

Investment Conversations

Portfolio Construction – Basics
HOPES for Concentrated Equity



Concentrated Equity: Threat to Investors' Goals

Introducing greater volatility and susceptibility to material drawdowns

Concentrated equity positions have often served as a blessing, as significant price appreciation has boosted investors' wealth. Looking ahead, however, that blessing may turn mixed or even into a curse.

We define concentrated equity positions as five or fewer holdings that contribute more than 30% to a client's portfolio risk. Based on their weight and elevated volatility, these single-name positions present a strong headwind to investors' prospective risk-adjusted returns.



Their **outsized contribution to portfolio risk** will likely dominate the future, leading to greater volatility and susceptibility to material drawdowns



That price appreciation translates into **significant unrealized capital gains**, blocking investors from simply liquidating and reinvesting in a well-balanced portfolio



Behavioral factors can interfere with objective decisions, causing investors to overemphasize the positive aspects of their concentrated equity positions while discounting the negative



This setup likely leads to a discomfoting ride and **can threaten investors' goals**, starting with wealth conservation but extending to estate planning and philanthropy

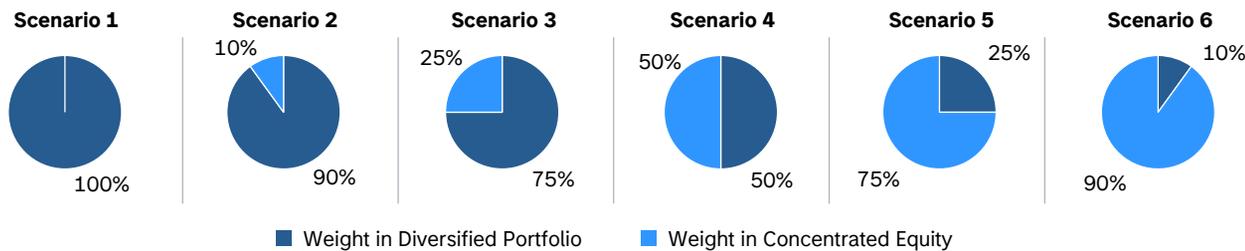
Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Investment Management. Drawdown is the peak-to-trough decline during a specific period.

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

Concentrated Equity: Non-Diversifiable Anchors for Risk

Hindering effective portfolio construction

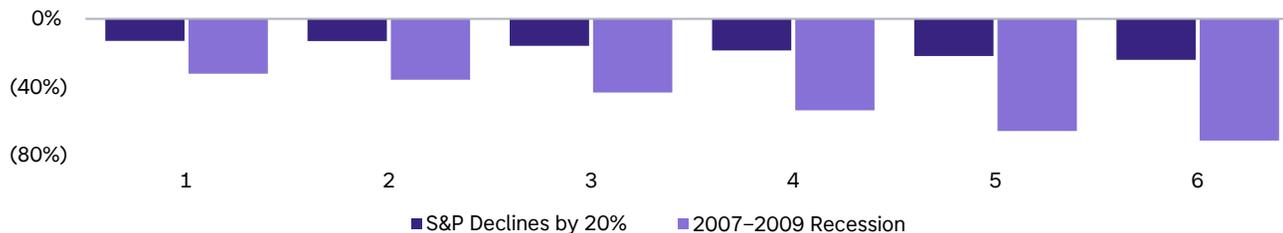
Two-fold Issue: Clients with concentrated equity positions (idiosyncratic risk) also tend to have material equity overweights in their portfolios (systematic risk).



RISK CHARACTERISTICS



SCENARIO ANALYSIS



Owing to their greater-than-index volatility, concentrated equity positions can contribute outsized risk to investors' portfolios.

Just a 25% exposure in concentrated equity could explain more than half of a portfolio's variability.

Sources of Concentrated Stock:

- Entrepreneurship
- Executive compensation
- Mergers and acquisitions
- Gifts and inheritances
- Private equity and venture capital
- Outsized returns

Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Portfolio Risk Platform.

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

Concentrated Equity: Major Contributor to Investment Risk

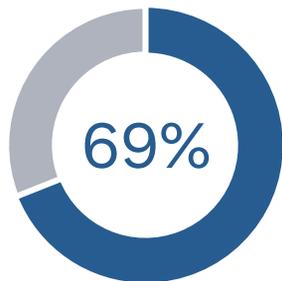
Placing clients' life goals at unnecessary risk

RISKS

- **Idiosyncratic Risk:** Company-specific risk, leading to greater equity-level volatility than the S&P 500
- **Systematic Risk:** Market risk, leading to greater portfolio-level volatility than a diversified, balanced portfolio
- **Liquidity Risk:** Marketability risk, challenging the ability to liquidate smoothly and at favorable transaction prices

OUTCOMES

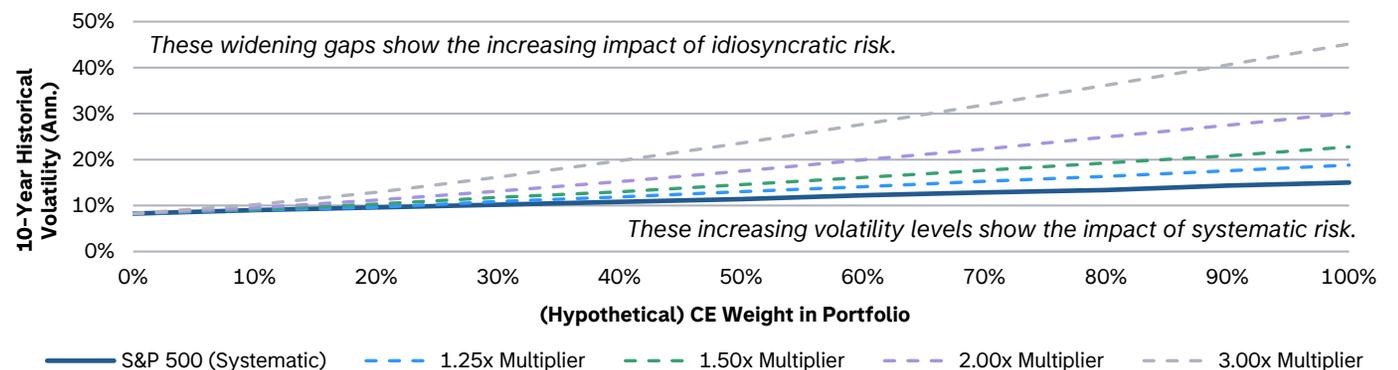
- **Overdependence** on concentrated equity positions' performance (often, past winners)
- Greater vulnerability to **elevated volatility and material drawdowns**
- **Lowered capacity to diversify effectively**, limiting exposure to future potential winners—an essential part of keeping up



of US stocks have experienced declines of more than 70%, and many never recover to their previous highs.⁽¹⁾

SYSTEMATIC RISK AND INCREMENTAL IDIOSYNCRATIC RISK

BASED ON INCREASING ALLOCATIONS TO EQUITIES OR CE, VARYING VOLATILITY MULTIPLIERS (ABOVE S&P)



Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Investment Management. (1) Ned Davis Research, Eaton Vance. Derived from a universe of 26,563 actively traded stocks listed on NYSE, Nasdaq, and NYSE American (formerly AMEX) since Dec. 31, 1980, and based on relative total return versus the S&P 500 over the listed trading period of the stock through Dec. 31, 2023. Returns are calculated daily, starting on Jan. 3, 1972. Recovery is defined as recovery in price to high prior to maximum drawdown. Drawdown is the peak-to-trough decline during a specific period. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

Concentrated Equity: Behavioral Traps and Constraints

Triggering strong behavioral influences, frequently reinforcing inaction

Behavioral traps cause investors to give an “eyeroll” to diversification strategies, reinforcing the “hold” default—and perpetuating the attendant risks from their concentrated equity positions.

Factor	Implication
 Inertia	The tendency to maintain the status quo. Investors require compelling evidence to shift direction from something that has “worked”
 Regret Aversion	The tendency to avoid potential regret. Because investors weigh losses as twice as painful as gains are pleasurable, they tend to stress over potential losses from changing course, foregoing the potential benefits
 Over-Confidence	The tendency to overestimate positive outcomes from current strategies. Investors may overestimate the likelihood of a historically favorable position to continue delivering into the future
 Anchoring	The tendency to wait for a recovery or “just a little more.” Investors may hold out for a recovery or “just a little more,” which may limit consideration of other opportunities’ relative value
 Loyalty	The tendency to overvalue to the known. Investors may hold due to emotional attachments, stemming from employment compensation, entrepreneurship, a successful investment, or an inheritance

These behavioral traps typically reinforce confidence in the known (concentrated equity), believing that **good times will carry on to the future** and leading them to approach potential diversification strategies with some wariness, given the unknowns.

Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Investment Management.

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

HOPES for Concentrated Equity: A Multi-Strategy Approach

Looking to break existing paradigms and the “hold” default

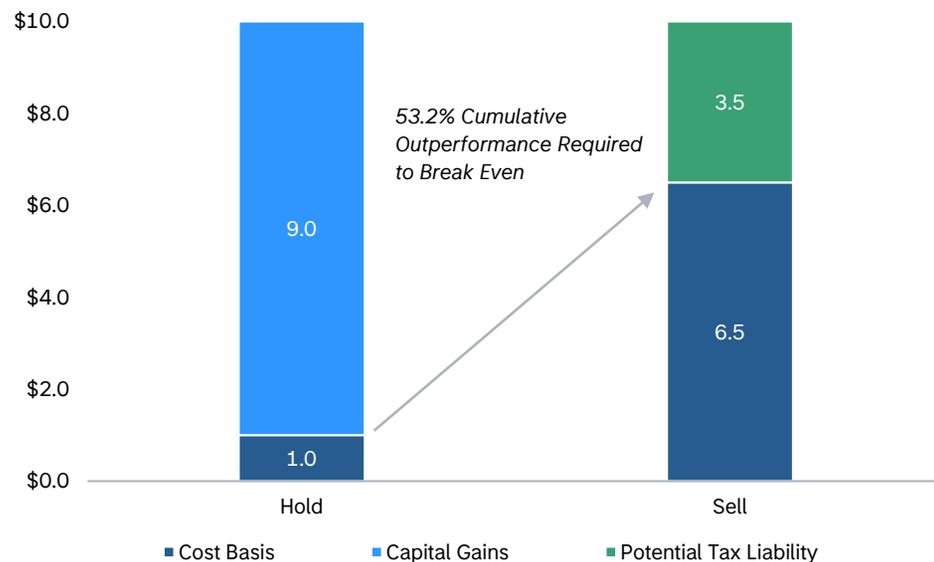
CHALLENGE

- Selling requires an extended holding period and a deeply bearish view to justify the liquidation tax costs.
- Behavioral traps and tax considerations often lead to an “either/or,” “hold-vs.-sell” paradigm, causing investors to defer any action and reinforce the “hold” default.

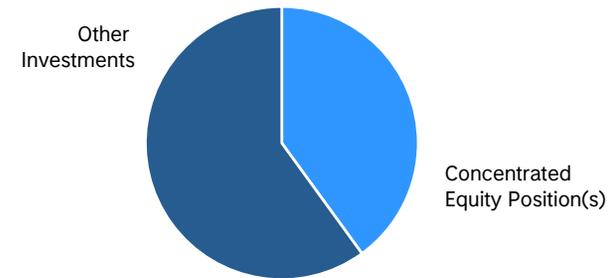
SOLUTION

- The HOPES framework develops an appropriate multi-strategy approach for each affected client that will...
 1. **Maximize** diversification and post-tax returns
 2. **Minimize** complexity, tax drag, and volatility

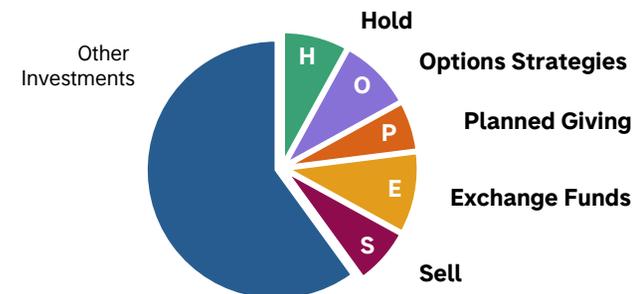
HOLD VS. SELL ANALYSIS (\$, MILLIONS)



CONCENTRATED PORTFOLIO



DIVERSIFIED PORTFOLIO



Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Investment Management.

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

HOPES for Concentrated Equity: A Multi-Strategy Approach

Maximizing client outcomes through a multi-strategy approach

Strategies

Potential Underlying Implementations

H	Hold	Maintaining a Targeted Position	Pursuing Staged Diversification	Holding with Options Overlays		
O	Options Strategies	Protective Puts	Covered Calls	Equity Collars	Prepaid Variable Forwards	Equity Swaps
P	Planned Giving	Pooled-Income Charitable Planned Giving Instruments	Charitable Remainder Trusts	Donor-Advised Funds	Foundations and Other Charities	
E	Exchange Funds	Traditional Exchange Funds	Diversified Exchange Funds	Tax-Managed Long/Short		
S	Sell	Offsetting Gains via Tax-Loss Harvesting	Tax-Lot Selection	Matched Charitable Giving	Staggering Liquidation Trades	Asset Location

Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Investment Management.

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

HOPES for Concentrated Equity: A Multi-Strategy Approach

Maximizing client outcomes through a multi-strategy approach

Diversification Strategies	Potential Benefits			Remaining Equity Risks		Potential Investor Goals
	Tax Mitigation	Potential Diversification	Philanthropy and Planning	Idiosyncratic	Systematic	
H Hold the Potentially Diversifiable Concentrated Equity (PDCE)	●	○	○	●	●	+ Deferring capital gains realization + Simplicity + Maintaining asset control
O Pursue Options Strategies *	●	●	○	◐	◐	+ Monetization + Limiting idiosyncratic risk + Deferring capital gains realization
P Contribute the PDCE to a Charitable Giving Strategy	●	◐	●	○	○	+ Avoiding capital gains realization + Receiving a charitable deduction + Receiving a remainder income stream + Limiting idiosyncratic and systematic risk + Furthering estate and charitable planning
E Contribute the PDCE to an Index-Tracking Exchange Fund	●	◐	◐	○	●	+ Deferring capital gains realization + Limiting idiosyncratic risk + Simplicity
S Sell the PDCE and Immediately Diversify	○	●	○	○	○	+ Monetization + Limiting idiosyncratic and systematic risk + Simplicity

Bottom line: We can fully activate the HOPES Framework by determining an appropriate **client-specific combination**, likely helping to **overcome the inertia** of holding the concentrated equity position.

Source: Morgan Stanley Wealth Management GIO, Morgan Stanley Investment Management. Note: * Potential diversification benefit for [O] assumes the reinvestment of proceeds. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

New Capability: HOPES for Concentrated Equity Tool

Maximizing client outcomes through a multi-strategy approach

BREAKEVEN ANALYSIS

[H] HOLD THE PDCE VS. [S] SELL AND IMMEDIATELY DIVERSIFY

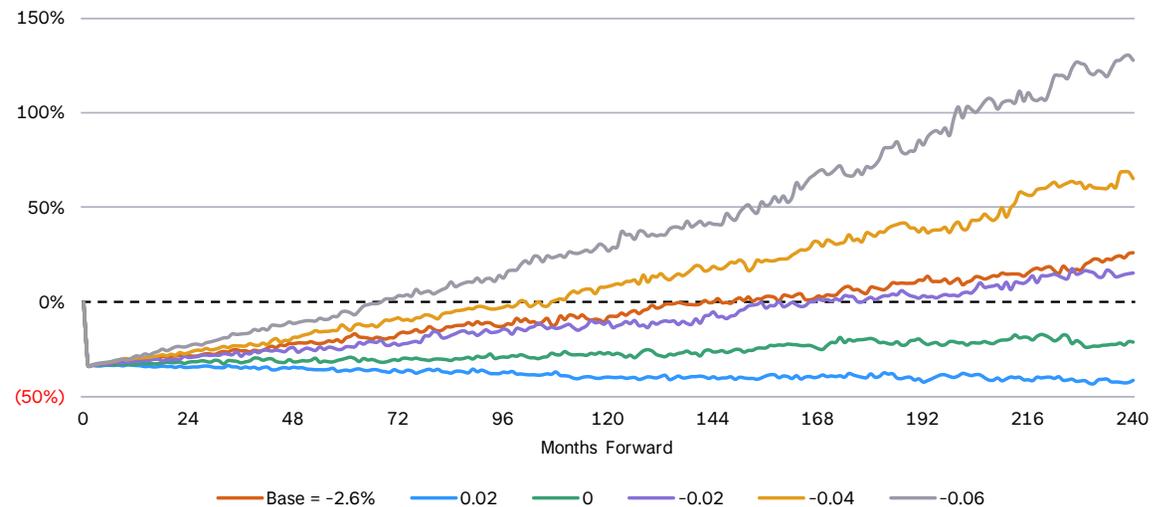
Prepared for Test Client | Hypothetical Scenario

Tax Implications and Hurdle Rate: Hold vs. Sell			
Market Value	\$	20,000,000	
Cost Basis	\$	2,160,000	
			Tax Rate: Realized Long-Term Capital Gains 38.58%
			Capital Gains Tax Liability on Full Liquidation \$ 6,881,958
			Reinvestable Proceeds \$ 13,118,042
			Return Hurdle to Reach Starting Market Value 52.46%

Likelihood of Breaking Even in Post-Tax, Pre-Liquidation Terms

PDCE's Excess Returns (Ann.)	Years Ahead						
	1	3	5	7	10	15	20
Base = -2.6%	2%	11%	26%	32%	46%	53%	67%
+2.0%	1%	4%	8%	11%	12%	21%	25%
+0.0%	0%	6%	15%	18%	23%	31%	39%
-2.0%	3%	10%	26%	37%	39%	52%	60%
-4.0%	1%	16%	34%	46%	55%	70%	80%
-6.0%	2%	25%	44%	55%	72%	83%	93%

MEDIAN RETURN DIFFERENTIAL BY MONTH, VARYING CE'S EXPECTED ALPHA (ANN.): [S] VS. [H]



Source: Morgan Stanley Wealth Management GIO.

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

New Capability: HOPES for Concentrated Equity Tool

Maximizing client outcomes through a multi-strategy approach

- 

Develops an appropriate **multi-strategy approach** for each client that will...

 - 1. Maximize** potential diversification and post-tax risk-adjusted returns
 - 2. Minimize** tax drag and complexity

- 

Provides actionable allocation advice on how to deploy **the HOPES Framework**, considering the following:

 1. MSWM’s capital market assumptions
 2. Client’s tax situation
 3. Existing portfolio
 4. Details behind O, P, and E
 5. Expected holdings in a diversified portfolio
 6. Potential excess returns: concentrated equity

- 

May lead to **higher probabilities of success**, primarily **by lowering volatility and vulnerability to drawdowns**

HOPES FOR CONCENTRATED EQUITY

[HOPES] MULTI-STRATEGY ALLOCATIONS, VARYING THE CONCENTRATED EQUITY (CE)’S EXPECTED EXCESS RETURNS (ANN.)

OBJECTIVE: Post-Tax, Pre-Liquidation: Minimize Shortfall Probabilities, Given Thresholds of 0.0% and 5.0%

[HOPES] Multi-Strategy Allocations	Scenario					
	[H]	[O]	[P]	[E]	[S]	
Minimum	20%	5%	5%	5%	5%	
Maximum	100%	60%	30%	60%	100%	
CE's Excess Returns (Ann.)	Base = -2.6%	32%	11%	27%	24%	5%
	+2.0%	46%	9%	25%	15%	5%
	+0.0%	39%	10%	26%	19%	5%
	-2.0%	33%	11%	26%	24%	6%
	-4.0%	30%	9%	26%	29%	5%
	-6.0%	25%	13%	26%	31%	6%

Comparison with... [H] Hold	Likelihood of [HOPES] Multi-Strategy Allocations' Success				
	↑ Returns (Ann.)	↓ Volatility (Ann.)	↑ Implied Probability: Return > 0%	↓ Average Drawdown	↓ Maximum Drawdown
Base = -2.6%	67%	100%	96%	100%	100%
+2.0%	35%	100%	84%	100%	100%
+0.0%	46%	100%	90%	100%	100%
-2.0%	54%	100%	94%	100%	100%
-4.0%	71%	100%	97%	100%	100%
-6.0%	75%	100%	97%	100%	100%

Source: Morgan Stanley Wealth Management GIO. Drawdown is the peak-to-trough decline during a specific period. Excess return represents the average quarterly total return of the portfolio relative to its benchmark. A portfolio with a positive excess return has on average outperformed its benchmark on a quarterly basis. This statistic is obtained by subtracting the benchmark return from the portfolio’s return. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

New Capability: HOPES for Concentrated Equity Tool

Maximizing client outcomes through a multi-strategy approach

PROBABILITY OF SUCCESS AND MEDIAN DIFFERENTIAL: STANDALONE BASIS

POST-TAX, PRE-LIQUIDATION BASIS

Prepared for Test Client | Hypothetical Scenario

Comparison with... [H] Hold	Likelihood of [HOPES] Multi-Strategy Allocations' Success					Median Differential				
	↑ Returns (Ann.)	↓ Volatility (Ann.)	↑ Implied Probability: Return > 0%	↓ Average Drawdown	↓ Maximum Drawdown	Returns (Ann.)	Volatility (Ann.)	Implied Probability: Return > 0%	Average Drawdown	Maximum Drawdown
Base = -2.6%	67%	100%	96%	100%	100%	1.4%	(8.5%)	8.2%	(7.8%)	(15.9%)
+2.0%	35%	100%	84%	100%	100%	(1.4%)	(7.3%)	3.3%	(3.9%)	(12.2%)
+0.0%	46%	100%	90%	100%	100%	(0.5%)	(7.9%)	5.4%	(5.1%)	(13.1%)
-2.0%	54%	100%	94%	100%	100%	0.8%	(8.4%)	7.3%	(7.0%)	(17.1%)
-4.0%	71%	100%	97%	100%	100%	2.3%	(8.8%)	10.4%	(8.6%)	(18.2%)
-6.0%	75%	100%	97%	100%	100%	4.0%	(9.2%)	12.6%	(12.7%)	(21.7%)

Comparison with... [S] Sell	Likelihood of [HOPES] Multi-Strategy Allocations' Success					Median Differential				
	↑ Returns (Ann.)	↓ Volatility (Ann.)	↑ Implied Probability: Return > 0%	↓ Average Drawdown	↓ Maximum Drawdown	Returns (Ann.)	Volatility (Ann.)	Implied Probability: Return > 0%	Average Drawdown	Maximum Drawdown
Base = -2.6%	100%	100%	99%	99%	99%	5.6%	(4.8%)	17.8%	(15.1%)	(20.4%)
+2.0%	100%	96%	99%	100%	100%	7.3%	(3.0%)	20.1%	(14.0%)	(15.8%)
+0.0%	100%	100%	99%	99%	98%	6.4%	(3.6%)	19.2%	(15.0%)	(18.7%)
-2.0%	100%	100%	99%	100%	99%	5.7%	(4.3%)	17.3%	(14.8%)	(18.8%)
-4.0%	100%	100%	99%	100%	98%	5.2%	(4.7%)	16.5%	(14.9%)	(20.0%)
-6.0%	100%	100%	100%	100%	98%	5.0%	(5.1%)	15.6%	(13.2%)	(18.7%)

Source: Morgan Stanley Wealth Management GIO.

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

New Capability: HOPES for Concentrated Equity Tool

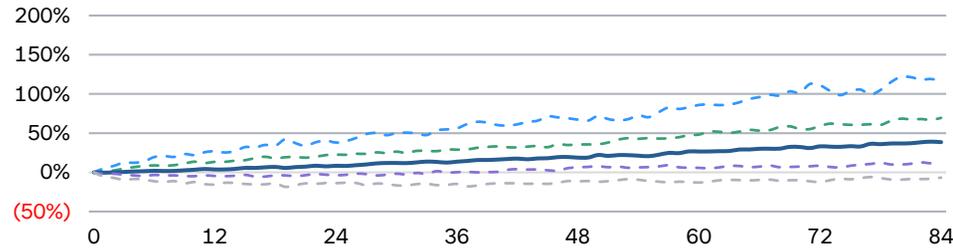
Maximizing client outcomes through a multi-strategy approach

CUMULATIVE POST-TAX, PRE-LIQUIDATION RETURNS FOR BASE CASE: STANDALONE BASIS, PERCENTILE-BASED

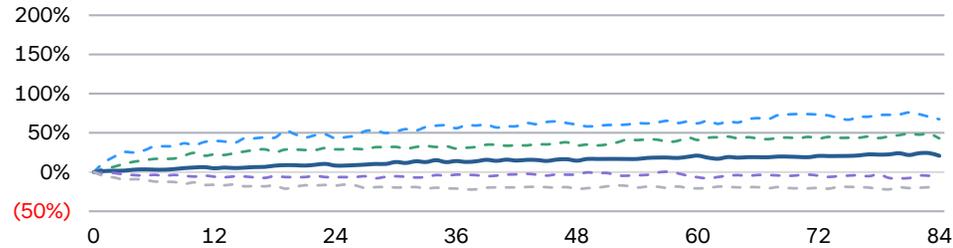
POST-TAX, PRE-LIQUIDATION BASIS

Prepared for Test Client | Hypothetical Scenario

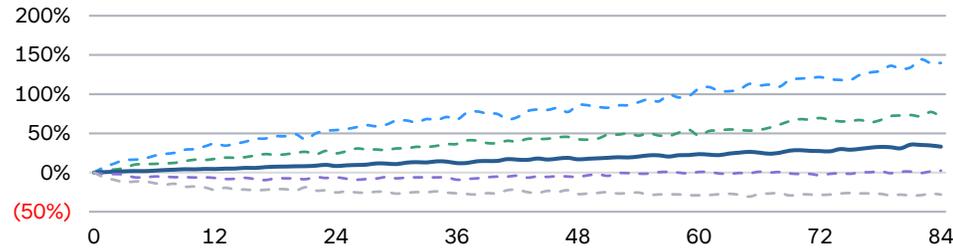
[HOPES] Multi-Strategy Allocations



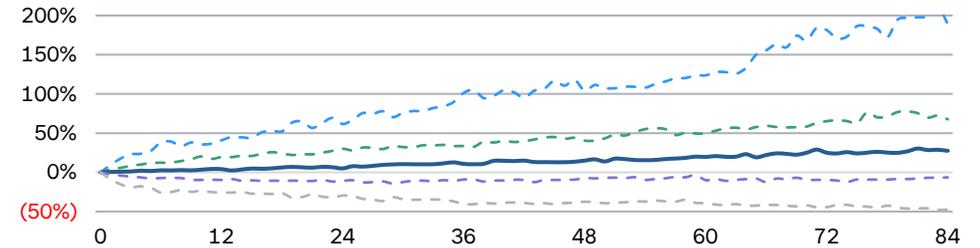
[O] Pursue Options Strategies



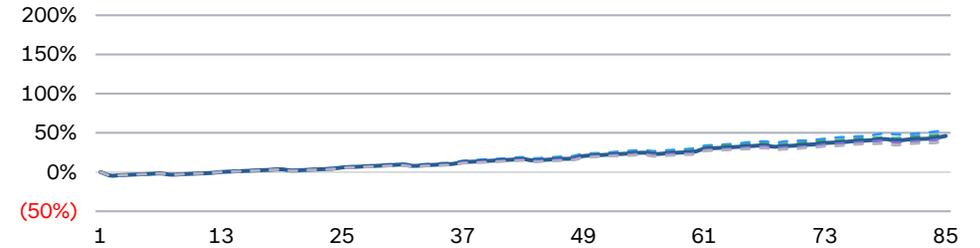
[E] Contribute the PDCE to an Index-Tracking Exchange Fund



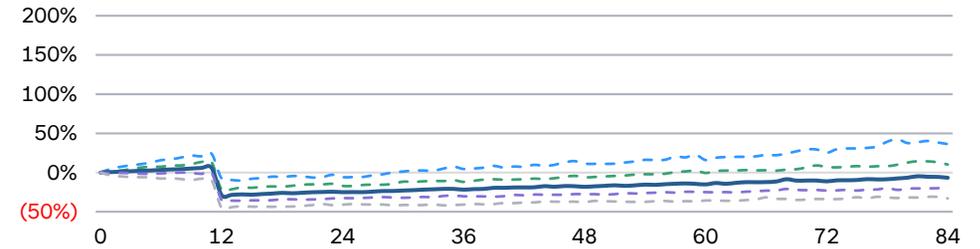
[H] Hold the Potentially Diversifiable Concentrated Equity (PDCE)



[P] Contribute the PDCE to a Pooled-Income Charitable Planned Giving Instrument



[S] Sell the PDCE and Immediately Diversify



--- 95th Percentile - - - 75th Percentile — 50th Percentile - - - 25th Percentile - - - Fifth Percentile

Source: Morgan Stanley Wealth Management GIO.

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

New Capability: HOPES for Concentrated Equity Tool

Maximizing client outcomes through a multi-strategy approach

MORE FAVORABLE STRATEGIES (ORDERED) GIVEN VARIABLE MOVES

HOW KEY INPUTS IMPACT THE HOPES FRAMEWORK'S PREFERENCES FOR DIVERSIFICATION STRATEGIES

Concentrated Equity (CE) and Other Characteristics	Higher	Lower
Expected Excess Returns (CE)	[H], which defers capital gains and retains upside potential	[S], [O], [E] and [P], based on mitigating downside risk and the opportunity for quicker diversification
Market Value (CE)	[S], [O], [P] and [E], given the opportunity to achieve diversification, with the [S] case potentially weighed down by the severe tax consequences	[H], given the lower impact on overall portfolio diversification
Cost Basis (CE)	[S] and [O], given that the potential realization of capital gains would be less punitive	[P], [E] and [H], given the prospect of eliminating or deferring the consequences of realized capital gains
Volatility (CE)	[S], [O], [P] and [E], given the deleterious impact of high volatility on risk-adjusted returns	[H], as volatility acts like a cost impeding CE's upside
Monetization Rate (PPVF)	[O], as it reflects a lower breakeven for the resulting diversified portfolio	[P], [E], [H] and [S], given the relative improvement in these strategies' profiles
Tax Rates (Client)	[H], [P], [E] and [O], given these strategies' capacity for deferring gains	[S], as lower tax rate softens the blow of realized capital gains
Age (Client)	[H], [O] and [E], reflecting the potential ability to unwind these strategies with a step-up	[P] and [S], given the forfeiture of the potential benefit in a step-up basis

Source: Morgan Stanley Wealth Management GIO.

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

Practical Guide: Applying the HOPES Framework

Aligning potential diversification strategies with common investor goals

GOALS-BASED PREFERENCE RANKINGS: POTENTIAL DIVERSIFICATION STRATEGIES

Goals	Description	Challenge from Concentrated Equity (CE) Positions	Potential Diversification Strategies
Upside Opportunity in Existing Positions	Maintain potential upside in CE and defer capital gains realization	<ul style="list-style-type: none"> • Uncertainty in upside • Potential drawdowns 	
Diversification (Wealth Conservation)	Conserve wealth by diversifying concentrated equity positions *	<ul style="list-style-type: none"> • Potential drawdowns • Idiosyncratic risk 	
Tax Mitigation	Defer or reduce tax liability from potential capital gains realization	<ul style="list-style-type: none"> • Material unrealized capital gains • High tax brackets 	
Income Enhancement	Increase income generation from an investment portfolio	<ul style="list-style-type: none"> • Potentially limited dividends • Limited capacity to generate liquidity without a tax liability 	
Charitable Giving	Contribute to a qualified charity, with either an immediate or deferred effect	<ul style="list-style-type: none"> • Potential drawdowns • Limited capacity to generate liquidity without a tax liability 	
Legacy Planning	Transfer one generation's wealth to heirs or other beneficiaries	<ul style="list-style-type: none"> • Potential drawdowns • Limited capacity to generate liquidity without a tax liability 	

Source: Morgan Stanley Wealth Management GIO. Note: * Potential diversification benefit for [O] assumes the reinvestment of proceeds. Drawdown is the peak-to-trough decline during a specific period. Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

Client A: Successful Investor No. 1

Variable	Client A
Profile	Successful Investor No. 1
Primary Objectives for Concentrated Equity (CE)	1. Diversification 2. Tax Mitigation 3. Charitable Giving
Age	65
Residence	New York
Source of CE Position	Outsized Returns
Tax Bracket	Highest
Total Net Worth	\$50 MM
Market Value of CE Position	\$40 MM
Cost Basis of CE Position	\$2 MM
GICS Sector of CE Position	Information Technology
Prospective View on CE Upside	Cautious

	[HOPES] Multi-Strategy Allocations	[H] Hold	[O] Prepaid Variable Forward	[P] Pooled-Income Charitable Planned Giving Instrument	[E] Traditional Exchange Fund	[S] Sell
	Minimum	10%	10%	10%	10%	10%
	Maximum	60%	50%	30%	50%	100%
	Base = -2.6%	30%	25%	20%	10%	15%
CE's Excess Returns (Ann.)	+2.0%	45%	20%	20%	5%	10%
	+0.0%	40%	20%	20%	10%	10%
	-2.0%	35%	25%	20%	10%	10%
	-4.0%	30%	25%	20%	10%	15%
	-6.0%	25%	30%	20%	10%	15%

Commentary: This first Successful Investor has benefited from outsized returns in an information technology stock. Given her desire for diversification, tax mitigation and charitable giving—combined with the substantial unrealized capital gains and a cautious view of the stock—the HOPES Tool presented the following HOPES multi-strategy allocations: holding roughly 30% of the original concentrated equity position; selling approximately 15%; and allocating the proceeds to diversification strategies (O, P, and E). Overall, the approach helps to diminish the investor’s concentrated risk exposures, while deferring realization of capital gains and providing some downside mitigation. The Planned Giving strategy allows the client to pursue her charitable intentions, while offering ongoing income and a charitable tax deduction that may offset the impact of capital gains from selling. The client could leverage several additional strategies for minimizing the tax impact of selling, including tax-loss harvesting; direct indexing strategies; tax-lot selection; and staggering her liquidation trades over multiple tax years.

Source: Morgan Stanley Wealth Management GIO.

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

Client B: Successful Investor No. 2

Variable	Client B	[HOPES] Multi-Strategy Allocations	[H] Hold	[O] N/A	[P] Pooled-Income Charitable Planned Giving Instrument	[E] Traditional Exchange Fund	[S] Sell
Profile	Successful Investor No. 2						
Primary Objectives for Concentrated Equity (CE)	1. Diversification 2. Income 3. Tax Mitigation	Minimum	20%	0%	5%	15%	10%
		Maximum	100%	0%	25%	100%	100%
Age	60	Base = -2.6%	35%	0%	15%	35%	15%
Residence	Boston	+2.0%	55%	0%	15%	20%	10%
Source of CE Position	Outsized Returns	+0.0%	45%	0%	15%	25%	15%
Tax Bracket	High	-2.0%	40%	0%	15%	30%	15%
Total Net Worth	\$15 MM	-4.0%	30%	0%	20%	35%	15%
Market Value of CE Position	\$4 MM	-6.0%	25%	0%	20%	40%	15%
Cost Basis of CE Position	\$1 MM						
GICS Sector of CE Position	Industrials						
Prospective View on CE Upside	Neutral to Cautious						

Commentary: This second Successful Investor's concentrated equity position emerged from outsized returns in an industrials name. At this point, however, the investor holds a neutral to cautious view on the stock, which has served as a motivation for tax-sensitive diversification. He also wishes to boost his overall portfolio income. Given this background, we developed the following strategy through an intuitive read of the investor's situation—and the output from the HOPES Tool. This analysis resulted in the following HOPES multi-strategy allocations: holding roughly 30% of the original concentrated equity position; selling approximately 15%; and looking to Planned Giving and Exchange Funds. This approach allows for tax-sensitive diversification, mitigating the investor's risk in the concentrated equity position. The Planned Giving strategy may allow the investor to receive an income stream, while also dampening the tax consequences associated with selling. The client could leverage several additional strategies for minimizing the tax impact of selling, including tax-loss harvesting; direct indexing strategies; tax-lot selection; and staggering his liquidation trades over multiple tax years.

Source: Morgan Stanley Wealth Management GIO.

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

Client C: Working Professional

Variable	Client C
Profile	Working Professional
Primary Objectives for Concentrated Equity (CE)	1. Diversification 2. Tax Mitigation 3. Maintaining Upside
Age	35
Residence	Santa Clara, California
Source of CE Position	Former Employment
Tax Bracket	Highest
Total Net Worth	\$12 MM
Market Value of CE Position	\$9 MM
Cost Basis of CE Position	\$2 MM
GICS Sector of CE Position	Communication Services
Prospective View on CE Upside	Negative

	[HOPES] Multi-Strategy Allocations	[H] Hold	[O] Prepaid Variable Forward	[P] Donor-Advised Fund	[E] Traditional Exchange Fund	[S] Sell
Minimum		20%	10%	10%	10%	10%
Maximum		60%	40%	40%	40%	40%
CE's Excess Returns (Ann.)	Base = -2.6%	30%	20%	15%	25%	10%
	+2.0%	50%	15%	10%	15%	10%
	+0.0%	45%	15%	10%	20%	10%
	-2.0%	35%	20%	10%	25%	10%
	-4.0%	25%	20%	15%	30%	10%
	-6.0%	20%	20%	15%	30%	15%

Commentary: The Working Professional's concentrated equity position emerged from her former employer, a communication services company. Having taken a larger role at a new firm (and confirmed that her stock is free of any restrictions), she now holds a downbeat view of her former employer's stock and would like to pursue tax-sensitive diversification while maintaining portfolio upside. Based on this background, we calculated the following setup from the HOPES Tool: holding roughly 25% and selling approximately 10% of the position, with the balance spread over the diversification strategies (O, P, and E). This approach aims to blend the client's objectives and honor her desire to maintain upside—as well as the availability to borrow against the position as a “bridge” in a prospective real estate transaction. The client selected the donor-advised fund as her preferred Planning Giving strategy, which affords flexibility in timing her gifts. As a California resident in the highest tax bracket, she anticipates that the charitable deduction from the donor-advised fund may help to offset the tax consequences of this year's elevated compensation.

Source: Morgan Stanley Wealth Management GIO.

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

Client D: Retired Executive

Variable	Client D	[HOPES] Multi-Strategy Allocations	[H] Hold	[O] Covered Call-Writing	[P] Pooled-Income Charitable Planned Giving Instrument	[E] N/A	[S] Sell
Profile	Retired Executive						
Primary Objectives for Concentrated Equity (CE)	1. Income 2. Charitable Giving 3. Legacy Planning	Minimum	10%	10%	10%	0%	10%
		Maximum	60%	50%	30%	0%	100%
Age	75	Base = -2.6%	20%	25%	25%	0%	30%
Residence	West Palm Beach, Florida	+2.0%	30%	30%	20%	0%	20%
Source of CE Position	Former Employment	+0.0%	25%	30%	20%	0%	25%
Tax Bracket	Medium	-2.0%	20%	30%	20%	0%	30%
Total Net Worth	\$5 MM	-4.0%	15%	25%	25%	0%	35%
Market Value of CE Position	\$3 MM	-6.0%	15%	20%	25%	0%	40%
Cost Basis of CE Position	\$0 MM						
GICS Sector of CE Position	Health Care						
Prospective View on CE Upside	Cautious						

Commentary: The Retired Executive faces material concentration in his health care name, but his view has recently turned cautious. The client has listed income, charitable giving and legacy planning as top goals. In addition, the Retired Executive has confirmed that he is no longer subject to his former company's insider trading policy or to any legal restrictions with respect to his concentrated holding. Considering his Florida residence and medium tax bracket, he may combine several strategies for these goals. The client may sell approximately 20% of his concentrated holding, from which he intends to allocate to a diversified, income-focused portfolio. He also anticipates receiving income from the Planned Giving strategy, and its tax deduction helps to offset the capital gains consequences of the sells. In addition, the client could leverage several additional strategies for minimizing the tax impact of selling, including tax-loss harvesting; direct indexing strategies; tax-lot selection; and staggering his liquidation trades over multiple tax years. Lastly, the client deploys a less aggressive covered call-writing overlay strategy with the remaining equity position, which will likely generate modest income and dampen the portfolio's overall volatility. In this case, we exclude consideration of exchange fund strategies, owing to the client's total net worth.

Source: Morgan Stanley Wealth Management GIO.

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

Client E: Inheritance Beneficiary

Variable	Client E
Profile	Inheritance Beneficiary
Primary Objectives for Concentrated Equity (CE)	1. Maintaining Upside 2. Diversification 3. Charitable Giving
Age	50
Residence	Chicago
Source of CE Position	Inheritance
Tax Bracket	High
Total Net Worth	\$4 MM
Market Value of CE Position	\$2 MM
Cost Basis of CE Position	\$1 MM
GICS Sector of CE Position	Consumer Discretionary
Prospective View on CE Upside	Neutral to Positive

	[HOPES] Multi-Strategy Allocations	[H] Hold	[O] N/A	[P] Pooled-Income Charitable Planned Giving Instrument	[E] N/A	[S] Sell
	Minimum	40%	0%	15%	0%	0%
	Maximum	100%	0%	50%	0%	40%
CE's Excess Returns (Ann.)	Base = -2.6%	50%	0%	35%	0%	15%
	+2.0%	55%	0%	35%	0%	10%
	+0.0%	55%	0%	35%	0%	10%
	-2.0%	50%	0%	35%	0%	15%
	-4.0%	45%	0%	40%	0%	15%
	-6.0%	40%	0%	40%	0%	20%

Commentary: Five years ago, at the time of her grandmother's passing, the client inherited a consumer discretionary name. After receiving the stock position, she has allowed it to grow, and it has become a concentrated equity position. Still, she maintains a neutral-to-positive view on the name. Because of the step-up in basis upon inheritance, the position exhibits less severe appreciation than other examples. Still, even with the neutral-to-positive outlook, the concentrated equity position introduces material volatility to her portfolio. In this example, the client does not qualify for an exchange fund strategy and elects not to pursue any options strategies. In this case, a blend of holding (~55%), the Planned Giving strategy (~35%) and selling (~10%) helps to balance the client's goals of maintaining upside, seeking diversification and pursuing charitable giving. The Planned Giving strategy enables the client to mitigate portfolio-level volatility, while generating income and a material tax deduction. The client anticipates building her portfolio by depositing her employment bonuses and reinvesting portfolio income. That tactic will allow her to build toward diversification over the longer term. The client could leverage several additional strategies for minimizing the tax impact of selling, including tax-loss harvesting; direct indexing strategies; tax-lot selection; and staggering her liquidation trades over multiple tax years.

Source: Morgan Stanley Wealth Management GIO.

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

New Capability: Equity Vulnerability Score

Weighing individual stocks' drawdown sensitivity

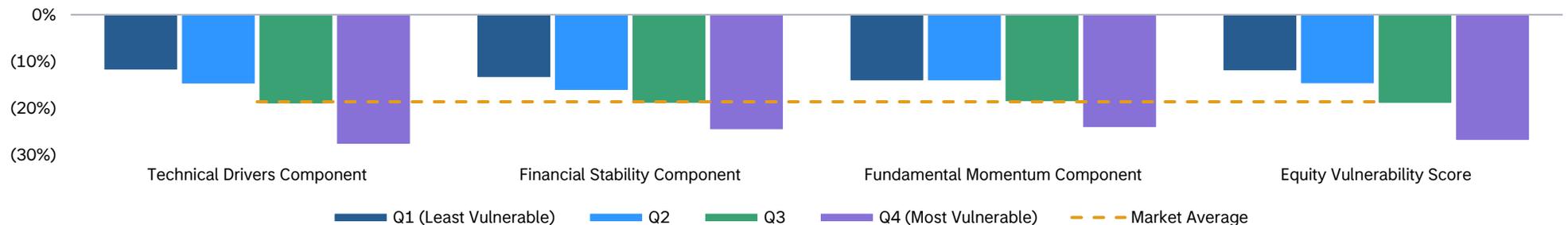
- The Equity Vulnerability Score considers **three drivers, each with six to 12 underlying indicators**
- May enrich conversations on concentrated equity or provide risk-focused security selection guidance
- Available to Financial Advisors through the “Equity and ETF Screening Tool,” linked in “[Daily Positioning](#)” (*Internal Only*)

Financial Stability Measures the stability in fundamental characteristics that may presage more resilience to subsequent drawdowns. Indicators include growth in earnings, cash flow, and margins scaled for the historical standard deviation in changes.

Fundamental Momentum Measures the recent trend in fundamentals as the three- vs. 12-month moving averages of fundamental characteristics, including valuation, quality and profitability.

Volatility and Tail Risk Measures the strength in recent price performance that may be predictive of large price changes in the future. Indicators include recent returns dispersion, “left-tail” returns and trading volume.

AVERAGE DRAWDOWN OVER SUBSEQUENT FIVE YEARS BY QUARTILE BASKET OF VULNERABILITY SCORES



Source: Morgan Stanley Wealth Management GIO. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

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

Disclosures

Neither this publication, the HOPES for Concentrated Equity Tool, nor the HOPES Tool output reports constitute recommendations, investment strategies or advice.

Any terms and/or pricing of any products included in the HOPES Tool Output Reports are indicative and hypothetical and may not be available.

Morgan Stanley, including through its Financial Advisors, does not provide recommendations or advice on any prepaid variable forward products discussed in this Report.

To the extent you are subject to any company trading policies or regulatory restrictions that govern your holding of company shares, or the potential sale, hedging or other transactional activity related to such shares, it is your responsibility to confirm whether the scenarios described in this report are consistent with and permitted by such policies or restrictions, as Morgan Stanley provides no view on whether any such policies or restrictions may limit or prohibit the scenarios described herein.

Hypothetical Performance and Investment Analysis Tool Disclosures

Hypothetical Performance

Charts and graphs are provided for illustrative purposes. The charts and graphs may contain hypothetical performance displays. As such, Morgan Stanley is providing information below regarding the risks and limitations related to such hypothetical performance displays. The inclusion of these displays in this material is in no way a solicitation of advisory services.

IMPORTANT: The projections or other information provided in the Report regarding the likelihood of various investment outcomes (including any assumed rates of return and income) are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Hypothetical investment results have inherent limitations. There are frequently large differences between hypothetical and actual results.

Hypothetical results do not represent actual results and are generally designed with the benefit of hindsight. They cannot account for all factors associated with risk, including the impact of financial risk in actual trading or the ability to withstand losses or to adhere to a particular trading strategy in the face of trading losses. There are numerous other factors related to the markets in general or to the implementation of any specific strategy that cannot be fully accounted for in the preparation of hypothetical risk results and all of which can adversely affect actual performance. Any recommendations regarding external accounts/holdings are asset allocation only and do not include security recommendations.

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

Hypothetical performance results have inherent limitations. The performance shown here is simulated performance not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results.

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

Investment Analysis Tool

Data in Exhibits 10, 11, 12, 13 and the discussion in the section "Case Study: Applying the HOPES Framework for a Client" in this Report show a statistical estimate of a portfolio's reaction to various multi-strategy allocations to diversify a concentrated equity position (such hypothetical scenarios referred to throughout as "HOPES Scenarios").

Performance is hypothetical and does not represent the actual portfolio performance. Please review important disclosures provided for i) a description of the methodology used and assumptions made to calculate the hypothetical performance, including a definition of the simulated market scenarios; ii) Information about any fees, expenses and costs that were excluded in the calculation of this hypothetical performance; iii) an explanation of the risks and limitations of relying on hypothetical performance results; and iv) information regarding the use of proxies. **RESULTS OF THE HOPES SCENARIOS ARE NOT GUARANTEES OF WHAT WILL HAPPEN BASED ON THESE ASSUMPTIONS.**

HOPES Scenarios

The HOPES Framework seeks to bring clarity to the complex alternatives for holders of concentrated equity positions. The Framework presents five potential courses of action that investors could take, summarized in the HOPES acronym:

1. [H] Hold the concentrated equity
2. [O] Enter into an option-based strategy
3. [P] Pursue a planned giving strategy
4. [E] Transfer the concentrated equity to an exchange fund
5. [S] Sell the concentrated equity and immediately diversify

Morgan Stanley Smith Barney LLC ("Morgan Stanley" or "we") have developed the "HOPES for Concentrated Equity Tool" to provide a client-specific quantitative analysis, which bears many similarities to constructing a diversified, multi-asset portfolio. Though the tool cannot model all strategies available in the market and does not provide a client-specific recommendations, it can help bring clarity to the complex array of solutions for holders of concentrated equity positions.

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

Disclosures (cont'd)

For a description of the criteria and methodology used, please see the “Applying the HOPES Framework through a Multi-Strategy Approach” and the “Practical Considerations for the Multi-Strategy Approach” sections in this Report.

The analysis provided is illustrative only. Morgan Stanley cannot predict the performance of a portfolio or multi-strategy allocations due to, among other things, changing market conditions or other unanticipated circumstances. The analysis is based purely on assumptions made using available data and any of its forecasts are subject to change.

For a description of key assumptions, please see the “Applying the HOPES Framework through a Multi-Strategy Approach” and the “Practical Considerations for the Multi-Strategy Approach” sections in this Report.

IMPORTANT: The projections or other information generated by HOPES for Concentrated Equity Tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results.

As noted above, the HOPES Scenarios considers a discrete universe of investments in the analysis (those comprising the HOPES acronym), and the determination of securities to select is based on that universe, in conjunction with client input; such selectivity is premised on the potential for the HOPES multi-strategy allocations to assist clients who hold a concentrated equity position. However, other investments not considered may have characteristics similar or superior to those being analyzed.

Options Disclosures and Considerations

If you are considering options as part of your investment plan, your Morgan Stanley Financial Advisor or Private Wealth Advisor is required to provide you with the “Characteristics and Risks of Standardized Options” booklet from the Options Clearing Corporation.

Options carry a high level of risk and are not appropriate for all investors. Certain requirements must be met to trade options through Morgan Stanley. Investing involves risks, including loss of principal. Hedging and protective strategies generally involve additional costs and do not assure a profit or guarantee against loss. With long options, investors may lose 100% of funds invested. Covered calls provide cash flow, downside protection only to the extent of the premium received, and limit upside potential to the strike price plus premium received. Spread trading must be done in a margin account.

Before engaging in the purchase or sale of options, clients should understand the nature and extent of their rights and obligations and be aware of the risks involved, including, without limitation, the risks pertaining to the business and financial condition of the issuer of the underlying security/instrument. Options investing, like other forms of investing, involves tax considerations, transaction costs and margin requirements that can significantly affect clients' potential profits and losses. The transaction costs of options investing consist primarily of commissions (which are imposed in opening, closing, exercise and assignment transactions) but may also include margin and interest costs in particular transactions. Transaction costs are especially significant in options strategies calling for multiple purchases and sales of options, such as multiple leg strategies, including spreads, straddles and collars. If a client is considering engaging in options trading, the Financial Advisor and Private Wealth Advisor are required to provide the client with the “Characteristics and Risks of Standardized Options” (ODD) booklet from the Options Clearing Corporation. Clients should not enter into options transactions until they have read and understood the Disclosure Document and discussed transaction costs with the Financial Advisor or Private Wealth Advisor. A copy of the ODD is also available online at <http://www.theocc.com/about/publications/publication-listing.jsp>

The sale of the stock through an option assignment or the closing/expiration of an option position may produce a tax consequence. Certain in-the-money covered call writes are deemed ‘unqualified’ and carry certain tax consequences. Prior to entering into any proposed transaction, recipients should determine, in consultation with their own investment, legal, tax, regulatory and accounting advisors, the economic risks and merits, as well as the legal, tax, regulatory and accounting characteristics and consequences, of the transaction. Morgan Stanley Smith Barney LLC and its affiliates do not provide tax or legal advice. To the extent that this material or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Supporting documentation for any claims (including any claims made on behalf of options programs or the options expertise of salespersons), comparisons, recommendations, statistics, or other technical data, will be supplied upon request.

There are many factors that an investor should be aware of when trading options, including interest rates, volatility, stock splits, stock dividends, stock distributions, currency exchange rates, etc. Annualized returns will not be calculated for holding periods less than 60 days.

If a secondary market in options becomes unavailable and prevents a closing transaction, the options writer's obligation would remain until expiration or assignment.

NOTE: This statement is not intended to enumerate all of the risks entailed in trading options. It is expected that you will read the booklet entitled “Characteristics and Risks of Standardized Options” (see www.theocc.com/components/doc/riskstoc.pdf). Please direct your attention to Chapter X, “Principal Risks of Options Positions.”

Morgan Stanley Wealth Management would like to inform investors of the inherent risks of trading the following strategies.

- Bullish strategies have greater risk of loss in falling markets.
- Neutral strategies have greater risk of loss in volatile markets.
- Bearish strategies have greater risk of loss in rising markets.

Options and Derivatives Risk

Prepaid variable forwards (PPVFs) are customized OTC derivative transactions with a single broker-dealer counterparty. This exposes the investor to counterparty credit risk, meaning the investor's ability to monetize or hedge the position depends on the creditworthiness and ongoing performance of the counterparty.

Additionally, entering into a PPVF may trigger constructive sale treatment under the Internal Revenue Code, potentially accelerating taxable capital gains. Investors should consult with qualified tax advisors prior to execution to fully understand these implications.

PPVFs also involve embedded costs, including financing charges and derivative pricing spreads, which may reduce the net benefit of the strategy. These costs can be difficult to assess in advance and may vary based on market conditions and the negotiated terms.

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

General Disclosures

Morgan Stanley Wealth Management ("MSWM", "Morgan Stanley" or "MSSB") is the trade name of Morgan Stanley Smith Barney LLC, a registered broker-dealer and investment adviser in the United States. This material is for educational purposes only and is not an offer or solicitation to buy, sell, or participate in any security or trading strategy. Past performance is not a guarantee of future results.

Morgan Stanley offers a range of brokerage and advisory services, which create different types of client relationships and obligations. Please consult with your Financial Advisor to understand these differences, or review our "Understanding Your Brokerage and Investment Advisory Relationships" brochure available at www.morganstanley.com/wealth-relationshipwithms/pdfs/understandingyourrelationship.pdf.

Asset allocation, diversification, rebalancing and dollar cost averaging do not guarantee a profit or protect against loss in declining markets. Past performance is no guarantee of future results and actual results may vary. Rebalancing strategies may also have tax consequences; investors should consult a qualified tax advisor before implementing such strategies.

Conflicts of Interest: As a diversified global financial services firm, Morgan Stanley engages in a broad range of activities, including financial advisory and investment management services; sponsoring and managing private investment funds; broker-dealer and principal securities transactions, commodities and foreign exchange transactions; and the publication of research, among other activities. In the ordinary course of its business, these activities may create situations where Morgan Stanley's interests may conflict with those of its clients, including the private investment funds it manages. Morgan Stanley can give no assurance that such conflicts of interest will be resolved in favor of its clients or any particular fund.

Indices are unmanaged and cannot be invested in directly. For index, indicator and survey definitions referenced in this report, please visit: www.morganstanley.com/wealth-investmentsolutions/wmir-definitions

For more information, please refer to additional General Disclosures here: www.morganstanley.com/wealthbooks#general-disclosures.

Risks Associated With Investing

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. Please carefully consider the investment objectives, risks, charges and expenses of investment fund(s) before investing. The fund prospectus contains this and other information about the fund(s). To obtain a prospectus, contact your financial advisor. Please read the prospectus carefully before investing. There is no assurance that investment funds will achieve their investment objectives. 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. 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. Some funds also invest in foreign securities, which may involve currency risk. 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. 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. Growth investing does not guarantee a profit or eliminate risk. Growth stocks can trade at relatively high valuations which may increase risk compared with an investment in a company with more modest growth expectations. Value investing does not guarantee a profit or eliminate risk. Not all companies deemed value stocks are able to turn around their business or successfully execute corrective strategies, and their stock prices may not rise as initially expected.

The value of fixed income securities will fluctuate and, upon a sale, may be worth more or less than their original cost or value at maturity. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer. Yields may change with economic conditions and should be considered alongside other factors when making investment decisions. Credit ratings are subject to change. High yield bonds carry additional risks, including increased risk of default and greater volatility due to lower credit quality of the issues. In the case of municipal bonds, income is generally exempt from federal income taxes, though 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) adjust coupon payments and underlying principal to compensate for inflation in line with the consumer price index (CPI). While the real rate of return is guaranteed, TIPS typically offer lower returns and may significantly underperform conventional U.S. Treasuries during periods of low inflation. There is no guarantee that investors will receive par if TIPS are sold prior to maturity. The Ultrashort-term fixed income asset class consists of high-quality securities with very short maturities and is therefore still subject to the risks associated with debt securities such as credit and interest rate risk.

Money Market Funds: You could lose money in money market funds. Although government money market funds (defined as investing 99.5% of total assets in cash and/or securities backed by the U.S. government) and retail funds (defined as money market funds open to natural person investors only) seek to preserve value at \$1.00 per share, they cannot guarantee doing so. The price of other money market funds will fluctuate, and when you sell shares they may be worth more or less than originally paid. Money market funds may impose a fee upon sale or temporarily suspend sales if liquidity falls below required minimums. During suspensions, shares would not be available for purchases, withdrawals, check writing or ATM debits. A money market fund investment is not insured or guaranteed by the Federal Deposit Insurance Corporation or other government agency. The Fund's sponsor has no legal obligation to provide financial support to the Fund and investors should not expect that the sponsor will provide financial support to the Fund at any time.

Investing in **Commodities:** Commodity prices may be affected by factors such as supply and demand, government policies, domestic or international political and economic events (including war or terrorism), changes in interest and exchange rates, trading activity in commodities and related contracts, pestilence, technological developments, weather, price volatility, and liquidity constraints. Physical precious metals are speculative, non-regulated products that may experience short- and long-term price volatility. Precious metals do not make interest or dividend payments and therefore may not be appropriate for investors who require current income. Precious metals must be stored, which may impose additional costs on investors.

Master Limited Partnerships (MLPs): Investments in MLPs are subject to the risks generally applicable to companies in the energy and natural resources sectors, including commodity price fluctuations, supply

and demand imbalances, resource depletion and exploration risk. MLPs also carry interest rate risk and may underperform in rising interest rate environments. In addition, MLP funds accrue deferred income taxes on net operating gains and capital appreciation; as a result their after-tax performance could differ significantly from that of its underlying assets.

Exchange Funds are private placement vehicles that enable holders of concentrated single-stock positions to exchange those stocks for a diversified portfolio. Investors may benefit from greater diversification.

Alternative investments are often speculative and include a high degree of risk. Investors can lose all or a substantial amount of their investment. They are appropriate only for eligible, long-term investors willing to forgo liquidity and put capital at risk for an indefinite period. They are often illiquid, may employ leverage, short-selling, or other speculative practices that increase volatility and risk of loss, and may require large minimum investments and initial lock-ups. Alternative investments may also involve complex tax structures, tax-inefficient investing, and delays in distributing important tax documents. Clients should consult their own tax and legal advisors, as Morgan Stanley Wealth Management does not provide tax or legal advice. They also typically carry higher fees and expenses than traditional investments, which can reduce overall returns.

Sector investments, due to their narrow focus, tend to be more volatile than broadly diversified investments. **Non-diversified portfolios:** Portfolios that hold a concentrated number of securities may experience greater overall declines when those securities lose value compared with more diversified portfolios. Portfolios that invest heavily in one or a few industry sectors are more vulnerable to price fluctuations than those diversified across a wider range of sectors.

Environmental, Social and Governance (ESG) investments in a portfolio may experience performance that is lower or higher than a portfolio not employing such practices. Portfolios with ESG restrictions and strategies as well as ESG investments may not be able to take advantage of the same opportunities or market trends as portfolios where ESG criteria is not applied. There are inconsistent ESG definitions and criteria within the industry, as well as multiple ESG ratings providers that provide ESG ratings of the same subject companies and/or securities that vary among the providers. Certain issuers of investments may have inconsistent views concerning ESG criteria where the ESG claims made in offering documents or other literature may overstate ESG impact. ESG designations are as of the date of this material, and no assurance is provided that the underlying assets have maintained or will maintain any such designation or any stated ESG compliance. As a result, it is difficult to compare ESG investment products or to evaluate an ESG investment product in comparison to one that does not focus on ESG. Investors should also independently consider whether the ESG investment product meets their own ESG objectives or criteria. There is no assurance that an ESG investing strategy or techniques employed will be successful. Past performance is not a guarantee or a dependable measure of future results.

Buying, selling, and transacting in Bitcoin, Ethereum or other digital assets ("Digital Assets"), and related funds and products, is highly speculative and may result in a loss of the entire investment. Risks and considerations include but are not limited to: Digital Assets have only been in existence for a short period of time and historical trading prices for Digital Assets have been highly volatile. The price of Digital Assets could decline rapidly, and investors could lose their entire investment. Although any Digital Asset 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 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. Digital Assets may not have an established track record of credibility and trust. Further, any performance data relating to Digital Asset products may not be verifiable as pricing models are not uniform.

For more information, please refer to additional Risks Associated With Investing here: www.morganstanley.com/wealthbooks#risks-associated-with-investing.

Investment Advisory Programs

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. MSWM 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. For more information, please see the Morgan Stanley Smith Barney LLC MSWM program disclosure brochure (the "Morgan Stanley ADV"). The Morgan Stanley ADV is available at www.morganstanley.com/ADV.

The Morgan Stanley Pathway Funds, Firm Discretionary UMA Model Portfolios, and other asset allocation or any other model portfolios that are discussed in this material are available only to investors participating in Morgan Stanley Consulting Group advisory programs. For additional information on the Morgan Stanley Consulting Group advisory programs, see the applicable ADV brochure, available at www.morganstanley.com/ADV or request from your Morgan Stanley Financial Advisor or Private Wealth Advisor. To learn more about the Morgan Stanley Pathway Funds, visit the Funds' website at www.morganstanley.com/wealth-investmentsolutions/cgcm.

Generally, investment advisory accounts are subject to an **annual asset-based fee** (the "Fee") which is payable monthly in advance (some account types may be billed differently). 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 Morgan Stanley ADV. Accounts invested in the Select UMA program may also pay a separate Sub-Manager fee, if applicable.

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. The advisory program you choose is described in the Morgan Stanley ADV.

Morgan Stanley or Executing Sub-Managers, as applicable, in some of Morgan Stanley's SMA programs may effect transactions through broker-dealers other than Morgan Stanley or our affiliates. In such instances, you may be assessed additional costs by the other firm in addition to the Morgan Stanley and Sub-Manager fees. Those costs will be included in the net price of the security, not separately reported

on trade confirmations or account statements. Certain Sub-Managers have historically directed most, if not all, of their trades to outside firms. Information provided by Sub-Managers concerning trade execution away from Morgan Stanley is summarized at: www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf. For more information on trading and costs, please refer to the **Morgan Stanley ADV** or contact your Financial Advisor / Private Wealth Advisor.

GIMA Conflicts of Interest: Our business is subject to various conflicts of interest. For example, ideas and suggestions for which investment products should be evaluated by Global Investment Manager Analysis (GIMA) come from a variety of sources, including our MSWM Financial Advisors and their direct or indirect managers, and other business persons within MSWM or its affiliates. Such persons may have an ongoing business relationship with certain investment managers or mutual fund companies whereby they, MSWM or its affiliates receive compensation from, or otherwise related to, those investment managers or mutual funds or for which a portion of their clients' assets are already invested. Separately, certain strategies managed or sub-advised by us or our affiliates, including but not limited to MSIM and Eaton Vance Management ("EVM") and its investment affiliates, may be included in your account. See the conflicts of interest section in the applicable Morgan Stanley ADV brochure for a discussion of other types of conflicts that may be relevant to GIMA's evaluation of managers and funds. In addition, MSWM, Morgan Stanley & Co. LLC ("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.

MSWM, managers, MS & Co., and their affiliates receive compensation and fees in connection with these services. MSWM 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 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.

For more information, please refer to additional Investment Advisory Programs disclosures here: www.morganstanley.com/wealthbooks#investment-advisory-programs.

Products and Services

Annuities and insurance products are offered in conjunction with Morgan Stanley Smith Barney LLC's licensed insurance agency affiliates. Not all products and services discussed herein are available through Morgan Stanley Smith Barney LLC's licensed insurance agency affiliates. Since life and long-term care insurance are medically underwritten, you should not cancel your current policy until your new policy is in force. A change to your current policy may incur charges, fees and costs. A new policy will require a medical exam. Surrender charges may be imposed and the period of time for which the surrender charges apply may increase with a new policy. You should consult with your own tax advisors regarding your potential tax liability on surrenders. Investment, insurance and annuity products offered through Morgan Stanley Smith Barney LLC are: NOT FDIC INSURED | MAY LOSE VALUE | NOT BANK GUARANTEED | NOT A BANK DEPOSIT | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY.

Lending products, including securities-based loans, are offered by Morgan Stanley Smith Barney LLC (MSSB), Morgan Stanley Private Bank, National Association (MSPBNA), and Morgan Stanley Bank, N.A. (MSBNA), collectively referred to as "the Firm" as applicable. Borrowing against securities involves risk and may not be appropriate for all clients. Risks include maintenance calls, forced liquidation of securities, and potential tax consequences. The Firm reserves the right to change collateral requirements, decline funding requests, or call loans at any time. Products are distinct and subject to independent underwriting and approval. Rates, terms, and availability may vary.

Residential mortgage loans and home equity lines of credit are offered by MSPBNA, Member FDIC an Equal Housing Lender. Nationwide Mortgage Licensing System Unique Identifier #663185. **The proceeds from a residential mortgage loan (including draws and advances from a home equity line of credit) are not permitted to be used to purchase, trade, or carry eligible margin stock; repay margin debt that was used to purchase, trade, or carry margin stock; or to make payments on any amounts owed under the note, loan agreement, or loan security agreement; and cannot be deposited into a MSSB or other brokerage account.** The pledged-asset feature allows eligible securities to be used as a substitute for a cash down payment. The pledged-asset feature allows eligible securities to be used as an alternative to a cash down payment. Clients must maintain collateral levels and may be subject to liquidation if requirements are not met. Interest-only and adjustable-rate mortgages (ARMs) carry specific risks, including payment increases and higher total interest costs. ARMs are based on the SOFR 30-Day Average. Relationship-based pricing is available based on eligible household assets held at the Firm.

Cards and Cash Management: Debit Cards offered through the Firm are issued by MSPBNA under license from Mastercard. American Express Cards offered through the Firm include the Platinum Card®, Blue Cash Preferred®, and the Morgan Stanley Credit Card. Eligibility requires an "Eligible Account" at the Firm. Cards are issued by American Express National Bank. Terms, conditions, and restrictions apply. The Greenlight App and Debit Card is provided by Greenlight Financial Technologies, not the Firm or any of its affiliates. The Morgan Stanley CashPlus is a brokerage account offered through MSSB. Conditions and restrictions apply. For more information, see the CashPlus Disclosure Statement.

Deposit Products and FDIC: Under the Bank Deposit Program, free credit balances held in an account(s) at Morgan Stanley Smith Barney LLC are automatically deposited into an interest-bearing deposit account(s) at FDIC-insured banks. Certain conditions must be met. For more information, view the Bank Deposit Program Disclosure Statement. The Savings and Preferred Savings Programs offer FDIC-insured deposit accounts at Morgan Stanley Private Bank, National Association, Member FDIC or Morgan Stanley Bank, N.A., Member FDIC. The Savings programs are not intended for clients who need to have frequent access to funds and those funds will not be automatically accessed to reduce a debit or margin loan in your brokerage account. Withdrawals are limited to 10 per calendar month, and excess withdrawals may incur fees. Promotional rates may be offered from time to time and are subject to change at any time.

Morgan Stanley Smith Barney LLC is a registered Broker/Dealer and not a bank. Where appropriate, Morgan Stanley Smith Barney LLC has entered into arrangements with banks and other third parties to assist in offering certain banking-related products and services.

Investment, insurance and annuity products offered through Morgan Stanley Smith Barney LLC are: NOT FDIC INSURED | MAY LOSE VALUE | NOT BANK GUARANTEED | NOT A BANK DEPOSIT | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY

For more information, please refer to additional Products and Services disclosures here: www.morganstanley.com/wealthbooks#products-and-services.

Other General Disclosures

When MSWM, its affiliates and Morgan Stanley Financial Advisors and Private Wealth Advisors (collectively, "MS") provide "investment advice" regarding a retirement or welfare benefit plan account, an individual retirement account or a Coverdell education savings account ("Retirement Account"), MS is a "fiduciary" as those terms are defined under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), and/or the Internal Revenue Code of 1986 (the "Code"), as applicable. When MS provides investment education, takes orders on an unsolicited basis or otherwise does not provide "investment advice", MS will not be considered a "fiduciary" under ERISA and/or the Code. For more information regarding MS's role with respect to a Retirement Account, please visit www.morganstanley.com/disclosures/dol. Tax laws are complex and subject to change. MS does not provide tax or legal advice. Individuals are encouraged to consult their tax and legal advisors (a) before establishing a Retirement Account, and (b) regarding any potential tax, ERISA and related consequences of any investments or other transactions made with respect to a Retirement Account. Individuals should consult their tax advisor for matters involving taxation and tax planning and their attorney for matters involving trust and estate planning, charitable giving, philanthropic planning and other legal matters. This material is not a financial plan and does not establish an investment advisory relationship. MS will only prepare a financial plan at your specific request using MS approved financial planning software.

No obligation to notify: MSWM has no obligation to notify you when the model portfolios, strategies, or any other information in this material changes. All expressions of opinion are subject to change without notice and are not intended to be a forecast of future events or results.

This material, or any portion thereof, **may not be reprinted, sold or redistributed** without the written consent of Morgan Stanley Smith Barney LLC.

E*TRADE from Morgan Stanley is a registered trademark of Morgan Stanley. Morgan Stanley Smith Barney LLC, Member SIPC. Consulting Group, Investment Advisory Services, Private Wealth Management and Graystone are businesses of Morgan Stanley Smith Barney LLC.

For more information, please refer to additional Other General Disclosures here: www.morganstanley.com/wealthbooks#other-general-disclosures.

© 2026 Morgan Stanley Smith Barney LLC.

CRC 4953093 (11/25)