

February 2023



The North Carolina Supplemental Retirement Plans

Investment Structure Evaluation

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Executive Summary

Investment Structure Evaluation

Objective: Evaluate the current structure and whether opportunities exist to modify the investment structure with the intent to even better serve the needs of participants over the next 5 to 10 years.

Observations and Considerations:

- This study evaluates the investment structure of the North Carolina (NC) Supplemental Retirement Plans (NSCRP or the “Plans”). In analyzing the structure of the Plans, this evaluation seeks to identify whether there are investment options that could be added, and likewise whether there are options that could be eliminated, with an eye toward maintaining or improving participants’ ability to construct a diversified portfolio in accordance with a variety of risk/reward preferences.
- The Plans have a sound investment structure, and changes are not necessarily required or recommended at this time. However, we believe it is prudent to be aware of other alternatives.

Consider...	Rationale
Offering U.S. all-cap equity options in place of standalone U.S. large-cap and small/mid-cap options.	This change would further streamline the investment structure while also aligning the number of U.S. and non-U.S. equity options (two each). Importantly, such a change would disrupt the model portfolio service given its usage of several of the current U.S. equity options as building blocks. As a result, Callan and the NCSRPs would need to conduct further analysis of the implications on the service, and therefore these are not recommended changes at this time.
Revisiting the asset allocation methodology provided by the Plans’ model portfolio service (GoalMaker).	A review of GoalMaker would evaluate the model portfolio service and assess the “suitability” of the asset allocation recommendations for participants enrolled in the service.

NC Supplemental Retirement Plans Summary*

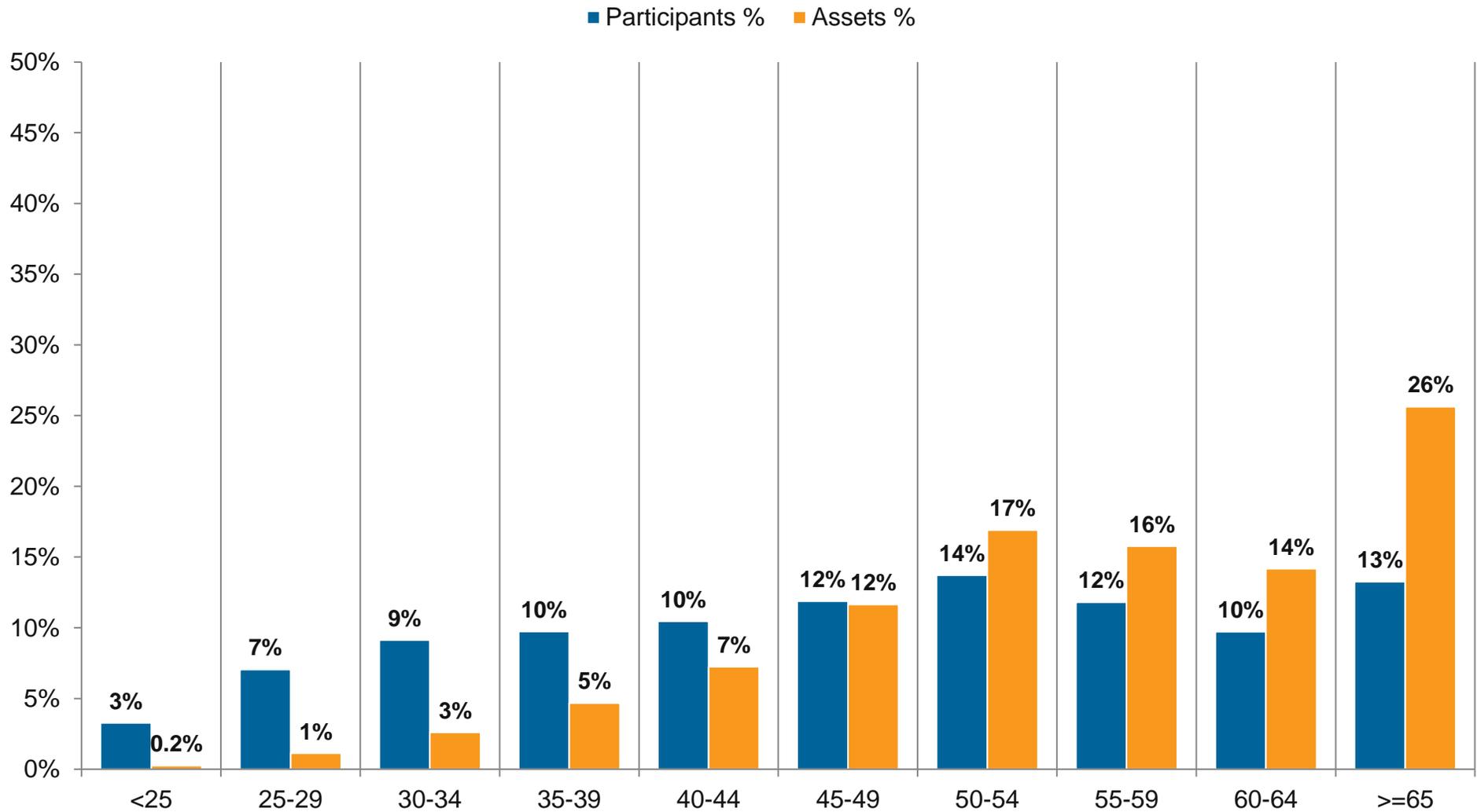
The NCSRP have more than \$14 billion in combined Plan assets and more than 300,000 participant accounts, with the majority of assets (88%) and accounts (83%) in the 401(k) Plan.

Summary Information	401(k) Plan	457(b) Plan	Combined
Total Assets	\$12,542,847,631	\$1,718,306,930	\$14,261,154,561
GoalMaker Assets	\$6,376,796,879 (51%)	\$590,705,782 (34%)	\$6,967,502,661 (49%)
Total Participant Accounts	281,215	56,746	337,961
GoalMaker Participants	200,112 (71%)	41,005 (72%)	241,117 (71%)

- The NCSRP have roughly \$14.3 billion in combined assets and more than 300,000 total participant accounts.
 - About 7 in 10 participants are active in the Plans.
- The Plans offer the GoalMaker model portfolio service as the default investment option. Across both Plans, more than 7 in 10 (71%) participant accounts are enrolled in the service, and nearly half of total assets are owned by enrolled participants.

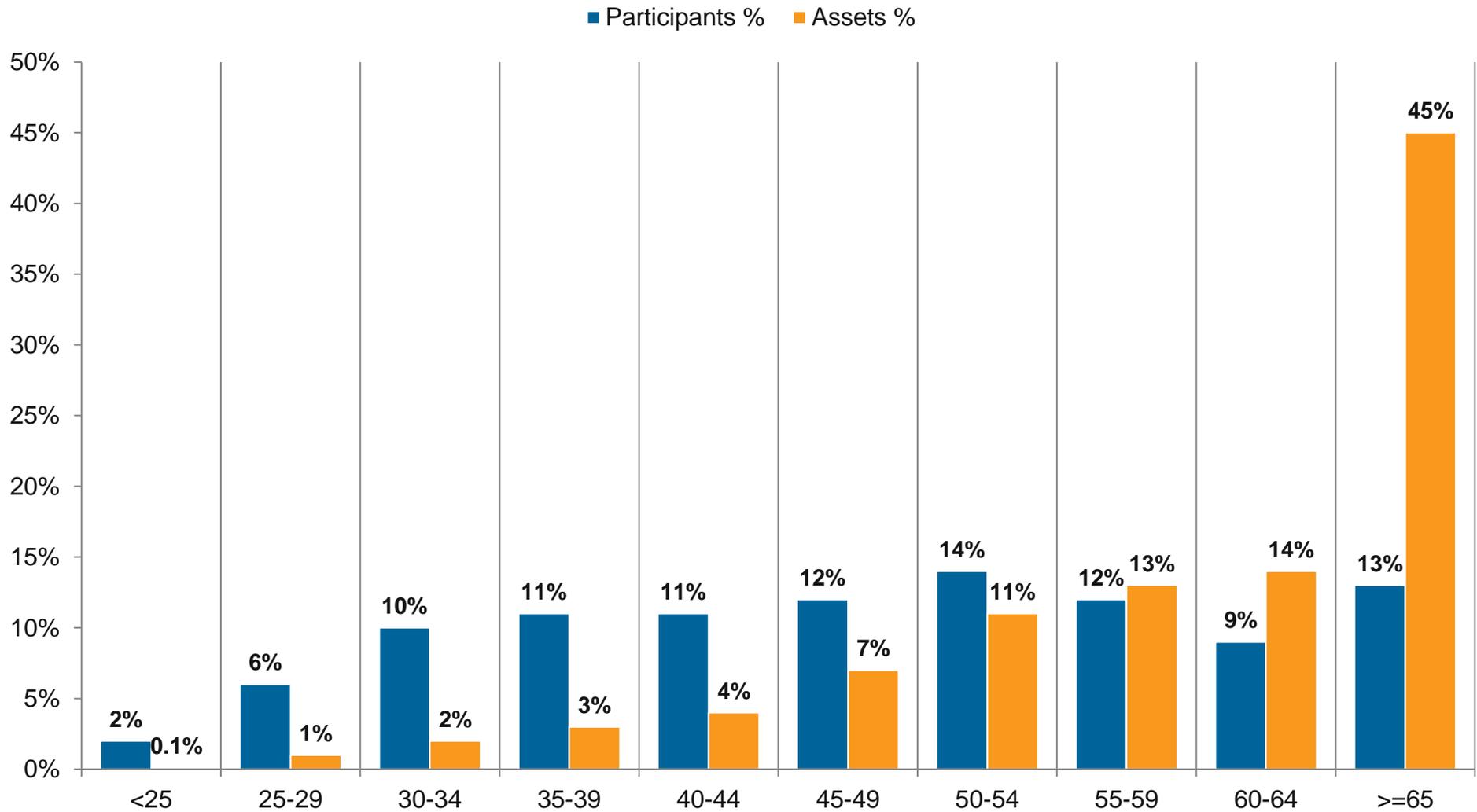
*As of Nov. 30, 2022, source: Empower

Distribution of Participants and Assets by Age – 401(k) Plan*



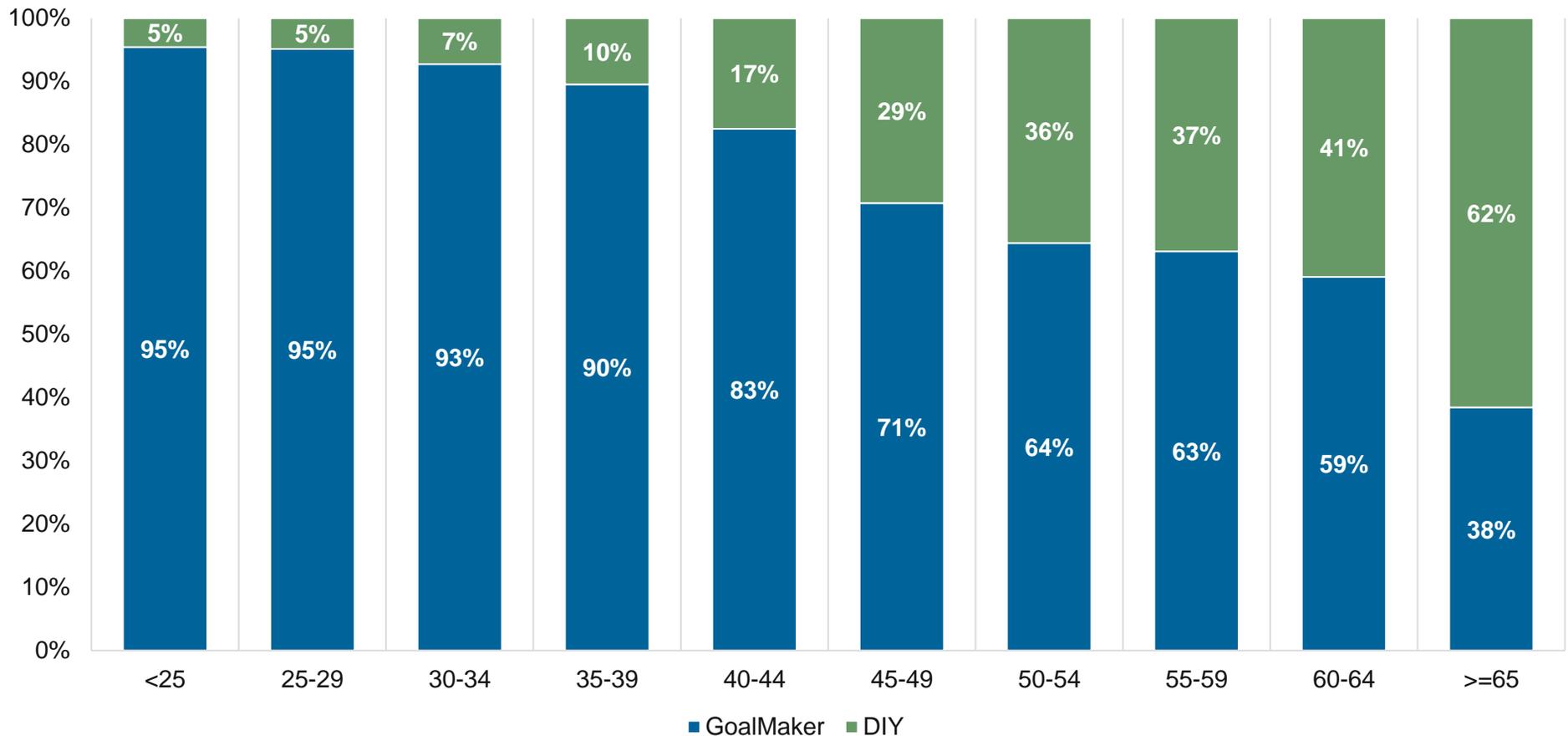
*As of Nov. 30, 2022, source: Empower

Distribution of Participants and Assets by Age – 457(b) Plan*



*As of Nov. 30, 2022, source: Empower

NC Participant Investment Menu Utilization – 401(k) Plan*

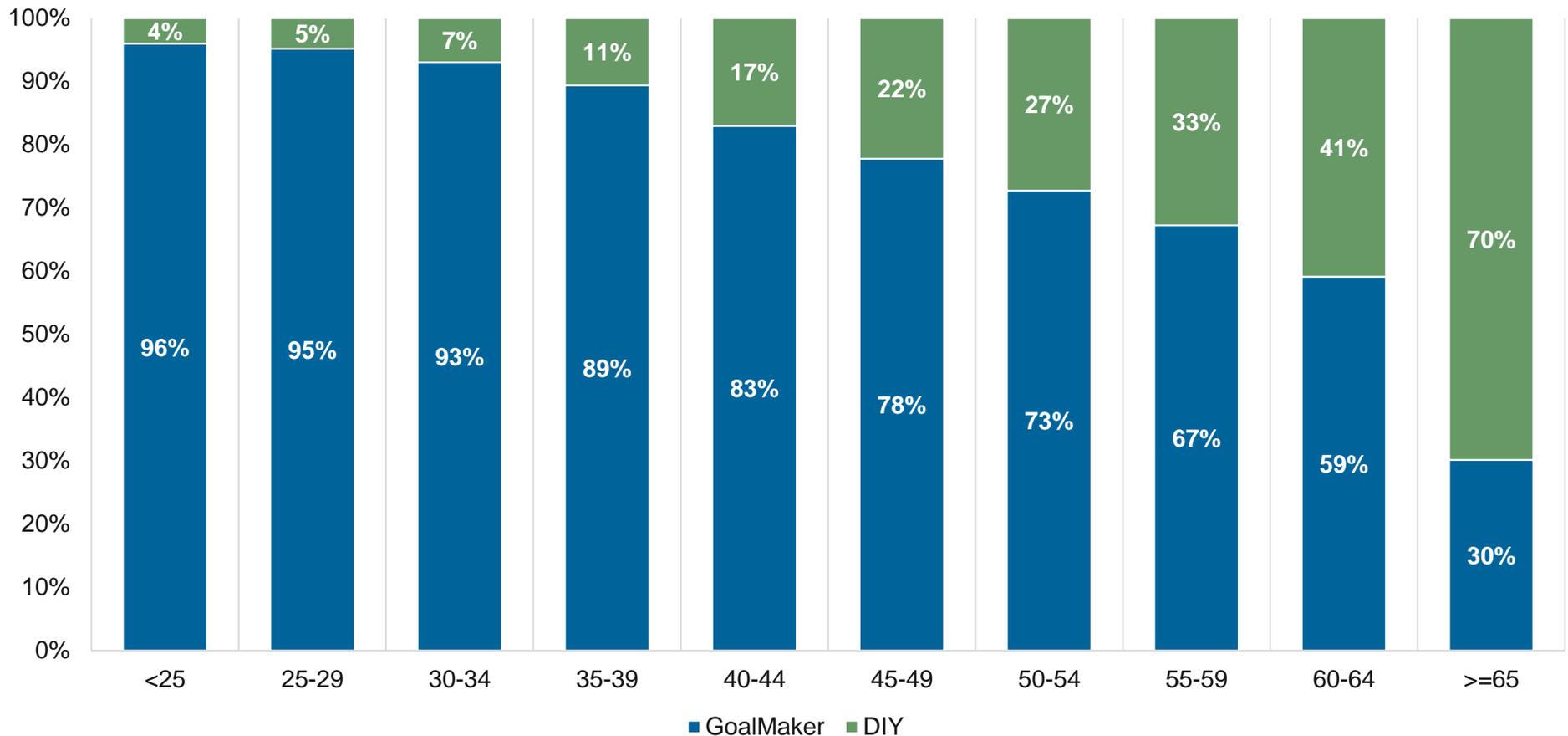


The 401(k) Plan's participant population can be categorized into two groups, based on how they use the investment menu:

- 1. GoalMaker participants** – participants currently enrolled in the GoalMaker model portfolio service; **71%** of participants
- 2. Do-it-yourself (DIY) participants** – participants not currently enrolled in the GoalMaker model portfolio service; **29%** of participants

*As of Nov. 30, 2022, source: Empower

NC Participant Investment Menu Utilization – 457(b) Plan*



The 457(b) Plan's participant population can be categorized into two groups, based on how they use the investment menu:

- 1. GoalMaker participants** – participants currently enrolled in the GoalMaker model portfolio service; **72%** of participants
- 2. Do-it-yourself (DIY) participants** – participants not currently enrolled in the GoalMaker model portfolio service; **28%** of participants

*As of Nov. 30, 2022, source: Empower

Evaluating the Defined Contribution Plan Investment Structure

Human behavior influences how we approach investment design recommendations

Inertia

Default options attract assets. Participants tend to remain wholly invested in default investment options.

Momentum

Studies have shown that hot-performing funds may lead participants to chase returns, which often detracts from long-term individual participant returns.

Influence

Plans weighted toward stock funds or bond funds often result in participant preference for more of same.

Choice

Individuals want choice but are easily overwhelmed. Choice overload may result in decreased plan participation.

Goal: Limit impact of participant behavioral biases to minimize adverse impact on successful savings and investing outcomes.

Optimizing the Investment Structure

Building the optimal three-tier investment structure

- ▶ Callan uses a three-tiered framework to organize the options in a DC plan's investment structure.
- ▶ This approach seeks to address the needs of the various constituencies within an employee population.
- ▶ No two plans are exactly the same, and therefore the ideal structure will vary based on plan-specific circumstances.

Tier I: Asset Allocation

Target Date Funds

- Simple (and smart) choice for participants who prefer a single-fund solution and the delegation of the asset allocation decision to a professional manager

Tier II: Core Options

Capital Preservation
U.S. Fixed Income
Diversified Real Assets
U.S. Large-Cap Equity
Non-U.S. Equity
U.S. Small-Cap Equity

- Provide primary building blocks to create diversified portfolios
- For participants who wish to build and manage their own portfolios
- Often useful to offer both active and passive options within Tier II

Tier III: Specialty Options

Brokerage

- Includes non-core asset classes geared toward sophisticated participants who desire more flexibility
- Callan recommends offering a limited set of specialty options given their relatively complex nature and the potential confusion they may bring to participants.

NC Supplemental Retirement Plans Investment Structure*

The diagram below depicts the menu of investment options, by asset category, currently offered to the Plans' participants.

Tier I: Asset Allocation	Tier II: Passive Core	Tier II: Active Core	Tier III: Specialty
Model Portfolios Prudential GoalMaker (49%)		Capital Preservation Stable Value Fund (14%)	
	Core Fixed Income Fixed Income Passive (1%)	Core Plus Fixed Income Fixed Income Fund (2%)	
	Inflation Sensitive Treasury Inflation Protected (<1%) Inflation Responsive Fund (<1%)		
	U.S. Large-Cap Equity Large Cap Passive (12%)	U.S. Large-Cap Equity Large Cap Core Equity Fund (14%)	
	Non-U.S. Equity International Passive (1%)	Non-U.S. Equity International Equity Fund (2%)	
	U.S. Small/Mid-Cap Equity SMID Cap Passive (3%)	U.S. Small/Mid-Cap Equity Small/Mid Cap Equity Fund (2%)	

*Percentage allocations as of Nov. 30, 2022. Percentage allocations for core tier options do not include GoalMaker assets. Source: Empower.

NC Supplemental Retirement Plans Asset Distribution*

Investment Option	GoalMaker Assets	Non-GoalMaker Assets	Total Assets
Stable Value Fund	\$459,156,588	\$1,998,844,388	\$2,458,000,977
Fixed Income Passive	\$71,581	\$80,975,774	\$81,047,355
Fixed Income Fund	\$1,664,669,038	\$323,173,106	\$1,987,842,145
Treasury Inflation Protected	\$272,021,940	\$64,403,620	\$336,425,560
Inflation Responsive Fund	\$425,348,655	\$58,824,810	\$484,173,465
Large Cap Passive	\$1,666,723,298	\$1,715,474,228	\$3,382,197,526
Large Cap Core Equity Fund	\$807,690	\$1,956,451,456	\$1,957,259,146
International Passive	\$77,238	\$92,502,037	\$92,579,276
International Equity Fund	\$1,824,320,163	\$279,505,968	\$2,103,826,131
SMID Cap Passive	\$100,153	\$369,515,327	\$369,615,480
Small/Mid Cap Equity Fund	\$654,206,317	\$353,981,186	\$1,008,187,503
	\$6,967,502,661	\$7,293,651,900	\$14,261,154,561

*As of Nov. 30, 2022, source: Empower

Plan Comparisons and Utilization

NC Supplemental Retirement Plans Benchmarking

Comparators: Callan DC Index and DC Trends Survey

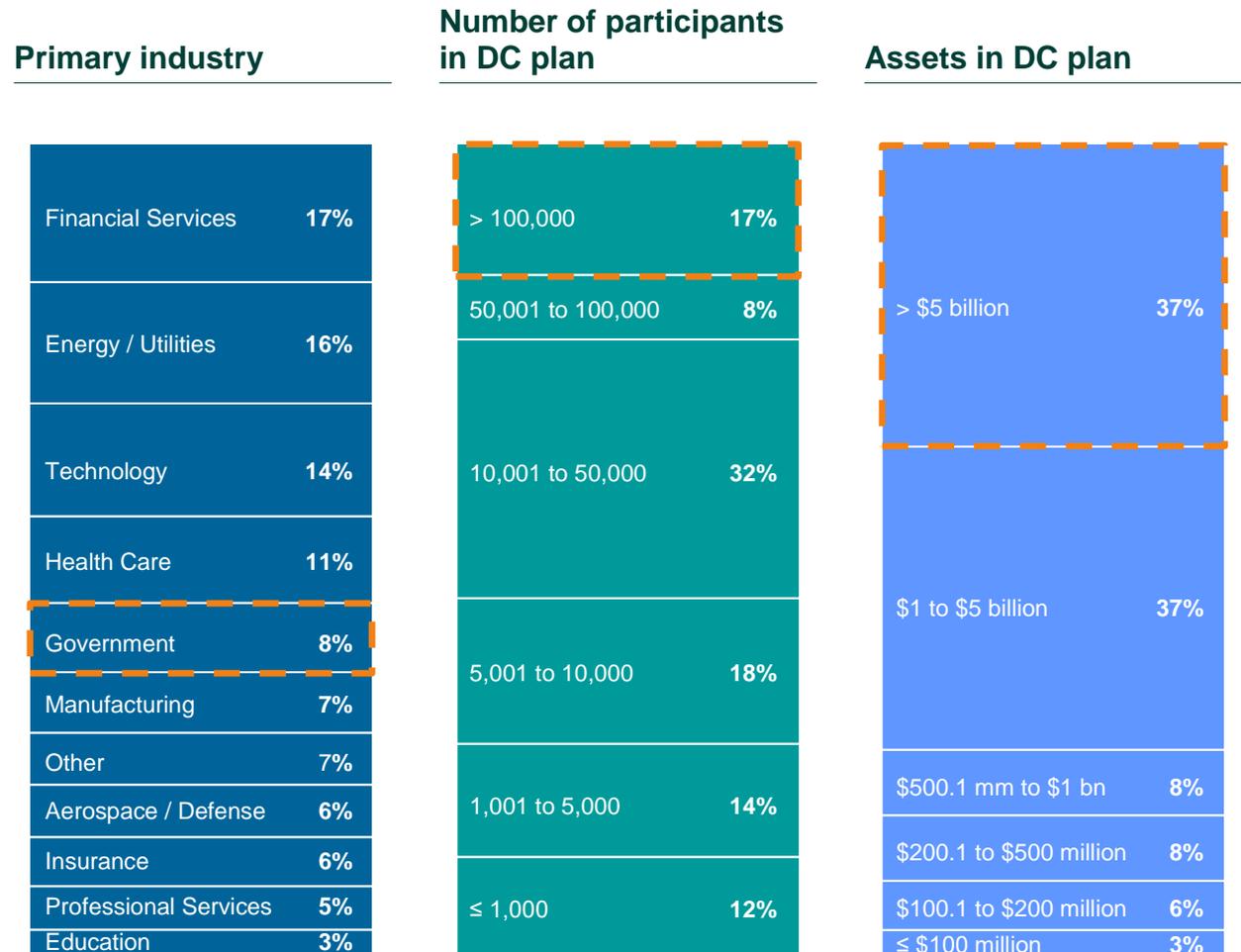
In the following slides, the Plans are benchmarked against two sources:

Callan DC Index

- This quarterly Index serves as a proxy for the DC universe and tracks performance, asset allocation, and cash flows of approximately 100 large defined contribution plans representing more than \$400 billion in assets.
- Index figures are as of Sept. 30, 2022.

Callan DC Trends Survey

- The 15th annual Callan Defined Contribution Trends Survey incorporated responses from 101 large DC plan sponsors, including both Callan clients and other organizations.
- About three quarters of respondents had at least \$1 billion in total plan assets, and nearly 1 in 5 (17%) had a participant count above 100,000.



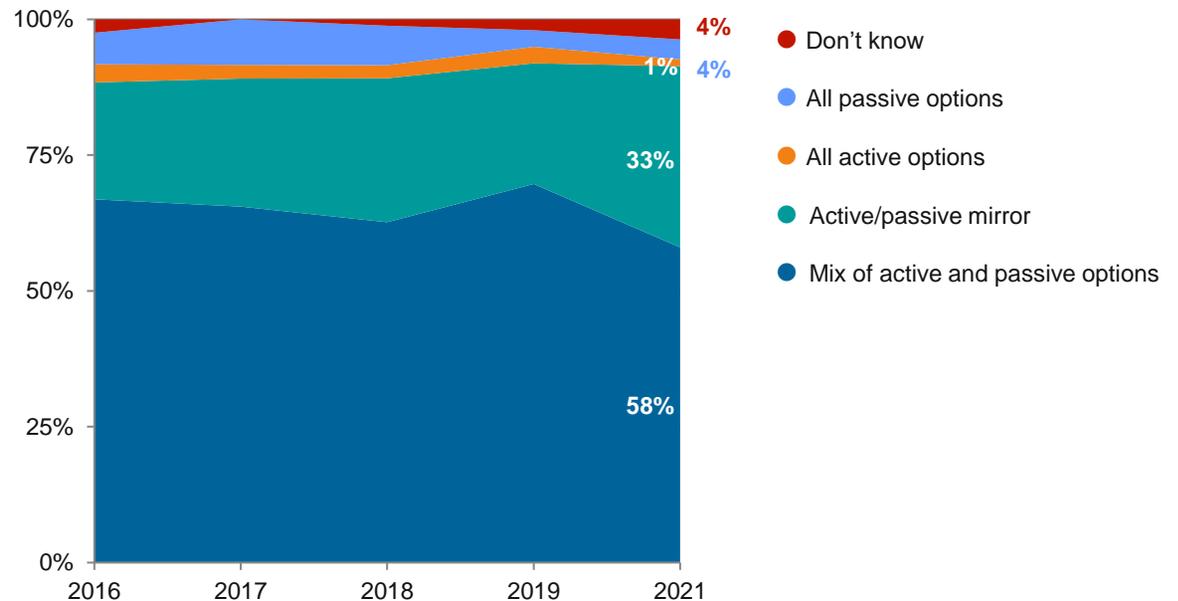
Note: Charts may not sum to 100% due to rounding. Dotted orange lines represent where the NC Supplemental Retirement Plans fall within survey respondent characteristics.

NC Supplemental Retirement Plans Investment Menu

The NC Supplemental Retirement Plans' investment menu represents an active/passive mirror structure, providing participants choice between management style (i.e., active vs. passive) within each of the core asset classes.

- In the context of Callan's tiered investment structure, the NC Supplemental Retirement Plans offer an active/passive mirror.
 - One third of respondents to the Callan 2022 DC Trends Survey offered an active/passive mirror.
- An active/passive mirror structure allows participants to choose between low-cost market exposure and the opportunity for alpha via active management within each of the core asset classes:
 - Core/core plus fixed income
 - U.S. large-cap equity
 - Non-U.S. equity
 - U.S. small/mid-cap equity

What best describes your plan's investment menu approach?



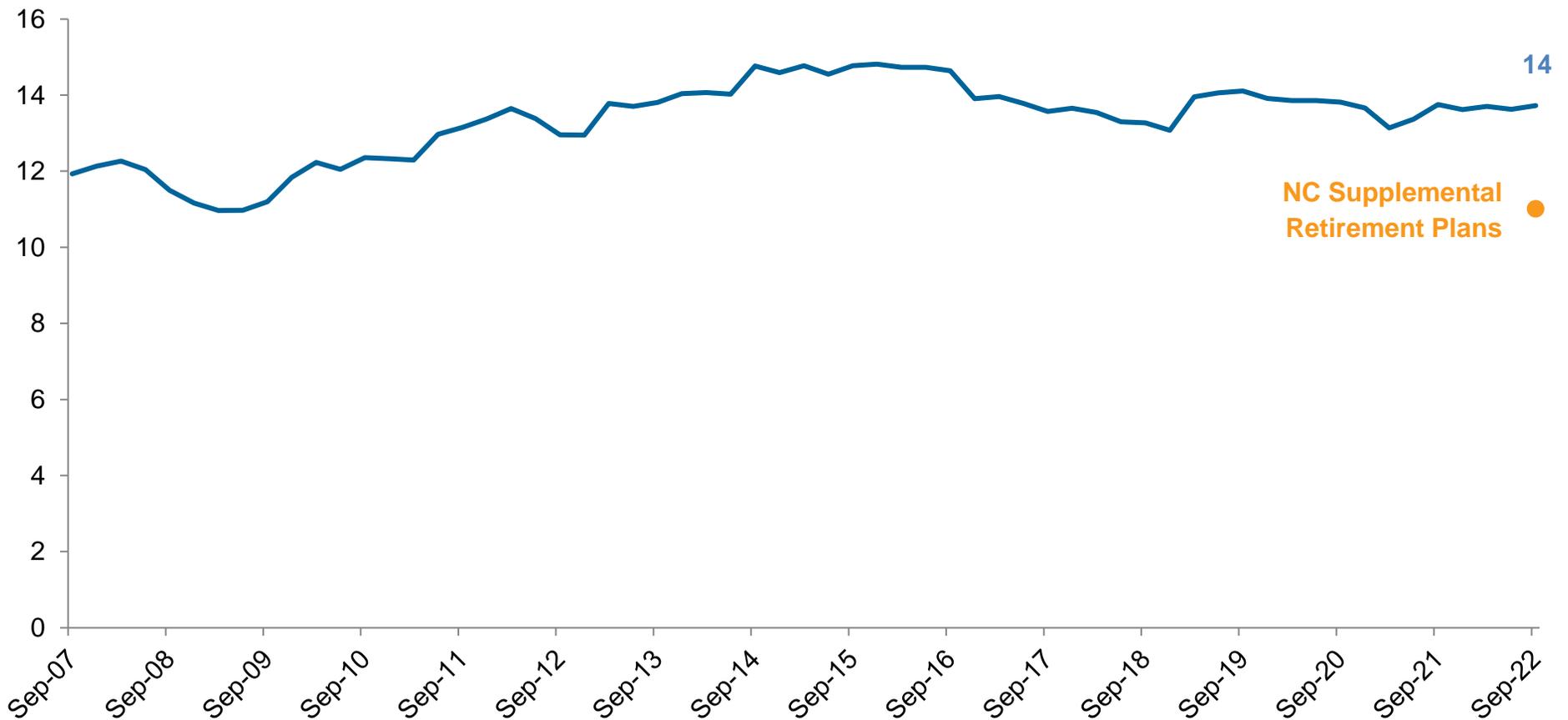
Source: Callan 2022 DC Trends Survey

NC Supplemental Retirement Plans Number of Investment Options

DC Index Data as of Sept. 30, 2022

Excluding the model portfolios, the NC Supplemental Retirement Plans offer 11 investment options to participants. Although this falls slightly below the average number offered by plans in the DC Index (14), the Plans' lineup provides sufficient choice.

Average Number of Options (Excluding TDFs)



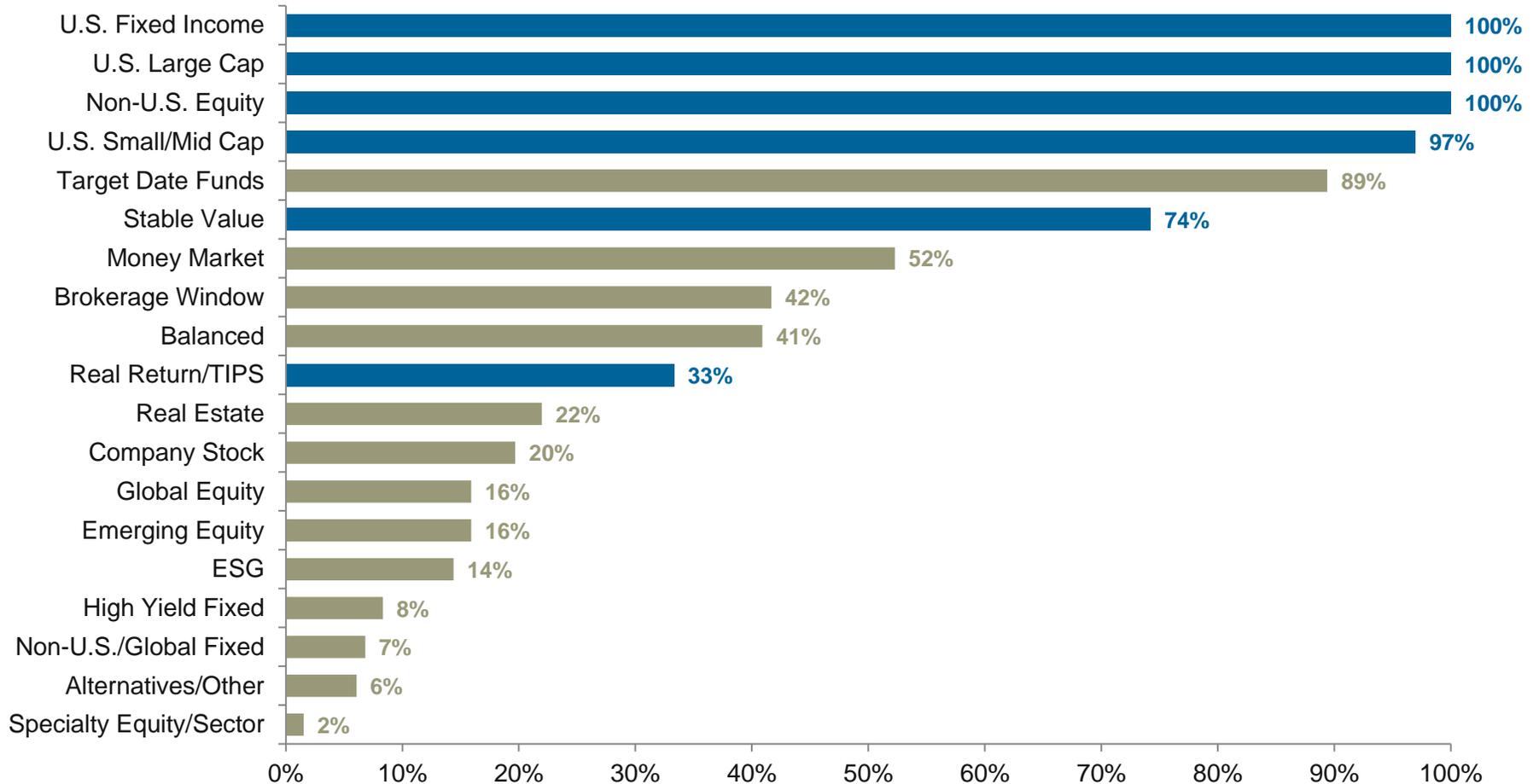
Source: Callan DC Index

NC Supplemental Retirement Plans Asset Classes Offered

DC Index Data as of Sept. 30, 2022

Blue bars in the chart represent asset classes offered by the NC Supplemental Retirement Plans. The Plans' investment menu provides access to the asset classes offered by at least 74% of plans in the DC Index, with the exception of target date funds.

Asset Class Prevalence

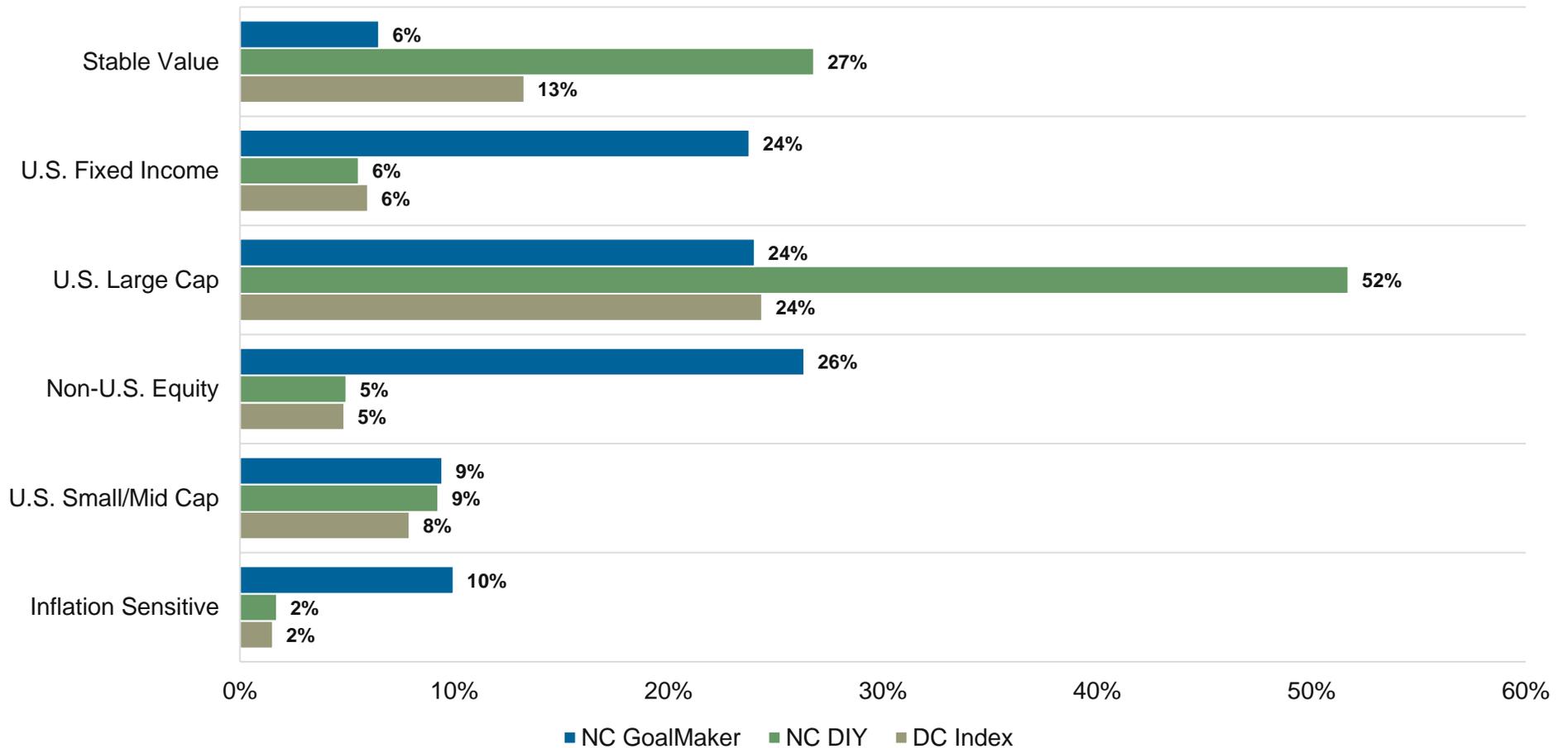


Source: Callan DC Index

NC Asset Allocation – 401(k) Plan*

In the 401(k) Plan, GoalMaker participants have relatively high allocations to U.S. fixed income, non-U.S. equity, and inflation-sensitive assets. Conversely, DIY participants have relatively high allocations to stable value and U.S. large-cap equity.

Asset Class Allocations



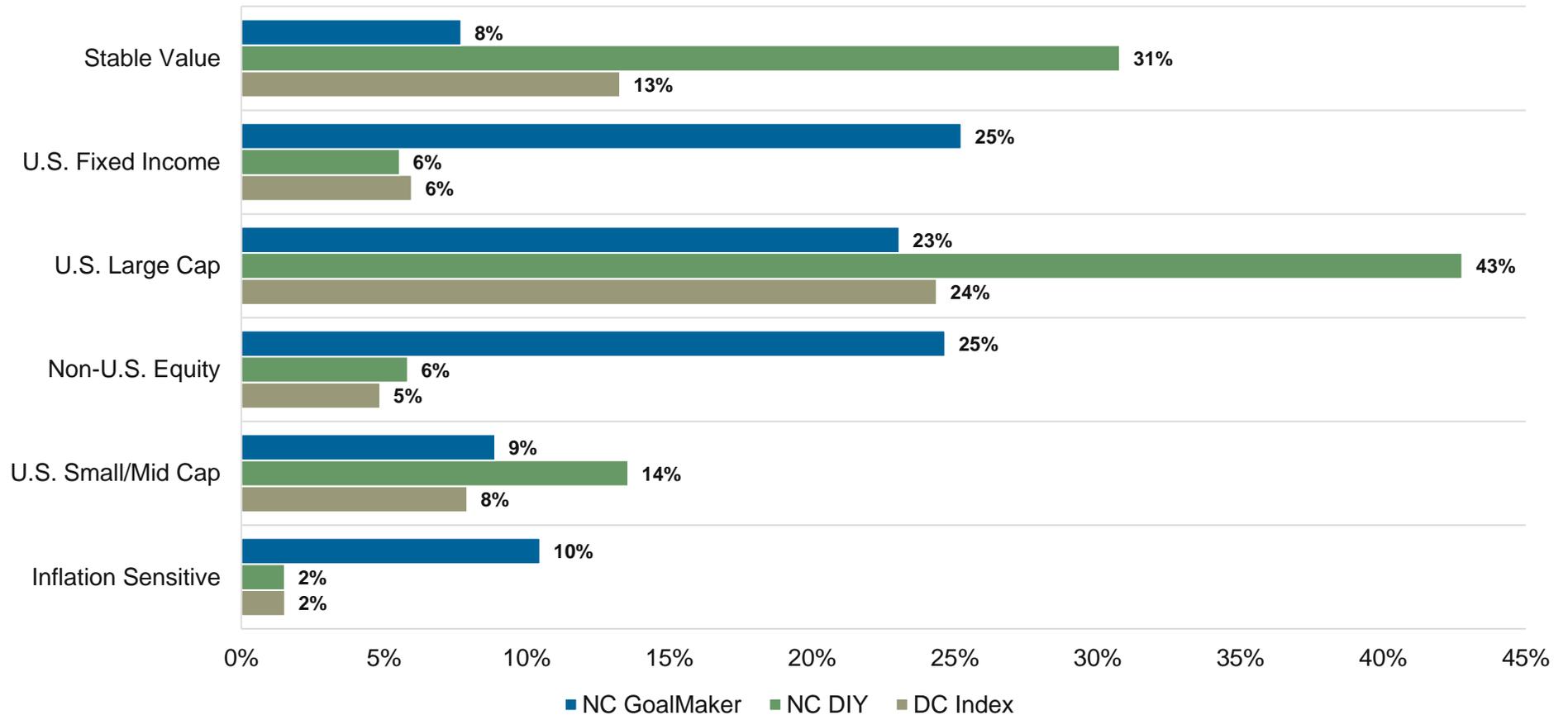
*NC data as of Nov. 30, 2022, and DC Index data as of Sept. 30, 2022. DC Index figures represent average asset class allocations, when offered.

Sources: Empower and Callan DC Index.

NC Asset Allocation – 457(b) Plan*

In the 457(b) Plan, GoalMaker participants have relatively high allocations to U.S. fixed income, non-U.S. equity, and inflation-sensitive assets. Conversely, DIY participants have relatively high allocations to stable value, U.S. large-cap equity, and U.S. small/mid-cap equity.

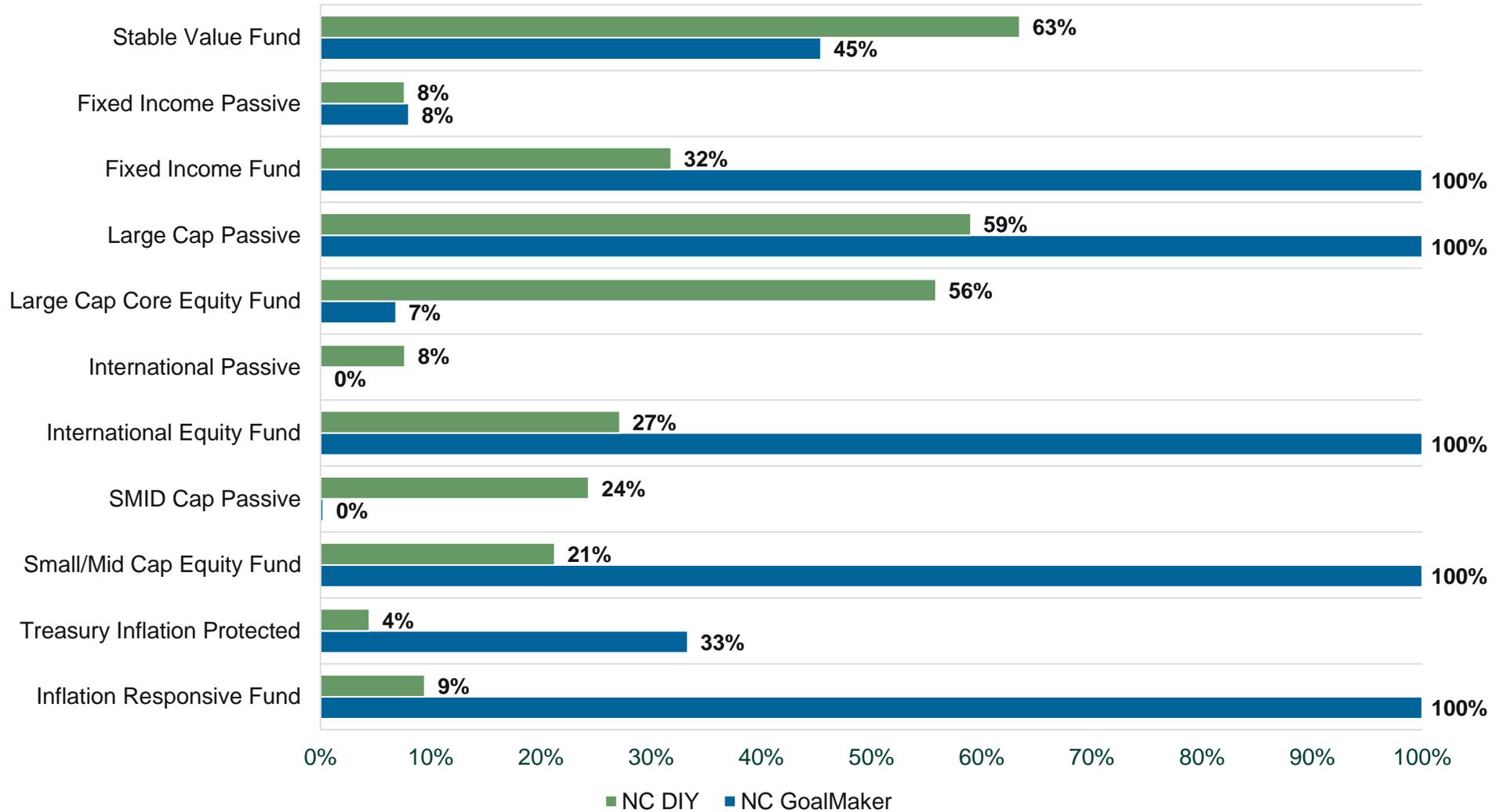
Asset Class Allocations



*NC data as of Nov. 30, 2022, and DC Index data as of Sept. 30, 2022. DC Index figures represent average asset class allocations, when offered. Sources: Empower and Callan DC Index.

NC Investment Option Utilization – 401(k) Plan*

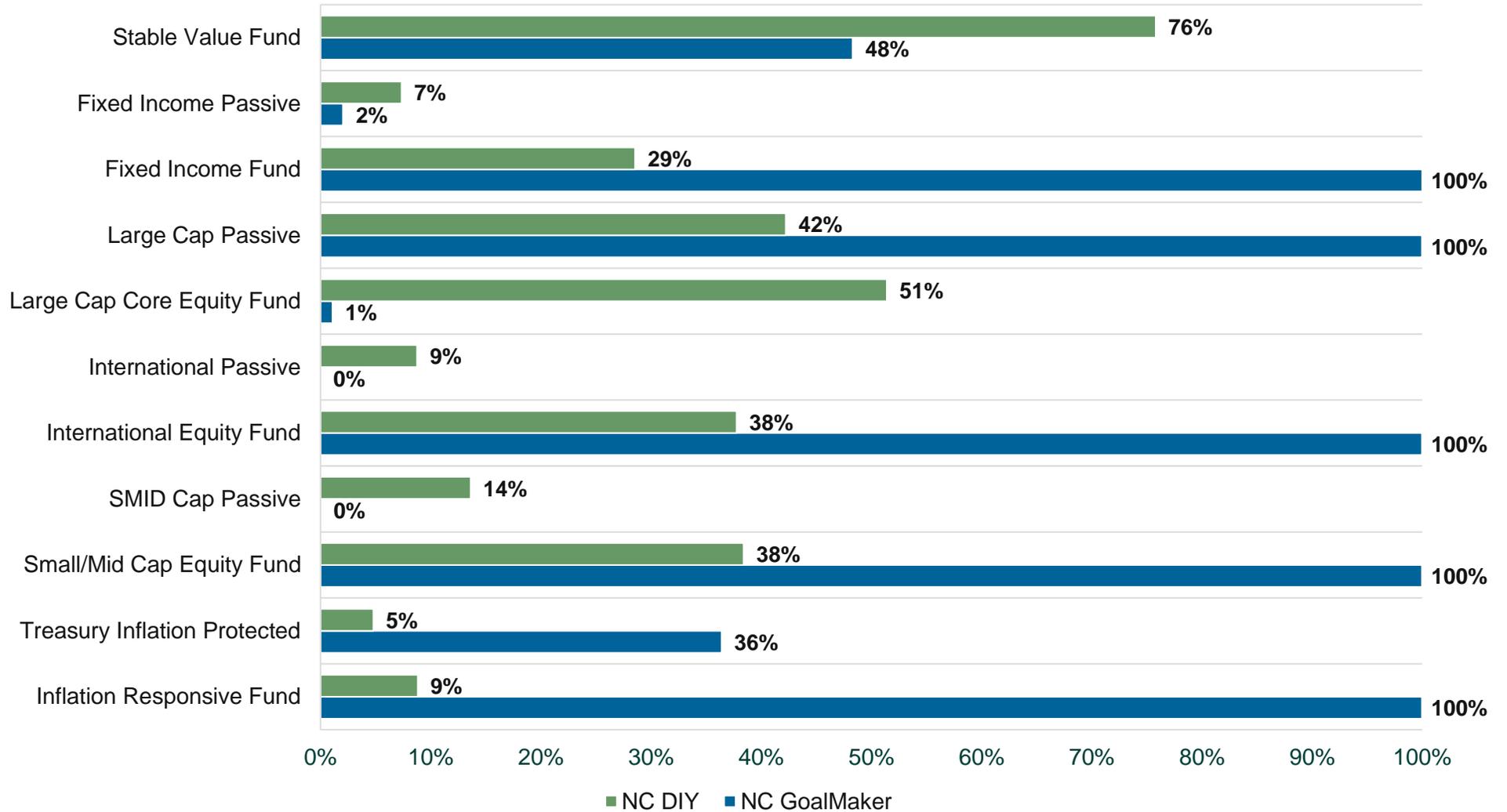
Percentage of Participants With a Balance



*As of Nov. 30, 2022, source: Empower

NC Investment Option Utilization – 457(b) Plan*

Percentage of Participants With a Balance



*As of Nov. 30, 2022, source: Empower

NC Participant Holding Patterns – 401(k) Plan*

In the 401(k) Plan, more than 9 in 10 GoalMaker participants hold between 5 and 7 investment options. Conversely, DIY participants hold fewer options, as more than three quarters hold 4 or fewer options.

Number of Options	GoalMaker Participants		DIY Participants	
	#	%	#	%
1	4	0%	25,660	32%
2	7	0%	13,572	17%
3	5	0%	14,263	18%
4	4	0%	8,661	11%
5	106,628	53%	6,086	8%
6	19,577	10%	4,848	6%
7	59,444	30%	3,651	5%
8	8,309	4%	2,402	3%
9	6,012	3%	1,236	2%
10	92	0%	425	1%
11	30	0%	299	0%
TOTAL	200,112	100%	81,103	100%

*As of Nov. 30, 2022. Totals in table exclude participants with no balance. Source: Empower.

NC Participant Holding Patterns – 457(b) Plan*

In the 457(b) Plan, more than 9 in 10 GoalMaker participants hold between 5 and 7 investment options. Conversely, DIY participants hold fewer options, as roughly 70% hold 4 or fewer options.

Number of Options	GoalMaker Participants		DIY Participants	
	#	%	#	%
1	2	0%	5,380	34%
2	3	0%	1,939	12%
3	0	0%	1,831	12%
4	1	0%	1,939	12%
5	21,013	51%	2,791	18%
6	4,494	11%	719	5%
7	15,060	37%	450	3%
8	323	1%	334	2%
9	106	0%	203	1%
10	2	0%	94	1%
11	1	0%	55	0%
TOTAL	41,005	100%	15,735	100%

*As of Nov. 30, 2022. Totals in table exclude participants with no balance. Source: Empower.

Holding Patterns by Asset Class

Holding patterns by asset class show the preferences of DIY Participants alongside what is provided to participants in the model GoalMaker portfolios.

401(k) Plan	GoalMaker Participants			DIY Participants		
Asset Class	Active Only	Both	Passive Only	Active Only	Both	Passive Only
Fixed Income	92%	8%	0%	77%	17%	6%
U.S. Large Cap Equity	0%	7%	93%	13%	70%	17%
Non-US Equity	100%	0%	0%	75%	16%	10%
U.S. Small/Mid Cap	100%	0%	0%	30%	32%	39%

457(b) Plan	GoalMaker Participants			DIY Participants		
Asset Class	Active Only	Both	Passive Only	Active Only	Both	Passive Only
Fixed Income	98%	2%	0%	76%	15%	9%
U.S. Large Cap Equity	0%	1%	99%	36%	42%	22%
Non-US Equity	100%	0%	0%	79%	10%	11%
U.S. Small/Mid Cap	100%	0%	0%	70%	15%	15%

*As of Nov. 30, 2022. Totals in table exclude participants with no balance. Source: Empower.

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Investment Structure Considerations

NC Supplemental Retirement Plans Investment Structure

Summary Findings and Related Observations

Summary Findings

- **The NCSRP have a sound investment structure as currently constructed.**
- Given the current structure and observed participant usage patterns, Callan does not believe changes are required at this time. However, in the future, the NCSRP could consider a potential change to further streamline the structure, detailed on the following slide.

Related Observations

- The Plans' lineup provides ample choice with respect to both asset classes and management style (i.e., active and passive) within asset classes. Additionally, the white label multi-manager funds provide a higher level of diversification via a single fund holding than a standalone strategy.
- The current structure provides a reasonable number of investment options to participants.
 - For do-it-yourself participants, the lineup provides access to the core asset classes intended to serve as the building blocks of a diversified asset allocation.
 - For GoalMaker participants, the lineup provides sufficient opportunity for the service to construct model portfolios along a range of risk/reward preferences.
- Based on holding patterns, NCSRP participants appear to be using the investment options as intended.

NC Supplemental Retirement Plans Alternative Investment Structure*

Tier I: Asset Allocation	Tier II: Passive Core	Tier II: Active Core	Tier III: Specialty
Model Portfolios Prudential GoalMaker (49%)		Capital Preservation Stable Value Fund (14%)	Consideration: Should the NCSRPs decide to further streamline the structure in the future, the Plans could explore offering U.S. all-cap equity options in place of standalone U.S. large-cap and small/mid-cap options. Importantly, such a change would disrupt the model portfolio service given its usage of several of the current U.S. equity options as building blocks. As a result, Callan and the NCSRPs would need to conduct further analysis of the implications on the service, and therefore these are not recommended changes at this time.
	Core Fixed Income Fixed Income Passive (1%)	Core Plus Fixed Income Fixed Income Fund (2%)	
	Inflation Sensitive Treasury Inflation Protected (<1%) Inflation Responsive Fund (<1%)		
	U.S. Large-Cap Equity Large Cap Passive (12%)	U.S. Large-Cap Equity Large Cap Core Equity Fund (14%)	
	U.S. All-Cap Equity Passive U.S. All-Cap Equity Option	U.S. All-Cap Equity Multi-Manager U.S. All-Cap Equity Option	
	Non-U.S. Equity International Passive (1%)	Non-U.S. Equity International Equity Fund (2%)	
	U.S. Small/Mid-Cap Equity SMID Cap Passive (3%)	U.S. Small/Mid-Cap Equity Small/Mid Cap Equity Fund (2%)	

*Percentage allocations as of Nov. 30, 2022. Percentage allocations for core tier options include GoalMaker and non-GoalMaker assets. Source: Empower.

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Appendix

Tier I: Overview and Best Practices

Overview

- Tier I is the asset allocation fund tier and is intended for “do-it-for-me” participants who prefer a single-fund solution and the delegation of the asset allocation decision to a professional manager.
- Callan believes that asset allocation funds, in general, are good alternatives for savings plan participants because they are professionally designed, periodically rebalanced, and can keep participants from chasing hot-performing funds. More importantly, they are also approved default investment alternatives (DIAs) as defined in the 2006 Pension Protection Act. They may also be positioned as an easy investment selection for participants without the knowledge, interest, or time to manage their accounts directly.

Callan’s Philosophy

- Within Tier I, Callan generally advocates that plans offer a suite of target date funds as the DIA.
- Although TDFs have certain limitations (e.g., only use age as main input for risk tolerance), they present a suitable investment option for participants who wish to take a “set and forget” approach. The shifting allocations derived from a TDF suite’s glidepath provide participants with an asset allocation strategy that features more aggressive allocations in their early working years and more conservative allocations as they approach retirement.
- Callan does not have a “one size fits all” philosophy when it comes to TDF management style (i.e., passive vs. active). Instead, Callan believes plan sponsors should periodically evaluate their TDF suite to ensure that it is a suitable investment option in light of plan design and participant demographics. As part of a TDF evaluation, plan sponsors should consider multiple facets, including but not limited to glidepath construction, performance, and fees.

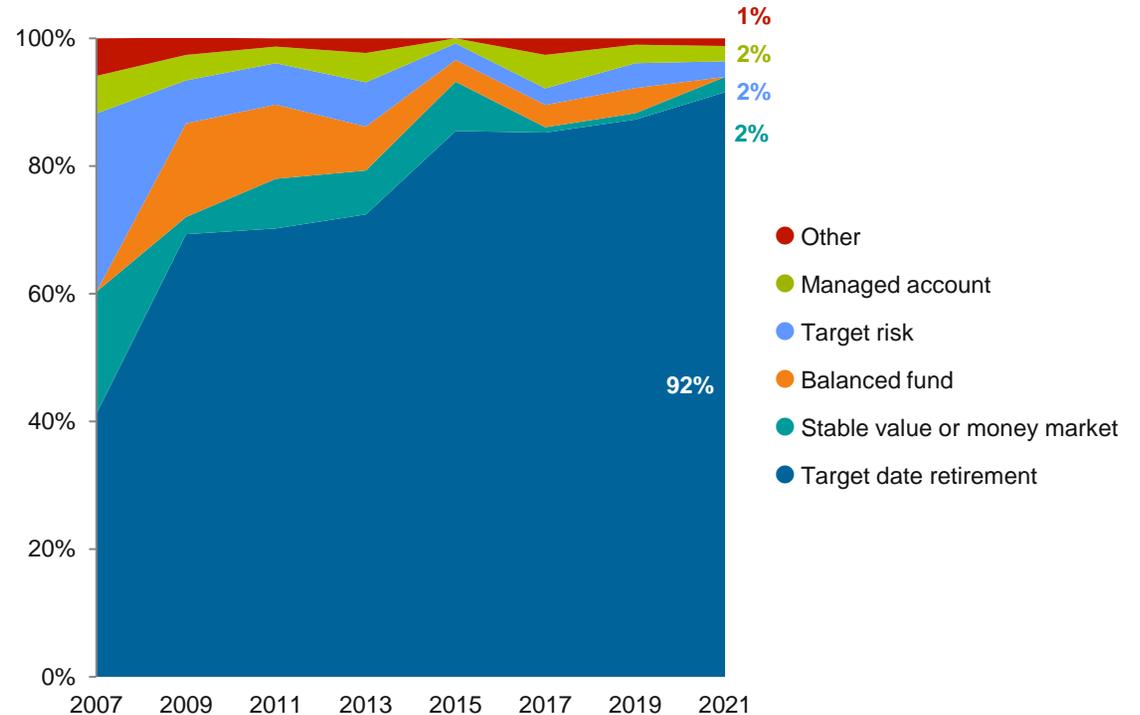
Tier I: Asset Allocation Options – Model Portfolios

Observations

- The NC SRP offer a model portfolio service in Tier I:
 - Prudential GoalMaker (49% of assets)
- GoalMaker allocates to the Plans' core menu investment options to construct portfolios along one of three risk paths: conservative, moderate, and aggressive.
- Most DC plans (92%) offer a target date fund suite as the default investment option.
 - Target date funds present value to participants who may not be very financially savvy, may be overwhelmed by a large number of investment options, and/or do not have the time/capacity to build their own portfolios. They offer relatively easy diversification and the possibility of a set-and-forget investment approach.

Observation: Callan supports the Plans' usage of Prudential GoalMaker as an asset allocation option in Tier I.

Current default investment alternative for non-participant directed monies



Source: 2022 Callan DC Trends Survey

Tier II: Overview and Best Practices

Overview

- Tier II is the core fund tier and is intended for “do-it-yourself” participants who prefer to construct their own portfolios by utilizing the core tier options as essential building blocks.
- Tier II lineups are typically comprised of competitively priced, diversified core options, with limited or no overlap. In addition, the core tier often consists of both passively managed and actively managed options to provide participants with sufficient building blocks and the ability to make a decision regarding their conviction in the ability of active managers to add alpha.

Callan’s Philosophy

- Callan generally recommends that a plan’s core tier investment lineup provides sufficient asset class coverage by including funds whose benchmarks generally represent the following asset classes:
 - Capital preservation
 - Core/core plus fixed income
 - U.S. large-cap equity
 - Non-U.S. equity
 - U.S. small/mid-cap equity
- If the participant base is well engaged and consists of a large “do-it-yourself” population, a plan may consider offering an active/passive mirror within Tier II. Active/passive mirrors provide participants with additional choice in the portfolio construction process and allow them to make a choice between relatively low-cost market exposure or the pursuit of alpha via active management.

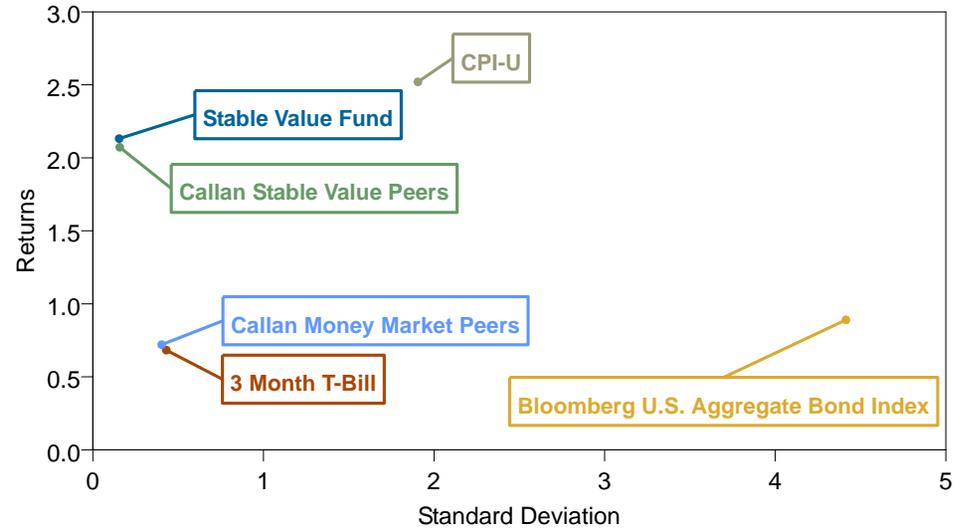
Tier II: Core Options – Capital Preservation

Observations

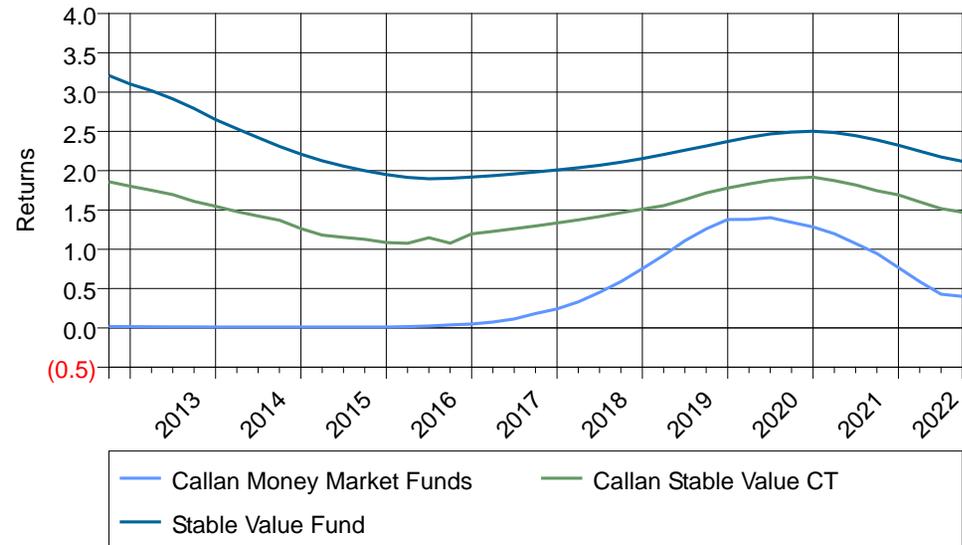
- Within capital preservation, the Plans offer:
 - Stable Value Fund (17% of assets)
- Stable value funds—represented by Stable Value Peers—have historically offered a higher yield than their Money Market Peers.
- Although stable value funds have offered a premium over money market funds, they often carry distinct features:
 - **Wrap contracts:** Add costs to the structure and may result in investment restrictions for the investment managers of the stable value assets.
 - **Performance:** The crediting rate often decreases in a rising interest rate environment due to the longer duration of the underlying portfolio.
 - **Equity wash provisions:** Transfers between stable value and funds with similar investment objectives (referred to as competing funds) may be subject to an industry-standard 90-day equity wash provision (meaning that a participant would have to maintain the reallocated balance in an equity-oriented fund for 90 days before reinvesting in stable value or a named competing fund).

Observation: Callan supports the Plans’ offering of a stable value option within capital preservation.

Risk & Returns for 10 Years Ended September 30, 2022



Rolling 12 Quarter Returns for 10 Years Ended September 30, 2022



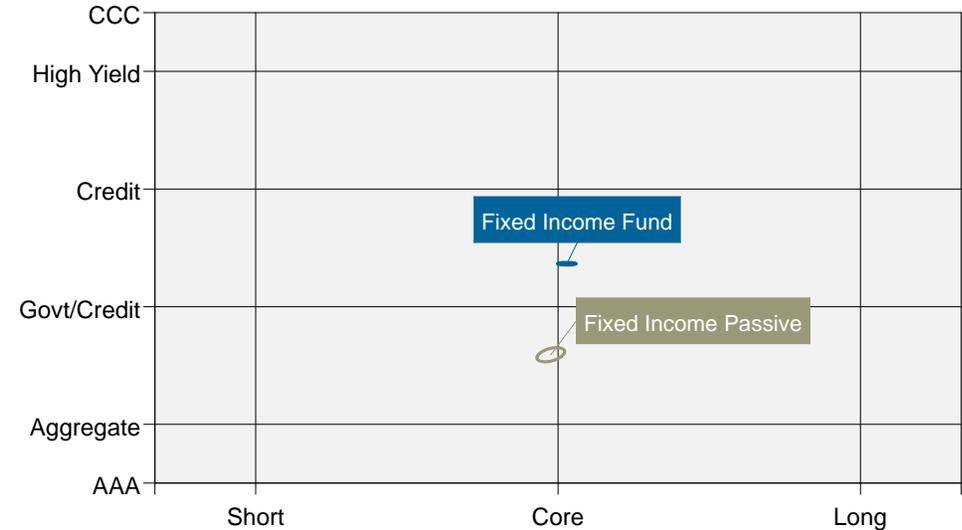
Tier II: Core Options – Core/Core Plus Fixed Income

Observations

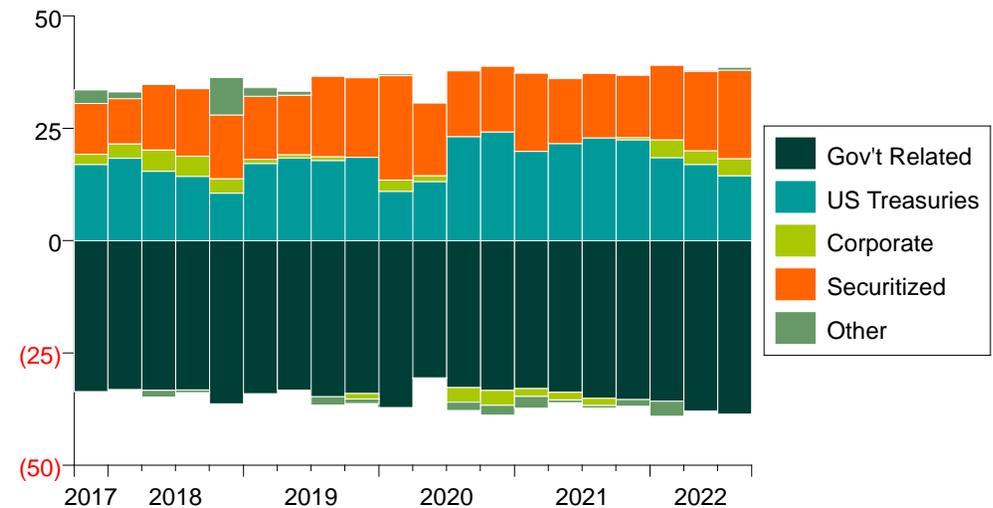
- The NC SRP offer two U.S. fixed income options:
 - **Passive Core:** Fixed Income Passive (1% of assets)
 - **Active Core Plus:** Fixed Income Fund (14%)
- The passive option seeks to track the Bloomberg U.S. Aggregate Bond Index, and the Fixed Income Fund is a core plus multi-manager option.
- Callan supports active management of core plus fixed income, as core plus managers have demonstrated an ability to add value above their benchmarks.
 - Core plus funds may provide additional diversification by allocating to out-of-benchmark sectors such as high yield fixed income.
 - Core plus mandates provide managers more flexibility to manage duration and credit exposure. This is an important lever for active managers, particularly given the relatively high allocation to low-yielding government debt within and increasing duration of the Bloomberg U.S. Aggregate Bond Index.

Observation: Callan supports the Plans' current set of core/core plus fixed income options, as they provide choice with respect to both management style (i.e., active vs. passive) and sector/duration exposure.

Fixed Income Style Map for 5 Years Ended September 30, 2022



Fixed Income Sector Exposure for 5 Years Ended September 30, 2022
Fund: Fixed Income Fund Relative to Fixed Income Passive



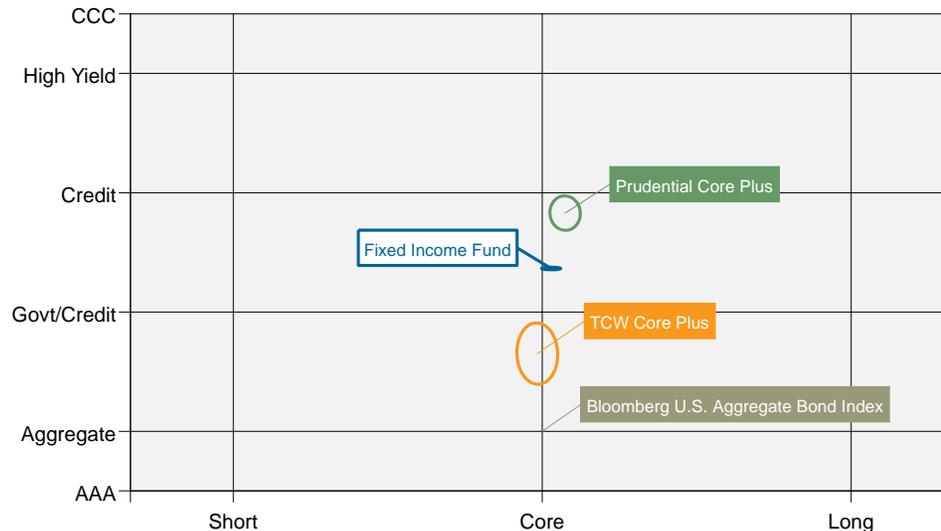
Tier II: Multi-Manager Fund Overview – Fixed Income Fund

Strategic Weights, Benchmarks, Fund Characteristics, and Style

Fixed Income Fund Composition (as of Sept. 30, 2022)

Strategy	Benchmark	Target Weight	Average Credit Quality	Effective Duration
TCW Core Plus	Bloomberg U.S. Aggregate Bond Index	50%	AA	6.8 years
Prudential Core Plus		50%	A	6.3 years

Fixed Income Style Map for 5 Years Ended September 30, 2022



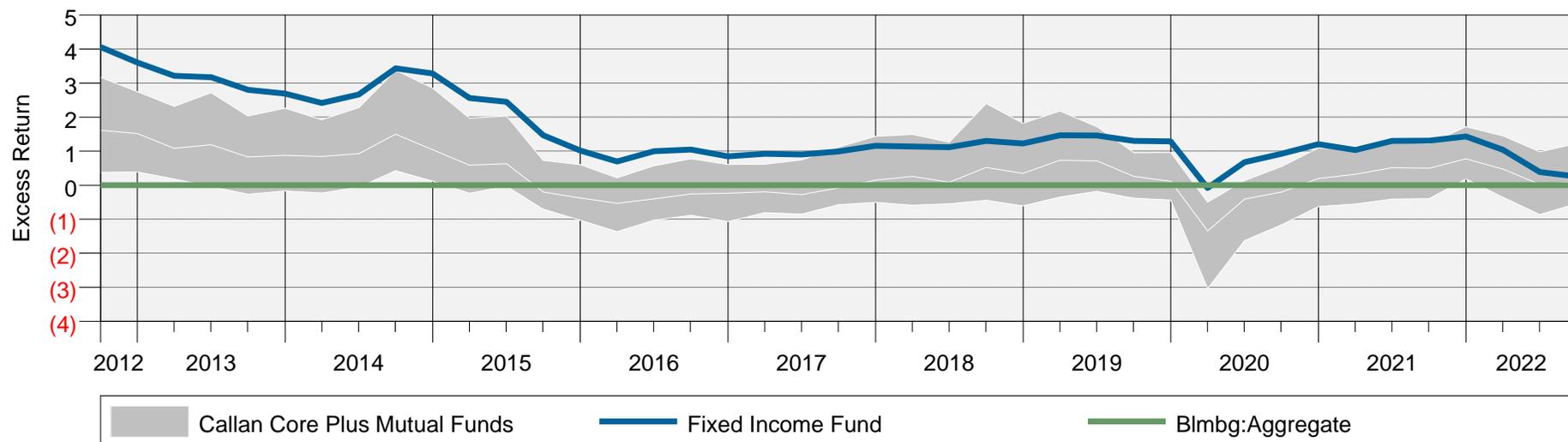
- The Fixed Income Fund has two underlying strategies.
- Relative to the benchmark, the Fixed Income Fund has had slightly lower duration and lower exposure to government-related debt.

Tier II: Multi-Manager Fund Overview – Fixed Income Fund

Risk Statistics for 5 Years Ended Sept. 30, 2022

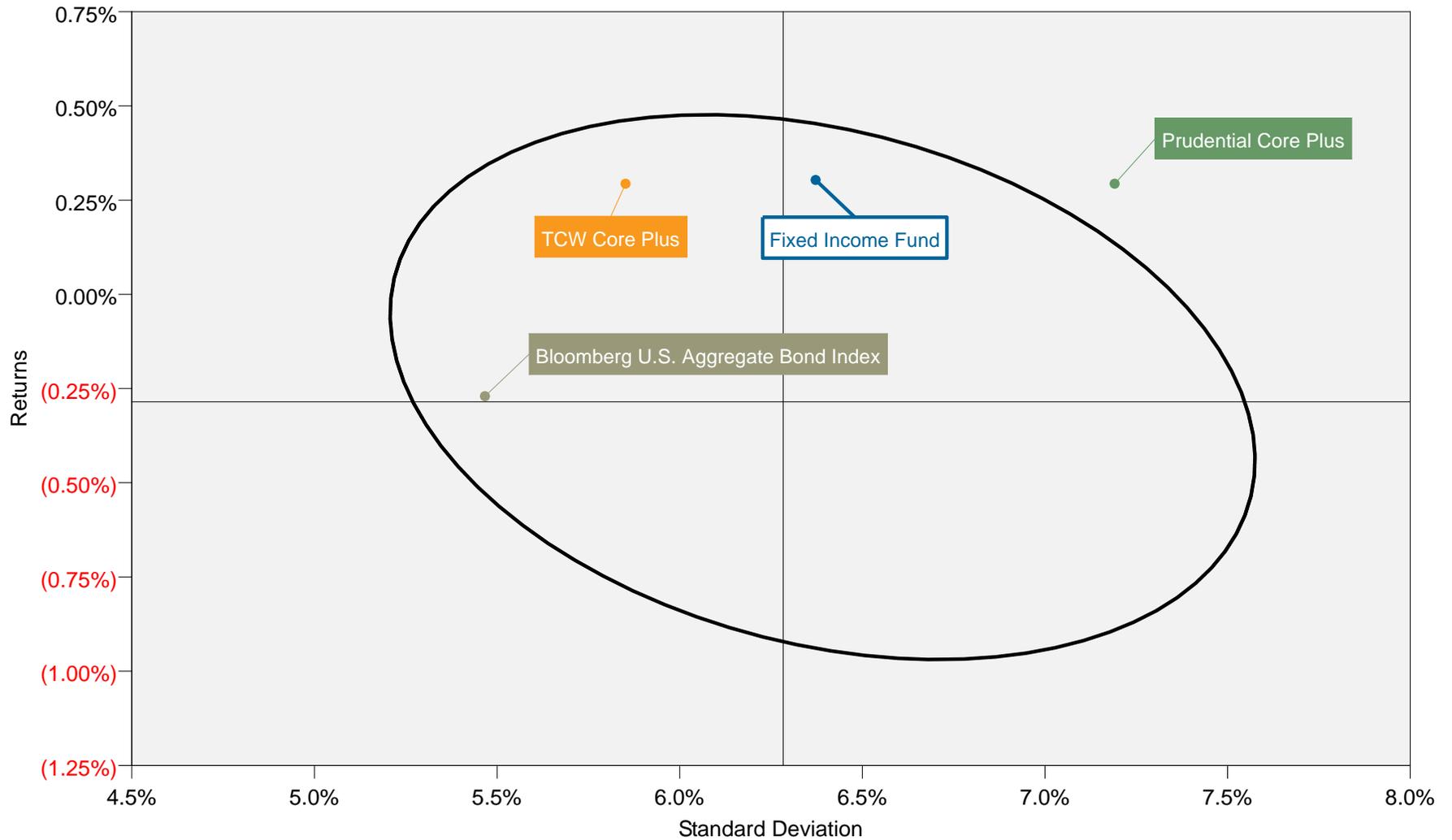
	Excess Return	Sharpe Ratio	Up Market Capture	Down Market Capture	Tracking Error	Standard Deviation	Information Ratio
TCW:Core Plus	0.56 ⁽¹⁵⁾	(0.15) ⁽¹⁶⁾	117.76 ⁽¹⁴⁾	101.21 ⁽⁵⁷⁾	0.93 ⁽⁹⁶⁾	5.85 ⁽⁶⁸⁾	0.76 ⁽¹⁾
PGIM FI:Core Plus FI	0.56 ⁽¹⁵⁾	(0.12) ⁽¹³⁾	136.28 ⁽³⁾	114.46 ⁽¹¹⁾	3.75 ⁽²⁵⁾	7.19 ⁽¹²⁾	0.23 ⁽¹⁶⁾
Fixed Income Fund	0.57 ⁽¹⁵⁾	(0.13) ⁽¹⁵⁾	127.22 ⁽⁴⁾	107.87 ⁽²⁵⁾	2.26 ⁽⁶⁹⁾	6.37 ⁽⁴⁰⁾	0.34 ⁽⁵⁾
Callan Core Plus MFs	(0.01)	(0.23)	105.17	103.57	2.68	6.28	0.05
Blmbg:Aggregate	0.00	(0.26)	100.00	100.00	0.00	5.47	0.00

Rolling 36 Month Excess Return Relative to Bloomberg U.S. Aggregate Bond Index for 10 Years Ended September 30, 2022



Tier II: Multi-Manager Fund Overview – Fixed Income Fund

Risk/Return for 5 Years Ended Sept. 30, 2022



Tier II: Core Options – Inflation Sensitive

Observations

- Within inflation sensitive, the Plans offer
 - **TIPS:** Treasury Inflation Protected (2% of assets)
 - **Diversified Real Assets:** Inflation Responsive Fund (3%)
- The TIPS fund seeks to track the Bloomberg U.S. TIPS 1-10 Year Index.
- The Inflation Responsive Fund is a white label fund that consists of an allocation to the BlackRock Strategic Completion strategy. The BlackRock strategy is a diversified real assets fund with exposure to TIPS, commodities, and REITs.
- GoalMaker uses both inflation-sensitive options in the model portfolio allocations.

Observation: Callan supports the Plans' offering of a TIPS fund and diversified real assets fund to furnish participants multiple options that are intended to provide varying degrees of inflation sensitivity.

10-Year Returns Correlations (as of Sept. 30, 2022)

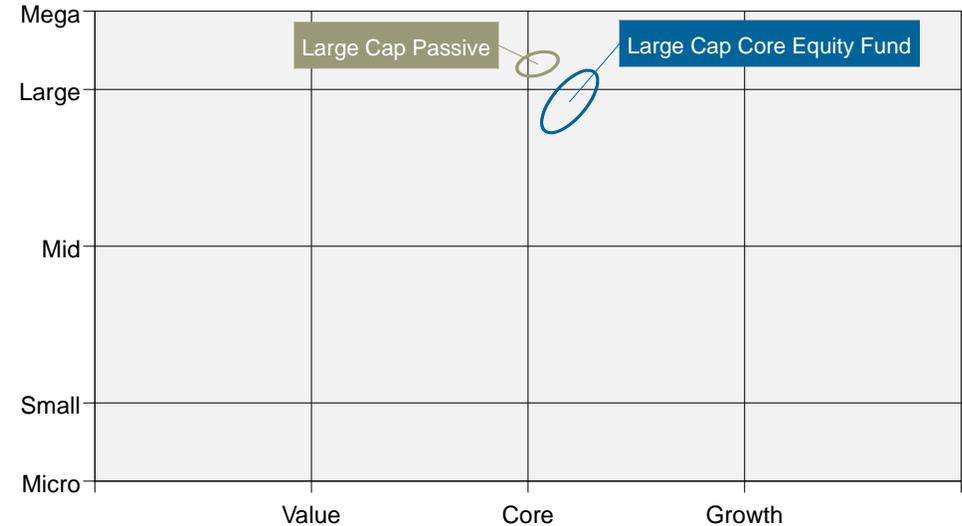
Inflation Responsive Fund	1.00						
Treasury Inflation Protected	0.68	1.00					
Bloomberg Commodity Index	0.71	0.24	1.00				
FTSE NAREIT Composite Index	0.85	0.54	0.36	1.00			
Russell 3000 Index	0.78	0.42	0.44	0.78	1.00		
Bloomberg U.S. Aggregate Bond Index	0.36	0.80	-0.20	0.41	0.24	1.00	
CPI-U	0.16	-0.04	0.55	-0.03	-0.14	-0.35	1.00
	Inflation Responsive Fund	Treasury Inflation Protected	Bloomberg Commodity Index	FTSE NAREIT Composite Index	Russell 3000 Index	Bloomberg U.S. Aggregate Bond Index	CPI-U

Tier II: Core Options – U.S. Large-Cap Equity

Observations

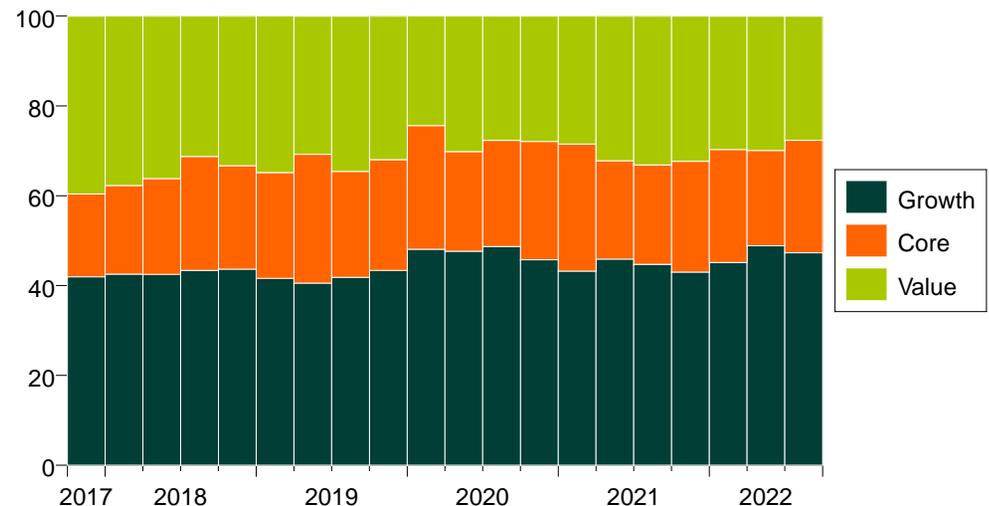
- The NC SRP offer two U.S. large-cap equity options:
 - **Passive:** Large Cap Passive (24% of assets)
 - **Active:** Large Cap Core Equity Fund (14%)
- The passive option seeks to track the S&P 500 Index, and the Large Cap Core Equity Fund is a multi-manager option.
- U.S. large-cap equity has been a relatively efficient market, as active large-cap equity managers have historically had difficulty beating their benchmarks.

U.S. Equity Style Map for 5 Years Ended September 30, 2022



Consideration: To further streamline the structure, the NCSRPs could consider offering U.S. all-cap equity options in place of standalone U.S. large-cap and small/mid-cap options. Importantly, such a change would disrupt the model portfolio service given its usage of several of the current U.S. equity options as building blocks. As a result, Callan and the NCSRPs would need to conduct further analysis of the implications on the service, and therefore these are not recommended changes at this time.

Style Exposure for 5 Years Ended September 30, 2022
Fund: Large Cap Core Equity Fund



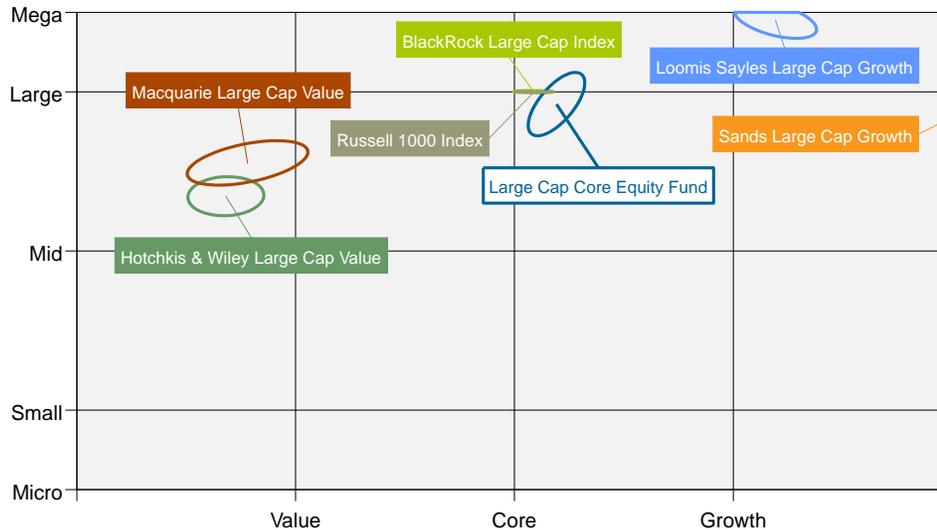
Tier II: Multi-Manager Fund Overview – Large Cap Core Equity Fund

Strategic Weights, Benchmarks, Fund Characteristics, and Style

Large Cap Core Equity Fund Composition (as of Sept. 30, 2022)

Strategy	Benchmark	Target Weight
Hotchkis & Wiley Large Cap Value	Russell 1000 Value Index	18.75%
Macquarie Large Cap Value		18.75%
Sands Large Cap Growth	Russell 1000 Growth Index	18.75%
Loomis Sayles Large Cap Growth		18.75%
BlackRock Large Cap Index	Russell 1000 Index	25%

U.S. Equity Style Map for 5 Years Ended September 30, 2022



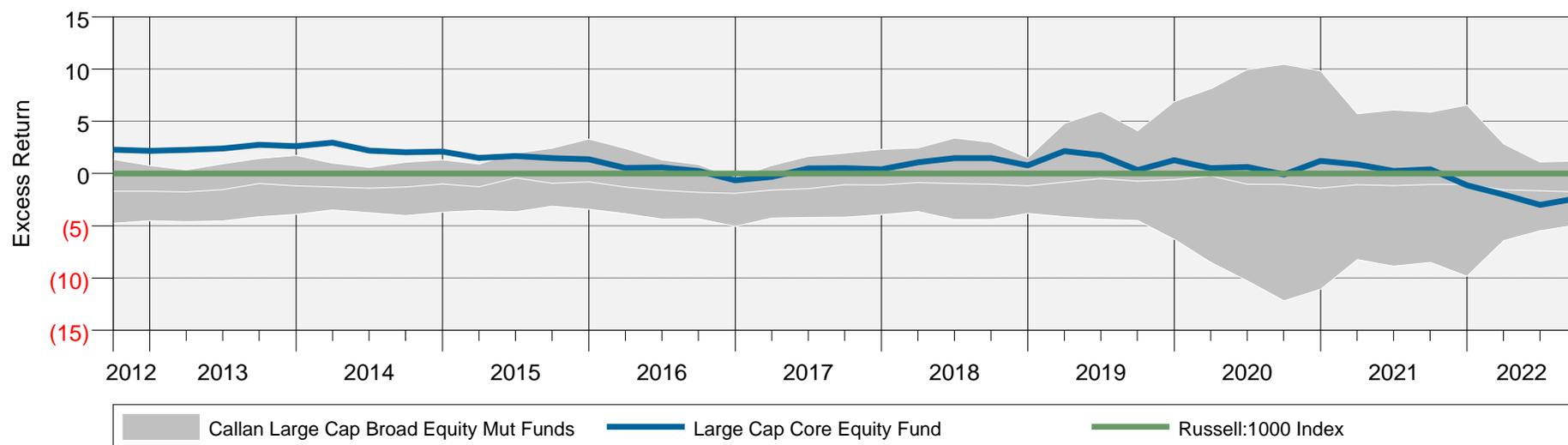
- The Large Cap Core Equity Fund has five underlying strategies.
- Relative to the benchmark, the Large Cap Core Equity Fund has exhibited a slight growth bias.

Tier II: Multi-Manager Fund Overview – Large Cap Core Equity Fund

Risk Statistics for 5 Years Ended Sept. 30, 2022

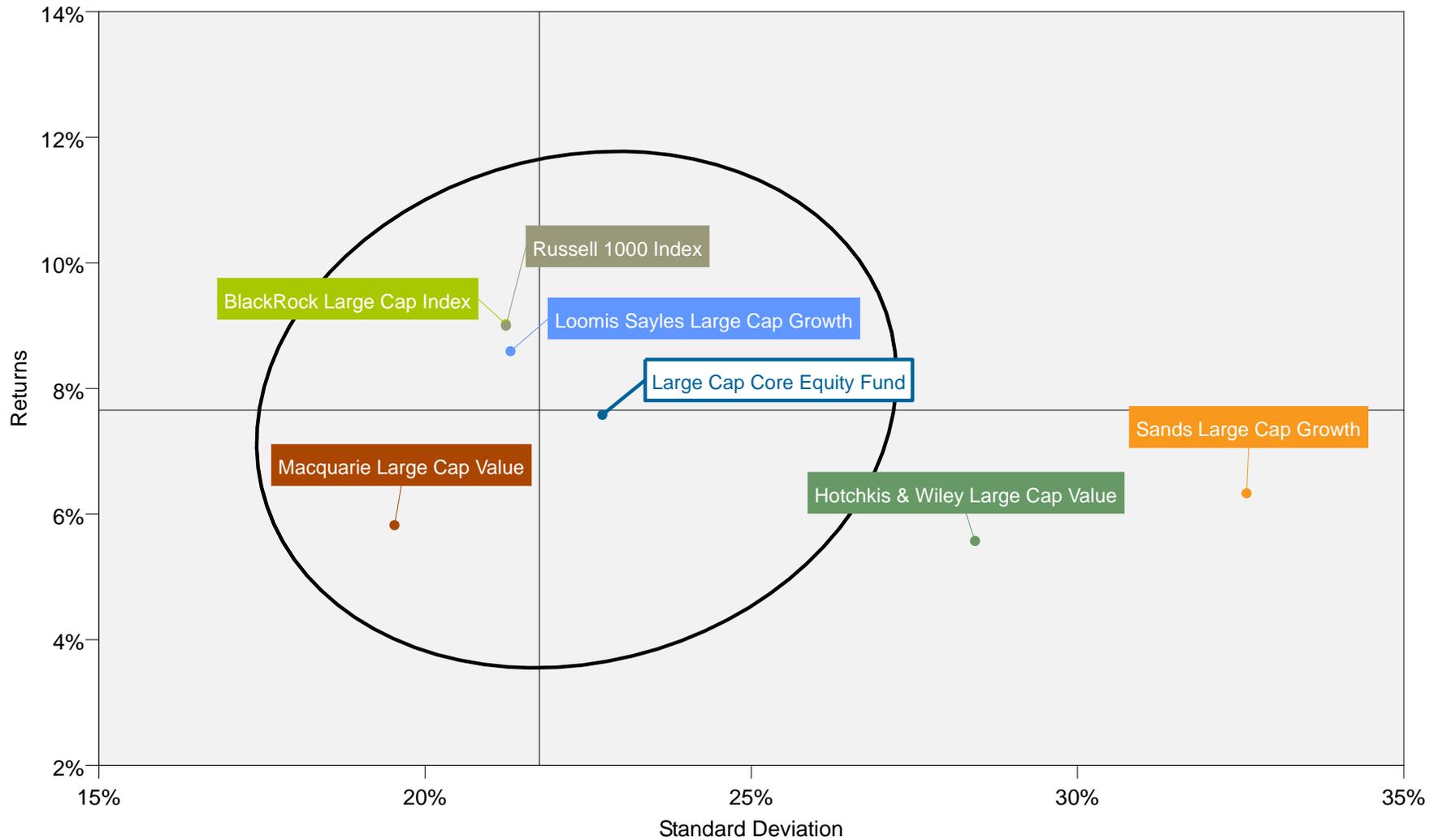
	Excess Return	Sharpe Ratio	Up Market Capture	Down Market Capture	Tracking Error	Standard Deviation	Information Ratio
Hotchkis:Lg Cap Value	(3.43) (82)	0.16 (85)	106.58 (27)	119.46 (2)	13.38 (3)	28.43 (3)	(0.25) (64)
Macquarie:US LC Value	(3.17) (77)	0.24 (69)	70.53 (92)	92.25 (90)	7.54 (42)	19.53 (88)	(0.27) (65)
Sands:Lg Cap Growth	(2.67) (68)	0.16 (85)	114.86 (7)	120.81 (2)	18.93 (1)	32.59 (1)	(0.12) (47)
Loomis:Large Cap Growth	(0.40) (40)	0.35 (32)	89.84 (56)	94.40 (81)	6.52 (56)	21.31 (54)	0.01 (38)
BlkRck:Russell 1000 Index Fd F	0.03 (36)	0.37 (26)	100.12 (35)	99.96 (56)	0.02 (100)	21.24 (54)	1.20 (1)
Large Cap Core Equity Fund	(1.42) (51)	0.28 (56)	97.00 (44)	104.70 (28)	3.49 (81)	22.72 (39)	(0.47) (82)
Callan Lg Cap Broad MF	(1.34)	0.30	94.48	101.54	6.98	21.75	(0.15)
Russell:1000 Index	0.00	0.37	100.00	100.00	0.00	21.24	0.00

Rolling 36 Month Excess Return Relative to Russell 1000 Index for 10 Years Ended September 30, 2022



Tier II: Multi-Manager Fund Overview – Large Cap Core Equity Fund

Risk/Return for 5 Years Ended Sept. 30, 2022



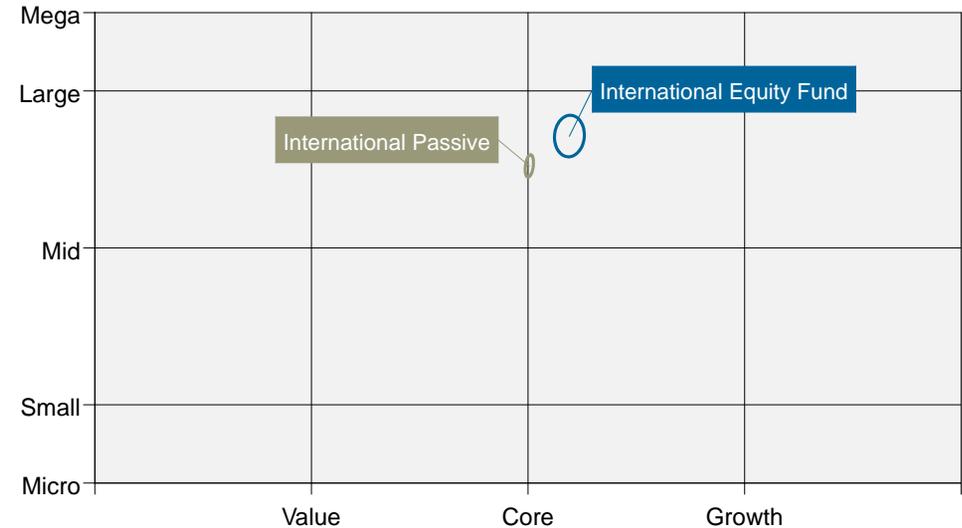
Tier II: Core Options – Non-U.S. Equity

Observations

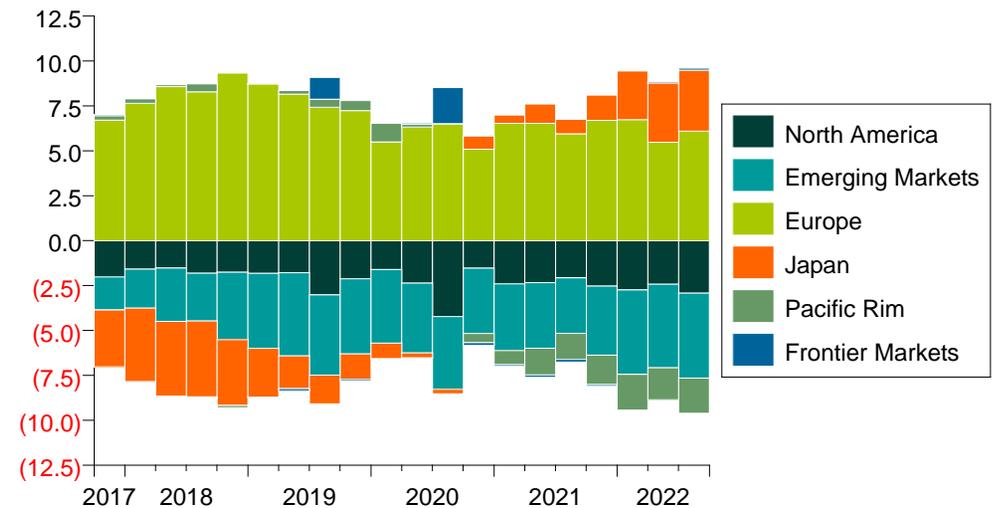
- Within non-U.S. equity, the Plans offer:
 - **Passive:** International Passive (1% of assets)
 - **Active:** International Equity Fund (15%)
- The passive option seeks tracks the MSCI ACWI ex-U.S. IMI, which provides broad exposure to non-U.S. large-cap, mid-cap, and small-cap equities.
- The International Equity Fund is a multi-manager option benchmarked to the MSCI ACWI ex-U.S. IMI. Relative to the benchmark, the Fund has exhibited a slight growth tilt and historically maintained higher exposure to Europe alongside lower exposures to emerging markets and North America.

Observation: Callan supports the Plans' current set of non-U.S. equity options, as they provide choice with respect to both management style (i.e., active vs. passive) and regional exposure.

Non-U.S. Equity Style Map for 5 Years Ended September 30, 2022



Regional Exposure for 5 Years Ended September 30, 2022
International Equity Fund Relative to International Passive



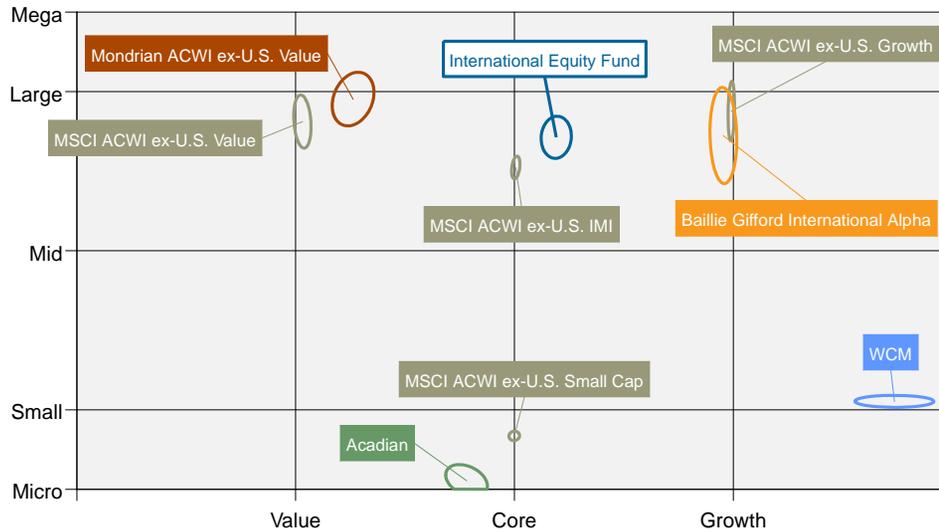
Tier II: Multi-Manager Fund Overview – International Equity Fund

Strategic Weights, Benchmarks, Fund Characteristics, and Style

International Equity Fund Composition (as of Sept. 30, 2022)

Strategy	Benchmark	Target Weight
Mondrian ACWI ex-U.S. Value	MSCI ACWI ex-U.S. Value	43%
Baillie Gifford International Alpha	MSCI ACWI ex-U.S. Growth	43%
Acadian	MSCI ACWI ex-U.S. Small Cap	7%
WCM		7%

Non-U.S. Equity Style Map for 5 Years Ended September 30, 2022



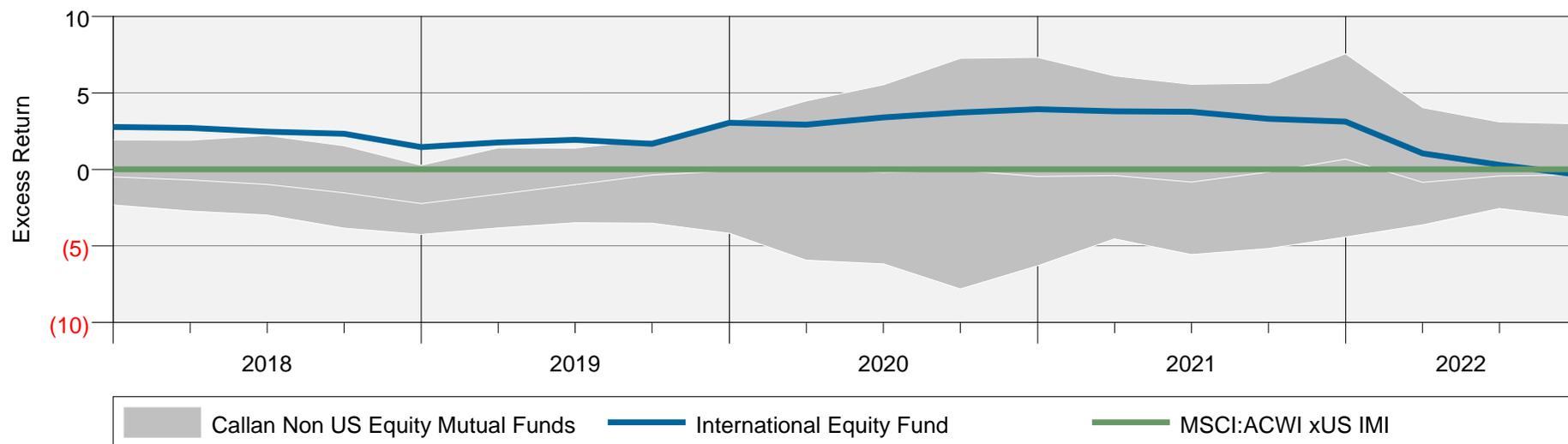
- The International Equity Fund has four underlying managers.
- Relative to the benchmark, the International Equity Fund has exhibited a growth tilt and had higher exposure to large-capitalization stocks.
 - The growth bias of the option is driven by the Baillie Gifford and WCM strategies.

Tier II: Multi-Manager Fund Overview – International Equity Fund

Risk Statistics for 5 Years Ended Sept. 30, 2022

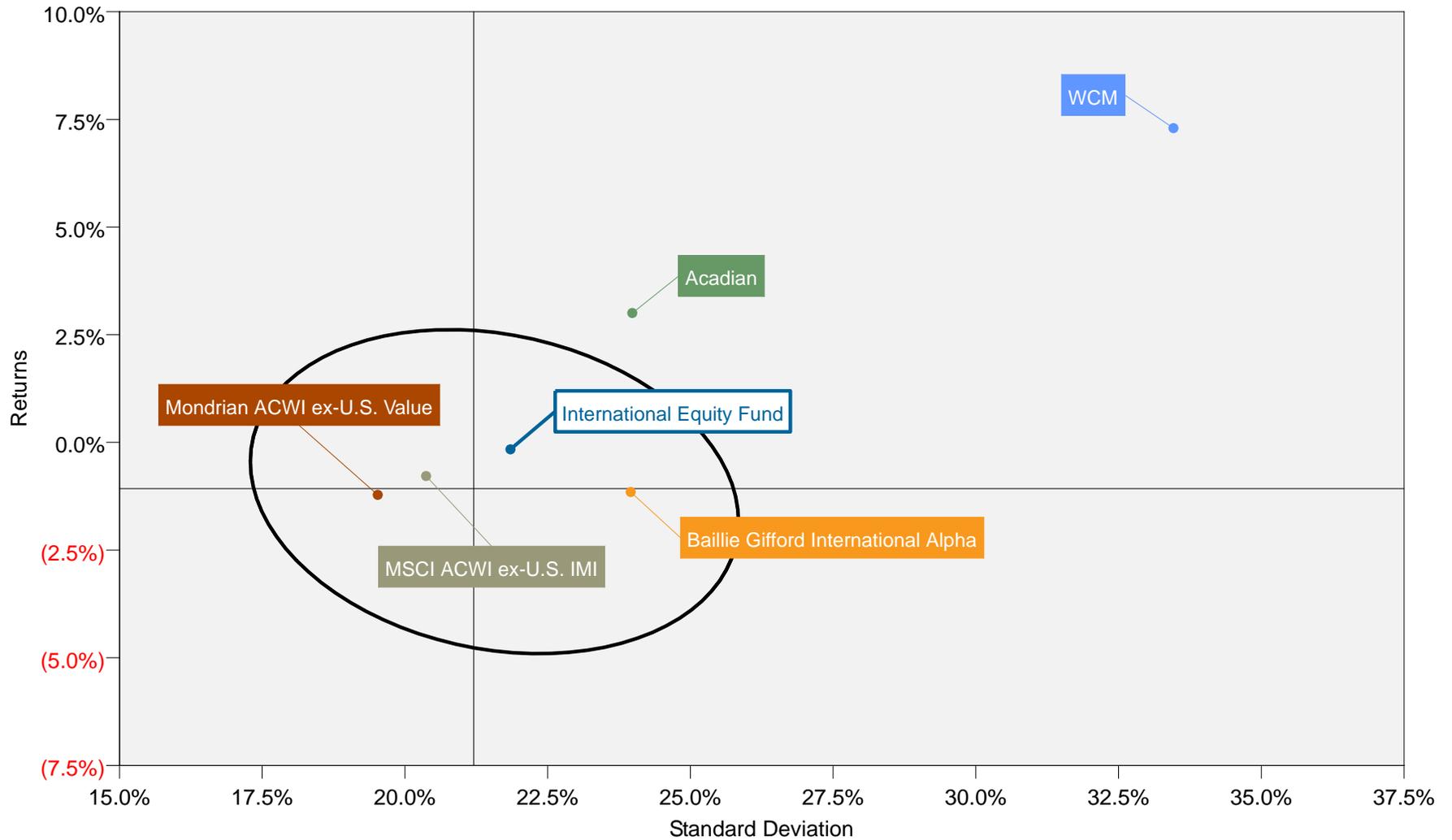
	Excess Return	Sharpe Ratio	Up Market Capture	Down Market Capture	Tracking Error	Standard Deviation	Information Ratio
Mondrian:Foc ACW ex US Eq	(0.44) (54)	(0.12) (58)	87.57 (80)	96.12 (80)	5.40 (44)	19.52 (83)	(0.11) (57)
Baillie:International Alpha	(0.37) (53)	(0.10) (44)	126.69 (15)	111.53 (12)	7.35 (20)	23.96 (17)	0.04 (41)
Acadian:All Cntry Wrld exUS Sm Cp	3.78 (6)	0.08 (7)	149.03 (2)	103.55 (39)	6.12 (41)	23.98 (17)	0.84 (6)
WCM:Intl Sm Cap Growth Fd	8.08 (1)	0.18 (1)	228.93 (1)	110.03 (14)	17.25 (1)	33.46 (1)	0.79 (6)
International Equity Fund	0.62 (28)	(0.06) (28)	116.38 (21)	104.17 (34)	2.78 (92)	21.85 (37)	0.35 (14)
Callan Non US Equity MFs	(0.29)	(0.10)	102.21	101.34	5.22	21.20	(0.03)
MSCI:ACWI xUS IMI	0.00	(0.09)	100.00	100.00	0.00	20.37	0.00

Rolling 36 Month Excess Return Relative to MSCI ACWI ex-U.S. IMI for 4 3/4 Years Ended September 30, 2022



Tier II: Multi-Manager Fund Overview – International Equity Fund

Risk/Return for 5 Years Ended Sept. 30, 2022



Tier II: Core Options – U.S. Small/Mid-Cap Equity

Observations

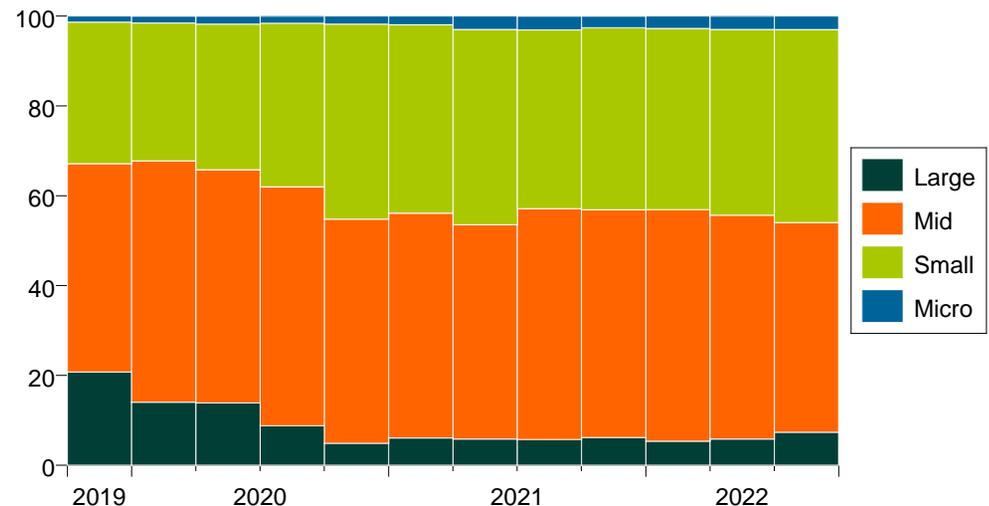
- The NC SRP offer two U.S. small/mid-cap equity options:
 - **Passive:** SMID Cap Passive (3% of assets)
 - **Active:** Small/Mid Cap Equity Fund (7%)
- The passive option seeks to track the Russell 2500 Index, and the Small/Mid Cap Equity Fund is a multi-manager option.
- U.S. small/mid-cap equity has often been a less efficient market than U.S. large-cap equity, as active small/mid-cap equity managers have historically had greater success adding value above their benchmarks.

Consideration: To further streamline the structure, the NCSRPs could consider offering U.S. all-cap equity options in place of standalone U.S. large-cap and small/mid-cap options. Importantly, such a change would disrupt the model portfolio service given its usage of several of the current U.S. equity options as building blocks. As a result, Callan and the NCSRPs would need to conduct further analysis of the implications on the service, and therefore these are not recommended changes at this time.

U.S. Equity Style Map for 5 Years Ended September 30, 2022



Style Exposure for 3 Years Ended September 30, 2022
Fund: Small/Mid Cap Equity Fund



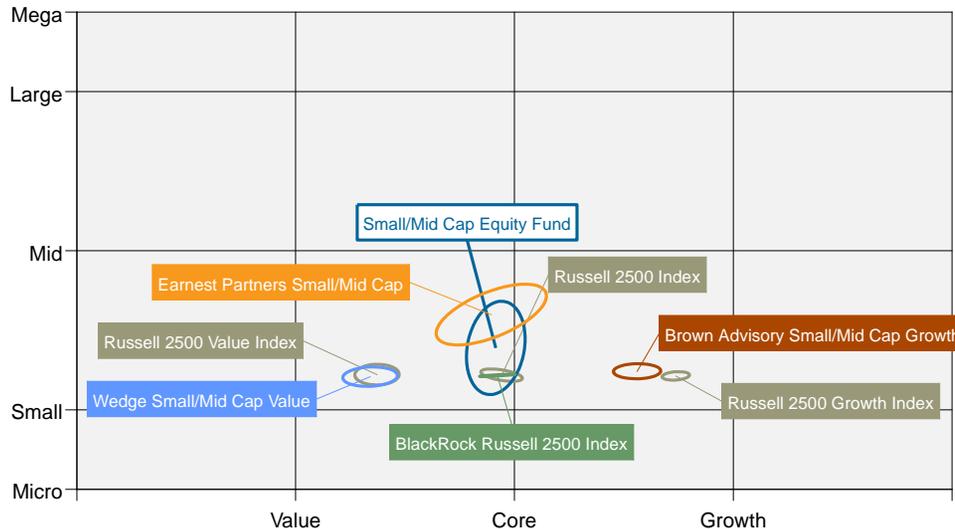
Tier II: Multi-Manager Fund Overview – Small/Mid Cap Equity Fund

Strategic Weights, Benchmarks, Fund Characteristics, and Style

Small/Mid Cap Equity Fund Composition (as of Sept. 30, 2022)

Strategy	Benchmark	Target Weight
Wedge Small/Mid Cap Value	Russell 2500 Value Index	30%
Brown Advisory Small/Mid Cap Growth	Russell 2500 Growth Index	30%
Earnest Partners Small/Mid Cap	Russell 2500 Index	30%
BlackRock Russell 2500 Index		10%

U.S. Equity Style Map for 5 Years Ended September 30, 2022



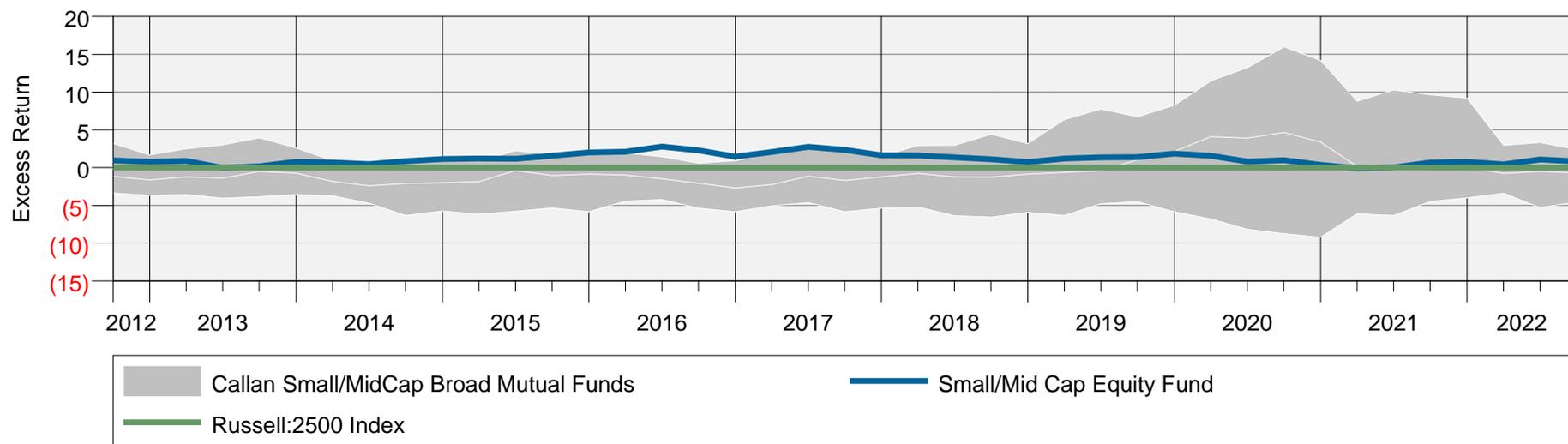
- The Small/Mid Cap Equity Fund has four underlying strategies.
- Relative to the benchmark, the Small/Mid Cap Equity Fund has exhibited a similar style exposure but has had slightly higher exposure to large-capitalization stocks.

Tier II: Multi-Manager Fund Overview – Small/Mid Cap Equity Fund

Risk Statistics for 5 Years Ended Sept. 30, 2022

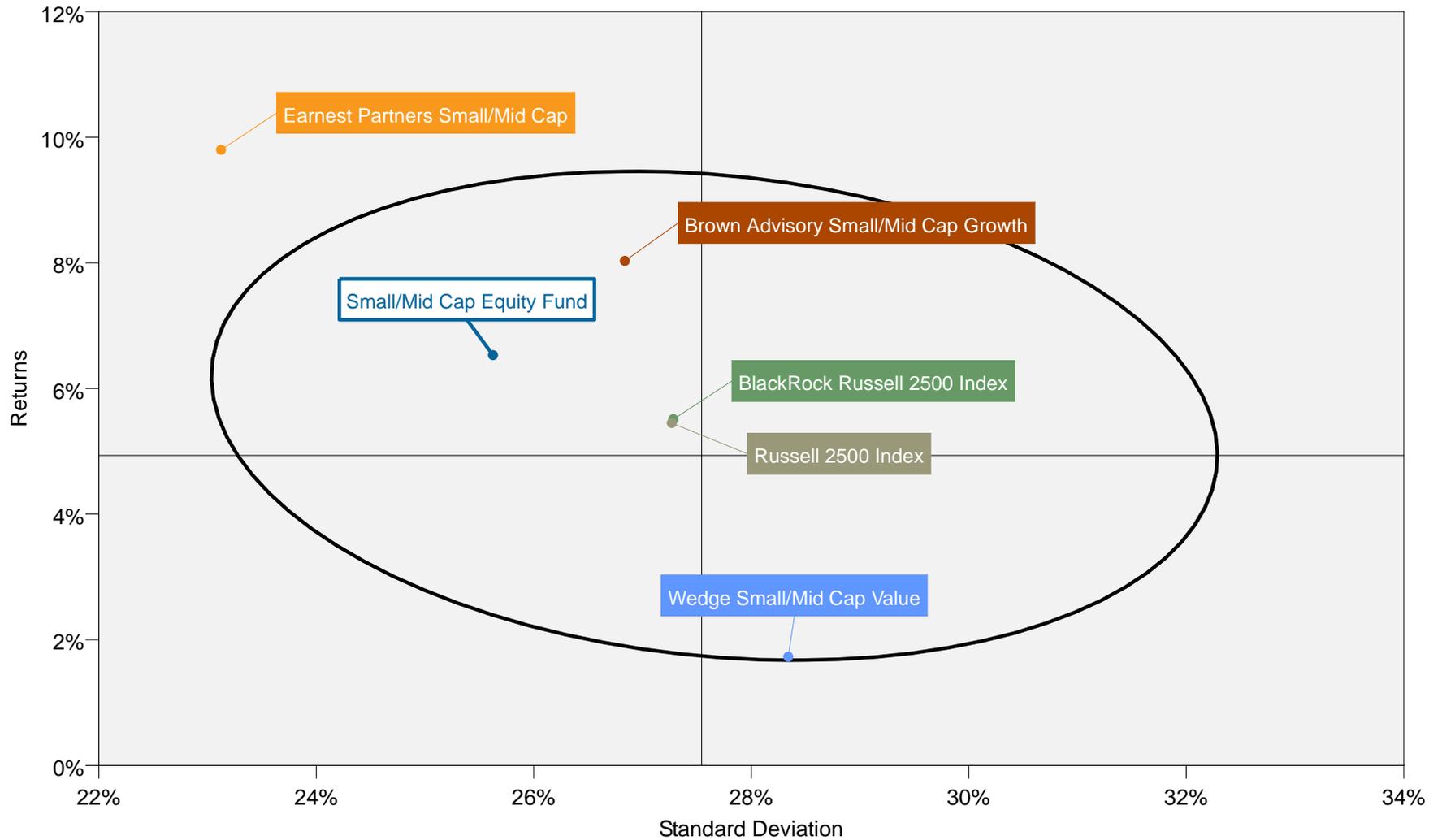
	Excess Return	Sharpe Ratio	Up Market Capture	Down Market Capture	Tracking Error	Standard Deviation	Information Ratio
WEDGE:Sm/Mid Cap Value	(3.72) (97)	0.02 (97)	86.14 (77)	105.55 (18)	6.03 (83)	28.34 (44)	(0.51) (97)
Brown Inv:Small Cap Growth	2.58 (17)	0.26 (18)	104.64 (37)	93.27 (74)	8.28 (45)	26.84 (59)	0.33 (17)
EARNEST:SMID Core	4.35 (6)	0.37 (4)	97.86 (52)	82.67 (95)	6.38 (77)	23.12 (94)	0.98 (2)
BlkRck:Russell 2500 Index Fund F	0.06 (41)	0.16 (45)	100.19 (45)	99.88 (51)	0.05 (100)	27.28 (57)	1.20 (1)
Small/Mid Cap Equity Fund	1.08 (36)	0.21 (26)	96.96 (53)	94.67 (69)	2.73 (100)	25.63 (72)	0.52 (11)
Callan SMID Broad MFs	(0.52)	0.14	98.68	100.23	7.90	27.54	0.00
Russell:2500 Index	0.00	0.16	100.00	100.00	0.00	27.27	0.00

Rolling 36 Month Excess Return Relative to Russell 2500 Index for 10 Years Ended September 30, 2022



Tier II: Multi-Manager Fund Overview – Small/Mid Cap Equity Fund

Risk/Return for 5 Years Ended Sept. 30, 2022



Tier III: Overview and Best Practices

Overview

- Tier III is the specialty fund tier and contains any investment funds that are not considered core.
- Examples of funds that would be classified as specialty include sector-specific funds (e.g., technology sector funds), aggressive growth or deep-value U.S. equity funds, emerging markets funds, and real estate investment trusts. Some plan sponsors may also offer a self-directed brokerage window or company stock fund, both of which would be placed in this tier.

Callan's Philosophy

- Callan recommends that plans offer a limited set of options within the specialty tier given the complex nature of specialty funds and the potential confusion they may bring to participants.
- Offering too many specialty funds may lead to inappropriate allocations for participants who use naïve diversification strategies such as the “1/N rule.”* Therefore, it is generally best practice to offer a streamlined specialty tier and instead allow “do-it-yourself” participants to build diversified portfolios using the core tier funds.
- A self-directed brokerage window can add value if the participant population contains financially savvy individuals who seek specialty options to complement their portfolios.

*The “1/N rule” refers to an asset allocation decision that involves allocating equally across all N funds under consideration.

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