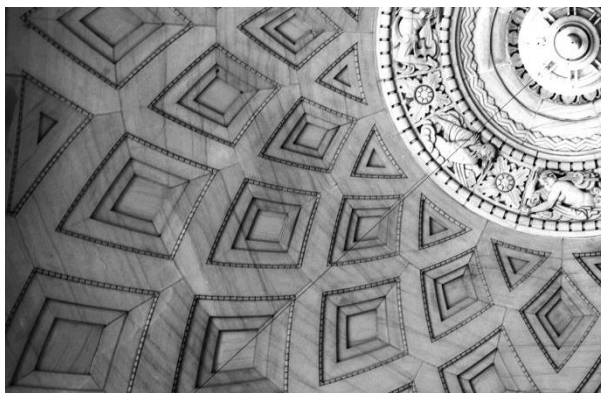




ARCHITECTS OF INVESTMENT SOLUTIONS



State of North Carolina

MAY 28, 2020

STATE OF NORTH CAROLINA

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SECTION II:	State of North Carolina Stable Value Portfolio Review
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GALLIARD CAPITAL MANAGEMENT

WHO WE ARE

\$96.1 B

TOTAL AUM

\$81.4 B

TOTAL STABLE VALUE AUM

90+

STABLE VALUE SEPARATE ACCOUNTS

104

EMPLOYEES ON STAFF

SENIOR PROFESSIONALS AVERAGE YEARS OF EXPERIENCE:

Stable value portfolio management team – **21**

Fixed income team – **20**

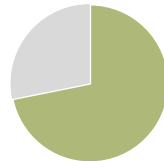
Contract management & negotiation team – **25**

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

225+

INSTITUTIONAL CLIENTS

CLIENT RELATIONSHIP TENURE



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

38 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 manager¹ and advises the **largest** stable value collective fund² in the nation

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

²As 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

STABLE VALUE PORTFOLIO REVIEW

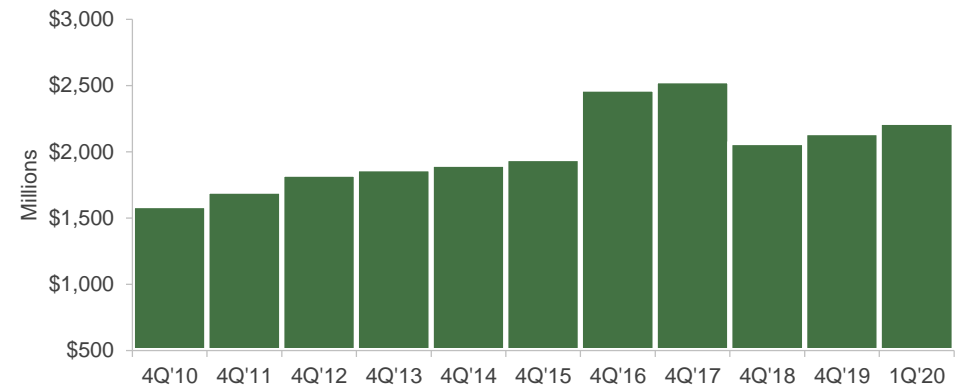
PORTFOLIO CHARACTERISTICS

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	\$2,221,844,921

HISTORICAL FUND ASSETS



PORTFOLIO CHARACTERISTICS

	Portfolio 12/31/19	Portfolio 3/31/20
Average Quality - Book Value¹	A+	AA-
Average Quality - Market Value²	AA	AA
Number of Contract Issuers	5	5
Blended Yield (after all fees)³	2.64%	2.47%
Yield to Maturity	2.13%	1.91%
Effective Duration	3.05 years	2.80 years
Market/Book Value Ratio	102.00%	102.54%

PORTFOLIO DISTRIBUTION

	% Portfolio 12/31/19	% Portfolio 3/31/20
Liquidity Buffer: Cash & Equivalents⁴	2.4	4.9
Short Portfolio	32.3	31.3
Intermediate Portfolio	65.3	63.8
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.

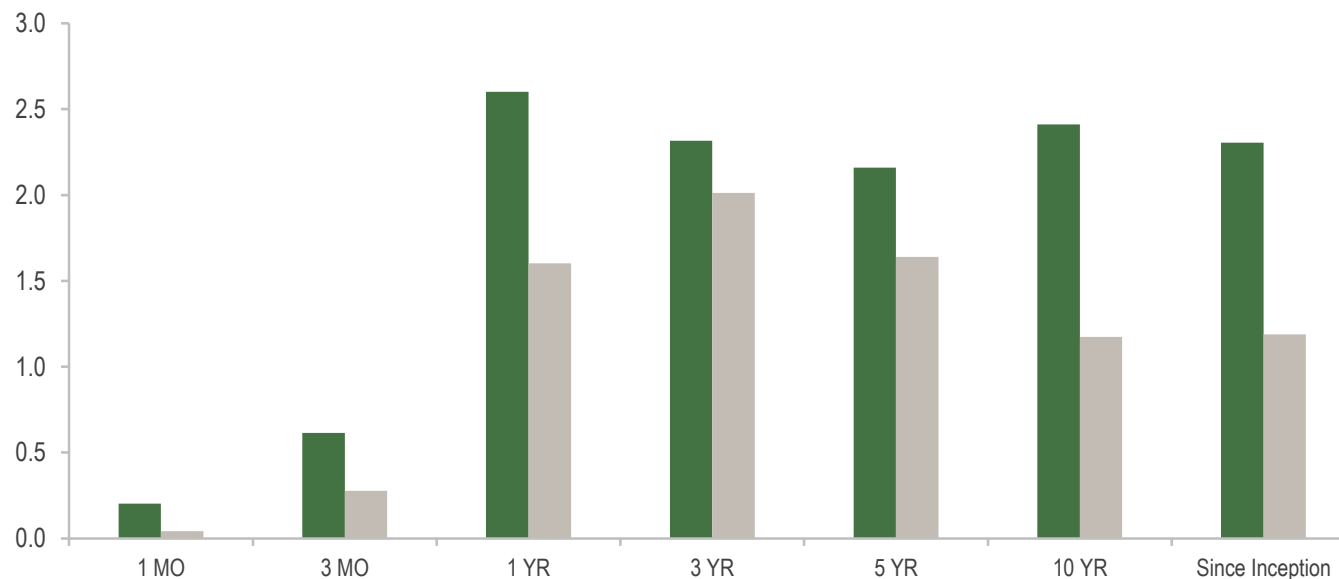
4: Includes Receivables and Payables.

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

STABLE VALUE PORTFOLIO REVIEW

ANNUALIZED INVESTMENT PERFORMANCE

ANNUALIZED INVESTMENT PERFORMANCE AS OF 3/31/20¹



	1 Mo.	3 Mo.	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Inception
■ Portfolio (net of all fees - NAV level) ^{2,3}	0.20	0.61	2.60	2.32	2.16	2.41	2.31
■ 3 Year Constant Maturity Treasury	0.04	0.28	1.60	2.01	1.64	1.17	1.19
Benchmark ⁴	0.42	0.95	3.80	3.36	2.72	2.16	2.19
Value Added (net of all fees - NAV level)⁵	0.16	0.34	1.00	0.30	0.52	1.24	1.12

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 CONTRACT ISSUERS

CONTRACT ISSUER DISTRIBUTION & RATING SUMMARY

	Contract Type	% Portfolio 12/31/19	% Portfolio 3/31/20	Rating 12/31/19	Rating 3/31/20	Wrap fees (bps) 3/31/20
American General Life Ins. Co.	SBIC	20.0	19.4	A+	A+	16
Metropolitan Life Ins. Co.	SAGIC	10.5	10.2	AA-	AA-	18
Nationwide Life Ins. Co.	SBIC	17.8	17.6	A+	A+	16
Prudential Ins. Co. of America	SBIC	25.2	24.4	AA-	AA-	16
Transamerica Premier Life Ins. Co.	SBIC	24.2	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

STABLE VALUE PORTFOLIO REVIEW

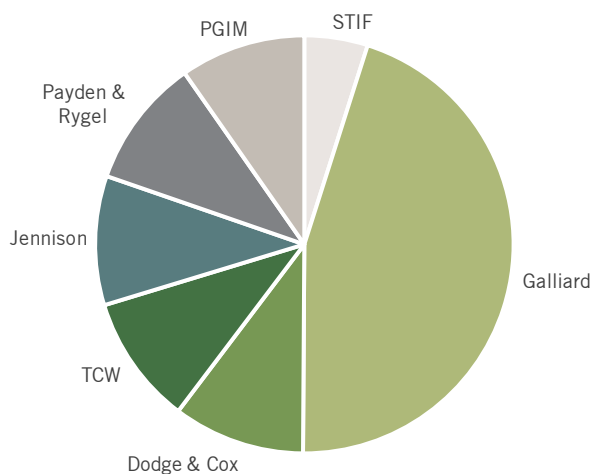
EXPENSES

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

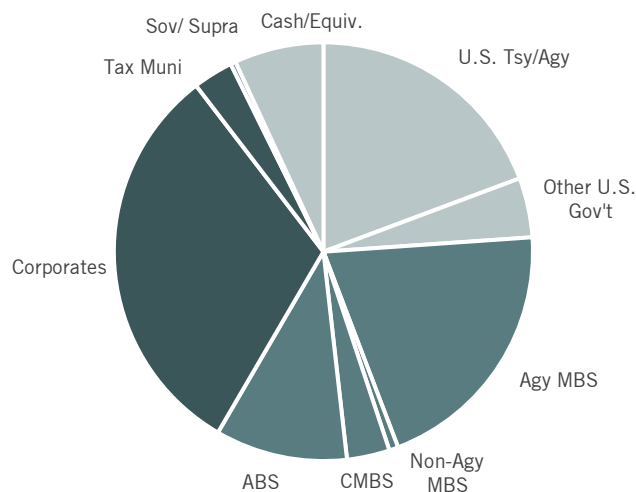
STATE OF NORTH CAROLINA STABLE VALUE FUND PORTFOLIO AS OF 3/31/20

MANAGER ALLOCATION



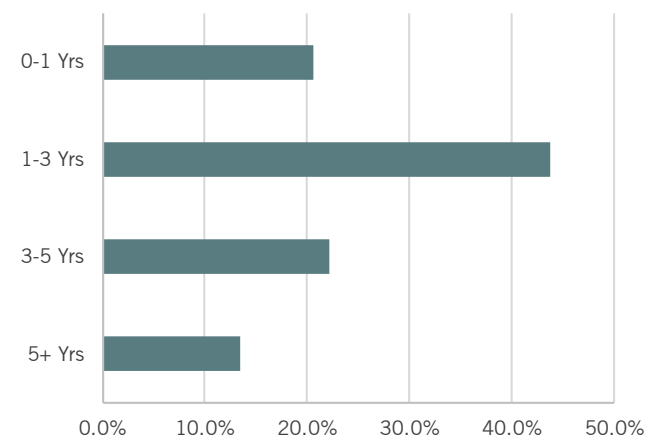
STIF	4.9%
Galliard	45.2%
Dodge & Cox	10.2%
TCW	10.0%
Jennison	10.0%
Payden & Rygel	10.0%
PGIM	9.7%
TOTAL EXT. MANAGER	49.9%
TOTAL PORTFOLIO	100%

UNDERLYING FIXED INCOME SECTOR ALLOCATION



U.S. Tsy/Agy	19.3%
Other U.S. Gov't	4.6%
Agy MBS	20.3%
Non-Agy MBS	0.7%
CMBS	3.3%
ABS	10.2%
Corporates	31.2%
Tax Muni	3.1%
Sov/ Supra	0.4%
Cash/Equiv.	6.9%

UNDERLYING DURATION DISTRIBUTION



0-1 Yrs	20.6%
1-3 Yrs	43.8%
3-5 Yrs	22.2%
5+ Yrs	13.4%

STATE OF NORTH CAROLINA STABLE VALUE FUND

MARKET VALUE PERFORMANCE SUMMARY AS OF 3/31/20¹

	1 Month	3 Month	1 Year	3 Year	5 Year	Since Inception	Inception Date
SHORT DURATION							
Galliard (before fees)	-0.86	0.74	3.81	-	-	3.82	6/1/2018
Bloomberg Barclays U.S. 1-3 Yr. Government/Credit	0.31	1.69	4.53	-	-	3.97	
Value Added²	-1.17	-0.95	-0.72	-	-	-0.15	
INTERMEDIATE DURATION							
Dodge & Cox (before fees)	-1.56	0.66	5.38	3.67	2.85	2.88	3/1/2015
Bloomberg Barclays U.S. Intermediate Aggregate	-0.04	2.49	6.88	3.87	2.82	2.87	
Value Added²	-1.52	-1.83	-1.50	-0.20	-0.02	0.01	
Galliard (before fees)	-1.44	1.34	5.99	-	-	5.75	6/1/2018
Bloomberg Barclays U.S. Intermediate Aggregate	-0.04	2.49	6.88	-	-	6.05	
Value Added²	-1.40	-1.15	-0.89	-	-	-0.31	
Jennison (before fees) ³	0.74	3.80	8.32	4.49	3.18	6.84	5/1/2018
Bloomberg Barclays U.S. Intermediate Govt/Credit	-0.44	2.40	6.88	3.79	2.76	6.09	
Value Added²	1.18	1.40	1.43	0.69	0.41	0.75	
Payden & Rygel (before fees)	-0.53	2.03	6.44	3.84	2.72	2.52	7/1/2009
Bloomberg Barclays U.S. Intermediate Aggregate ⁴	-0.04	2.49	6.88	3.83	2.64	2.10	
Value Added²	-0.50	-0.46	-0.44	0.01	0.08	0.42	
PGIM (before fees)	-2.53	-0.21	4.61	3.39	-	3.06	2/1/2016
Bloomberg Barclays U.S. Intermediate Aggregate	-0.04	2.49	6.88	3.87	-	3.11	
Value Added²	-2.49	-2.69	-2.27	-0.48	-	-0.05	
TCW (before fees)	-0.50	2.25	6.66	-	-	6.20	6/1/2018
Bloomberg Barclays U.S. Intermediate Govt/Credit	-0.44	2.40	6.88	-	-	6.03	
Value Added²	-0.06	-0.15	-0.23	-	-	0.16	

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 -95 Q1 2020

- Overweight to spread securities drove underperformance, as all spread sectors underperformed US Treasuries
- A high quality bias in corporate securities proved beneficial

GALLIARD INTERMEDIATE -115 Q1 2020

- Overweight to spread securities drove underperformance, as all spread sectors underperformed US Treasuries
- Security selection in Agency MBS also detracted from returns
- A high quality bias in corporate securities proved beneficial

DODGE & COX -183 Q1 2020

- The overweight to Corporate securities detracted from relative performance as spreads widened
- Short benchmark-relative duration positioning also detracted

JENNISON +140 Q1 2020

- The underweight to Credit and the high quality bias within Corporate positioning benefited performance
- Yield curve positioning was also beneficial

PAYDEN & RYGEL -49 Q1 2020

- The overweight to Corporates detracted from relative performance but was partially offset by security selection within the sector
- The portfolio's allocation and security selection in Agency MBS and Securitized Credit contributed positively to performance

PGIM -269 Q1 2020

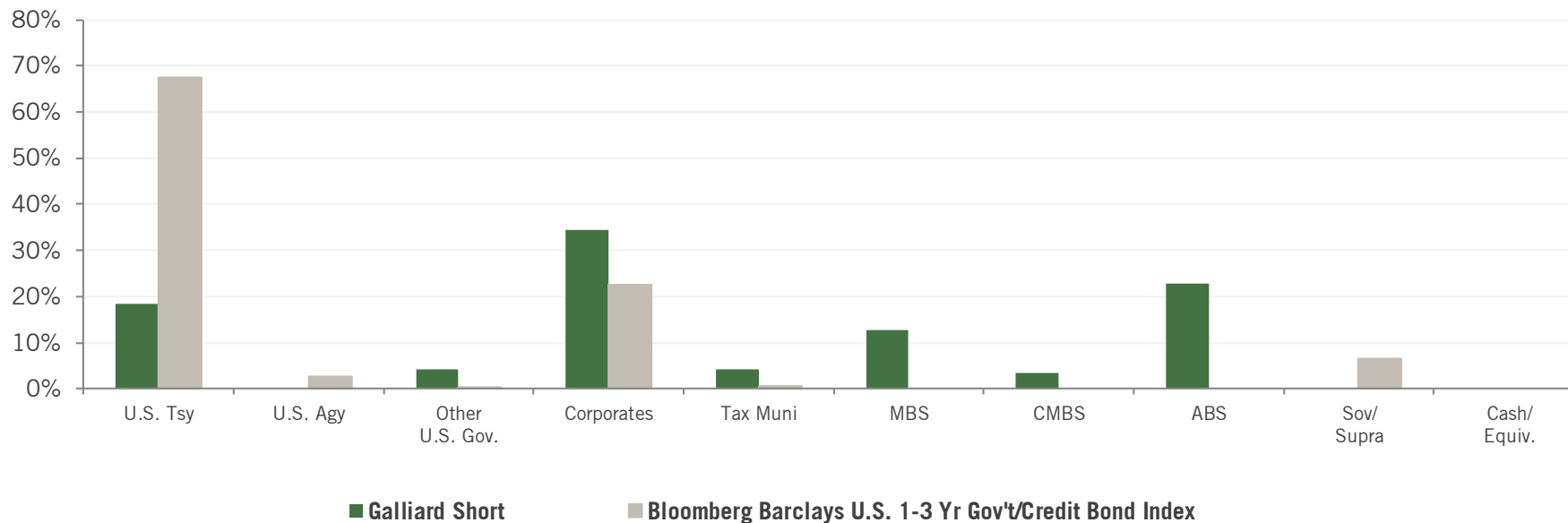
- Sector allocations favoring (overweight) spread sectors were the primary driver of underperformance for the quarter, whereas the underweight in Agency MBS added to relative performance
- Security selection also detracted from relative performance led by underperformance in Corporates

TCW -15 Q1 2020

- The underweight to Corporate securities and defensive selection within the sector benefited performance
- The out-of-benchmark holdings in Agency MBS, ABS, and CMBS was detrimental to relative performance as Treasuries outperformed spread sectors

STATE OF NORTH CAROLINA STABLE VALUE FUND SHORT DURATION PORTFOLIO AS OF 3/31/20

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

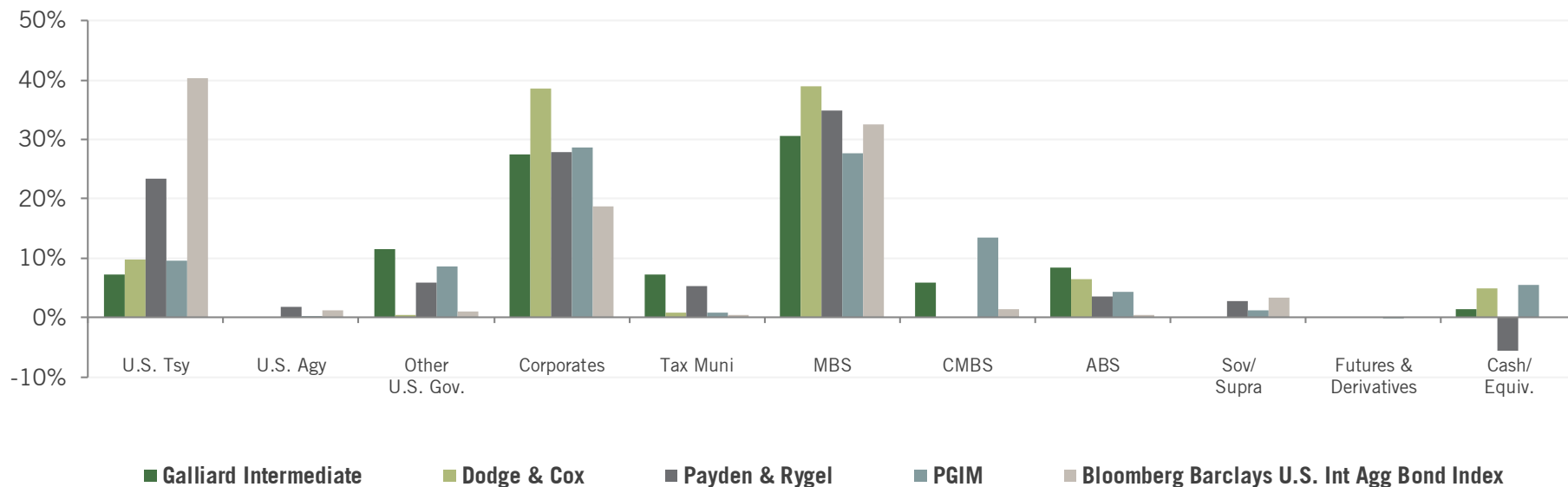


Characteristic	Galliard Short	Bloomberg Barclays U.S. 1-3 Yr Gov't/ Credit Bond Index
Weighted Average Quality ¹	AA	AA+
Effective Duration	1.84 Yrs	1.83 Yrs
Yield to Maturity	1.94%	1.88%

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 3/31/20

BLOOMBERG BARCLAYS U.S. INTERMEDIATE AGGREGATE BOND INDEX

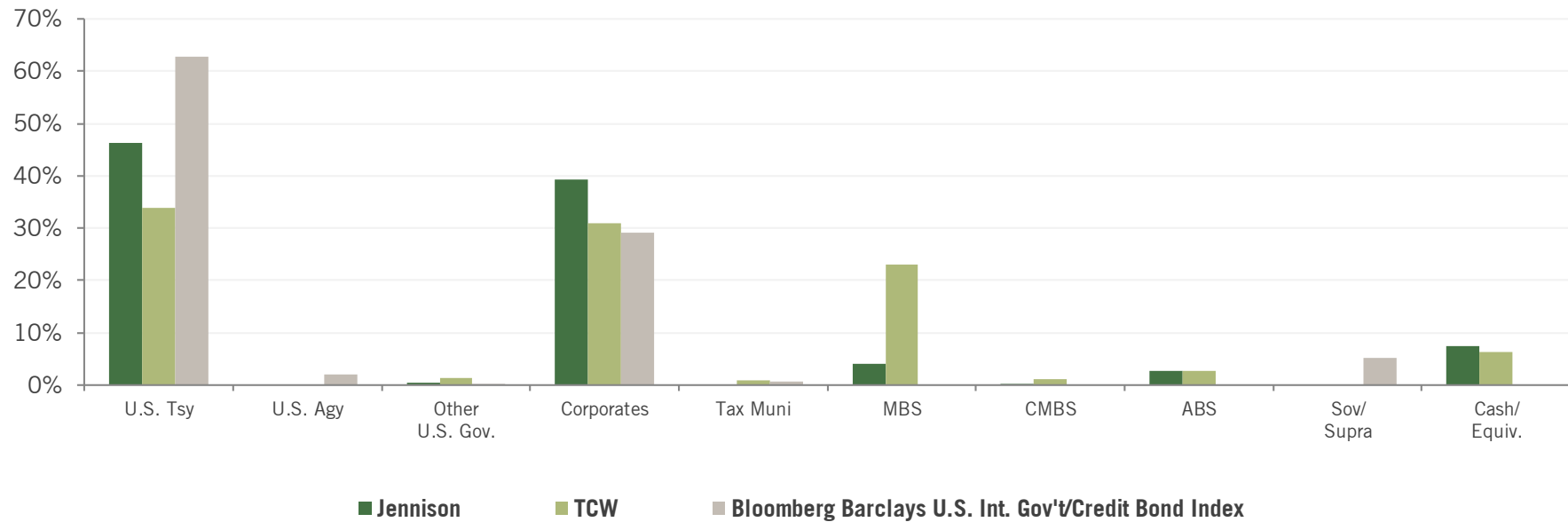


Characteristic	Galliard Intermediate	Dodge & Cox	Payden & Rygel	PGIM	Bloomberg Barclays U.S. Int Agg Bond Index
Weighted Average Quality ¹	AA	AA-	AA	AA-	AA+
Effective Duration	3.26 Yrs	3.19 Yrs	3.49 Yrs	3.33 Yrs	3.19 Yrs
Yield to Maturity	2.07%	2.27%	1.77%	2.55%	1.37%

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 3/31/20

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	4.13 Yrs	3.50 Yrs	3.91 Yrs
Yield to Maturity	1.38%	1.79%	1.33%

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.