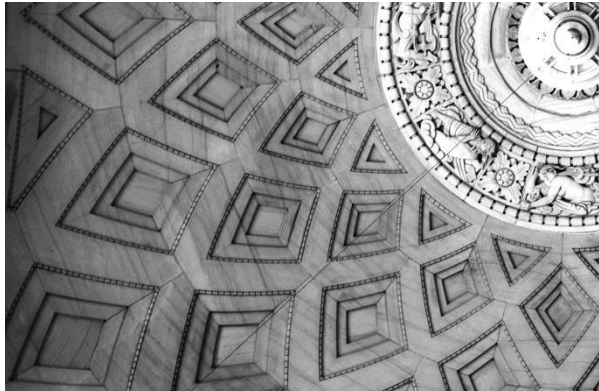




ARCHITECTS OF INVESTMENT SOLUTIONS



State of North Carolina

AUGUST 27, 2020

STATE OF NORTH CAROLINA

TABLE OF CONTENTS

SECTION I:	Galliard Capital Management Firm Update
SECTION II:	State of North Carolina Stable Value Portfolio Review
SECTION III:	Investment Manager Performance & Positioning

SECTION I

GALLIARD CAPITAL MANAGEMENT

WHO WE ARE

\$95.8 B

TOTAL AUM

\$80.9 B

TOTAL STABLE VALUE AUM

90+

STABLE VALUE SEPARATE ACCOUNTS

105

EMPLOYEES ON STAFF

SENIOR PROFESSIONALS AVERAGE YEARS OF EXPERIENCE:

Stable value portfolio management team – **24**

Fixed income team – **20**

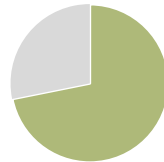
Contract management & negotiation team – **28**

Offer **separate account** and **collective fund** solutions for clients

220+

INSTITUTIONAL CLIENTS

CLIENT RELATIONSHIP TENURE



~84% of our clients have worked with Galliard for greater than **5 years**

39 of those relationships exceed **15 years** with Galliard

CLIENT TYPES

- Corporate
- Public Entities
- Taft-Hartley
- Operating Funds
- Healthcare
- Insurance Reserves
- Foundations / Endowments

FORTUNE 100 / 500

21 Fortune 100 clients; **57** Fortune 500 clients

GALLIARD

HIGHLIGHTS

Galliard is the **largest** stable value separate account manager¹ and advises the **largest** stable value collective fund² in the nation

¹eVestment, Stable Value Fixed Income universe, as of December 31, 2019, Galliard ranked highest separate/segregated assets under management

²As ranked by the Hueler Analytics, Inc. © stable value universe; March 2020 monthly fund data

Galliard has been a signatory to the United Nations-supported **Principles for Responsible Investment** since 2017

SECTION II

STABLE VALUE PORTFOLIO REVIEW

PORTFOLIO CHARACTERISTICS

STATE OF NORTH CAROLINA STABLE VALUE FUND

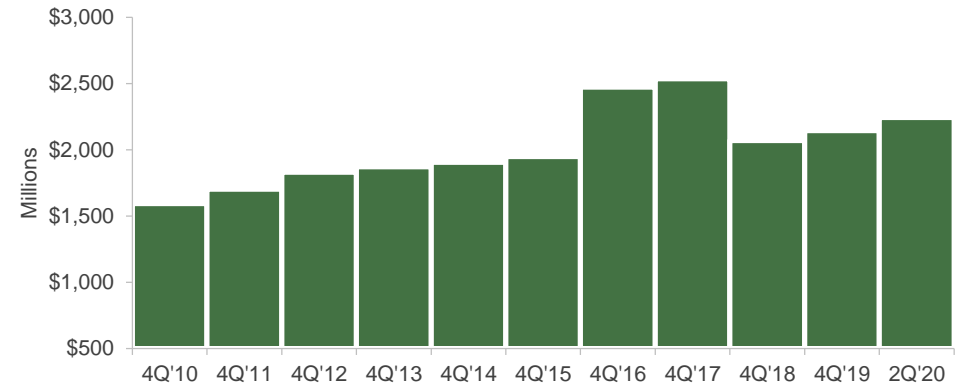
ACCOUNT SUMMARY

Benchmark	ICE BofAML US 3-Month Tsy Bill Index+150 bps, 3 Year Constant Maturity Treasury
Galliard Inception Date	December 1, 2010
Net Asset Value	\$2,242,487,485

PORTFOLIO CHARACTERISTICS

	Portfolio 3/31/20	Portfolio 6/30/20
Average Quality - Book Value¹	AA-	AA-
Average Quality - Market Value²	AA	AA
Number of Contract Issuers	5	5
Blended Yield (after all fees)³	2.47%	2.49%
Yield to Maturity	1.91%	0.98%
Effective Duration	2.80 years	2.86 years
Market/Book Value Ratio	102.54%	105.03%

HISTORICAL FUND ASSETS



PORTFOLIO DISTRIBUTION

	% Portfolio 3/31/20	% Portfolio 6/30/20
Liquidity Buffer: Cash & Equivalents⁴	4.9	4.7
Short Portfolio	31.3	31.2
Intermediate Portfolio	63.8	64.0
Total	100.0%⁵	100.0%⁵

1: Average holdings quality of the contracts and other book value assets in the portfolio. The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

2: Average holdings quality of the underlying assets of the portfolio. The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

3: Blended Yield is net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, Wells Fargo collective fund administrative fees, and plan administrative reimbursement.

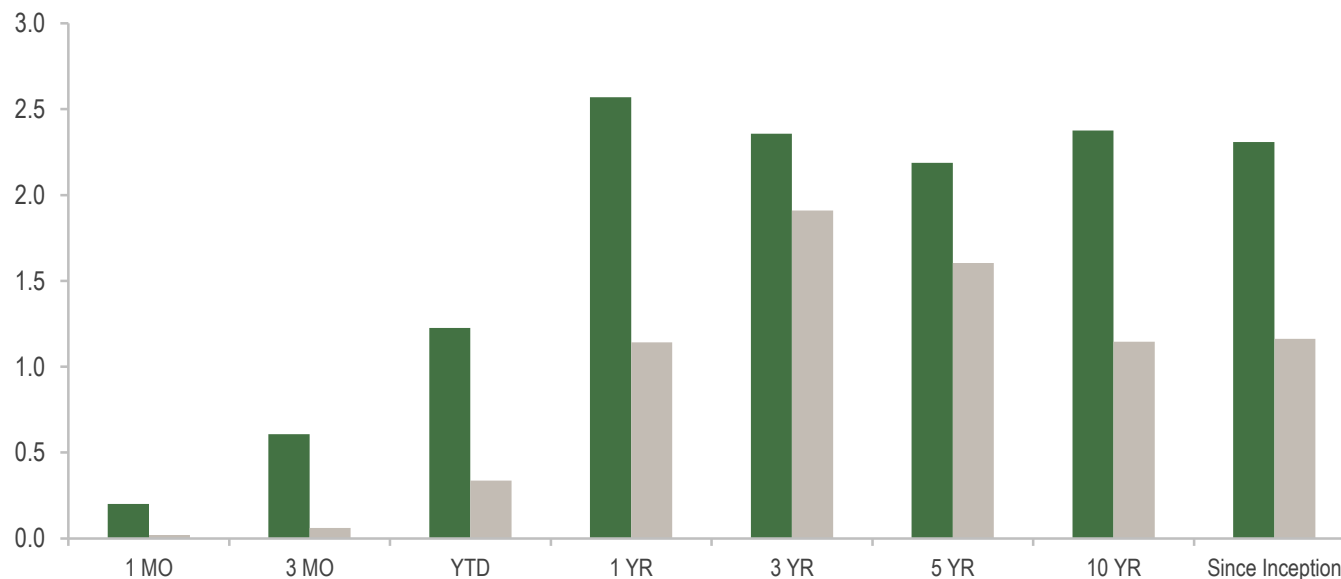
4: Includes Receivables and Payables.

5: Total % of portfolio may not add to 100% due to rounding.

STABLE VALUE PORTFOLIO REVIEW

ANNUALIZED INVESTMENT PERFORMANCE

ANNUALIZED INVESTMENT PERFORMANCE AS OF 6/30/20¹



	1 Mo.	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Inception
■ Portfolio (net of all fees - NAV level) ^{2,3}	0.20	0.61	1.23	2.57	2.36	2.19	2.38	2.31
■ 3 Year Constant Maturity Treasury	0.02	0.06	0.34	1.14	1.91	1.60	1.15	1.16
ICE BofA US 3-Month Tsy Bill Index+150 bps	0.14	0.40	1.35	3.16	3.30	2.72	2.15	2.18
Value Added (net of all fees - NAV level)⁴	0.18	0.55	0.89	1.43	0.45	0.58	1.23	1.15

1: Returns for periods of less than one year are not annualized.

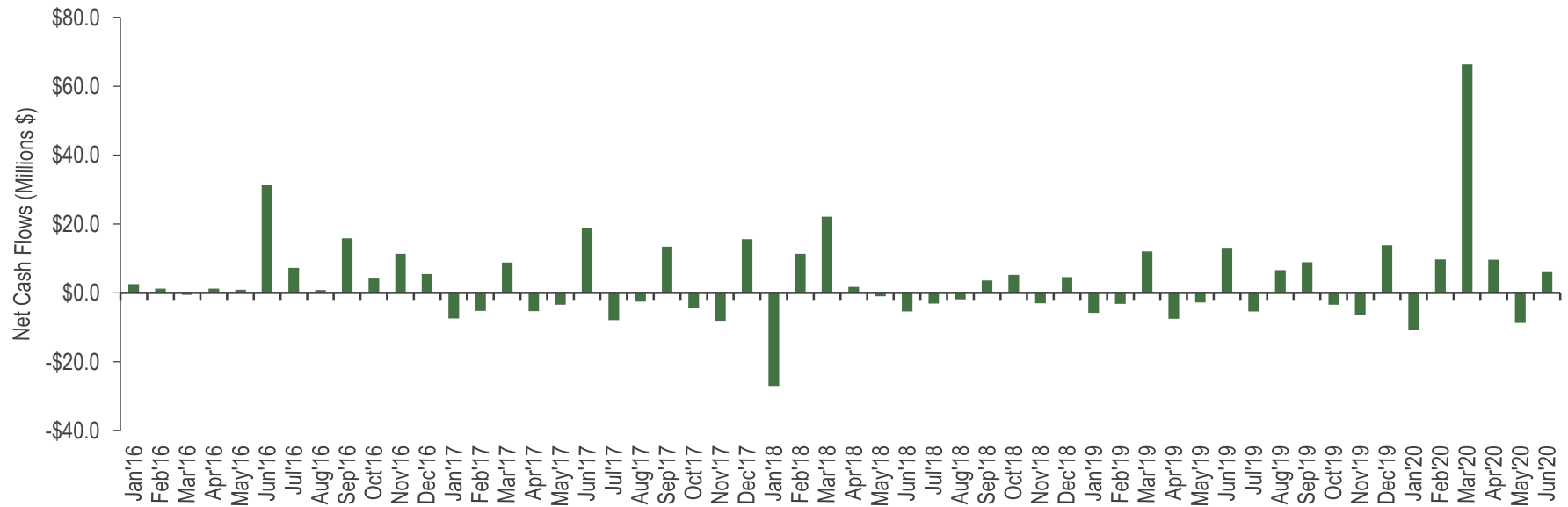
2: Returns are net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, Wells Fargo collective fund administrative fees, and plan administrative reimbursement. 3: Galliard assumed management of this portfolio on December 1, 2010. Performance for periods referenced prior to this date include historical performance of another investment advisor.

4: May not add due to rounding.

STABLE VALUE PORTFOLIO REVIEW

HISTORICAL CASHFLOWS

HISTORICAL CASHFLOWS



	2016	2017	2018	2019	1Q'20	2Q'20	2020 YTD
Beginning Assets	\$1,948.6	\$2,472.8	\$2,535.1	\$2,069.8	\$2,143.4	\$2,221.8	\$2,143.4
Net Cash Flow (\$)¹	\$81.5⁴	\$12.2	\$6.9³	\$19.8	\$65.2	\$7.1	\$72.3
Net Cash Flow (%)	4.18%	0.49%	0.27%	0.95%	3.04%	0.33%	3.37%
Estimated Investment Earnings	\$46.9	\$50.1	\$51.6	\$53.9	\$13.2	\$13.6	\$26.8
Ending Assets²	\$2,472.8	\$2,535.1	\$2,069.8	\$2,143.4	\$2,221.8	\$2,242.5	\$2,242.5

1: Contributions, Withdrawals and Investment Transfers

2: Cashflows may not net to final assets due to rounding.

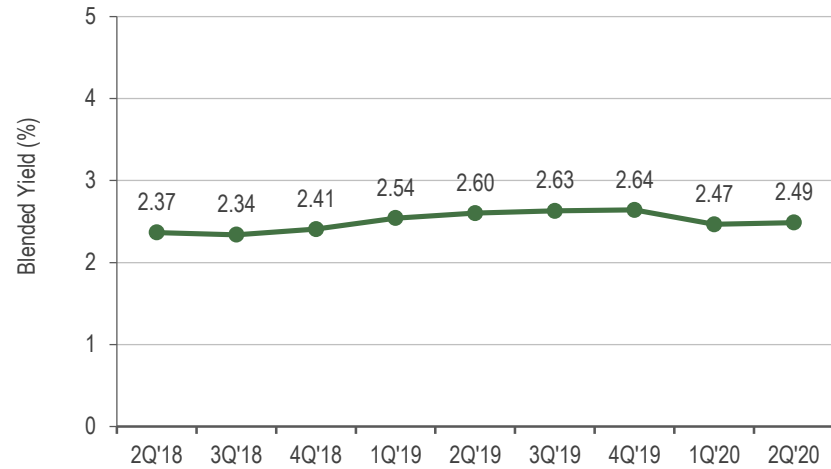
3: Excludes Prudential GoalMaker withdrawal of approximately \$523.8 M on 6/8/18 for illustrative purposes.

4: Approximately \$395.8 M of new inflow and transfer activity related to the 1/4/16 merger of North Carolina 457 plan assets have been removed for illustrative purposes.

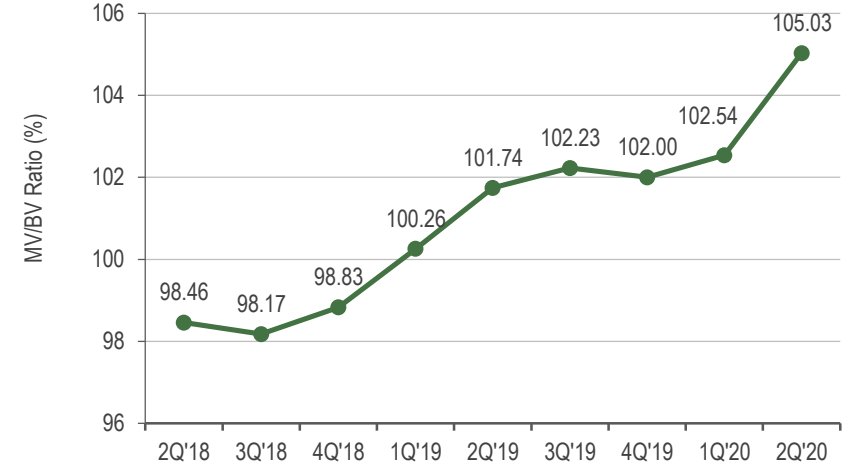
STABLE VALUE PORTFOLIO REVIEW

HISTORICAL STATS

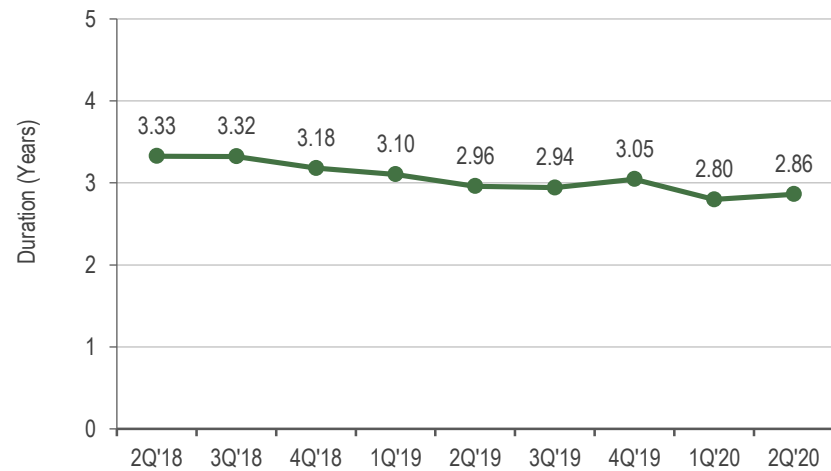
HISTORICAL BLENDED YIELD¹



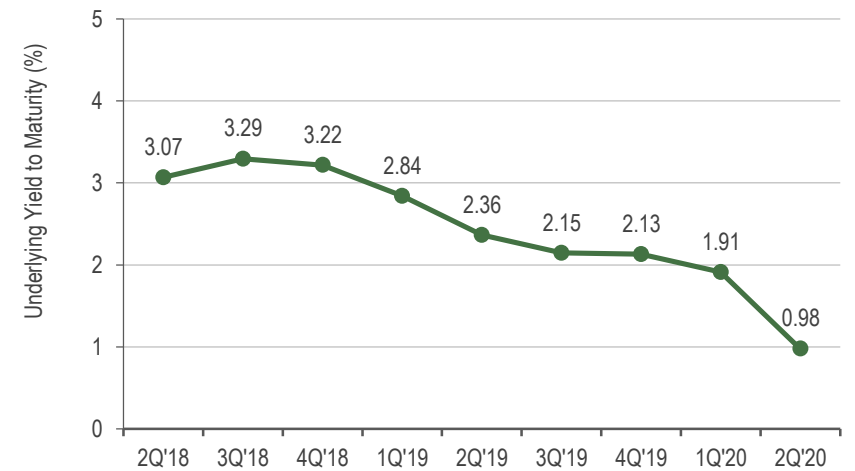
HISTORICAL MARKET VALUE TO BOOK VALUE RATIO



HISTORICAL DURATION



HISTORICAL UNDERLYING YIELD TO MATURITY



1: Blended Yield is net of all fees, including book value contract fees, Galliard investment management fees, and, if applicable, external manager fees, Wells Fargo collective fund administrative fees, and plan administrative reimbursement.

STABLE VALUE PORTFOLIO REVIEW

CONTRACT ISSUERS

CONTRACT ISSUER DISTRIBUTION & RATING SUMMARY¹

	Contract Type ²	% Portfolio 3/31/20	% Portfolio 6/30/20	Rating 3/31/20	Rating 6/30/20	Wrap fees (bps) 6/30/20
American General Life Ins. Co.	SBIC	19.4	19.4	A+	A+	16
Metropolitan Life Ins. Co.	SAGIC	10.2	10.2	AA-	AA-	18
Nationwide Life Ins. Co.	SBIC	17.6	17.6	A+	A+	16
Prudential Ins. Co. of America	SBIC	24.4	24.6	AA-	AA-	16
Transamerica Premier Life Ins. Co.	SBIC	23.5	23.5	A+	A+	16

1: The quality rating shown represents the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch. Ratings shown as NR/NA are not rated or not available security ratings.

2: SBIC = Security Backed Investment Contract. SAGIC = Separate Account GIC

STABLE VALUE PORTFOLIO REVIEW HOLDINGS

Asset ID	Security Description	Contract ¹ Type	Manager	Book Value (\$)	Market Value (\$)	Market/Book Value Ratio (%)	% of Portfolio	Crediting Rate (%) ²	UCA Yield (%)	Effective Duration (yrs)	Galliard Composite Rating	Wrap Fees (bps)
LIQUIDITY BUFFER												
	Cash Receivable / (Payable)			-1,356,669	-1,356,669	100.0	-0.1	0.35	0.35	0.10	AAA	
9983008\$P	WF/BlackRock Short Term Investment Fund S			107,020,313	107,020,313	100.0	4.8	0.35	0.35	0.10	AAA	
TOTAL LIQUIDITY BUFFER				105,663,644	105,663,644	100.0	4.7	0.35	0.35	0.10	AAA	
SHORT PORTFOLIO												
946996EE1	American General Life Ins. Co.	SBIC	Galliard	210,398,083	220,004,574	104.6	9.4	2.59	0.71	1.83	A+	16.0
896994GW4	Nationwide Life Ins. Co.	SBIC	Galliard	183,538,596	191,944,531	104.6	8.2	2.73	0.71	1.83	A+	16.0
744999CV3	Prudential Ins. Co. of America	SBIC	Galliard	107,130,898	114,362,550	106.8	4.8	2.84	0.71	1.83	AA-	16.0
600996QF2	Transamerica Premier Life Ins. Co.	SBIC	Galliard	199,564,983	208,942,518	104.7	8.9	2.53	0.71	1.83	A+	16.0
TOTAL SHORT PORTFOLIO				700,632,560	735,254,174	104.9	31.2	2.65	0.71	1.83	A+	
INTERMEDIATE PORTFOLIO												
590994VM8	Metropolitan Life Ins. Co.	SAGIC	Dodge & Cox	229,681,654	242,625,479	105.6	10.2	2.99	1.33	3.29	AA-	18.0
946996EE1	American General Life Ins. Co.	SBIC	Payden & Rygel	224,929,400	235,199,372	104.6	10.0	2.59	1.20	3.57	A+	16.0
896994GW4	Nationwide Life Ins. Co.	SBIC	Galliard	210,840,908	220,497,268	104.6	9.4	2.73	1.14	3.18	A+	16.0
744999CV3	Prudential Ins. Co. of America	SBIC	PGIM	220,423,482	235,302,718	106.8	9.8	2.84	1.42	3.64	AA-	16.0
744999CV3	Prudential Ins. Co. of America	SBIC	Jennison Assoc.	223,100,049	238,159,961	106.8	9.9	2.84	0.74	4.26	AA-	16.0
600996QF2	Transamerica Premier Life Ins. Co.	SBIC	Galliard	102,869,767	107,703,606	104.7	4.6	2.53	1.14	3.18	A+	16.0
600996QF2	Transamerica Premier Life Ins. Co.	SBIC	TCW	224,346,022	234,888,015	104.7	10.0	2.53	1.07	3.55	A+	16.0
TOTAL INTERMEDIATE PORTFOLIO				1,436,191,281	1,514,376,419	105.4	64.0	2.74	1.15	3.56	A+	
TOTAL PORTFOLIO				2,242,487,485	2,355,294,237	105.0	100.0	2.60	0.98	2.86	AA-	

1: SAGIC = Separate Account GIC. SBIC = Security Backed Investment Contract.

2: Crediting rates are net of wrap fees and any other fees being netted out of the rates.

STABLE VALUE PORTFOLIO REVIEW EXPENSES

TOTAL ANNUAL FUND OPERATING EXPENSES

Total Annual Operating Expenses are deducted directly from the Fund's net asset value and reduce the investment option's rate of return.

Expense	Expense Ratio 6/30/20	Per \$1000	Est. Annual Revenue
Investment Management Fees paid to Galliard	0.062%	\$0.62	\$1,384,871
Investment Management fees paid to Non-Affiliated Investment Advisors	0.055%	\$0.55	\$1,237,916
Investment Contract Fees ¹	0.155%	\$1.55	\$3,464,854
Acquired Fund Fees ²	0.004%	\$0.04	\$85,616
-Investment Contract Fees	None	None	None
-Other Acquired Fund Fees and Non-Affiliated Investment Management Fees paid to Non-Affiliated Investment Advisors ³	0.004%	\$0.04	\$85,616
12b-1 Distribution Fee	None	None	None
Other Expenses ⁴	0.002%	\$0.02	\$40,365
Total Annual Fund Operating Expenses⁵	0.277%	\$2.77	\$6,213,622

1: These are fees paid to create and maintain the investments used by a stable value fund.

2: These are fees borne indirectly by the Fund when it acquires an interest in another fund which pays its own separate fees.

3: Includes audit fees for the cost of producing a report by a qualified auditor.

4: NC's administrative fee of 0.025% which ordinarily is included in the Other Expenses, is waived for 2020.

5: Total Annual Fund Operating Expenses are reflected daily in the Fund's net asset value (NAV).

Excluding STIF or money market allocations, non-affiliated investment advisors include Dodge & Cox , Jennison Assoc., Payden & Rygel, Prudential, TCW.

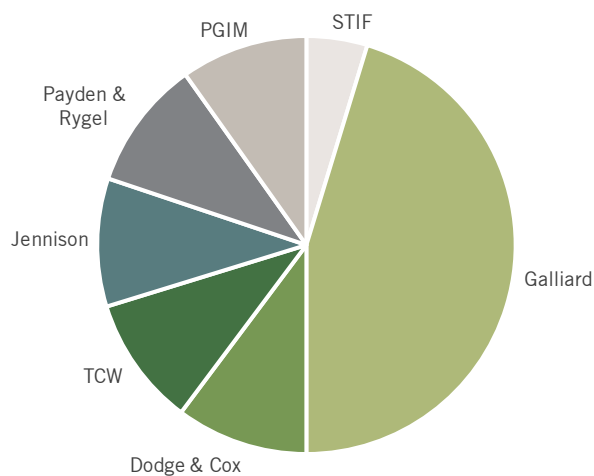
SECTION III

STATE OF NORTH CAROLINA STABLE VALUE FUND MANAGER STYLES

	Investment Approach	Sector Rotation	Active Duration/ Yield Curve Mgmt.	Issue Selection	SECTOR EMPHASIS
GALLIARD	 Bottom Up Top Down	 Low High	 Low High	 Less Important More Important	Diversified high quality spread sector emphasis, multi-sector relative value
DODGE & COX	 Bottom Up Top Down	 Low High	 Low High	 Less Important More Important	Corporate credit, Agency MBS
TCW	 Bottom Up Top Down	 Low High	 Low High	 Less Important More Important	Duration, multi-sector relative value
JENNISON	 Bottom Up Top Down	 Low High	 Low High	 Less Important More Important	Credit, yield-curve positioning
PAYDEN & RYGEL	 Bottom Up Top Down	 Low High	 Low High	 Less Important More Important	Corporate credit, structured credit, multi-sector relative value
PGIM	 Bottom Up Top Down	 Low High	 Low High	 Less Important More Important	Multi-sector relative value, Agency MBS, global focus

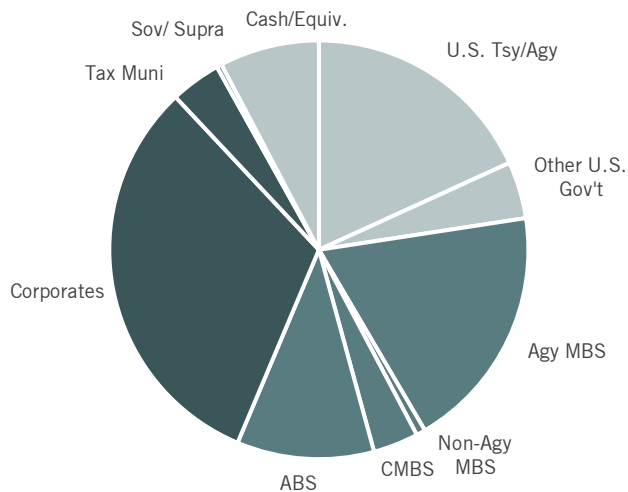
STATE OF NORTH CAROLINA STABLE VALUE FUND PORTFOLIO AS OF 6/30/20

MANAGER ALLOCATION



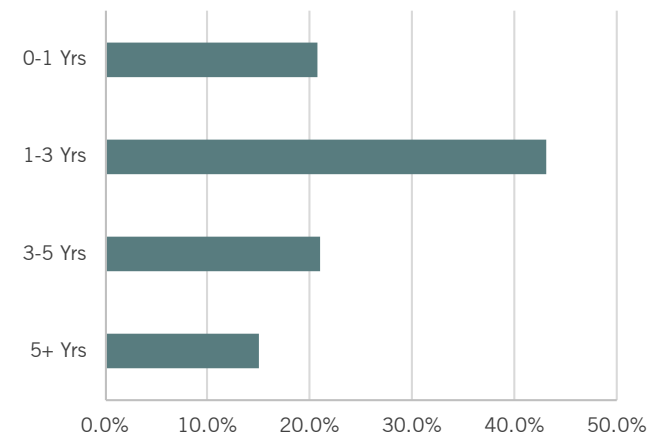
STIF	4.7%
Galliard	45.2%
Dodge & Cox	10.2%
TCW	10.0%
Jennison	9.9%
Payden & Rygel	10.0%
PGIM	9.8%
TOTAL EXT. MANAGER	49.9%
TOTAL PORTFOLIO	100%

UNDERLYING FIXED INCOME SECTOR ALLOCATION



U.S. Tsy/Agy	18.2%
Other U.S. Gov't	4.4%
Agy MBS	19.0%
Non-Agy MBS	0.7%
CMBS	3.5%
ABS	10.6%
Corporates	31.7%
Tax Muni	3.9%
Sov/Supra	0.4%
Cash/Equiv.	7.7%

UNDERLYING DURATION DISTRIBUTION



0-1 Yrs	20.8%
1-3 Yrs	43.1%
3-5 Yrs	21.0%
5+ Yrs	15.0%

STATE OF NORTH CAROLINA STABLE VALUE FUND
MARKET VALUE PERFORMANCE SUMMARY AS OF 6/30/20¹

	1 Month	3 Month	1 Year	3 Year	5 Year	Since Inception	Inception Date
SHORT DURATION							
Galliard (before fees)	0.46	2.60	4.81	-	-	4.63	6/1/2018
Bloomberg Barclays U.S. 1-3 Yr. Government/Credit	0.20	1.17	4.20	-	-	4.07	
Value Added²	0.26	1.43	0.61	-	-	0.56	
INTERMEDIATE DURATION							
Dodge & Cox (before fees)	0.82	4.10	7.14	4.69	3.92	3.52	3/1/2015
Bloomberg Barclays U.S. Intermediate Aggregate	0.41	2.13	6.60	4.28	3.40	3.14	
Value Added²	0.41	1.97	0.54	0.41	0.52	0.38	
Galliard (before fees)	0.77	3.43	6.89	-	-	6.75	6/1/2018
Bloomberg Barclays U.S. Intermediate Aggregate	0.41	2.13	6.60	-	-	6.38	
Value Added²	0.36	1.30	0.29	-	-	0.37	
Jennison (before fees) ³	0.61	3.28	9.02	5.22	4.07	7.62	5/1/2018
Bloomberg Barclays U.S. Intermediate Govt/Credit	0.62	2.81	7.12	4.43	3.46	6.73	
Value Added²	-0.01	0.47	1.90	0.79	0.61	0.89	
Payden & Rygel (before fees)	0.81	2.90	6.95	4.68	3.28	2.73	7/1/2009
Bloomberg Barclays U.S. Intermediate Aggregate ⁴	0.41	2.13	6.60	4.45	3.04	2.25	
Value Added²	0.40	0.77	0.35	0.23	0.24	0.48	
PGIM (before fees)	0.97	4.45	6.42	4.52	-	3.90	2/1/2016
Bloomberg Barclays U.S. Intermediate Aggregate	0.41	2.13	6.60	4.28	-	3.43	
Value Added²	0.56	2.32	-0.18	0.24	-	0.47	
TCW (before fees)	0.96	3.47	7.54	-	-	7.18	6/1/2018
Bloomberg Barclays U.S. Intermediate Govt/Credit	0.62	2.81	7.12	-	-	6.70	
Value Added²	0.34	0.66	0.42	-	-	0.48	

1: Returns for periods of less than one year are not annualized.

2: May not add due to rounding.

3: Performance inception: May 1, 2018. Prior to May 1, 2018 returns are linked to Wells Fargo Fixed Income Fund N (Jennison)

4: Linked Benchmark: Bloomberg Barclays U.S. Intermediate Aggregate Bond Index. Prior to Jun 1, 2018 benchmark was Bloomberg Barclays U.S. 1-3 Year Government/Credit Bond Index.

STATE OF NORTH CAROLINA STABLE VALUE FUND PERFORMANCE COMMENTARY – EXCESS RETURN

GALLIARD SHORT +143 Q2 2020

- A general overweight to spread securities drove outperformance, as spreads retraced most of the March sell off
- An overweight to the belly of the curve in corporate positioning also proved beneficial
- No material detractors over the quarter

GALLIARD INTERMEDIATE +130 Q2 2020

- A general overweight to spread securities drove outperformance
- Security selection in Agency MBS, with an emphasis on lower coupons, helped returns
- A high quality bias in corporate securities detracted

DODGE & COX +197 Q2 2020

- The overweight to Corporate securities was the primary driver of positive index-relative performance
- Although the overweight to ABS was beneficial, the performance was offset by the negative impacts due to security selection in the space

JENNISON +47 Q2 2020

- The overweight to Corporates was the primary driver of outperformance while a higher quality bias within the sector detracted
- The small allocation to Agency RMBS detracted modestly
- Yield curve positioning benefited performance over the quarter

PAYDEN & RYGEL +77 Q2 2020

- Sector allocations benefited portfolio performance with the overweight to Corporates being the primary driver of outperformance
- Security selection decisions were marginally negative as negative Corporate security selection was offset by positive selection within Structured and Government Related sectors

PGIM +232 Q2 2020

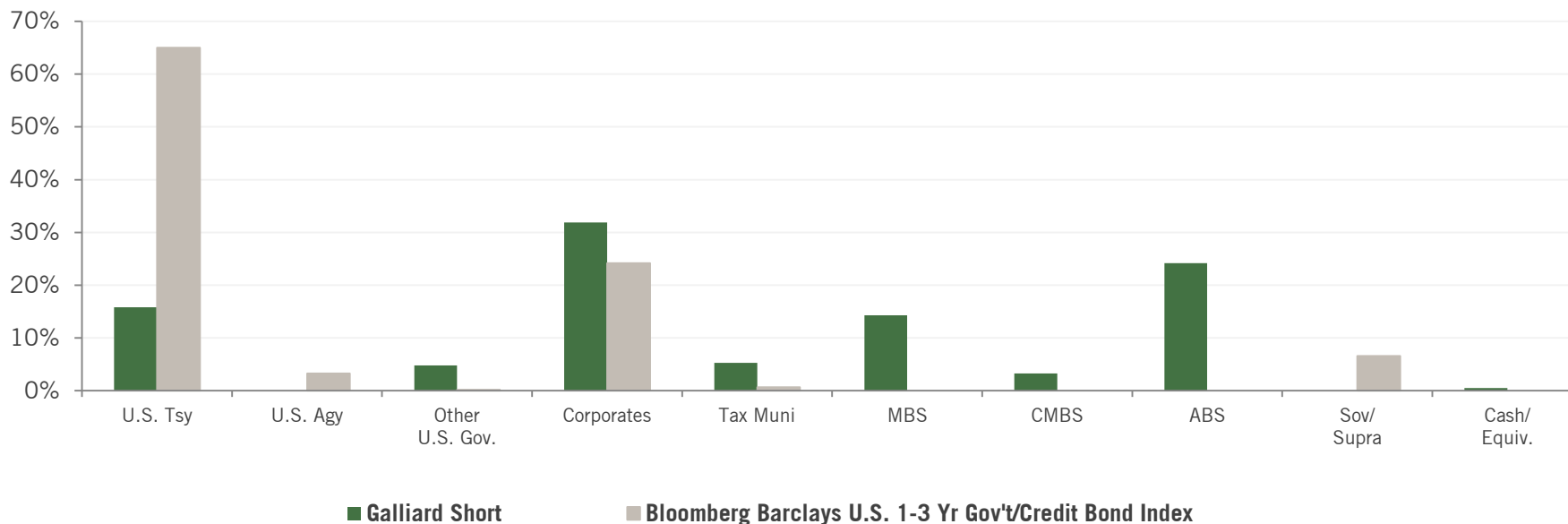
- The overweight to Corporates and security selection within the sector benefited performance
- Within structured securities, the overweight to both CMBS and ABS added to performance, and the impact of security selection was positive within CMBS and Agency RMBS

TCW +66 Q2 2020

- The overweight to Corporates added to positive performance while the defensive bias within the sector detracted from relative performance
- Out-of-index allocations to Structured securities including ABS, CMBS, and Agency MBS also benefited performance

STATE OF NORTH CAROLINA STABLE VALUE FUND SHORT DURATION PORTFOLIO AS OF 6/30/20

BLOOMBERG BARCLAYS U.S. 1-3 YEAR GOVERNMENT/CREDIT BOND INDEX

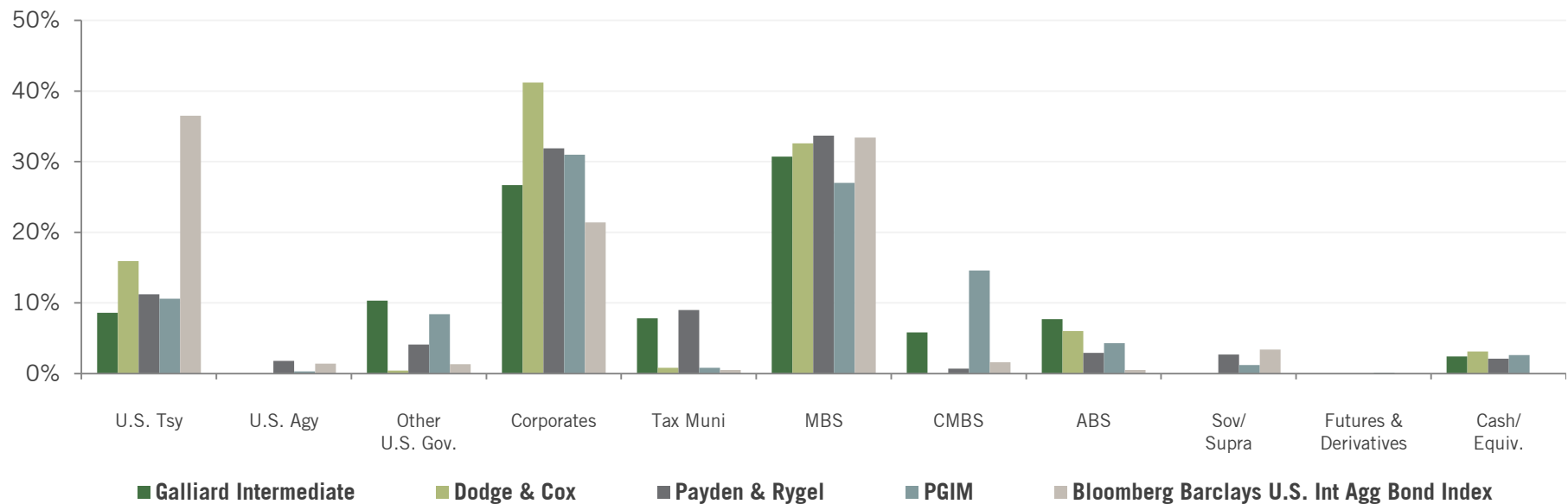


Characteristic	Galliard Short	Bloomberg Barclays U.S. 1-3 Yr Gov't/Credit Bond Index
Weighted Average Quality ¹	AA	AA
Effective Duration	1.83 Yrs	1.84 Yrs
Yield to Maturity	0.71%	0.39%

1: The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

STATE OF NORTH CAROLINA STABLE VALUE FUND INTERMEDIATE DURATION PORTFOLIOS AS OF 6/30/20

BLOOMBERG BARCLAYS U.S. INTERMEDIATE AGGREGATE BOND INDEX



Characteristic	Galliard Intermediate	Dodge & Cox	Payden & Rygel	PGIM	Bloomberg Barclays U.S. Int Agg Bond Index
Weighted Average Quality ¹	AA	AA-	AA	AA-	AA+
Effective Duration	3.18 Yrs	3.29 Yrs	3.57 Yrs	3.64 Yrs	3.39 Yrs
Yield to Maturity	1.14%	1.33%	1.20%	1.42%	0.99%

1: The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.

STATE OF NORTH CAROLINA STABLE VALUE FUND INTERMEDIATE DURATION PORTFOLIOS AS OF 6/30/20

BLOOMBERG BARCLAYS U.S. INTERMEDIATE GOVERNMENT/CREDIT BOND INDEX



Characteristic	Jennison	TCW	Bloomberg Barclays U.S. Int Gov't/Credit Bond Index
Weighted Average Quality ¹	AA	AA	AA
Effective Duration	4.26 Yrs	3.55 Yrs	4.02 Yrs
Yield to Maturity	0.74%	1.07%	0.76%

1: The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite Ratings, as rated by S&P, Moody's and Fitch.