The GIC: Client Presentation Materials

January 2015

Jon Mackay, Managing Director
Market Strategist
The Primary Determinants of “Value”

There are many things that affect asset prices in the short term:

- Investor Mood
- Politics
- Analyst Upgrades
- Weather
- Litigation
- Quantitative Easing (QE)

But, there are only 2 things that affect asset prices in the long term:

**Interest Rates & Growth**
US Economy Still in Early Expansion Phase

Morgan Stanley US Cycle Indicator
As of December 31, 2014

Source: Morgan Stanley & Co. Research, Bloomberg, Haver, NBER. Grey bars indicate periods of recession. (1) The Morgan Stanley US Cycle Indicator measures the deviation from historical norms for macro factors including employment, credit conditions, corporate behavior and the yield curve.

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US Economy Has Been Resilient

US Nominal GDP
Trillions of US Dollars as of 3Q 2014

Consumer Confidence
As of December 30, 2014

Conference Board Leading Economic Indicator Index
Month-over-Month Percent Change as of November 30, 2014

Citi US Economic Surprise Index
Three-Month Moving Average as of December 31, 2014

Source: Bloomberg, Citigroup, FactSet, University of Michigan, Conference Board.

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Inflation Remains Dormant... With Low Future Expectations

**Consumer Price Indexes¹**
Year-over-Year Percent Change as of November 30, 2014

![Graph showing inflation rates over time with a note: Inflation remains below its long-term average.]

**Inflation Expectations²**
As of December 31, 2014

![Graph showing inflation expectations over time with a note: Inflation expectations reset.]

Source: Bureau of Labor Statistics, Haver, FactSet, Bloomberg, Morgan Stanley Wealth Management GIC. (1) Headline CPI measures inflation that is not adjusted for food and energy prices; core CPI excludes food and energy prices. (2) Defined as Breakeven rate, which is the difference in yield between inflation-protected and nominal debt of the same maturity.

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Fed “Money Printing” Has Not Caused Inflation Because Money Velocity Has Plummeted

Federal Reserve Balance Sheet Size
As of October 31, 2014

Composition of Federal Reserve Assets
As of December 31, 2014

Federal Funds Rate
As of December 31, 2014

Despite QE, velocity of money has yet to meaningfully pick up due to limited bank lending

Source: US Department of the Treasury, Haver, Bloomberg, FactSet, Morgan Stanley Wealth Management GIC. (1) The velocity of money is the frequency at which one unit of currency is used to purchase domestically produced goods and services within a given time period.

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What’s Driving the Economy? We Are…But We Can Do Better

Components of Trailing Four Quarters Nominal GDP
Nominal GDP as of 3Q 2014

- 3.2% Housing
- 13.0% Investment ex Housing
- 18.3% Government Spending
- 68.4% Consumer Spending
- -3.0% Trade

Growth of Components of Real GDP During Expansions
Year-over-Year Growth as of 3Q 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Real Consumer Spending</th>
<th>Real Govt Spending</th>
<th>Real Exports</th>
<th>Real Imports</th>
<th>Real GDP</th>
<th>Nominal GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961:1Q - 1966:2Q</td>
<td>5.4%</td>
<td>4.5%</td>
<td>6.7%</td>
<td>8.9%</td>
<td>6.0%</td>
<td>7.7%</td>
</tr>
<tr>
<td>1970:4Q - 1976:1Q</td>
<td>3.8%</td>
<td>0.6%</td>
<td>6.6%</td>
<td>3.2%</td>
<td>3.4%</td>
<td>10.3%</td>
</tr>
<tr>
<td>1975:1Q - 1980:2Q</td>
<td>3.2%</td>
<td>1.9%</td>
<td>7.0%</td>
<td>6.1%</td>
<td>3.7%</td>
<td>11.0%</td>
</tr>
<tr>
<td>1982:4Q - 1988:1Q</td>
<td>4.7%</td>
<td>4.1%</td>
<td>8.6%</td>
<td>11.6%</td>
<td>4.9%</td>
<td>7.9%</td>
</tr>
<tr>
<td>1991:1Q - 1996:2Q</td>
<td>3.5%</td>
<td>0.3%</td>
<td>7.7%</td>
<td>8.8%</td>
<td>3.3%</td>
<td>5.6%</td>
</tr>
<tr>
<td>2001:4Q - 2007:1Q</td>
<td>3.1%</td>
<td>1.7%</td>
<td>6.9%</td>
<td>7.2%</td>
<td>2.9%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Avg</td>
<td>4.0%</td>
<td>2.2%</td>
<td>7.2%</td>
<td>7.6%</td>
<td>4.0%</td>
<td>8.0%</td>
</tr>
<tr>
<td>2009:2Q - 2014:3Q</td>
<td>2.2%</td>
<td>-1.2%</td>
<td>6.1%</td>
<td>5.6%</td>
<td>2.3%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

Unprecedented post-war decline

Source: Haver Analytics, Bureau of Economic Analysis, Morgan Stanley Wealth Management GIC; (1) Does not equal 100% due to rounding. (2) Nominal GDP does not account for the effects of inflation.

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Household Finances Are Strong...

US Household Net Worth
Year-over-Year Percent Change as of 3Q 2014

Despite improvement in net worth...

US Personal Saving Rate
As of 3Q 2014

Despite improvement in net worth...

Source: US Census Bureau, Federal Reserve Board, Bloomberg, Morgan Stanley Wealth Management GIC. (1) Personal saving as a percent of disposable income.

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US Consumption Is Below Prior Cycles

Recovery for US consumers has lagged this cycle relative to prior economic cycles

Indexed to the Start of Recession: t=100


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Labor Picture Improved Dramatically; Will Wages Follow?

**US Unemployment Rate**
As of December 31, 2014

- **US Unemployment Rate (U-3)**
- **US Unemployment Rate Long-Term Average (U-3)**
- **US Short-Term Unemployment Rate**

**Getting back to full employment**

- 1948: 10%
- 1958: 8%
- 1968: 6%
- 1978: 4%
- 1988: 2%
- 1998: 4%
- 2008: 6%

- 2014: 5.6%
- 2015: 3.8%

**Labor Force Participation Rate and Total Employment**
As of December 31, 2014

- **Labor Force Participation Rate (left axis)**
- **Total People Employed (right axis)**

**Participation rate still low as people leave workforce**

- 1948: 55%
- 1958: 60%
- 1968: 61%
- 1978: 63%
- 1988: 65%
- 1998: 67%
- 2008: 69%

- 2014: 67%
- 2015: 69%

**Total Nonfarm Payrolls**
Month-over-Month Net Change as of December 31, 2014

- 2000: -900 to 700
- 2003: -700 to 400
- 2006: -500 to 100
- 2009: -300 to 300
- 2012: 0 to 252,000

**We have replaced all the jobs lost in the Great Recession**

**US Real Wages and Salaries**
As of 3Q 2014

- **Real Wages & Salaries - Year-over-Year Percent Change**

**Are wages starting to rebound?**

- 1983: 2.1%
- 1988: 3.0%
- 1993: 4.0%
- 1998: 5.0%
- 2003: 6.0%
- 2008: 7.0%
- 2012: 8.0%
- 2013: 2.1%


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Falling Gasoline Prices the Equivalent of $200 Billion Tax Cut for Consumers and Businesses

Source: Haver Analytics, Bloomberg.

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Housing Suffering from Structural Headwinds—Household Formation and Access to Credit Remain Weak

Housing is still a drag on the economy and will likely remain that way

US New and Existing Home Sales
Seasonally Adjusted Annualized Rate as of November 30, 2014

US New Housing Starts and NAHB Home Builders Index
As of December 31, 2014 (NAHB Index) and November 30, 2014 (housing starts)

Source: National Association of Realtors, Standard & Poor’s, Census Bureau, Bloomberg, National Association of Home Builders, Morgan Stanley Wealth Management GIC.

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Housing Indicators: Home Prices and Inventories

**US Home Prices**
Year-Over-Year Percent Change, Corelogic as of as of November 30, 2014, CS as of October 31, 2014

**Months Inventory of Homes for Sale**
As of November 30, 2014

Source: National Association of Realtors, Standard and Poor’s, Census Bureau, Morgan Stanley Wealth Management GIC. (z) CoreLogic is a home price index.

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Corporate Investment Indicators

S&P 500 Total Cash Levels
As of 3Q 2014

Source: FactSet, Standard & Poor’s, Morgan Stanley Wealth Management GIC, Compustat, Bloomberg, BEA.

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Source: Federal Reserve Board, US Census Bureau, ISM, JP Morgan, Markit, Conference Board, Morgan Stanley Wealth Management GIC.
Corporate Investment Indicators

US Manufacturing Purchasing Managers Index (PMIs)
As of December 31, 2014

US ISM Manufacturing Vs. Non-Manufacturing
As of December 31, 2014

Source: Federal Reserve Board, US Census Bureau, ISM, JP Morgan, Markit, Conference Board, Morgan Stanley Wealth Management GIC.

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While Government Deleveraging Has Yet to Begin, Households Have Already Lowered Debt Significantly

Federal Government and Household Debt
As 3Q 2014

Total US Debt as a Percent of GDP
As of 3Q 2014

Change Since 2008
- Total Debt: -16.0%
  - Foreign: 3.8%
  - State & Local: -2.8%
  - Federal Govt.: 37.3%
  - Corporate: -3.4%
  - Household: -18.8%
  - Financial: -32.2%

Notes:
- The “Debt Swap”
- Only foreign and federal govt. have been positive

Source: CBO, Federal Reserve, Bureau of Economic Analysis, Morgan Stanley Wealth Management GIC.

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Energy Sector Weakness Not Enough to Hurt Recovery

As of September 30, 2014

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Limited Risk of Recession in Near Term

Duncan Leading Indicator (DLI)
As of 3Q 2014

DLI represents the relationship between spending and investment relative to demand; if spending and investment grow faster than demand, a peak in the DLI should precede a recession.

Morgan Stanley Recession Risk Model
As of November 1, 2014

Morgan Stanley Recession Risk Model (MSRISK) provides a timely and definitive warning of a downturn in the US business cycle—has predicted 7/7 recessions with NO false positives.

Source: Haver Analytics, Morgan Stanley Wealth Management, Morgan Stanley & Co. For more information about the risks to hypothetical performance please refer to the Risk Considerations section at the end of this material. 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.
US Growth Forecasts

<table>
<thead>
<tr>
<th>(4Q/4Q % change)</th>
<th>2013</th>
<th>2014E</th>
<th>2015E</th>
<th>2016E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td>3.1</td>
<td>2.0</td>
<td>2.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Final sales</td>
<td>2.6</td>
<td>2.0</td>
<td>2.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Final domestic demand</td>
<td>2.2</td>
<td>2.5</td>
<td>3.0</td>
<td>2.4</td>
</tr>
<tr>
<td>PCE</td>
<td>2.8</td>
<td>2.4</td>
<td>2.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Business fixed investment</td>
<td>4.7</td>
<td>5.7</td>
<td>5.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Residential fixed investment</td>
<td>2.7</td>
<td>3.3</td>
<td>12.6</td>
<td>5.1</td>
</tr>
<tr>
<td>Exports</td>
<td>5.1</td>
<td>1.2</td>
<td>3.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Imports</td>
<td>2.5</td>
<td>4.1</td>
<td>4.6</td>
<td>4.2</td>
</tr>
<tr>
<td>Government</td>
<td>-1.9</td>
<td>0.7</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>CPI</td>
<td>1.2</td>
<td>1.4</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Core PCEPI</td>
<td>1.3</td>
<td>1.5</td>
<td>1.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Unemployment¹</td>
<td>7.0</td>
<td>5.7</td>
<td>5.3</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis, Morgan Stanley & Co. Research. (1) 4Q Average.

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Interest Rates Follow Nominal GDP Growth

US 10-year Treasury Yield Vs. Nominal GDP
As of December 31, 2014

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC.

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Rates Are Relative and a Global Story

10-Year Sovereign Bond Yields
As of December 31, 2014

Source: FactSet.

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A Steep Yield Curve and Anchored Federal Funds Rate

As of December 31, 2014

Basis Points

Source: FactSet, Morgan Stanley Wealth Management GIC.

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Earnings Remain Supportive of US Equities

S&P 500 Index Level Vs. S&P 500 Operating Earnings
As of December 31, 2014

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar-2000</td>
<td>1,527</td>
<td>26.3x</td>
<td>1.2%</td>
<td>6.2%</td>
<td>26.3</td>
<td>1,527</td>
</tr>
<tr>
<td>Oct-2007</td>
<td>1,565</td>
<td>16.6x</td>
<td>1.8%</td>
<td>4.7%</td>
<td>16.6</td>
<td>1,565</td>
</tr>
<tr>
<td>Dec-2014</td>
<td>2,059</td>
<td>17.2x</td>
<td>2.0%</td>
<td>2.2%</td>
<td>17.2</td>
<td>2,059</td>
</tr>
</tbody>
</table>

Stocks Overvalued

Stocks Undervalued

Source: Bloomberg.

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Equity Risk Indicator Suggests Sentiment and Positioning on US Equities Is No Longer Extreme

Source: Morgan Stanley & Co. Research. Equity Risk Indicator is a standardized measure of investor sentiment and positioning and earnings revision factors, compiled using a statistical Z-score methodology. A Z-Score is a statistical measurement of a score’s relationship to the mean in a group of scores. A Z-score of 0 means the score is the same as the mean. A Z-score can also be positive or negative, indicating whether it is above or below the mean and by how many standard deviations. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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Corrections Have Been Frequent and Have Presented Opportunities

S&P 500 Annual Returns and Intra-Year Declines
As of December 31, 2014

Intra-year declines are defined as the peak-to-trough decline during the year

Source: Bloomberg, Morgan Stanley Wealth Management GIC.
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Big Drawdowns Have Been Infrequent—Have Coincided With Recessions

S&P 500 Bear Market Downturns\(^1\) and Recoveries
Performance as of December 31, 2014 (Dark Grey Bars Indicate Periods of Recession)

<table>
<thead>
<tr>
<th>Downturn from Peak S&amp;P 500</th>
<th>Decline (%)</th>
<th>Duration (Months)</th>
<th>Subsequent Return (%)</th>
<th>Price/Earnings Ratio</th>
<th>Price/Book Ratio</th>
<th>Recover to Prior Peak S&amp;P 500</th>
<th>Duration (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak to Trough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep 1929 - Jun 1932</td>
<td>-86.2</td>
<td>33</td>
<td>93 53 121</td>
<td>20.7 8.5</td>
<td>4.0 0.4</td>
<td>Jun 1932 - Sep 1954</td>
<td>267</td>
</tr>
<tr>
<td>Jul 1933 - Mar 1935</td>
<td>-33.9</td>
<td>20</td>
<td>27 46 77</td>
<td>25.7 13.4</td>
<td>1.1 1.0</td>
<td>Mar 1935 - Oct 1935</td>
<td>7</td>
</tr>
<tr>
<td>Mar 1937 - Apr 1942</td>
<td>-60.0</td>
<td>62</td>
<td>15 25 54</td>
<td>16.8 7.7</td>
<td>2.1 0.9</td>
<td>Aug 1942 - Jan 1946</td>
<td>45</td>
</tr>
<tr>
<td>May 1946 - Jun 1949</td>
<td>-29.6</td>
<td>37</td>
<td>16 23 42</td>
<td>21.3 5.9</td>
<td>1.7 1.0</td>
<td>Jun 1949 - Jun 1950</td>
<td>12</td>
</tr>
<tr>
<td>Dec 1961 - Jun 1962</td>
<td>-18.0</td>
<td>6</td>
<td>7 20 33</td>
<td>22.7 17.4</td>
<td>2.1 1.7</td>
<td>Jul 1962 - Sep 1963</td>
<td>14</td>
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<tr>
<td>Nov 1968 - May 1970</td>
<td>-36.1</td>
<td>18</td>
<td>17 23 44</td>
<td>18.2 14.6</td>
<td>2.2 1.6</td>
<td>May 1970 - Mar 1972</td>
<td>21</td>
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<tr>
<td>Aug 1987 - Dec 1987</td>
<td>-33.5</td>
<td>5</td>
<td>21 21 26</td>
<td>20.2 13.1</td>
<td>2.2 1.6</td>
<td>Dec 1987 - Jul 1989</td>
<td>20</td>
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<tr>
<td>Mar 2000 - Oct 2002</td>
<td>-47.4</td>
<td>31</td>
<td>20 13 36</td>
<td>25.7 17.6</td>
<td>5.0 2.5</td>
<td>Oct 2002 - May 2007</td>
<td>56</td>
</tr>
<tr>
<td>Oct 2007 - Mar 2009</td>
<td>-55.3</td>
<td>17</td>
<td>40 55 72</td>
<td>47.5 10.2</td>
<td>3.0 1.5</td>
<td>Mar 2009 - Mar 2012</td>
<td>37</td>
</tr>
<tr>
<td><strong>Average:</strong></td>
<td>-44.1</td>
<td><strong>24.6</strong></td>
<td><strong>27.8 32.1 54.6</strong></td>
<td><strong>19.6 11.2</strong></td>
<td><strong>2.4 1.3</strong></td>
<td></td>
<td><strong>50.1</strong></td>
</tr>
</tbody>
</table>

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC. Returns prior to 1988 are price only and returns following 1988 are total returns. (\(^1\)) Downturns defined as declines of 25% or greater.

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US Stocks Are Not Cheap on an Absolute Basis but Are Relative to Rates

12-Month Forward PE Ratio of S&P 500
As of December 31, 2014

Price-to-Sales of S&P 500
As of December 31, 2014

S&P 500 Equity Risk Premium¹
As of December 31, 2014

Spread: S&P 500 Earnings Yield Vs. Baa Bond Yield
As of December 31, 2014

Source: FactSet, Morgan Stanley Wealth Management
¹ Equity risk premium = S&P 500 forward earnings yield – 10-year Treasury yield. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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Valuation: 12-Month Forward P/E Ratios by Region

Fwd P/E ratios in US and Europe hover around historical medians, while Japan and EM remain undervalued.

MSCI USA Forward P/E and Relative Valuation
As of December 31, 2014

MSCI Europe Forward P/E and Relative Valuation
As of December 31, 2014

MSCI Japan Forward P/E and Relative Valuation
As of December 31, 2014

MSCI EM Forward P/E and Relative Valuation
As of December 31, 2014

Source: FactSet, Morgan Stanley Wealth Management GIC. (1)Forward P/E = market price per share / expected earnings per share.
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Risks in Europe Appear Well Known, and Priced In

**Morgan Stanley Combined Market Timing Indicator**
As of January 8, 2015

**Morgan Stanley Composite Valuation Indicator**
As of January 8, 2015

---

**Source:** Morgan Stanley & Co. (1) There is one composite market timing indicator (CMTI) and four components: the valuation, risk, fundamentals and capitulation indicators. They help decide the tactical outlook for equity markets for the next three-six months; (2) This is a composite valuation tool of MSCI Europe relative to bonds and inflation. A variety of weighted indices on real and nominal bond yields, dividend yields, short rates, and some equity valuation factors like PE and PBV are used to construct this index.

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European Equities Very Cheap Relative to US on a Cyclically Adjusted P/E (CAPE) Basis

**CAPE Ratio**: MSCI Europe Relative To S&P 500
As of December 31, 2014

Europe at a near-record discount to US

**CAPE Ratio Vs. MSCI Europe**
As of December 31, 2014

Implies a 14% annualized return

Source: FactSet, Morgan Stanley Wealth Management GIC

1. The cyclically adjusted P/E ratio (CAPE), also known as Shiller P/E ratio, uses a 10-year average of inflation-adjusted earnings to value the stock market. Historically, cyclically adjusted price-earnings ratios have led subsequent returns with a 10-year lag. Recent price earnings levels suggest equity returns could be better going forward than they have been over the recent past, assuming the statistical relationship holds. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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Earnings Growth and Revisions Support Japanese Equities

Global Earnings Revisions Breadth
As of December 31, 2014

Expected EPS Growth
As of January 13, 2015

<table>
<thead>
<tr>
<th>Regional Index</th>
<th>12-month Forward EPS Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCI Emerging Markets</td>
<td>12.0%</td>
</tr>
<tr>
<td><strong>MSCI Japan</strong></td>
<td><strong>10.6%</strong></td>
</tr>
<tr>
<td>MSCI Europe</td>
<td>7.9%</td>
</tr>
<tr>
<td>MSCI All Country World</td>
<td>7.9%</td>
</tr>
<tr>
<td>MSCI USA</td>
<td>7.4%</td>
</tr>
<tr>
<td>MSCI Asia ex Japan</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

Source: FactSet, Morgan Stanley Wealth Management GIC. (1) Earnings revisions breadth is defined as the number of positive analyst revisions minus the number of negative analyst revisions divided by the total number of revisions.

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Japanese Equities Should Ride “Abenomics”

The GIC believes Japan presents a potential “once-in-a-generation” opportunity: the confluence of monetary and fiscal stimulus with political and structural reform. Japanese equities offer an emerging growth story after 20-plus years of underperformance.

Context

• After 15 years of deflation, Prime Minister Shinzo Abe pledged to put Japan’s economy back on track with the “three arrows” of Abenomics: monetary easing, fiscal stimulus and structural reforms
• Abe has been successful in weakening the yen and combating deflation through monetary and fiscal policy
• All told, Abe’s policies have helped to fuel growth in GDP, corporate earnings and Japanese equities

Investment Thesis

• The 70% total return in the TOPIX over the last two years was supported by significant earnings growth
• Japanese earnings growth is expected to be strong again in 2015
• Skepticism about structural reform remains high given Japan’s history; therefore, any real reform should be well received
• We believe Abe is gaining momentum for reforms including corporate tax cuts, progressive hiring policies and the push to reallocate more of Japan’s Government Pension Investment Fund to equities
• Importantly, Japanese corporations have taken notice—wages, share buybacks, capital expenditures and M&A have picked up

Source: Bloomberg, Morgan Stanley Wealth Management GIC; (1) Data only available as far back as June 1, 2010.

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Bottom Line: Our Recommendations

As of January 20, 2015

- We continue to recommend equities over fixed income. Our active/passive models suggest active management should outperform but only in small caps, not large.

- In the US, we prefer Healthcare, Tech, Energy for a bounce and Select Consumer Discretionary. Small caps set for rebound with greater margin upside and less stronger US dollar exposure relative to large caps.

- Japan still in the early stages of new bull market—skepticism is high, valuations are low.

- Europe likely to remain choppy until ECB fully commits to QE and risk of Greek exit goes away. We expect Europe to outperform the US in 2015.

- Emerging markets are very idiosyncratic with some performing very well. We prefer oil-importing Southeast Asia over oil-exporting Latin America. We also like China & India.

- For fixed income, we recommend below-benchmark duration*. Don’t get complacent. Recent pullback in High Yield creates opportunity. Municipal bonds still attractive.

- We still like Master Limited Partnerships (MLPs)* but need to be extremely selective. Six percent yields from many of these higher-quality securities appears compelling in a low interest rate world. We recommend midstream asset MLPs only.

- Commercial real estate in the US remains interesting at this point as it typically lags in the economic recovery. Similarly, international real estate appears more favorable than US.

Source: Morgan Stanley Wealth Management GIC. *For more information about the risks to Duration and Master Limited Partnerships (MLPs), please refer to the Risk Considerations section at the end of this material.

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US Bond Valuations Rich Vs. Stocks

S&P 500 Forward Earnings Yield Vs. 10-Year US Treasury
As of December 31, 2014

Option Adjusted Spread\(^1\): Investment Grade
As of December 31, 2014

Option Adjusted Spread\(^1\): High Yield
As of December 31, 2014

Spread: AAA Municipal Bond Vs. 10-Year US Treasury
As of December 31, 2014

Source: FactSet; Standard deviation is a measure of the dispersion of a set of data from its mean. Investment grade- Barclays US Aggregate Investment Grade; High Yield- Barclays US High Yield; AAA Municipal Bond- Thomson Reuters 10-Year AAA MMD Muni Benchmark; \(^1\) Spread is Option-Adjusted Spread 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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Long-Duration\(^1\) Bonds Can Be Risky When Rates Rise

**Total Return Impact of a 1% Rise/Fall in Interest Rates**
As of December 31, 2014

- **-1% Fall**
  - 2-Year: -2.0%
  - 5-Year: -4.7%
  - TIPS: -5.3%
  - 10-Year: -8.5%
  - 30-Year: -17.8%

- **+1% Rise**
  - 2-Year: 5.0%
  - 5-Year: 6.2%
  - TIPS: 9.4%
  - 10-Year: 23.3%
  - 30-Year: 0.1%

---

**Floating Rate**
- ABS: -0.1%
- High Yield: -4.4%
- MBS: -5.2%
- Broad Market: -5.5%
- Municipals: -5.6%
- Corporates: -6.7%

---

**Corporates**
- TIPS: 2.0%
- MBS: -10%
- ABS: 30%
- High Yield: 30%
- Muni Bond: 30%
- Broad Market: 7.8%

---

**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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GLOBAL INVESTMENT COMMITTEE
In Periods of Rising Interest Rates, Stocks Have Been a Good Inflation Hedge, While Bonds Have Had Negative Real Returns

Cumulative Total Return of $1 from 1945-1980 as of December 31, 1980

Source: Calculated by Morgan Stanley Wealth Management GIC using data provided by Morningstar. (c) 2014 Morningstar, Inc. All rights reserved. Used with permission. This information contained herein: (i) is proprietary to Morningstar and/or its content providers; (ii) may not be copied or distributed; and (iii) 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. Aside from the S&P 500, all indices shown above are Ibbotson indices. The hypothetical $1 investment is for illustrative purposes only. It does not represent the performance of any specific investment.

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Asset Allocation—Most Important Determinant of Investment Outcomes

Sources of Return Variation

- Asset Allocation Strategy, 91%
- Security Selection, 5%
- Market Timing, 2%
- Other Factors, 2%


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Appendix: Retirement
Retirement May Be Longer Than You Think

Probability of Living to a Specific Age If You’re 65 Today
As of December 31, 2014

Plan for the Long Term
Nearly 50% probability that you or your spouse live beyond age 90

Source: Social Security Administration.

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Power of Buy and Hold

Cumulative Total Return of $1 January 1926 – December 2014

Compounding of returns builds wealth

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Appendix: The US Consumer
Consumer Confidence for Most Americans Has Not Improved

Confidence by Income Vs. S&P 500
As of December 31, 2014


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Wage Growth in US Has Been Slowing for Decades

Percent Annual Growth in Inflation-Adjusted Wages and Salaries by Decade
As of December 31, 2013


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Education Is a Double-Edged Sword

US Average Wage and Salary (2012 USD)
As of December 31, 2013

US Student Loan Debt
As of December 31, 2013


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Era of Rampant Consumer Credit Growth Is Over

Mortgage Equity Withdrawals and Revolving Consumer Credit in US
Revolving Consumer Credit data as of December 31, 2014, Mortgage Equity Withdrawals data as of December 31, 2013


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Appendix: Forecasts
## Global Growth Forecasts

Percent Growth as of January 14, 2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td><strong>Real GDP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Global</strong></td>
<td>2.2</td>
<td>3.5</td>
<td>3.8</td>
<td>3.2</td>
<td>3.5</td>
<td>3.5</td>
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<tr>
<td><strong>G10</strong></td>
<td>0.5</td>
<td>1.7</td>
<td>2.5</td>
<td>1.9^3</td>
<td>2.5^3</td>
<td>1.7</td>
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<tr>
<td><strong>US</strong></td>
<td>-2.1</td>
<td>4.6</td>
<td>5.0</td>
<td>2.9</td>
<td>4.1</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Euro Area</strong></td>
<td>1.2</td>
<td>-0.3</td>
<td>0.6</td>
<td>0.6</td>
<td>0.9</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>5.8</td>
<td>-6.7</td>
<td>1.1</td>
<td>1.6</td>
<td>2.3</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td>3.0</td>
<td>3.7</td>
<td>2.8</td>
<td>2.6</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>EM (%Y)</strong></td>
<td>4.7</td>
<td>4.6</td>
<td>4.5</td>
<td>4.3</td>
<td>4.7</td>
<td>4.7</td>
</tr>
<tr>
<td><strong>China</strong></td>
<td>7.4</td>
<td>7.5</td>
<td>7.3</td>
<td>7.2</td>
<td>7.4</td>
<td>6.9</td>
</tr>
<tr>
<td><strong>India</strong></td>
<td>4.6</td>
<td>5.7</td>
<td>5.3</td>
<td>5.6</td>
<td>6.0</td>
<td>6.1</td>
</tr>
<tr>
<td><strong>Brazil</strong></td>
<td>1.9</td>
<td>-0.9</td>
<td>0.1</td>
<td>-0.2</td>
<td>-0.5</td>
<td>-0.3</td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>-0.6</td>
<td>-1.2</td>
<td>-2.0</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley & Co. Research. (1) Quarterly percentage change, seasonally adjusted annual rate. Global and regional aggregates are GDP-weighted averages, using PPPs. (2) Tracking estimates.

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## Sovereign Rate Forecasts

Yield (percent); Estimates as of November 30, 2014; Performance Data as of January 12, 2015

<table>
<thead>
<tr>
<th>Bond Type</th>
<th>As of January 12, 2015</th>
<th>Q4 2015 Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bear</td>
<td>Base1</td>
</tr>
<tr>
<td>US Treasury 10-Year</td>
<td>1.91</td>
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<tr>
<td>German Bund 10-Year</td>
<td>0.48</td>
<td>1.72</td>
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<tr>
<td>UK Gilt 10-Year</td>
<td>1.58</td>
<td>3.30</td>
</tr>
<tr>
<td>Japanese Govt. Bond 10-Year</td>
<td>0.27</td>
<td>1.40</td>
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</tbody>
</table>


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# Global Inflation Forecasts

Percent Change as of January 14, 2015

<table>
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<tr>
<th>Headline CPI¹</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Global</td>
<td>3.4 Q1</td>
<td>3.6 Q2</td>
<td>3.3 Q3</td>
<td>3.2 Q4</td>
<td>3.1 Q1</td>
<td>3.2 Q2</td>
<td>3.4 Q3</td>
<td>3.6 Q4</td>
<td>3.6 Q1</td>
<td>3.7 Q2</td>
<td>3.8 Q3</td>
<td>3.5 Q4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G10</td>
<td>1.2 Q1</td>
<td>1.5 Q2</td>
<td>1.1 Q3</td>
<td>0 Q4</td>
<td>-0.1 Q1</td>
<td>0.1 Q2</td>
<td>0.6 Q3</td>
<td>1.7 Q4</td>
<td>1.9 Q1</td>
<td>1.9 Q2</td>
<td>1.9 Q3</td>
<td>2 Q4</td>
<td>1.3 Q4</td>
<td></td>
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<tr>
<td>US</td>
<td>1.4 Q1</td>
<td>1.8 Q2</td>
<td>1.2 Q3</td>
<td>-0.6 Q4</td>
<td>-0.5 Q1</td>
<td>-0.3 Q2</td>
<td>0.3 Q3</td>
<td>1.9 Q4</td>
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<td>2.2 Q2</td>
<td>2.4 Q3</td>
<td>1.3 Q4</td>
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<tr>
<td>Euro Area</td>
<td>0.7 Q1</td>
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<td>0.2 Q3</td>
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<td>-0.1 Q2</td>
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<td>1.5 Q4</td>
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<td>1.8 Q4</td>
<td>1.9 Q1</td>
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<td>2.9 Q3</td>
<td>2 Q4</td>
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<td>14.6 Q1</td>
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<td>12.7 Q1</td>
<td>13.4 Q2</td>
<td>13.6 Q3</td>
<td>12.2 Q4</td>
<td>13.7 Q4</td>
<td>7.3 Q4</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley & Co. Research. (1) Quarterly percentage change, seasonally adjusted annual rate. Headline CPI measures inflation that is not adjusted for food and energy prices. CPI numbers are period averages.

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.
## Currency Forecasts

**As of November 30, 2014**

<table>
<thead>
<tr>
<th>Currency Pair</th>
<th>2014E</th>
<th>2015E</th>
<th>2016E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nov 30, 2014</td>
<td>1Q</td>
<td>2Q</td>
</tr>
<tr>
<td>EUR/USD</td>
<td>1.25</td>
<td>1.20</td>
<td>1.14</td>
</tr>
<tr>
<td>USD/JPY</td>
<td>119</td>
<td>122</td>
<td>126</td>
</tr>
<tr>
<td>GBP/USD</td>
<td>1.57</td>
<td>1.51</td>
<td>1.45</td>
</tr>
<tr>
<td>USD/CHF</td>
<td>0.96</td>
<td>1.01</td>
<td>1.07</td>
</tr>
<tr>
<td>AUD/USD</td>
<td>0.85</td>
<td>0.82</td>
<td>0.78</td>
</tr>
<tr>
<td>USD/BRL</td>
<td>2.58</td>
<td>2.60</td>
<td>2.73</td>
</tr>
<tr>
<td>USD/RUB</td>
<td>49.5</td>
<td>49.0</td>
<td>50.0</td>
</tr>
<tr>
<td>USD/INR</td>
<td>62.1</td>
<td>62.5</td>
<td>62.3</td>
</tr>
</tbody>
</table>

**Source:** FactSet, Morgan Stanley & Co. Research.

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# S&P 500 Index Forecasts

## Morgan Stanley & Co. 12-Month S&P 500 Target
As of January 8, 2015

<table>
<thead>
<tr>
<th>EPS Landscape</th>
<th>Morgan Stanley 12-Month S&amp;P Price Target Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Probability of Scenario</td>
</tr>
<tr>
<td>Bull Case</td>
<td>20%</td>
</tr>
<tr>
<td>Growth</td>
<td></td>
</tr>
<tr>
<td>Base Case</td>
<td>60%</td>
</tr>
<tr>
<td>Growth</td>
<td></td>
</tr>
<tr>
<td>Bear Case</td>
<td>20%</td>
</tr>
<tr>
<td>Growth</td>
<td></td>
</tr>
<tr>
<td>Expected Target</td>
<td></td>
</tr>
<tr>
<td>Current S&amp;P 500 Price</td>
<td></td>
</tr>
</tbody>
</table>

## Morgan Stanley & Co. and Consensus S&P 500 Earnings Estimates
MS & Co. Estimates as of January 8, 2015

<table>
<thead>
<tr>
<th></th>
<th>2014E</th>
<th>2015E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consensus</td>
<td>$118</td>
<td>$126</td>
</tr>
<tr>
<td>MS Estimates</td>
<td>$118</td>
<td>$126</td>
</tr>
</tbody>
</table>


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## Global Equity Price Targets

Estimates as of November 30, 2014; Performance Data as of January 12, 2015

<table>
<thead>
<tr>
<th>Equity Index</th>
<th>January 12, 2015</th>
<th>Bear</th>
<th>Upside/Downside</th>
<th>Base¹</th>
<th>Upside/Downside</th>
<th>Bull</th>
<th>Upside/Downside</th>
<th>Risk/Reward Ratio²</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500</td>
<td>2028</td>
<td>1700</td>
<td>-16%</td>
<td>2275</td>
<td>12%</td>
<td>2750</td>
<td>36%</td>
<td>1.62</td>
</tr>
<tr>
<td>MSCI Europe</td>
<td>1373</td>
<td>1011</td>
<td>-26%</td>
<td>1557</td>
<td>13%</td>
<td>1872</td>
<td>36%</td>
<td>1.85</td>
</tr>
<tr>
<td>Topix</td>
<td>1381</td>
<td>1195</td>
<td>-13%</td>
<td>1680</td>
<td>22%</td>
<td>1961</td>
<td>42%</td>
<td>1.64</td>
</tr>
<tr>
<td>MSCI EM</td>
<td>956</td>
<td>686</td>
<td>-28%</td>
<td>1067</td>
<td>12%</td>
<td>1272</td>
<td>33%</td>
<td>1.85</td>
</tr>
<tr>
<td>MSCI Asia Pacific ex-Japan</td>
<td>470</td>
<td>361</td>
<td>-23%</td>
<td>536</td>
<td>14%</td>
<td>636</td>
<td>35%</td>
<td>1.76</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley & Co. Research. (1) Base represents Morgan Stanley & Co. Research’s estimate between the bear and bull estimates. (2) Risk/reward ratio is the bull estimate divided by the bear estimate.

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.
Asset Class Risk Considerations

For index definitions to the indices referenced in this report please visit the following: Index Definitions

Hypothetical Performance

General: Hypothetical performance should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets. Hypothetical performance results have inherent limitations. The performance shown here is simulated performance not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset allocation. Despite the limitations of hypothetical performance, these hypothetical performance results may allow clients and Financial Advisors to obtain a sense of the risk / return trade-off of different asset allocation constructs.

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.

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 Class Risk Considerations and Disclosures

**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.

**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 have historically had higher volatility. The stocks of these companies are often more sensitive to changes in interest rates and economic conditions. Growth companies can be especially volatile during periods of economic downturn or market stress. Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies may 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 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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