Vanguard

Prepared for

# NACCC

# Agenda




**Presented by:**

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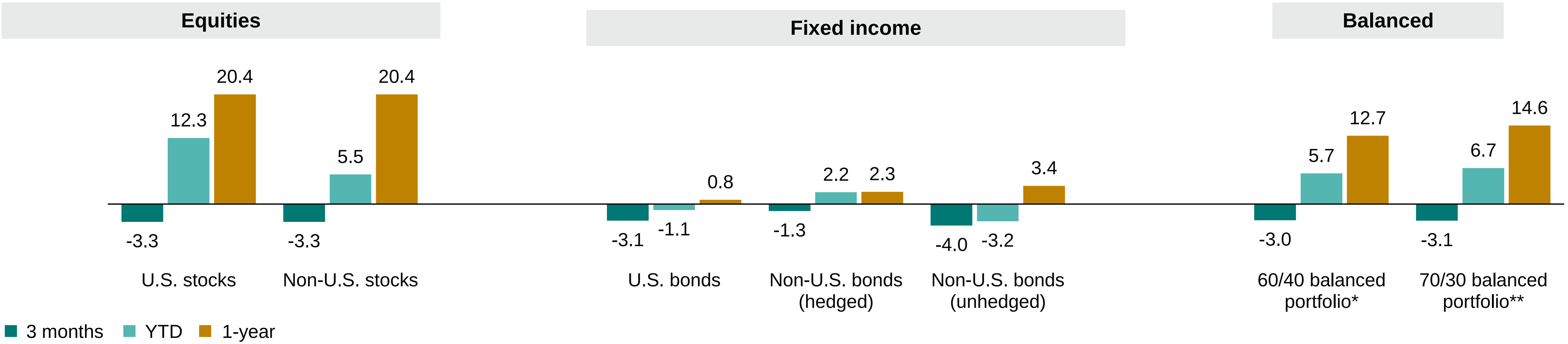
# Q3 Market Recap

# Market momentum shifts intra-quarter as yields surge

- Markets hit YTD highs in July driven by AI optimism and reduced risks of a hard landing scenario due to resilient U.S. economic data and sustained disinflation.
- Yet global stocks declined in August and accelerated to the downside in September on a combination of worries about China's growth and higher-for-longer messaging from the Fed.
- Markets discounted growing concerns around potential exogenous risks, including a spike in energy prices, labor disruptions, a U.S. government shutdown, and China's property crisis.

**Global market returns as of September 30, 2023 (%)**




**Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.**
Sources: Bloomberg, CRSP, and FTSE.
U.S. stocks (CRSP U.S. Total Market Index), non-U.S. stocks (FTSE Global All-Cap ex-U.S. Index), U.S. bonds (Bloomberg U.S. Aggregate Float Adjusted Index), non-U.S. bonds hedged (Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index hedged), non-U.S. bonds unhedged (Bloomberg Global Aggregate Index ex USD).
* 60/40 balanced portfolio Static Composite (36% U.S. stocks, 24% international stocks, and 28% investment-grade U.S. bonds, 12% investment-grade international bonds).
** 70/30 balanced portfolio Static Composite (42% U.S. stocks, 28% international stocks, and 21% investment-grade U.S. bonds, 9% investment-grade international bonds).





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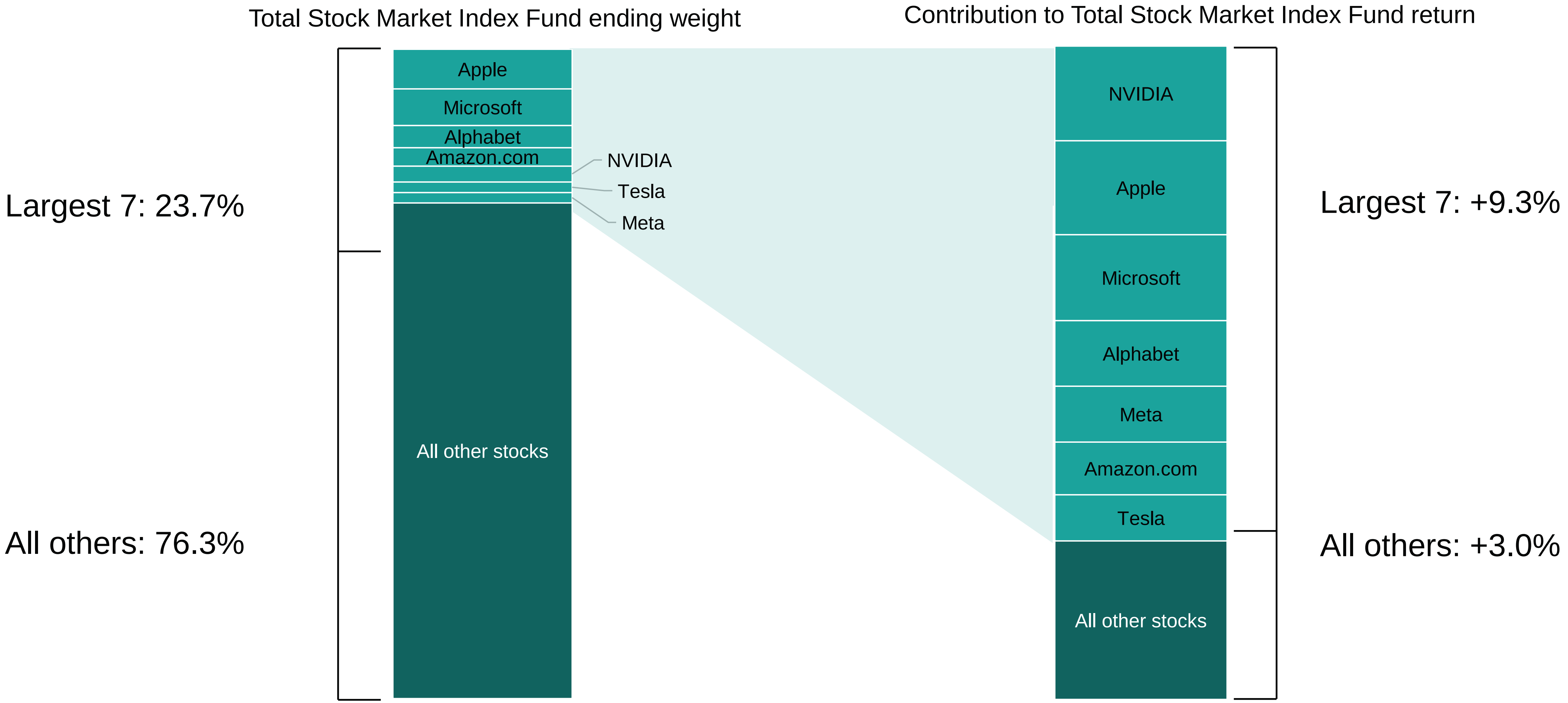
# 2023 YTD – Magnificent seven contributes to 76% of the Total Stock Market Index Fund return




Source: Factset as of 9/30/2023.

Note: Return data can be referenced in the appendix.

**The performance data shown represent past performance, which is not a guarantee of future results.**

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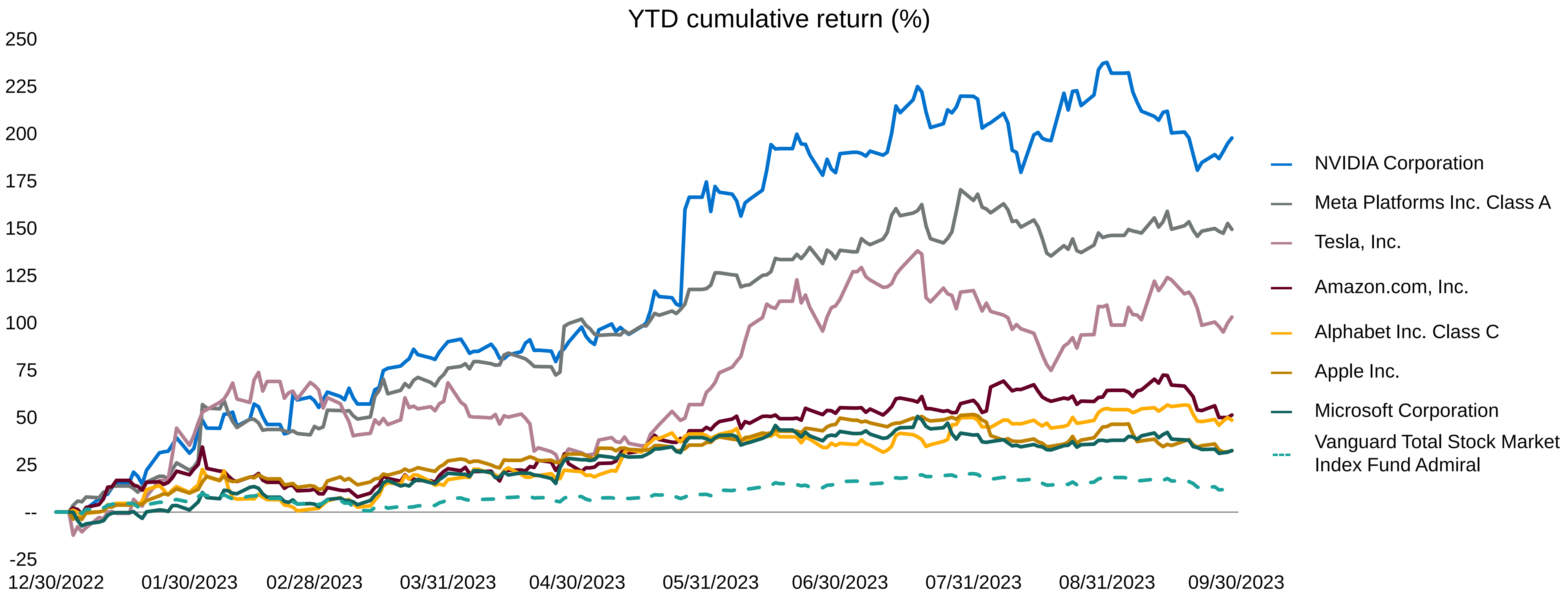
# Magnificent seven rally sputters in the third quarter



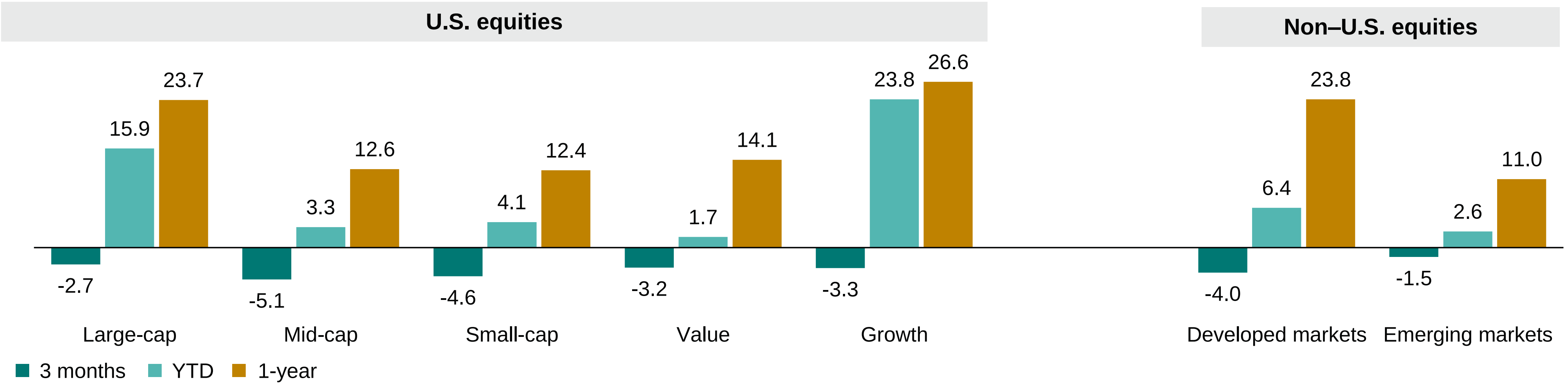

Source: Factset as of 9/30/2023.

**The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at www.vanguard.com/performance.**

# Rising rate outlook pressures stocks globally

- With Despite ending the quarter up 12% YTD, September saw the S&P 500 sustain its biggest monthly decline since last December and its first back-to-back drawdown sequence in a year.
- Emerging markets are experiencing stiff headwinds from rising yields and a stronger U.S. dollar, which surged 6.5% from its mid-July low to the highest level since last November.
- Small- and mid-cap stocks continue to lag the broader market due to higher sensitivity to a potential recession and to the banking crisis and lower exposure to AI tailwinds.

**Global equity market returns as of September 30, 2023 (%)**




**Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.**

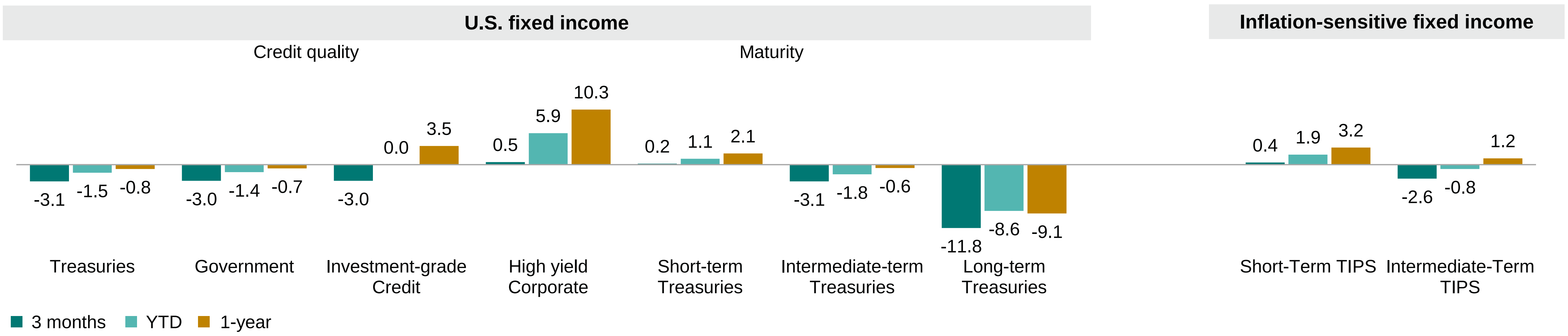
Sources: FTSE, MSCI, Russell, CRSP and Dow Jones.

Large-cap (CRSP US Mega Cap Index), Mid-cap (CRSP US Mid Cap Index), Small-cap (CRSP US Small Cap Index); Value (Russell 3000 Value Index), Growth (Russell 3000 Growth Index); Developed markets (FTSE Developed All Cap ex-US Index), Emerging markets (FTSE Emerging Markets All Cap China A Inclusion Index).

# Long-term Treasurys sell off as rate cut hopes evaporate

- Long-term treasuries sold off after the Fed indicated that they expect to keep rates higher further into 2024 to suppress inflation amid resilient economic data.
- The 10-year Treasury yield surpassed 4.6% for the first time since 2007 and rose sharply from 3.818% at the end of June.
- High yield has been a bright spot in the bond market this year due to its relatively shorter duration vs. investment-grade credit and short supply of new bond issuance.

**Domestic fixed income market returns as of September 30, 2023 (%)**



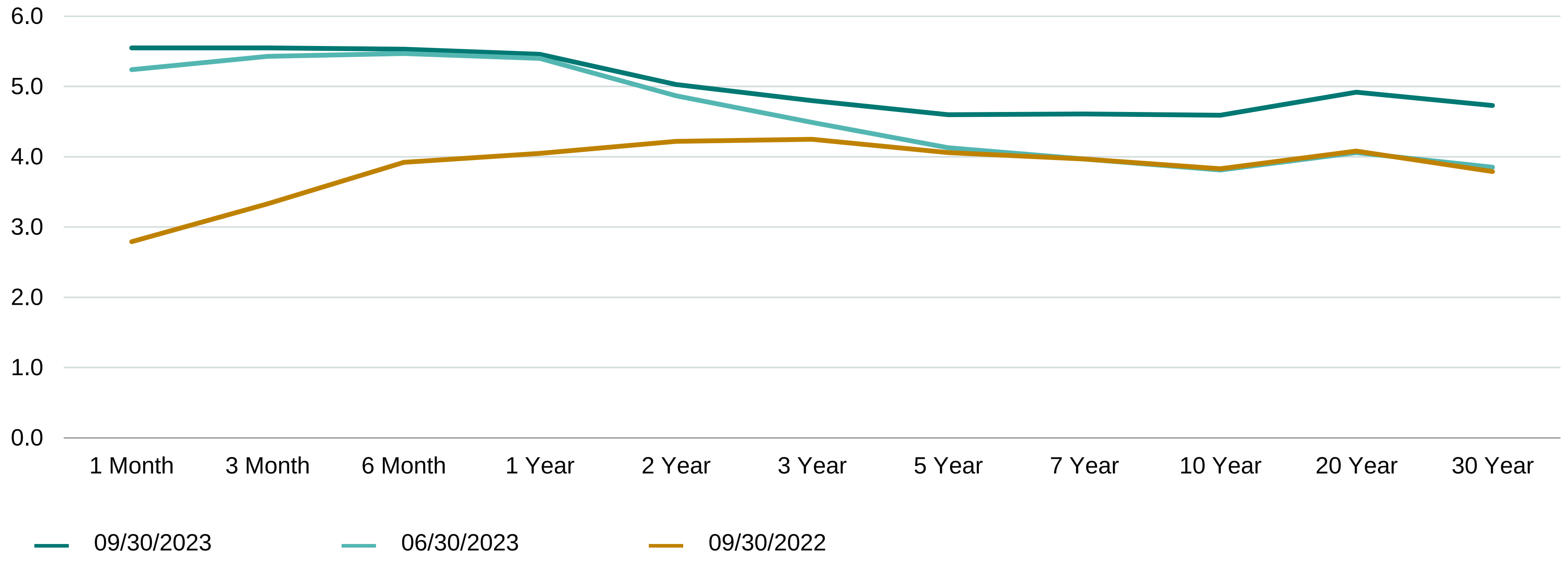

**Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.**

Source: Bloomberg.

Treasuries, government, investment-grade credit; high-yield (Bloomberg U.S. Treasury/Government/Credit/Corporate High-Yield Indices); short-inter-long-term Treasuries (Bloomberg U.S. 1–5/5–10/Long Treasury Indices); short-term TIPS (Bloomberg U.S. Treasury 0–5 Year Inflation-Protected Index); intermediate-term TIPS (Bloomberg U.S. Treasury Inflation-Protected Index).

# Curve flattening shifts to “bear steepening”

| Yield (%) and change (bps) | 1-month | 3-month | 6-month | 1-year | 2-year | 3-year | 5-year | 7-year | 10-year | 20-year | 30-year |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Current yield (%) | 5.55 | 5.55 | 5.53 | 5.46 | 5.03 | 4.80 | 4.60 | 4.61 | 4.59 | 4.92 | 4.73 |
| 3 Mo. Δ | 31 | 12 | 6 | 6 | 16 | 31 | 47 | 64 | 78 | 86 | 88 |
| 12 Mo. Δ | 276 | 222 | 161 | 141 | 81 | 55 | 54 | 64 | 76 | 84 | 94 |




Source: Morningstar.

# Portfolio Performance

# Portfolio monthly snapshot

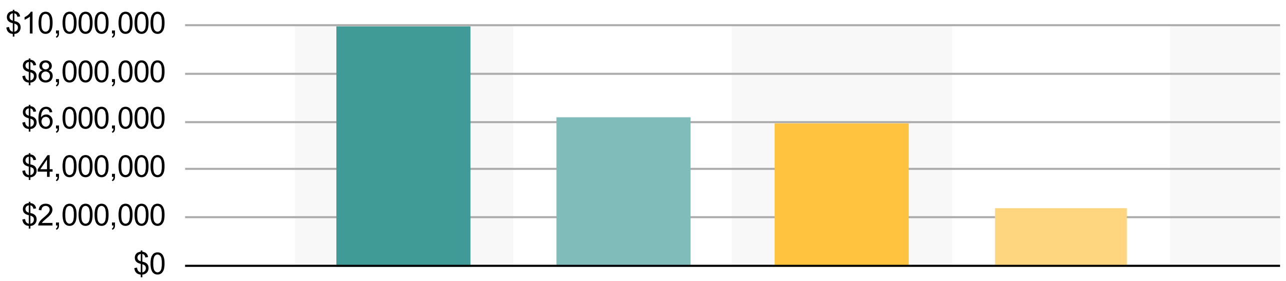
**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

As of September 30, 2023

## Cash flow and market activity by portfolio

| | One Month | Year-to-Date | One Year |
|---|---|---|---|
| Beginning Market Value | $25,142,207.04 | $23,294,580.28 | $21,746,243.55 |
| Net Cash Flow | $0.00 | -$522,995.62 | -$465,781.43 |
| Net Capital Appreciation | -$982,359.42 | $1,068,409.30 | $2,386,185.72 |
| Investment Income | $92,579.58 | $412,433.23 | $585,779.35 |
| **Ending Market Value** | **$24,252,427.19** | **$24,252,427.19** | **$24,252,427.19** |

## Current asset allocation by sub-asset class




| | U.S. Equity | Non-U.S. Equity | U.S. Fixed Income | Non-U.S. Fixed Income |
|---|---|---|---|---|
| Current | $9,920,890 | $6,136,421 | $5,857,888 | $2,337,229 |
| Current % | 40.91% | 25.30% | 24.15% | 9.64% |
| Policy % | 39.00% | 26.00% | 25.00% | 10.00% |
| Difference | 1.91% | -0.70% | -0.85% | -0.36% |

## Performance summary

| | 1 mo (%) | 3 mo (%) | YTD (%) | 1 yr (%) | 3 yrs (%) | 5 yrs (%) | 10 yrs (%) | Since inception | Inception date |
|---|---|---|---|---|---|---|---|---|---|
| **Client portfolio (gross)** | -3.54 | -3.16 | 6.31 | 13.63 | 3.23 | 4.78 | 6.10 | 6.38 | 01/31/13 |
| **Client portfolio (net)** | -3.54 | -3.22 | 6.14 | 13.39 | 3.07 | 4.63 | 5.93 | 6.21 | 01/31/13 |
| **Policy benchmark** | -3.44 | -3.03 | 6.18 | 13.60 | 3.09 | 4.66 | 6.05 | 6.31 | 01/31/13 |

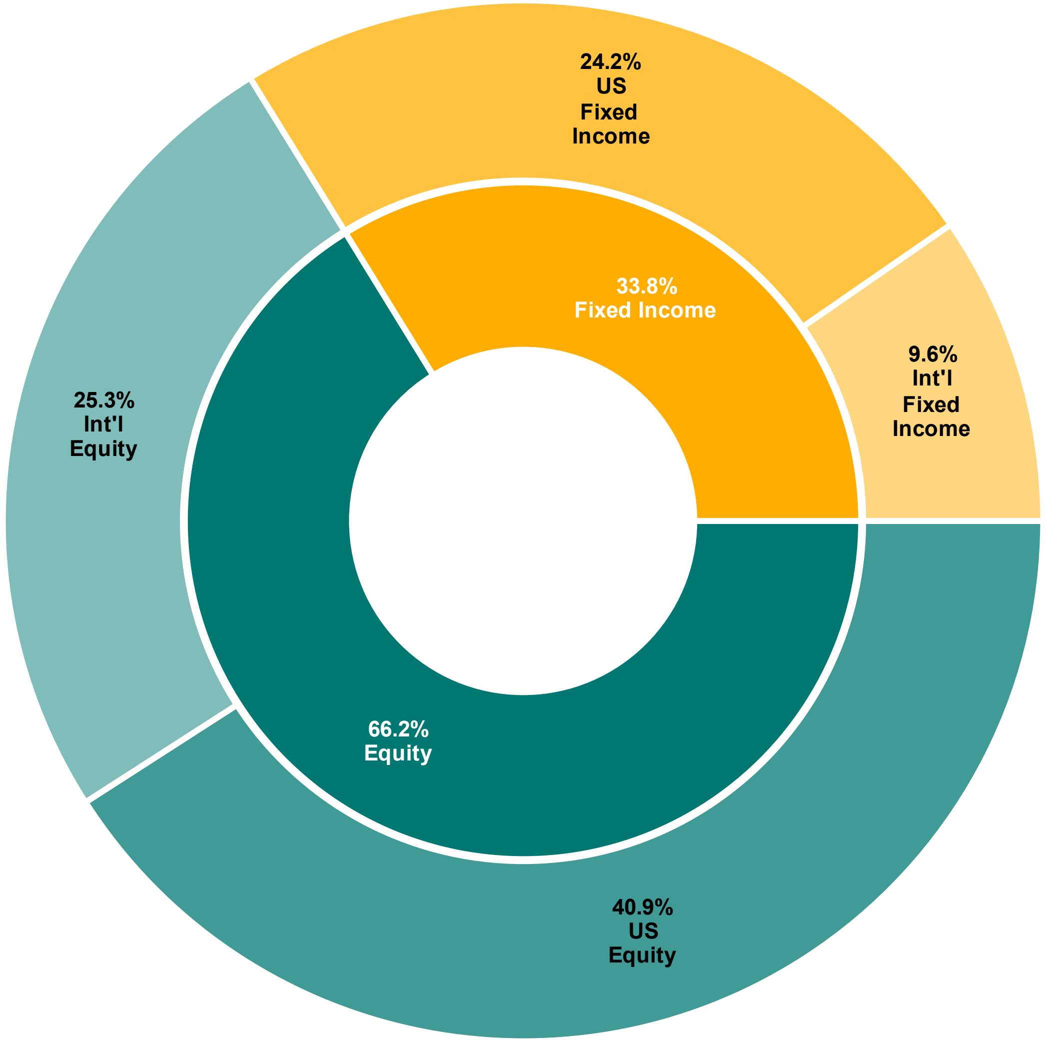
**Source**: Vanguard. See Benchmark allocation history for description of what the policy benchmark represents. Policy Benchmark is rebalanced monthly. Portfolio is generally rebalanced quarterly, but may vary. **Past performance is not a guarantee of future results.** Diversification and asset allocation can not ensure profit or prevent loss. All returns shown are time-weighted (TWR). Gross Portfolio returns include the deduction of all underlying fund expense ratios, but are gross of advisory, service fees, and purchase/redemption fees applied to the client portfolio. Net Portfolio returns are net of all advisory and security-level fees and expenses. Both Gross and Net returns do reflect the reinvestment of dividends, capital gains, and interest but do not reflect the deduction of taxes. Had those expenses been deducted then performance would have been lower. Indexes are unmanaged; therefore direct investment is not possible. Index returns do not reflect deduction of fees and expenses but do reflect reinvestment of dividends, capital gains, and interest. **Read additional information in Benchmark and Disclosures sections.**

# Portfolio allocation snapshot

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

As of September 30, 2023

## Asset allocation




## Sub-asset classes and manager styles

| Asset class | Sub-asset class | Manager style | |
|---|---|---|---|
| Equity | US Equity | Large Blend | 40.9% |
| Equity | Int'l Equity | Foreign Large Blend | 25.3% |
| Fixed Income | US Fixed Income | Intermediate-Term Government | 12.0% |
| Fixed Income | US Fixed Income | Intermediate-Term Investment Grade | 2.7% |
| Fixed Income | US Fixed Income | Long-Term Bond Investment Grade | 2.8% |
| Fixed Income | US Fixed Income | Short-Term Investment Grade | 6.6% |
| Fixed Income | Int'l Fixed Income | Intermediate-Term Investment Grade | 9.6% |

The Asset allocation percentages represent the client's current allocations to the total portfolio. **Neither asset allocation or diversification can guarantee a profit or prevent loss.**

# Performance summary–by securities

## UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US

For the periods ended September 30, 2023

| | Mkt value ($) | % of portfolio | Policy benchmark | 1 mo (%) | 3 mo (%) | YTD (%) | 1 yr (%) | 3 yrs (%) | 5 yrs (%) | 10 yrs (%) | Since inception | Inception date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Client portfolio (gross)** | 24,252,427 | 100.0 | 100.0 | -3.54 | -3.16 | 6.31 | 13.63 | 3.23 | 4.78 | 6.10 | 6.38 | 01/31/13 |
| **Client portfolio (net)** | | | | -3.54 | -3.22 | 6.14 | 13.39 | 3.07 | 4.63 | 5.93 | 6.21 | 01/31/13 |
| **Policy benchmark** | | | | -3.44 | -3.03 | 6.18 | 13.60 | 3.09 | 4.66 | 6.05 | 6.31 | 01/31/13 |
| **■ Equity** | **16,057,310** | **66.2** | **65.0** | **-4.23** | **-3.56** | **9.48** | **20.37** | **7.17** | **6.60** | **8.45** | **9.08** | **01/31/13** |
| Equity - Policy benchmark | | | | -4.12 | -3.30 | 9.59 | 20.56 | 7.28 | 6.63 | 8.47 | 9.10 | 01/31/13 |
| **• Domestic Equity** | **9,920,890** | **40.9** | **39.0** | **-4.79** | **-3.29** | **12.34** | **20.38** | **9.25** | **9.06** | **11.24** | **11.95** | **01/31/13** |
| Domestic Equity - Policy benchmark | | | | -4.79 | -3.30 | 12.34 | 20.37 | 9.26 | 9.07 | 11.24 | 11.95 | 01/31/13 |
| **- Vanguard Total Stock Market Index Fund Institutional Shares** | **9,920,890** | **40.9** | **-** | **-4.79** | **-3.29** | **12.34** | **20.38** | **9.25** | **9.06** | **11.23** | **11.91** | **02/28/13** |
| Spliced Total Stock Market Index | | | | -4.79 | -3.30 | 12.34 | 20.37 | 9.26 | 9.07 | 11.24 | 11.92 | 02/28/13 |
| Multi-Cap Core Funds Average | | | | -4.60 | -3.64 | 8.56 | 17.17 | 8.02 | 7.02 | 8.77 | 9.59 | 02/28/13 |
| **• International Equity** | **6,136,421** | **25.3** | **26.0** | **-3.32** | **-4.01** | **5.04** | **20.50** | **3.89** | **2.76** | **3.62** | **3.98** | **01/31/13** |
| International Equity - Policy benchmark | | | | -3.12 | -3.33 | 5.48 | 20.40 | 4.13 | 2.86 | 3.72 | 4.06 | 01/31/13 |
| **- Vanguard Total International Stock Index Fund Institutional Shares** | **6,136,421** | **25.3** | **-** | **-3.32** | **-4.01** | **5.04** | **20.50** | **3.89** | **2.76** | **-** | **2.84** | **08/31/17** |
| Spliced Total International Stock Index | | | | -3.12 | -3.33 | 5.48 | 20.40 | 4.13 | 2.86 | - | 2.99 | 08/31/17 |

**Source**: Vanguard. See Benchmark allocation history for description of what the policy benchmark and asset-class benchmarks represent. Policy Benchmark is rebalanced monthly. Portfolio is generally rebalanced quarterly, but may vary. All Returns greater than one year are annualized. **Past performance is not a guarantee of future results**. Diversification and asset allocation can not ensure profit or prevent loss. All returns shown are time-weighted (TWR). Gross Portfolio returns include the deduction of all underlying fund expense ratios, but are gross of advisory, service fees, and purchase/redemption fees applied to the client portfolio. Net Portfolio returns are net of all advisory and security-level fees and expenses. Both Gross and Net returns do reflect the reinvestment of dividends, capital gains, and interest but do not reflect the deduction of taxes. Had those expenses been deducted then performance would have been lower. Indexes are unmanaged; therefore direct investment is not possible. Unless otherwise noted, index returns do not reflect deduction of fees and expenses but do reflect reinvestment of dividends, capital gains, and interest. **Read additional information in Benchmark and Disclosures sections.**

# Performance summary–by securities (continued)

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

For the periods ended September 30, 2023

| | Mkt value ($) | % of portfolio | Policy benchmark | 1 mo (%) | 3 mo (%) | YTD (%) | 1 yr (%) | 3 yrs (%) | 5 yrs (%) | 10 yrs (%) | Since inception | Inception date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| International Funds Average | | | | -3.91 | -5.01 | 5.77 | 22.72 | 3.41 | 2.65 | - | 2.79 | 08/31/17 |
| **Fixed Income** | **8,195,117** | **33.8** | **35.0** | **-2.15** | **-2.37** | **0.43** | **1.95** | **-4.50** | **0.36** | **1.48** | **1.30** | **01/31/13** |
| Fixed Income - Policy benchmark | | | | -2.18 | -2.60 | -0.12 | 1.23 | -4.85 | 0.17 | 1.37 | 1.17 | 01/31/13 |
| **Domestic Fixed Income** | **5,857,888** | **24.2** | **25.0** | **-2.35** | **-2.72** | **-0.25** | **1.88** | **-4.61** | **0.51** | **1.39** | **1.21** | **01/31/13** |
| Domestic Fixed Income - Policy benchmark | | | | -2.46 | -3.11 | -1.06 | 0.78 | -5.18 | 0.18 | 1.16 | 0.97 | 01/31/13 |
| - **Vanguard Total Bond Market Index Fund Admiral Shares** | **2,921,219** | **12.0** | **-** | **-2.48** | **-3.09** | **-0.93** | **0.73** | **-5.21** | **0.13** | **1.11** | **0.92** | **01/31/13** |
| Spliced Bloomberg U.S. Aggregate Float Adjusted Index | | | | -2.46 | -3.11 | -1.06 | 0.78 | -5.18 | 0.18 | 1.16 | 0.97 | 01/31/13 |
| Spliced Intermediate Investment-Grade Debt Funds Average | | | | -2.45 | -2.96 | -0.81 | 0.91 | -4.95 | 0.09 | 1.07 | 0.85 | 01/31/13 |
| - **Vanguard Short-Term Investment-Grade Fund Admiral Shares** | **1,609,731** | **6.6** | **-** | **-0.51** | **0.36** | **2.13** | **3.89** | **-1.06** | **1.47** | **1.62** | **1.55** | **01/31/13** |
| Bloomberg U.S. 1-5 Year Credit Bond Index | | | | -0.49 | 0.25 | 1.90 | 3.72 | -1.14 | 1.60 | 1.67 | 1.62 | 01/31/13 |
| 1-5 Year Investment-Grade Debt Funds Average | | | | -0.23 | 0.67 | 2.42 | 3.69 | -1.29 | 0.82 | 1.00 | 0.93 | 01/31/13 |
| - **Vanguard Long-Term Investment-Grade Fund Admiral Shares** | **680,826** | **2.8** | **-** | **-5.66** | **-7.86** | **-3.29** | **0.58** | **-10.13** | **-** | **-** | **-3.83** | **07/31/19** |
| Bloomberg U.S. Long Credit A or Better Bond Index | | | | -5.52 | -7.68 | -3.47 | 0.86 | -10.15 | - | - | -4.09 | 07/31/19 |
| Corporate A-Rated Debt Funds Average | | | | -3.38 | -4.43 | -1.67 | 0.34 | -5.92 | - | - | -2.03 | 07/31/19 |

**Source**: Vanguard. See Benchmark allocation history for description of what the policy benchmark and asset-class benchmarks represent. Policy Benchmark is rebalanced monthly. Portfolio is generally rebalanced quarterly, but may vary. All Returns greater than one year are annualized. **Past performance is not a guarantee of future results**. Diversification and asset allocation can not ensure profit or prevent loss. All returns shown are time-weighted (TWR). Gross Portfolio returns include the deduction of all underlying fund expense ratios, but are gross of advisory, service fees, and purchase/redemption fees applied to the client portfolio. Net Portfolio returns are net of all advisory and security-level fees and expenses. Both Gross and Net returns do reflect the reinvestment of dividends, capital gains, and interest but do not reflect the deduction of taxes. Had those expenses been deducted then performance would have been lower. Indexes are unmanaged; therefore direct investment is not possible. Unless otherwise noted, index returns do not reflect deduction of fees and expenses but do reflect reinvestment of dividends, capital gains, and interest. **Read additional information in Benchmark and Disclosures sections.**

# Performance summary–by securities (continued)

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

For the periods ended September 30, 2023

| | Mkt value ($) | % of portfolio | Policy benchmark | 1 mo (%) | 3 mo (%) | YTD (%) | 1 yr (%) | 3 yrs (%) | 5 yrs (%) | 10 yrs (%) | Since inception | Inception date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - **Vanguard Intermediate-Term Investment-Grade Fund Admiral Shares** | **646,112** | **2.7** | **-** | **-2.64** | **-2.78** | **0.38** | **3.88** | **-4.48** | **1.08** | **1.99** | **1.74** | **01/31/13** |
| Bloomberg U.S. 5-10 Year Credit Bond Index | | | | -2.57 | -2.71 | 0.26 | 3.89 | -4.51 | 1.30 | 2.38 | 2.03 | 01/31/13 |
| Spliced Core Bond Funds Average | | | | -2.45 | -2.96 | -0.81 | 0.91 | -4.95 | 0.09 | 1.07 | 0.85 | 01/31/13 |
| • **International Fixed Income** | **2,337,229** | **9.6** | **10.0** | **-1.64** | **-1.47** | **2.18** | **2.12** | **-4.21** | **-0.02** | **1.80** | **1.86** | **08/31/13** |
| International Fixed Income - Policy benchmark | | | | -1.49 | -1.29 | 2.22 | 2.31 | -4.06 | 0.14 | - | 2.01 | 12/31/13 |
| - **Vanguard Total International Bond Index Fund Admiral Shares** | **2,337,229** | **9.6** | **-** | **-1.64** | **-1.47** | **2.18** | **2.12** | **-4.21** | **-0.02** | **1.80** | **1.86** | **08/31/13** |
| Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index Hedged | | | | -1.49 | -1.29 | 2.22 | 2.31 | -4.06 | 0.14 | 2.01 | 2.06 | 08/31/13 |
| International Income Funds Average | | | | -2.20 | -2.29 | -0.51 | 5.00 | -5.50 | -1.72 | -0.46 | -0.23 | 08/31/13 |

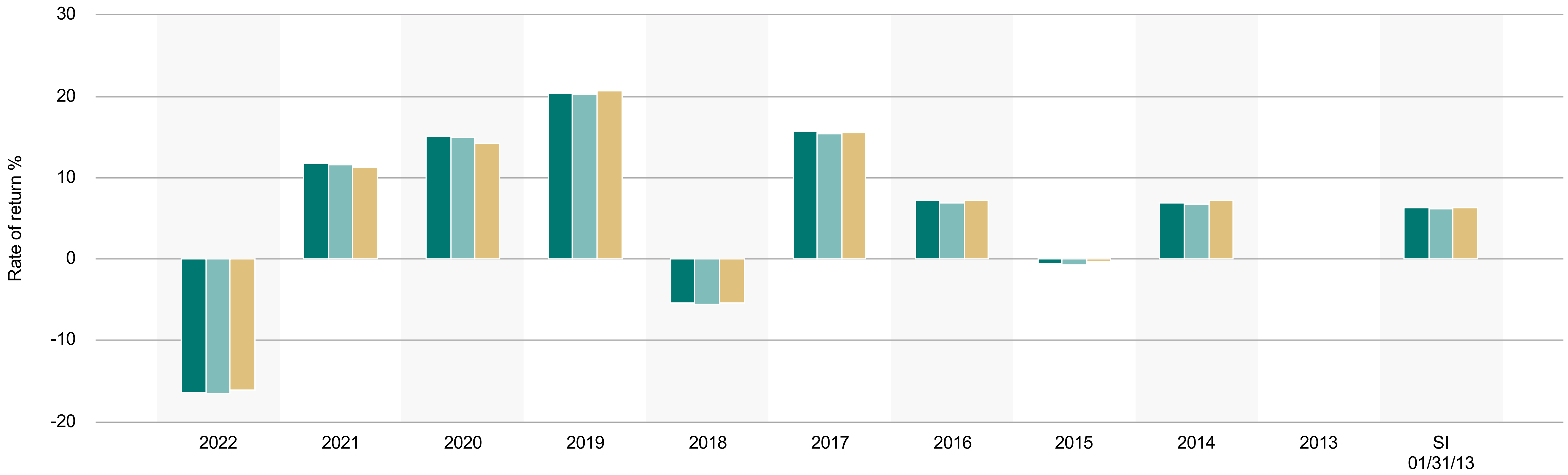
**Source**: Vanguard. See Benchmark allocation history for description of what the policy benchmark and asset-class benchmarks represent. Policy Benchmark is rebalanced monthly. Portfolio is generally rebalanced quarterly, but may vary. All Returns greater than one year are annualized. **Past performance is not a guarantee of future results**. Diversification and asset allocation can not ensure profit or prevent loss. All returns shown are time-weighted (TWR). Gross Portfolio returns include the deduction of all underlying fund expense ratios, but are gross of advisory, service fees, and purchase/redemption fees applied to the client portfolio. Net Portfolio returns are net of all advisory and security-level fees and expenses. Both Gross and Net returns do reflect the reinvestment of dividends, capital gains, and interest but do not reflect the deduction of taxes. Had those expenses been deducted then performance would have been lower. Indexes are unmanaged; therefore direct investment is not possible. Unless otherwise noted, index returns do not reflect deduction of fees and expenses but do reflect reinvestment of dividends, capital gains, and interest. **Read additional information in Benchmark and Disclosures sections.**

# Portfolio performance–annual periods

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

For the period ended September 30, 2023

Gross versus net of fees




| | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | Since Inception |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gross return | -16.35% | 11.76% | 15.17% | 20.39% | -5.44% | 15.64% | 7.14% | -0.50% | 6.88% | - | 6.38% |
| Net return | -16.49% | 11.63% | 15.03% | 20.24% | -5.58% | 15.43% | 6.94% | -0.66% | 6.70% | - | 6.21% |
| Policy benchmark | -16.05% | 11.30% | 14.22% | 20.65% | -5.41% | 15.59% | 7.21% | -0.32% | 7.24% | - | 6.31% |

**Source**: Vanguard. See Benchmark allocation history for description of what the policy benchmark and asset-class benchmarks represent. Policy Benchmark is rebalanced monthly. Portfolio is generally rebalanced quarterly, but may vary. All Returns greater than one year are annualized. **Past performance is not a guarantee of future results**. Diversification and asset allocation can not ensure profit or prevent loss. All returns shown are time-weighted (TWR). Gross Portfolio returns include the deduction of all underlying fund expense ratios, but are gross of advisory, service fees, and purchase/redemption fees applied to the client portfolio. Net Portfolio returns are net of all advisory and security-level fees and expenses. Both Gross and Net returns do reflect the reinvestment of dividends, capital gains, and interest but do not reflect the deduction of taxes. Had those expenses been deducted then performance would have been lower. Indexes are unmanaged; therefore direct investment is not possible. Unless otherwise noted, index returns do not reflect deduction of fees and expenses but do reflect reinvestment of dividends, capital gains, and interest. **Read additional information in Benchmark and Disclosures sections.**

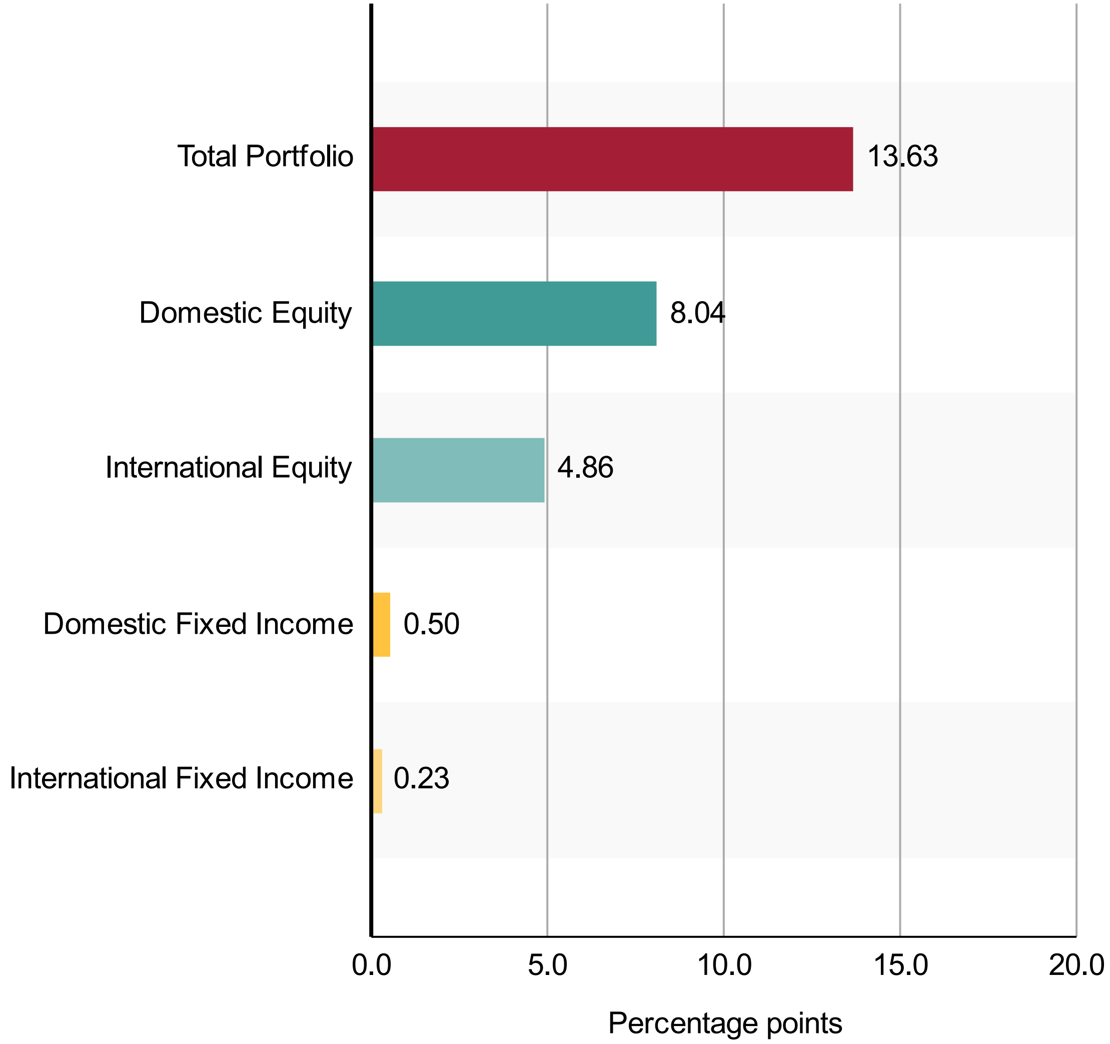
# Asset-weighted contributions to performance

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

Contribution to portfolio returns for the periods ended September 30, 2023

One month


12 months




Contributions to returns are gross of advisory fees and are time-weighted.

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# Portfolio risk analysis

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

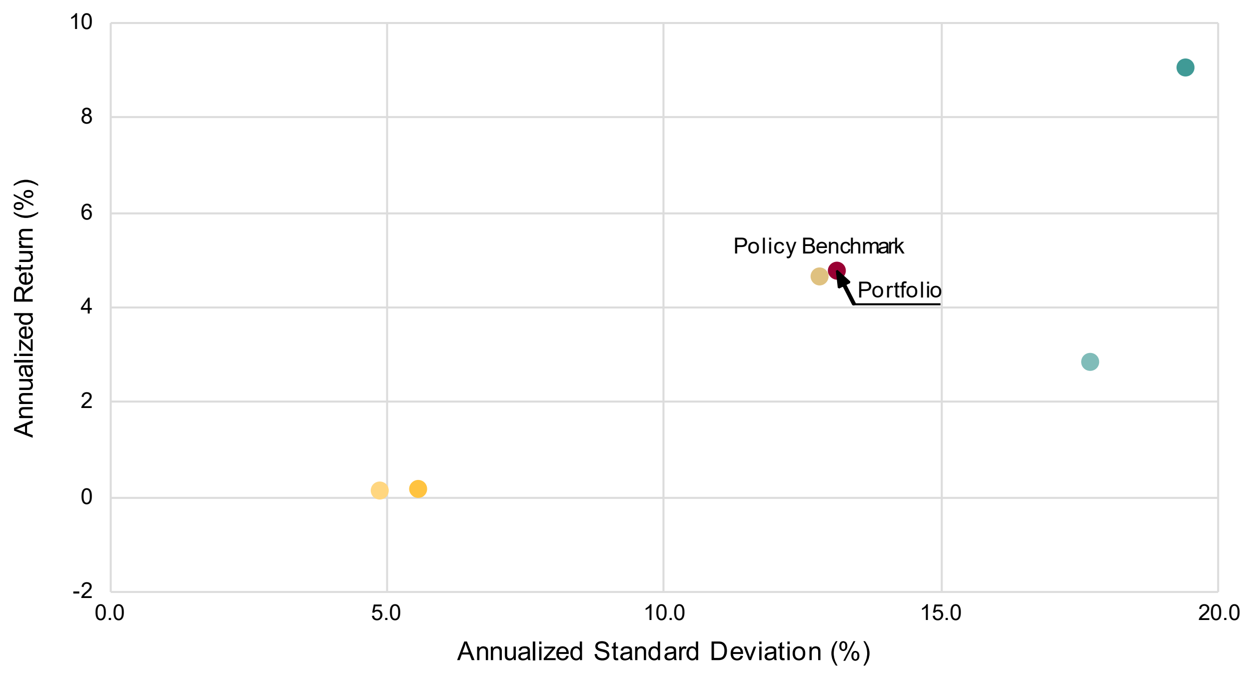
For the five-year period ended September 30, 2023

## Risk analysis

| | Portfolio | Policy |
|---|---|---|
| Annualized return (%) | 4.78 | 4.66 |
| Annualized standard deviation (%) | 13.12 | 12.80 |
| Annualized Sharpe ratio | 0.23 | 0.23 |
| Annualized tracking error (%) vs benchmark | 0.62 | - |
| Annualized Information ratio vs benchmark | 0.19 | - |
| Annualized Jensen's Alpha (%) vs benchmark | 0.05 | - |
| Beta vs benchmark | 1.02 | 1.00 |
| R-Squared vs benchmark | 0.9983 | 1.0000 |

Returns and risk for the “Risk Analysis” chart are gross of advisory fees and are time-weighted. Returns and risk for the “Risk versus returns” chart represent the assigned sub-asset class benchmarks for the client’s portfolio, of which there may be more than one per sub-asset class.

## Risk versus returns




| Sub-asset class | Benchmark | Return | Risk |
|---|---|---|---|
| Domestic Equity | Spliced Total Stock Market Index | 9.1% | 19.4% |
| International Equity | Spliced Total International Stock Index | 2.9% | 17.7% |
| Domestic Fixed Income | Spliced Bloomberg U.S. Aggregate Float | 0.2% | 5.6% |
| International Fixed Income | Bloomberg Global Aggregate ex-USD | 0.1% | 4.9% |
| Client portfolio | | 4.8% | 13.1% |
| Policy benchmark | | 4.7% | 12.8% |

# Cash flow and market value summary

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

For the periods ended September 30, 2023

## Cash flow summary and market value history

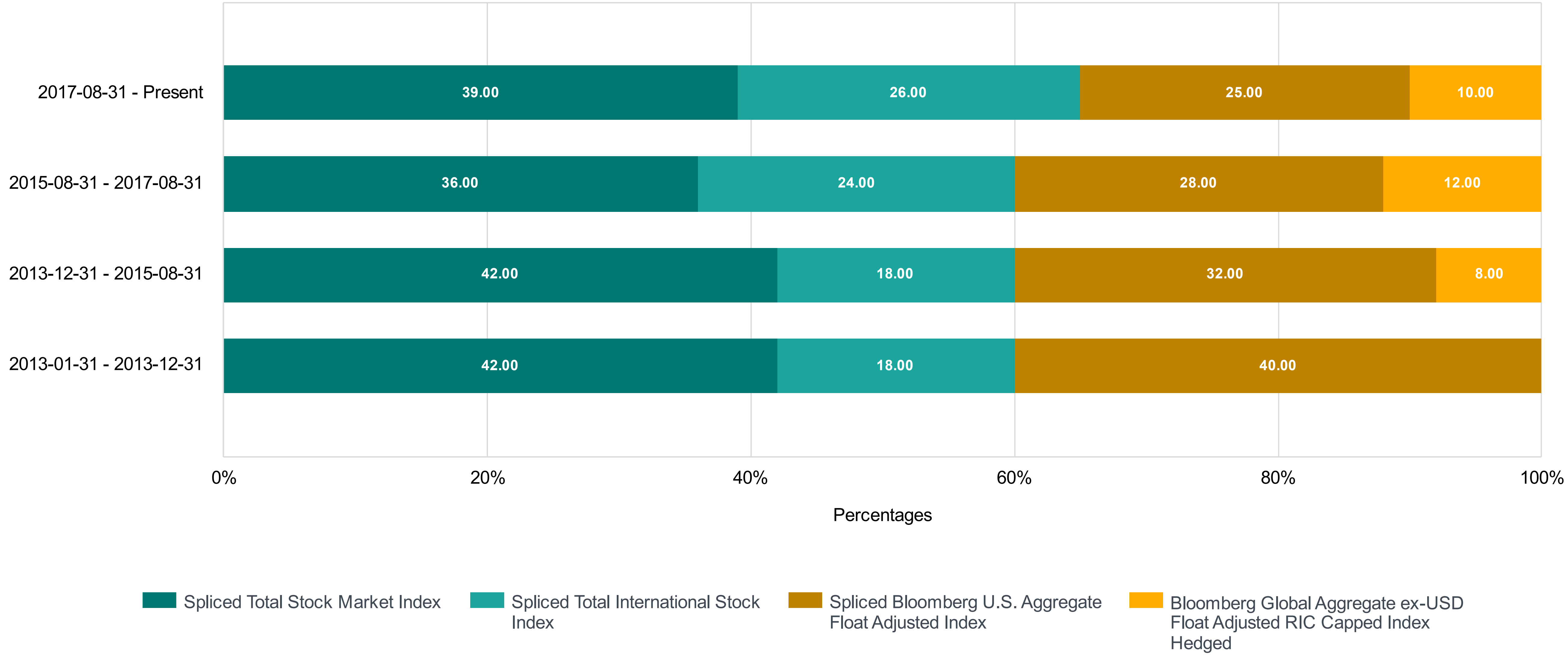
| | Last month | Last three months | Year-to-date | One year |
|---|---|---|---|---|
| Beginning Market Value | $25,142,207.04 | $25,257,218.94 | $23,294,580.28 | $21,746,243.55 |
| Net Cash Flow | $0.00 | -$217,589.31 | -$522,995.62 | -$465,781.43 |
| Contributions | $0.00 | $0.00 | $83,500.00 | $195,500.00 |
| Redemptions | $0.00 | -$201,900.00 | -$565,000.00 | -$610,000.00 |
| Advisory Fees | $0.00 | -$15,689.31 | -$41,495.62 | -$51,281.43 |
| Net Investment Change | -$889,779.84 | -$787,202.44 | $1,480,842.53 | $2,971,965.07 |
| Net Capital | -$982,359.42 | -$923,304.39 | $1,068,409.30 | $2,386,185.72 |
| Investment Income | $92,579.58 | $136,101.95 | $412,433.23 | $585,779.35 |
| Ending Market Value | $24,252,427.19 | $24,252,427.19 | $24,252,427.19 | $24,252,427.19 |

**Source**: Vanguard.

# Benchmark allocation history

**UA 11-16-2012 Congregational Investment Trust Corp for NACCC of The US**

Policy benchmark allocations up to September 30, 2023




Policy Benchmark is a weighted set of indices that align to the Investment Management Agreement Schedule B which sets forth the strategic asset allocation for the client portfolio. The Policy Benchmark is rebalanced monthly. Allocations may change overtime as the investment strategy changes. The most recently policy benchmark composition is in the top row. Neither asset allocation nor diversification can guarantee a profit or prevent loss. Indexes are unmanaged; direct investment is not possible. **Please read additional information in Benchmark and Disclosure sections.**

# Market & Economic Outlook

# Vanguard monthly market and economic update

The views below are those of the global economics and markets team of Vanguard Investment Strategy Group as of September 13, 2023.

**Key Highlights**

- U.S. fiscal and monetary policies appear headed in different directions, leading to a period of higher sustained interest rates.
- Both core and headline inflation marginally exceeded our expectations.
- Further promising economic data from China is evidence of potential stabilization.

**Asset-class return outlooks**

Our 10-year annualized nominal return and volatility forecasts are shown below. They are based on the June 30, 2023 running of the Vanguard Capital Markets Model® (VCMM). Equity returns reflect a 2-point range around the 50th percentile of the distribution of probable outcomes. Fixed income returns reflect a 1-point range around the 50th percentile. More extreme returns are possible.

| Equities | Return projection | Median volatility |
|---|---|---|
| U.S. equities | 3.7%–5.7% | 17.0% |
| Global equities ex-U.S. (unhedged) | 6.4%–8.4% | 18.2% |

| Fixed income | Return projection | Median volatility |
|---|---|---|
| U.S. aggregate bonds | 4.0%–5.0% | 5.6% |
| U.S. Treasury bonds | 3.6%–4.6% | 5.9% |
| Global bonds ex-U.S. (hedged) | 4.0%–5.0% | 4.4% |

These probabilistic return assumptions depend on current market conditions and, as such, may change over time.

**IMPORTANT: The projections or other information generated by the Vanguard Capital Markets Model® regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for each modeled asset class. Simulations are as of June 30, 2023. Results from the model may vary with each use and over time. For more information, see Important information page.**

Source: Vanguard Investment Strategy Group.

# Vanguard monthly market and economic update

## Region-by-region outlook

### United States

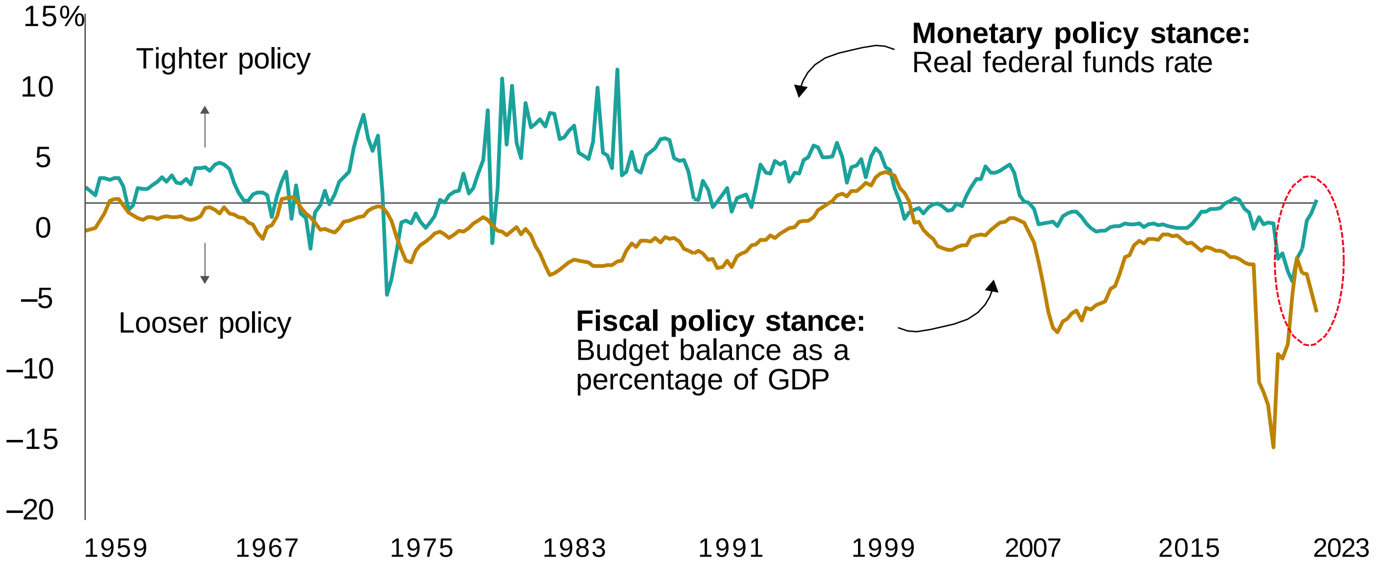
In the last significant data release before the Federal Reserve's next policy decision, core inflation accelerated in August compared with the two previous months, the Bureau of Labor Statistics reported. Although both core and headline inflation marginally exceeded our expectations, we don't see cause for concern. Shelter costs continue to trend lower, goods prices have been deflationary, and—outside of volatile transportation prices—services prices have been largely within expectations.

- We still expect year-over-year headline inflation of 3.2% and core inflation of 3.6% to end 2023, based on the Personal Consumption Expenditures Index, one of two key U.S. inflation indicators. However, given recent volatility in energy prices, the upside risk to our headline forecast has increased.
- Either a rate hike or a pause seems plausible at the September 20 meeting of the Federal Reserve—but we forecast another 25–75 basis points of Fed rate hikes before the end of the current monetary tightening cycle. The Fed's current rate target is 5.25%–5.50%, a 22-year high.
- Our view that the Fed may raise its rate target by 25–75 basis points is in line with market expectations, though we differ from the market on when the cycle will reverse. Markets foresee rate cuts early next year, while we foresee rate cuts starting only in the second half of 2024. We believe the catalyst for easing would be either a recession or inflation falling while economic activity remains strong (a "soft landing"). A recession appears significantly more likely.
- We recently increased our forecast for 2023 GDP growth to 1.8%. Recession in the next 18 months remains our baseline expectation, though we now peg the probability of recession at about 70%, down from our previous view of more than 90%.

Over decades, U.S. fiscal and monetary policies have mostly traveled in the same direction, toward either more restrictive (tighter) or less restrictive (looser) financial conditions. Recently, though, they have diverged. Legislation intended to boost the economy after the COVID-19 pandemic has run into an aggressive series of central bank interest rate hikes meant to quell the post-pandemic recovery's rampant inflation.

# Vanguard monthly market and economic update

## U.S. fiscal and monetary policies heading in different directions




In short, explains Josh Hirt, a Vanguard senior economist, "Monetary policy is still working its way through the economy, trying to constrain activity even as the impacts of supportive fiscal policy have kicked in. This is one of the reasons we believe the economy faces a period of higher sustained interest rates than we've grown accustomed to seeing." Vanguard believes that the Federal Reserve may need to raise rates further and keep them at their highest levels for an extended period in the face of continued economic resilience.

Note: The federal funds rate is the annualized rate of interest that banks charge one another for overnight loans. The Federal Reserve sets a target rate that controls the effective rate. The real (inflation-adjusted) federal funds rate is the effective federal funds rate minus the 12-month rate of core inflation (which excludes volatile food and energy prices), as measured by the Consumer Price Index. The budget balance (surplus or deficit) is for the federal government and is a rolling 12-month sum.
Sources: Vanguard calculations through June 30, 2023, using data from the U.S. Treasury, the Bureau of Labor Statistics, the Federal Reserve Bank of New York, and the Bureau of Economic Analysis.

# Vanguard monthly market and economic update

## Euro area

The European Central Bank (ECB) announced a 25-basis- point rate hike on September 14, taking its deposit facility rate to 4%. With that, Vanguard believes the bank has reached its peak rate in a hiking cycle that began in July 2022.

- “The manufacturing sector has been in a deep malaise for a year, and broader high-frequency data have been weak in the third quarter,” said Shaan Raithatha, a Vanguard senior economist. “Given our expectation that already- implemented monetary policy tightening will have its maximum impact in the next two quarters, we don’t expect the ECB will see a need for further rate hikes.” We expect the ECB to leave rates on hold until the middle of 2024.
- The hiking cycle was initiated to counter generationally high inflation. Headline inflation was unchanged at 5.3% in August compared with a year earlier, according to Eurostat, the European Union’s statistical agency. We expect a sharp disinflationary trajectory for the remainder of 2023, with core inflation ending the year at about 3.3%.
- As with the United Kingdom, we are skeptical about the prospect for “painless disinflation,” in which prices normalize without economic weakening and meaningful job losses. We expect the unemployment rate to rise to 7%, though risks skew to the downside.
- We attach a 90% probability to recession in the next 18 months. In our base case, we expect the economy to contract in the third and fourth quarters of 2023.

## United Kingdom

The Bank of England (BOE) finds itself in a tricky spot ahead of its September 21 interest rate announcement. Inflation and wage pressures remain strong even as high-frequency data suggest economic weakening in the third quarter.

- We believe the bank will lift interest rates by 25 basis points on September 21, and we continue to foresee a rate peak of 5.50%–5.75%. Persistently strong wage and inflation data could cause the BOE to hike beyond our forecast peak.
- We expect both headline and core inflation to fall to close to 5% by the end of 2023, led by favorable comparisons to year-earlier prices for energy, food, and core goods. But we foresee limited progress on services inflation the rest of the year.
- The latest employment report sent mixed signals. “Although wage growth remains hot, there are signs of labor market easing,” said Shaan Raithatha, a Vanguard senior economist. “Employment fell further, job vacancies dropped below 1 million for the first time since 2021, and the unemployment rate ticked up. We believe the BOE will almost certainly raise the bank rate in its September meeting. The next meeting, in November, will be a closer call.”
- We continue to expect full-year 2023 GDP to be largely unchanged from 2022. Our base case remains that the U.K. economy will enter recession within the next 18 months.

# Vanguard monthly market and economic update

## China

A September 15 release of data on retail and housing sales, industrial production, and fixed asset investment will say a lot about whether an economy that has struggled for several months may have hit its bottom.

- “Recent data releases on trade, inflation, and credit demand weren’t as dire as many had expected,” said Grant Feng, a Vanguard senior economist. “One month of data isn’t enough to say things have turned around, and China’s economic challenges certainly aren’t over, but further promising data this week would offer more evidence of potential stabilization.”
- After a brief foray into deflation in July, when broad consumer prices fell on a year-over-year basis, consumer prices rose 0.1% year-over-year in August and 0.3% month- over-month. Producer prices continued to fall, declining by 3.0% in August from a year earlier, less than the 4.4% year-over-year drop in July. We expect headline inflation of 0.5%–1.0% for the full year.
- We maintain our view for full-year economic growth in a range of 5.25%–5.75%, with risks tilted to the lower end of our forecast range. In a recent interview, Feng and Qian Wang, Vanguard Asia-Pacific chief economist, provided perspective on China’s challenging economy.

## Emerging markets

Continued progress on inflation has enabled further interest rate cuts in Latin America. Banco Central Chile cut its key interest rate by 75 basis points on September 5, to 9.5%, following a 100-basis-point cut in late July. Banco Central do Brasil is widely expected to announce on September 19 that it will further lower its Selic rate. At its last meeting, the central bank lowered the Selic by 50 basis points to 13.25%.

- Vanguard is watching how emerging markets contend with a U.S. dollar that appreciated against leading global currencies over the last eight weeks.
- “The primary risk now for emerging markets from an appreciating dollar is that it raises the cost of dollar- denominated imports, which can drive inflation and slow the timing of interest rate cuts that are important to growth,” said Vytas Maciulis, a Vanguard economist. Emerging markets have often used higher interest rates as a tool for defending currencies.
- We’re also watching for potential effects of slowing growth in China. To date, the effects have been minimal amid global economic resilience and given greater diversification in global trade to countries including Mexico, South Korea, and Vietnam.

# Indexes for VCMM simulations

The long-term returns of our hypothetical portfolios are based on data for the appropriate market indexes through December 31, 2022. We chose these benchmarks to provide the most complete history possible, and we apportioned the global allocations to align with Vanguard's guidance in constructing diversified portfolios. Asset classes and their representative forecast indexes are as follows:

**U.S. equities:** MSCI U.S. Broad Market Index.

**Global ex-U.S. equities:** MSCI All Country World ex U.S.A Index.

**U.S. REITs:** FTSE/NAREIT U.S. Real Estate Index.

**U.S. cash:** U.S. 3-Month Treasury—constant maturity.

**U.S. Treasury bonds:** Bloomberg U.S. Treasury Index.

**U.S. short-term Treasury bonds:** Bloomberg U.S. 1–5 Year Treasury Bond Index.

**U.S. long-term Treasury bonds:** Bloomberg U.S. Long Treasury Bond Index.

**U.S. credit bonds:** Bloomberg Barclays U.S. Credit Bond Index.

**U.S. short-term credit bonds:** Bloomberg U.S. 1–3 Year Credit Bond Index.

**U.S. high-yield corporate bonds:** Bloomberg U.S. High Yield Corporate Bond Index.

**U.S. bonds:** Bloomberg U.S. Aggregate Bond Index.

**Global ex-U.S. bonds:** Bloomberg Global Aggregate ex-U.S.D Index.

**U.S. TIPS:** Bloomberg U.S. Treasury Inflation Protected Securities Index.

**U.S. short-term TIPS:** Bloomberg U.S. 1–5 Year Treasury Inflation Protected Securities Index.

**Extended Duration:** Bloomberg U.S. Treasury STRIPS 25+ Years.

**Commodities:** Bloomberg Commodity Index.

**Inflation:** Consumer Price Index – All Urban Consumers.

**Duration neutral total credit:** Proprietary weighting of ST, IT, LT credit to target VIAS duration.

**Emerging Market Gov't Bonds:** Bloomberg EM U.S.D Sovereign – 10% Country Capped.

**U.S. Value Factor:** Proprietary calculation (see table to right).

**U.S. Growth Factor:** Proprietary calculation (see table to right).

**U.S. Large Factor:** Proprietary calculation (see table to right).

**U.S. Small Factor:** Proprietary calculation (see table to right).

**U.S. Mortgage Backed Securities:** Bloomberg Barclays U.S. Mortgage Backed Securities.

| Factor | Data start point | Succinct definition | Selection universe | Weighting scheme |
|---|---|---|---|---|
| Value | January 1980 | 1/3 of stocks with the lowest price-to-book ratio | Russell 1000 index | Market-capitalization-weighted |
| Growth | January 1980 | 1/3 of stocks with the highest price-to-book ratio | Russell 1000 index | Market-capitalization-weighted |
| Large-cap | January 1980 | 2/3 of stocks with the highest market capitalization | Russell 1000 index | Market-capitalization-weighted |
| Mid-cap | January 1980 | 1/3 of stocks with the lowest market capitalization | Russell 1000 index | Market-capitalization-weighted |
| Small-cap | January 1980 | 2/3 of stocks with the lowest market capitalization | Russell 3000 index | Market-capitalization-weighted |

# Asset Allocation & Spend Rate Review

# Forward-looking analysis assumptions

Forecast: **June 2023**

| | 65/35 Portfolio - 3.75% Spending | | 65/35 Portfolio - 4.00% spending | | 65/35 Portfolio - 4.25% Spending | |
|---|---|---|---|---|---|---|
| | Active | Passive | Active | Passive | Active | Passive |
| U.S. Equity | | 39.00% | | 39.00% | | 39.00% |
| Non-U.S. Equity | | 26.00% | | 26.00% | | 26.00% |
| U.S. Aggregate Bonds | | 12.50% | | 12.50% | | 12.50% |
| Total U.S. Credit | | 12.50% | | 12.50% | | 12.50% |
| Non-U.S. Aggregate Bonds | | 10.00% | | 10.00% | | 10.00% |

Style weights are determined by using returns-based style analysis (RBSA) of the individual investments and aggregated at the portfolio/benchmark level considering the allocation of each investment.

# Forward-looking analysis assumptions

Initial investment for analysis: **$24,252,427**

| | 65/35 Portfolio - 3.75% Spending | | 65/35 Portfolio - 4.00% spending | | 65/35 Portfolio - 4.25% Spending | | | |
|---|---|---|---|---|---|---|---|---|
| | Withdrawals | Contributions | Withdrawals | Contributions | Withdrawals | Contributions | | |
| Cash flow type | Smoothed | None | Smoothed | None | Smoothed | None | | |
| Cash flow frequency | Annually | — | Annually | — | Annually | — | | |
| Annual amount | 3.75% | — | 4.00% | — | 4.25% | — | | |
| Start value | — | — | — | — | — | — | | |
| Annual growth rate | — | — | — | — | — | — | | |
| Smoothing period | 4 years | — | 4 years | — | 4 years | — | | |
| Advisory fees | 0.25% | | 0.25% | | 0.25% | | | |
| Investment fees | 0.06% | | 0.06% | | 0.06% | | | |
| Fee frequency | Annually | | Annually | | Annually | | | |

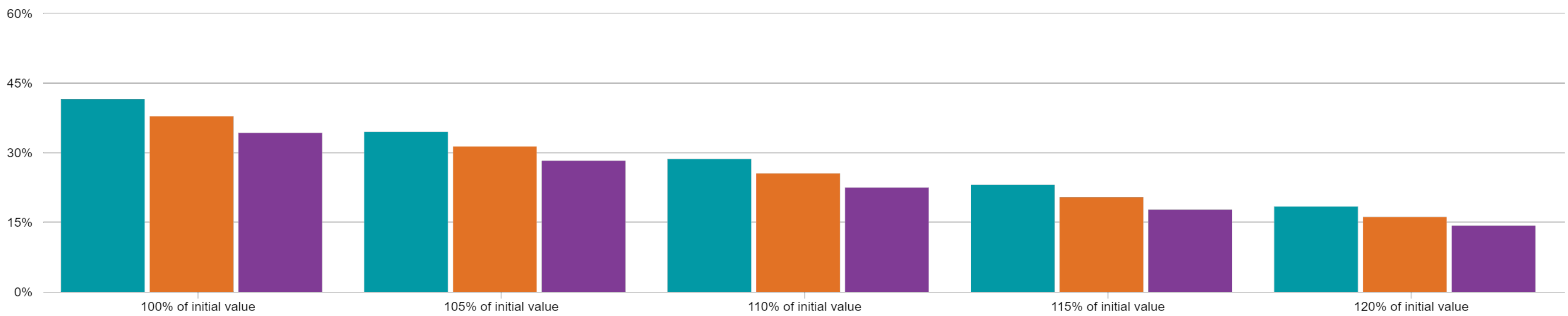
All forward-looking analysis assumes an annual rebalance policy.

FORWARD-LOOKING ANALYSIS

# Probability of maintaining real investment value

10 Years

Cash flows applied




| | 65/35 Portfolio - 3.75% Spending | 65/35 Portfolio - 4.00% spending | 65/35 Portfolio - 4.25% Spending | | |
|---|---|---|---|---|---|
| 100% of initial value | 41.52% | 37.85% | 34.27% | | |
| 105% of initial value | 34.47% | 31.34% | 28.26% | | |
| 110% of initial value | 28.64% | 25.52% | 22.48% | | |
| 115% of initial value | 23.07% | 20.39% | 17.71% | | |
| 120% of initial value | 18.40% | 16.14% | 14.28% | | |

**Source: Vanguard, Investment Strategy Group**

The Consumer Price Index for All Urban Consumers (CPI-U) is used to adjust nominal returns into real returns.

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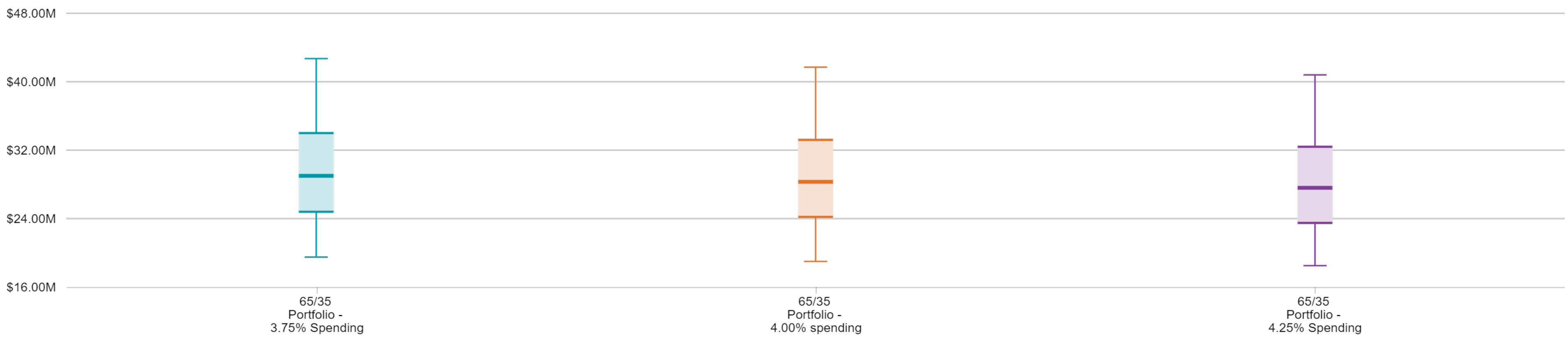
FORWARD-LOOKING ANALYSIS

# Distribution of ending investment values

Nominal | 10 Years

Cash flows applied




| | 65/35 Portfolio - 3.75% Spending | 65/35 Portfolio - 4.00% spending | 65/35 Portfolio - 4.25% Spending | | |
|---|---|---|---|---|---|
| 95th | $42.70M (1.76x) | $41.70M (1.72x) | $40.79M (1.68x) | | |
| 75th | $34.00M (1.40x) | $33.20M (1.37x) | $32.40M (1.34x) | | |
| 50th | $29.00M (1.20x) | $28.30M (1.17x) | $27.60M (1.14x) | | |
| 25th | $24.80M (1.02x) | $24.20M (1.00x) | $23.50M (0.97x) | | |
| 5th | $19.50M (0.80x) | $19.00M (0.78x) | $18.50M (0.76x) | | |

**Source: Vanguard, Investment Strategy Group**

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# Probability of meeting annualized return objectives

Nominal | 10 Years

No cash flows applied


| | 65/35 Portfolio - 3.75% Spending | 65/35 Portfolio - 4.00% spending | 65/35 Portfolio - 4.25% Spending | | |
|---|---|---|---|---|---|
| > 2% return | 93.99% | 93.99% | 93.99% | | |
| > 3% return | 86.88% | 86.88% | 86.88% | | |
| > 4% return | 75.35% | 75.35% | 75.35% | | |
| > 5% return | 59.20% | 59.20% | 59.20% | | |
| > 6% return | 42.45% | 42.45% | 42.45% | | |
| > 7% return | 26.52% | 26.52% | 26.52% | | |
| > 8% return | 14.50% | 14.50% | 14.50% | | |

**Source: Vanguard, Investment Strategy Group**

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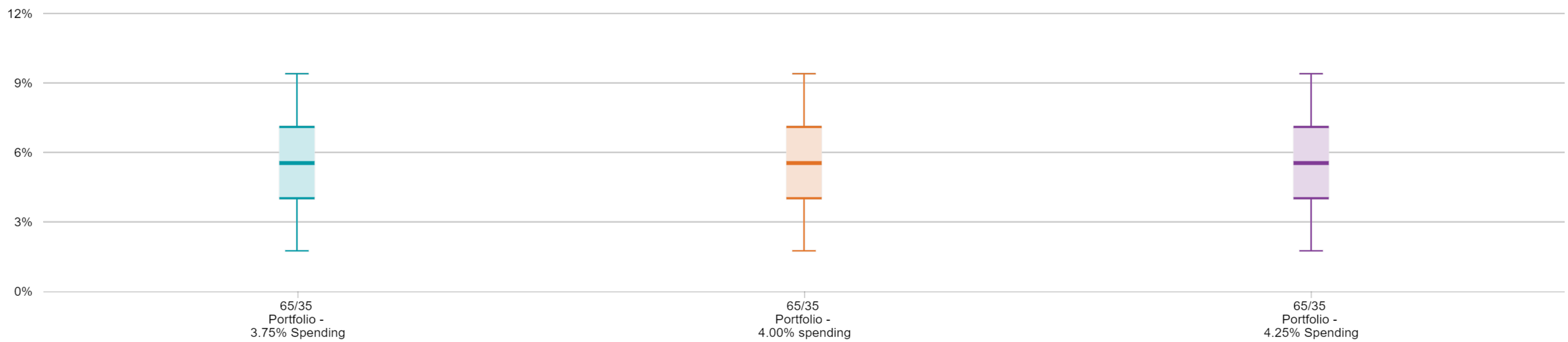
# Distribution of annualized returns

Nominal | 10 Years

No cash flows applied



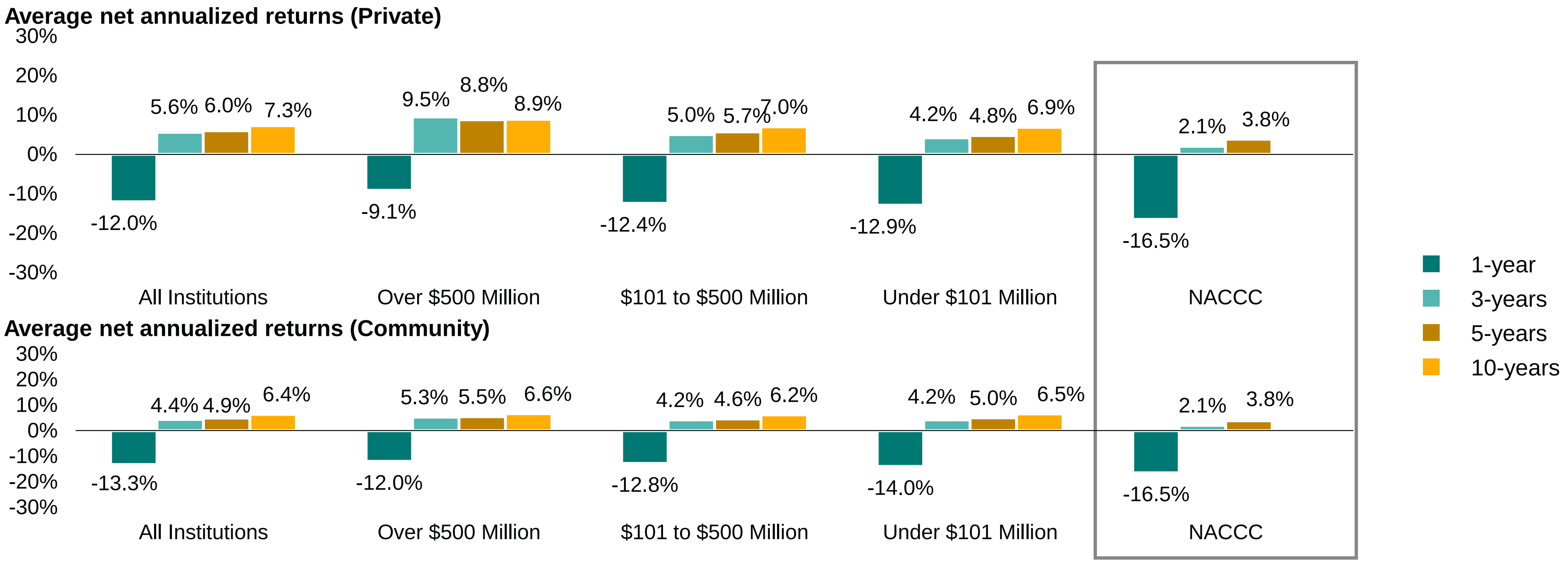

| | 65/35 Portfolio - 3.75% Spending | 65/35 Portfolio - 4.00% spending | 65/35 Portfolio - 4.25% Spending |
|---|---|---|---|
| 95th | 9.40% | 9.40% | 9.40% |
| 75th | 7.10% | 7.10% | 7.10% |
| 50th | 5.54% | 5.54% | 5.54% |
| 25th | 4.02% | 4.02% | 4.02% |
| 5th | 1.75% | 1.75% | 1.75% |

**Source: Vanguard, Investment Strategy Group**

**IMPORTANT: The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of June 2023. Results from the model may vary with each use and over time.** Projected performance returns of the asset classes within the portfolio(s) are based upon underlying benchmarks. Projected returns assume annual rebalancing. The returns shown reflect the deduction of all fees and expenses paid by the client with respect to services. The hypothetical performance shown also reflects the reinvestment of dividends, capital gains, and interest. Projected returns do not reflect the effect of taxes. Had taxes been included returns would have been lower. Indexes are unmanaged; direct investment is not possible. Projected returns may vary from actual portfolio performance and clients may have investment results that are materially different from results portrayed. There are limitations inherent in the projected results, particularly that the model does not reflect actual trading and may not reflect the effect that material economic and market factors had on the adviser's decision-making had the adviser actually managed the client's portfolio. Projected performance does not represent actual returns and the interpretation of the results should take into consideration the limitations inherent in the results of the projected performance model. **For more information with respect to VCMM, Methodology, and Benchmarks, please read the Important Information in the Appendix.**

# Peer Relative Review

# Comparison with Council on Foundations – Commonfund Study of Investment of Endowments for Private and Community Foundations®




**Client portfolio is rebalanced on a XX basis. Past performance is not a guarantee of future results. Investment returns and principal value will fluctuate so that when sold, investment may be worth more or less than original cost. Current performance may be lower or higher than performance data cited.**

**Client portfolio returns shown are net of all fees and expenses and includes the reinvestment of dividends, capital gains, and interest income. Returns do not reflect the effect of tax withholdings**. Had those expenses been included, performance results would have been lower.

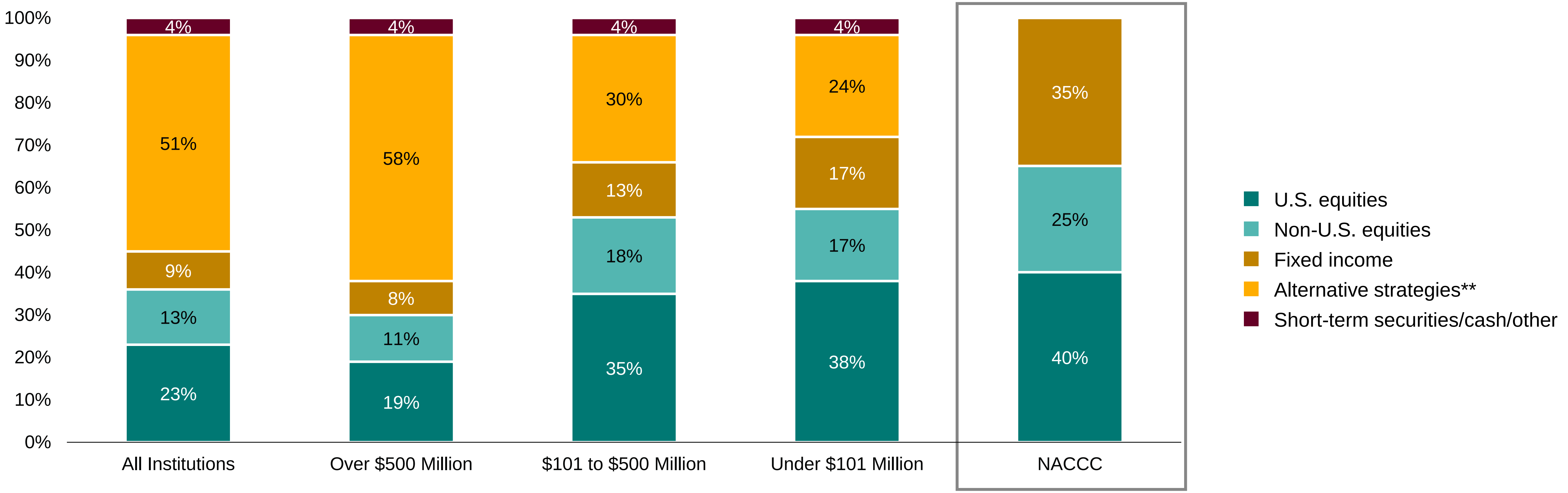
Sources: 2022 Council on Foundations-Commonfund Study of Investment of Endowments for Private and Community Foundations, and Vanguard.

Data as of fiscal year ending December 31, 2022.

The volatility of the client's portfolio is materially different from that of the Council on Foundations institutions' portfolios. Council on Foundations institutions' may have had during the time periods noted above, and may currently have, investment objectives that are not consistent with the client's portfolio.

**Please see important information slide for additional details.**

# Comparison with Council on Foundations – Private Foundations Asset allocations

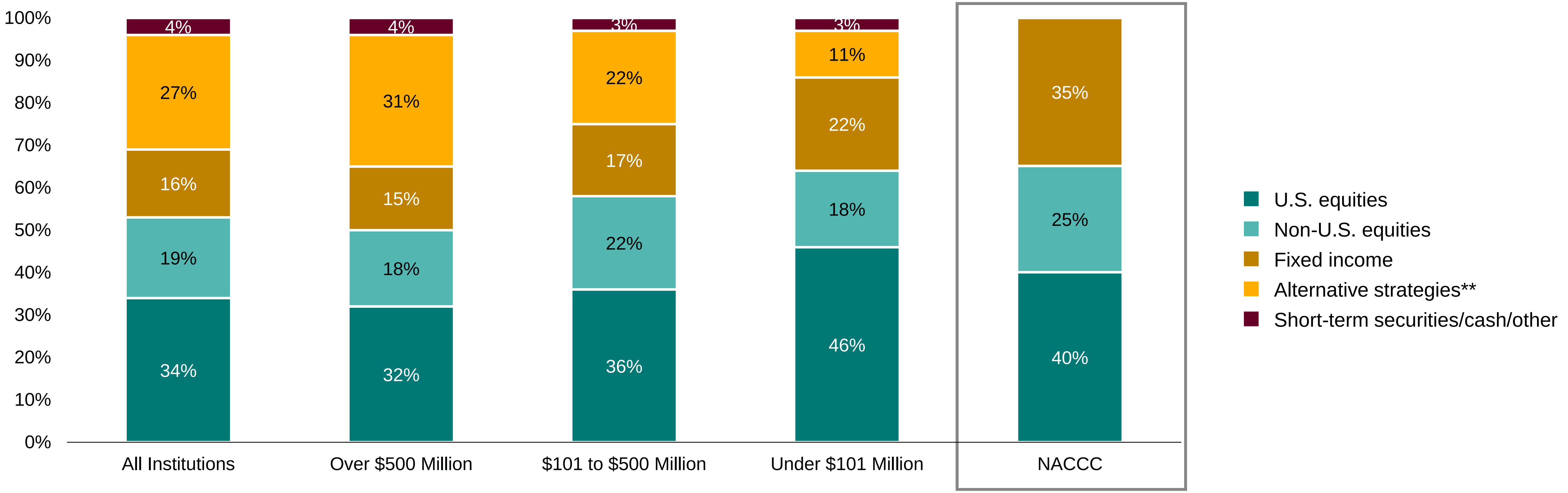



Sources: 2022 Council on Foundations-Commonfund Study of Investment of Endowments for Private and Community Foundations, and Vanguard.
Data as of fiscal year ending December 31, 2022.

* The averages noted for each cohort in the study are dollar-weighted.

** Alternative strategies are private capital and marketable alternatives. Private capital includes U.S. and international private equity, venture capital, private credit, private real estate, and energy and natural resources. Marketable alternatives include hedge funds, absolute return, market neutral, long/short, 130/30, event-driven and derivatives

# Comparison with Council on Foundations – Community Foundations Asset allocations




Sources: 2022 Council on Foundations-Commonfund Study of Investment of Endowments for Private and Community Foundations, and Vanguard.
Data as of fiscal year ending December 31, 2022.

* The averages noted for each cohort in the study are dollar-weighted.

** Alternative strategies are private capital and marketable alternatives. Private capital includes U.S. and international private equity, venture capital, private credit, private real estate, and energy and natural resources. Marketable alternatives include hedge funds, absolute return, market neutral, long/short, 130/30, event-driven and derivatives

# Appendix

# Methodology

## Forward-looking analysis methodology:

**IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model® regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.**

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

# Forward-looking analysis reference indexes

| Sub-asset Class | Proxy index |
|---|---|
| U.S. Equity | MSCI US Broad Market Index |
| U.S. Large-Cap | A rules-based index that is rebalanced quarterly based on a universe of securities selected from the Russell 1000 Index. The rule is as follows: Select the bottom one-third of stocks with the lowest market capitalization weighted by the security's respective market-capitalization. |
| U.S. Small-Cap | A rules-based index that is rebalanced quarterly based on a universe of securities selected from the Russell 3000 Index. The rule is as follows: Select the bottom two-thirds of stocks with the lowest market capitalization weighted by the security's respective market-capitalization. |
| U.S. Value | A rules-based index that is rebalanced quarterly based on a universe of securities selected from the Russell 1000 Index. The rule is as follows: Select the bottom 30% of stocks with a Price-to-Book ratio from the universe weighted by the security's respective market-capitalization. |
| U.S. Growth | A rules-based index that is rebalanced quarterly based on a universe of securities selected from the Russell 1000 Index. The rule is as follows: Select the top 30% of stocks with a Price-to-Book ratio from the universe weighted by the security's respective market-capitalization. |
| Non-U.S. Equity | MSCI All Country World ex USA Index |
| Emerging Markets Equity | MSCI Emerging Markets Index |
| Developed Markets Ex U.S. | MSCI World ex USA Index |
| Global Equity | MSCI All Country World Index |
| U.S. Aggregate Bonds | Bloomberg Barclays U.S. Aggregate |
| Non-U.S. Aggregate Bonds | Bloomberg Barclays Global Aggregate ex-USD |
| Emerging Markets Bonds | Bloomberg EM USD Sovereign Index |
| U.S. High Yield Bonds | Bloomberg Barclays U.S. High Yield Corporate Bond Index |
| Total U.S. Credit | Bloomberg Barclays U.S. Credit |
| U.S. Short-term Credit | Bloomberg Barclays U.S. 1-3 Year Credit Bond Index |
| U.S. Intermediate-term Credit | Bloomberg Barclays U.S. Intermediate Credit |
| U.S. Long-term Credit | Bloomberg Barclays U.S. Long Credit |
| Total Treasury | Bloomberg Barclays U.S. Treasury |
| U.S. Short-term Treasury | Bloomberg Barclays U.S. 1-5 Year Treasury Bond Index |
| U.S. Intermediate-term Treasury | Bloomberg Barclays U.S. 5-10 Year Treasury Index |
| U.S. Long-term Treasury | Bloomberg Barclays U.S. Long Treasury Index |
| U.S. Extended Duration | Bloomberg U.S. Treasury Strips 20-30 Year Equal Par Bond Index |
| Long-term Gov't / Credit | 40% Bloomberg Barclays U.S. Treasury Long and 60% Bloomberg Barclays U.S. Long Credit |
| U.S. REITs | FTSE/NAREIT US Real Estate Index |
| U.S. Short-term TIPS | Bloomberg Barclays U.S. 0-5 Year Treasury Inflation Protected Securities Index |
| U.S. Intermediate-term TIPS | Bloomberg Barclays U.S Treasury Inflation Protected Securities Index |
| U.S. Long-term TIPS | Bloomberg Barclays U.S. 10+ Year Treasury Inflation Protected Securities Index |
| Commodities | Bloomberg Commodity Index |
| U.S. Cash | U.S. 3-Month Treasury-constant maturity |

# Benchmarks

Vanguard Spliced benchmarks:

1. Spliced Total Stock Market Index: Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.

2. Spliced Total International Stock Index: Total International Composite Index through August 31, 2006; MSCI EAFE + Emerging Markets Index through December 15, 2010; MSCI ACWI ex USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.

3. Spliced Bloomberg U.S. Aggregate Float Adjusted Index: Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.

Benchmark descriptions:

Bloomberg Barclays Global Aggregate ex USD TR USD (Ret): The index measures the performance of global investment grade fixed-rate debt markets that excludes USD-dominated securities.

Bloomberg Barclays U.S. Aggregate (Ret): The index measures the performance of investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM passthroughs), ABS, and CMBS. It rolls up into other Bloomberg flagship indices, such as the multi-currency Global Aggregate Index and the U.S. Universal Index, which includes high yield and emerging markets debt.

Bloomberg Barclays U.S. Credit (Ret): The index measures the performance of the US Corporate and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities. It is a subset of the US Government/Credit Index and the US Aggregate Index.

MSCI ACWI ex USA - Daily: The index measures the performance of the large and mid cap segments of the particular regions, excluding USA equity securities, including developed and emerging market. It is free float-adjusted market-capitalization weighted.

MSCI US BROAD MARKET INDEX - Daily: The index measures the performance of broad US equity market. It includes constituents across large, mid, small and micro capitalizations, representing most of the US equity universe. The index is free float-adjusted market-capitalization weighted.

Consumer Price Index for all Urban Consumers (CPI-U):  This index measures the changes in prices of goods and services purchased by urban households.

# Glossary

**Cash flow frequency:** For forward-looking analytics, withdrawals are assumed to occur at the beginning of each calendar year. Contributions are assumed to occur at the end of the year.

**Returns-based style analysis (RBSA):** A technique to deconstruct the returns of a portfolio against style indices returns providing a proportional exposure to the respective asset class. The calculation of the RBSA is based on Morningstar data for the past five years of monthly returns for each fund.

**SEC yield:** A non-money market fund's SEC yield is based on a formula mandated by the Securities and Exchange Commission (SEC) that calculates a fund's hypothetical annualized income, as a percentage of its assets. A security's income, for the purposes of this calculation, is based on the current market yield to maturity (in the case of bonds) or projected dividend yield (for stocks) of the fund's holdings over a trailing 30 day period. This hypothetical income will differ (at times, significantly) from the fund's actual experience; as a result, income distributions from the fund may be higher or lower than implied by the SEC yield.

The SEC yield for a money market fund is calculated by annualizing its daily income distributions for the previous seven days. Any money market yields listed more closely reflect the current earnings of the fund than the average annual total returns shown.

**Smoothing period:** The time frame used to determine the average portfolio balance in order to calculate the withdrawal. Initial years of the smoothing period will assume the portfolio balance of the initial investment amount.

**Standard deviation:** The standard deviation is a gauge of the variance of a manager's return over its average or mean. Statistically, it is the square root of the variance. Because it measures total variation of the return, standard deviation is a measure of total risk, unlike beta, which measures only market risk. Investors use the standard deviation to try to predict the range of returns that is most likely for a given investment. When a portfolio has a high standard deviation, the predicted range of performance is wide, implying greater volatility. The converse, a low standard deviation implies that the portfolio will exhibit lower volatility.

# Important information

**For more information about any Vanguard funds, visit institutional.vanguard.com or call 800-523-1036 to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information about a fund are contained in the prospectus; read and consider it carefully before investing.**

*Vanguard ETF® Shares are not redeemable with the issuing Fund other than in very large aggregations worth millions of dollars. Instead, investors must buy or sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.*

*Collective trusts and separately managed accounts (SMAs) are not mutual funds. These investments are available only to tax-qualified plans and their eligible participants. Investment objectives, risks, charges, expenses, and other important information should be considered carefully before investing.*

*Vanguard municipal money market funds: The Fund is only available to retail investors (natural persons). You could lose money by investing in the Fund. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it cannot guarantee it will do so. The Fund may impose a fee upon the sale of your shares or may temporarily suspend your ability to sell shares if the Fund's liquidity falls below required minimums because of market conditions or other factors. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.*

*Vanguard Federal, Cash Reserves Federal, and Treasury Money Market Funds: You could lose money by investing in the Fund. Although the Fund seeks to preserve the value of your investment at $1.00 per share, it cannot guarantee it will do so. An investment in the Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Fund's sponsor has no legal obligation to provide financial support to the Fund, and you should not expect that the sponsor will provide financial support to the Fund at any time.*

All investing is subject to risk, including the possible loss of the money you invest. Prices of mid-and small-cap stocks often fluctuate more than those of large-company stocks. Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/ regional risk and currency risk. These risks are especially high in emerging markets. Funds that concentrate on a relatively narrow sector face the risk of higher share-price volatility. It is possible that tax-managed funds will not meet their objective of being tax-efficient. Because company stock funds concentrate on a single stock they are considered riskier than diversified stock funds.

Investments in bond funds are subject to the risk that an issuer will fail to make payments on time, and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. High-yield bonds generally have medium-and lower range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings. Although the income from a municipal bond fund is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or through your own redemption of shares. For some investors, a portion of the fund's income may be subject to state and local taxes, as well as to the federal Alternative Minimum Tax. Diversification does not ensure a profit or protect against a loss.

Investments in a target date fund are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund would retire and leave the workforce. The fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in a target date fund is not guaranteed at any time, including on or after the target date.

Private investments involve a high degree of risk and, therefore, should be undertaken only by prospective investors capable of evaluating and bearing the risks such an investment represents. Investors in private equity generally must meet certain minimum financial qualifications that may make it unsuitable for specific market participants.

Advice services offered through Vanguard Institutional Advisory Services are provided by Vanguard Advisers, Inc., a registered investment advisor.

*A stable value investment is neither insured nor guaranteed by the U.S. government. There is no assurance that the investment will be able to maintain a stable net asset value, and it is possible to lose money in such an investment.*

Factor funds are subject to investment style risk, which is the chance that returns from the types of stocks in which the fund invests will trail returns from U.S. stock markets. Factor funds are subject to manager risk, which is the chance that poor security selection will cause the fund to underperform relevant benchmarks or other funds with a similar investment objective.





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U.S. Patent No. 6,879,964

# Benchmark descriptions

**Policy Benchmark:**

The client's policy benchmark is a weighted set of indices that align to the Investment Management Agreement Schedule B which sets forth the strategic asset allocation for the client portfolio. The Policy Benchmark is rebalanced monthly. Allocations may change overtime as the investment strategy changes. See Benchmark allocation history for details.

The benchmarks for asset and sub-asset classes on the Performance summary reports is determined by the client's primary policy benchmark. Asset and sub-asset class benchmarks are a proportionally representation of their segment within the client's primary policy benchmark and adjusts over time with the changes in the policy benchmark. See Benchmark allocation history for details.

**Vanguard spliced benchmarks:**

Spliced Total Stock Market Index: Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.

Spliced Total International Stock Index: Total International Composite Index through August 31, 2006; MSCI EAFE + Emerging Markets Index through December 15, 2010; MSCI ACWI ex USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.

Spliced Emerging Markets Index: Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; FTSE Emerging Markets All Cap China A Transition Index through September 18, 2016; and FTSE Emerging Markets All Cap China A Inclusion Index thereafter. Benchmark returns are adjusted for withholding taxes.

Spliced Extended Market Index reflects the performance of the Dow Jones U.S. Completion Total Stock Market Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.

Spliced Dev ex North America Index reflects the performance of the MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index thereafter

Real Estate Spliced Index: MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through February 1, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

Spliced Bloomberg U.S. Aggregate Float Adjusted Index: Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.

Spliced Bloomberg U.S. 1-5Yr Government/Credit Float Adjusted Index: Bloomberg U.S. 1-5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 1-5 Year Government/Credit Float Adjusted Index thereafter.

Spliced Bloomberg U.S. Long Government/Credit Float Adjusted Index: Bloomberg U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. Long Government/Credit Float Adjusted Index thereafter.

Spliced Intermediate Investment-Grade Debt Funds Average: Lipper Intermediate US Gov't Funds Average through December 31, 2001; Lipper Intermediate Inv-Grade Debt Funds Avg through August 31, 2013; Lipper Core Bond Funds Average thereafter.

Spliced Small Cap Value Index: S&P SmallCap 600/Barra Value Index through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.

# Benchmark descriptions (continued)

**Market benchmarks:**

Balanced Composite Index: Weighted 60% Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) and 40% Lehman Brothers U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index thereafter.

Bloomberg Barclays 1-5 Yr Credit (Ret): The index measures the performance of the investment grade, US dollar denominated, fixed-rate, taxable corporate and government related bonds with maturity of 1-5 years. It is comprised of the US Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities.

Bloomberg Barclays 1-5 Yr Treas (Ret): The index measures the performance of US treasuries with maturity of 1 to 4.9999 Years.

Bloomberg Barclays Global Aggregate ex USD Float Adjusted RIC - USD Hedged (Ret): The index measures the performance of the global, investment-grade, fixed rate debt markets, including government, government agency, corporate and securitized non-U.S. fixed income investments - all issued in currencies other than the U.S. dollar and with maturities of more than one year - with the foreign currency exposure of the securities included in the Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index hedged to the Canadian dollar. It is market capitalization-weighted.

Bloomberg Barclays Global Aggregate ex USD TR USD (Ret): The index measures the performance of global investment grade fixed-rate debt markets that excludes USD-dominated securities.

Bloomberg Barclays Intermediate U.S. Treasury (Ret): The index measures the performance of public obligations of the U.S. Treasury with maturities of 1-10 years, including securities roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices.

Bloomberg Barclays Long A+ U.S. Credit (Ret): The index measures the performance of the US Corporate and a non-corporate component with maturities of 10 years and greater that includes foreign agencies, sovereigns, supranationals and local authorities. It applies a more or less stringent set of constraints to any existing index. The index is a subset of the US Government/Credit Index and the US Aggregate Index.

Bloomberg Barclays Long Term U.S. Treasury (Ret): This index measure the performance of U,S. treasury bill with long term maturity. The credit level for this index is investment grade. The rebalance scheme is monthly.

Bloomberg Barclays Treasury 1-5 Year (Ret): This index measures the performance of US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury with 1-5 years maturities.

Bloomberg Barclays U.S. Aggregate (Ret): The index measures the performance of investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM passthroughs), ABS, and CMBS. It rolls up into other Bloomberg flagship indices, such as the multi-currency Global Aggregate Index and the U.S. Universal Index, which includes high yield and emerging markets debt.

Bloomberg Barclays U.S. Aggregate Float Adjusted (Ret): The index measures the performance of a new benchmark of the broad fixed-rate USD-denominated investment grade bond market that excludes securities held in the Federal Reserve System Open Market Account (SOMA).

Bloomberg Barclays U.S. Corporate High Yield (Ret): The index measures the performance of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds, including corporate bonds, fixed-rate bullet, putable, and callable bonds, SEC Rule 144A securities, Original issue zeros, Pay-in-kind (PIK) bonds, Fixed-rate and fixed-to-floating capital securities.

Bloomberg Barclays U.S. Credit (Ret): The index measures the performance of the US Corporate and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities. It is a subset of the US Government/Credit Index and the US Aggregate Index.

Bloomberg Barclays U.S. Credit: 5-10 Yr (Ret): The index measures the performance of the US Corporate and a non-corporate component with maturities of 5-10 year that includes foreign agencies, sovereigns, supranationals and local authorities. It is a subset of the US Government/Credit Index and the US Aggregate Index.

# Benchmark descriptions (continued)

Bloomberg Barclays U.S. Gov/Credit Float Adjusted: Long (Ret): The index measures the performance of the non-securitized component of the US Aggregate index with maturities of 10 years and greater. It uses alternative weighting schemes instead of market value weights.

Bloomberg Barclays U.S. Intermediate Credit (Ret): The index measures the performance of the US Corporate and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities with maturities of 1-10 years. It is a subset of the US Government/Credit Index and the US Aggregate Index.

Bloomberg Barclays U.S. Long Credit (Ret): The index measures the performance of the US Corporate and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities with maturities of 10 years and greater. It is a subset of the US Government/Credit Index and the US Aggregate Index.

Bloomberg Barclays U.S. Treasury (Ret): The index measures the performance of public obligations of the U.S. Treasury, including securities roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices.

Bloomberg Barclays U.S. Treasury TIPS 0-5 Years (Ret): The index measures the performance of rules-based, market value-weighted inflation-protected securities issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index (Series-L) with the 0-5 years maturities.

Bloomberg Barclays U.S. Treasury TIPS 1-5 Years (Ret): The index measures the performance of inflation-protected securities with maturities of 1-5 years issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index (Series-L), with a 38.5% market value weight in the index (as of December 31, 2010), but is not eligible for other nominal Treasury or Aggregate indices.

Bloomberg Barclays U.S. Treasury: 5-10 Yr (Ret): The index measures the performance of public obligations of the U.S. Treasury with maturities of 5-10 years, including securities roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices.

Bloomberg Barclays U.S. Treasury: Long (Ret): The index measures the performance of public obligations of the U.S. Treasury with maturities of 10 years and greater, including securities roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices.

Bloomberg Barclays U.S. Treasury: U.S. TIPS (Ret): The index measures the performance of rules-based, market value-weighted inflation-protected securities issued by the U.S. Treasury. It is a subset of the Global Inflation-Linked Index (Series-L).

Bloomberg Barclays US Treasury Inflation Notes 5+ Years (Ret): The index measures the performance of inflation-protected securities issued by the U.S. Treasury (TIPS) with the maturities more than 5 years.

Bloomberg Barclays USD Emerging Markets Government RIC (Ret): The index measures the performance of US dollar-denominated bonds issued by emerging market governments, government agencies and government-owned corporations with maturities longer than one year. CRSP US Total Market: The index measures the performance of broad US securities that traded on NYSE, NYSE Market, NANASDADAQ or ARCA. It captures nearly 100% of the US investable equity market with around 4000 constituents across mega, large, small and micro capitalizations.

Dow Jones U.S. Total Stock Market Index: The index measures the performance of all US equity securities with readily available prices. It represents the top 95% of the US stock market based on market capitalization. The index is float-adjusted market capitalization weighted.

FTSE GLOBAL ALL CAP EX US INDEX: The index measures the performance of large, mid and small cap stocks globally excluding the US. It is derived from the FTSE Global Equity Index Series (GEIS). The index is market-capitalization weighted.

MSCI ACWI - Daily: The index measures the performance of the large and mid cap segments of all country markets. It is free float-adjusted market-capitalization weighted.

MSCI ACWI ex USA - Daily: The index measures the performance of the large and mid cap segments of the particular regions, excluding USA equity securities, including developed and emerging market. It is free float-adjusted market-capitalization weighted.

# Benchmark descriptions (continued)

MSCI EM (EMERGING MARKETS) - Daily: The index measures the performance of the large and mid cap segments of emerging market equity securities. It is free float-adjusted market-capitalization weighted.

MSCI US BROAD MARKET INDEX - Daily: The index measures the performance of broad US equity market. It includes constituents across large, mid, small and micro capitalizations, representing most of the US equity universe. The index is free float adjusted market-capitalization weighted.

MSCI US REIT INDEX - Daily: The index measures the performance of the large, mid and small cap segments of the US equity securities. It is comprised of Equity REITs securities and based on the MSCI USA Investable Market Index, with the exception of Mortgage REIT and selected Specialized REITs. The index represents approximately most of the US REIT universe and securities are classified in the REIT sector according to the Global Industry Classification Standard. It is a free float market capitalization weighted index.

MSCI WORLD ex USA - Daily - Net: The index measures the performance of the large and mid cap segments of world, excluding US equity securities. It is free float-adjusted market-capitalization weighted.

Consumer Price Index for all Urban Consumers (CPI-U): This index measures the changes in prices of goods and services purchased by urban households.

IA SBBI US Inflation: An unmanaged index designed to track the U.S. inflation rate. The Consumer Price Index for All Urban Consumers, or CPI-U, is used by IA SBBI to measure inflation, which is the rate of change of consumer goods prices.

US Treasury T-Bill Auction Ave 3 Month: Three-month T-bills are government backed-short-term investments considered to be risk-free and as good as cash because the maturity is only three months. Morningstar collects yields on the T-bill on a weekly basis from the Wall Street Journal.

# Additional Information

**Gross Portfolio Returns** represent client-specific time-weighted returns (TWR) of the entire portfolio including the deduction of mutual fund expense ratios, purchase/redemption fees, and other security-level expenses, but gross of advisory and service fees applied to the client portfolio.

**Client performance inception date** is generally the first month-end after initial funding.

**Lipper Fund Average performance** figures assume the reinvestment of dividends and capital gains distributions. The fund performance percentages are based on fund total return data, adjusted for expenses, obtained from Lipper, a Thomson Reuters Company, and was not adjusted for fees and loads.

Clients invested in Exchange-traded Funds “ETFs” transact at the market price during market trading hours. ETF performance for clients is also based on the market price at close, which may be different than the fund’s Net Asset Value.

Market value and returns for individual securities are calculated using the client’s daily custodial records. As a result, returns may vary slightly from the official month-end returns of a security as reported on Vanguard.com.

**Glossary of risk metrics:**

**Standard Deviation** is a risk measure of dispersion around the mean return.

**Tracking Error** is a relative risk measure of the standard deviation of excess returns.

**Sharpe Ratio** is a total risk measure of portfolio reward to variability.

**Information Ratio** is a relative risk measure of portfolio excess returns and tracking error.

**Jensen's Alpha** is a systematic risk measure of excess return adjusted for systematic risk.

**Beta** is a systematic risk measure of the sensitivity of portfolio returns to changes in benchmark returns.

**R-Squared** is the square of the correlation coefficient and is the proportion of portfolio returns variance that is related to benchmark returns variance.

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