI Equity Hedge 14.44%	Barclays Gov't/Credit 6.32%
HFRI ED: Merger Arb (5.36%)	HFRI ED: Distressed 28.13%	HFRI Emerging Markets 11.96%	HFRI ED: Merger Arb 1.48%	HFRI Emerging Markets 10.37%	HFRI ED: Distressed 14.04%	HFRI Macro 6.17%
HFRI EH: Eq Mrkt Ntrl (5.93%)	S&P 500 26.47%	HFRI Relative Value 11.73%	HFRI Relative Value 0.15%	HFRI ED: Distressed 10.12%	HFRI Event-Driven 12.48%	HFRI Relative Value 4.20%
HFRI Relative Value (18.04%)	HFRI Relative Value 25.80%	HFRI Event-Driven 11.53%	HFRI ED: Distressed (1.79%)	HFRI Event-Driven 8.80%	HFRI Fund Wghtd Comp 9.24%	HFRI EH: Eq Mrkt Ntrl 3.54%
HFRI Fund Wghtd Comp (19.03%)	HFRI Event-Driven 25.04%	HFRI ED: Distressed 11.26%	HFRI EH: Eq Mrkt Ntrl (2.12%)	HFRI RV: ConvertArb 8.58%	HFRI FOF Composite 8.79%	HFRI FOF Composite 3.35%
HFRI FOF Composite (21.36%)	HFRI Equity Hedge 24.55%	HFRI Equity Hedge 10.58%	HFRI Event-Driven (3.30%)	HFRI Equity Hedge 7.41%	HFRI RV: ConvertArb 7.79%	HFRI Fund Wghtd Comp 3.33%
HFRI Event-Driven (21.82%)	HFRI Fund Wghtd Comp 19.98%	HFRI Fund Wghtd Comp 10.49%	HFRI Macro (4.16%)	HFRI Fund Wghtd Comp 6.36%	HFRI Relative Value 6.98%	HFRI Equity Hedge 2.05%
HFRI ED: Distressed (25.20%)	HFRI ED: Merger Arb 11.63%	HFRI Macro 8.61%	HFRI RV: ConvertArb (5.16%)	Barclays Gov't/Credit 5.07%	HFRI EH: Eq Mrkt Ntrl 6.65%	HFRI RV: ConvertArb 1.97%
HFRI Equity Hedge (26.65%)	HFRI FOF Composite 11.46%	Barclays Gov't/Credit 6.99%	HFRI Fund Wghtd Comp (5.25%)	HFRI FOF Composite 4.79%	HFRI Emerging Markets 5.60%	HFRI ED: Merger Arb 1.72%
HFRI RV: ConvertArb (33.71%)	Barclays Gov't/Credit 4.81%	HFRI FOF Composite 5.60%	HFRI FOF Composite (5.73%)	HFRI EH: Eq Mrkt Ntrl 2.98%	HFRI ED: Merger Arb 4.82%	HFRI Event-Driven 1.38%
S&P 500 (36.99%)	HFRI Macro 4.37%	HFRI ED: Merger Arb 4.60%	HFRI Equity Hedge (8.38%)	HFRI ED: Merger Arb 2.76%	HFRI Macro (0.22%)	HFRI ED: Distressed (1.00%)
HFRI Emerging Markets (37.26%)	HFRI EH: Eq Mrkt Ntrl 1.43%	HFRI EH: Eq Mrkt Ntrl 2.16%	HFRI Emerging Markets (13.99%)	HFRI Macro (0.06%)	Barclays Gov't/Credit (2.47%)	HFRI Emerging Markets (2.26%)

The colored square at the top of each column represents the strategy that delivered the best performance for that year. The other strategies are shown in descending order of performance results.

Data: January 2001 – December 2014. **Past performance does not guarantee future results.** Indexes are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Asset allocation does not assure a profit or protect against loss in declining financial markets. This presentation is for illustrative purposes only and is not intended to form the basis of any investment decisions. Actual investments may vary substantially and market conditions may vary. This presentation is not intended to reflect a particular portfolio or portfolio opportunities. Please see the Appendix for index definitions and important disclosures.

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Fund of Hedge Funds

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Fund of Hedge Funds

FUND OF HEDGE FUNDS CHARACTERISTICS[1]

- Invests in multiple hedge fund strategies while circumventing single manager concentration risk
- Diversification across different: strategies, managers, and investment styles
- Low correlation with traditional securities markets
- An additional layer of fees for professional investment allocation
- Business risk and operations due diligence
- Ongoing monitoring and risk management
- Potential to access closed and / or exclusive managers

HYPOTHETICAL FUND OF HEDGE FUND ALLOCATION

Fund of Hedge Fund Manager

- Professional management
- Manager sourcing
- Rigorous due diligence
- Portfolio construction
- On-going monitoring

Global Macro | Merger Arbitrage | Activist | Market Neutral | Commodities | Credit Arbitrage | Distressed | Emerging Mkts | Short Bias

- Diversified across multiple managers / strategies
- Allocations are rebalanced according to a targeted risk budget

1. The hypothetical allocations above are for illustrative purposes and do not represent the allocations of a specific investment. Reference the Glossary for strategy descriptions and key definitions. Please see the Appendix for Risk Considerations.

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Rationale for Professional Hedge Fund Selection

Hedge funds offer many appealing characteristics to investors. At the same time, there are certain attributes of hedge funds that require careful consideration and assessment that should be conducted by highly skilled professionals following a detailed research process.

Fund of hedge fund managers are uniquely specialized and resourced to evaluate and select quality hedge funds for the purpose of constructing a portfolio of hedge fund strategies. See the below table for certain hedge fund characteristics and considerations.

Hedge Fund Characteristic	Consideration
Investment flexibility	Hedge funds allow for the use of trading strategies such as short selling, options and other derivative instruments, as well as hedging techniques and use of leverage, which, while potentially increases investment returns, can be highly volatile and increase an investor's risk of investment loss. Significant investment expertise and experience is often required to perform a meaningful fund evaluation.
Ability to be opportunistic in changing market environments	Hedge fund managers can exercise their judgment without most traditional constraints, making it challenging to evaluate and forecast investment risk.
Intended to generate alpha or excess return delivered by an investment manager	Alpha identification is difficult due to: • Complexity of trading strategies • Reduced transparency • Valuation challenges • Changing strategies and changing conditions
Exclusive access	Hedge funds often have high investment minimums and at times may be inaccessible due to limited capacity.

Individual funds will have specific risks related to their investment programs that will vary from fund to fund. Please review and be familiar with the fund's offering materials, including the private placement memorandum or prospectus. Please see the Glossary for key definitions and Appendix for Risk Considerations.

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WEALTH MANAGEMENT

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Managed Futures

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What Are Managed Futures?

Managed futures offer potential global market exposure through a single investment vehicle. Markets traded may include, but are not limited to, the following:[1]

STOCK INDEXES
AEX
FTSE All Share
CAC 40
DAX
Dow 30
FTSE 100
EURO STOXX 50
EURO STOXX 600
Hang Seng
IBEX 35
NASDAQ 100
Nikkei 225
NYSE Composite
OMX 30
Russell 2000
S&P Canada 60
FTSE MIB
S&P Midcap
S&P CNX Nifty
S&P 500
Singapore Free
S&P/ASX 200
Taiwan
TOPIX

INTEREST RATES
Australian Bank Bill
Australian Treasury Bonds
British Long Gilt
British Short Sterling
Canadian Bankers Acceptances
Canadian Government Bond
Euribor
Eurodollar
European Bonds
Euroyen
Japanese Government Bond
Muni Bond Index
New Zealand Bill
Swapnotes
Swiss Government Bond
US Treasury Bonds
US Treasury Notes

FOREIGN EXCHANGE
Australian dollar
Brazilian real
British pound
Canadian dollar
Chilean peso
Chinese Yuan
Colombian peso
Czech koruna
Euro
Hong Kong dollar
Hungarian forint
Indian rupee
Israeli shekel
Japanese yen
Korean won
Mexican peso
New Zealand dollar
Norwegian krone
Philippine peso
Polish zloty Russian
ruble Singapore
dollar South
African rand
Swedish krona
Swiss franc
Taiwan dollar
Turkish lira
US dollar

METALS
Aluminum
Copper
Gold
Lead
Nickel
Palladium
Platinum
Silver
Tin
Zinc

ENERGIES
Brent crude oil
Crude oil
Gas oil
Gasoline
Heating oil
Kerosene
Natural gas

AGRICULTURALS
Barley
Cocoa
Coffee
Corn
Cotton
Feeder cattle
Lean hogs
Live cattle
Lumber
Milk
Oats
Orange juice
Pork bellies
Rapeseed
Rough rice
Rubber
Soybean meal
Soybean oil
Soybeans
Sugar
Wheat

1. Morgan Stanley as of December 2014. Not all markets are traded in any given Morgan Stanley Wealth Management managed futures fund.

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Annualized Return of Managed Futures

Jan-1980 to Dec-2014	US Stocks	US Bonds	International Stocks	Managed Futures
Average Annual Return	11.83%	8.16%	9.57%	10.28%
Annualized Standard Deviation	15.17%	5.52%	17.47%	14.49%
Worst Draw Down	-50.95%	-8.99%	-56.40%	-15.66%
Best / Worst 12 Month Return	61.18% / -43.32%	35.22% / -5.13%	103.70% / -49.94%	63.69% / -7.88%
% Positive 12 Month Periods	80.44%	92.91%	71.64%	81.17%

Source: In the performance table above, average annual return is based on annualized compounding of monthly returns. The standard deviation statistic measures the dispersion of monthly returns about the mean and is used to represent the volatility or risk. The worst drawdown is the largest percentage loss incurred from the highest value to its lowest value for the given time period. Statistical comparisons on a 12-month holding period basis are based on monthly data from January 1980 through December 2014, producing 420 observations. US Stocks (S&P 500 Index), US Bonds (Barclays Aggregate Bond Index), International Stocks (MSCI EAFE Index)—PerTrac Financial Solutions, LLC (Memphis, TN); Managed Futures (Barclay CTA Index)—BarclayHedge, Ltd. (Fairfield, IA). Monthly returns for the Barclay CTA Index reflect the composite fee structure of the representative commodity trading advisors, and therefore, may be higher or lower than those fees applicable to any one particular managed futures fund. Indexes are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Please see Appendix for index descriptions.
Past performance is no guarantee of future results.

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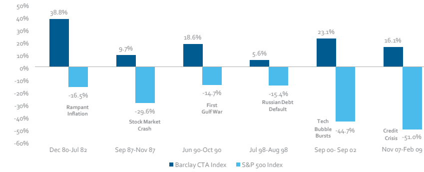
Managed Futures During Market Turmoil

Since 1980, stocks have declined more than 10% on six occasions, with an average decline of 28.6% on these occasions. Managed futures has had an average rate of return of 18.7% during those six periods.



Data: January 1980 – December 2014. Monthly returns for the S&P 500 Index provided by PerTrac Financial Solutions, LLC (Memphis, TN) and monthly returns for the Barclay CTA Index provided by BarclayHedge, Ltd. (Fairfield, IA). Managed futures investments do not replace equities or bonds but rather act as a complement to help in potentially smoothing overall portfolio returns. Monthly returns for the Barclay CTA Index reflect the composite fee structure of the representative commodity trading advisors, and therefore, may be higher or lower than those fees applicable to any one particular managed futures fund. Indexes are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Please see Appendix for Index descriptions.
PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

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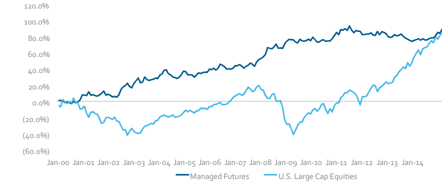
Index Growth Comparison



Managed Futures: Barclay CTA Index, source: BarclayHedge, Ltd. (Fairfield, IA) US Large Cap Equity: S&P 500 Index with the reinvestment of dividends, source: Bloomberg. Indexes are unmanaged and investors cannot directly invest in them. The composite index results above are for illustrative purposes and do not represent the performance of a specific investment. Volatility as measured by annual standard deviation. **Past performance is no guarantee of future results.** Reference the Appendix for index descriptions and disclosures.

WEALTH MANAGEMENT

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Private Equity

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Private Equity Defined

- Private equity can be broadly defined as privately negotiated investments in (most often) non-public companies where managers are often active investors
- Long-term investments which seek low correlation with public equity markets seeking returns in excess of traditional asset classes
- May provide diversification across various market cycles and vintage years
- May improve the risk-return trade-off

Potential Benefits

- Attractive long-term return potential
  - Potential for exceeding returns of public equity
- Diversification benefits
  - Relatively low correlations with public equity and bonds
  - Broad and diverse range of different private equity strategies (buyouts, venture capital, special situations)
  - Vintage year diversification[1] (commitment drawn over time)
- Strong alignment of interest with investors

Risks

- Illiquidity
  - Investments are locked up for a significant period of time
- Imprecise Interim Value Measurement[2]
  - Investments are non-public
  - Quarterly marks imprecise indications of eventual / exit value
- Costs
  - Funds are subject to annual management and performance fees

Note: These investments are only suitable for long-term investors willing to forgo liquidity and put capital at risk for an indefinite time. Past performance is no guarantee of future results.
1. Since direct private equity and fund of funds invest over multiple years, vintage year diversification is achieved.
2. Private equity valuations are generally estimate until there is a realization event.

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Private Equity Strategies

Early Stage Venture Capital
- Seed or startup equity in private companies that may not be generating revenue or profits

Growth Equity
- Equity investments in more mature companies to provide funding for growth and expansion

Buyouts
- Equity investments to acquire a controlling interest in a company

Mezzanine
- Subordinated debt or preferred stock that earns a coupon and may have warrants or conversion features

Distressed / Special Situations
- Investments in unconventional

  royalty, and distressed funds

Stages of a Company Life Cycle[1]

1. There can be no assurance that investors will receive the results shown above. Past performance is no guarantee of future results. No guarantee that objectives will be met.

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Private Equity Investing

The J– Curve

- Economic outcome of a private equity fund investment not known for years
- For a successful fund, performance typically follows a J–Curve pattern
- J-Curve drivers:
  - Management fees drawn on committed capital during the portfolio construction phase
  - Value Creation: Investments held at cost for at least first few years
  - Interim mark-ups are generally based on conservative approach

Harvesting
Value Creation
Portfolio Construction
Fund IRR (%)
0
Time

There can be no assurance that investors will receive the results shown above. Past performance is no guarantee of future results.

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Accessing Private Equity[1,2]

- Primary Fund Investing
  - Typically based on a 'GP-LP' structure, whereby investors (the limited partners, or LP's) commit funds to the private equity fund (the general partners, or GP)
  - The fund pools these commitments and uses them to invest in underlying assets
  - Once the investment is realized, capital flows in the reverse direction back to the LP's as distributors
- Fund of Private Equity Funds
  - Multiple layers of fees
  - Large footprint allowing diversification across geographies and strategies
  - Advisory Board seats due to bigger investments and good relationships
  - Large pool of resources for due diligence
  - Legal and commercial review of terms
  - Monitoring and administrative efficiency
- Secondary Fund Opportunities
  - Involves acquiring direct interests of primary funds from existing LPs at a discount to NAV
  - Secondary purchases tend to eliminate blind pool risk
  - Smooth out / mitigate the J-Curve effect
  - Secondary purchases acquired during the harvest period may have a shorter duration
  - Potentially distressed sellers in need of liquidity
- Co-investment Opportunities
  - Invest alongside GPs in individual deals
  - Typically offered to preferred existing LPs in the fund on a no fee, no carry basis
  - Increasingly prevalent in current market environment where debt financing is difficult to obtain or prohibitively expensive: GPs are limited by portfolio constraints on single investments in their fund, and have to partner to meet equity requirements

Note: Past performance is no guide to future performance and the value of investments and income from them can fall as well as rise.
1. Governance structures at the company level are designed on a case by case basis to be appropriate. Private equity does not use one-size-fits-all approach to board composition or number of seats.
2. Not all fund of funs have the same structure or invest in all of the same types of private equity investments.

26 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

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Understanding Private Equity Returns

- Generating Return Premiums
  - Illiquid assets acquired at a discount to public / liquid alternatives
  - Access to more information
  - Strong interest alignment between management and owners
  - Control, value-added investing
  - Highly adaptive governance[1]
- Mechanisms for Value Creation
  - Earning Growth – revenue improvement, operating efficiency
  - Multiple Expansion[2] – "private-to-public arbitrage"
  - De-Leverage – debt pay down
- How to Measure Private Equity Returns
  - Internal Rate of Return (IRR)[3]
  - Cash Multiple[4]
  - Long-Dated Horizon – generally 3 to 5 year hold periods, 7 to 10 year fund life (possibly longer)

Note: Past performance is no guide to future performance and the value of investments and income from them can fall as well as rise.
1. Governance structures at the company level are designed on a case by case basis to be appropriate. Private equity does not use one-size-fits-all approach to board composition or number of seats.
2. When the purchase prices is less than what public markets would value the company.
3. Internal Rate of Return is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal to zero.
4. Quarter of returns

27 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

Morgan Stanley

Real Estate Attributes

Potential benefits to Real Estate investing when compared to traditional investments:

Traditional Investments	Real Estate
• No leverage	• Leverage (typically 0 to 75%)
• Historically, high correlation with market indices	• Historically, low correlation with market indices
• More volatility than real estate, even during periods of out performance	• Less volatility compared to equities and fixed income
• Financial asset	• Physical asset
• Highly liquid	• Relatively illiquid
• Historically vulnerable to inflation	• Potential inflation hedge

1. There is no guarantee that these objectives will be met.
Individual funds will have specific risks related to their investment programs that will vary from fund to fund. Please review and be familiar with the fund's offering materials, including the private placement memorandum or prospectus. Please see the Glossary for key definitions and Appendix for Risk Considerations.

29 | INTRODUCTION TO ALTERNATIVE INVESTMENTS

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The 4 Quadrants of Commercial Real Estate Investing

Public and Private – Debt and Equity

	Debt	Equity
Public	• Commercial Mortgage Backed Securities (CMBS) • Collateralized Debt Obligations (CDOs)	• Real Estate Investment Trusts (REITs) • Real Estate Operating Companies (REOCs)
Private	• Whole Mortgage Loans (First Mortgages) • Mezzanine Financing • Bridge Loans • Construction Loans	• Limited Partnerships • Private REITs • Open- or Closed-End Funds • Separate Accounts

Note: These investments are only suitable for long-term investors willing to forgo liquidity and put capital at risk for an indefinite time. Past performance is no guarantee of future results.

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Real Estate Investment Strategies[1]

- Core Investing:
  - Lower Risk / Lower Return Potential
  - Well managed, high quality properties
  - High grade credit quality tenants, substantially leased
  - Diversified across property types
  - Return derived primarily form income
- Value-Added Investing:
  - Moderate Risk / Return Potential
  - Undervalued properties due to sub-optimal management
  - Value potential through renovation, re-leasing, repositioning or redevelopment
  - Improved income as a result of better management
- Opportunistic Investing:
  - High Risk / High Return Potential
  - Limited current income
  - Distressed investments
  - Driven by capital appreciation
  - Speculative development

A Range of Opportunities to Satisfy Objectives[2]

1. Individual funds will have specific risks related to their investment programs that will vary from fund to fund. Please review and be familiar with the fund's offering materials, including the private placement memorandum or prospectus. Please see the Glossary for key definitions and Appendix for Risk Considerations.
2. There can be no assurance that any targeted or expected return can be realized or that actual returns or performance results will not be materially lower than expected returns. They are based on industry consensus and the opinions of the team are being provided for informational purposes only. The expected returns do not reflect the performance of any Morgan Stanley investment.

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Diversifying With Commercial Real Estate

- US commercial real estate ("CRE") is a huge asset class – $12 trillion in 2014[1]
- Over the long-term, real estate may provide diversification benefits due to historically lower correlations with other asset classes[2]
- Contractual leases may provide greater stability due to cash flow / income streams[2]

CORRELATION OF TOTAL RETURNS

Quarterly, Last 10 Years (3)(4)

	Stocks	Bonds	Hedge Funds	Commodities	REITs	Core RE	Opty RE
Stocks	1.00	(0.28)	0.85	0.49	0.78	0.22	0.45
Bonds		1.00	(0.29)	(0.23)	(0.06)	(0.18)	(0.20)
Hedge Funds			1.00	0.68	0.60	0.12	0.46
Commodities				1.00	0.37	0.26	0.42
REITs					1.00	0.24	0.39
Core RE						1.00	0.84
Opty RE							1.00

Source: Alternative Investments calculations, data from Stocks (S&P 500), Bonds (US Barclays Aggregate Bond Index), Hedge Funds (HFRI Fund-Weighted Composite Index), Commodities (Dow Jones – UBS Commodity Index Total Return), REITs (FTSE NAREIT US Real Estate Index Series), Core RE (NFI-ODCE Index), and Opty RE (NCREIF Townsend Opportunity Fund Index).

1. Costar Group data, 2014.
2. These are the opinions of Alternative Investments as of the date of the presentation and are subject to change at any time due to changes in market or economic conditions.
3. Past performance is not indicative of future results. Real results may vary. Please see Appendix for Risk Considerations and Index definitions.
4. Indexes are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment.

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WEALTH MANAGEMENT

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Exchange Funds

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Exchange Funds

- **Private placement vehicles enabling holders of concentrated single-stock positions to exchange those stocks for a diversified portfolio**
  - Typically comprised largely of equities, exchange funds may also include other qualifying assets such as real estate or commodities
- **Investors may benefit from:**
  - Greater diversification by exchanging a concentrated stock position for fund shares without triggering a taxable event

RISK CONSIDERATIONS

- Dividends are pooled
- Investors forfeit their stock voting rights
- Investment may be illiquid for several years
- Investments may be leveraged or contain derivatives
- Significant early redemption fees may apply
- Changes to the US tax code which could be retroactive (potentially disallowing the favorable tax treatment of exchange funds)
- Investment risk and potential loss of principal

Individual funds will have specific risks related to their investment programs that will vary from fund to fund.
Please review and be familiar with the fund's offering materials, including the private placement memorandum or prospectus.
Please see the Appendix for Risk Considerations.

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The Case for Alternative Investments

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Quantitative Easing Has Enhanced Returns for Stocks and Bonds

The Recent Past Is Not Prologue

5-Year Annualized Return, as of August 31, 2015

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Source: Bloomberg, Morgan Stanley Wealth Management GIC. Bond returns are based on total returns of the Barclays US Aggregate Index; commodities returns are based on total returns of the Bloomberg Commodity Index.

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Morgan Stanley

While Volatility Has Decreased

Historical Volatility
As of August 31, 2015

Before 2010
2010 - Present

Bonds 4.0% 3.3%
Currencies 10.5% 9.9%
Commodities 16.1% 14.5%
Stocks 20.3% 15.9%

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Source: FactSet, Morgan Stanley Wealth Management GIC. Historical volatility is based on annualized standard deviation. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Bond volatility is based on total returns of the Barclays US Aggregate Index; stocks on total returns of the S&P 500 Index; and commodities on total returns of the Bloomberg Commodity Index. Currencies are based on FactSet data and compiled into an aggregate using the same currency weights as the Morgan Stanley Global FX Implied Volatility Index. Currency data is daily from 1999 through 2009; bonds, commodities and stock data is daily from 1995 to 2009. For illustrative purposes only.

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Which Led to Extraordinary Risk-Adjusted Returns

Sharpe Ratio of a 60% S&P 500 / 40% Barclays US Aggregate Portfolio
Rolling Three-Year Average, as of August 31, 2015

Rolling 3 Year Average
Average 1977-2002
Average 2003-2014

0.82
1.20

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Source: Bloomberg, Ibbotson Associates Morgan Stanley Wealth Management GIC. Calculated by Morgan Stanley Wealth Management using data provided by Morningstar. © 2015 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. Sharpe ratio is calculated by subtracting the risk-free rate—such as that of the 10-year US Treasury bond—from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. For illustrative purposes only.

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Global Capital Markets Volatility Is Increasing With the End of US QE

Rates and FX Volatility
As of August 28, 2015

FX Volatility (left axis)
Rate Volatility (right axis)

VIX Index Vs. S&P 500 Index
As of August 31, 2015

VIX Index (right axis)
S&P 500 (left axis)

Merrill Lynch Option Volatility Estimate (MOVE) Index Vs. 10-Year Treasury Yield
As of August 31, 2015

MOVE Index (right axis)
10-Yr Treasury Yield (left axis)

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Source: Bloomberg, Market1, Morgan Stanley & Co. Research, Quantitative & Derivative Strategies, Chicago Board Options Exchange, Standard & Poor's, BofA Merrill Lynch, Federal Reserve. FX Volatility is represented by the JPMorgan Global FX Volatility Index; Rate Volatility is represented by the Merrill Lynch Option Volatility Estimate (MOVE) Index.

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With Interest Rates Rising and Bond Volatility Increasing, Bonds Are Not Likely to Be an "Anchor to Windward"

US 10-Year Treasury Yield Vs. Nominal GDP (1)
As of August 31, 2015

S&P 500 and VIX Index
As of August 31, 2015

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Source: Bloomberg, FactSet, Morgan Stanley Wealth Management GIC. (1) Nominal GDP does not account for the effects of inflation.

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Lower Volatility Increases Probability of Success

Between two hypothetical portfolios that both target an average 8% annual return, the portfolio with lower volatility has a higher probability of achieving the target return and lower probability of negative returns.

Reducing Portfolio Volatility Increases Probability of Reaching Goals

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Source: Morgan Stanley Wealth Management GIC. The hypothetical portfolio shown is for illustrative purposes only. It does not represent the performance of any specific investment. For more information about the risks to hypothetical performance please refer to the Risk Considerations section at the end of this material.

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What Constitutes "Alternatives Investments"?

- Private Equity
- Hedge Funds
- Real Estate
- REITs
- Currency
- Structured Investments
- Commodities
- Venture Capital
- Master Limited Partnerships (MLPs)
- Collectibles

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Many Alternatives Strategies Have Low Correlations to Stocks & Bonds

Hedge strategies' diversification properties are not homogeneous

As of August 31, 2015

Alternative Strategies	Annualized Performance since 1990	Annual Volatility, 25 Year Average	Long Run Correlations		25-Year Sharpe Ratio	Maximum Drawdown
			Correlation to S&P	Correlation to Global Bonds		
Equity Long/Short	5.7%	4.6%	0.73	0.26	0.46	-22.9%
Event Driven	11.1%	5.7%	0.70	0.11	1.20	-24.8%
Hedge Fund of Funds Composite	7.1%	4.7%	0.54	0.10	0.68	-22.2%
Relative Value	9.6%	3.2%	0.51	0.14	1.49	-18.0%
Equity Market Neutral	4.1%	3.4%	0.03	0.15	0.20	-9.2%
Convertible Arbitrage	8.2%	4.0%	0.46	0.22	0.78	-35.3%
Global Macro	11.1%	6.4%	0.32	0.25	1.07	-10.7%
Distressed Credit	11.2%	5.2%	0.52	0.08	1.23	-27.4%
Managed Futures	0.4%	7.5%	-0.17	-0.07	-0.34	-20.3%
S&P 500	9.6%	13.2%			0.43	-50.9%
Barclays Capital Global Aggregate Bond Index	6.1%	5.2%			0.51	-10.1%

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Source: Hedge Fund Research, Morningstar, Bloomberg Morgan Stanley Wealth Management GIC. Long run correlations are calculated from January 31, 1990 through February 28, 2015. Calculated by Morgan Stanley Wealth Management using data provided by Morningstar. © 2015 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. For illustrative purposes only. Sharpe ratio is calculated by subtracting the risk-free rate—such as that of the 10-year US Treasury bond—from the rate of return for a portfolio and dividing the result by the standard deviation of the portfolio returns. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. Max Drawdown: The peak-to-trough decline during a specific period. Indices used for this analysis include: HFRI Relative Value Index for relative value, HFRI Event-Driven Index for event-driven, HFRI Macro for global macro, Morningstar US OE Long/Short Equity for equity long/short, Morningstar US OE Managed Futures for managed futures, HFRI Fund of Fund Composite Index for fund of funds, HFRI Equity Market Neutral for equity market neutral, HFRI RV: Fixed Income Convertible Arbitrage Index for Convertible Arbitrage, and HFRI ED: Distressed/Restructuring Index for Distressed Credit. Hedged strategies consist of hedge funds and managed futures.

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Hedged Strategies' Diversification Properties Are Not Homogeneous

Performance through August 31, 2015; Managed Futures through July 31, 2015. Indexed to 100 at January 31, 2007

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Source: HFRI Indices from Bloomberg, Morgan Stanley Wealth Management GIC. Indices used for this analysis include: BarclayHedge BTOP50 Index for managed futures; HFRI Equity Market Neutral Index for equity market neutral, and HFRI Equity Hedge Index for Equity Hedge.

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The GIC's Alternatives Assets / Categories

Category	Assets
Real Assets	Commodities ex Precious Metals, Precious Metals/Gold, MLPs, Global REITs
Total Return Assets	Equity Market Neutral, Relative Value Strategies including Credit Long/Short
Equity Hedge Assets	Global Macro, Managed Futures, Hedge Fund of Funds, Multi-Strategy Alts
Equity Return Assets	Equity Long/Short, Event Driven, Structured Investments
Opportunistic Assets	Private Equity, Private Direct Real Estate, Early Stage Venture, Distressed Lending, Direct Lending, Impact Investing, Timberland, Water, Collectibles, etc.

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Which Alternatives Asset Classes You Add to a Portfolio Matters

January 31, 1990 to August 30, 2015[1]

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Source: Hedge Fund Research, Morningstar, Bloomberg, Morgan Stanley Wealth Management GIC. (1) Note that Real Assets, Equity Hedge Assets, and Opportunistic Assets use shorter time periods. (2) Real Assets use data from January 31, 2007 through August 31, 2015. (3) Opportunistic assets use data from March 31, 1990 through March 31, 2015. (4) Equity Hedge assets use data from January 31, 1990 through July 31, 2015. Traditional portfolio is built with 60% S&P 500/ 40% Barclays Capital US Aggregate Bond Index. Opportunistic assets are represented by equally weighted Cambridge Associate US PE Index and NCREIF Property Index Returns; Equity Return Assets represented by equally weighted HFRI Equity Hedge Index and HFRI Event-Driven Index; Real Assets represented by equally weighted S&P GSCI Total Return Index, Bloomberg Precious Metals Subindex, Alerian MLP Index, and Dow Jones Composite REIT Index; Equity Hedged Assets represented by equally weighted HFRI Macro Index, Barclay CTA Index, HFRI Fund of Funds Composite Index; Total Return Assets represented by equally weighted HFRI Equity Market Neutral Index and HFRI Relative Value Index. Asset allocation and diversification do not assure a profit or necessarily protect against loss in a declining market. Calculated by Morgan Stanley Wealth Management using data provided by Morningstar. © 2015 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. For illustrative purposes only. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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The GIC's Framework Employs an Outcomes-Oriented Approach to Using Alternative Investments

Client Goals	Primary Traditional Assets	Alternatives' Portfolio Main Purpose	Alternative Assets	Client Goal Suggested Benchmark
Capital Preservation	Cash, Money Market Fund Short-Duration Bonds	Inflation Protection	Real Assets	CPI Plus
Income	Bonds, High Yield Equity, Convertibles, Preferred Stock	Income/Cash Flow Preservation	Total Return Assets	T-Bill or LIBOR Plus
Balanced Growth	60%/40% Equities /Bonds	Volatility Reduction	Equity Hedge Assets	Risk-Adjusted 60/40
Market Growth	S&P 500 Plus	Equity Diversification	Equity Return Assets	Risk-Adjusted S&P 500 Plus
Opportunistic Growth	80% Plus Equities	Growth Amplification	Opportunistic Assets	Customized

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Source: Morgan Stanley Wealth Management Global Investment Committee

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Alternative Strategies Should Adhere to Investment Objectives

As of March 31, 2015

Client Primary Goals	Primary Role of Alternative Investment	New Alternative Asset Category	Client Primary Benchmark	Annual Volatility (%)	Correlation with Global Equities	Correlation with US Inv. Grade Bonds
Capital Preservation	Inflation Protection	Real Assets	Real Return, CPI Plus	[illegible]	[illegible]	[illegible]
		Commodities ex Precious Metals		[illegible]	[illegible]	[illegible]
		Precious Metals/Gold		[illegible]	[illegible]	[illegible]
		Master Limited Partnerships*		[illegible]	[illegible]	[illegible]
		Global REITs		[illegible]	[illegible]	[illegible]
Income	Real Return Enhancement / Preservation	Total Return Assets	Libor Plus; 3 Month US T Bill Plus 300 bps	[illegible]	[illegible]	[illegible]
		Equity Market Neutral		[illegible]	[illegible]	[illegible]
		Relative Value Strategies		[illegible]	[illegible]	[illegible]
Balanced Growth	Volatility Management	Equity Hedge Assets	Total Return; 60% Stocks / 40% Bonds	[illegible]	[illegible]	[illegible]
		Global Macro		[illegible]	[illegible]	[illegible]
		Managed Futures		[illegible]	[illegible]	[illegible]
		Hedge Funds		[illegible]	[illegible]	[illegible]
Market Growth	Equity Diversification	Equity Return Assets	S&P 500	[illegible]	[illegible]	[illegible]
		Equity Long/Short		[illegible]	[illegible]	[illegible]
		Event Driven		[illegible]	[illegible]	[illegible]
Opportunistic Growth	Growth amplification	Opportunistic Assets	Mandate Specific	NM**	NM**	NM**
		Private Equity		[illegible]	[illegible]	[illegible]
		Private Direct Real Estate		[illegible]	[illegible]	[illegible]

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The Global Investment Committee's Outcomes Framework for Alternatives is not provided as part of an investment advisory service offered by Morgan Stanley Wealth Management, is not available to be directly implemented as part of an investment advisory service and should not be regarded as a recommendation of any Morgan Stanley Wealth Management investment advisory service. Return expectations are in US dollars. The Outcomes Framework for Alternatives does not reflect the investment or performance of actual portfolios. Return expectations are gross figures, and as such, do not take into account fees and other expenses, the deduction of which, when compounded over a period of years, would decrease returns. Return expectations for periods of longer than one year are annualized. Investment characteristics are derived from indices published by Hedge Fund Research, Inc.

Source: Morgan Stanley Wealth Management as of March 31, 2015. **For more information about the risks to Master Limited Partnerships (MLPs) see Risk Considerations at the end of this material.* **NM = Not meaningful; †Corresponds to capital market assumptions as published in the GIC's *Annual Update of Capital Market Assumptions*, March 31, 2015.

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The Increased Availability of Alternatives Mutual Funds/ETFs Has Transformed Asset Allocation Choices for Private Clients

Business Consideration	Traditional Private Offerings	Alternative Mutual Funds/ETFs
Target Client Segment	Institutions; UHNW; Accredited and Qualified	All
Asset Allocation Approach	Strategic	Strategic and Tactical
Role in Portfolio	Opportunistic Growth; Volatility Mitigation	Goal Achievement and Tactical Risk Management
Tax Considerations	K-1; Opaque and Delayed	Annual 1099; ETF Cost-Basis Accounting
Fee Considerations	Potential for Layering	Transparent
	Accessibility – and Liquidity-Driven Approach	Goal Based; Suitability-Driven Approach

Hybrid alternatives asset allocations may commingle traditional private offerings and alternative mutual funds/ETFs

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Source: Morgan Stanley Wealth Management Global Investment Committee

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Keep in Mind Liquidity Has a Price. Is Liquidity Overvalued by Investors?

Investors Pay a Performance Price for Liquidity

As of March 2013

Median Difference in Net Returns Between Private Offerings and Alternative Mutual Funds/ETFs*

3%
2%
2%
1 %
1 %
0%
0.42%
0.52%
0.71%
0.86%
0.86%
0.94%
1.60%
2.18%
Event Driven

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Source: Cliffwater LLC as of June 2013. Performance data shown represents 10 years ending March 2013. *Based on Cliffwater study of managers who manage both private and alternative mutual funds/ETFs, which examined 149 pairs in June 2013.

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Talent Differences Also Can Impact Performance Realization

Investors Pay a Performance Price for Liquidity

Performance Comparison: Traditional Hedge Funds vs Mutual Funds

August 31, 2012 to July 30, 2015

Index/Funds	Number of Funds	3 Year Performance (Overall)	3 Year Performance Difference (Overall)	3 Year Performance (Top 25%)	3 Year Performance Difference (Top 25%)	3 Year Performance (Top 10%)	3 Year Performance Difference (Top 10%)
Morningstar Long/Short Equity	66	7.20		10.16		13.82	
HFRI Equity Hedge Index	734	8.38	1.19	14.29	4.13	20.29	6.47
Morningstar Market Neutral	35	1.40		3.54		4.42	
HFRI Equity Market Neutral Index	59	4.58	3.17	8.96	5.42	12.70	8.28
Morningstar Multialternative	61	3.91		5.11		7.47	
HFRI FOF Composite Index	347	6.27	2.36	8.70	3.59	11.05	3.59
Morningstar Managed Futures	28	2.24		6.02		7.47	
HFRI Macro Systematic Diversified Index	154	2.53	0.29	6.53	0.51	10.62	3.15
Morningstar Multi-Currency	14	-1.35		1.40		2.91	
HFRI Macro Currency Index	25	1.20	2.55	5.09	3.69	6.13	3.23
Average Performance Difference			1.91		3.47		4.94

** Please note that when sharing with clients, you must use this section in its entirety and should not remove individual slides. **

Source: HFRI, Morningstar, Morgan Stanley Wealth Management GIC. (1) Morningstar performance numbers are simple averages of the reported fund returns. Calculated by Morgan Stanley Wealth Management using data provided by Morningstar. © 2015 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. For illustrative purposes only. Please reference the Appendix at the end of this material for more information on hedge fund index performance.

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GLOBAL INVESTMENT COMMITTEE | GIC CHARTBOOK

Morgan Stanley

Investors Should Consider Allocating Across the Liquidity Spectrum

As of June 30, 2015

More Liquid ⟷ Less Liquid

Equity	Equity ETF / Index Funds	Actively Managed Mutual Funds	Long / Short Equity Hedge Funds	Private Equity Secondaries	Private Equity	Venture Capital
Fixed Income	Treasuries	HighYield Bonds	Municipal Bonds	Long / Short Credit Hedge Funds	Mezzanine Debt	Distressed Debt
Real Assets	Passive REITs or Commodity Funds	Active REITs or Commodity Funds	Liquid Real Estate Debt; Managed Futures	Private Real Estate Debt	Private Real Estate; Private Equity	

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Source: Morgan Stanley Wealth Management GIC

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Private Market Performance Premium

Private Equity[1] Vs. Public Equity: (1990 - 2014)[2]

Annualized Total Returns as of 1Q 2015

Private Equity has historically returns vs. public equity markets. Investors have been rewarded for taking on less liquidity.

Legend: Private Equity Total Return; Volatility

	Total Return	Volatility
US Private Equity		15.7%
Global Private Equity	15.3%	14.4%
S&P 500	9.8%	17.4%
MSCI ACWI ex US	6.2%	20.7%

** Please note that when sharing with clients, you must use this section in its entirety and should not remove individual slides. **

Source: FactSet, Thomson ONE. (1) Private equity index data sourced from Thomson ONE's Cambridge Associates benchmarking database and is represented by Buyout, Distressed, Growth Equity, Mezzanine, Private Equity Energy, Upstream Energy & Royalties and Venture Capital. (2) Time horizon determined by availability of asset class data.

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Debunking Commonly Held Myths About Alternatives

While the case for owning alternatives as a complement to traditional investments is compelling, alternatives remain under-represented in many client portfolios.

There are two reasons why. First, the last decade produced a multitude of alternatives-related "challenges" – periods of underperformance, disappointed expectations about fees and liquidity, and shocking headlines about manager misconduct. The second is that alternatives are misunderstood by many investors. We explain and attempt to "debunk" these myths.

Alternatives Myth	Alternatives Reality
1. All Alternatives are Expensive	While some alternatives are expensive and only appropriate for "qualified investors," there is a powerful industry trend underway to build less expensive, publically-traded alternative vehicles. The GIC believes the availability of these vehicles—alternative investment strategies in the form of mutual funds and ETFs—is transformative. Although many alternatives are more expensive because they have a performance fee and a management fee, the GIC recommends clients **focus on whether performance (net of fees) is justified on a risk-adjusted basis.**
2. Alternatives are Illiquid (and That's Something to Avoid)	Although many alternative vehicles such as private equity, real estate and certain hedge funds have lock-up periods and are generally illiquid, the industry is rapidly evolving away from the "illiquidity paradigm," with more and more alternative mutual funds and ETFs being launched every day. These provide daily liquidity, 1099 tax reporting, and transparency via monthly or quarterly filings on fund holdings. Despite this trend, there is a performance and risk-control price for liquidity and regulatory constraints imposed on alternative mutual funds and ETFs. Academic studies[1] suggest that, on average**, the price of liquidity is ~100 basis points per year**. In addition to the product structure's drag on performance there is an estimated drag on risk management. Sharpe ratios of liquid formats of the same strategy have roughly 25%-35% lower efficiency, or amount of return earned, for an amount of risk. While many investors are uncomfortable with, and may not be eligible to purchase, illiquid investments, for investments that are long-term in nature **the cost of liquidity may outweigh the benefits.**

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1. Cliffwater LLC, "Performance of a Private Versus Liquid Alternatives: How Big is the Difference," June 2013

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Morgan Stanley

Debunking Commonly Held Myths About Alternatives

Alternatives Myth	Alternatives Reality
3. Alternatives Make a Portfolio Riskier (Than Traditional Long-Only)	This is an understandable misperception, as for years headlines were rife with stories of large hedge fund blowups. **But, if implemented correctly, alternatives may help mitigate portfolio risk and volatility**. Alternatives add value through diversification – adding different exposures and taking different risks than pure equity or bonds. Alternatives are often hedged, meaning they add value by security selection (alpha) vs. providing unprotected exposure to market fluctuations (beta). However, alternatives can be complex, often making it more difficult to understand the investment's essential characteristics and risks; certainly, different levels of risk exist across these investments.
4. Alternatives Exist to Achieve "Higher Returns"	While many high profile alternatives have delivered superior returns, **the goal of most alternatives is not pure return maximization but rather to make portfolios more efficient than typical stock and bond portfolios**. By definition, many alternatives have low correlations to traditional asset classes. This means adding more return per unit of risk (having a high Sharpe ratio).
5. Alternatives are not Widely Accessible	**Now they are**. Morgan Stanley Wealth Management continues to enhance its Alternatives offerings – both traditional alternatives such as hedge funds, private equity, and real estate as well as non-traditional alternative investments such as mutual funds, ETFs, CEFs, UITs and SMAs. It is the firm's goal to provide eligible clients with access to some of the industry's best global alternatives managers and investment opportunities.

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Theme 1: Manage Broad Global Volatility

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Manage Broad Global Volatility: Consider Global Macro and Managed Futures Strategies to Hedge Potential Market Volatility

As of September 2015

Along with interest rate normalization, the GIC believes capital market volatility will soon normalize, potentially increasing by as much as 30% over the next three-to-five years across bonds, equities, currencies and commodities. Amid China slowdown fears, this could lead to additional volatility in currencies and commodities across developed and emerging markets. Balanced growth investors should focus on adding to global macro and managed futures strategies to mitigate the pickup in broad market volatility.

Context

- Volatility remained largely suppressed for the last several years as the Fed engaged in Quantitative Easing (QE)
- However, with the end of QE in October 2014 and recent growth scare fears, volatility has picked up meaningfully
- Managed futures—which exploit trends in currencies, rates and commodities—have benefitted from the heightened volatility, finishing the year ending August 31, 2015 up 10%[1]
- Global macro funds were also helped by rising volatility, ending 2014 up 6%—the highest year-over-year return since 2010[2]
- Multi-strategy and hedge fund of funds have disappointed for five years and are likely to struggle with redemptions

Managed Futures Have Benefitted from Higher Volatility

As of August 31, 2015

Investment Thesis

- We see volatility in fixed income and equity markets continuing to pick up in 2015 as central bank policy divergence causes re-pricing in interest rates and currencies
- The GIC believes that 2015 is the year of the "Great Rebalancing" where growth momentum spreads from US corporates to non-US markets and global consumers
- As a result, it makes sense to have exposure to global macro and managed futures strategies given their relatively low volatility
- These strategies should deliver uncorrelated return streams with normalization in rate, currency and commodity markets

Global Macro Strategies Can Provide Potentially Higher Returns and Less Risk During Major Equity Market Drawdowns

As of August 31, 2015

Source: HFR Asset Management, LLC, Bloomberg, Morgan Stanley Wealth Management. (1) Based on the BarclayHedge BTOP Index. (2) Based on the HFRI Macro Index. (3) Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean. The more spread apart the data, the higher the deviation. Drawdown is the peak-to-trough decline during a specific period.

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Manage Broad Global Volatility: Consider Global Macro and Managed Futures Strategies to Hedge Potential Market Volatility

As of September 2015

Investment Ideas

- The GIC believes global macro strategies should become more attractive when global volatility increases
- The recent uptick in currency market volatility and the potential for a shift in the interest rate regime signal an improving backdrop for managed futures strategies
- Multi-strategy and hedge fund of funds are likely to struggle with redemptions in 2015, so we have reduced their relative attractiveness

Key Risks

- Some equity market upside may be limited by pursuing these strategies
- Volatility remains suppressed as a result of global QE, making these strategies less relevant

Volatility of Global Macro Funds Is Lower Than That of Equities or a 50/50 Blend of Stocks and Bonds

As of August 31, 2015[1] (Based on Data Since January 1990)

	Annualized Volatility
HFRI Macro (Total) Index	7%
S&P 500	15%
US Barclays Agg.	4%

Source: HFR Asset Management, LLC, Bloomberg, FactSet, Morgan Stanley Wealth Management. (1) HFRI data lags by one month.

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Rising Volatility Improves Outlook for Alternatives

VIX Index Vs. Merrill Lynch Option Volatility Estimate (MOVE) Index

As of June 30, 2015

MOVE Index (left axis)
VIX Index (right axis)
92
18
Jan-10
Nov-10
Sep-11
Jul-12
May-13
Mar-14
Jan-15

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC

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Hedged Strategies and Global Alternatives Risk/Return

HFRI Hedge Fund Strategies

Trailing 12 Months as of August 31, 2015

HFRI ED: Merger Arbitrage
HFRI Fund of Funds
HFRI Relative Value
HFRI Event Driven (ED)
HFRI Equity Hedge
HFRI Fixed Income - Corporate
HFRI ED: Distressed Securities
Annual Return
Annualized Standard Deviation (Risk)

HFRI Hedge Fund Strategies

Trailing Three Years Annualized as of August 31, 2015

HFRI Relative Value
HFRI Event Driven (ED)
HFRI Equity Hedge
HFRI Fund of Funds
HFRI ED: Distressed Securities
HFRI ED: Merger Arbitrage
HFRI Fixed Income - Corporate
Annual Return
Annualized Standard Deviation (Risk)

Source: Morgan Stanley & Co. Research, FactSet, HFR, NCREIF, Dow Jones. Hedged strategies consist of hedge funds and managed futures. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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Theme 2: Managing Risk of Rising Rates

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Manage Risk of Rising Rates and Spread Widening: Use Credit Long/Short and Structured Credit Funds Utilizing Hedged, Low-Duration Strategies

As of September 2015

The GIC believes interest rate normalization will most likely be a slow and measured affair, but will provide a meaningful headwind for investors using bonds for principal preservation. In particular, as rates rise, the GIC expects prices of longer-duration bonds to fall. Target zero/very low bond duration and minimal equity beta.

Context

- The GIC believes interest rate normalization could limit returns in fixed income in 2015 as the Fed prepares to officially hike rates
- Global quantitative easing could cause inflation expectations to drift back up, taking nominal rates with them
- This interest rate normalization is likely to spur increased volatility in both equities and fixed income against a backdrop of subpar growth
- Credit spreads have widened meaningfully from their cycle lows, catalyzed in large part by the crash in oil prices

Investment Thesis

- As the cycle has matured, investors have gotten more selective on credit quality, creating dispersion in spreads and opportunities for security selection
- However, corporate balance sheets remain healthy and default rates are still well below historical peaks
- Given our expectations for rising rates and higher volatility in 2015 and beyond, investors should pursue strategies with lower duration, which can help reduce volatility in a rising rate environment
- Managers focused on credit-sensitive bonds in corporate and structured credit can generate returns from security selection
- Long/short credit managers can seek to reduce interest rate and credit risk utilizing market hedges

Credit Spreads (OAS)[1] Have Widened, Creating Opportunity

As of September 17, 2015

Barclays Emerging Markets Corporate USD Index (left axis)
Barclays US Agg. High Yield Index (left axis)
Barclays US Agg. Investment Grade Index (right axis)

Credit Curve Has Steepened Since 2013[1]

As of September 11, 2015

OAS: 9/11/2015
OAS: 12/31/2014
OAS: 12/31/2013

Source: The Yield Book® Software and Services © 2015 Citigroup Index LLC. All rights reserved. Bloomberg, FactSet; (1) Option-adjusted spread (OAS) is a measurement of the spread of a fixed income security rate and the risk-free rate of return, which is adjusted to take into account an embedded option.

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Manage Risk of Rising Rates and Spread Widening: Use Credit Long/Short and Structured Credit Funds Utilizing Hedged, Low-Duration Strategies

As of September 2015

Investment Ideas

- Favor managers with low duration (between 0 and 3 years)
- Seek exposure to funds that are more credit sensitive in their security selection
- Focus on structured credit managers who are concentrated in CMBS and CLOs

Key Risks

- Interest rates do not normalize as we believe they will, making short-duration strategies less relevant
- Funds that increase credit risk often become more correlated to equities in a risk-off environment
- Housing market slowdown and changes in government policy can adversely impact structured credit markets

US Invest. Grade Interest Coverage Elevated—Balance Sheets Strong

As of 2Q 2015

US Investment Grade Interest Coverage

High Yield Interest Coverage Also Historically High

As of 2Q 2015

US High Yield Interest Coverage

Source: Morgan Stanley & Co., The Yield Book, Bloomberg

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Fed Will Likely Raise Interest Rates as Economy Continues to Expand

Fed Funds Futures Curve (2015E – 2018E)
As of August 31, 2015

Fed Funds Futures Curve
Fed Dec 2014 Median Rate Path
Fed March 2015 Median Rate Path
Fed June 2015 Median Rate Path

4.0% 3.5% 3.0% 2.5% 2.0% 1.5% 1.0% 0.5% 0.0%
Aug '15 Jan '16 E Jun '16 E Nov '16 E Apr '17 E Sep '17 E Feb '18 E Jul '18 E

Source: Bloomberg, Morgan Stanley Wealth Management GIC. Squares indicate Fed members' median projection for interest rates.

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Long-Duration[1] Bonds Can Be Risky When Rates Rise

Total Return Impact of a 1% Rise/Fall in Interest Rates
As of August 31, 2015

	-1% Fall	+1% Rise
2-Year	2.0%	-2.0%
5-Year	5.0%	-4.7%
TIPS	5.9%	-5.1%
10-Year	9.6%	-8.7%
30-Year	23.4%	-17.9%
Floating Rate	0.1%	-0.1%
ABS	4.3%	-4.0%
High Yield	4.3%	-4.3%
MBS	3.6%	-5.3%
Broad Market	5.7%	-5.6%
Municipals	5.8%	-5.9%
Corporates	7.6%	-6.6%

Long-duration fixed income is sensitive to rising rates and is very volatile

-30% -10% 10% 30%

Source: FactSet, Morgan Stanley Wealth Management GIC. The following Barclays indices were used for the sectors above : US Aggregate for Broad Market, US Aggregate Securitized – MBS Index for MBS, US Corporates for Corporate, Muni Bond 10-year Index for Municipals, Corporate High Yield Index for High Yield, US TIPS Index for TIPS, FRN (BBB) for Floating Rate, US Convertibles Composite for Convertibles and Barclays ABS + CMBS for ABS. Barclays US Treasury benchmark indices used for US Treasury data. (1) For more information about the risks to Duration please refer to the Risk Considerations section at the end of this material.

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Theme 3: Manage Equity Exposure

Manage Equity Exposure: Use Event-Driven and Equity Long/Short Strategies to Diversify/Amplify Global Equity Exposure

As of September 2015

High corporate cash balances, low growth and low interest rates continue to nurture the backdrop for M&A, LBOs, IPOs and share repurchases. Success of activist investors has created increased opportunities for proactive shareholder value creation, and event-driven managers can take advantage of corporate activity to unlock shareholder value. Equity long/short managers should have proven capabilities on the short side as dispersion in stocks increases.

Context

- As the global economy grows stronger, correlations between asset classes and securities remain low, making active strategies (particularly equity long/short) more attractive
- M&A activity in the US has just started to pick up, offering more fertile ground for event-driven managers
- Rising volatility in global interest rates, currencies and commodities is creating winners and losers, a trend that can be exploited

Investment Thesis

- As a result of low asset correlations, it makes sense to consider a more active investment approach in equities
- Shorting enables long/short funds to take bigger positions in higher-conviction long ideas, increasing potential alpha generation
- The improving economic, earnings and corporate outlook should bode well for M&A activity and overall equity market performance
- We do not think that recent rule proposals from the US Treasury limiting so-called "tax inversions" will impact market momentum
- Wide currency divergences are likely to create incentives for consolidation deals; this could make event-driven strategies especially relevant in 2015

Correlations Collapse—Active Management More Attractive

As of August 28, 2015

US M&A Activity Is Elevated

As of August 31, 2015 (Billions of Dollars)

Source: Morgan Stanley & Co., Morgan Stanley Wealth Management Bloomberg. Morgan Stanley's Asset Co-Movement Indicator Index tracks weekly returns of 16 different asset classes and how much of their cross-variation can be explained by a single factor.

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Manage Equity Exposure: Use Event-Driven and Equity Long/Short Strategies to Diversify/Amplify Global Equity Exposure

As of September 2015

Investment Ideas

- Favor managers who have historically outperformed at this stage of the recovery cycle
- Seek exposure to stocks that could benefit from M&A, LBOs and share repurchases
- Focus on managers with expertise in our favored equity markets—Japan, Europe and the US

Key Risks

- M&A activity declines, creating a less suitable environment for event-driven managers
- Geopolitical risks could create headwinds for equity markets in 2015
- A string of disappointing economic data could raise questions about the strength of the US economic recovery

Equity Long/Short Funds Have Generated Attractive Risk-Adjusted Returns

As of August 31, 2015

Source: Bloomberg, Morgan Stanley Wealth Management

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Theme 4: Seek Private Market Opportunities

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Seek Private Market Opportunities

- **Private Equity Outlook**
  - Commodity Companies (Energy, Metals)
  - Secondaries
- **Real Estate Outlook**
  - U.S. Residential Market Opportunities
  - Niche Market Opportunities (College Campus, Senior Living)
- **Private Debt Outlook – Bank Regulation Trade**
  - Middle Market
  - Europe
  - Real Estate
  - Energy
- **Impact Investing**
  - Socially responsible private equity

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Appendix

HEDGE FUND RISK RETURN COMPARISON: LIST OF INDEXES UTILIZED

US Equity	S&P 500
Global Equity	MSCI EAFE – Net
US Bonds	Barclays Aggregate Bond Index
Real Estate	NCREIF Property Index
Private Equity	PrEQIn All Private Equity Index
Equity Market Neutral	HFRI EH: Equity Market Neutral Index
Event Driven	HFRI Event-Driven (Total) Index
Distressed	HFRI ED: Distressed / Restructuring Index
Merger Arbitrage	HFRI ED: Merger Arbitrage Index
Macro	HFRI Macro (Total) Index
Long / Short Equity	HFRI Equity Hedge (Total) Index
Hedge Funds	HFRI Fund Weighted Composite Index
Emerging Markets	HFRI Emerging Markets (Total) Index
Fixed Income	HFRI RV: Fixed Income-Corporate Index
Relative Value	HFRI Relative Value (Total) Index
Convertible Arbitrage	HFRI RV: Fixed Income-Convertible Arbitrage Index

Source: HFR Global Hedge Fund Industry Report – Year End 2014, Bloomberg, PerTrac. Indexes are unmanaged and investors cannot directly invest in them. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Please see Referenced Indexes in Appendix for index descriptions and key definitions.

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Appendix (cont'd)

RISK CONSIDERATIONS

Investing in Alternative Investments can involve a high degree of risk. These are speculative securities. Before you decide to invest, carefully consider a fund's investment objective, risks, charges and expenses. This and other information can be found in a fund's confidential offering memorandum or prospectus, which you should read carefully before investing.

ALTERNTATIVE INVESTMENTS

Valuation Risk Certain alternative investment funds often trade in esoteric and/or illiquid securities. In normal markets it is sometimes difficult to price these instruments, causing managers to estimate market values. In stressed markets this problem may be magnified, leaving investors with an imprecise understanding of a portfolio's Net Asset Value. Valuations for investments for which market quotations are not available may at times be estimates, which may affect the amount of the management and incentive fees

Specialized Trading Special investment techniques such as leveraging, short-selling and investing in derivatives, including options and futures, may result in significant losses

Manager Risk Investing in a fund exposes investors to risks particular to that fund manager. These risks can include poor decision making, key personnel departures or fraud, among others. In the case of a fund of funds, although the Investment Manager selects managers it believes are prudent and reliable, managers could perform poorly or reach capacity

Liquidity Risk Interests in certain alternative investment funds are generally not readily marketable and not redeemable. Interests in a fund generally are not transferable except in limited circumstances. Accordingly investors have to bear the risks of investing for the full duration of the lock-up period

Investment Process / Model Risk The Investment Manager's investment process may be heavily dependent on the Investment Manager's analysis of historical data. No assurance can be given that these analyses will accurately predict future results

Market Risk The value of securities, commodities, and currencies may fluctuate reflecting a variety of factors, including changes in investor outlook and political and economic environments.

Strategy Risk Investments in diverse and sometimes complex strategies are affected in different ways and at different times by changing market conditions. Strategies may at times be out of market favor for considerable periods, with adverse consequences for the portfolio.

Incentive Compensation Managers will, in general, receive performance compensation, which may give the managers incentives to make investments that carry greater risk or more speculative than might be the case if no performance compensation were paid.

HEDGE FUNDS

Specialized Trading Special investment techniques such as leveraging, short-selling and investing in derivatives, including options and futures, may result in significant losses.

Market Risk The value of securities, commodities, and currencies may fluctuate reflecting a variety of factors, including changes in investor outlook and political and economic environments.

Strategy Risk Hedge Funds trade in diverse complex strategies that are affected in different ways and at different times by changing market conditions. Strategies may at times be out of market favor for considerable periods, with adverse consequences for the portfolio.

Manager Risk Although Morgan Stanley selects advisors it believes are prudent and reliable, advisors could perform poorly or reach capacity.

Incentive Compensation Managers will, in general, receive performance compensation, which may give the managers incentives to make investments that carry more risk or more speculative than might be the case if no performance compensation were paid.

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Appendix (cont'd)

HEDGE FUNDS (cont'd)

Liquidity Risk Funds of Hedge Funds may have limited redemption dates. Underlying advisors may also have lock-up periods and infrequent redemption dates, thereby limiting the Investment Manager's ability to reallocate assets as market and advisor performance change.

Valuation Risk Hedge Funds may trade in esoteric securities, often in illiquid markets. In normal markets it is sometimes difficult to price these instruments, causing managers to estimate market values. In stressed markets this problem may be compounded, leaving investors with an imprecise understanding of the NAV of a multi-strategy portfolio. Valuations for investments for which market quotations are not available may at times be estimates, which may affect the amount of the Management and Incentive Fees.

Conflicts of Interest Conflicts of Interest Morgan Stanley Smith Barney, LLC or its affiliates (collectively, "Morgan Stanley") engage in or may engage in business (in each case, subject to applicable law) with a particular fund, the general partner, the manager and / or the entities in which a particular fund invests, and as a result earns or will earn current or future fees and commissions by providing certain services, including but not limited to: (i) financing or investment banking services; (ii) lending or arranging credit; and (iii) other financial services. The receipt or prospect of receiving such fees or commissions may present an actual or potential conflict of interest. In addition, in connection with an investment in a particular fund, the manager or its affiliate may receive certain management fees and its general partner may receive carried interest from investors in a particular fund as described in the applicable fund memorandum.

Reliance on Industry Data Morgan Stanley utilizes and relies on data and indices from 3rd parties, and some of these are presented in this presentation. Morgan Stanley does not independently confirm the data and indices from these 3rd party sources and does not make any representation as to their accuracy.

MANAGED FUTURES

Leverage Trading of commodity interests is speculative, volatile and involves a high degree of leverage. A small change in the market price of a contract can produce major losses for the Fund. You could lose all of your investment. Leverage is inherent in futures trading. In order to enter into a futures contract, a trader needs to post with the exchange only a small security deposit, or 'margin', sufficient to cover any daily fluctuations in the value of the positions, which is adjusted daily to account for changes in value. The low initial outlay, typically ranging from about 5% to 20% of the value of the contract, allows the investor continued use of most of his capital for the duration of the contract, while at the same time controlling positions with much greater value than the initial amount invested. This inherent leverage amplifies the effect of price fluctuations, creating greater gains and losses, as a percent of the actual amount invested and resulting in increased volatility.

Fees & Expenses Regardless of trading performance, the Funds will incur fees and expenses, including brokerage and management fees. Substantial incentive fees may be paid to one or more trading advisors even if the Fund experiences a net loss for the full year.

Lack of Liquidity Your ability to redeem units is limited. In many cases, you may only redeem units after an initial three-month holding period and then only on a monthly basis.

Conflicts of Interest The Funds may be subject to conflicts of interest: the general partner and broker may be affiliates; each of the trading advisors, the commodity broker and their principals and affiliates may trade in commodity interests for their own accounts; and your Morgan Stanley Financial Advisor / Private Wealth Advisor will receive ongoing compensation for providing services to your account.

Diversification Benefit is Uncertain The Funds will not provide any benefit of diversification of your overall portfolio unless it is profitable and produces returns that are independent from stock and bond market returns.

Strategy Risk The advisors' trading strategies may not perform as they have performed in the past. The advisors have from time to time incurred substantial losses in trading on behalf of clients.

Taxation You will be taxed on your share of each Fund's income, even though the Fund does not intend to make any distributions.

Manager Risk The general partner at any time may select and allocate the Fund's assets to advisors that are not described in the prospectus. You may not be advised of such changes in advance. You must rely on the ability of the general partner to select advisors and allocate assets among them.

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Appendix (cont'd)

MANAGED FUTURES (cont'd)

Lack of Liquidity Your ability to redeem units is limited. In many cases, you may only redeem units after an initial three-month holding period and then only on a monthly basis.

Competition for Investments Results depend on the availability of real estate investments and the Manager's ability to identify and consummate such transactions. There can be no assurance that the Manager will be able to find attractive investments to invest all or substantially all of the Company's capital. In addition, the timing which an investor makes investments will have a significant impact on returns

Diversification Benefit is Uncertain The Funds will not provide any benefit of diversification of your overall portfolio unless it is profitable and produces returns that are independent from stock and bond market returns

Strategy Risk The advisors' trading strategies may not perform as they have performed in the past. The advisors have from time to time incurred substantial losses in trading on behalf of clients

Taxation You will be taxed on your share of each Fund's income, even though the Fund does not intend to make any distributions

Manager Risk The general partner at any time may select and allocate the Fund's assets to advisors that are not described in the prospectus. You may not be advised of such changes in advance. You must rely on the ability of the general partner to select advisors and allocate assets among them

PRIVATE EQUITY

Valuation As Private Equity Funds generally will invest in securities that are not readily marketable, the securities generally will be carried at the values provided to the Fund or at cost. These valuation procedures are subjective in nature, do not conform to any particular industry standard and may not reflect actual values at which investments are ultimately realized

Liquidity Risk Interests in a Private Equity Fund are generally not readily marketable and not redeemable. Interests in a Fund generally are not transferable except in limited circumstances. Accordingly investors have to bear the risks of investing in the Fund for the full duration of the Fund

Speculative Investment The investment strategies utilized may include highly speculative investment techniques, highly concentrated portfolios, control and non-control positions and illiquid investments. Because of the specialized nature of the investment, it is not suitable for certain investors and, in any event, an investment in a Private Equity Fund should constitute only a limited part of an investor's total portfolio. There can be no assurance that a Fund will return investors' capital or that cash will be available for distributions

Default Remedies If an investor fails to Fund a capital call from a fund when due, the Fund may exercise various remedies with respect to such investor and its interest including, but not limited to, causing the investor to forfeit or sell all or a portion of its interest in the Fund or requiring that the investor immediately pay up to the full amount of its remaining capital commitment

REAL ESTATE

Real Estate Ownership Real estate historically has experienced significant fluctuations and cycles in value and local market conditions may result in reductions in the value and the income associated with real property interests, including possible loss of principal investment

Leverage Most real estate investments employ leverage. Leverage has the effect of magnifying both gains and losses, including potential loss of principal

Interest Rate Risk Real estate investments may or may not include the use of floating rate leverage. Floating rate leverage increases the volatility of real estate returns, including increasing the potential loss of principal. Other risks related to interest rates include the risk associated with refinancing properties

Illiquid Investments Many non-REIT real estate investments are illiquid, and are not listed on any exchange. Investments should generally be regarded as fixed and long-term. Generally, there are no liquidity provisions and no mechanisms in place for sale of partial interests in non-realized real estate funds. There are often significant restrictions on transfer

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Appendix (cont'd)

REFERENCED INDEXES

Amsterdam Exchange (AEX) Exchange that comprises the AEX-Effectenbeurs, the AEX-Optiebeurs (formerly the European Options Exchange or EOE) and the AEX-Agrarische Termijnmarkt.

Barclays Aggregate Bond Index A market-weighted, intermediate-term bond index of over 6,500 intermediate-term government bonds, investment grade corporate debt securities and mortgage backed securities.

Barclay CTA Index This benchmark is representative of performance from commodity trading advisors. There are currently 565 programs included in the calculation of the Barclay CTA Index for the year 2012, which is unweighted and rebalanced at the beginning of each year.

CAC 40 Index A broad-based index of common stocks composed of 40 of the 100 largest companies listed on the forward segment of the official list of the Paris Bourse.

DAX Index The Deutsche Boerse German Stock Index is a total return index of 30 selected German blue chip stocks traded on the Frankfurt Stock Exchange.

Dow Jones Industrial Average (Dow 30) A price-weighted average of 30 actively traded blue-chip stocks, primarily industrials including stocks that trade on the New York Stock Exchange. The Dow, as it is called, is a barometer of how shares of the largest US companies are performing.

Dow Jones-UBS Commodity Index (DJ-UBSCI) Composed of futures contracts on physical commodities. Unlike equities, which typically entitle the holder to a continuing stake in a corporation, commodity futures contracts normally specify a certain date for the delivery of the underlying physical commodity. In order to avoid the delivery process and maintain a long futures position, nearby contracts must be sold, and contracts that have not yet reached the delivery period must be purchased. This process is known as "rolling" a futures position. The DJ-UBSCI is a "rolling index."

EURO STOXX 50 Index Provides a Blue-chip representation of supersector leaders in the Eurozone and covers 50 stocks.

EURO STOXX 600 Index Represents large, mid and small capitalization companies across the European region with a fixed number of 600 components.

FTSE 100 The Financial Times Stock Exchange 100 Share Index measures the performance of the shares of the 100 largest companies listed on the London Stock Exchange, sometimes referred to as the LSE.

FTSE All-Share The Financial Times Stock Exchange All-Share Index is a capitalization-weighted index comprising the FTSE 350 and the FTSE SmallCap Indices.

FTSE MIB Index The Financial Times Stock Exchange MIB Index measures the performance of the 40 most liquid and capitalized Italian shares and seeks to replicate the broad sector weights of the Italian stock market. It is the primary benchmark index for the Italian equity market and represents the large cap component of the FTSE Italia All-Share Index.

FTSE NAREIT US Real Estate Index Series Designed to present investors with a comprehensive family of REIT performance indexes that span the commercial real estate space across the US economy, offering exposure to all investment and property sectors. In addition, the more narrowly focused property sector and subsector indexes provide the facility to concentrate commercial real estate exposure in more selected markets.

Hang Seng Index A free-float capitalization-weighted index of a selection of companies from the Stock Exchange of Hong Kong. The components of the index are divided into four subindexes: Commerce and Industry, Finance, Utilities, and Properties.

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Appendix (cont'd)

REFERENCED INDEXES (cont'd)

HFRI Indexes While the HFRI Indexes are frequently used, they have limitations (some of which are typical of other widely used indexes). These limitations include survivorship bias (the returns of the indexes 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 indexes, 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 indexes may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways.

HFRI Distressed / Restructuring Index Includes strategies which employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

HFRI Emerging Market Index (Emerging Markets) Emerging Markets funds invest in the securities of companies or the sovereign debt of developing or 'emerging' countries. The constituents of the HFRI Emerging Markets Indexes are selected according to their Regional Investment Focus only. There is no Investment Strategy criteria for inclusion in these indexes.

HFRI Equity Hedge Index (Long / Short Equity) Equity Hedge investing consists of a core holding of long equities hedged at all times with short sales of stocks and / or stock index options.

HFRI Equity Market Neutral Index Includes strategies which employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale.

HFR Event-Driven Investment managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments.

HFRI Fixed Income-Convertible Arbitrage Index Includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument.

HFRI Fixed Income-Corporate Index includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed income instrument.

HFRI Fund of Funds Composite Index An equally weighted performance index that accounts for more than 800 hedge funds of funds listed in the HFR Database.

HFRI Fund-Weighted Composite Index An equally weighted composite index, which accounts for over 2,000 funds listed on the internal HFRI Database. The Funds included in the index must report monthly returns, net of all fees returns, assets in USD and have at least $50 million under management or have been actively trading for at least 12 months.

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Appendix (cont'd)

REFERENCED INDEXES (cont'd)

HFRI Macro Index (Global Macro) Macro involves investing by making leveraged bets on anticipated price movements of stock markets, interest rates, foreign exchange and physical commodities.

HFRI Merger Arbitrage Index Includes strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

HFRI Relative Value Index Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types.

IBEX 35 Index Official index of the Spanish Continuous Market; comprises the 35 most liquid stocks traded on the Continuous market.

MSCI EAFE Index The EAFE is a broad market cap-weighted index that was formulated by Morgan Stanley Capital International (MSCI) to represent equity market performance in the developed world beyond North America.

MSCI Singapore Free Index A free-float adjusted market capitalization weighted index that is designed to track the equity market performance of Singapore securities listed on Singapore Stock Exchange.

MSCI Taiwan Index A free-float adjusted market capitalization weighted index that is designed to track the equity market performance of Taiwanese securities listed on Taiwan Stock Exchange and GreTai Securities Market.

MSCI World Index An index consisting of approximately 1,500 stocks in 23 countries globally and representing a significant portion of the total market capitalization in those countries

NASDAQ 100 Index Includes 100 of the largest domestic and international non-financial securities listed on The Nasdaq Stock Market based on market capitalization. The index reflects companies across major industry groups including computer hardware and software, telecommunications, retail / wholesale trade and biotechnology. It does not contain securities of financial companies including investment companies.

NCREIF Property Index Returns A quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors - the great majority being pension funds. As such, all properties are held in a fiduciary environment.

NCREIF Townsend Opportunity Fund Index Presents the performance information of private equity real estate funds pursuing core, value-added and opportunistic investment strategies using both open-ended and closed-ended structures. The performance data comprises both active investments, as well as funds that have completed their full lifecycle or discontinued operations. Return information is represented both in the time-weighted format, which is most appropriate for open-end vehicles and vintage year descriptive statistics, which are most appropriate for closed-ended vehicles that exhibit performance patterns dependent on their lifecycle.

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Appendix (cont'd)

REFERENCED INDEXES (cont'd)

NFI-ODCE Index Open End Diversified Core Equity, it is the first of the NCREIF Fund Database products and is an index of investment returns reporting on both a historical and current basis the results of 31 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time weighted. NCREIF will calculate the overall aggregated index return.

Nikkei 225 Index A price-weighted average of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange.

NYSE Composite Index Covers price movements of all new world common stocks listed on the New York Stock Exchange. The composite index is supplemented by separate indexes for four industry groups: industrial, transportation, utility, and finance.

OMX Stockholm 30 Index Consists of the 30 most actively traded stocks on the Stockholm Stock Exchange and is a market weighted price index. The composition of the OMXS30 index is revised twice a year.

PrEQIn Indexes PrEQIn is a quarterly index for the whole private equity industry, enabling comparison of the performance of private equity funds against other asset classes. This index tracks industry returns information from December 31, 2000, to the most recent quarter-end date available. The index pools performance information across all private equity strategies including buyout, venture, private equity real estate, fund of funds and distressed private equity, and is calculated on a quarterly basis using data from Preqin's Performance Analyst database. The models use quarterly cash flow transactions and NAVs reported for individual private equity partnerships.

Russell 2000 Index Measures the performance of the small-cap segment of the US equity universe. The Russell 2000 Index is a subset of the Russell 3000 Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership.

S&P 500 A capitalization-weighted index of 500 US large-cap stocks.

S&P Canada 60 (S&P / TSX 60) A capitalization-weighted index of 60 of the largest and most liquid (heavily traded) stocks listed on the Toronto Stock Exchange (TSX).

S&P CNX Nifty The leading index for large companies on the National Stock Exchange of India, it is a free float market-capitalization index of 50 companies representing 24 sectors of the economy.

S&P Midcap 400 Provides investors with a benchmark for mid-sized companies. The index, which is distinct from the large-cap S&P 500, measures the performance of mid-sized companies, reflecting the distinctive risk and return characteristics of this market segment.

S&P / ASX 200 Covers approximately 80% of Australian equity market capitalization and is recognized as the institutional investable benchmark in Australia. Index constituents are drawn from eligible companies listed on the Australian Securities Exchange.

TOPIX (TPX) The Tokyo Stock Price Index is a capitalization-weighted index of all companies listed on the First Section of the Tokyo Stock Exchange.

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Appendix (cont'd)

GLOSSARY OF TERMS

Alpha A mathematical value indicating an investment's excess return relative to a benchmark. Measures a manager's value added relative to a passive strategy, independent of market movement.

Beta A quantitative measure of volatility of a security or strategy relative to a market index. An investment with a beta less than 1.0 is less volatile than the market, while an investment with a beta greater than 1.0 is more volatile than the market.

Collateralized Debt Obligations (CDOs) A general inclusive term which covers Collateralized Bond Obligations, Collateralized Loan Obligations, and Collateralized Mortgage Obligations.

Commercial Mortgage Backed Securities (CMBs) Similar to Mortgage-Backed Securities but backed by loans secured with commercial, rather than residential, property. Commercial property includes, but is not limited to, multi-family, retail, and office space. They are not standardized so there are a lot of details associated with topics such as structure, credit enhancement, and diversification that need to be understood when valuing these instruments.

Correlation A measure of the degree to which two variables move in the same direction with the same impact on performance, measured in a range of -1.0 to 1.0. A correlation of -1.0 implies that the variables move inversely with one another while a correlation of 1.0 implies that the variables move in exactly the same manner. A correlation of zero implies that there is no relationship between the movements of the variables (therefore implying perfect diversification).

Drawdown A measure of risk often expressed as the percentage loss of a fund's or strategy's highest value to its lowest value within a specific time period.

Exchange Funds: Private vehicles which enable holders of concentrated stock positions to exchange those stocks for a diversified portfolio.

Fund of Hedge Funds: Actively and professionally managed portfolios consisting of multiple hedge funds offering diversification across managers, strategies, styles, and / or sectors.

Hedge Funds Privately managed investment funds that utilize sophisticated strategies in both the international and domestic markets. They're designed to potentially offset losses during a market downturn and often seek to generate returns higher than traditional stock and bond investments.

Managed Futures: Employs professional money managers called Commodity Trading Advisors to direct investments in global currencies, interest rates, equities, metals, energy and agricultural markets through the use of futures, forwards and options on the basis of technical and fundamental analysis.

Private Equity: Typically invests globally in nonpublic entities with a value-add approach, seeking to acquire undervalued / underperforming entities or ones with significant growth potential with the objective of reselling at a higher price in the future. Underlying asset classes include buyouts, venture capital, and mezzanine debt.

Real Estate: Negotiated private investments in real estate assets with the objective of generating current income and / or reselling at a higher value in the future.

Real Estate Investment Trust (REIT) Invests in real estate or loans secured by real estate and issue shares in such investments. A REIT is similar to a closed-end mutual fund.

Real Estate Operating Company (REOC) A firm whose primary business is to own, acquire, develop and manage real properties.

Standard Deviation A measure of the variation of returns around the mean return. Standard deviation is the most widely used approximation of the risk of an individual investment or portfolio.

Sharpe Ratio A measure of risk-adjusted return calculated by dividing an investment's return over the risk-free rate (i.e., Treasury bill yield) by the investment's standard deviation.

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Appendix (cont'd)

IMPORTANT DISCLOSURES

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Appendix (cont'd)

IMPORTANT DISCLOSURES (cont'd)

Important Notice Regarding Complex Products

The type of mutual funds and ETFs discussed in this presentation utilizes nontraditional or complex investment strategies and/or derivatives. Examples of these types of funds include those that utilize one or more of the below noted investment strategies or categories or which seek exposure to the following markets:

- Commodities (e.g., agricultural, energy and metals), Currency, Precious Metals
- Managed Futures
- Leveraged, Inverse or Inverse Leveraged
- Bear Market, Hedging, Long-Short Equity, Market Neutral
- Real Estate
- Volatility (seeking exposure to the CBOE VIX Index)

You should keep in mind that while mutual funds and ETFs may, at times, utilize nontraditional investment options and strategies, they should not be equated with unregistered privately offered alternative investments. Because of regulatory limitations, mutual funds and ETFs that seek alternative-like investment exposure must utilize a more limited investment universe. As a result, investment returns and portfolio characteristics of alternative mutual funds and ETFs may vary from traditional hedge funds pursuing similar investment objectives. Moreover, traditional hedge funds have limited liquidity with long "lock-up" periods allowing them to pursue investment strategies without having to factor in the need to meet client redemptions and ETFs trade on an exchange. On the other hand, mutual funds typically must meet daily client redemptions. This differing liquidity profile can have a material impact on the investment returns generated by a mutual or ETF pursuing an alternative investing strategy compared with a traditional hedge fund pursuing the same strategy.

Nontraditional investment options and strategies are often employed by a portfolio manager to further a fund's investment objective and to help offset market risks. However, these features may be complex, making it more difficult to understand the fund's essential characteristics and risks, and how it will perform in different market environments and over various periods of time. They may also expose the fund to increased volatility and unanticipated risks particularly when used in complex combinations and/or accompanied by the use of borrowing or "leverage."

** Please note that when sharing with clients, you must use this section in its entirety and should not remove individual slides. **

Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

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Appendix

HFRI Indices

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.

Hedge Fund Index Performance Biases

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.

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Asset Allocation Models & Insurance Products Disclosures

GLOBAL INVESTMENT COMMITTEE (GIC) ASSET ALLOCATION MODELS

The Asset Allocation Models are created by Morgan Stanley Wealth Management's GIC.

CLIENTS TO CONSIDER THEIR OWN INVESTMENT NEEDS

The GIC Asset Allocation Models are formulated based on general client characteristics such as investable assets and risk tolerance. This report is not intended to be a client-specific suitability analysis or recommendation, or offer to participate in any investment. Therefore, do not use this report as the sole basis for investment decisions.

Clients should consider all relevant information, including their existing portfolio, investment objectives, risk tolerance, liquidity needs and investment time horizon. Such a suitability determination may lead to asset allocation(s) results that are materially different from the asset allocation shown in this report. Clients should talk to their Financial Advisor about what would be a suitable asset allocation for them.

HYPOTHETICAL MODEL PERFORMANCE (GROSS)

Hypothetical model performance results do not reflect the investment or performance of an actual portfolio following a GIC Strategy, but simply reflect actual historical performance of selected indices on a real-time basis over the specified period of time representing the GIC's strategic and tactical allocations as of the date of this report. The past 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 or trading strategy. Hypothetical performance results do not represent actual trading and are generally designed with the benefit of hindsight.

Actual performance results of accounts vary due to, for example, market factors (such as liquidity) and client-specific factors (such as investment vehicle selection, timing of contributions and withdrawals, restrictions and rebalancing schedules). Clients would not necessarily have obtained the performance results shown here if they had invested in accordance with any GIC Asset Allocation Model for the periods indicated.

Despite the limitations of hypothetical performance, these hypothetical performance results allow clients and Financial Advisors to obtain a sense of the risk/return trade-off of different asset allocation constructs. The hypothetical performance results in this report are calculated using the returns of benchmark indices for the asset classes, and not the returns of securities, fund or other investment products.

Performance of indices may be more or less volatile than any investment product. The risk of loss in value of a specific investment is not the same as the risk of loss in a broad market index. Therefore, the historical returns of an index will not be the same as the historical returns of a particular investment a client selects.

Models may contain allocations to Hedge Funds, Private Equity and Private Real Estate. 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 AND ETF DISCLOSURES

Morgan Stanley Smith Barney LLC offers **insurance products** in conjunction with its licensed insurance agency affiliates.

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.

Variable annuities, mutual funds and ETFs are sold by prospectus only. The prospectus contains the investment objectives, risks, fees, charges and expenses, and other information regarding the variable annuity contract and the underlying investments, or the ETF, which should be considered carefully before investing. Prospectuses for both the variable annuity contract and the underlying investments, or the ETF, are available from your Financial Advisor. Please read the prospectus carefully before you invest.

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.

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Asset Class Risk Considerations

For index definitions to the indices referenced in this report please visit the following: http://www.morganstanleyfa.com/public/projectfiles/id.pdf

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

Investing in foreign markets entails risks not typically associated with domestic markets, such as currency fluctuations and controls, restrictions on foreign investments, less governmental supervision and regulation, and the potential for political instability. These risks may be magnified in countries with **emerging markets and frontier markets**, since these countries may have relatively unstable governments and less established markets and economies.

Investing in small- to medium-sized companies entails special risks, such as limited product lines, markets and financial resources, and greater volatility than securities of larger, more established companies.

The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer.

High yield bonds (bonds rated below investment grade) may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk, price volatility, and limited liquidity in the secondary market. 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). 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.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

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.

Alternative investments may be either traditional alternative investment vehicles, such as hedge funds, fund of hedge funds, private equity, private real estate and managed futures or, non-traditional products such as mutual funds and exchange-traded funds that also seek alternative-like exposure but have significant differences from traditional alternative investments. The risks of traditional alternative investments may include: can be highly illiquid, speculative and not suitable for all investors, loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices, 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 open-end mutual funds, and risks associated with the operations, personnel and processes of the manager. Non-traditional alternative strategy products may employ various investment strategies and techniques for both hedging and more speculative purposes such as short-selling, leverage, derivatives and options, which can increase volatility and the risk of investment loss. **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. **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.

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Asset Class Risk Considerations (cont'd)

Floating-rate securities 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.

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.

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

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

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.

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.

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.

Besides the general risk of holding securities that may decline in value, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance, and potential leverage. Some funds also invest in foreign securities, which may involve currency risk.

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