

**State of North Carolina**

SEPTEMBER 19, 2019

# STATE OF NORTH CAROLINA

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## SECTION I

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# GALLIARD CAPITAL MANAGEMENT

## WHO WE ARE

# \$92.1 B

TOTAL AUM

# \$77.7 B

TOTAL STABLE VALUE AUM

# 95+

STABLE VALUE SEPARATE  
ACCOUNTS

# 102

EMPLOYEES ON STAFF

SENIOR PROFESSIONALS AVERAGE  
YEARS OF EXPERIENCE:

Stable value portfolio management team – **26**

Fixed income team – **21**

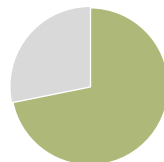
Contract management & negotiation team – **28**

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

# 230+

INSTITUTIONAL CLIENTS

CLIENT RELATIONSHIP TENURE



**~80%** of our clients have worked  
with Galliard for greater than **5 years**

**32** 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

**24** Fortune 100 clients; **62** Fortune 500 clients

GALLIARD

## HIGHLIGHTS

Galliard is the **largest** stable value  
separate account manager<sup>1</sup> and  
advises the **largest** stable value  
collective fund<sup>2</sup> in the nation

<sup>1</sup>eVestment, Stable Value Fixed Income universe, as  
of December 31, 2018, Galliard ranked highest  
separate/segregated assets under management

<sup>2</sup>As ranked by the Hueler Analytics, Inc. © stable  
value universe; January 2018 monthly fund data

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

2019 NEW BUSINESS

**9** new clients; **\$1.1 B** new assets

## SECTION II

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# STABLE VALUE PORTFOLIO REVIEW

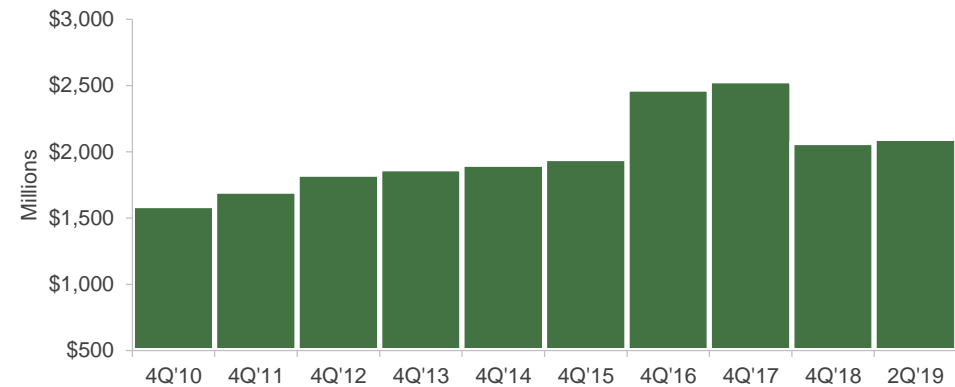
## PORTFOLIO CHARACTERISTICS

### STATE OF NORTH CAROLINA STABLE VALUE FUND

#### ACCOUNT SUMMARY

<b>Benchmark</b>	ICE BofAML US 3-Month Tsy Bill Index+150 bps, 3 Year Constant Maturity Treasury
<b>Galliard Inception Date</b>	December 1, 2010
<b>Net Asset Value</b>	\$2,101,377,527

#### HISTORICAL FUND ASSETS



#### PORTFOLIO CHARACTERISTICS

	Portfolio 3/31/19	Portfolio 6/30/19
<b>Average Quality - Book Value<sup>1</sup></b>	A+	A+
<b>Average Quality - Market Value<sup>2</sup></b>	AA	AA
<b>Number of Contract Issuers</b>	5	5
<b>Blended Yield (after all fees)<sup>3</sup></b>	2.54%	2.60%
<b>Yield to Maturity</b>	2.84%	2.36%
<b>Effective Duration</b>	3.10 years	2.96 years
<b>Market/Book Value Ratio</b>	100.26%	101.74%

#### PORTFOLIO DISTRIBUTION

	% Portfolio 3/31/19	% Portfolio 6/30/19
<b>Liquidity Buffer: Cash &amp; Equivalents<sup>4</sup></b>	1.9	1.9
<b>Short Portfolio</b>	32.7	32.5
<b>Intermediate Portfolio</b>	65.4	65.6
<b>Total</b>	<b>100.0%<sup>5</sup></b>	<b>100.0%<sup>5</sup></b>

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.

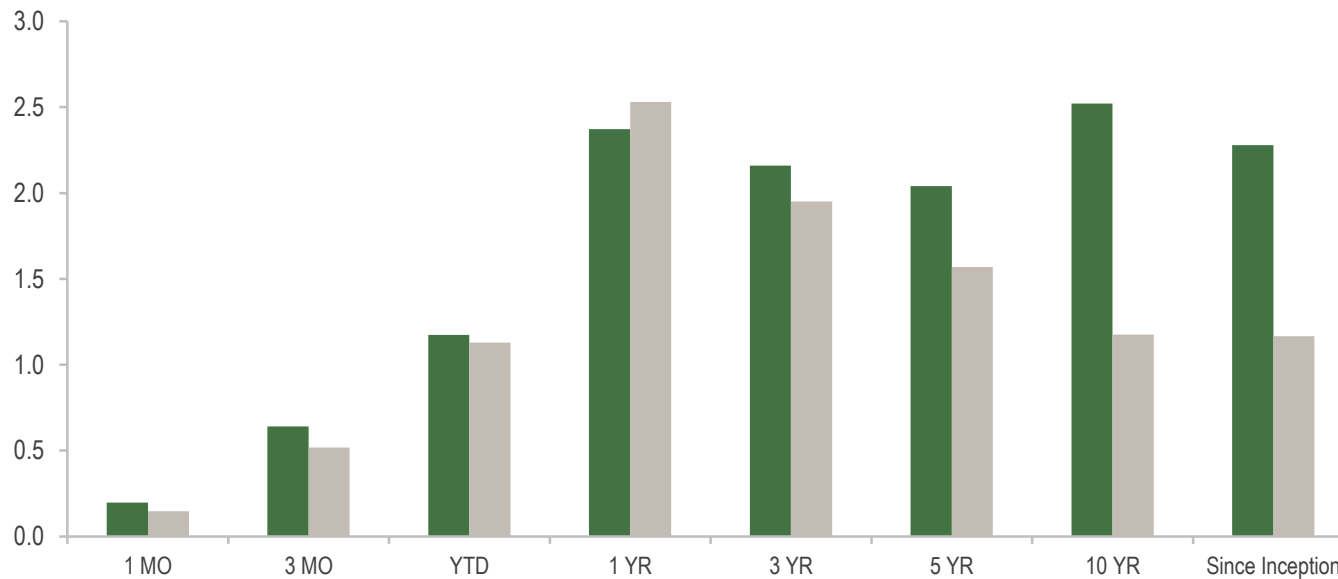
4: Includes Receivables and Payables.

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

## STABLE VALUE PORTFOLIO REVIEW

### ANNUALIZED INVESTMENT PERFORMANCE

ANNUALIZED INVESTMENT PERFORMANCE AS OF 6/30/19<sup>1</sup>



<i>Book Value Performance</i>	1 Mo.	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Inception <sup>3</sup>
■ Portfolio (net of all fees - NAV level) <sup>2,3</sup>	0.20	0.64	1.17	2.37	2.16	2.04	2.52	2.28
■ 3 Year Constant Maturity Treasury	0.15	0.52	1.13	2.53	1.95	1.57	1.18	1.17
Benchmark <sup>4</sup>	0.35	1.02	2.00	3.86	2.91	2.39	2.01	2.06
<b>Value Added (net of all fees - NAV level)<sup>5</sup></b>	<b>0.05</b>	<b>0.12</b>	<b>0.05</b>	<b>(0.16)</b>	<b>0.21</b>	<b>0.47</b>	<b>1.35</b>	<b>1.11</b>

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.

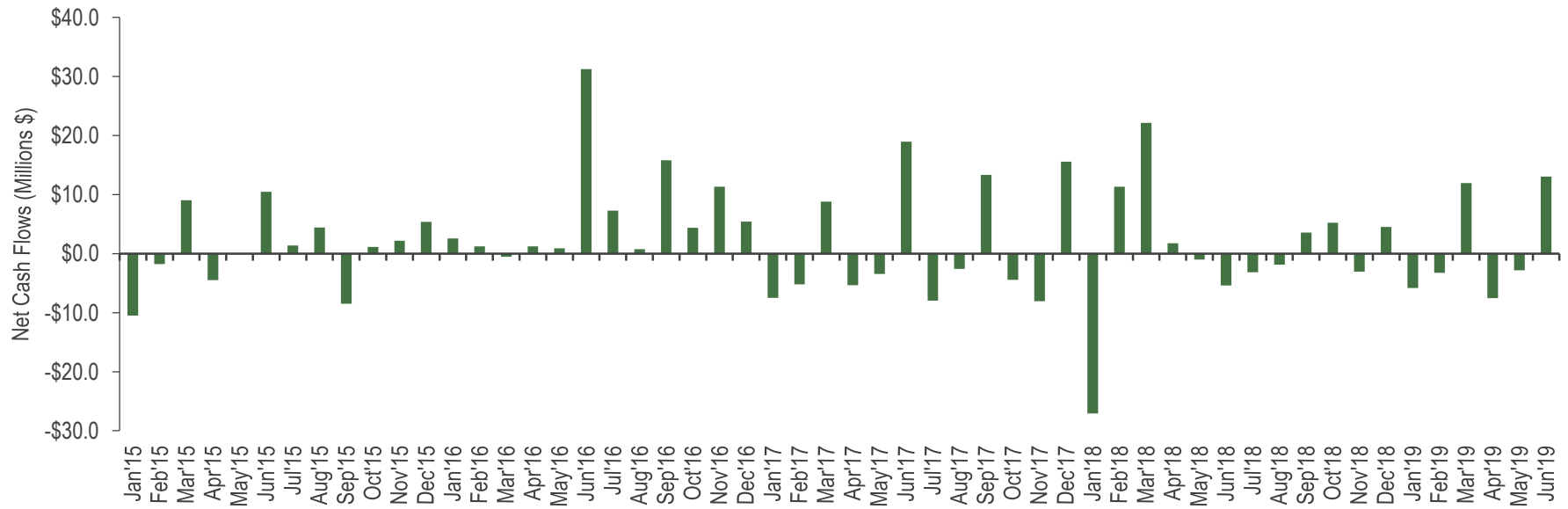
4: ICE BofAML US 3-Month Tsy Bill Index+150 bps

5: May not add due to rounding.

## STABLE VALUE PORTFOLIO REVIEW

### HISTORICAL CASHFLOWS

#### HISTORICAL CASHFLOWS



	2015	2016	2017	2018	1Q'19	2Q'19	2019 YTD
Beginning Assets	\$1,904.2	\$1,948.6	\$2,472.8	\$2,535.1	\$2,069.8	\$2,085.3	\$2,069.8
Net Cash Flow (\$)¹	\$8.8	\$81.5⁴	\$12.2	\$6.9³	\$2.9	\$2.7	\$5.7
Net Cash Flow (%)	0.46%	4.18%	0.49%	0.27%	0.14%	0.13%	0.27%
Estimated Investment Earnings	\$35.7	\$46.9	\$50.1	\$51.6	\$12.6	\$13.3	\$25.9
Ending Assets²	\$1,948.6	\$2,472.8	\$2,535.1	\$2,069.8	\$2,085.3	\$2,101.4	\$2,101.4

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.

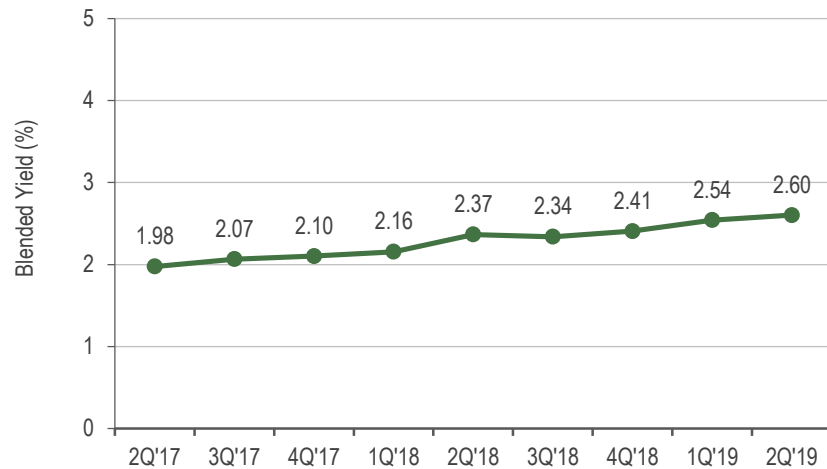
4: Approximately \$395.8 M of new inflow and transfer activity related to the 1/4/16 merger of North Carolina 457 plan assets have been removed for illustrative purposes.



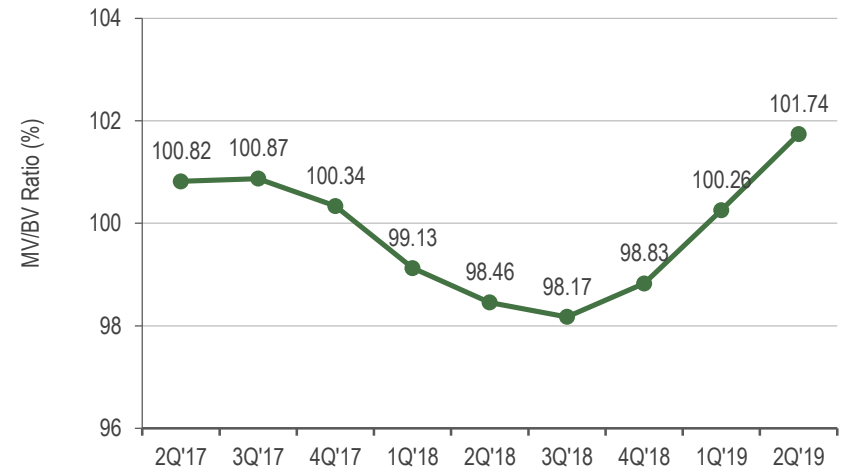
# STABLE VALUE PORTFOLIO REVIEW

## HISTORICAL STATS

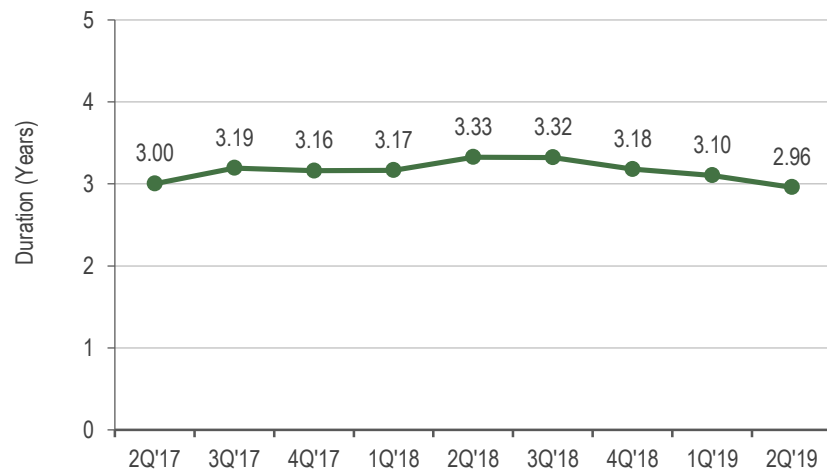
**HISTORICAL BLENDED YIELD<sup>1</sup>**



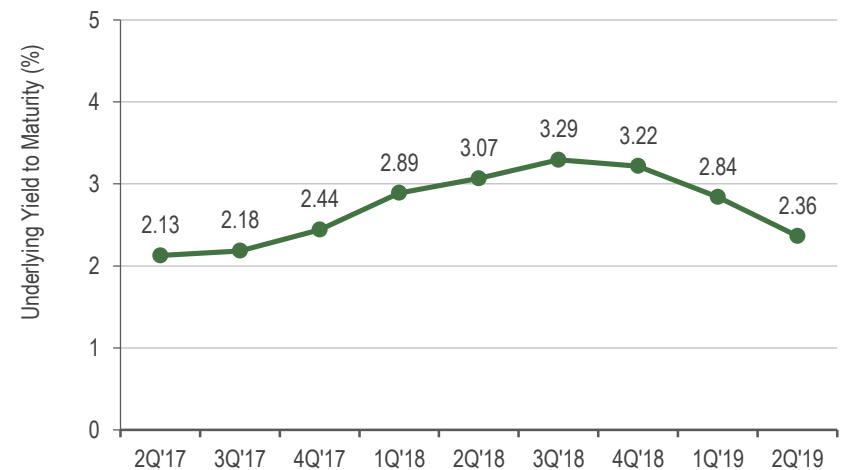
**HISTORICAL MARKET VALUE TO BOOK VALUE RATIO**



**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 SUMMARY<sup>1</sup>

	% Portfolio 3/31/19	% Portfolio 6/30/19	Rating 3/31/19	Rating 6/30/19
American General Life Ins. Co.	20.1	20.1	A+	A+
Metropolitan Life Ins. Co.	10.6	10.6	AA-	AA-
Nationwide Life Ins. Co.	17.9	17.9	A+	A+
Prudential Ins. Co. of America	25.3	25.3	AA-	AA-
Transamerica Premier Life Ins. Co.	24.4	24.3	A+	A+

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.

## STABLE VALUE PORTFOLIO REVIEW

### PORTFOLIO HOLDINGS

Asset ID	Security Description	Contract <sup>1</sup> Type	Manager	Contract Value (\$)	Market Value (\$)	Market/Book Value Ratio (%)	% of Portfolio	Crediting Rate (%) <sup>2</sup>	UCA Yield (%)	Effective Duration (yrs)	Galliard Composite Rating	Wrap Fees (bps)
<b>LIQUIDITY BUFFER</b>												
	Cash Receivable / (Payable)			-1,413,783	-1,413,783	100.0	-0.1	2.47	2.47	0.10	AAA	
9983008\$P	WF/BlackRock Short Term Investment Fund S			41,840,064	41,840,064	100.0	2.0	2.47	2.47	0.10	AAA	
<b>TOTAL LIQUIDITY BUFFER</b>				40,426,281	40,426,281	100.0	1.9	2.47	2.47	0.10	AAA	
<b>SHORT PORTFOLIO</b>												
946996EE1	American General Life Ins. Co.	SBIC	Galliard	205,802,782	209,089,695	101.6	9.8	2.74	2.24	1.87	A+	18.0
896994GW4	Nationwide Life Ins. Co.	SBIC	Galliard	176,292,499	179,324,254	101.7	8.4	2.77	2.24	1.87	A+	17.0
744999CV3	Prudential Ins. Co. of America	SBIC	Galliard	104,554,469	107,370,482	102.7	5.0	2.91	2.24	1.87	AA-	17.0
600996QF2	Transamerica Premier Life Ins. Co.	SBIC	Galliard	196,599,552	198,524,893	101.0	9.4	2.42	2.24	1.87	A+	17.0
<b>TOTAL SHORT PORTFOLIO</b>				683,249,301	694,309,324	101.6	32.5	2.68	2.24	1.87	A+	
<b>INTERMEDIATE PORTFOLIO</b>												
590994VM8	Metropolitan Life Ins. Co.	SAGIC	Dodge & Cox	222,113,156	226,271,725	101.9	10.6	2.92	2.71	3.23	AA-	19.0
946996EE1	American General Life Ins. Co.	SBIC	Payden & Rygel	215,619,159	219,062,851	101.6	10.3	2.74	2.48	3.39	A+	18.0
896994GW4	Nationwide Life Ins. Co.	SBIC	Galliard	198,878,830	202,299,010	101.7	9.5	2.77	2.52	3.55	A+	17.0
744999CV3	Prudential Ins. Co. of America	SBIC	Jennison Assoc.	212,716,579	218,445,771	102.7	10.1	2.91	2.11	3.95	AA-	17.0
744999CV3	Prudential Ins. Co. of America	SBIC	Prudential	213,488,983	219,238,979	102.7	10.2	2.91	2.52	3.48	AA-	17.0
600996QF2	Transamerica Premier Life Ins. Co.	SBIC	Galliard	99,424,409	100,398,093	101.0	4.7	2.42	2.52	3.55	A+	17.0
600996QF2	Transamerica Premier Life Ins. Co.	SBIC	TCW	215,460,830	217,570,884	101.0	10.3	2.42	2.14	3.91	A+	17.0
<b>TOTAL INTERMEDIATE PORTFOLIO</b>				1,377,701,945	1,403,287,313	101.9	65.6	2.75	2.42	3.58	A+	
<b>TOTAL PORTFOLIO</b>				2,101,377,527	2,138,022,918	101.7	100.0	2.72	2.36	2.96	A+	

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 6/30/19	Per \$1000	Est. Annual Revenue
Investment Management Fees paid to Galliard	0.073%	\$0.73	\$1,535,477
Investment Management fees paid to Non-Affiliated Investment Advisors	0.058%	\$0.58	\$1,217,196
Investment Contract Fees <sup>1</sup>	0.171%	\$1.71	\$3,590,183
Acquired Fund Fees <sup>2</sup>	0.002%	\$0.02	\$33,472
-Investment Contract Fees	None	None	None
-Other Acquired Fund Fees and Non-Affiliated Investment Management Fees paid to Non-Affiliated Investment Advisors <sup>3</sup>	0.002%	\$0.02	\$33,472
12b-1 Distribution Fee	None	None	None
Other Expenses	0.002%	\$0.02	\$42,184
<b>Total Annual Fund Operating Expenses<sup>4</sup></b>	<b>0.305%</b>	<b>\$3.05</b>	<b>\$6,418,512</b>

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: 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

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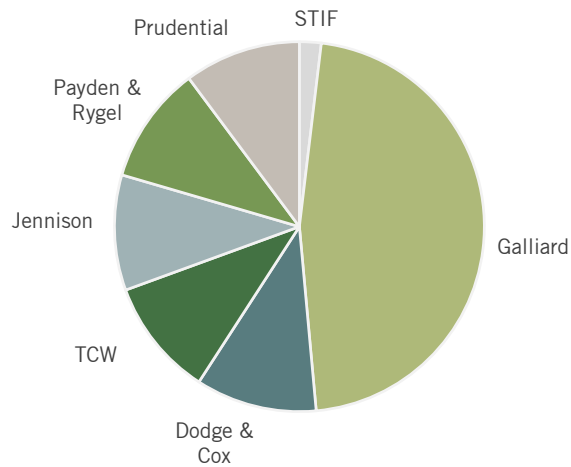
## STATE OF NORTH CAROLINA STABLE VALUE FUND MANAGER STYLES

	Investment Approach	Sector Rotation	Active Duration/ Yield Curve Mgmt.	Issue Selection	SECTOR EMPHASIS
<b>GALLIARD</b>					Diversified high quality spread sector emphasis, multi-sector relative value
<b>DODGE &amp; COX</b>					Corporate credit, Agency MBS
<b>TCW</b>					Duration, structured credit, multi-sector relative value
<b>JENNISON</b>					Credit, yield-curve positioning
<b>PAYDEN &amp; RYSEL</b>					Corporate credit, structured credit, multi-sector relative value
<b>PRUDENTIAL</b>					Multi-sector relative value, Agency MBS, global focus

# STATE OF NORTH CAROLINA STABLE VALUE FUND

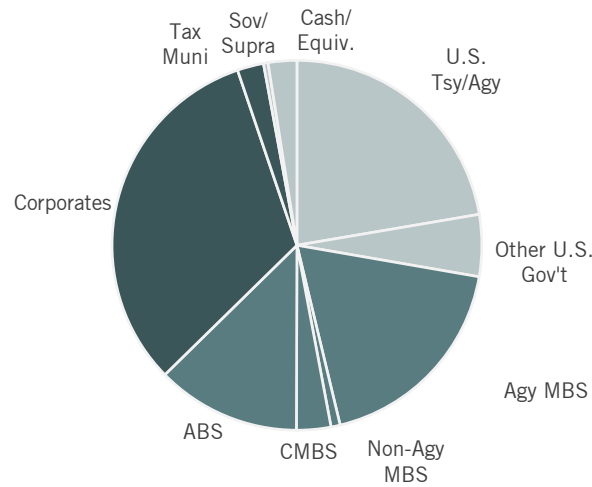
## PORTFOLIO AS OF 6/30/19

### MANAGER ALLOCATION



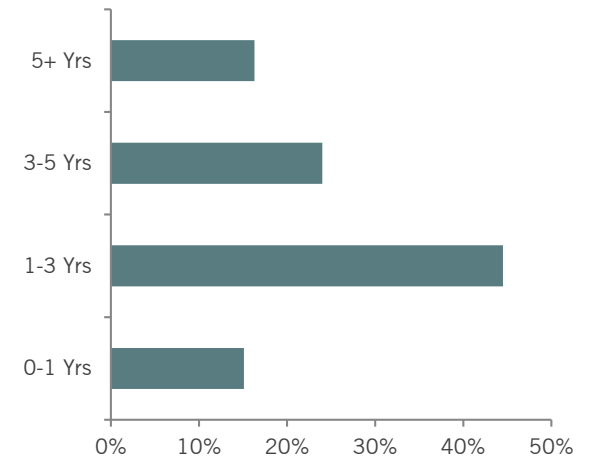
STIF	1.9%
Galliard	46.7%
Dodge & Cox	10.6%
TCW	10.3%
Jennison	10.1%
Payden & Rygel	10.3%
Prudential	10.2%
<b>TOTAL EXT. MANAGER</b>	<b>51.4%</b>
<b>TOTAL PORTFOLIO</b>	<b>100%</b>

### UNDERLYING FIXED INCOME SECTOR ALLOCATION



U.S. Tsy/Agy	22.3%
Other U.S. Gov't	5.4%
Agy MBS	18.5%
Non-Agy MBS	0.8%
CMBS	3.0%
ABS	12.6%
Corporates	32.1%
Tax Muni/Not-for-Profit	2.3%
Sov/Supra	0.4%
Cash/Equiv.	2.5%

### UNDERLYING DURATION DISTRIBUTION



0-1 Yrs	15.1%
1-3 Yrs	44.5%
3-5 Yrs	24.0%
5+ Yrs	16.3%

# STATE OF NORTH CAROLINA STABLE VALUE FUND

## MARKET VALUE PERFORMANCE SUMMARY AS OF 6/30/19

	1 Month	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	Inception
<b>SHORT DURATION</b>								
Galliard <sup>1</sup>	0.56	1.62	3.16	4.76	-	-	4.47	6/1/2018
Bloomberg Barclays U.S. 1-3 Yr. Government/Credit	0.56	1.48	2.71	4.27	-	-	3.94	
<b>Value Added<sup>2</sup></b>	<b>0.00</b>	<b>0.14</b>	<b>0.45</b>	<b>0.49</b>	<b>-</b>	<b>-</b>	<b>0.53</b>	
<b>INTERMEDIATE DURATION</b>								
Dodge & Cox	1.09	2.40	5.40	6.94	2.66	-	2.70	3/1/2015
Bloomberg Barclays U.S. Intermediate Aggregate	0.95	2.39	4.73	6.73	2.03	-	2.35	
<b>Value Added<sup>2</sup></b>	<b>0.14</b>	<b>0.01</b>	<b>0.67</b>	<b>0.21</b>	<b>0.63</b>	<b>-</b>	<b>0.35</b>	
Galliard	1.02	2.56	5.21	7.20	-	-	6.63	6/1/2018
Bloomberg Barclays U.S. Intermediate Aggregate	0.95	2.39	4.73	6.73	-	-	6.17	
<b>Value Added<sup>2</sup></b>	<b>0.07</b>	<b>0.17</b>	<b>0.48</b>	<b>0.47</b>	<b>-</b>	<b>-</b>	<b>0.46</b>	
Jennison <sup>3</sup>	1.08	2.61	4.87	6.94	2.31	2.71	6.43	5/1/2018
Bloomberg Barclays U.S. Intermediate Govt/Credit	1.07	2.59	4.97	6.93	1.99	2.39	6.40	
<b>Value Added<sup>2</sup></b>	<b>0.01</b>	<b>0.02</b>	<b>-0.10</b>	<b>0.01</b>	<b>0.32</b>	<b>0.32</b>	<b>0.03</b>	
Payden & Rygel	1.00	2.41	4.81	6.63	2.69	2.10	2.32	7/1/2009
Bloomberg Barclays U.S. Intermediate Aggregate <sup>4</sup>	0.95	2.39	4.73	6.73	2.37	1.92	1.83	
<b>Value Added<sup>2</sup></b>	<b>0.05</b>	<b>0.02</b>	<b>0.08</b>	<b>-0.10</b>	<b>0.32</b>	<b>0.18</b>	<b>0.49</b>	
Prudential	1.06	2.67	5.25	7.28	2.61	-	3.18	2/1/2016
Bloomberg Barclays U.S. Intermediate Aggregate	0.95	2.39	4.73	6.73	2.03	-	2.52	
<b>Value Added<sup>2</sup></b>	<b>0.11</b>	<b>0.28</b>	<b>0.52</b>	<b>0.55</b>	<b>0.58</b>	<b>-</b>	<b>0.66</b>	
TCW	1.05	2.62	5.10	7.26	-	-	6.84	6/1/2018
Bloomberg Barclays U.S. Intermediate Govt/Credit	1.07	2.59	4.97	6.93	-	-	6.32	
<b>Value Added<sup>2</sup></b>	<b>-0.02</b>	<b>0.03</b>	<b>0.13</b>	<b>0.33</b>	<b>-</b>	<b>-</b>	<b>0.52</b>	

1: Performance inception: June 1, 2018. Prior to June 1, 2018 returns are linked to Wells Fargo Fixed Income Fund F (Galliard)

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

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#### **GALLIARD SHORT +14 Q2 2019**

- An overweight to non-Treasury sectors was the primary driver of outperformance, as spread sectors generally outperformed for the quarter
- In particular, overweight allocations to Other U.S. Government securities (Agency multifamily and SBA), ABS, and corporate bonds were positive
- Issue selection in corporates was also beneficial as our emphasis on 3-5 year bonds outperformed shorter maturities
- Curve positioning did not have a material impact on performance for the quarter

#### **GALLIARD INTERMEDIATE +17 Q2 2019**

- An overweight to non-Treasury sectors was the primary driver of outperformance, as spread sectors generally outperformed for the quarter
- In particular, overweight allocations to corporate bonds, Other U.S. Government securities (Agency multifamily and SBA), and ABS were positive
- Issue selection in Agency MBS was also beneficial as our positioning emphasizes securities with more stable cash flows and less negative convexity than the benchmark
- Curve positioning did not have a material impact on performance for the quarter

#### **DODGE & COX +1 Q2 2019**

- The overweight to Corporates benefited performance while security selection, particularly within Agency MBS, detracted
- Short benchmark-relative duration positioning also detracted from performance

#### **JENNISON +2 Q2 2019**

- The contribution to relative performance from issue selection was offset by an underweight to Corporates
- Yield curve positioning slightly benefited performance for the quarter

#### **PAYDEN & RYGEL +2 Q2 2019**

- Sector allocation, led by the overweight to Corporate Credit, was the primary driver of performance
- Short duration posture detracted from performance

#### **PRUDENTIAL +28 Q2 2019**

- Security selection in Agency MBS, Corporates, CMBS, and ABS was the primary contributor to relative performance
- Both the overweight to CMBS and Corporates and the underweight to Agency MBS benefited performance
- Duration and yield curve positioning slightly detracted

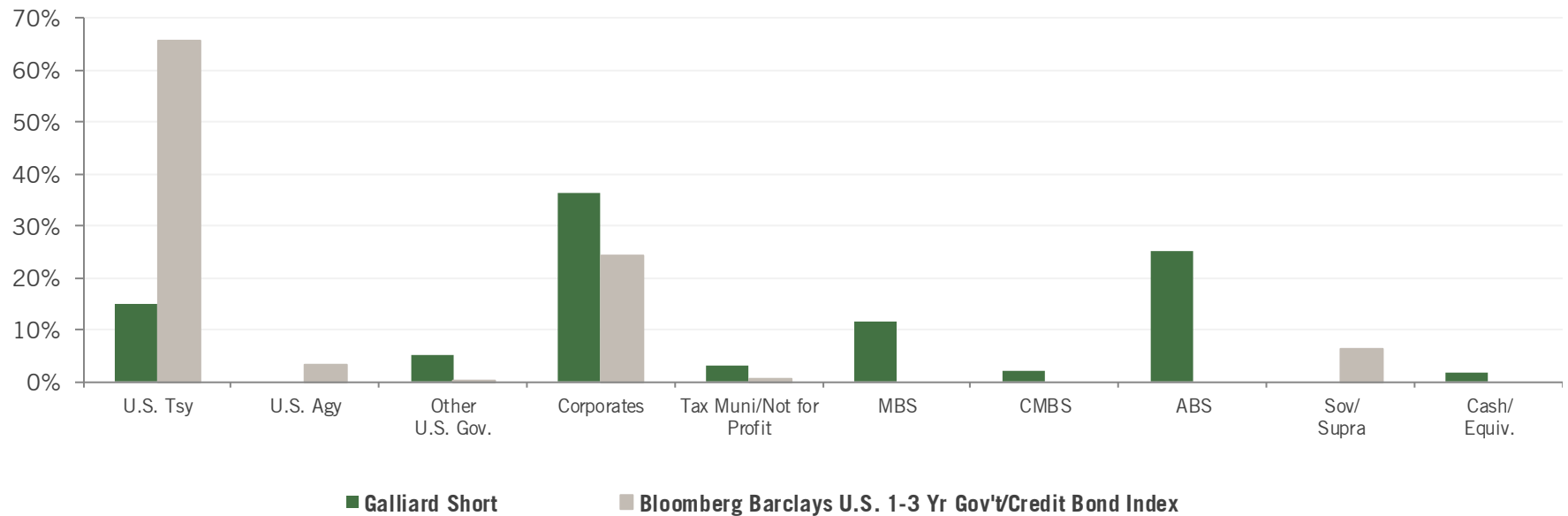
#### **TCW +3 Q2 2019**

- Long index-relative duration positioning, particularly towards the beginning of the quarter, benefited performance
- The underweight to Corporates hurt relative performance while defensive security selection within the sector was beneficial

## STATE OF NORTH CAROLINA STABLE VALUE FUND

### SHORT DURATION PORTFOLIO AS OF 6/30/19

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

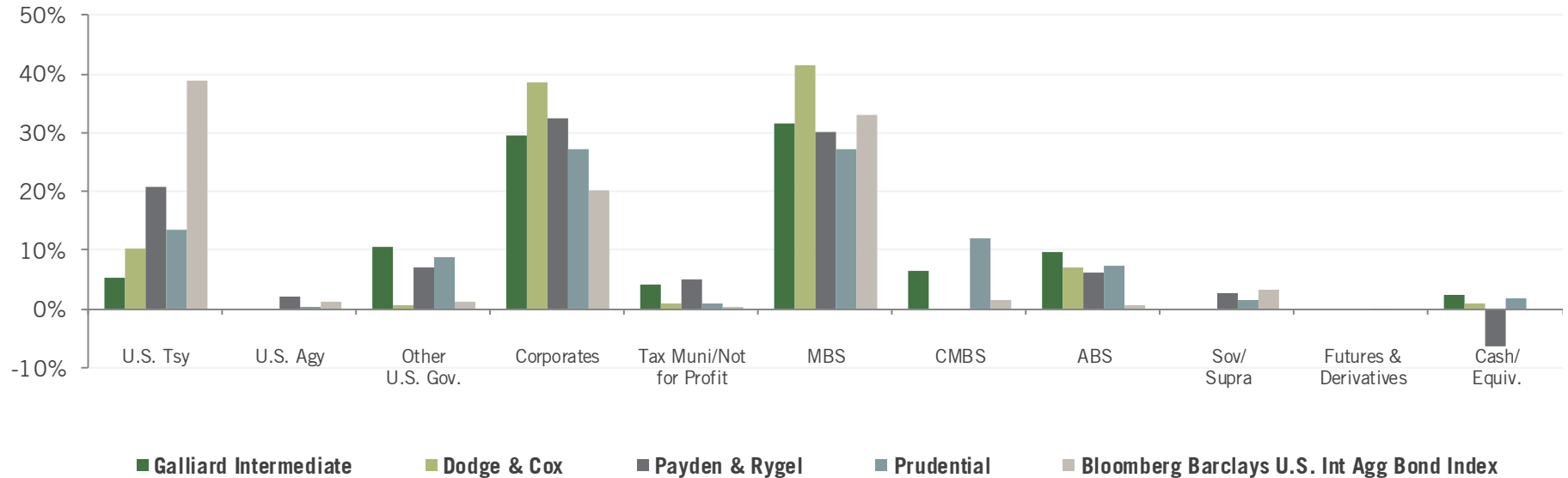


Characteristic	Galliard Short	Bloomberg Barclays U.S. 1-3 Yr Gov't/ Credit Bond Index
Weighted Average Quality	AA	AA+
Effective Duration	1.87 Yrs	1.82 Yrs
Yield to Maturity	2.24%	1.97%

## STATE OF NORTH CAROLINA STABLE VALUE FUND

### INTERMEDIATE DURATION PORTFOLIOS AS OF 6/30/19

#### BLOOMBERG BARCLAYS U.S. INTERMEDIATE AGGREGATE BOND INDEX

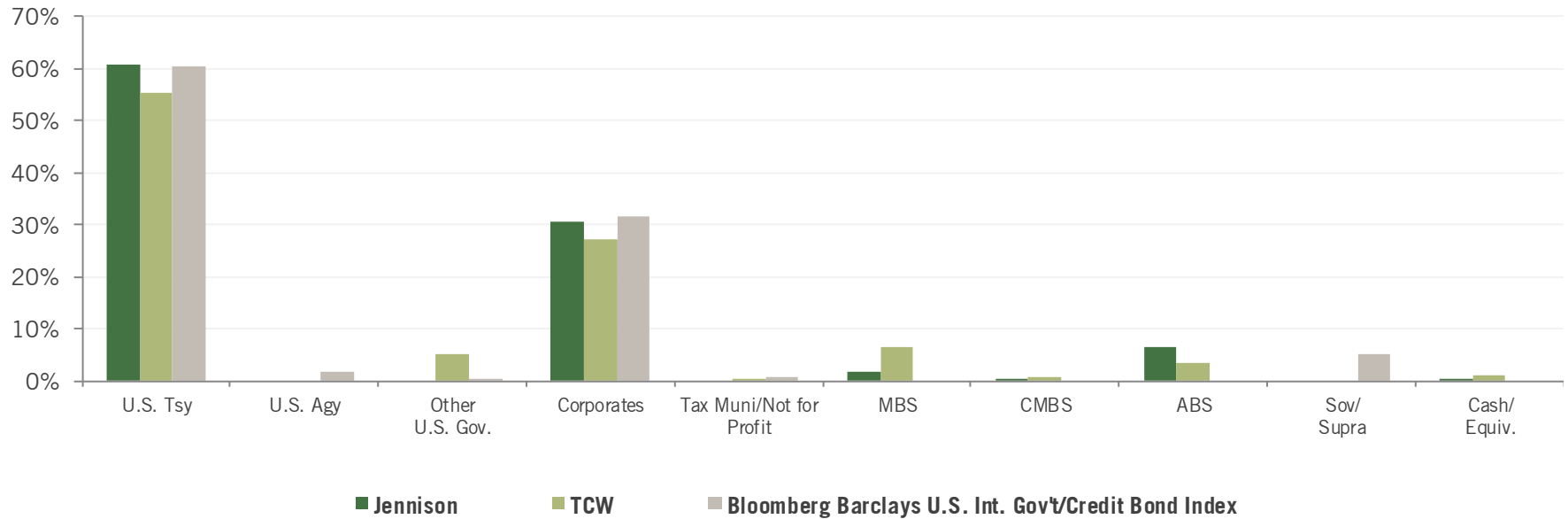


Characteristic	Galliard Intermediate	Dodge & Cox	Payden & Rygel	Prudential	Bloomberg Barclays U.S. Int Agg Bond Index
Weighted Average Quality	AA	AA-	AA-	AA	AA+
Effective Duration	3.55 Yrs	3.23 Yrs	3.39 Yrs	3.48 Yrs	3.65 Yrs
Yield to Maturity	2.52%	2.71%	2.48%	2.52%	2.33%

## STATE OF NORTH CAROLINA STABLE VALUE FUND

### INTERMEDIATE DURATION PORTFOLIOS AS OF 6/30/19

#### 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	AA+	AA+	AA
Effective Duration	3.95 Yrs	3.91 Yrs	3.86 Yrs
Yield to Maturity	2.11%	2.14%	2.13%