Morgan Stanley

Portfolio Review - Q4 2021

Prepared on January 18, 2022 for:

RMH Charities of Madison

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Please review the disclosures and definitions throughout this Document.
Various sub-sections of this Document may not contain information on all accounts/positions covered in this Document.

ACCOUNT(S) INCLUDED IN THIS REPORT

Morgan Stanley

RONALD MCDONALD HOUSE CHAR

Reporting Currency: USD

MORGAN STANLEY WEALTH MANAGEMENT

Account Name	Account Type/ Manager Name	Advisory/ Brokerage	Account Number	Date Opened	Date Closed	Groups Included in	Performance (%) Inception - 01/14/22
RONALD MCDONALD HOUSE CHAR	AAA	Advisory	432-XXX009	08/08/12	-	BROKERAGE	-
RONALD MCDONALD HOUSE CHAR	REG	Advisory	432-XXX041	01/09/09	-	BROKERAGE	-
RONALD MCDONALD HOUSE CHAR	Madison Investment Advisors LLC	Advisory	432-XXX043	01/09/09	-	ADVISORY	-
RONALD MCDONALD HOUSE CHAR	REG	Advisory	432-XXX044	01/09/09	-	BROKERAGE	-
RONALD MCDONALD HOUSE CHAR	Select UMA	Advisory	432-XXX045	01/09/09	-	ADVISORY	14.58
RONALD MCDONALD HOUSE CHAR	REG	Advisory	432-XXX046	01/09/09	-	BROKERAGE	26.26
RONALD MCDONALD HOUSE CHAR	REG	Advisory	432-XXX054	02/17/09	-	BROKERAGE	-
RONALD MCDONALD HOUSE CHAR	AAA	Advisory	432-XXX119	06/23/10	-	BROKERAGE	163.78
RONALD MCDONALD HOUSE CHAR	AAA	Advisory	432-XXX120	06/23/10	-	BROKERAGE	-
RONALD MCDONALD HOUSE CHAR	AAA	Brokerage	432-XXX128	07/27/10	-	BROKERAGE	-9.07

Asset Class Index Performance

Capital Market Returns

As of December 31, 2021; Private Real Estate as of September 30, 2021

ASSET CLASS	INDEX IN USD	1-MONTH	YTD	1-YR	3-YR ANN	5-YR ANN
Global Equity						
Global Equity	MSCI All Country World	4.0%	19.0%	19.0%	21.6%	14.9%
US Equity	S&P 500	4.5%	28.7%	28.7%	27.0%	18.3%
International Equity	MSCI All Country World ex US	4.2%	8.3%	8.3%	14.0%	10.1%
Emerging Markets Equity	MSCI Emerging Markets	1.9%	-2.2%	-2.2%	11.9%	10.1%
Global Fixed Income						
Investment Grade Fixed Income	Bloomberg US Aggregate	-0.3%	-1.5%	-1.5%	4.6%	3.6%
Inflation-Linked Securities	Bloomberg Universal Govt Inflation-Link	-1.7%	5.4%	5.4%	7.4%	5.3%
High Yield	Bloomberg Global High Yield (H)	1.6%	2.5%	2.5%	7.1%	5.3%
Emerging Markets Fixed Income	JP Morgan EM Bonds (UH in USD)	1.6%	-8.7%	-8.7%	1.9%	1.7%
Alternative Investments						
Global REITs	FTSE EPRA/NAREIT Global REITs	6.0%	23.0%	23.0%	11.7%	8.5%
Commodities	Bloomberg Commodities	3.5%	27.1%	27.1%	9.5%	4.0%
MLPs	Alerian MLP	3.6%	40.2%	40.2%	1.4%	-2.8%
Hedged Strategies	HFRX Global Hedge Fund Index	0.5%	3.7%	3.7%	6.3%	3.5%
Managed Futures	HFRX Macro/CTA Index	0.9%	-0.7%	-0.7%	2.8%	1.5%
Private Real Estate	NCREIF Private Real Estate	-	10.9%	12.2%	6.7%	6.8%
Global Cash						
Cash	Citigroup 3-month Treasury Bill	0.0%	0.0%	0.0%	1.0%	1.1%
Other Fixed Income						
Municipal Fixed Income	Bloomberg Municipal Bond	0.2%	1.5%	1.5%	4.6%	4.2%

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

INVESTMENT SUMMARY DOLLAR WEIGHTED RETURNS

Morgan Stanley

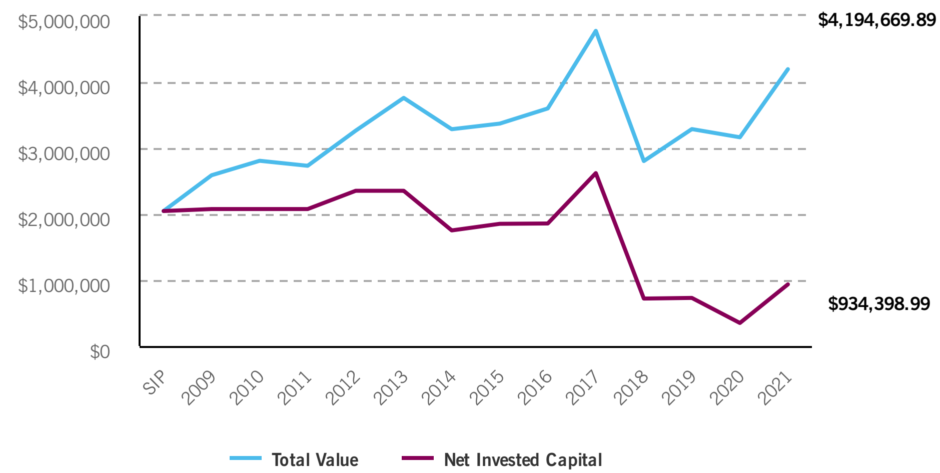
RONALD MCDONALD HOUSE CHAR

As of December 31, 2021 | Reporting Currency: USD

DOLLAR-WEIGHTED RETURN % (NET OF FEES)

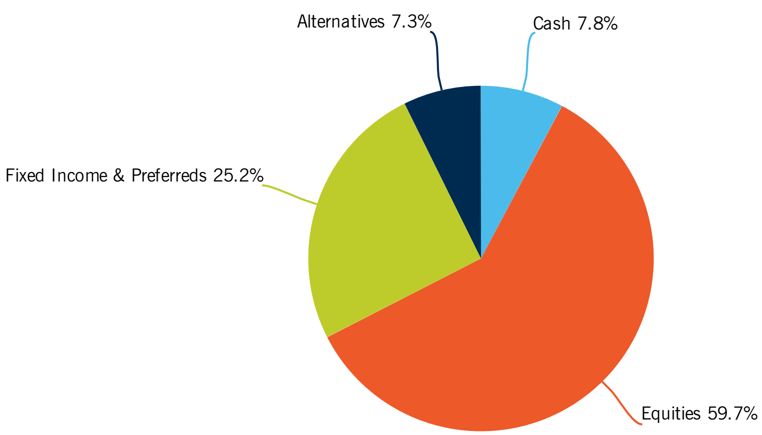
	Quarter to Date ($) 09/30/21-12/31/21	Year to Date ($) 12/31/20-12/31/21	Performance Inception ($) 01/16/09-12/31/21
Beginning Total Value	**3,754,920**	**3,162,560**	**2,045,155**
Net Contributions/Withdrawals	260,232	585,470	-1,110,756
Investment Earnings	179,518	446,641	3,260,271
Ending Total Value	**4,194,670**	**4,194,670**	**4,194,670**
DOLLAR WEIGHTED RATE OF RETURN (%)			
(Annualized for periods over 12 months)			
Return % (Net of Fees)	4.69	12.95	8.25

TOTAL VALUE VS. NET INVESTED CAPITAL



Does not include Performance Ineligible Assets.

ASSET ALLOCATION



PROJECTED INCOME SUMMARY

	Projected Remaining Year (Until 12/31) ($) 01/15/22-12/31/22	Projected Next 12 Months ($) 02/01/22-01/31/23
ASSET CLASS		
Cash	7	7
Equities	19,335	28,677
Fixed Income & Preferreds	29,557	28,996
Alternatives	9,486	9,508
Total Asset Class	**58,384**	**67,187**
TAX CATEGORY		
Taxable Account(s)	58,384	67,187
Tax Qualified Account(s)	-	-
Total Tax Category	**58,384**	**67,187**

The investment returns shown on this page are dollar-weighted measurements which are affected by the timing and amount of your contributions and withdrawals.

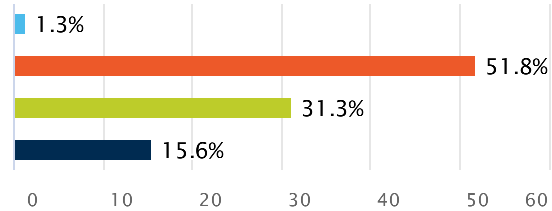
ASSET ALLOCATION - ACCOUNT DETAIL

Morgan Stanley

RONALD MCDONALD HOUSE CHAR | As of January 14, 2022 | Reporting Currency: USD

ASSET ALLOCATION - ASSET CLASS

	Advisory		Brokerage		Portfolio	
Asset Class	Total Value ($)	% of Portfolio	Total Value ($)	% of Portfolio	Total Value ($)	% of Portfolio
Cash	51,929.40	1.3	485.47	0.0	52,414.87	1.3
Equities	2,153,656.75	51.8	-	-	2,153,656.75	51.8
Fixed Income & Preferreds	1,299,295.92	31.3	-	-	1,299,295.92	31.3
Alternatives	384,347.33	9.3	265,404.57	6.4	649,751.90	15.6
Total	**3,889,229.39**	**93.6**	**265,890.04**	**6.4**	**4,155,119.43**	**100.0**



ASSET ALLOCATION - ADVISORY ACCOUNT(S)

Account Name / Account Number	Cash Total Value ($) / %	Equities Total Value ($) / %	Fixed Income & Preferreds Total Value ($) / %	Alternatives Total Value ($) / %	Account Total Value ($) / %
RONALD MCDONALD HOUSE CHAR (Select UMA) 432-XXX045	14,767.98 0.8	1,307,480.79 66.7	252,358.80 12.9	384,347.33 19.6	1,958,954.90 50.4
RONALD MCDONALD HOUSE CHAR (Madison Investment Advisors LLC) 432-XXX043	37,161.42 1.9	846,175.96 43.8	1,046,937.12 54.2	- -	1,930,274.50 49.6
Advisory Accounts Total	**51,929.40**	**2,153,656.75**	**1,299,295.92**	**384,347.33**	**3,889,229.39**
% of Advisory Accounts	**1.3**	**55.4**	**33.4**	**9.9**	**100.0**
% of Portfolio	**1.3**	**51.8**	**31.3**	**9.3**	**93.6**

ASSET ALLOCATION - BROKERAGE ACCOUNT(S)

Account Name / Account Number	Cash Total Value ($) / %	Equities Total Value ($) / %	Fixed Income & Preferreds Total Value ($) / %	Alternatives Total Value ($) / %	Account Total Value ($) / %
RONALD MCDONALD HOUSE CHAR (AAA) 432-XXX128	0.02 0.0	- -	- -	265,404.57 100.0	265,404.59 99.8
RONALD MCDONALD HOUSE CHAR (AAA) 432-XXX119	312.17 100.0	- -	- -	- -	312.17 0.1

Total Value, % of Portfolio and each asset class % are based on US Dollar values.

As of January 14, 2022 | Reporting Currency: USD

ASSET ALLOCATION - BROKERAGE ACCOUNT(S) (Continued)

Account Name / Account Number	Cash Total Value ($) / %	Equities Total Value ($) / %	Fixed Income & Preferreds Total Value ($) / %	Alternatives Total Value ($) / %	Account Total Value ($) / %
RONALD MCDONALD HOUSE CHAR (AAA) 432-XXX009	68.00 100.0	- -	- -	- -	68.00 0.0
RONALD MCDONALD HOUSE CHAR (REG) 432-XXX044	42.28 100.0	- -	- -	- -	42.28 0.0
RONALD MCDONALD HOUSE CHAR (REG) 432-XXX041	24.49 100.0	- -	- -	- -	24.49 0.0
RONALD MCDONALD HOUSE CHAR (REG) 432-XXX046	23.76 100.0	- -	- -	- -	23.76 0.0
RONALD MCDONALD HOUSE CHAR (AAA) 432-XXX120	14.75 100.0	- -	- -	- -	14.75 0.0
Brokerage Accounts Total	**485.47**	-	-	**265,404.57**	**265,890.04**
% of Brokerage Accounts	**0.2**	-	-	**99.8**	**100.0**
% of Portfolio	**0.0**	-	-	**6.4**	**6.4**

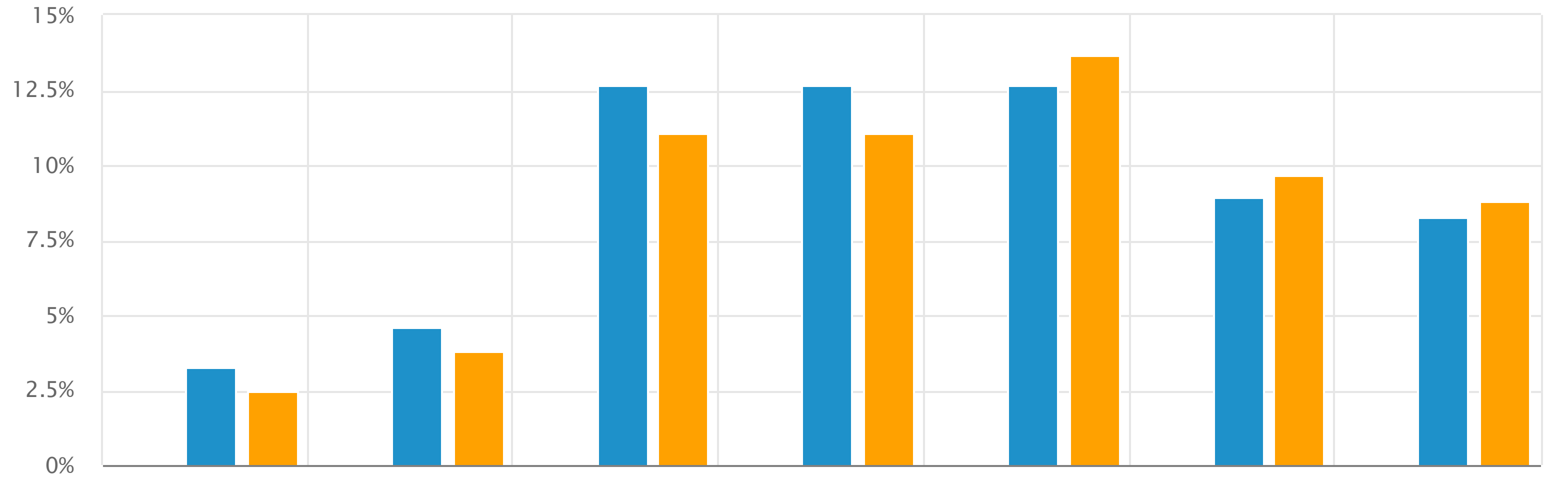
Total Value, % of Portfolio and each asset class % are based on US Dollar values.

TIME WEIGHTED PERFORMANCE SUMMARY

RONALD MCDONALD HOUSE CHAR

As of December 31, 2021 | Reporting Currency: USD

RETURN % (NET OF FEES) VS. BENCHMARKS (ANNUALIZED)



	Month to Date 11/30/21 - 12/31/21	Quarter to Date 09/30/21 - 12/31/21	Year to Date 12/31/20 - 12/31/21	Last 12 Months 12/31/20 - 12/31/21	Last 3 Years 12/31/18 - 12/31/21	Last 5 Years 12/31/16 - 12/31/21	Performance Inception 01/16/09 - 12/31/21
Beginning Total Value ($)	3,803,298.25	3,754,919.55	3,162,559.64	3,162,559.64	2,802,213.44	3,599,494.13	2,045,155.03
Net Contributions/Withdrawals ($)	259,682.82	260,231.87	585,469.64	585,469.64	215,659.47	-922,009.94	-1,110,756.04
Investment Earnings ($)	131,688.82	179,518.47	446,640.61	446,640.61	1,176,796.98	1,517,185.70	3,260,270.90
Ending Total Value ($)	4,194,669.89	4,194,669.89	4,194,669.89	4,194,669.89	4,194,669.89	4,194,669.89	4,194,669.89
Return % (Net of Fees)	3.26	4.58	12.66	12.66	12.69	8.93	8.29
Asset Allocation Blend (%)	2.49	3.81	11.07	11.07	13.66	9.69	8.80

The investment returns shown on this page are time-weighted measurements which exclude the effect of the timing and amount of your contributions and withdrawals.

TIME WEIGHTED INVESTMENT PORTFOLIO REVIEW

RONALD MCDONALD HOUSE CHAR | As of December 31, 2021 | Reporting Currency: USD

RETURN % (NET OF FEES) VS. BENCHMARKS

Portfolio/ Subgroup/ Account Name/ Investment Description/ Benchmark	Acct #	Inception Date	Total Value ($)	Alloc (%)	Month to Date (%)	Quarter to Date (%)	Year to Date (%)	Last 12 Months (%)	Last 3 Years (%)	Last 5 Years (%)	Inception to 12/31/21 (%)
ADVISORY		**01/16/09**	**3,914,047**	**93.31**	**2.49**	**4.68**	**10.22**	**10.22**	**12.06**	**9.67**	**8.20**
					-	-	-	-	-	-	-
RONALD MCDONALD HOUSE CHAR (Select UMA)	432-XXX045	01/16/09	1,958,330	46.69	1.41	9.16	22.42	22.42	28.08	20.87	14.67
M5A Opport Growth w/Alts					3.27	5.11	15.47	15.47	16.58	11.47	-
RONALD MCDONALD HOUSE CHAR (Madison Investment Advisors LLC)	432-XXX043	01/16/09	1,955,717	46.62	2.43	3.85	8.46	8.46	10.31	8.32	-
35 S&P 500 65 BC GC					1.49	3.43	8.42	8.42	11.56	8.43	-
BROKERAGE		**01/16/09**	**280,623**	**6.69**	**3.37**	**3.51**	**14.93**	**14.93**	**12.82**	**7.25**	**8.09**
					-	-	-	-	-	-	-
RONALD MCDONALD HOUSE CHAR (AAA)	432-XXX128	07/30/10	260,879	6.22	2.60	0.05	17.97	17.97	13.67	5.10	-9.23
CBOE SP500 BuyWrite					3.77	6.98	20.47	20.47	10.66	7.84	7.94
RONALD MCDONALD HOUSE CHAR (AAA)	432-XXX120	06/24/10	10,089	0.24	0.04	-0.39	-	-	-	-	-
					-	-	-	-	-	-	-
RONALD MCDONALD HOUSE CHAR (AAA)	432-XXX119	06/24/10	6,435	0.15	3.30	3.17	7.23	7.23	15.67	10.75	7.71
MSCI ACWI Ex USA NR USD					4.13	1.82	7.82	7.82	13.18	9.62	6.58
RONALD MCDONALD HOUSE CHAR (REG)	432-XXX046	01/16/09	2,854	0.07	12.49	16.42	42.10	42.10	21.41	10.66	14.63
Russell 2000 VL					4.08	4.36	28.27	28.27	17.99	9.08	12.95
RONALD MCDONALD HOUSE CHAR (REG)	432-XXX044	01/16/09	130	0.00	89.26	81.09	102.63	102.63	29.70	17.58	10.54
MSCI ACWI Ex USA NR USD					4.13	1.82	7.82	7.82	13.18	9.62	8.79
RONALD MCDONALD HOUSE CHAR (REG)	432-XXX041	01/16/09	118	0.00	508.92	514.80	587.86	587.86	99.66	54.26	27.38
Russell 1000 Value					6.31	7.77	25.16	25.16	17.64	11.17	13.46
RONALD MCDONALD HOUSE CHAR (REG)	432-XXX054	03/18/09	117	0.00	1,561.13	1,608.83	1,784.42	1,784.42	190.30	92.24	39.22
Russell Midcap Value					6.28	8.54	28.34	28.34	19.62	11.22	16.63

Inception dates for advisory account(s) reflect the most recent advisory program or discretion change. The investment returns shown on this page are time-weighted measurements which exclude the effect of the timing and amount of your contributions and withdrawals. Accounts marked Exclude From Performance will not contribute to the portfolio's performance return. Year to Date(YTD), Quarter to Date(QTD) and Month to Date(MTD): Returns are for the period in which position or account was open.

As of December 31, 2021 | Reporting Currency: USD

RETURN % (NET OF FEES) VS. BENCHMARKS (Continued)

Portfolio/ Subgroup/ Account Name/ Investment Description/ Benchmark	Acct #	Inception Date	Total Value ($)	Alloc (%)	Month to Date (%)	Quarter to Date (%)	Year to Date (%)	Last 12 Months (%)	Last 3 Years (%)	Last 5 Years (%)	Inception to 12/31/21 (%)
Advisory/Brokerage Total		01/16/09	4,194,670	100.00	3.26	4.58	12.66	12.66	12.69	8.93	8.29
Asset Allocation Blend					2.49	3.81	11.07	11.07	13.66	9.69	8.80

Inception dates for advisory account(s) reflect the most recent advisory program or discretion change. The investment returns shown on this page are time-weighted measurements which exclude the effect of the timing and amount of your contributions and withdrawals. Accounts marked Exclude From Performance will not contribute to the portfolio's performance return. Year to Date(YTD), Quarter to Date(QTD) and Month to Date(MTD): Returns are for the period in which position or account was open.

POSITIONS TIME WEIGHTED PERFORMANCE DETAIL

Morgan Stanley

RONALD MCDONALD HOUSE CHAR 432-XXX128 - AAA | As of December 31, 2021 | Reporting Currency: USD

RETURN % (GROSS OF FEES) (ANNUALIZED)

Product/ Security Description ▲	Performance Inception Date	Ending Total Value ($)	Month to Date (%) 11/30/21 - 12/31/21	Quarter to Date (%) 09/30/21 - 12/31/21	Year to Date (%) 12/31/20 - 12/31/21	Last 12 Months (%) 12/31/20 - 12/31/21	Since Inception (%)	% of Portfolio
Total Portfolio (Gross of Fees)	**12/31/2014**	**260,879.14**	**2.60**	**0.05**	**17.97**	**17.97**	**2.65**	**100.00**
CBOE SP500 BuyWrite			**3.77**	**6.98**	**20.47**	**20.47**	**7.35**	
Mutual Funds								
MADISON COV CALL & EQ INCOME Y(MENYX)	05/01/2017	260,879.12	2.72	0.35	18.70	18.70	9.50	100.00
Cash, MMF and Bank Deposits								
BANK DEPOSIT PROGRAM(BDPS)	06/07/2018	0.02	-	-	-	-	-	0.00

The investment returns shown on this page are time-weighted measurements which exclude the effect of the timing and amount of your contributions and withdrawals.
Position level performance detail is only available since 12/31/2014.

TIME WEIGHTED PERFORMANCE BY PERIOD

Morgan Stanley

RONALD MCDONALD HOUSE CHAR | As of December 31, 2021 | Reporting Currency: USD

RETURN % (NET OF FEES) VS. BENCHMARKS

					Period Returns%	
Period	Beginning Total Value ($)	Net Contributions/ Withdrawals ($)	Investment Earnings ($)	Ending Total Value ($)	Portfolio (Net Of Fees)	Asset Allocation Blend
2021	3,162,559.64	585,469.64	446,640.61	4,194,669.89	12.66	11.07
2020	3,286,670.15	-379,653.41	255,542.90	3,162,559.64	8.66	12.59
2019	2,802,213.44	9,843.24	474,613.47	3,286,670.15	16.93	17.41
2018	4,775,248.59	-1,900,880.87	-72,154.28	2,802,213.44	-2.88	-5.43
2017	3,599,494.13	763,211.46	412,543.00	4,775,248.59	10.33	14.34
2016	3,369,694.11	5,031.92	224,768.10	3,599,494.13	6.67	5.24
2015	3,284,700.88	100,000.00	-15,006.77	3,369,694.11	-0.39	-1.26
2014	3,759,526.55	-600,393.01	125,567.34	3,284,700.88	4.37	4.87
2013	3,262,830.52	-70.70	496,766.73	3,759,526.55	15.23	12.25
2012	2,730,576.51	276,910.69	255,343.32	3,262,830.52	8.85	11.11
2011	2,806,463.19	0.00	-75,886.68	2,730,576.51	-2.70	-2.17
2010	2,587,363.41	0.00	219,099.78	2,806,463.19	8.47	9.86
2009 Performance Inception: 01/16/2009	2,045,155.03	29,775.00	512,433.38	2,587,363.41	24.67	28.57

The investment returns shown on this page are time-weighted measurements which exclude the effect of the timing and amount of your contributions and withdrawals.

Tighter Financial Conditions Should Provide Opportunities in 1H2022

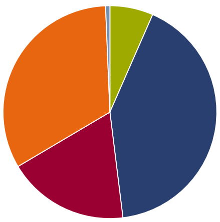
- **Mid-Cycle Transition Has Further De-rating:** The mid-cycle transition has been well established at this point as well as the de-rating of asset prices. However, it remains incomplete, in our view, with another 15% decline in P/Es expected. Peak rate of change in policy and economic/earnings growth has typically coincided with more conservative investment and has ended with a broader equity market correction. This is the classic mid-cycle transition that has accompanied recoveries from recession. Think 1994, 2004, 2011. So far, we have experienced a rolling correction across many asset categories as the breadth of the equity market remains exceptionally weak. We expect the next and final stage of this rolling correction to end with a 10%-15% correction in the S&P 500 and Nasdaq.
- **Peaking Rates of Change Matter.** The peak rate of change in fiscal policy, Fed balance sheet, M2, economic and earnings growth we expected has arrived. We identify such peaks as the mid-cycle transition phase of the economic/market cycle. The lower-quality and more speculative parts of the financial markets have already underperformed, with many down 20%-50%.
- **The "Final Chapter" Likely Ends with Fire *and* Ice.** With the Fed indicating it will taper asset purchases on a more aggressive timeline, both real and nominal rates began to move higher along with the US dollar. This is a distinct tightening of financial conditions and has weighed on equity markets since November. We think there is still more downside to valuations from this "fire" and we expect growth to disappoint expectations—i.e., "ice." PMIs and earnings revisions will be the key to how long and deep this correction lasts.
- **Upgrade to Quality and Value but with a More Defensive Skew.** The mid-cycle transition comes with a shift in equity market leadership. Higher-quality stocks tend to outperform. We downgraded small caps and early-cycle sectors in March while upgrading quality to reflect this view. We now favor a more defensive skew in what could be a greater slowdown than markets expect. Barbell it with small-cap value stocks.
- **Inflation Is the Key to the Secular Bull Market for Stocks and Secular Bear Market for Bonds.** The shift in policy from monetary to fiscal dominance is a significant change that has implications for our asset allocation recommendations. A US recession was always a necessary condition for this outcome and the health-crisis nature of this event further supported this regime shift. Finally, other inflationary trends were well established before the latest recession began—populism, nationalism, de-globalization, and a sign that the US dollar may either lose or have to share its reserve currency status. One party control of the US government tends to accelerate and implement these policy changes.
- **We Lowered Our Equity Allocations and Raised Our Bond Allocations in May and Again in September.** As both monetary and fiscal policy normalizes, we expect a broader equity market correction due to either tighter financial conditions, i.e., "fire," or due to a more significant growth disappointment, i.e., "ice." Despite this risk for near-term pullback in equities, we are still overweight on a 12-month basis. We also recommend owning some commodities and real estate as an inflation hedge. Avoid profitless growth stocks as valuations remain at risk from tightening financial conditions—i.e., the "Fire." Be patient with new capital commitments and use pullbacks around peaking rates of change as buying opportunities for cyclicals, growth at a reasonable price, and international stocks.

Source: Morgan Stanley & Co. Research. M2 is a measure of the money supply that includes all elements of M1 as well as "near money." M1 includes cash and checking deposits, while near money refers to savings deposits, money market securities, mutual funds and other time deposits.

Portfolio X-Ray®

Benchmark	Market Value
S&P 500 TR USD	$4,147,211.89

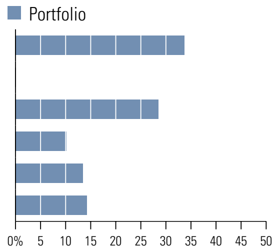
Asset Allocation 12-31-2021



Asset Allocation	Portfolio %	Bmark (%)
Cash	6.55	0.00
US Stocks	41.50	98.98
Non-US Stocks	18.42	1.02
Bonds	32.87	0.00
Other	**0.65**	**0.00**

Bond Analysis for MF, ETF, CEF, UIT & VA only 12-31-2021

Fixed-Income Sectors	Portfolio %
Government	33.66
Municipal	0.04
Corporate	28.49
Securitized	10.14
Cash & Equivalents	13.45
Derivative	14.21



Maturity Breakdown

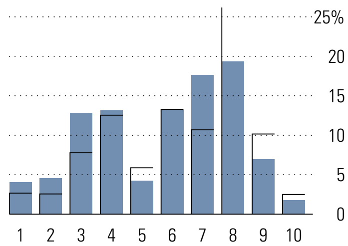
Effective Maturity	Portfolio (%)
1-3	17.51
3-5	13.56
5-7	10.48
7-10	11.81
10-15	3.54
15-20	2.89
20-30	8.93
>30	3.15

Credit Quality Breakdown

Credit Quality	Portfolio (%)
AAA	6.00
AA	0.87
A	2.13
BBB	4.90
BB	9.32
B	5.33
Below B	1.60
NR	69.85

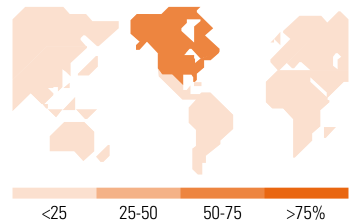
Stock Analysis 12-31-2021

S&P Sector Weightings



	Portfolio %	Bmark %
1 Energy	4.07	2.67
2 Materials	4.56	2.56
3 Industrials	12.84	7.78
4 Cons Disc	13.14	12.54
5 Cons Stpls	4.25	5.88
6 Health Care	13.18	13.29
7 Financials	17.61	10.69
8 Info Tech	19.35	29.17
9 Comm Svcs	6.93	10.16
10 Utilities	1.77	2.50
11 Real Estate	2.31	2.77
Not Classified	**0.00**	—

World Regions



	Portfolio (%)	Bmark (%)
Americas	**72.21**	**98.98**
North America	71.25	98.98
Latin America	0.96	0.00
Greater Europe	**17.69**	**0.82**
United Kingdom	4.15	0.51
Europe-Developed	12.24	0.30
Europe-Emerging	0.61	0.00
Africa/Middle East	0.69	0.00
Greater Asia	**10.10**	**0.21**
Japan	2.62	0.00
Australasia	0.37	0.00
Asia-Developed	3.47	0.06
Asia-Emerging	3.64	0.15
Not Classified	**0.00**	**0.00**

Investment Style 12-31-2021

	Ltd	Mod	Ext
High	24	18	2
Med	18	30	4
Low	4	0	0

0-10 10-25 25-50 >50

Fixed-Income Style	Portfolio
Effective Duration	3.09
Effective Maturity	6.26

	Value	Blend	Growth
Large	17	32	21
Mid	6	12	5
Small	3	2	1

0-10 10-25 25-50 >50

Equity Style	Portfolio	Bmark
Average Market Cap ($mil)	—	230,654.15
Price/Earnings	20.88	25.15
Price/Book	2.73	4.59
Price/Sales	2.14	3.21
Price/Cash Flow	10.27	18.53

Top 10 Holdings 12-31-2021

Assets %	Name	Type	Category/Sector	Market Value
6.40	Madison Covered Call & Equity Income Y	MF	Equity Miscellaneous	265,404.57
4.70	iShares Core S&P US Value ETF	ETF	US Equity Large Cap Value	195,106.75
4.21	Western Asset Core Plus Bond I	MF	US Fixed Income	174,586.93
2.81	Hartford Schroders Emerging Mkts Eq I	MF	Global Emerging Markets Equity	116,628.44
2.79	iShares Core S&P US Growth ETF	ETF	US Equity Large Cap Growth	115,644.88
2.07	iShares Core MSCI EAFE ETF	ETF	Global Equity Large Cap	85,858.92
1.63	BANK DEPOSIT PROGRAM	—		67,577.77
1.61	US TSY NOTE 2125 25MY15	BND		66,706.25
1.51	iShares Core MSCI Emerging Markets ETF	ETF	Global Emerging Markets Equity	62,525.96
1.49	SPDR® Portfolio S&P 400 Mid Cap ETF	ETF	US Equity Mid Cap	61,666.86

Disclaimer:

The Report

This report is not an official account statement and has been prepared for general informational purposes only.

It may not contain all available data concerning your current holdings and investments. This report does not contain information concerning any direct investments that you may have in real estate, futures, commodities or limited partnerships.

The information in this report concerns the current asset allocation of your portfolio. Information concerning the current asset allocation of your portfolio is based on asset classifications, definitions and allocation methodologies created by Morningstar, Inc. ("Morningstar").

This report may be based on information provided by you. To the extent that any data provided by you is incomplete, outdated and/or inaccurate, the results contained in this report will also be incomplete, outdated and/or inaccurate. If you have any questions about the information contained in this report, please contact your Financial Advisor or Investment Representative.

This report is generated and hosted by Morningstar as part of a service it provides to Morgan Stanley Smith Barney LLC and its affiliates, and it contains content that is proprietary to Morningstar. The information and calculations displayed in this report may contain inaccuracies, omissions or other errors. With regard to your variable annuity investments, this report only contains the most recent information made available by Morningstar, and you should reconcile this report with up-to-date information about your variable annuity investments made available through the institutions that sell, issue and/or offer them. Morgan Stanley Smith Barney LLC does not guarantee, and shall have no liability for, the accuracy, timeliness, proper sequencing or completeness of, or any periodic changes made to, any information or calculations made available by Morningstar in this report.

Morgan Stanley recommends that investors seek the advice of a Financial Advisor or Investment Representative when reviewing this report. Morgan Stanley Smith Barney LLC does not undertake to advise you of changes in the asset allocation information or other information expressed in this report.

The information displayed in this report may change daily or more frequently. Price quotes contain the latest information available to Morningstar. Neither Morningstar nor Morgan Stanley Smith Barney LLC. is liable for any losses, damages or costs that may arise in any manner from the use of this report or any information contained in it. The information contained in this report does not constitute investment, legal, tax, accounting or other professional advice.

The information in this report is designed to be used in conjunction with research, more sophisticated asset allocation models and a more detailed examination of your particular investment, tax and accounting needs.

The appropriateness of a particular strategy or investment will depend on an investor's individual circumstances and objectives. The securities discussed in this report may not be suitable for all investors. This report is not an offer to buy or sell or a solicitation of an offer to buy or sell any securities mentioned herein.

Price and yield are subject to change. The value of and income from your investments may vary because of changes in interest rates or foreign exchange rates, securities prices or market indexes, operational or financial conditions of companies or other factors.

Morgan Stanley Smith Barney LLC may not be able to buy or sell for your account the securities or investments contained in this report.

Within the last three years, Morgan Stanley Smith Barney LLC and/or their affiliates may have managed or co-managed a public offering of securities for one or more of the companies whose securities are contained in this report. Morgan Stanley Smith Barney LLC and/or their affiliates are involved in many businesses that may relate to companies mentioned in this report. These businesses include market making and specialized trading, risk arbitrage and other proprietary trading, fund management, investment services and investment banking.

An employee or director of Morgan Stanley Smith Barney LLC and/or one or more of their affiliate companies may be a director of one or more of the companies whose securities are contained in this report.

Morgan Stanley Smith Barney LLC and/or their affiliates may make markets or specialize in, have investments in, or effect transactions in securities of, companies mentioned in this report. Morgan Stanley Smith Barney LLC and/or their affiliates or employees may have investments in securities or derivatives of companies mentioned in this report and may trade them in ways different from those discussed in this report.

Derivatives may be issued by Morgan Stanley Smith Barney LLC and/or their affiliates. Additional information is available on request concerning the securities and companies mentioned in this report that are followed by Morgan Stanley Smith Barney LLC.

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ASSET SCAN DEFINITIONS

General

In these Asset Scan Definitions, "fund" means a pooled investment vehicle. Example include open-end mutual funds, closed-end funds, exchange-traded funds (ETFs), unit investment trusts (UITs) and variable annuity subaccounts.

All calculations (other than Asset Classes) exclude any part of your portfolio that you hold as Cash. Furthermore, Morningstar may not be able to include some holdings in some calculations in the report, or may show them in a "not classified" category, because it cannot identify the holdings or for another reason. (For example, Morningstar does not cover certain funds and structured products.) In some cases, Morningstar may be able to analyze a holding for some calculations (e.g. Asset Class and Style Box Diversification) but not for others (e.g. GICS Sectors, Stock Type, World Regions, Stock Stats and Top 10 Holdings). Therefore, the holdings that are "not classified" may vary for different purposes.

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Asset Classes

Cash
The percentage of the portfolio's net assets held in cash. Cash encompasses actual cash, money market funds, and, for mutual funds, cash equivalents. (Cash equivalents include fixed-income securities with a maturity of one year or less).

U.S. Stocks *
The percentage of the portfolio's net assets held in common stock of U.S.-based companies.

Foreign Stocks
The percentage of the portfolio's net assets held in non-U.S. stocks.

Bonds *
The percentage of the portfolio's net assets held in bonds, including U.S. and non-U.S. bonds.

Other *
The percentage of the portfolio's net assets in holdings that can be identified by Morningstar but are not Cash, U.S. Stocks, Foreign Stocks or Bonds. Examples are futures, warrants, options, real estate, and alternative investments.

Not Classified
The percentage of the portfolio's net assets in holdings that are not classified.

*** Note About Preferred and Convertible Securities:**
Individual portfolio holdings in preferred stock, convertible bonds (U.S. and foreign) and convertible preferreds (U.S. and foreign) may be classified as U.S. Stocks, Foreign Stocks, Bonds or Other. If held in a fund, preferred stock, convertible bonds (U.S. and foreign) and convertible preferreds (U.S. and foreign) will be classified as Other.

Style Box Diversification

Morningstar style boxes provide you with a visual representation, using percentages of total holdings, of the "investment style" of individual stocks and bonds as well as the fund holdings in your portfolio.

Morningstar determines the equity and fixed income style of individually held stocks and bonds. However, funds may or may not be broken down by their underlying securities. In most cases, Morningstar calculates the style box breakdown of underlying stock holdings of foreign and domestic equity funds. Domestic and foreign bond funds, and in some cases certain equity funds, are not broken down by their underlying holdings. In these instances, Morningstar assigns an overall style box location and assumes that 100% of the exposure is in a single style box location.

Once the fund styles have been determined they are aggregated with the corresponding individual holdings' styles and displayed in the appropriate area of a style box. Unclassified equity and fixed income securities will appear in "% Investment Style Not Classified."

Equity Style Box
The vertical axis of the Equity Style Box defines three size categories, or capitalization bands--small, mid, and large. The horizontal axis defines three style categories. Two of these categories, "value" and "growth," are common to stocks and funds. However, for stocks, the central column of the style box represents the core style (those stocks for which neither value nor growth characteristics dominate); for funds it represents the blend style (a mixture of growth and value stocks or mostly core stocks).

Growth Style of Investing - Growth managers are generally willing to pay higher market multiples for the superior growth rates and profitability they anticipate. As a result, stocks in a growth portfolio will tend to have high price/earnings ratios and will generally pay little-to-no dividends.

Value Style of Investing - This style is based on an attempt to invest in companies at attractive valuations. Value managers look for undervalued stocks, generally focusing on low price/earnings ratios as an indicator of value.

Methodology (Equity Style)
The methodology uses a 10-factor model, with separate scores for value and growth characteristics. It measures the characteristics of individual stocks. Morningstar defines large-cap stocks as those that account for the top 70% of the domestic stock market, mid-cap stocks as those that account for the next 20%, and small caps for the remaining 10%.

Fixed Income Style Box
The vertical axis of the Fixed Income Style Box classifies bonds and bond funds according to three levels of credit quality - high, medium, and low. The horizontal axis represents the interest rate sensitivity - short, intermediate, and long term.

Methodology (Fixed Income Style)
Interest rate sensitivity for individual bonds held in your portfolio, as well as bond funds, is measured by duration. Duration is a weighted average of the times that interest payments and the final return of principal are received. The weights are the amounts of the payments discounted by the yield-to-maturity of the bond.

The duration breakpoints used for taxable bonds and bond funds are: short term is less than 3.5 years; intermediate term is 3.5 or more but less than 6 years; and long term is 6 years or more. The duration breakpoints used for municipal bonds and municipal bond funds are: short term is less than 4.5 years; intermediate term is 4.5 or more but less than 7 years; and longer term is 7 years or more.

The levels of credit quality for bonds and bond funds are categorized as follows: an average S&P credit rating of AAA or AA is considered high quality; an average rating of A, BB, or BBB is medium quality; and an average rating below BBB is considered low quality. For the purposes of Morningstar calculations, U.S. government securities are considered AAA bonds, nonrated municipal bonds are classified as BB, and all other nonrated bonds are considered B.

Morningstar Stock Sectors

This section displays the percentage of total equity invested in each sector of the stock market.

Stock sector data is provided for and calculated on both domestic and foreign stock exposure. Morningstar determines the percentage of stock holdings in a particular sector by aggregating the individually held stocks in that sector and funds' underlying stocks in that sector. The percentage of each sector that comprises the S&P 500 index is also listed for comparative purposes. The S&P 500 is an unmanaged, market capitalization weighted index of 500 widely held stocks that is generally considered to be representative of the market in general.

Three broad stock sector areas - Cyclical, Sensitive and Defensive are displayed, as well as sectors that Morningstar cannot classify. The broad sectors are broken down further as follows: Cyclical includes Basic Materials, Consumer Cyclical, Financial Services, and Real Estate; Sensitive includes Communication Services, Energy, Industrials, and Technology; and Defensive includes Consumer Defensive, Healthcare and Utilities.

Stock Type

This section displays the percentage of total domestic stock invested in each stock type.
Stock type data is provided for and calculated based on domestic stock exposure only.
Morningstar determines the percentage of domestic stock holdings of a particular type by aggregating the individually held stocks of that type and funds' underlying stocks of that type. The percentage of each type that comprises the S&P 500 index is also listed for comparative purposes.

Morningstar uses eight stock types to classify companies based on where they are in their economic life cycles or by the underlying economic force driving their earnings. Any holdings for which Morningstar does not have stock type data will be placed under Types Not Classified. The eight stock types include:
High Yield, Distressed, Hard Assets, Cyclicals, Slow Growth, Classic Growth, Aggressive Growth, and Speculative Growth.

World Regions

This section displays the percentage of the portfolio's stock that is invested in different regions of the world.

World Regions data is provided for and calculated on both domestic and foreign stock. Morningstar determines the percentage of stock holdings in a particular World Region by aggregating the individually held stocks in that region and funds' underlying stocks in that region.

Regional definitions are as follows:

North America
Includes U.S. and Canadian common stocks. American Depository Receipts (ADRs) and Global Depository Receipts (GDRs) are assigned to their countries of origin.

UK/Western Europe
Includes stocks from countries in continental Europe, including Scandinavia, and the British Isles.

Japan
Only includes Japanese stocks.

Latin America
Includes stocks from North and South America south of the United States.

Asia ex-Japan
Includes stocks from Australia, New Zealand, East Asia and Southeast Asia. Excludes Japan.

Other
Includes the Middle East, Asian Subcontinent, Africa, and island nations, e.g., Israel, South Africa, Pakistan, Bermuda.

Regions Not Classified
Holdings that Morningstar does not classify by region.

Stock Stats

General Methodology for Calculating Stock Statistics

Stock statistics (such as P/E ratio, ROA, etc.) are calculated for a portfolio based on the statistics of its holdings. First, a statistic is calculated for each individual stock. Then, the statistic is calculated for each fund by aggregating the statistical values for that fund's underlying stock holdings. Finally, the stock statistics for the individual stocks and funds are aggregated for the Asset Scan. (Information needed to calculate some or all of the stock statistics may not be available for holdings that are not classified, and therefore stock statistics may not include some or all of those holdings.) Aggregates are calculated on a weighted average basis. The equivalent statistics for the S&P 500 index are also listed for comparative purposes.

Price/Earnings Ratio
The price/earnings (P/E) ratio of an individual stock is calculated by dividing its current stock price by its trailing 12-month earnings per share from continuing operations.

Price/Book Ratio
The price/book (P/B) ratio of an individual stock is calculated by dividing the market price of the company's outstanding stock by the company's book value, and then adjusting for the number of shares outstanding.

Return on Assets
The return on assets (ROA) of an individual stock is calculated by dividing the company's net income by its total assets.

Return on Equity
The return on equity (ROE) of an individual stock is calculated by dividing the company's net income by its total equity. ROE is the product of profit margin, sales/assets, and debt leverage, and measures how efficiently a company uses

shareholders' equity to generate profits.

3-Year Earnings Growth Rate (%)
The three-year earnings growth (EGR) rate of an individual stock is the annualized growth in earnings over the past three fiscal years.

Yield (%)
For individual stocks, yield is calculated by dividing the total dividends they have paid over the past year by their current market price. For funds, yield is calculated by dividing the fund's total income distributions over the past 12 months by the fund's previous month's net asset value (NAV). Morningstar calculates yield for a portfolio by weighting each holding's yield by its value in the portfolio. The yield shown then should be the percentage income generated on the entire portfolio. Note that only income from stock and fund holdings is included in this calculation. If you have income generating investments such as bonds or money market funds, the yield shown understates the actual income rate generated by the portfolio. Also, please note that short positions are excluded from these calculations. Short positions typically reduce realized yield.

Average Market Capitalization ($ mil)
For an individual stock, its market capitalization is the current stock market value of its equity, in millions. It is calculated by multiplying the current share price by the number of shares outstanding as of the most recently completed fiscal quarter. Morningstar defines the overall "size" of a fund as the geometric mean of the market capitalization for all of the stocks it owns. To combine market cap figures for portfolios in Asset Scan, Morningstar also takes the geometric mean of the market capitalizations of the portfolio's holdings.

Top 10 Holdings

This section provides additional information about the top 10 holdings (by % of assets) of your current or hypothetical portfolio. Relevant information on holdings that are not classified may or may not be available, and therefore this section might not take into account some or all of these holdings.

Stock Industry
Stock Industry is a classification of a company's primary area of business. Morningstar gathers information from the description of business section of a company's 10-K form. As a result, Morningstar has compiled approximately 129 industry classifications for individual stock holdings.

Fund Category (Morningstar Category)
While the investment objective stated in a fund's prospectus may or may not reflect how it actually invests, the Morningstar category is assigned based on the underlying securities in each fund.

Price $
For stocks, this is the most recently reported price for the company. For funds, this is the most recently reported market price, net asset value or accumulated unit value, as the case may be.

Market Value $
Market Value is the current value of a given holding, in dollars. It is calculated by multiplying Price ($) times the number of securities owned.

Important Information about Advisory Fees in the Morgan Stanley Advisory(SM) and Morgan Stanley Personal Portfolio(SM) Programs

ASSET SCAN DEFINITIONS

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The duration breakpoints used for taxable bonds and bond funds are: short term is less than 3.5 years; intermediate term is 3.5 or more but less than 6 years; and long term is 6 years or more. The duration breakpoints used for municipal bonds and municipal bond funds are: short term is less than 4.5 years; intermediate term is 4.5 or more but less than 7 years; and longer term is 7 years or more.

The levels of credit quality for bonds and bond funds are categorized as follows: an average S&P credit rating of AAA or AA is considered high quality; an average rating of A, BB, or BBB is medium quality; and an average rating below BBB is considered low quality. For the purposes of Morningstar calculations, U.S. government securities are considered AAA bonds, nonrated municipal bonds are classified as BB, and all other nonrated bonds are considered B.

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UK/Western Europe
Includes stocks from countries in continental Europe, including Scandinavia, and the British Isles.

Japan
Only includes Japanese stocks.

Latin America
Includes stocks from North and South America south of the United States.

Asia ex-Japan
Includes stocks from Australia, New Zealand, East Asia and Southeast Asia. Excludes Japan.

Other
Includes the Middle East, Asian Subcontinent, Africa, and island nations, e.g., Israel, South Africa, Pakistan, Bermuda.

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Price/Earnings Ratio
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The price/book (P/B) ratio of an individual stock is calculated by dividing the market price of the company's outstanding stock by the company's book value, and then adjusting for the number of shares outstanding.

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Return on Equity
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3-Year Earnings Growth Rate (%)
The three-year earnings growth (EGR) rate of an individual stock is the annualized growth in earnings over the past three fiscal years.

Yield (%)
For individual stocks, yield is calculated by dividing the total dividends they have paid over the past year by their current market price. For funds, yield is calculated by dividing the fund's total income distributions over the past 12 months by the fund's previous month's net asset value (NAV). Morningstar calculates yield for a portfolio by weighting each holding's yield by its value in the portfolio. The yield shown then should be the percentage income generated on the entire portfolio. Note that only income from stock and fund holdings is included in this calculation. If you have income generating investments such as bonds or money market funds, the yield shown understates the actual income rate generated by the portfolio. Also, please note that short positions are excluded from these calculations. Short positions typically reduce realized yield.

Average Market Capitalization ($ mil)
For an individual stock, its market capitalization is the current stock market value of its equity, in millions. It is calculated by multiplying the current share price by the number of shares outstanding as of the most recently completed fiscal quarter. Morningstar defines the overall "size" of a fund as the geometric mean of the market capitalization for all of the stocks it owns. To combine market cap figures for portfolios in Asset Scan, Morningstar also takes the geometric mean of the market capitalizations of the portfolio's holdings.

Top 10 Holdings

This section provides additional information about the top 10 holdings (by % of assets) of your current or hypothetical portfolio. Relevant information on holdings that are not classified may or may not be available, and therefore this section might not take into account some or all of these holdings.

Stock Industry
Stock Industry is a classification of a company's primary area of business. Morningstar gathers information from the description of business section of a company's 10-K form. As a result, Morningstar has compiled approximately 129 industry classifications for individual stock holdings.

Fund Category (Morningstar Category)
While the investment objective stated in a fund's prospectus may or may not reflect how it actually invests, the Morningstar category is assigned based on the underlying securities in each fund.

Price $
For stocks, this is the most recently reported price for the company. For funds, this is the most recently reported market price, net asset value or accumulated unit value, as the case may be.

Market Value $
Market Value is the current value of a given holding, in dollars. It is calculated by multiplying Price ($) times the number of securities owned.

Mutual funds and exchange-traded funds ("ETFs") may be purchased through either a brokerage account or an advisory account. This Important Information page is only applicable if you will be purchasing a fund through an advisory account in either the Morgan Stanley Advisory program or the Morgan Stanley Personal Portfolio program (together, the "Advisory Programs").
The performance information presented in this Detail Report reflects the internal fees and expenses of the share class(es) shown. These may include the investment management fee, any Rule 12b-1 fees, and other costs and expenses (as applicable). These fees and expenses are charged directly to the mutual fund's or ETF's pool of assets and are reflected in the share price. Each mutual fund's or ETF's expense ratio (reflecting the total amount of internal fees and expenses) is set forth in its prospectus, which you should read carefully before investing, and on the front of this Detail Report.

In addition to internal fees and expenses, the performance shown may also reflect a sales charge or load.
If you buy shares of a mutual fund in the Advisory Programs, you will not pay a sales charge or load. However, such investments are subject to an annual investment advisory fee ("Advisory Fee") charged by Morgan Stanley (which may be as high as 2.25% per year).

THE PERFORMANCE INFORMATION SHOWN IN THE ATTACHED FACT SHEET DOES NOT REFLECT THE DEDUCTION OF MORGAN STANLEY ADVISORY FEE.

If an Advisory Fee were applied instead of a sales load, your actual performance could be lower than the performance shown in the attached fact sheet. Depending on the applicability of sales loads, buying funds outside an investment advisory program may be a more cost-effective way of investing. Please discuss your options with your Financial Advisor before investing.

A note about the net effect of the Advisory Fee
There is a compounding effect over time from deducting an Advisory Fee. An account with a 2.25% annual Advisory Fee deducted quarterly and 10% annualized performance will have a net performance after fees of about 8.7% per year, representing a reduction of 2.30% per year. Compounding will similarly affect the account's performance on a cumulative basis.

ETF sale commissions

Investors buying or redeeming shares of ETFs from a broker-dealer in the secondary market will generally pay a commission. However, if you buy ETFs in the Advisory Programs, you will not pay a commission. Instead, such investments are subject to the Advisory Fee.

Other Morgan Stanley compensation

In addition to the Advisory Fee, Morgan Stanley may receive other compensation from open-end mutual funds, in the form of 12b-1 fees, revenue sharing fees and recordkeeping and other administrative fees. This compensation may create a conflict of interest for Morgan Stanley when recommending that you buy mutual funds instead of other investment options that are offered in certain investment advisory programs.

Please refer to the applicable Morgan Stanley Smith Barney LLC Disclosure Document (available from your Financial Advisor or Investment Representative) for more information about our investment advisory programs (including the Advisory Fee).

The information in the attached fact sheet has been obtained from sources that Morgan Stanley believes to be reliable. However, Morgan Stanley makes no representation as to the accuracy or completeness of this information. All information is as of the date indicated and is subject to change without notice.

Mutual funds and exchange-traded funds ("ETFs") may be purchased through either a brokerage account or an advisory account. This Important Information page is only applicable if you will be purchasing a fund through any of the Morgan Stanley Advisory Programs.

The particular fund shown in this Detail Report may not be available in all or any of the Advisory Programs. Please ask your Financial Advisor or Investment Representative for details.

Internal Fees and Expenses

The performance information presented in this Detail Report reflects the internal fees and expenses of the share class(es) shown. These may include the investment management fee, any Rule 12b-1 fees, and other costs and expenses (as applicable). These fees and expenses are charged directly to the mutual fund's or ETF's pool of assets and are reflected in the share price. Each mutual fund's or ETF's expense ratio (reflecting the total amount of internal fees and expenses) is set forth in its prospectus, which you should read carefully before investing, and on the front of this Detail Report.

You Pay Advisory Fees Instead of a Sales Charge

In addition to internal fees and expenses, the performance shown may also reflect a sales charge or load. If you buy shares of a mutual fund in the Advisory Programs, you will not pay a sales charge or load. However, such investments are subject to the Advisory Fee (as defined on the previous page). Please see the previous page for returns calculated showing sales charges and returns calculated using the maximum Advisory Fees in each of the Advisory Programs.

Depending on the applicability of sales loads, buying funds outside an investment advisory program may be a more cost-effective way of investing. Please discuss your options with your Financial Advisor before investing.

ETF Sale Commissions

Investors buying or redeeming shares of ETFs from a broker-dealer in the secondary market will generally pay a commission. However, if you buy ETFs in the Advisory Programs, you will not pay a commission. Instead, such investments are subject to the Advisory Fee.

Other Morgan Stanley Compensation

In addition to the Advisory Fee, Morgan Stanley may receive other compensation from open-end mutual funds, in the form of 12b-1 fees, revenue sharing fees and recordkeeping and other administrative fees. This compensation may create a conflict of interest for Morgan Stanley when recommending that you buy mutual funds instead of other investment options that are offered in certain investment advisory programs. Please see the ADV Part II for more information.

Style Classifications

The Morgan Stanley Advisory programs have style classifications that do not mirror the Morningstar categories in all respects. Please refer to the other materials you receive

in connection with the program, or ask your Financial Advisor, to determine the fund's classification for the purposes of the program (which may differ from the "Morningstar Cat" on page 1).

General

Please refer to the applicable Morgan Stanley Smith Barney LLC Disclosure Document/ADV Brochure (available from your Financial Advisor or Investment Representative) for more information about our investment advisory programs (including the Advisory Fee).

The information in the attached fact sheet has been obtained from sources that we believe to be reliable. However, we makes no representation as to the accuracy or completeness of this information. All information is as of the date indicated and is subject to change without notice.

Mutual Fund Detail Report
Disclosure Statement

The Mutual Fund Detail Report is supplemental sales literature, and therefore must be preceded or accompanied by the mutual fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the Mutual Fund Detail Report. Morningstar is not itself a FINRA-member firm.

All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publically-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution.

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the Medicare surcharge. As of 2016, this rate is 39.6% plus 0.9% Medicare surcharge, or 40.5%, this has been unchanged since 2013. This rate changes periodically in accordance with changes in federal law.

Pre-Inception Returns

The analysis in this report may be based, in part, on adjusted historical returns for periods prior to the inception of the share class of the fund shown in this report ("Report Share Class"). If pre-inception returns are shown, a performance stream consisting of the Report Share Class and older share class(es) is created. Morningstar adjusts pre-inception returns downward to reflect higher expenses in the Report Share Class, we do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns please see the Morningstar Extended Performance Methodology.

When pre-inception data is presented in the report, the header at the top of the report will indicate this. In addition, the pre-inception data included in the report will appear in italics.

While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

12b1 Expense %

A 12b-1 fee is a fee used to pay for a mutual fund's distribution costs. It is often used as a commission to brokers for selling the fund. The amount of the fee is taken from a fund's returns.

Alpha

Alpha is a measure of the difference between a security or portfolio's actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The "Other" category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund's managers are buying and how they are positioning the fund's portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund's exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security's price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart's generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the fund only.

Average Effective Duration
Duration is a time measure of a bond's interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

Average Effective Maturity
Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

Average Weighted Coupon
A coupon is the fixed annual percentage paid out on a bond. The average weighted coupon is the asset-weighted coupon of each bond in the portfolio.

Average Weighted Price
Average Weighted Price is the asset-weighted price of bonds held in a portfolio, expressed as a percentage of par (face) value. This number reveals if the portfolio favors bonds selling at prices above or below par value (premium or discount securities respectively.)

Best Fit Index
Alpha, beta, and R-squared statistics are presented for a broad market index and a "best fit" index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund's benchmark, nor does it necessarily contain the types of securities that may be held by the fund or portfolio.

Beta
Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

Credit Quality Breakdown
Credit Quality breakdowns are shown for corporate-bond holdings in the fund's portfolio and depict the quality of bonds in the underlying portfolio. It shows the percentage of fixed-income securities that fall within each credit-quality rating as assigned by a Nationally Recognized Statistical Rating Organization (NRSRO). Bonds not rated by an NRSRO are included in the Other/Not-Classified category.

Deferred Load %
The back-end sales charge or deferred load is imposed when an investor redeems shares of a fund. The percentage of the load charged generally declines the longer the fund's shares are held by the investor. This charge, coupled with 12b-1 fees, commonly serves as an alternative to a traditional front-end load.

Expense Ratio %
The expense ratio is the annual fee that all funds charge their shareholders. It expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as front-end or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. The gross expense ratio, in contrast to the net expense ratio, includes interest and dividends on borrowed securities but does not reflect any fee waivers in effect during the time period.

Front-end Load %
The initial sales charge or front-end load is a deduction made from each investment in the fund and is generally based on the amount of the investment.

Geometric Average Market Capitalization
Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

Growth of 10,000

For funds, this graph compares the growth of an investment of 10,000 (in the base currency of the fund) with that of an index and/or with that of the average for all funds in its Morningstar Category. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. If pre-inception data is included in the analysis, it will be graphed.

The index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the index. The index is chosen by Morningstar.

Management Fees %
The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

Maximum Redemption Fee %
The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

Mean
Mean is the annualized geometric return for the period shown.

Morningstar Analyst Rating™
The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates funds based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five pillar evaluation to determine how they believe funds are likely to perform relative to a benchmark, or in the case of exchange-traded funds and index mutual funds, a relevant peer group, over the long term on a risk-adjusted basis. They consider quantitative and qualitative factors in their research, and the weight of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's conviction in a fund's prospects for outperformance. Analyst Ratings ultimately reflect the Manager Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months. For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to global.morningstar.com/managerdisclosures/.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating a fund, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the fund.

Morningstar Category
Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

Morningstar Rank
Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

Morningstar Rating™
The Morningstar Rating™ for funds, or "star rating", is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange-traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods.

Morningstar Return
The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-

Ave), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations, in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Style Box™

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened square in the style box indicates the weighted average style of the portfolio.

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest-rate sensitivity as measured by a bond's effective duration. Morningstar seeks credit rating information from fund companies on a periodic basis (for example, quarterly). In compiling credit rating information, Morningstar accepts credit ratings reported by fund companies that have been issued by all Nationally Recognized Statistical Rating Organizations. For a list of all NRSROs, please visit http://www.sec.gov/divisions/marketreg/ ratingagency.htm. Additionally, Morningstar accepts foreign credit ratings from widely recognized or registered rating agencies. If two rating organizations/ agencies have rated a security, fund companies are to report the lower rating; if three or more organizations/agencies have rated a security, fund companies are to report the median rating; and in cases where there are more than two organization/agency ratings and a median rating does not exist, fund companies are to use the lower of the two middle ratings.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. NRSRO or rating agency ratings can change from time to time.

For credit quality, Morningstar combines the credit rating information provided by the fund companies with an average default rate calculation to come up with a weighted-average credit quality. The weighted-average credit quality is currently a letter that roughly corresponds to the scale used by a leading NRSRO. Bond funds are assigned a style box placement of "low," "medium," or "high" based on their average credit quality. Funds with a "low" credit quality are those whose weighted-average credit quality is determined to be less than "BBB-"; "medium" are those less than "AA-", but greater or equal to "BBB-"; and "high" are those with a weighted-average credit quality of "AA-" or higher. When classifying a bond portfolio, Morningstar first maps the NRSRO credit ratings of the underlying holdings to their respective default rates (as determined by Morningstar's analysis of actual historical default rates). Morningstar then averages these default rates to determine the average default rate for the entire bond fund. Finally, Morningstar maps this average default rate to its corresponding credit rating along a convex curve.

For interest-rate sensitivity, Morningstar obtains from fund companies the average effective duration. Generally, Morningstar classifies a fixed-income fund's interest-rate sensitivity based on the effective duration of the Morningstar Core Bond Index, which is currently three years. The classification of Limited will be assigned to those funds whose average effective duration is between 25% to 75% of MCBI's average effective duration; funds whose average effective duration is between 75% to 125% of the MCBI will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCBI will be classified as Extensive.

For municipal-bond funds, Morningstar also obtains from fund companies the average effective duration. In these cases, static breakpoints are used. These breakpoints are as follows: (i) Limited: 4.5 years or less; (ii) Moderate: more than 4.5 years but less than 7 years; and (iii) Extensive: more than 7 years. In addition, for non-U.S. taxable and non-U.S. domiciled fixed-income funds, static duration breakpoints are used: (i) Limited: less than or equal to 3.5 years; (ii) Moderate: more than 3.5 years but less than or equal to 6 years; (iii) Extensive: more than 6 years.

Interest-rate sensitivity for non-U.S. domiciled funds (excluding funds in convertible categories) may be measured with modified duration when effective duration is not available.

P/B Ratio TTM

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

P/C Ratio TTM

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

P/E Ratio TTM

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an overlooked or undervalued potential for appreciation.

Percentile Rank in Category
Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

Performance Quartile
Performance Quartile reflects a fund's Morningstar Rank.

Potential Capital Gains Exposure
Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

Quarterly Returns
Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

R-Squared
R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

Regional Exposure
The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

Sector Weightings
Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

Share Change
Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

Sharpe Ratio
Sharpe Ratio uses standard deviation and excess return (a measure of a security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk.

Standard Deviation
Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

Standardized Returns
Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experience if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Total Return
Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

Global Investment Committee Asset Allocation Model Performance

Level 1: For Investors with Less Than $25M in Investable Assets

Hypothetical Model Performance (Gross) as of 11/30/2021

Model Portfolios and Benchmarks' Trailing Returns (Annualized)

		YTD	1Y	3Y	5Y	10Y	Incept.*	Volatility	Sharpe	Max DD
Model 1	Strategic	4.37%	6.20%	6.78%	5.26%	4.40%	4.43%	4.15%	0.94	-6.85%
	Tactical	4.07%	6.13%	8.72%	6.73%	5.18%	5.19%	4.55%	1.03	-6.04%
	Tactical – Strategic	-0.30%	-0.07%	1.94%	1.47%	0.78%	0.76%			
	Bmk. (15/60/10/15)	*2.19%*	*3.30%*	*6.64%*	*5.00%*	*3.95%*	*4.26%*	*3.29%*	*1.14*	*-3.85%*
Model 2	Strategic	5.67%	8.23%	8.23%	6.63%	5.46%	5.49%	5.92%	0.84	-9.74%
	Tactical	5.71%	8.50%	10.08%	8.03%	6.27%	6.33%	6.47%	0.90	-9.44%
	Tactical – Strategic	0.04%	0.27%	1.85%	1.40%	0.81%	0.84%			
	Bmk. (30/50/10/10)	*4.38%*	*6.23%*	*8.51%*	*6.72%*	*5.37%*	*5.51%*	*5.09%*	*0.98*	*-7.14%*
Model 3	Strategic	7.59%	10.86%	9.33%	7.79%	6.34%	6.31%	7.51%	0.77	-12.95%
	Tactical	8.22%	11.89%	12.06%	9.69%	7.37%	7.39%	8.21%	0.84	-11.46%
	Tactical – Strategic	0.63%	1.03%	2.73%	1.90%	1.03%	1.08%			
	Bmk. (40/40/15/5)	*6.37%*	*8.90%*	*9.83%*	*7.92%*	*6.30%*	*6.32%*	*6.75%*	*0.86*	*-10.01%*
Model 4	Strategic	9.08%	13.11%	10.45%	9.01%	7.74%	7.70%	10.15%	0.71	-16.42%
	Tactical	10.20%	14.78%	13.98%	11.42%	9.11%	9.07%	10.82%	0.79	-16.98%
	Tactical – Strategic	1.12%	1.67%	3.53%	2.41%	1.37%	1.37%			
	Bmk. (55/25/20/0)	*9.16%*	*12.66%*	*11.61%*	*9.61%*	*7.62%*	*7.43%*	*9.16%*	*0.76*	*-14.24%*
Model 5	Strategic	11.07%	15.99%	11.63%	10.28%	8.68%	8.47%	12.14%	0.66	-20.10%
	Tactical	11.61%	16.67%	14.76%	12.39%	9.93%	9.71%	12.03%	0.76	-18.59%
	Tactical – Strategic	0.54%	0.68%	3.13%	2.11%	1.25%	1.24%			
	Bmk. (70/10/20/0)	*11.50%*	*15.83%*	*13.07%*	*11.10%*	*8.82%*	*8.39%*	*11.27%*	*0.70*	*-17.76%*
Indices	S&P 500	23.18%	27.92%	20.38%	17.90%	16.16%	15.39%	13.73%	1.08	-19.60%
	Russell 2000	12.31%	22.03%	14.22%	12.14%	13.06%	13.14%	18.84%	0.67	-32.17%
	MSCI ACWI	13.98%	19.27%	15.96%	13.99%	11.39%	10.56%	14.17%	0.71	-21.37%
	Bloomberg US Agg	-1.29%	-1.15%	5.52%	3.65%	3.04%	3.69%	2.97%	1.07	-3.67%
	HFRI FOF Comp	5.66%	9.58%	7.69%	5.79%	4.45%	3.93%	4.82%	0.71	-9.04%
	FTSE 3M T Bill	0.04%	0.05%	1.02%	1.12%	0.60%	0.51%	0.22%		

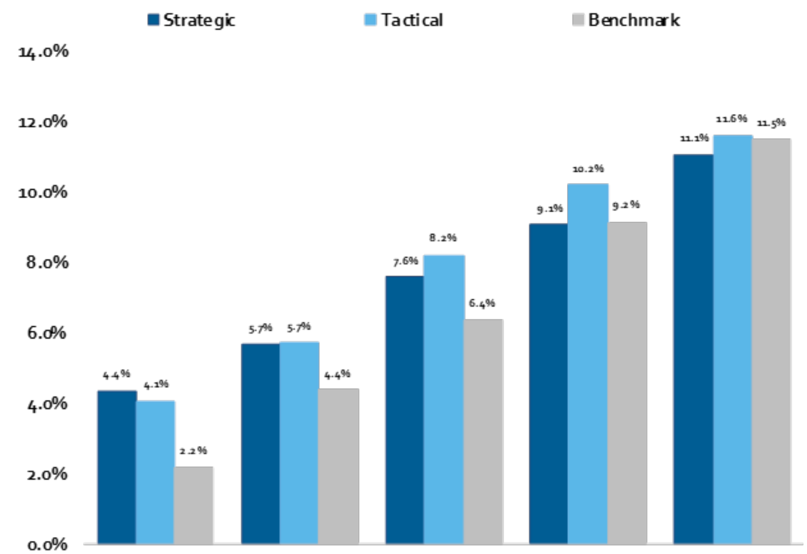
Each model portfolio uses a benchmark composed of allocations to the MSCI All Country World Index, the Bloomberg US Aggregate Index, the Alternatives Blend Index, and the FTSE Three-Month T-Bill Index in the weights listed above.

Compiled by Morgan Stanley Wealth Management Performance Reporting with data sourced from Bloomberg, FactSet, Morningstar, and ThomsonOne.

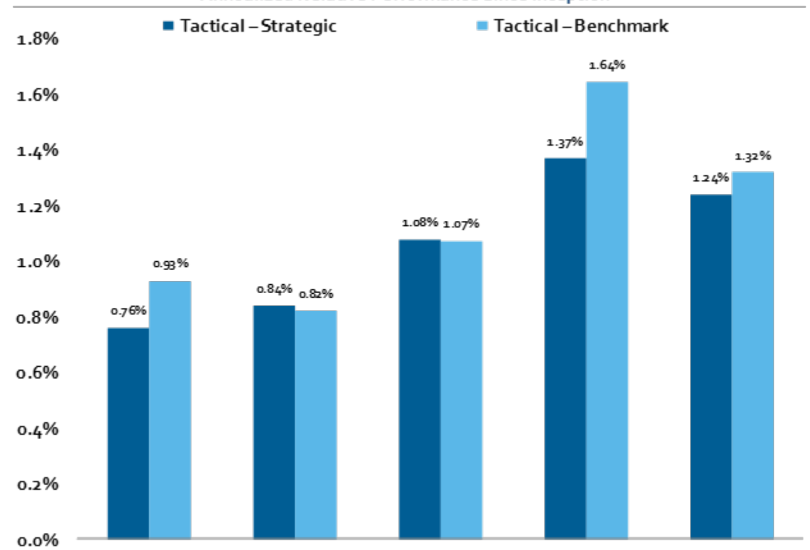
Please refer to the last published copy of the GIC Strategic and Tactical Asset Allocation changes publication and the GIC Profiles for more information regarding current positioning.

The Global Investment Committee Allocation Models are not provided as part of an investment advisory service offered by Morgan Stanley Wealth Management, are 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. Returns expressed in US dollars. The hypothetical Model Performance does not reflect the investment or performance of actual portfolios, but reflect the actual historical performance of a model of selected indices allocated in accordance with the Global Investment Committee's strategic and tactical allocations from time to time as restated to reflect the realignment of wealth groupings. All hypothetical model returns depicted as 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. Information regarding Morgan Stanley Wealth Management'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 five years and the account pays 0.50% 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%. The five model portfolios are designed for different risk tolerances (with Model 1 being the least risky and Model 5 the most risky). For more details on any model, see the Model Portfolio Profile. Returns for periods longer than one year are annualized. Performance for comparative indices is sourced from Bloomberg. Volatility of an investment is measured by standard deviation. For example, a volatile portfolio will have a high standard deviation, while the standard deviation of a more stable portfolio will be lower. The standard deviation value can indicate a degree to which the return on a portfolio is deviating from the expected returns of that portfolio.

Returns (YTD)



Annualized Relative Performance Since Inception*



** Inception Date: 8/20/2009*

Please refer to important information, disclosures and qualifications at the end of this material.

Global Investment Committee Asset Allocation Model Performance

Level 2: For Investors with More Than $25M in Investable Assets

Hypothetical Model Performance (Gross) as of 6/30/2021**

Model Portfolios and Benchmarks' Trailing Returns (Annualized)

		YTD	1Y	3Y	5Y	10Y	Incept.*	Volatility	Sharpe	Max DD
	Strategic	5.32%	13.88%	7.57%	6.20%	4.75%	5.04%	3.91%	1.15	-5.80%
Model 1	Tactical	4.01%	12.94%	8.52%	7.15%	5.00%	5.54%	4.30%	1.17	-5.45%
	Tactical – Strategic	-1.31%	-0.94%	0.95%	0.95%	0.25%	0.50%			
	Bmk. (15/60/10/15)	*1.70%*	*7.19%*	*6.24%*	*4.69%*	*3.89%*	*4.37%*	*3.30%*	*1.17*	*-3.85%*
	Strategic	7.19%	19.14%	9.44%	8.04%	5.84%	6.33%	5.43%	1.07	-7.52%
Model 2	Tactical	6.26%	18.95%	10.32%	9.06%	6.07%	6.92%	6.00%	1.07	-8.97%
	Tactical – Strategic	-0.93%	-0.19%	0.88%	1.02%	0.23%	0.59%			
	Bmk. (30/50/10/10)	*3.66%*	*12.78%*	*7.92%*	*6.55%*	*5.06%*	*5.65%*	*5.11%*	*1.00*	*-7.14%*
	Strategic	8.58%	24.22%	10.52%	9.46%	6.71%	7.30%	6.89%	0.98	-11.26%
Model 3	Tactical	8.70%	24.95%	12.07%	10.89%	7.16%	8.07%	7.40%	1.02	-11.08%
	Tactical – Strategic	0.12%	0.73%	1.55%	1.43%	0.45%	0.77%			
	Bmk. (40/40/15/5)	*5.50%*	*17.79%*	*9.03%*	*7.87%*	*5.77%*	*6.47%*	*6.79%*	*0.88*	*-10.01%*
	Strategic	10.50%	29.70%	11.26%	10.96%	7.79%	8.75%	9.39%	0.88	-14.99%
Model 4	Tactical	11.48%	33.70%	14.56%	13.55%	8.94%	10.12%	9.98%	0.96	-15.58%
	Tactical – Strategic	0.98%	4.00%	3.30%	2.59%	1.15%	1.37%			
	Bmk. (55/25/20/0)	*8.07%*	*25.03%*	*10.54%*	*9.73%*	*6.76%*	*7.61%*	*9.21%*	*0.77*	*-14.24%*
	Strategic	11.92%	34.37%	11.55%	12.15%	8.34%	9.44%	11.32%	0.79	-18.59%
Model 5	Tactical	12.38%	37.33%	15.03%	14.66%	9.67%	10.78%	11.20%	0.92	-16.90%
	Tactical – Strategic	0.46%	2.96%	3.48%	2.51%	1.33%	1.34%			
	Bmk. (70/10/20/0)	*10.21%*	*31.35%*	*11.81%*	*11.42%*	*7.67%*	*8.59%*	*11.34%*	*0.71*	*-17.76%*
	S&P 500	15.25%	40.79%	18.67%	17.65%	14.84%	15.33%	13.74%	1.08	-19.60%
	Russell 2000	17.54%	62.03%	13.52%	16.47%	12.34%	14.07%	18.99%	0.71	-32.17%
Indices	MSCI ACWI	12.30%	39.26%	14.57%	14.61%	9.90%	10.82%	14.25%	0.72	-21.37%
	Bloomberg US Agg	-1.60%	-0.33%	5.34%	3.03%	3.39%	3.79%	2.99%	1.09	-3.67%
	HFRI FOF Comp	4.95%	18.30%	6.32%	6.13%	3.86%	4.01%	4.84%	0.72	-9.04%
	FTSE 3M T Bill	0.03%	0.08%	1.31%	1.14%	0.60%	0.53%	0.22%		

*** Performance reporting delayed due to allocations to private investments*

Each model portfolio uses a benchmark composed of allocations to the MSCI All Country World Index, the Bloomberg US Aggregate Index, the Alternatives Blend Index, and the FTSE Three-Month T-Bill Index in the weights listed above.

Compiled by Morgan Stanley Wealth Management Performance Reporting with data sourced from Bloomberg, FactSet, Morningstar, and ThomsonOne.

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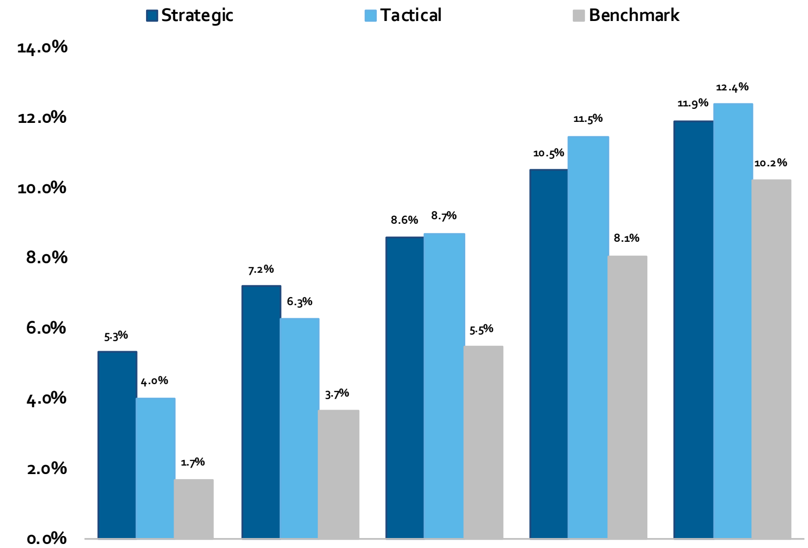
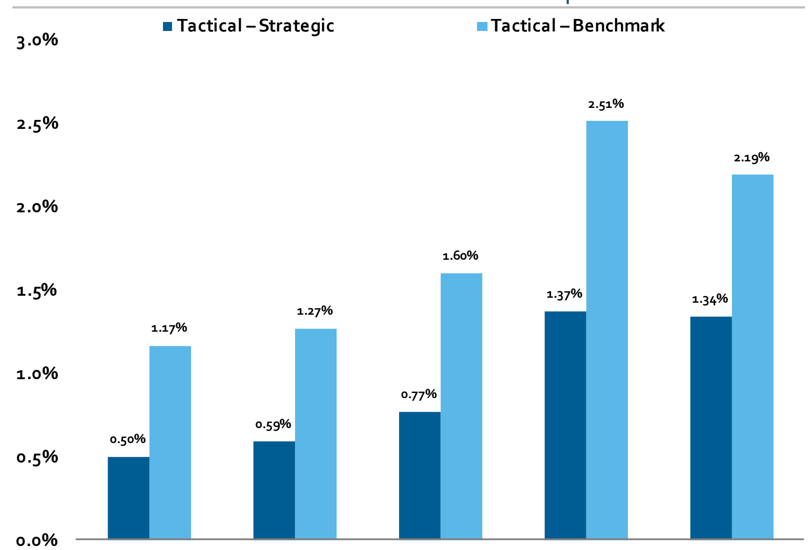
Returns (YTD)



Annualized Relative Performance Since Inception*



** Inception Date: 8/20/2009*

Model Portfolios

The **Wealth Conservation Model (Model 1)** is the GIC's most conservative allocation. This model is about 55% fixed income, 15% ultrashort fixed income and 19% in equities, with the balance in alternatives that are meant to hedge against inflation or provide lower volatility returns (Level 2 Model 1 will have a higher allocation to alternatives). This model may be appropriate for clients with a conservative risk tolerance and the need to prioritize preservation of purchasing power.

The **Income Model (Model 2)** is the GIC's second most conservative allocation. This model is about 46% fixed income, 11% ultrashort fixed Income and 28% equities, with the balance in alternatives that are meant to hedge against inflation or provide lower volatility returns (Level 2 Model 2 will have a higher allocation to alternatives). This model may be appropriate for clients who have a moderately conservative risk tolerance who wish to generate steady income from their portfolio while tempering the risk that comes with more growth-oriented allocations.

The **Balanced Growth Model (Model 3)** is the GIC's middle-of-the-road allocation. This model is about 39% equity, with the balance in fixed income, alternative investments and a small position in ultrashort fixed income (Level 2 Model 3 will have a higher allocation to alternatives). This model may be appropriate for clients who have a moderate risk tolerance and are able to tolerate moderate volatility.

The **Market Growth Model (Model 4)** is one of the GIC's more aggressive allocations. This model is about 52% equity, with the balance in fixed income, alternative investments and a small position in ultrashort fixed income (Level 2 Model 4 will have a higher allocation to alternatives). This model may be appropriate for clients who have a moderate-to-aggressive risk tolerance and are able to tolerate moderate-to-high volatility.

The **Opportunistic Growth Model (Model 5)** is the GIC's most aggressive allocation. This model is about 68% equity, with the balance in alternative investments and a small position in ultrashort term fixed income (Level 2 Model 5 will have a higher allocation to alternatives). This model may be appropriate for clients with an aggressive risk tolerance and are able to tolerate high volatility.

Model Construction and Methodology

The GIC asset allocation models are designed to align an investor's portfolio allocation with their return objectives and risk tolerance. The volatility of each model is matched against a representative benchmark portfolio mix of traditional asset classes (i.e. stocks, bonds, and cash), targeting a specific return and risk level. The allocation models are developed using the GIC's expected risk, return, and correlation assumptions for various asset classes as inputs. The forecasted return of the model portfolios are calculated using the weighted average of expected asset class returns. Portfolio risk characteristics are similarly derived, accounting for the volatility and downside risk of the underlying asset classes and their interrelationships.

EXPECTED RETURN. The GIC forecasts "fair value" returns for each asset class based on a "building block" approach, in which premiums for different forms of risk are combined to "build up" overall return expectations. We call these "fair value" returns because they are based on estimates of very long-term data and represent sustainable returns around which asset prices have tended to oscillate over time—sometimes being deeply undervalued, sometimes extremely overvalued, but ultimately reverting to a far more stable long-term average. They represent the returns we anticipate would prevail over several market cycles, which we define as a minimum of 20 years.

The approach reflects fundamental economic principles as well as empirical relationships that have prevailed over long periods of time. The building blocks are estimated as follows: Real Potential Economic Growth = Forecast Change in Working Age Population * Forecast Productivity Growth, Real Cash Return = Real GDP Growth – Cyclically-Adjusted Difference Between Real Cash Rates and Real GDP Growth, Real Government Bond Return = Real Cash Return + Forecast Term Premium (i.e. 10-Year US Treasury Yield – Three-Month US Treasury Bill Yield), Real Equity Return = Real Government Bond Return + Equity Risk Premium, Nominal Equity Return = Real Equity Return + Expected Inflation.

The forecast term premium is derived based on the historical average term premium adjusted for current government debt dynamics and the level of short-term interest rates. The forecast equity risk premium is derived based on the average additional yield—over and above 10-year Treasury yields—that is required to "price" equities as the market is pricing them, assuming historical earnings growth and payout ratios (dividends and stock buybacks) prevail.

Once these long-term fair value returns have been established, we generate a second set of returns to cover a single market cycle, which we assume to be seven years long based on historical averages. This means that we assume a horizon return calculation in which where market conditions such as interest rates, credit spreads and equity valuations transition from where they currently are to where we estimate fair value to be over the horizon. This transition affects changes to the pricing of investments as well as the rate of return on reinvestment, both of which must be considered in the context of a total period return.

Statistics

MAXIMUM DRAWDOWN. This statistic measures the peak-to-trough decline during a specific record period of an investment, fund or commodity. A drawdown is usually quoted as the percentage between the peak and the trough.

SHARPE RATIO. This statistic measures a portfolio's rate of return based on the risk it assumed and is often referred to as its risk adjusted performance. Using standard deviation and returns in excess of the returns of T-bills, it determines reward per unit of risk. This measurement can help determine if the portfolio is reaching its goal of increasing returns while managing risk.

STANDARD DEVIATION. This statistic quantifies the volatility associated with a portfolio's returns by measuring the variation in returns around the mean return. Unlike beta, which measures volatility relative to the aggregate market, standard deviation measures the absolute volatility of a portfolio's return.

VOLATILITY. This is a statistical measure of the dispersion of returns for a given security or market index. Volatility can either be measured by using the standard deviation or variance between returns from that same security or market index. Commonly, the higher the volatility, the riskier the security or portfolio.

Index Definitions

This section includes the name and a short definition of the benchmarks used in the calculation of performance shown in this report. Performance is calculated monthly. If the benchmark used to calculate performance in any asset class changes, the new benchmark is used to calculate performance only for periods after the change, and the previous benchmark is used to calculate performance for periods before the change.

For other index, indicator and survey definitions referenced in this report please visit the following: https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions

Ultrashort Fixed Income: The **FTSE Three-Month T-Bill Index** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.

US Large-Cap Growth Equities: The **Russell 1000 Growth Index**, applicable from September 2015 onwards, tracks the performance of US large-cap growth equities. Russell uses a three-factor model (two growth, one value) to assign stocks to its growth and value indexes. Each stock in a broad index earns a score based on its price-to-book ratio, I/B/E/S two-year forecast, and a sales-per-share growth rate based on five-year historical sales to determine if it is growth, value, or both. Then, 70% are classified all value or all growth and 30% having both attributes are weighted proportionately to both growth and value indexes. For example, a stock that has a 40% weight in a value index will have a 60% weight in a growth index. This results in the number of companies in the combined growth and value indexes being greater than in the Russell 1000 Index. On a market capitalization-weighted basis, however, the combined growth and value indexes equal the Russell 1000 Index upon annual rebalancing in June.

US Large-Cap Value Equities: The **Russell 1000 Value Index**, applicable from September 2015 onwards, tracks the performance of US large-cap value equities. Russell uses a three-factor model (two growth, one value) to assign stocks to its growth and value indexes. Each stock in a broad index earns a score based on its price-to-book ratio, I/B/E/S two-year forecast, and a sales-per-share growth rate based on five-year historical sales to determine if it is growth, value, or both. Then, 70% are classified all value or all growth and 30% having both attributes are weighted proportionately to both growth and value indexes. For example, a stock that has a 40% weight in a value index will have a 60% weight in a growth index. This results in the number of companies in the combined growth and value indexes being greater than in the Russell 1000 Index. On a market capitalization-weighted basis, however, the combined growth and value indexes equal the Russell 1000 Index upon annual rebalancing in June.

US Mid-Cap Growth Equities: The **Russell Midcap Growth Index**, applicable from September 2015 onwards, measures the performance of US mid-cap growth equities. The index comes from the Russell Midcap Index that includes the 800 smallest companies in the Russell 1000 Index. Russell uses a three-factor model (two growth, one value) to assign stocks to its growth and value indexes. Each stock in a broad index earns a score based on its price-to-book ratio, I/B/E/S two-year forecast, and a sales-per-share growth rate based on five-year historical sales to determine if it is growth, value, or both. Then, 70% are classified all value or all growth and 30% having both attributes are weighted proportionately to both growth and value indexes. For example, a stock that has a 40% weight in a value index will have a 60% weight in a growth index. This results in the number of companies in the combined growth and value indexes being greater than in the Russell Midcap Index. On a market capitalization-weighted basis, however, the combined growth and value indexes equal the Russell Midcap Index upon annual rebalancing in June.

US Mid-Cap Value Equities: The **Russell Midcap Value Index**, applicable from September 2015 onwards, measures the performance of US mid-cap growth equities. The index comes from the Russell Midcap Index that includes the 800 smallest companies in the Russell 1000 Index. Russell uses a three-factor model (two growth, one value) to assign stocks to its growth and value indexes. Each stock in a broad index earns a score based on its price-to-book ratio, I/B/E/S two-year forecast, and a sales-per-share growth rate based on five-year historical sales to determine if it is growth, value, or both. Then, 70% are classified all value or all growth and 30% having both attributes are weighted proportionately to both growth and value indexes. For example, a stock that has a 40% weight in a value index will have a 60% weight in a growth index. This results in the number of companies in the combined growth and value indexes being greater than in the Russell Midcap Index. On a market capitalization-weighted basis, however, the combined growth and value indexes equal the Russell Midcap Index upon annual rebalancing in June.

US Small-Cap Growth Equities: The **Russell 2000 Growth Index**, applicable from September 2015 onwards, tracks the performance of US small-cap growth equities. Russell uses a three-factor model (two growth, one value) to assign stocks to its growth and value indexes. Each stock in a broad index earns a score based on its price-to-book ratio, I/B/E/S two-year forecast, and a sales-per-share growth rate based on five-year historical sales to determine if it is growth, value, or both. Then, 70% are classified all value or all growth and 30% having both attributes are weighted proportionately to both growth and value indexes. For example, a stock that has a 40% weight in a value index will have a 60% weight in a growth index. This results in the number of companies in the combined growth and value indexes being greater than in the Russell 2000 Index. On a market capitalization-weighted basis, however, the combined growth and value indexes equal the Russell 2000 Index upon annual rebalancing in June.

US Small-Cap Value Equities: The **Russell 2000 Value Index**, applicable from September 2015 onwards, tracks the performance of US small-cap value equities. Russell uses a three-factor model (two growth, one value) to assign stocks to its growth and value indexes. Each stock in a broad index earns a score based on its price-to-book ratio, I/B/E/S two-year forecast, and a sales-per-share growth rate based on five-year historical sales to determine if it is growth, value, or both. Then, 70% are classified all value or all growth and 30% having both attributes are weighted proportionately to both growth and value indexes. For example, a stock that has a 40% weight in a value index will have a 60% weight in a growth index. This results in the number of companies in the combined growth and value indexes being greater than in the Russell 2000 Index. On a market capitalization-weighted basis, however, the combined growth and value indexes equal the Russell 2000 Index upon annual rebalancing in June.

Canadian Equities: The **MSCI Canada Index (USD-Unhedged, Net)** is a free float-adjusted capitalization-weighted index is designed to measure the performance of Canada-based equities.

European Equities: The **MSCI Europe Index (USD-Unhedged, Net)** captures unhedged exposures in European equities, representing large- and mid-cap equities across developed market countries in Europe. The **MSCI Europe Index (USD-Hedged, Net)** captures hedged exposures in European equities, based on the GIC's specific currency-hedging recommendations and timing. Both indexes' returns include the reinvestment of company dividends after the consideration of withholding taxes.

United Kingdom Equities: The **MSCI United Kingdom Index (USD-Unhedged, Net)** is a free float-adjusted, market capitalization-weighted index designed to measure the performance of United Kingdom-based equities. The index's returns include the reinvestment of company dividends after the consideration of withholding taxes.

Japanese Equities: The **MSCI Japan Index (USD-Unhedged, Net)** captures unhedged exposures in Japanese equities through a free float-adjusted, market capitalization-weighted index measuring the equity market performance of companies domiciled in Japan. The **MSCI Japan Index (USD-Hedged, Net)** captures hedged exposures in Japanese equities, based on the GIC's specific currency-hedging recommendations and timing. Both indexes' returns include the reinvestment of company dividends after the consideration of withholding taxes.

Asia-Pacific ex-Japan Equities: **MSCI Pacific ex-Japan Index (USD-Unhedged, Net)** is a free float-adjusted, market capitalization-weighted index measures the equity market performance of the developed markets in the Pacific region excluding Japan (i.e., Australia, Hong Kong, New Zealand, and Singapore). The index's returns include the reinvestment of company dividends after the consideration of withholding taxes.

International Small-Cap Equity: The **MSCI World Ex-USA Small-Cap Index (USD-Unhedged, Net)** is a free float-adjusted, market capitalization-weighted index designed to measure global developed market small-cap equity performance, excluding the US. The index's returns include the reinvestment of company dividends after the consideration of withholding taxes.

Emerging and Frontier Market Equities: The **MSCI Emerging Markets Index (USD-Unhedged, Net)** is a free float-adjusted, market capitalization-weighted index designed to measure the equity market performance of emerging markets. The index's returns include the reinvestment of company dividends after the consideration of withholding taxes.

Short-Term Fixed Income: Core: The **Bloomberg One- to Five-Year Government/Credit Index**, applicable from September 2015 onwards, is a subset of the Bloomberg Government/Credit Index with maturities of one to five years. The Government/Credit Index includes securities in the Government and Credit Indexes. The Government Index includes treasuries (i.e., public obligations of the US Treasury that have remaining maturities of more than one year) and agencies (i.e., publicly issued debt of US Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the US Government). The Credit Index includes publicly issued US corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.

Short-Fixed Fixed Income: Corporate: The **Bloomberg One- to Five-Year Credit Index**, applicable from September 2015 onwards, includes just the Credit portion of the Bloomberg One- to Five-Year Government/Credit Index.

US Taxable Fixed Income: Core: The **Bloomberg US Aggregate Index** covers the US dollar-denominated, investment grade, fixed-rate, taxable bond market, including Treasuries, government-related and corporate securities, MBS passthrough securities, asset-backed securities, and commercial mortgage-based securities. These major sectors are subdivided into more specific subindexes that are calculated and published on an ongoing basis. Total return comprises price appreciation/depreciation and income as a percentage of the original investment. This index is rebalanced monthly by market capitalization.

US Taxable Fixed Income: 20+-Year Treasuries: The **Bloomberg US 20+-Year Treasury Index**, a subset of the Bloomberg US Aggregate Index, includes US Treasuries with greater than 20 years to maturity. This index is rebalanced monthly by market capitalization.

US Taxable Fixed Income: Agency: The **Bloomberg US Agency Index**, a subset of the Bloomberg US Aggregate Index, includes securities issued by a government-sponsored enterprise or by a federal government department other than the US Treasury. This index is rebalanced monthly by market capitalization.

US Taxable Fixed Income: Corporate: The **Bloomberg US Corporate Index**, a subset of the Bloomberg US Aggregate Index, covers US dollar-denominated, investment grade, fixed-rate corporate bonds. This index is rebalanced monthly by market capitalization.

US Taxable Fixed Income: Corporate: The **Bloomberg US Securitized Index**, a subset of the Bloomberg US Aggregate Index, includes US dollar-denominated, investment grade MBS passthrough securities, asset-backed securities, and commercial mortgage-based securities. This index is rebalanced monthly by market capitalization.

International Fixed Income: The **Bloomberg Global Aggregate Non-USD Index (USD-Hedged)** provides a broad-based measure of the global investment grade fixed-rate debt markets, excluding the US. Currency exposure is hedged to the US dollar.

Inflation-Linked Fixed Income: **The Bloomberg US TIPS Index**, applicable from September 2015 onwards, tracks inflation-linked bonds issued by the US Treasury. It includes all publicly issued, US Treasury inflation-protected securities that have at least one year to maturity, are non-convertible, denominated in US dollars, rated investment grade, fixed-rate, and have more than $250 million in outstanding face value. The index is market capitalization-weighted, and the securities in the index are updated on the last calendar day of each month.

High Yield Fixed Income: Core: The **US High Yield Corporate Index**, applicable from September 2015 onwards, covers the universe of fixed-rate, non-investment-grade USD debt, excluding emerging market debt. It includes both corporate and non-corporate sectors. Issues must have at least one year to final maturity regardless of call features, have at least $150 million par amount outstanding, have a fixed rate, and have a non-investment-grade rating.

High Yield Fixed Income: Short-Term: The **One- to Five-Year High-Yield Corporate (Cash-Pay, 2% Constrained) Index** represents a subset of the US High Yield Corporate Index and includes applicable securities with one to five years to maturity, paying coupons in cash, and constrained at the issuer level at 2% of the total index.

Emerging Markets Fixed Income: The **JPMorgan EMBI Global Index (USD-Unhedged)** tracks diverse USD-denominated emerging market debt from 27 countries. The index includes both fixed-rate and floating-rate instruments issued by sovereign and quasi-sovereign entities from index-eligible countries. The index is modified market capitalization-weighted and is rebalanced on the last business day of the month.

Commodities: Total: The **Bloomberg Commodity Index** is designed to provide diversified exposure to commodities as an asset class. This index relies on data that is both exogenous to the futures markets (production) and endogenous to those markets (liquidity) in determining relative values. No related group of commodities (e.g., energy, precious metals, livestock, and grains) may constitute more than 33% of the Index as of the annual reweighting of the components. No single commodity may constitute less than 2% of the Index. It reflects the return on fully collateralized futures positions.

Commodities: Ex-Precious Metals: The **Bloomberg Commodity Ex-Precious Metals Index**, a subindex of the Bloomberg Commodity Index, is composed of futures contracts on physical commodities. It excludes the commodities included in the precious metals sector. It reflects the return on fully collateralized futures positions.

Commodities: Precious Metals: The **Bloomberg Precious Metals Index**, a subindex of the Bloomberg Commodity Index, is composed of futures contracts on gold and silver. It reflects the return on fully collateralized futures positions.

Energy Infrastructure/MLPs: The **Alerian Midstream Energy Select Index**, applicable from April 2019 onwards, is a composite of North American energy infrastructure companies. The capped, float-adjusted, market capitalization-weighted index includes constituents engaged in midstream activities involving energy commodities.

MLPs: The **Alerian MLP Infrastructure Index**, applicable prior to April 2019, is a composite of energy infrastructure Master Limited Partnerships (MLPs). It is a capped, float-adjusted, capitalization-weighted index with constituents that receive the majority of their cash flow from the transportation, storage, and processing of energy commodities.

REITs: The **FTSE EPRA/NAREIT Global Index** (USD-Unhedged) reflects general trends in global real estate equities. The index provider defines relevant real estate activities as the ownership, disposure, and development of income-producing real estate.

Hedged Strategies: The **HFRX Global Hedge Fund Index** measures the performance of hedged strategies. Designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage.

Absolute Return Assets: Credit Long/Short: The **HFRI Relative Value: Fixed Income: Corporate Index** measures credit long/short strategies, which attempt to exploit a spread between related instruments in which one or multiple components of the spread is a corporate fixed income instrument. Strategies seek attractive opportunities between a variety of fixed income instruments, typically involving a spread between multiple corporate bonds or between a corporate and risk-free government bond.

Absolute Return Assets: Equity Market Neutral: The **HFRI Equity Hedge: Equity Market Neutral Index** captures the returns of equity market neutral strategies, which employ sophisticated quantitative techniques in an attempt to ascertain information about anticipated price movements and relationships between securities. These can include both factor-based and statistical arbitrage/trading strategies. Factor-based investment strategies employ systematic analysis of common relationships between securities. Portfolios are generally constructed to be neutral to one or multiple variables, such as broader equity markets in US dollar or beta terms, and leverage is frequently employed to enhance the return potential. Statistical arbitrage/trading strategies attempt to exploit pricing anomalies. Equity market neutral strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Absolute Return Assets: Relative Value: The **HFRI Relative Value: Total Index** measures the returns of relative value strategies, which attempt to exploit a valuation discrepancy in the relationship between multiple securities. These strategies employ a variety of fundamental and quantitative techniques, and security types range broadly across equity, fixed income, derivative or other security types.

Equity Hedge Assets: Global Macro: The **Credit Suisse Global Macro Index** is an asset-weighted index that measures the returns of global macro strategies, which range broadly and seek to anticipate movements in underlying economic variables and the impact these variables are expected to have on equity, fixed income, currency, and commodity markets. Managers employ a variety of techniques including both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches, and long- and short-term holding periods.

Equity Hedge Assets: Managed Futures: The **Credit Suisse Managed Futures Index** is an asset-weighted index that measures managed futures strategies, which invest in listed financial and commodity futures markets and currency markets around the world. The underlying managers are often referred to as Commodity Trading Advisors, or CTAs, and may employ either systematic or discretionary strategies. Systematic traders tend to use price and market-specific information (often technical) to make trading decisions, while discretionary managers typically use a judgement-driven approach.

Equity Return Assets: Equity Long/Short: The **HFRI Equity Hedge: Total Index** measures the return of equity long/short strategies, which maintain positions both long and short in primarily equity and equity derivative securities. Managers may employ a wide variety of investment processes to arrive at an investment decision, including both quantitative and fundamental techniques. Strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations, and valuation ranges of typical portfolios. These strategies typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

Equity Return Assets: Event-Driven: The **HFRI Event-Driven: Total Index** measures the returns of strategies that 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. Security types can range from most senior in the capital structure to most junior or subordinated and frequently involve additional derivative securities. Event-driven strategies may feature a combination of sensitivities to equity markets, credit markets, and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure**.**

Private Real Estate: The **NCREIF Property Index** measures the performance of a very large pool of commercial real estate properties acquired in the private market for investment purposes. The data is updated quarterly, with a lag of several months.

Private Equity: The **Cambridge Associates Private Equity Index** tracks the returns of a variety of private equity strategies, including buyout, control-oriented distressed, growth equity, energy, upstream energy and royalties, and venture capital. The data is updated quarterly using the Cambridge Associates Benchmark Calculator, with a lag of several months.

Private Credit: The **Credit Suisse Leveraged Loan Index** tracks the investable market of the US dollar denominated leveraged loan market. It consists of issues rated “5B” or lower, meaning that the highest rated issues included in this index are Moody's/S&P ratings of Baa1/BB+ or Ba1/BBB+.

Alternatives Blend Index: The **Alternatives Blend Index** measures the performance of the GIC’s long-term allocation recommendations to alternative investments. It includes a 20% weight to REITs [measured by the FTSE EPRA/NAREIT Global Index (USD-Unhedged)], a 20% weight to commodities (measured by the Bloomberg Commodity Index), and a 60% weight to hedged strategies (measured by the HFRX Global Hedge Fund Index).

Blended Benchmark Indexes

Each portfolio features a blended benchmark index, composed of allocations to the MSCI All Country World Index, the Bloomberg US Aggregate Index, the Alternatives Blend Index, and the FTSE Three-Month T-Bill Index in the weights listed above.

As of December 4, 2020, the GIC modified the blended benchmark indexes used as comparisons to its model portfolios. This document reflects these new blended benchmark indexes, described in the December 4 report. As communicated therein, the GIC believes that including benchmarks that track alternative investments more closely approximates the models’ neutral allocations, permitting a more accurate reflection of the GIC’s relative performance.

Comparative Indexes

The **S&P 500 Index** is an index of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The S&P 500 is meant to reflect the risk/return characteristics of the large cap universe. Companies included in the index are selected by the S&P Index Committee, a team of analysts and economists at Standard & Poor’s. The S&P 500 is a market capitalization-weighted index: each stock’s weight is proportionate to its market value.

The **Russell 2000 Index** measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The **MSCI All Country World Index (USD-Unhedged, Net)** is a free float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets. The index’s returns include the reinvestment of company dividends after the consideration of withholding taxes.

The **Bloomberg US Aggregate Index** covers the US dollar-denominated, investment grade, fixed-rate, taxable bond market, including Treasuries, government-related and corporate securities, MBS passthrough securities, asset-backed securities, and commercial mortgage-based securities. These major sectors are subdivided into more specific subindexes that are calculated and published on an ongoing basis. Total return comprises price appreciation/depreciation and income as a percentage of the original investment. This index is rebalanced monthly by market capitalization.

The **HFRI Fund of Funds Index** measures the performance of the universe of fund of funds strategies. Fund of funds invest with multiple hedge fund managers with the objective of significantly lowering the risk (volatility) of investing with an individual manager. HFRI may revise index data from time to time, as necessary.

The **FTSE Three-Month T-Bill Index** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.

Important Disclosures

The **Global Investment Committee (GIC)** is a group of seasoned investment professionals from Morgan Stanley & Co. and Morgan Stanley Wealth Management who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks, and recommend asset allocation model weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions, and other reports and broadcasts.

Global Investment Committee Asset Allocation Models: The Global Investment Committee ("GIC") Asset Allocation Models are created by Morgan Stanley Wealth Management's Global Investment Committee. The GIC has formed since August 2009. Currently, the GIC members are solely made up of senior professionals from Morgan Stanley Wealth Management and Morgan Stanley & Co. The GIC provides guidance on asset allocation decisions by creating and maintaining the GIC Asset Allocation Models. The GIC Asset Allocation Models have both Strategic allocations (seeking to maximize returns in the long run) and Tactical allocations (seeking to maximize returns over a shorter period). Tactical allocations are generally adjusted more frequently than Strategic allocations, although both are subject to change at any time.

The GIC Asset Allocation Models are not provided as part of an investment advisory service offered by Morgan Stanley and should not be regarded as a recommendation of any Morgan Stanley investment advisory service. Performance of the GIC Asset Allocation Models should not be taken as a reflection of the performance of accounts managed by Morgan Stanley, and, because the GIC Asset Allocation Models are not themselves investable, among other factors, the performance of actual managed accounts may differ materially.

The GIC Asset Allocation Models are illustrations of asset allocation recommendations made by the Global Investment Committee based on general client characteristics such as investable assets and risk tolerance. The GIC Asset Allocation Models are undifferentiated Models and are not representations of actual trading or any type of account or any type of investment strategies, and none of the fees or other expenses (e.g., commissions, mark-ups, mark-downs, and 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 that, 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 five years, and the account pays 0.50% 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%.

Actual investments using the GIC Asset Allocation Models will be charged fees and other expenses, including, but not limited to, commissions, mark-ups, mark-downs, and advisory fees. The deduction of such fees and expenses will reduce the overall performance of accounts invested in the GIC Asset Allocation Models, and therefore actual performance may differ substantially from the model returns illustrated in this presentation. The GIC Asset Allocation Models are not intended to represent a client-specific analysis or recommendation. The appropriateness of an asset allocation for a particular client must be based on the client's existing portfolio, investment objectives, risk profile and liquidity needs. Any such determination could lead to asset allocation results that may differ materially from those presented herein. Each client should consult with his or her Financial Advisor to determine whether the GIC Asset Allocation Models are relevant to the client's investment objectives.

The GIC Asset Allocation Models are composed of two sets of portfolios meant to provide asset allocation illustrations for investors with less than $25 million, and more than $25 million. The portfolios seek to accomplish this by varying the allocations to traditional asset classes, liquid and illiquid alternative/absolute return investments. Historically, the GIC Asset Allocation Models were offered to three wealth categories: (1) investors with less than $1 million, (2) investors with between $1 million and $20 million, and (3) investors with more than $20 million. The Global Investment Committee has changed this classification system for purposes of the GIC Asset Allocation Models based on extensive analysis of the fundamentals and relative asset category attractiveness and in order to provide a more useful illustration for its investors.

Each set of GIC Asset Allocation Models is broken down into five model portfolios conforming to various risk-tolerance levels. In each case, Model 1 is the least aggressive portfolio and is composed mostly of bonds. As the model numbers increase, the models introduce higher allocations to equities and become more aggressive. Alternative/absolute return investments are present in all models and provide increased asset class diversification.

The GIC Asset Allocation Models are available to Morgan Stanley Wealth Management's brokerage and advisory clients. To the extent that a separately managed account invests in the GIC Asset Allocation Models, the investments made for that account may be tailored based on the individual account holder's risk tolerance, investment objectives, and assets under management and may be subject to investment restrictions imposed by that investor. As a result, performance may differ substantially from the model performance depicted in this presentation. The Global Investment Committee has also created and maintains Strategic and Tactical allocations for other model portfolios which are used in various programs and products and such models may recommend different asset allocations than those reflected here.

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 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 determination may lead to asset allocation results that are materially different from the asset allocations shown in this report. Clients should talk to their Financial Advisor about what would be an appropriate asset allocation for them.

Hypothetical Model Performance (Gross)

General: Past performance does not guarantee future results. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

The performance shown is for the Strategic and Tactical versions of each GIC Asset Allocation Model that were in place during the applicable period. It reflects changes in the Strategic and Tactical allocations for each model over time.

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 indexes 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. Hypothetical model performance results have inherent limitations. The past performance shown here is simulated performance based on benchmark indexes, 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. 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.

We have assigned simple cash/bond/equity benchmarks to each GIC model. For the fixed income portion of our benchmark, we have chosen the Bloomberg US Aggregate Index because it reflects the bias we have toward domestic bonds and tax-advantaged municipals, in particular, in implementing our investment grade fixed income advice. For the equity portion, we use the MSCI All Country World Index to reflect our bias toward global investing in equities.

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. Each GIC Asset Allocation Model and comparison across model portfolios gives a client perspective in determining which model portfolio may be most appropriate for their risk profile.

Indexes used to calculate performance: The indexes 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 indexes at any time.

The hypothetical performance results in this report are calculated using the returns of benchmark indexes for the asset classes, and not the returns of securities, funds, or other investment products.

Indexes are unmanaged. They do not reflect any management, custody, transaction, or other expenses and generally assume reinvestment of dividends, accrued income, and capital gains. Past performance of indexes does not guarantee future results. Investors cannot invest directly in an index.

Performance of indexes 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 indexes 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. For example, we may do this when determining hypothetical model performance for a month during which there was a rebalancing (as described below).

Rebalancing: As a practical matter, no asset portfolio remains consistent with a targeted asset allocation over time. Rebalancing is a process of selling investments and buying others so that the portfolio once again matches the target asset allocation. In this presentation, the calculations assume that the GIC Asset Allocation Models are rebalanced each time the GIC changes its allocations or quarterly, unless a change has occurred within 30 calendar days of any quarter-ending date.

THESE RESULTS HAVE BEEN RESTATED: Following the GIC's review of the assignment of indexes to the recommended allocation within its Strategic and Tactical allocation models, the GIC changed several index assignments in May 2020, as detailed in a commentary publication. The changes described therein are for hypothetical model performance only and have no bearing on actual client results. For all periods, we continue to update hedge funds, private equity, and private real estate returns to include final published returns, in place of preliminary returns, as appropriate. In addition, please refer to the last published copy of the GIC Strategic and Tactical Asset Allocation changes publication and the GIC Profiles for more information regarding current positioning.

Hedged Strategy Definitions

Credit Long/Short: This strategy consists of a core holding of long credits hedged at all times with varying degrees of short sales of bonds and/or index options. Some managers maintain a substantial portion of assets within a hedge structure and commonly employ leverage.

Equity Long/Short: This strategy consists of a core holding of long equities hedged at all times with varying degrees of short sales of stock and/or index options. Some managers maintain a substantial portion of assets within a hedge structure and commonly employ leverage.

Equity Market Neutral: Equity market neutral strategies 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. These can include both factor-based and statistical arbitrage/trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. In many but not all cases, portfolios are constructed to be neutral to one or multiple variables, such as broader equity markets in dollar or beta terms, and leverage is frequently employed to enhance the return profile of the positions identified. Statistical arbitrage/trading strategies consist of strategies in which the investment thesis is predicated on exploiting pricing anomalies which may occur as a function of expected mean reversion inherent in security prices; high frequency techniques may be employed and trading strategies may also be employed on the basis of technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely or accurately discounted into current security prices. Equity market neutral strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Event-Driven: Investment managers in this strategy 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. Security types can range from most senior in the capital structure to most junior or subordinated and frequently involve additional derivative securities. Event-driven exposure includes a combination of sensitivities to equity markets, credit markets, and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

Global Macro: This is a hedge fund strategy that bases its holdings—such as long and short positions in various equity, fixed income, currency, and futures markets—primarily on overall economic and political views of various countries (macroeconomic principles).

Hedge Fund of Funds: This strategy tracks investment managers who trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency, and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches, and long- and short-term holding periods. Although some strategies employ relative-value techniques, macro strategies are distinct from relative value strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments rather than realization of a valuation discrepancy between securities. In a similar way, while both macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to equity long/short, in which the fundamental characteristics of the company are the most integral to the investment thesis.

Managed Futures Funds: These funds primarily trade liquid global futures, options, swaps, and foreign exchange contracts, both listed and over-the-counter. A majority of these funds follow trend-following, price-momentum strategies. Other strategies included in this category are systematic mean-reversion, discretionary global macro strategies, commodity index tracking, and other futures strategies. More than 60% of the fund's exposure is invested through derivative securities. These funds obtain exposure primarily through derivatives; the holdings are largely cash instruments.

Multi-Strategy: These funds use strategies that employ components of both discretionary and systematic macro strategies, but neither exclusively both. Strategies frequently contain proprietary trading influences. Strategies employ an investment process that is predicated on a systematic, quantitative evaluation of macroeconomic variables in which the portfolio positioning is predicated on convergence of differentials between markets, not necessarily highly correlated with each other, but currently diverging from their historical levels of correlation. Strategies focus on fundamental relationships across geographic areas of focus both inter- and intra-asset classes, and typical holding periods are longer than trend following or discretionary strategies.

Relative Value: Investment managers in this strategy maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. They employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivatives, or other security types.

Risk Considerations

Alternative investments, which may be referenced in this report, including private equity funds, real estate funds, hedge funds, managed futures funds, funds of hedge funds, and private equity, are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation, and higher fees than mutual funds and risks associated with the operations, personnel and processes of the advisor. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include, but are not limited to: loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; lack of liquidity in that there may be no secondary market for a fund; volatility of returns; restrictions on transferring interests in a fund; potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; absence of information regarding valuations and pricing; complex tax structures and delays in tax reporting; less regulation and higher fees than mutual funds; and risks associated with the operations, personnel, and processes of the manager. Further, opinions regarding alternative investments expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management.

Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing.

Alternative investments involve complex tax structures, tax-inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

Managed futures investments are speculative, involve a high degree of risk, use significant leverage, have limited liquidity and/or may be generally illiquid, may incur substantial charges, may subject investors to conflicts of interest, and are usually appropriate only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses, and risks. Managed futures investments are not intended to replace equities or fixed income securities but rather may act as a complement to these asset categories in a diversified portfolio.

Hedge funds may involve a high degree of risk, often engage in leveraging and other speculative investment practices that may increase the risk of investment loss, can be highly illiquid, are not required to provide periodic pricing or valuation information to investors, may involve complex tax structures and delays in distributing important tax information, are not subject to the same regulatory requirements as mutual funds, and often charge high fees which may offset any trading profits, and, in many cases, the underlying investments are not transparent and are known only to the investment manager.

Private Real Estate: 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.

MLPs: Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk, and exploration risk.

Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk.

The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value.

MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV; and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked.

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

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. If sold in a declining market, the price you receive may be less than your original investment. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be appropriate for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor. The Securities Investor Protection Corporation ("SIPC") provides certain protection for customers' cash and securities in the event of a brokerage firm's bankruptcy, other financial difficulties, or if customers' assets are missing. SIPC insurance does not apply to precious metals or other commodities.

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

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

Interest on municipal bonds is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). 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 US Treasuries in times of low inflation.

Ultrashort bond funds: Ultra-short bond funds are mutual funds and exchange-traded funds that generally invest in fixed income securities with very short maturities, typically less than one year. They are not money market funds. While money market funds attempt to maintain a stable net asset value, an ultra-short bond fund's net asset value will fluctuate, which may result in the loss of the principal amount invested. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

The **ultrashort 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

The majority of $25 and $1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per $25 or $1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price.

The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk.

The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield.

Some $25 or $1000 par **preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

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

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.

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. Yields and average lives are estimated based on prepayment assumptions and are subject to change based on actual prepayment of the mortgages in the underlying pools. The level of predictability of an MBS/CMO's average life, and its market price, depends on the type of MBS/CMO class purchased and interest rate movements. In general, as interest rates fall, prepayment speeds are likely to increase, thus shortening the MBS/CMO's average life and likely causing its market price to rise. Conversely, as interest rates rise, prepayment speeds are likely to decrease, thus lengthening average life and likely causing the MBS/CMO's market price to fall. Some MBS/CMOs may have "original issue discount" (OID). OID occurs if the MBS/CMO's original issue price is below its stated redemption price at maturity, and results in "imputed interest" that must be reported annually for tax purposes, resulting in a tax liability even though interest was not received. Investors are urged to consult their tax advisors for more information.

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.

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

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

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

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

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

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

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

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.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. **Technology stocks** may be especially volatile. Risks applicable to companies in the **energy and natural resources** sectors include commodity pricing risk, supply and demand risk, depletion risk and exploration risk.

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

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Important Pricing Information: Prices of securities not actively traded may not be available, and are indicated by a dash "-". Account values are based on the most recent security pricing available and may be prior to the date of this material.

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Timing of Feeds: Account and Position data for Morgan Stanley & Co. and External Accounts is obtained from sources that we believe to be reliable. However, Morgan Stanley Wealth management does not guarantee its accuracy or timeliness as such information may be incomplete, condensed, or based on differing points of time. Please refer to the "Last Update Date" for information regarding when the data was last refreshed. You should not take any action relying upon this information without confirming its accuracy and completeness.

Timing of Feeds - FX Market: The FX market rate used to convert non-US Dollar values to US Dollars is as of the previous business day's close. For the current FX rates, please contact your Financial Advisor.

Manually Added assets:"Manually Added" generally refers to accounts, assets, and/or liabilities, as applicable, that you hold with other financial institutions and/or which may be custodied outside of Morgan Stanley (whose subsidiaries include Morgan Stanley Smith Barney LLC and Morgan Stanley & Co.) ("Manually Added External Accounts"). The Manually Added External Accounts referenced are generally not held with Morgan Stanley and are not under administration or management at Morgan Stanley. Information about such Manually Added External Accounts is manually inputted, updated and maintained solely by you and/or your Financial Advisor/Private Wealth Advisor. Morgan Stanley may include information about these Manually Added External Accounts solely as a service to you and your Financial Advisor/Private Wealth Advisor. We do not independently verify any information related to your Manually Added External Accounts. As such, we do not warrant or guarantee that such information is accurate or timely, and any such information may be incomplete or condensed.Valuations and other information about these assets may be provided by you and/or your Financial Advisor/Private Wealth Advisor and are generally based upon estimates. The information is used for position, asset allocation, and product allocation reporting purposes but is not, however, reflected in your Morgan Stanley account statements. Income values, including Estimated Annual Income and Projected Income, are not calculated for Manually Added External Accounts. Risk Analysis is not calculated for Manually Added External Accounts. The information being reported by Morgan Stanley on Manually Added External Accounts related to Performance, Tax Lots, Total Cost, Target Asset Allocation, Asset Classification and Gain/Loss may differ from the information provided to you by the custodian of those assets. If there are discrepancies between your custodian's official account statement and this material, rely on the custodian's official account statement. The inception date referenced in this view will reflect the date on which information about the Manually Added External Accounts was input by you and/or your Financial Advisor/Private Wealth Advisor. If information on a Manually Added asset cannot be reported, it will be noted.
Assets not custodied with Morgan Stanley are not covered by SIPC protection at Morgan Stanley or by additional protection under Morgan Stanley's excess insurance coverage plans. However, these assets may be subject to SIPC coverage at the entity at which they are custodied.

Performance: Performance results are annualized for time periods greater than one year and include all cash and cash equivalents, realized and unrealized capital gains and losses, dividends, interest and income. Depending on the opening or closing date of the account or position, the performance referenced may be for a portion of the time period identified. The investment results depicted herein represent historical performance. As a result of recent market activity, current performance may vary from the figures shown. Please contact your Financial Advisor for up-to-date performance information. Past performance is not a guarantee of future results. Quotations of performance appearing in this report may include performance experienced in legacy accounts which have been closed and purged, and as such are not included on the Accounts Included in This Report page.

Market values used for performance calculation do not include Performance Ineligible Assets and thus may differ from asset allocation market values. Common examples of Performance Ineligible Assets include life insurance and annuities as well as Manually Added and External accounts, assets and liabilities.
Unless otherwise indicated, performance is an aggregated composite calculation of the entire portfolio and may include brokerage and investment advisory accounts as well as assets for different accounts included in this report. The accounts included in the composite may have (or have had) different investment objectives and strategies, been subject to different restrictions, and incurred different types of fees, markups, commissions and other charges. Accordingly, performance results may blend the performance of assets and strategies that may not have been available in all of the accounts at all times during the reporting period. In addition, accounts in the composite may have changed from brokerage to advisory or vice versa. Accounts may also have moved from one advisory program to another (including from a discretionary program to a non-discretionary program).
For Morgan Stanley Smith Barney LLC accounts, performance information may cover the full history of the account(s) or just the performance of an account(s) since the inception of the current program(s). Performance results on individual accounts will vary and may differ from the composite returns. Your Financial Advisor can provide you with individual account portfolio composition and performance information. For investment advisory accounts, please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 or applicable disclosure brochure and any applicable brokerage commission and/or fee schedule for a full disclosure of fees and expenses. Your Financial Advisor will provide those documents to you upon request. For brokerage accounts, please speak to your Financial Advisor for more information on commissions and other account fees and expenses.
Performance inception date does not necessarily correspond to the account opening date. Where multiple accounts are included in performance calculations, the inception date is the oldest performance inception. Performance data may not be available for all periods as some accounts included in performance may have more recent performance inception dates. Consequently, the actual performance for a group of accounts may differ from reported performance. Please ask your Financial Advisor for the performance inception date for each account.

Sub Account and Security Level Performance: The performance return methodology described above and in the TWR and IRR definitions applies to both Account Level and Sub-Account (e.g. Asset Class or Security level) performance returns. The inputs consist of market values and net flows.
For example, TWR is calculated by taking the Change in Market Value (Ending MV – Beginning MV) less any net flows, divided by the beginning MV. TWR = (Ending MV – Beginning MV – Net Flows) / Beginning MV
The difference lies in what is or is not included in the Market Values and Flows. For account level performance, the total account market values and all flows within the account are taken into account. For sub-account level performance, only those market values and flows associated with the specific securities included are taken into account.
Flows that are not security specific typically include account advisory fees, cash contributions or withdrawals, and any other flows that are not attributed to a specific security.
Flows that are security specific including purchases, sales, dividends, interest, partnership distributions, return of capital, fund sales charges, security transaction fees, and ongoing fund expenses are typically reflected in the security level returns.

Gross of Fees: The impact of program fees can be material. These program fees are deducted based on your billing cycle and may have a compounding effect on performance. As fees are deducted periodically throughout the year, the compounding effect may increase the impact of the fees by an amount directly related to the gross account performance.

Indices: Benchmark indices and blends included in this material are for informational purposes only, are provided solely as a comparison tool and may not reflect the underlying composition and/or investment objective(s) associated with the account(s). In some circumstances, the benchmark index may not be an appropriate benchmark for use with the specific composite portfolio. For instance, an index may not take into consideration certain changes that may have occurred in the portfolio since the inception of the account(s), (e.g., changes from a brokerage to an advisory account or from one advisory program to another, asset class changes, or index changes for individual managers). The volatility of the index used for comparison may be materially different from that of the performance shown. Indices are unmanaged and not available for direct investment. Index returns do not take into account fees or other charges. Such fees and charges would reduce performance. Please see the Benchmark Definitions section of this material for additional information on the indices used for comparison.

Projected 12 Month: Projected 12 Month Income is based upon cash income from interest, cash dividends, and partnership distributions. It is a hypothetical projection calculated using current yields. The projected income referenced is based upon certain market projections effective as at today's date only and can change at any time. Such projected income is hypothetical, do not reflect actual investment results, and is not a guarantee of future results. The projected income is referenced for illustrative purposes only. Morgan Stanley does not represent or guarantee that the projected income referenced will or can be attained. The actual income may be lower or higher than the projections based upon a variety of factors and assumptions. The projected income shown may under or over compensate for the impact of actual market conditions and other factors. We make no representation or warranty as to the reasonableness of the assumptions made, or that all assumptions used to construct this projected income information have been stated or fully considered. To the extent that the assumptions made do not reflect actual conditions, the illustrative value of the hypothetical projected income will decrease.
The projected income referenced may include income from Morgan Stanley & Co. and External Accounts, where data is available. Such information was obtained from third party sources which Morgan Stanley believes to be reliable. However, we make no representation or guarantee that the information is accurate or complete. You should not rely upon this information to make any investment decision.

Please refer to the official account statements and performance reports you received from your custodian and/or financial institution for information about projected income in your External Accounts. The projected income referenced does not include income from assets in Manually Added External Accounts.

Additional information about your Alternative Investments: Your interests in Alternative Investments, which may have been purchased through us, are generally not held here, and are generally not covered by SIPC. The information provided to you: 1) is included as a service to you, and certain transactions may not be reported; 2) is derived from you or another external source for which we are not responsible, and may have been modified to take into consideration capital calls or distributions to the extent applicable; 3) may not reflect actual shares, share prices, or values; 4) may include invested or distributed amounts in addition to a fair value estimate; and 5) should not be relied upon for tax reporting purposes. Notwithstanding the foregoing, 1) to the extent this report displays Alternative Investment positions within a Morgan Stanley Individual Retirement Account ("IRA"), such positions are held by Morgan Stanley Smith Barney LLC as the custodian of your Morgan Stanley IRA; and 2) if your Alternative Investment position(s) is held by us and is registered pursuant to the Securities Act of 1933, as amended, your Alternative Investment position(s) is covered by SIPC.

Alternatives may be either traditional alternative investment vehicles or non-traditional alternative strategy vehicles. Traditional alternative investment vehicles may include, but are not limited to, Hedge Funds, Fund of Funds (both registered and unregistered), Exchange Funds, Private Equity Funds, Private Credit Funds, Real Estate Funds, and Managed Futures Funds. Non-traditional alternative strategy vehicles may include, but are not limited to, Open or Closed End Mutual Funds, Exchange-Traded and Closed-End Funds, Unit Investment Trusts, exchange listed Real Estate Investment Trusts (REITs), and Master Limited Partnerships (MLPs). These non-traditional alternative strategy vehicles also seek alternative-like exposure but have significant differences from traditional alternative investment vehicles. Non-traditional alternative strategy vehicles may behave like, have characteristics of, or 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. Characteristics such as correlation to traditional markets, investment strategy, and market sector exposure can play a role in the classification of a traditional security being classified as alternative.

Traditional alternative investment vehicles are illiquid and usually are not valued daily. The estimated valuation provided will be as of the most recent date available and will be included in summaries of your assets. Such valuation may not be the most recent provided by the fund in which you are invested. No representation is made that the valuation is a market value or that the interest could be liquidated at this value. We are not required to take any action with respect to your investment unless valid instructions are received from you in a timely manner. Some positions reflected herein may not represent interests in the fund, but rather redemption proceeds withheld by the issuer pending final valuations which are not subject to the investment performance of the fund and may or may not accrue interest for the length of the withholding. Morgan Stanley does not engage in an independent valuation of your alternative investment assets. Morgan Stanley provides periodic information to you including the market value of an alternative investment vehicle based on information received from the management entity of the alternative investment vehicle or another service provider.

It is important to note in this report that Morgan Stanley makes a distinction between Alternative Investment products, and products classified as Alternatives by their asset class. Morgan Stanley categorizes traditional and non-traditional alternative investment vehicles under the category "Alternatives" in asset classification based view. For product based views, traditional alternative investments vehicles are classified under the category "Other"; this differs from your official Morgan Stanley account statement, which categorizes traditional alternative investment vehicles such as Hedge Funds under the category "Alternative Investments". Non-traditional alternative strategy vehicles are classified based on their investment type, such as Mutual Fund or Exchange-Traded Funds within both this report and your Morgan Stanley account statement.

Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum, are distributed by Morgan Stanley Smith Barney LLC and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley or any of its affiliates, (3) are not guaranteed by Morgan Stanley and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Smith Barney LLC is a registered broker-dealer, not a bank.

Morgan Stanley Wealth Management is the trade name of Morgan Stanley Smith Barney LLC, a registered broker-dealer in the United States.

The sole purpose of this material is to inform, and it in no way is intended to be an offer or solicitation to purchase or sell any security, other investment or service, or to attract any funds or deposits. Investments mentioned may not be appropriate for all clients. Any product discussed herein may be purchased only after a client has carefully reviewed the offering memorandum and executed the subscription documents. Morgan Stanley Wealth Management has not considered the actual or desired investment objectives, goals, strategies, guidelines, or factual circumstances of any investor in any fund(s). Before making any investment, each investor should carefully consider the risks associated with the investment, as discussed in the applicable offering memorandum, and make a determination based upon their own particular circumstances, that the investment is consistent with their investment objectives and risk tolerance. Morgan Stanley Smith Barney LLC offers investment program services through a variety of investment programs, which are opened pursuant to written client agreements. Each program offers investment managers, funds and features that are not available in other programs; conversely, some investment managers, funds or investment strategies may be available in more than one program.

Morgan Stanley's investment advisory programs may require a minimum asset level and, depending on your specific investment objectives and financial position, may not be appropriate for you. Please see the Morgan Stanley Smith Barney LLC program disclosure brochure (the "Morgan Stanley ADV") for more information in the investment advisory programs available. The Morgan Stanley ADV is available at www.morganstanley.com/ADV. **Sources of Data.** Information in this material in this report has been obtained from sources that we believe to be reliable, but we do not guarantee its accuracy, completeness or timeliness. Third-party data providers make no warranties or representations relating to the accuracy, completeness or timeliness of the data they provide and are not liable for any damages relating to this data. All opinions included in this material constitute the Firm's judgment as of the date of this material and are subject to change without notice. This material was not prepared by the research departments of Morgan Stanley & Co. LLC or Morgan Stanley Smith Barney LLC. Some historical figures may be revised due to newly identified programs, firm restatements, etc.

Global Investment Manager Analysis (GIMA) Focus List, Approved List and Tactical Opportunities List; Watch Policy. GIMA uses two methods to evaluate investment products in applicable advisory programs: **Focus** (and investment products meeting this standard are described as being on the Focus List) and **Approved** (and investment products meeting this standard are described as being on the Approved List). In general, Focus entails a more thorough evaluation of an investment product than Approved. Sometimes an investment product may be evaluated using the Focus List process but then placed on the Approved List instead of the Focus List. Investment products may move from the Focus List to the Approved List, or vice versa. GIMA may also determine that an investment product no longer meets the criteria under either process and will no longer be recommended in investment advisory programs (in which case the investment product is given a "Not Approved" status). GIMA has a '**Watch**" policy and may describe a Focus List or Approved List investment product as being on "Watch" if GIMA identifies specific areas that (a) merit further evaluation by GIMA and (b) may, but are not certain to, result in the investment product becoming "Not Approved." The Watch period depends on the length of time needed for GIMA to conduct its evaluation and for the investment manager or fund to address any concerns. Certain investment products on either the Focus List or Approved List may also be recommended for the **Tactical Opportunities List** based in part on tactical opportunities existing at a given time. The investment products on the Tactical Opportunities List change over time. For more information on the Focus List, Approved List, Tactical Opportunities List and Watch processes, please see the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management. Your Financial Advisor or Private Wealth Advisor can also provide upon request a copy of a publication entitled "Manager Selection Process."

The **Global Investment Committee** is a group of seasoned investment professionals who meet regularly to discuss the global economy and markets. The committee determines the investment outlook that guides our advice to clients. They continually monitor developing economic and market conditions, review tactical outlooks and recommend model portfolio weightings, as well as produce a suite of strategy, analysis, commentary, portfolio positioning suggestions and other reports and broadcasts.

The GIC Asset Allocation Models are 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 investment advisory service. The GIC Asset Allocation Models do not represent actual trading or any type of account or any type of investment strategies and none of the fees or other expenses (e.g. commissions, mark-ups, mark-downs, advisory fees, fund expenses) associated with actual trading or accounts are reflected in the GIC Asset Allocation Models which , when compounded over a period of years, would decrease returns.

Adverse Active Alpha^{SM} 2.0 is a patented screening and scoring process designed to help identify high-quality equity and fixed income managers with characteristics that may lead to future outperformance relative to index and peers. While highly ranked managers performed well as a group in our Adverse Active Alpha model back tests, not all of the managers will outperform. Please note that this data may be derived from back-testing, which has the benefit of hindsight. In addition, highly ranked managers can have differing risk profiles that might not be appropriate for all investors.

Our view is that Adverse Active Alpha is a good starting point and should be used in conjunction with other information. Morgan Stanley Wealth Management's qualitative and quantitative investment manager due diligence process are equally important factors for investors when considering managers for use through an investment advisory program. Factors including, but not limited to, manager turnover and changes to investment process can partially or fully negate a positive Adverse Active Alpha ranking. Additionally, highly ranked managers can have differing risk profiles that might not be appropriate for all investors.

The proprietary **Value Score** methodology considers an active investment strategies' value proposition relative to its costs. From a historical quantitative study of several quantitative markers, Value Score measures perceived forward-looking benefit and computes (1) "fair value" expense ratios for most traditional investment managers across 40 categories and (2) managers' perceived "excess value" by comparing the fair value expense ratios to actual expense ratios. Managers are then ranked within each category by their excess value to assign a Value Score. Our analysis suggests that greater levels of excess value have historically corresponded to attractive subsequent performance.

For more information on the ranking models, please see *Adverse Active Alpha^{SM} 2.0: Scoring Active Managers According to Potential Alpha* and *Value Score: Scoring Fee Efficiency by Comparing Managers' "Fair Value" and Actual Expense Ratios*. The whitepapers are available from your Financial Advisor or Private Wealth Advisor. ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

Additionally, highly ranked managers can have differing risk profiles that might not be appropriate for all investors. For more information on AAA, please see the Adverse Active Alpha Ranking Model and Selecting Managers with Adverse Active Alpha whitepapers. The whitepaper are available from your Financial Advisor or Private Wealth Advisor. ADVERSE ACTIVE ALPHA is a registered service mark of Morgan Stanley and/or its affiliates. U.S. Pat. No. 8,756,098 applies to the Adverse Active Alpha system and/or methodology.

The Global Investment Manager Analysis (GIMA) Services Only Apply to Certain Investment Advisory Programs GIMA evaluates certain investment products for the purposes of some – but not all – of Morgan Stanley Smith Barney LLC's investment advisory programs (as described in more detail in the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management). If you do not invest through one of these investment advisory programs, Morgan Stanley Wealth Management is not obligated to provide you notice of any GIMA Status changes even though it may give notice to clients in other programs.

Strategy May Be Available as a Separately Managed Account or Mutual Fund Strategies are sometimes available in Morgan Stanley Wealth Management investment advisory programs both in the form of a separately managed account ("SMA") and a mutual fund. These may have different expenses and investment minimums. Your Financial Advisor or Private Wealth Advisor can provide more information on whether any particular strategy is available in more than one form in a particular investment advisory program. Generally, investment advisory accounts are subject to an annual asset-based fee which is payable monthly in advance (some account types may be billed differently). (The "Fee"). In general, the Fee covers Morgan Stanley investment advisory services, custody of securities with Morgan Stanley, trade execution with or through Morgan Stanley or its affiliates, as well as compensation to any Morgan Stanley Financial Advisor.

In addition, each account that is invested in a program that is eligible to purchase certain investment products, such as mutual funds, will also pay a Platform Fee (which is subject to a Platform Fee offset) as described in the applicable ADV brochure. Accounts invested in the Select UMA program will also pay a separate Morgan Stanley Overlay Manager Fee and any applicable Sub-Manager fees. If your account is invested in mutual funds or exchange traded funds (collectively "funds"), you will pay the fees and expenses of any funds in which your account is invested. Fees and expenses are charged directly to the pool of assets the fund invests in and are reflected in each fund's share price. These fees and expenses are an additional cost to you and would not be included in the Fee amount in your account statements. Overlay Managers or Executing Sub-Managers ("managers") in some of Morgan Stanley's Separately Managed Account ("SMA") programs may affect transactions through broker-dealers other than Morgan Stanley or our affiliates. If your manager trades with another firm, you may be assessed costs by the other firm in addition to Morgan Stanley's fees. Those costs will be included in the net price of the security, not separately reported on trade confirmations or account statements. Certain managers have historically directed most, if not all, of their trades to outside firms. Information provided by managers concerning trade execution away from Morgan Stanley is summarized at: www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf. For more information, please refer to the ADV Brochure for your program(s), available at www.morganstanley.com/ADV or contact your Financial Advisor/Private Wealth Advisor. For example, on an advisory account with a 2.5% annual fee, if the gross annual performance is 6.00%, the compounding effect of the fees will result in a net performance of approximately 3.38% after one year, 10.50% after three years, and 18.10% after five years. **Conflicts of Interest:** GIMA's goal is to provide professional, objective evaluations in support of the Morgan Stanley Wealth Management investment advisory programs. We have policies and procedures to help us meet this goal. However, our business is subject to various conflicts of interest. For example, ideas and suggestions for which investment products should be evaluated by GIMA come from a variety of sources, including our Morgan Stanley Wealth Management Financial Advisors and their direct or indirect managers, and other business persons within Morgan Stanley Wealth Management or its affiliates. Such persons may have an ongoing business relationship with certain investment managers or mutual fund companies whereby they, Morgan Stanley Wealth Management or its affiliates receive compensation from, or otherwise related to, those investment managers or mutual funds. For example, a Financial Advisor may suggest that GIMA evaluates an investment manager or fund in which a portion of his or her clients' assets are already invested. While such a recommendation is permissible, GIMA is responsible for the opinions expressed by GIMA. See the conflicts of interest section in the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management for a discussion of other types of conflicts that may be relevant to GIMA's evaluation of managers and funds. In addition, Morgan Stanley Wealth Management, MS & Co., managers and their affiliates provide a variety of services (including research, brokerage, asset management, trading, lending and investment banking services) for each other and for various clients, including issuers of securities that may be recommended for purchase or sale by clients or are otherwise held in client accounts , and managers in various advisory programs. Morgan Stanley Wealth Management, managers, MS & Co., and their affiliates receive compensation and fees in connection with these services. Morgan Stanley Wealth Management believes that the nature and range of clients to which such services are rendered is such that it would be inadvisable to exclude categorically all of these companies from an account.

Morgan Stanley charges each fund family we offer a mutual fund support fee, also called a "revenue-sharing payment," on client account holdings in fund families according to a tiered rate that increases along with the management fee of the fund so that lower management fee funds pay lower rates than those with higher management fees.

Consider Your Own Investment Needs: The model portfolios and strategies discussed in the material are formulated based on general client characteristics including risk tolerance. This material is not intended to be an analysis of whether particular investments or strategies are appropriate for you or a recommendation, or an offer to participate in any investment. Therefore, clients should not use this material as the sole basis for investment decisions. They should consider all relevant information, including their existing portfolio, investment objectives, risk tolerance, liquidity needs and investment time horizon. Such a determination may lead to asset allocation results that are materially different from the asset allocation shown in this profile. Talk to your Financial Advisor about what would be an appropriate asset allocation for you, whether CGCM is an appropriate program for you.

No obligation to notify – Morgan Stanley Wealth Management has no obligation to notify you when the model portfolios, strategies, or any other information, in this material changes.

Please consider the investment objectives, risks, fees, and charges and expenses of mutual funds, ETFs, closed end funds, unit investment trusts, and variable insurance products carefully before investing. The prospectus contains this and other information about each fund. To obtain a prospectus, contact your Financial Advisor or Private Wealth Advisor or visit the Morgan Stanley website at www.morganstanley.com. Please read it carefully before investing.

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it is possible to lose money by investing in the fund.

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: (1) commodities (e.g., agricultural, energy and metals), currency, precious metals;(2) managed futures; (3) leveraged, inverse or inverse leveraged; (4) bear market, hedging, long-short equity, market neutral; (5) real estate; (6) volatility (seeking exposure to the CBOE VIX Index). Investors 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 fund 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."

The Morgan Stanley Digital Vault ("Digital Vault") is accessible to clients with dedicated Financial Advisors. Documents shared via the Digital Vault should be limited to those relevant to your Morgan Stanley account relationship. Uploading a document to the Digital Vault does not obligate us to review or take any action on it, and we will not be liable for any failure to act upon the contents of such document. Please contact your Financial Advisor or Branch Management to discuss the appropriate process for providing the document to us for review. If you maintain a Trust or entity account with us, only our certification form will govern our obligations for such account. Please refer to the Morgan Stanley Digital Vault terms and conditions for more information.

Information related to your external accounts is provided for informational purposes only. It is provided by third parties, including the financial institutions where your external accounts are held. Morgan Stanley does not verify that the information is accurate and makes no representation or warranty as to its accuracy, timeliness, or completeness. Additional information about the features and services offered through Total Wealth View are available on the Total Wealth View site on Morgan Stanley Online and also in the Total Wealth View Terms and Conditions of Use.

Mobile check deposits are subject to certain terms and conditions. Checks must be drawn on a U.S. Bank.

Send Money with Zelle® is available on the Morgan Stanley Mobile App for iPhone and Android and on Morgan Stanley Online. Enrollment is required and dollar and frequency limits may apply. Domestic fund transfers must be made from an eligible account at Morgan Stanley Smith Barney LLC (Morgan Stanley) to a US-based account at another financial institution. Morgan Stanley maintains arrangements with JP Morgan Chase Bank, N.A. and UMB Bank, N.A. as NACHA-participating depository financial institutions for the processing of transfers on Zelle®. Data connection required, and message and data rates may apply, including those from your communications service provider. Must have an eligible account in the U.S. to use Zelle®. Transactions typically occur in minutes when the recipient's email address or U.S. mobile number is already enrolled with *Zelle*. See the Morgan Stanley Send Money with Zelle® terms for details.

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Electronic payments arrive to the payee within 1-2 business days, check payments arrive to the payee within 5 business days. Same-day and overnight payments are available for an additional fee within the available payment timeframes.

KEY ASSET CLASS CONSIDERATIONS AND OTHER RISKS

Investing in the markets entails the risk of market volatility. The value of all types of investments, including stocks, mutual funds, exchange-traded funds ("ETFs"), closed-end funds, and unit investment trusts, may increase or decrease over varying time periods. To the extent the investments depicted herein represent **international securities**, you should be aware that there may be additional risks associated with international investing, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards. These risks may be magnified in **emerging markets and frontier markets**. **Small- and mid-capitalization companies** may lack the financial resources, product diversification and competitive strengths of larger companies. In addition, the securities of small- and mid-capitalization companies may not trade as readily as, and be subject to higher volatility than, those 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** are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. In the case of **municipal bonds**, income is generally exempt from federal income taxes. Some income may be subject to state and local taxes and to the federal alternative minimum tax. Capital gains, if any, are subject to tax. **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. There is no guarantee that investors will receive par if TIPS are sold prior to maturity. The returns on a portfolio consisting primarily of **environmental, social, and governance-aware investments ("ESG")** may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein. **Options** and margin trading involve substantial risk and are not appropriate for all investors. Besides the general investment risk of holding securities that may decline in value and the possible loss of principal invested, **closed-end funds** may have additional risks related to declining market prices relative to net asset values (NAVs), active manager underperformance and potential leverage. Closed-end funds, unlike open-end funds, are not continuously offered. There is a one-time public offering and once issued, shares of closed-end funds are sold in the open market through a stock exchange. Shares of closed-end funds frequently trade at a discount from their NAV which may increase investors' risk of loss. The risk of loss due to this discount may be greater for investors expecting to sell their shares in a relatively short period after completion of the public offering. This characteristic is a risk separate and distinct from the risk that a closed-end fund's net asset value may decrease as a result of investment activities. NAV is total assets less total liabilities divided by the number of shares outstanding. At the time an investor purchases or sells shares of a closed-end fund, shares may have a market price that is above or below NAV. Portfolios that invest a large percentage of assets in only one industry **sector** (or in only a few sectors) are more vulnerable to price fluctuation than those that diversify among a broad range of sectors.

Alternative investments often are speculative and include a high degree of risk. Investors could lose all or a substantial amount of their investment. Alternative investments are appropriate only for eligible, long-term investors who are willing to forgo liquidity and put capital at risk for an indefinite period of time. They may be highly illiquid and can engage in leverage and other speculative practices that may increase the volatility and risk of loss. Alternative Investments typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to: Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices; Lack of liquidity in that there may be no secondary market for a fund; Volatility of returns; Restrictions on transferring interests in a fund; Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized; Absence of information regarding valuations and pricing; Complex tax structures and delays in tax reporting; Less regulation and higher fees than mutual funds; Risks associated with the operations, personnel, and processes of the manager; and Risks associated with cybersecurity. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. All expressions of opinion are subject to change without notice and are not intended to be a forecast of future events or results. Further, opinions expressed herein may differ from the opinions expressed by Morgan Stanley Wealth Management and/or other businesses/affiliates of Morgan Stanley Wealth Management. This is not a "research report" as defined by FINRA Rule 2241 or a "debt research report" as defined by FINRA Rule 2242 and was not prepared by the Research Departments of Morgan Stanley Smith Barney LLC or Morgan Stanley & Co. LLC or its affiliates. Certain information contained herein may constitute forward-looking statements. Due to various risks and uncertainties, actual events, results or the performance of a fund may differ materially from those reflected or contemplated in such forward-looking statements. Clients should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. 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. Composite index results are shown for illustrative purposes and do not represent the performance of a specific investment. Individual funds have specific tax risks related to their investment programs that will vary from fund to fund. Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice. Interests in alternative investment products are offered pursuant to the terms of the applicable offering memorandum , are distributed by Morgan Stanley Wealth Management and certain of its affiliates, and (1) are not FDIC-insured, (2) are not deposits or other obligations of Morgan Stanley Wealth Management or any of its affiliates, (3) are not guaranteed by Morgan Stanley Wealth Management and its affiliates, and (4) involve investment risks, including possible loss of principal. Morgan Stanley Wealth Management is a registered broker-dealer, not a bank. 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Investment products in this category 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. Alternative investments are not appropriate for all investors. As a diversified global financial services firm, Morgan Stanley Wealth Management engages in a broad spectrum of activities including financial advisory services, investment management activities, sponsoring and managing private investment funds, engaging in broker-dealer transactions and principal securities, commodities and foreign exchange transactions, research publication, and other activities. In the ordinary course of its business, Morgan Stanley Wealth Management therefore engages in activities where Morgan Stanley Wealth Management's interests may conflict with the interests of its clients, including the private investment funds it manages. Morgan Stanley Wealth Management can give no assurance that conflicts of interest will be resolved in favor of its clients or any such fund. Alternative investments involve complex tax structures, tax inefficient investing, and delays in distributing important tax information. Individual funds have specific risks related to their investment programs that will vary from fund to fund.

Clients should consult their own tax and legal advisors as Morgan Stanley Wealth Management does not provide tax or legal advice.

A majority of Alternative Investment managers reviewed and selected by GIMA pay or cause to be paid an ongoing fee for distribution from their management fees to Morgan Stanley Wealth Management in connection with Morgan Stanley Wealth Management clients that purchase an interest in an Alternative Investment and in some instances pay these fees on the investments held by investments held by brokerage clients. Morgan Stanley Wealth Management has a conflict of interest in offering alternative investments because Morgan Stanley Wealth Management or our affiliates, in most instances, earn more money in your account from your investments in alternative investments than from other investment options.

It should be noted that the majority of hedge fund indexes are comprised of hedge fund manager returns. This is in contrast to traditional indexes, which are comprised of individual securities in the various market segments they represent and offer complete transparency as to membership and construction methodology. As such, some believe that hedge fund index returns have certain biases that are not present in traditional indexes. Some of these biases inflate index performance, while others may skew performance negatively. However, many studies indicate that overall hedge fund index performance has been biased to the upside. Some studies suggest performance has been inflated by up to 260 basis points or more annually depending on the types of biases included and the time period studied. Although there are numerous potential biases that could affect hedge fund returns, we identify some of the more common ones throughout this paper.

Self-selection bias results when certain manager returns are not included in the index returns and may result in performance being skewed up or down. Because hedge funds are private placements, hedge fund managers are able to decide which fund returns they want to report and are able to opt out of reporting to the various databases. Certain hedge fund managers may choose only to report returns for funds with strong returns and opt out of reporting returns for weak performers. Other hedge funds that close may decide to stop reporting in order to retain secrecy, which may cause a downward bias in returns.

Survivorship bias results when certain constituents are removed from an index. This often results from the closure of funds due to poor performance, "blow ups," or other such events. As such, this bias typically results in performance being skewed higher. As noted, hedge fund index performance biases can result in positive or negative skew. However, it would appear that the skew is more often positive. While it is difficult to quantify the effects precisely, investors should be aware that idiosyncratic factors may be giving hedge fund index returns an artificial "lift" or upwards bias.

Hedge Funds of Funds and many funds of funds are private investment vehicles restricted to certain qualified private and institutional investors. They are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They may be highly illiquid, can engage in leverage and other speculative practices that may increase volatility and the risk of loss, and may be subject to large investment minimums and initial lockups. They involve complex tax structures, tax-inefficient investing and delays in distributing important tax information. Categorically, hedge funds and funds of funds have higher fees and expenses than traditional investments, and such fees and expenses can lower the returns achieved by investors. Funds of funds have an additional layer of fees over and above hedge fund fees that will offset returns. An investment in an **exchange-traded fund** involves risks similar to those of investing in a broadly based portfolio of equity securities traded on an exchange in the relevant securities market, such as market fluctuations caused by such factors as economic and political developments, changes in interest rates and perceived trends in stock and bond prices. An investment in a **target date portfolio** is subject to the risks attendant to the underlying funds in which it invests, in these portfolios the funds are the Consulting Group Capital Market funds. A target date portfolio is geared to investors who will retire and/or require income at an approximate year. The portfolio is managed to meet the investor's goals by the pre-established year or "target date." A target date portfolio will transition its invested assets from a more aggressive portfolio to a more conservative portfolio as the target date draws closer. An investment in the target date portfolio is not guaranteed at any time, including, before or after the target date is reached. **Managed futures** investments are speculative, involve a high degree of risk, use significant leverage, are generally illiquid, have substantial charges, subject investors to conflicts of interest, and are appropriate only for the risk capital portion of an investor's portfolio. Managed futures investments do not replace equities or bonds but rather may act as a complement in a well diversified portfolio. Managed Futures are complex and not appropriate for all investors. **Rebalancing** does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy.

Buying, selling, and transacting in Bitcoin or other digital assets, and related funds and products, is highly speculative and <u>may result in a loss of the entire investment</u>. Risks and considerations include but are not limited to:

- Bitcoin and other digital assets have only been in existence for a short period of time and historical trading prices for Bitcoin and other digital assets have been highly volatile. The price of Bitcoin and other digital assets could decline rapidly, and ***<u>investors could lose their entire investment</u>***.

- Certain digital asset funds and products, including Bitcoin funds and products, allow investors to invest on a more frequent basis than investors may withdraw from the fund or product, and interests in such funds or products are generally not freely transferrable. This means that, particularly given the volatility of digital assets, including Bitcoin, an investor will have to bear any losses with respect to its investment for an extended period of time and will not be able to react to changes in the price of the digital asset once invested (for example, by seeking to withdraw) as quickly as when making the decision to invest. Such digital asset funds and products, including Bitcoin funds and products, are intended only for persons who are able to bear the economic risk of investment and who do not need liquidity with respect to their investments.

- Given the volatility in the price of Bitcoin and other digital assets, the net asset value of a fund or product that invests in such assets at the time an investor's subscription for interests in the fund or product is accepted may be significantly below or above the net asset value of the product or fund at the time the investor submitted subscription materials.

- Certain digital assets, apart from Bitcoin, are not intended to function as currencies but are intended to have other use cases. These other digital assets may be subject to some or all of the risks and considerations set forth herein, as well as additional risks applicable to such other digital assets. Buyers, sellers and users of such other digital assets should thoroughly familiarize themselves with such risks and considerations before transacting in such other digital assets.

- The value of Bitcoin and other digital assets may be negatively impacted by future legal and regulatory developments, including but not limited to increased regulation of Bitcoin or such other digital assets. Any such developments may make Bitcoin or such other digital assets less valuable, impose additional burdens and expenses on a fund or product investing in such assets or impact the ability of such a fund or product to continue to operate, which may materially decrease the value of an investment therein.

- Due to the new and evolving nature of digital currencies and the absence of comprehensive guidance, many significant aspects of the tax treatment of digital assets including Bitcoin are uncertain. Prospective investors should consult their own tax advisors concerning the tax consequences to them of the purchase, ownership and disposition of Bitcoin and other digital assets, directly or indirectly through a fund or product, under U.S. federal income tax law, as well as the tax law of any relevant state, local or other jurisdiction.

- Over the past several years, certain Bitcoin exchanges have experienced failures or interruptions in service due to fraud, security breaches, operational problems or business failure. Such events in the future could impact any fund's or product's ability to transact in Bitcoin if the fund or product relies on an impacted exchange and may also materially decrease the price of Bitcoin, thereby impacting the value of your investment, regardless of whether the fund or product relies on such an impacted exchange.

- Although any digital asset product, including a Bitcoin-related product, and its service providers have in place significant safeguards against loss, theft, destruction and inaccessibility, there is nonetheless a risk that some or all of a product's digital asset, including Bitcoin, could be permanently lost, stolen, destroyed or inaccessible by virtue of, among other things, the loss or theft of the "private keys" necessary to access a product's digital asset, including Bitcoin.

- Investors in funds or products investing or transacting in Bitcoin and/or other digital assets may not benefit to the same extent (or at all) from "airdrops" with respect to, or "forks" in, the Bitcoin (or other relevant digital asset's) blockchain, compared to investors who hold Bitcoin (or such other relevant digital asset) directly instead of through a fund or product. Additionally, a "fork" in the Bitcoin blockchain could materially decrease the price of Bitcoin.

- Digital assets such as Bitcoin or other digital asset product is/are not legal tender, and is not backed by any government, corporation or other identified body, other than with respect to certain digital currencies that certain governments are or may be developing now or in the future (of which Bitcoin is ***not*** one). No law requires companies or individuals to accept digital currency as a form of payment (except, potentially, with respect to digital currencies developed by certain governments where such acceptance may be mandated). Instead, other than as described in the preceding sentences, Bitcoin's and other digital asset products' use is limited to businesses and individuals that are willing to accept them. If no one were to accept digital currencies, Bitcoin and other virtual currency products would very likely become worthless.

- Platforms that buy and sell Bitcoin or other digital assets can be hacked, and some have failed. In addition, like the platforms themselves, digital wallets can be hacked, and are subject to theft and fraud. As a result, like other investors have, you can lose some or all of your holdings of digital assets, including Bitcoin.

- Unlike US banks and credit unions that provide certain guarantees of safety to depositors, there are no such safeguards provided to digital assets, such as Bitcoin, held in digital wallets by their providers or by regulators.

- Due to the anonymity Bitcoin and other digital assets offer, it has known use in illegal activity, including drug dealing, money laundering, human trafficking, sanction evasion and other forms of illegal commerce. Abuses could impact legitimate consumers and speculators; for instance, law enforcement agencies could shut down or restrict the use of platforms and exchanges, limiting or shutting off entirely the ability to use or trade Bitcoin or other digital asset products.

- Bitcoin and other digital assets may not have an established track record of credibility and trust. Further, any performance data relating to Bitcoin, Bitcoin-related products or other digital asset products may not be verifiable as pricing models are not uniform.

- Investors should be aware of the potentially increased risks of transacting in digital assets, including Bitcoin, relating to the risks and considerations, including fraud, theft, and lack of legitimacy, and other aspects and qualities of digital assets, before transacting in such assets.

- The exchange rate of Bitcoin or other virtual currency products versus the USD historically has been very volatile and the exchange rate could drastically decline. For example, the exchange rate of Bitcoin versus the USD has in the past dropped more than 50% in a single day. Bitcoin may be affected by such volatility as well.

- Digital asset exchanges have limited operating and performance histories and are not regulated with the same controls or customer protections available to more traditional exchanges transacting equity, debt, and other assets and securities. There is no assurance that a person/exchange who currently accepts a digital asset as payment will continue to do so in the future.

- The regulatory framework of digital assets is evolving, and in some cases uncertain, and digital assets themselves may not be governed and protected by applicable securities regulators and securities laws, including, but not limited to, Securities Investor Protection Corporation coverage, or other regulatory regimes.

- Morgan Stanley Smith Barney LLC or its affiliates (collectively, "Morgan Stanley") may currently, or in the future, offer or invest in digital asset products, services or platforms. The proprietary interests of Morgan Stanley may conflict with your interests.

- The foregoing list of considerations and risks are not and do not purport to be a complete enumeration or explanation of the risks involved in an investment in the any product or fund investing or trading in Bitcoin and/or other digital assets.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets. Past performance is no guarantee of future results. Actual results may vary.

Tax laws are complex and subject to change. Morgan Stanley Smith Barney LLC ("Morgan Stanley"), its affiliates and Morgan Stanley Financial Advisors and Private Wealth Advisors do not provide tax or legal advice and are not "fiduciaries" (under ERISA, the Internal Revenue Code or otherwise) with respect to the services or activities described herein except as otherwise provided in writing by Morgan Stanley and/or as described at www.morganstanley.com/disclosures/dol. Individuals are encouraged to consult their tax and legal advisors (a) before establishing a retirement plan or account, and (b) regarding any potential tax, ERISA and related consequences of any investments made under such plan or account.

Annuities and insurance products are offered in conjunction with Morgan Stanley Smith Barney LLC's licensed insurance agency affiliates.

Indices are unmanaged and investors cannot directly invest in them. They are not subject to expenses or fees and are often comprised of securities and other investment instruments the liquidity of which is not restricted. A particular investment product may consist of securities significantly different than those in any index referred to herein. Composite index results are shown for illustrative purposes only, generally do not represent the performance of a specific investment, may not, for a variety of reasons, be an appropriate comparison or benchmark for a particular investment and may not necessarily reflect the actual investment strategy or objective of a particular investment. Consequently, comparing an investment to a particular index may be of limited use.

This material is not a financial plan and does not create an investment advisory relationship between you and your Morgan Stanley Financial Advisor. We are not your fiduciary either under the Employee Retirement Income Security Act of 1974 (ERISA) or the Internal Revenue Code of 1986, and any information in this report is not intended to form the primary basis for any investment decision by you, or an investment advice or recommendation for either ERISA or Internal Revenue Code purposes. Morgan Stanley Private Wealth Management will only prepare a financial plan at your specific request using Private Wealth Management approved financial planning signature.

We may act in the capacity of a broker or that of an advisor. As your broker, we are not your fiduciary and our interests may not always be identical to yours. Please consult with your Private Wealth Advisor to discuss our obligations to disclose to you any conflicts we may from time to time have and our duty to act in your best interest. We may be paid both by you and by others who compensate us based on what you buy. Our compensation, including that of your Private Wealth Advisor, may vary by product and over time.

Investment and services offered through Morgan Stanley Private Wealth Management, a division of Morgan Stanley Smith Barney LLC, Member SIPC.

For index, indicator and survey definitions referenced in this report please visit the following: https://www.morganstanley.com/wealth-investmentsolutions/wmir-definitions

GLOBAL INVESTMENT COMMITTEE (GIC) ASSET ALLOCATION MODELS: The Asset Allocation Models are created by Morgan Stanley Wealth Management's GIC.
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. 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.

Variable annuities are long-term investments designed for retirement purposes and may be subject to market fluctuations, investment risk, and possible loss of principal. All guarantees, including optional benefits, are based on the financial strength and claims-paying ability of the issuing insurance company and do not apply to the underlying investment options. Optional riders may not be able to be purchased in combination and are available at an additional cost. Some optional riders must be elected at time of purchase. Optional riders may be subject to specific limitations, restrictions, holding periods, costs, and expenses as specified by the insurance company in the annuity contract. If you are investing in a **variable annuity** through a tax-advantaged retirement plan such as an IRA, you will get no additional tax advantage from the variable annuity. Under these circumstances, you should only consider buying a variable annuity because of its other features, such as lifetime income payments and death benefits protection. Taxable distributions (and certain deemed distributions) are subject to ordinary income tax and, if taken prior to age 59½, may be subject to a 10% federal income tax penalty. Early withdrawals will reduce the death benefit and cash surrender value.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment. **Ultrashort-term fixed income** asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Master Limited Partnerships (MLPs) are limited partnerships or limited liability companies that are taxed as partnerships and whose interests (limited partnership units or limited liability company units) are traded on securities exchanges like shares of common stock. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity pricing risk, supply and demand risk, depletion risk and exploration risk. Individual MLPs are publicly traded partnerships that have unique risks related to their structure. These include, but are not limited to, their reliance on the capital markets to fund growth, adverse ruling on the current tax treatment of distributions (typically mostly tax deferred), and commodity volume risk. The potential tax benefits from investing in MLPs depend on their being treated as partnerships for federal income tax purposes and, if the MLP is deemed to be a corporation, then its income would be subject to federal taxation at the entity level, reducing the amount of cash available for distribution to the fund which could result in a reduction of the fund's value. MLPs carry interest rate risk and may underperform in a rising interest rate environment. MLP funds accrue deferred income taxes for future tax liabilities associated with the portion of MLP distributions considered to be a tax-deferred return of capital and for any net operating gains as well as capital appreciation of its investments; this deferred tax liability is reflected in the daily NAV, and, as a result, the MLP fund's after-tax performance could differ significantly from the underlying assets even if the pre-tax performance is closely tracked.

Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, (i) changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention. **Physical precious metals** are non-regulated products. Precious metals are speculative investments, which may experience short-term and long term price volatility. The value of precious metals investments may fluctuate and may appreciate or decline, depending on market conditions. Unlike bonds and stocks, precious metals do not make interest or dividend payments. Therefore, precious metals may not be appropriate for investors who require current income. Precious metals are commodities that should be safely stored, which may impose additional costs on the investor.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions. Risks of **private real estate** include: illiquidity; a long-term investment horizon with a limited or nonexistent secondary market; lack of transparency; volatility (risk of loss); and leverage. Principal is returned on a monthly basis over the life of a **mortgage-backed security.** Principal prepayment can significantly affect the monthly income stream and the maturity of any type of MBS, including standard MBS, CMOs and Lottery Bonds. **Asset-backed securities** generally decrease in value as a result of interest rate increases, but may benefit less than other fixed-income securities from declining interest rates, principally because of prepayments.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision. **Credit ratings** are subject to change. **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. The majority of $25 and $1000 par **preferred securities** are "callable" meaning that the issuer may retire the securities at specific prices and dates prior to maturity. Interest/dividend payments on certain preferred issues may be deferred by the issuer for periods of up to 5 to 10 years, depending on the particular issue. The investor would still have income tax liability even though payments would not have been received. Price quoted is per $25 or $1,000 share, unless otherwise specified. Current yield is calculated by multiplying the coupon by par value divided by the market price. The initial interest rate on a **floating-rate security** may be lower than that of a fixed-rate security of the same maturity because investors expect to receive additional income due to future increases in the floating security's underlying reference rate. The reference rate could be an index or an interest rate. However, there can be no assurance that the reference rate will increase. Some floating-rate securities may be subject to call risk. The market value of **convertible bonds** and the underlying common stock(s) will fluctuate and after purchase may be worth more or less than original cost. If sold prior to maturity, investors may receive more or less than their original purchase price or maturity value, depending on market conditions. Callable bonds may be redeemed by the issuer prior to maturity. Additional call features may exist that could affect yield. Some $25 or $1000 **par preferred securities** are QDI (Qualified Dividend Income) eligible. Information on QDI eligibility is obtained from third party sources. The dividend income on QDI eligible preferreds qualifies for a reduced tax rate. Many traditional 'dividend paying' perpetual preferred securities (traditional preferreds with no maturity date) are QDI eligible. In order to qualify for the preferential tax treatment all qualifying preferred securities must be held by investors for a minimum period – 91 days during a 180 day window period, beginning 90 days before the ex-dividend date.

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

Nondiversification: For a portfolio that holds a concentrated or limited number of securities, a decline in the value of these investments would cause the portfolio's overall value to decline to a greater degree than a less concentrated portfolio. The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time. Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. **Value investing** does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

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GENERAL DEFINITIONS

Dollar-Weighted Return (Internal Rate of Return): A return calculation that measures the actual performance of a portfolio over the reporting period. Since dollar weighted returns include the impact of client contributions and withdrawals, they should not be compared to market indices or used to evaluate the performance of a manager, but can be used to evaluate progress toward investment goals.

Gross of Fees: Performance results depicted as "gross" of fees do not reflect the deduction of any wrap fee, investment management fee, trade commissions, and/or other account fees. Your actual returns are lower after deducting these expenses. Please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 Brochure for advisory accounts and/or any applicable brokerage account trade confirmation statements for a full disclosure of the applicable charges, fees and expenses. Your Financial Advisor will provide those documents to you upon request.

Investment Earnings: A combination of the income received and total portfolio value increase or decrease, excluding net contributions and withdrawals, over the reporting period.

Net Contributions/Withdrawals: The net value of cash and securities contributed to or withdrawn from the account(s) during the reporting period. Net contributions and withdrawals may include advisory fees for advisory accounts.

Net of Fees: Performance results depicted as "net" of fees shall mean that any wrap fee, investment management fees, trade commissions, and/or other account fees have been deducted. Any other fees or expenses associated with the account, such as third party custodian fees, may not have been deducted. Please see the Morgan Stanley Smith Barney LLC Form ADV Part 2 Brochure for advisory accounts and/or any applicable brokerage account trade confirmation statements for a full disclosure of the applicable charges, fees and expenses. Your Financial Advisor will provide those documents to you upon request.

Performance ineligible assets: Performance returns are not calculated for certain assets because accurate valuations and transactions for these assets are not processed or maintained by Morgan Stanley Smith Barney LLC. Common examples include life insurance and annuities as well as Manually Added and External accounts, assets and liabilities.

Time-Weighted Return: A return calculation that measures the investment performance of a portfolio over the reporting period. Time weighted returns do not include the impact of client contributions and withdrawals and therefore, may not reflect the actual rate of return the client received. Time weighted returns isolate investment actions and can be compared to benchmarks and used to evaluate the performance of a manager.

Total Value: "Total Value" represents the Market Value of the portfolio or Asset Class referenced and includes the accrual of interest and dividends. Total Value in the Asset Allocation view prior to January 2014 does not reflect the accrual of interest and dividends. Total Value for Morgan Stanley & Co. and External accounts also does not include accrued interest and dividends.

BENCHMARK DEFINITIONS

35 S&P 500 65 BC GC: The current allocation is comprised of 65.00% BC Gov/Cr Intm, 35.00% S&P 500 Total Return.

60 S&P 500 40 BC AGG: The current allocation is comprised of 40.00% Barclays Aggregate, 60.00% S&P 500 Total Return.

MODEL BENCHMARKS. IMPORTANT NOTICE REGARDING CHANGES TO THE BENCHMARKS FOR THE SELECT UMA AND TRAK MORGAN STANLEY INVESTMENT MODELS: Effective 01/01/2017, the benchmarks for all accounts that are in Models 1 through 5 within Select UMA and TRAK have changed. The benchmarks have been changed from the dynamic Strategic Model benchmarks to a simpler static benchmark consisting of a cash equivalent, bond and equity index. The change was made because we believe a simpler static benchmark will make it easier for investors to gauge how their portfolios have performed versus the broader markets. The change in benchmarks does have an effect on the portfolio's relative performance - in some cases positively and in some cases negatively. Please contact your Financial Adviser for more details on the effects of these changes.

Alternative Model Blend Index: The current allocation is comprised of 20.00% Bloomberg Commodity TR, 60.00% HFRX Global Hedge Fund, 20.00% FTSE EPRA/NAREIT Global REITs TR.

M5A Opport Growth w/Alts: The current allocation is comprised of 10.00% Barclays Aggregate, 70.00% MSCI AC World Net, 20.00% Alternative Model Blend Index.

Asset Allocation Blend: The current allocation began as of 12/31/2021, and is comprised of 25.14% Barclays Aggregate, 7.79% FTSE Treasury Bill 3 Month, 7.30% HFRI Fund Weighted Comp, 59.76% MSCI AC World IMI Net, based on total assets.

Bloomberg Commodity TR: The index is composed of futures contracts on 19 physical commodities. It reflects the return on fully collateralized futures positions. It is quoted in USD.

MSCI AC World Net: The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 46 country indexes comprising 23 developed and 23 emerging market country indexes. The developed market country indexes included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market country indexes included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates (as of June 2014). Net total return indices reinvest dividends after the deduction of withholding taxes, using (for international indices) a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

FTSE Treasury Bill 3 Month: Equal dollar amounts of three-month Treasury bills are purchased at the beginning of each of three consecutive months. As each bill matures, all proceeds are rolled over or reinvested in a new three-month bill. The income used to calculate the monthly return is derived by subtracting the original amount invested from the maturity value. The yield curve average is the basis for calculating the return on the index. The index is rebalanced monthly by market capitalization. The 90-Day Treasury Bill is a short-term obligation issued by the United States government. T-bills are purchased at a discount to the full face value, and the investor receives the full value when they mature. The difference of discount is the interest earned. T-bills are issued in denominations of $10,000 auction and $1,000 increments thereafter.

HFRX Global Hedge Fund: The HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of eight strategies; convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage. The strategies are asset weighted based on the distribution of assets in the hedge fund industry.

MSCI ACWI Ex USA NR USD: The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 46 country indexes comprising 23 developed and 23 emerging market country indexes. The developed market country indexes included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market country indexes included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates (as of June 2014). This index is excluding the United States. Performance is showing net withholding tax. Net total return indices reinvest dividends after the deduction of withholding taxes, using (for international indices) a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

S&P 500 Total Return: The S&P 500 has been widely regarded as the best single gauge of the large cap U.S. equities market since the index was first published in 1957. The index has over $5.58 trillion benchmarked, with index assets comprising approximately $1.31 trillion of this total. The index includes 500 leading companies in leading industries of the U.S. economy, capturing 75% coverage of U.S. equities. This index includes dividend reinvestment.

Russell Midcap Value: The Russell Mid Cap Value Index contains Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value Index.

Russell 2000 VL: The Russell 2000 Value Index is representative of the U.S. market for smaller capitalization stocks containing those companies in the Russell 2000 Index with lower price-to-book ratios and lower forecasted growth.

MSCI AC World IMI Net: The MSCI AC World IMI NT tracks the total return performance of the Investable Markets in the MS All Country World Index. The index is made up of 22 developed and 23 emerging markets as of 1/1/2015. This subset is calculated on a net dividend basis.

Russell 1000 Value: The Russell 1000 Value Index is representative of the U.S. market for large capitalization stocks containing those companies in the Russell 1000 Index with lower price-to-book ratios and lower forecasted growth.

FTSE EPRA/NAREIT Global REITs TR: The FTSE EPRA NAREIT Global Real Estate Index Series is designed to represent general trends in eligible real estate equities worldwide. Relevant activities are defined as the ownership, disposal and development of income producing real estate. The index series now covers Global, Developed and Emerging indices, as well the UKs AIM market. The FTSE EPRA NAREIT Developed Index is designed to track the performance of listed real estate companies and REITS worldwide. By making the index constituents free float adjusted, liquidity, size and revenue screened, the series is suitable for use as the basis for investment products, such as derivatives and Exchange Traded Funds

BC Gov/Cr Intm: The Barclays Government/Credit Bond Index contains bonds that are investment grade and that have at least one year to maturity. The Barclays Intermediate Government/Credit Bond Index is composed primarily of bonds covered by the Barclays Government/Credit Bond Index with maturities between one and 9.99 years.

CBOE SP500 BuyWrite: The CBOE S&P 500 BuyWrite Index (BXM) is a benchmark index designed to track the performance of a hypothetical buy-write strategy on the S&P 500 Index. Announced in April 2002, the BXM Index was developed by the CBOE in cooperation with Standard & Poor's. To help in the development of the BXM Index, the CBOE commissioned Professor Robert Whaley to compile and analyze relevant data from the time period from June 1988 through December 2001. Data on daily BXM prices now is available from June 30, 1986, to the present time (see below). The BXM is a passive total return index based on (1) buying an S&P 500 stock index portfolio, and (2) "writing" (or selling) the near-term S&P 500 Index (SPX) "covered" call option, generally on the third Friday of each month. The SPX call written will have about one month remaining to expiration, with an exercise price just above the prevailing index level (i.e., slightly out of the money). The SPX call is held until expiration and cash settled, at which time a new one-month, near-the-money call is written.

HFRI Fund Weighted Comp: HFRI Fund Weighted Composite Index: Hedge Fund Research (HFR) Fund Weighted Composite Index is an equally-weighted composite index including both domestic and offshore funds, with no Fund of Funds. The index includes over 2000 constituent funds. All funds report assets in USD and all funds report Net of All Fees returns on a monthly basis. Fund must have a least $50 Million under management or have been actively trading for at least twelve(12) months.

Barclays Aggregate: The Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency).