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June 20, 2019

Stable Value Fund Review

North Carolina Supplemental Retirement Plans

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Contents

- ➤ Executive Summary
- ➤ Galliard Stable Value
 - ▶Organization
 - **≻**People
 - > Process
 - ▶ Performance
 - > Fees
- ➤ Stable Value Trends



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Executive Summary

Stable Value Review – Executive Summary

- Callan performed an extensive onsite meeting with Galliard on March 2, 2019
- Callan maintains a positive opinion of Galliard's stable value strategy and the internally managed fixed income that underlies stable value accounts
- Galliard is undergoing some organizational changes that warrant a close watch
- Aside from the recently announced upcoming retirements, the fixed income and stable value teams have experienced a low degree of turnover since firm's inception
- A collaborative and structured process has aided in developing wrap contract solutions and maintaining a consistent investment approach
- North Carolina's stable value fund has performed in line with expectations and has consistently generated a crediting rate in line with peers



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Galliard Stable Value

Galliard Stable Value – Organization

- Galliard announced several upcoming retirements at the senior level of the firm as well as operational changes
 - Richard Merriam, Founding Managing Partner and Member of the Executive Operating Committee, will retire December
 31, 2019
 - Karl Tourville, Founding Managing Partner, President and Chairman of the Executive Operating Committee will retire June 2020
- Andrew Owen, President of Wells Fargo Funds, will assume the role of President and Member of the Executive Operating Committee on January 1, 2020
- On December 31, 2019, Galliard's current revenue sharing agreement with Wells Fargo will end; the structure of the new revenue sharing agreement has not yet been finalized
- On January 1, 2020, Galliard's risk management, compliance and technology teams will begin reporting to Wells Fargo's risk and technology groups
- Callan maintains a cautionary status with respect to the organization
- Callan would provide a more positive opinion should Galliard prove that it can minimize any future senior level departures and maintain stability at the firm
- While Wells Fargo may attempt to eliminate redundancies over time, any sweeping and immediate job cuts would be viewed negatively



Galliard Stable Value – People

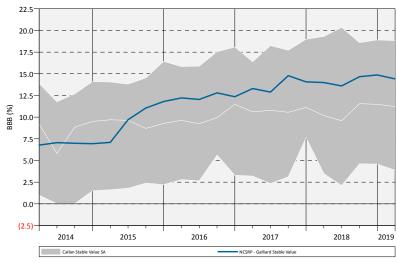
- Fixed income and dedicated stable value teams have experienced low turnover since firm's inception
- Ajay Mirza and Brandon Kanz remain key investment professionals acting as Chair and Vice-Chair of Investment Committee
- Leela Scattum, Partner and Chief Stable Value Strategist, announced her intention to retire December 31, 2020; Nick Gage will assume Scattum's role
- Deep stable value team comprised of nine wrap contract negotiating professionals, four external management oversight professionals, six contract administration professionals and 10 stable value accounting and operations professionals



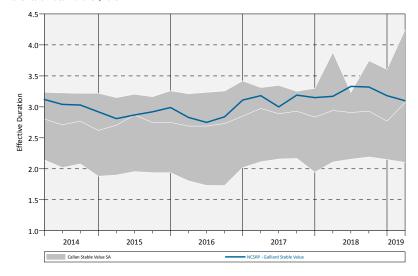
Galliard Stable Value - Process

- Galliard conducts a collaborative and structured process in implementing stable value portfolios
- Dedicated resources and experience in wrap contract management as well as asset size have been competitive advantages for the firm in negotiating wrap agreements
- External management oversight, led by Elizabeth Smithley and Peter Schmit, appears to be thorough and robust
- While Galliard's fixed income characteristics are conservative and risk aware relative to peers, they diversify their investment approach with subadvisors that source alpha opportunities with bottom-up security selection within corporate credit and duration management





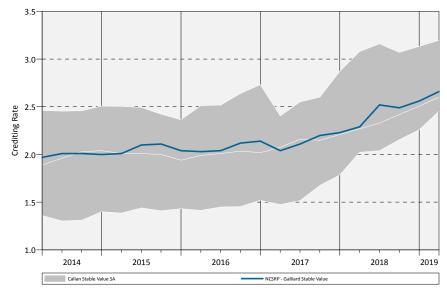
Effective Duration for 5 Years Ended March 31, 2019



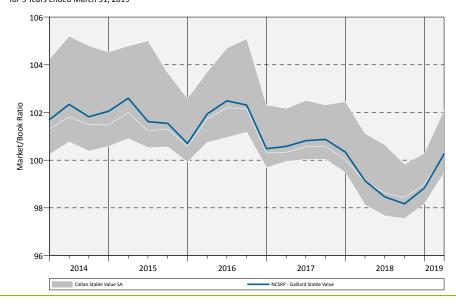


- The NCSRP stable value fund has produced a crediting rate above the peer median
- Market to book value ratios started declining in 2016 as the Federal Reserve began raising interest rates, falling below 100% in 2018
- Market to book began increasing in December 2018 as the markets experienced a flight to quality and the Fed announced a pause to rate hikes

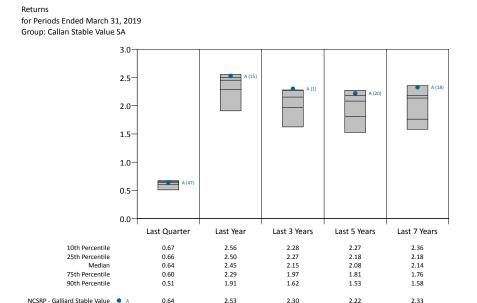




Market/Book Ratio for 5 Years Ended March 31, 2019

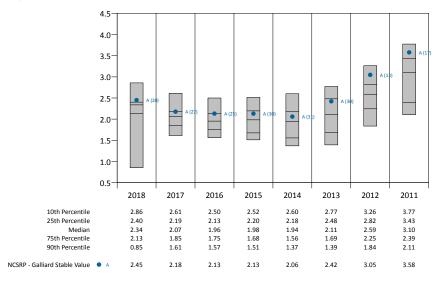






2.53

Calendar Year Returns for Periods Ended December 31, 2019 Group: Callan Stable Value SA

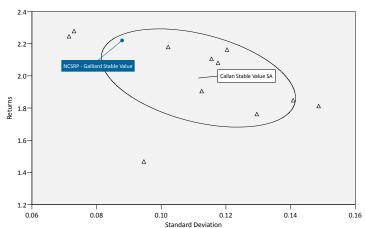


Scatter Chart for 5 Years Ended March 31, 2019

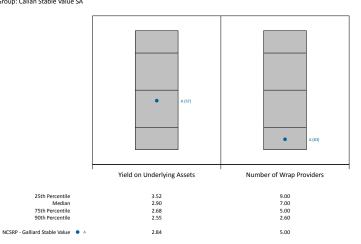
0.64

NCSRP - Galliard Stable Value

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Portfolio Characteristics For Periods Ended March 31, 2019 Group: Callan Stable Value SA





Diversification by Wrap Issuers and Subadvisors as of March 31, 2019

Wrap Issuer Exposure Subadvisor Exposure TCW PGIM Transamerica Liquidity BlackRock 10% Buffer 10% 24% STIF 2% 2% American Payden & General Rygel 20% 10% Jennison 10% Prudential 25% Galliard Nationwide 47% Life 18% Dodge & Cox 11% Metropolitan Life 11%



Subadvisor performance for periods ended March 31, 2019

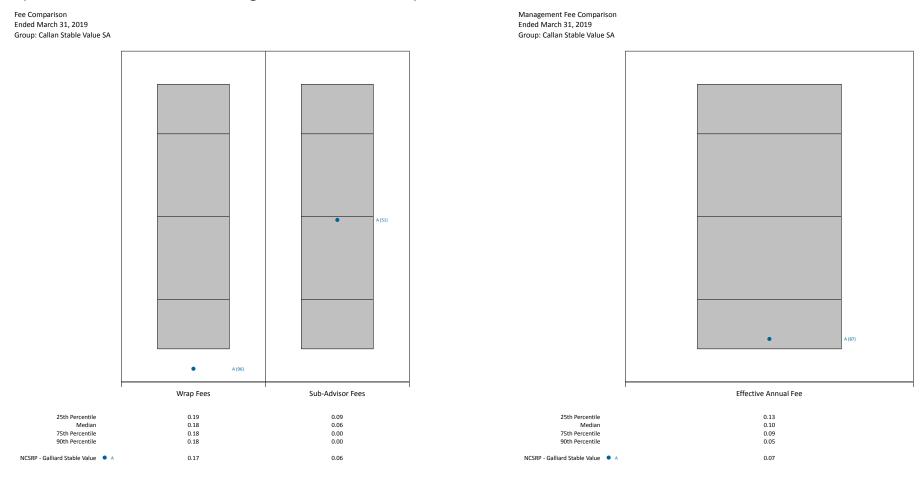
Manager	1 month	1-quarter	1-years	3-years	5-years	Since Inception	Inception Date
Galliard	0.71%	1.52%	-	-	-	3.19%	June 1, 2018
BB 1-3 yr Gov't/Credit Index	0.66%	1.21%	-	-	-	2.75%	-
Galliard	1.46%	2.58%	-	-	-	4.52%	June 1, 2018
Dodge & Cox	1.47%	2.93%	4.47%	2.36%	-	2.27%	Mar 1, 2015
Prudential	1.36%	2.51%	4.62%	2.23%	-	2.58%	Feb 1, 2016
BB Intermediate Aggregate Index	1.39	2.28%	4.33%	1.71%	1.95%	4.21% / 1.91% / 1.95%	-
Payden & Rygel	1.34%	2.35%	4.49%	2.11%	1.70%	2.13%	July 1, 2009
¹ Linked Benchmark	1.39%	2.28%	4.49%	1.79%	1.51%	1.63%	-
Jennison	1.32%	2.20%	4.29%	1.95%	2.46%	4.81%	¹ See Note
TCW	1.39%	2.41%	-	-	-	4.69%	June 1, 2018
BB Intermediate Gov't/Credit Index	1.35%	2.32%	4.24%	1.66%	2.12%	4.79% / 4.17%	-

¹Payden Linked BM: Bloomberg Barclays U.S. Intermediate Aggregate Bond Index. Prior to June 1, 2018 benchmark was Bloomberg Barclays U.S. 1-3 Year Government/Credit Bond Index. Performance inception: June 1, 2018. Prior to June 1, 2018 returns are linked to Wells Fargo Fixed Income Fund N (Jennison).



Galliard Stable Value - Fees

Wrap/Subadvisor and Management Fee Comparison



- Galliard has been assertive in negotiating wrap contract fees.
- NC's management fee is competitive among stable value reported management fee schedules.

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Stable Value Trends

Factors Impacting Stable Value Environment

Post-2008 Credit Crisis and Wrap Capacity

- Investment guidelines tightened after the financial crisis, limiting interest rate risk and investable securities.
- ➤ More recently, wrap fees have declined to 17-19 bps from the 25-30 bps range immediately after the GFC.
- ➤ Investment guideline negotiating leverage has shifted back in favor of investment managers.

Current Rate Environment

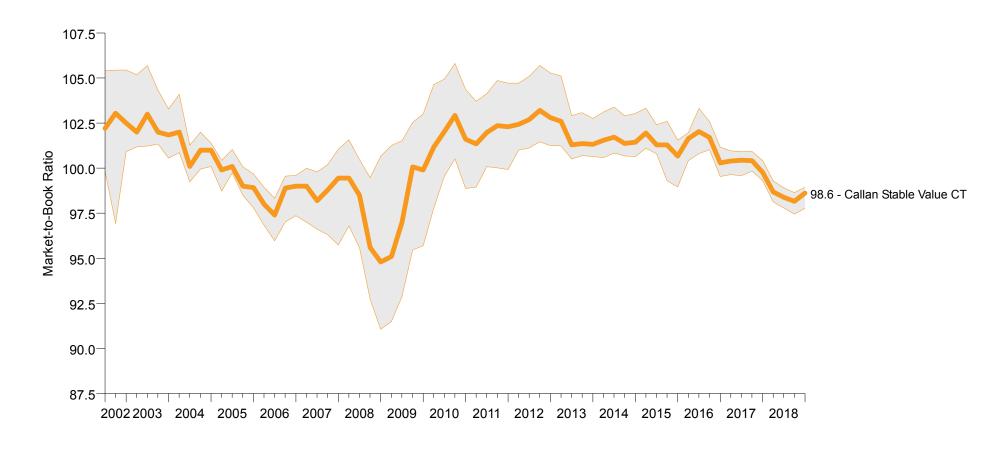
- ➤ Gradual interest rate increases have decreased market-to-book values and helped raise crediting rates.
- Money market funds may out-yield stable value with a sharp rate increase; however, such periods have historically been short.

Stable Vaue Funds remain a popular capital preservation option

>74% of DC Plans offer the option



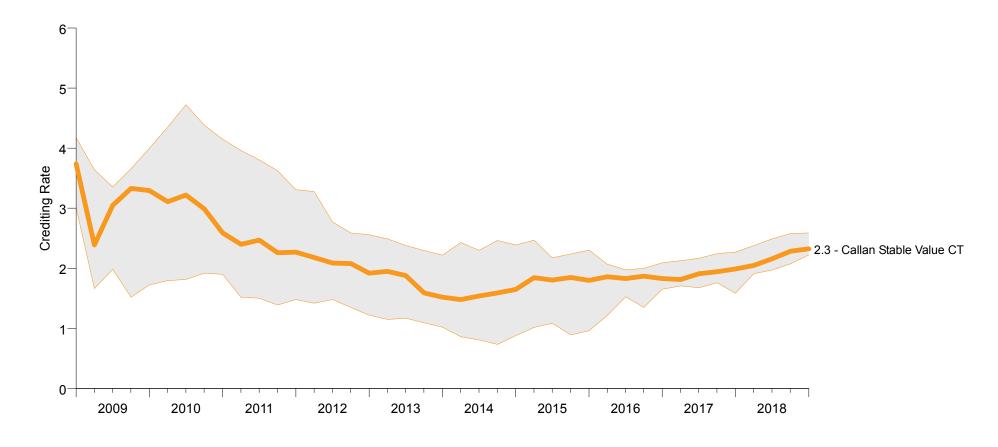
Market-to-Book Ratios Have Fallen



Market-to-book value ratio is a measure of the overall health of a stable value fund.

- Market-to-book may dip below par (100) during a rising rate environment.
- Gradual increases in interest rates are manageable.

Crediting Rates are at Historic Lows



Post-GFC, crediting rates were impacted by strict investment guidelines and declining rates.

- However, rising interest rates and increased allocations to spread product have helped increase crediting rates.
- Investment managers have negotiated looser guidelines.

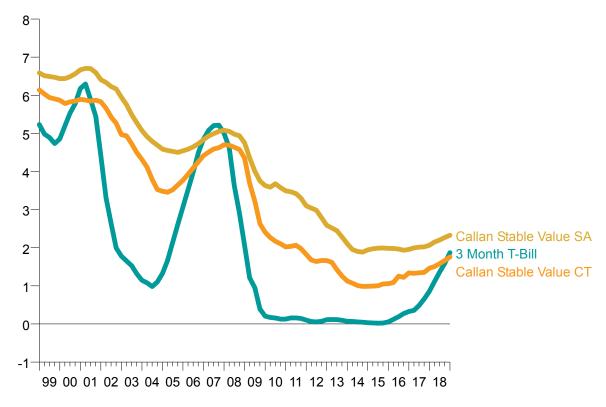
Knowledge. Experience. Integrity.

Impact of Wrap Contracts on Return Consistency

Wrap contracts provide greater return consistency versus money market funds

Money market funds have outperformed in periods when rates rise quickly

Rolling 1 Year Returns for 20 Years ended December 31, 2018

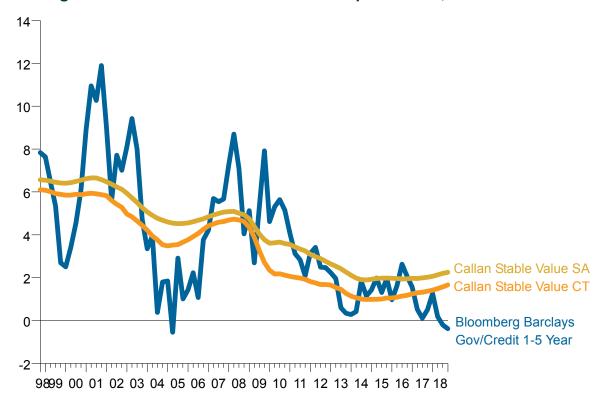


Impact of Wrap Contracts on Return Consistency

Less return volatility versus a fixed income benchmark with a similar duration

Crediting rate will lag changes from volatile fixed income markets

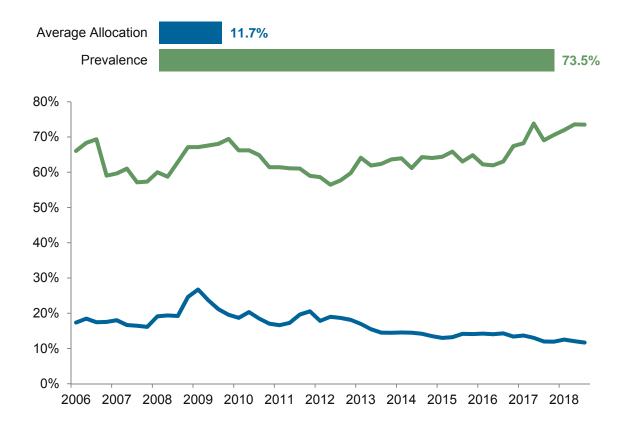
Rolling 1 Year Returns for 20 Years ended September 30, 2018



Stable Value Fund Popularity

- Stable value funds are popular with DC plans, with 74% offering the option.
- Stable value funds are popular with participants, with 12% of assets being allocated when offered.
- ➤ Over \$700 billion was invested in stable value strategies as of December 31, 2017.

Prevalence of Stable Value as of September 30, 2018



Source: Callan's DC Index, Stable Value Investment Association

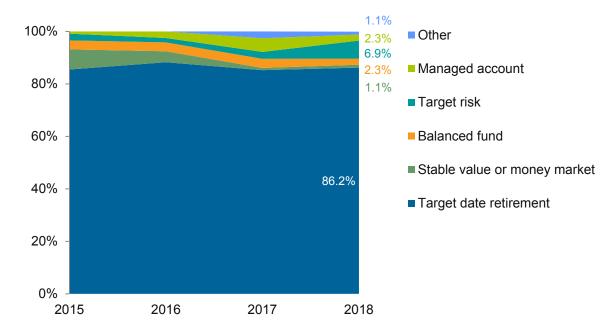


Stable Value as Qualified Default Investment Alternative

A key provision of the Pension Protection Act provides relief to DC fiduciaries that default participant assets into QDIAs under regulation 404(c)(5).

Target date and managed account options have slowly replaced stable value as a QDIA.

Current default investment alternative for non-participant directed monies



Source: Callan 2018 Defined Contribution Trends Survey



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