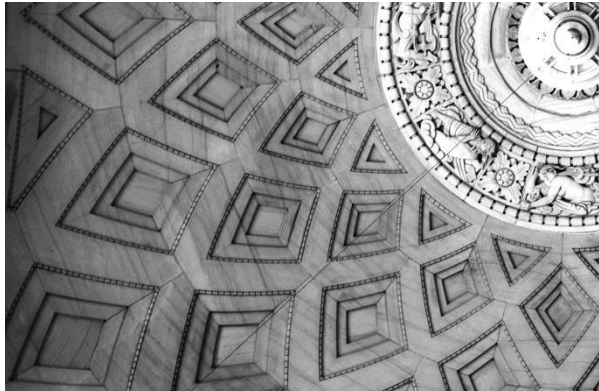




ARCHITECTS OF INVESTMENT SOLUTIONS



City of Los Angeles

NOVEMBER 20, 2018

CITY OF LOS ANGELES

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SECTION I

GALLIARD CAPITAL MANAGEMENT

WHO WE ARE

\$90.0 B

TOTAL AUM

\$77.2 B

TOTAL STABLE VALUE AUM

115+

STABLE VALUE SEPARATE ACCOUNTS

109

EMPLOYEES ON STAFF

SENIOR PROFESSIONALS AVERAGE YEARS OF EXPERIENCE:

Stable value portfolio management team – **25**

Fixed income team – **21**

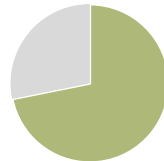
Contract management & negotiation team – **24**

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

230+

INSTITUTIONAL CLIENTS

CLIENT RELATIONSHIP TENURE



~75% of our clients have worked with Galliard for greater than **5 years**

29 of those relationships exceeded **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, 2017, Galliard ranked highest separate/seggregated 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

2018 NEW BUSINESS YTD

5 new clients; **\$420 M** new assets

CITY OF LOS ANGELES DEFERRED COMPENSATION PLAN SUMMARY – INVESTMENT PROVIDER DATA

As of

FIRM NAME	Galliard Capital Management
------------------	-----------------------------

FUND MANAGEMENT	
Fund Name	City of Los Angeles Stable Value Fund
Ticker Symbol	N/A
Investment Vehicle Type	Separate Account
Fund Manager	Team Based Approach
Manager Tenure with Firm	N/A
Manager Tenure with Fund	Managed stable value for DCP since 1999

RETURNS (NET OF FEES)				
	1 Year	3 Year	5 Year	10 Year
Fund Return	2.26	2.11	2.02	2.71
Benchmark Return	2.88	2.1	1.82	1.6
Difference	-0.62	0.01	0.2	1.1

Benchmark

ASSETS	
Total Firm Assets Under Management	\$90.0 Billion
Total Firm Assets in Strategy	\$77.2 Billion
Total Assets Managed for City of LA DCP	\$1.17 Billion

FEES	
Expense Ratio for City Holdings	0.31%
Revenue Share	0%

SECTION II

INTRODUCTION TO STABLE VALUE OBJECTIVES

Stable value funds are designed to preserve capital while providing a steady rate of return

OBJECTIVES OF STABLE VALUE

- **PRINCIPAL PRESERVATION** option with ability to earn a **REAL RETURN**
- Designed to provide:
 - Day-to-day principal protection (i.e. no loss)
 - Returns comparable to short/intermediate bonds with significantly less volatility
- Low correlation (especially downside) with other asset classes
- Stable value is exclusively accessed through qualified defined contribution plans i.e. 401(k), 403(b), and 457
- Stable value is considered to be one of the lowest risk investment options available in retirement plans

INTRODUCTION TO STABLE VALUE

COMPONENTS OF SEPARATE ACCOUNT GICS & SYNTHETIC GICS

BENEFIT RESPONSIVE STABLE VALUE CONTRACTS

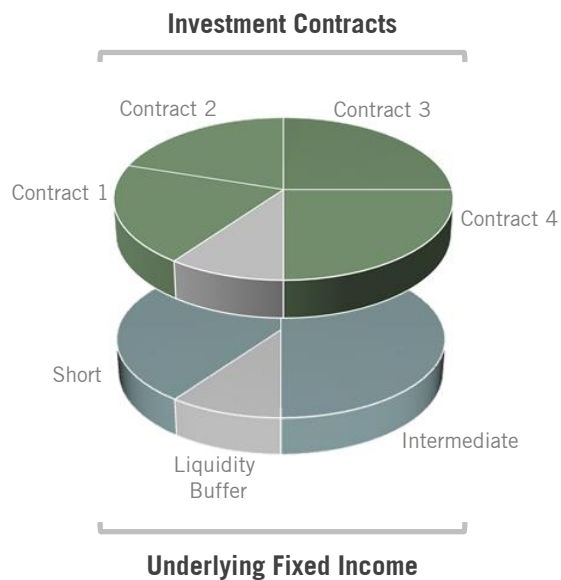
Provide principal preservation, low volatility of returns

- Each stable value contract accounted for at contract value – typically, principal + accrued interest
- Interest rate credited by each contract (i.e. crediting rate) resets periodically based on the characteristics of the underlying assets
- Contract issuer guarantees:
 - Participants can transact at contract value regardless of underlying bond portfolio performance (under normal operations of the plan and stable value fund)
 - Crediting rate $\geq 0\%$

UNDERLYING BOND PORTFOLIO

Source of return

- Underlying bond portfolio provides source of long-term total return
- Stable value contract smoothes return over time (amortizes gains/losses)
- Contract crediting rate typically set based on the market value, yield, and duration of the bond portfolio
- Underlying portfolio typically consists of short to intermediate duration bonds characterized by:
 - Investment grade quality
 - Diversified across sector and issuer

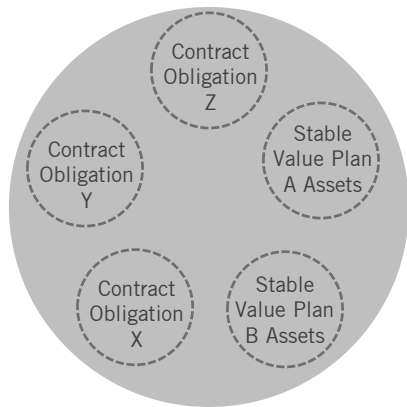


INTRODUCTION TO STABLE VALUE

STABLE VALUE INVESTMENT CONTRACT TYPES

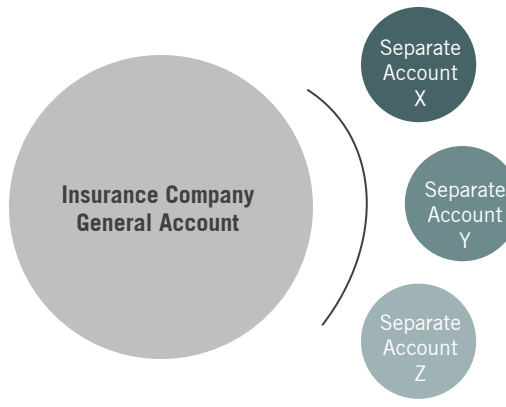
CONTRACT OPTIONS FOR STABLE VALUE/BOOK VALUE PROTECTION

TRADITIONAL GUARANTEED INVESTMENT CONTRACT (GIC)



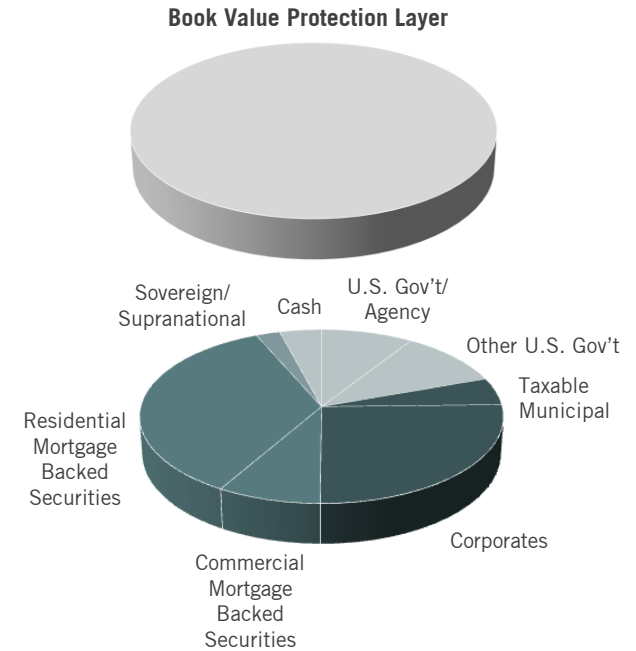
GICs are obligations of the issuing insurance company's general account backed by the creditworthiness of the Insurance Company.

SEPARATE ACCOUNT GIC



Assets backing separate account GICs are owned by the issuing insurance company but segregated from the insurance company's general account.

SYNTHETIC GIC

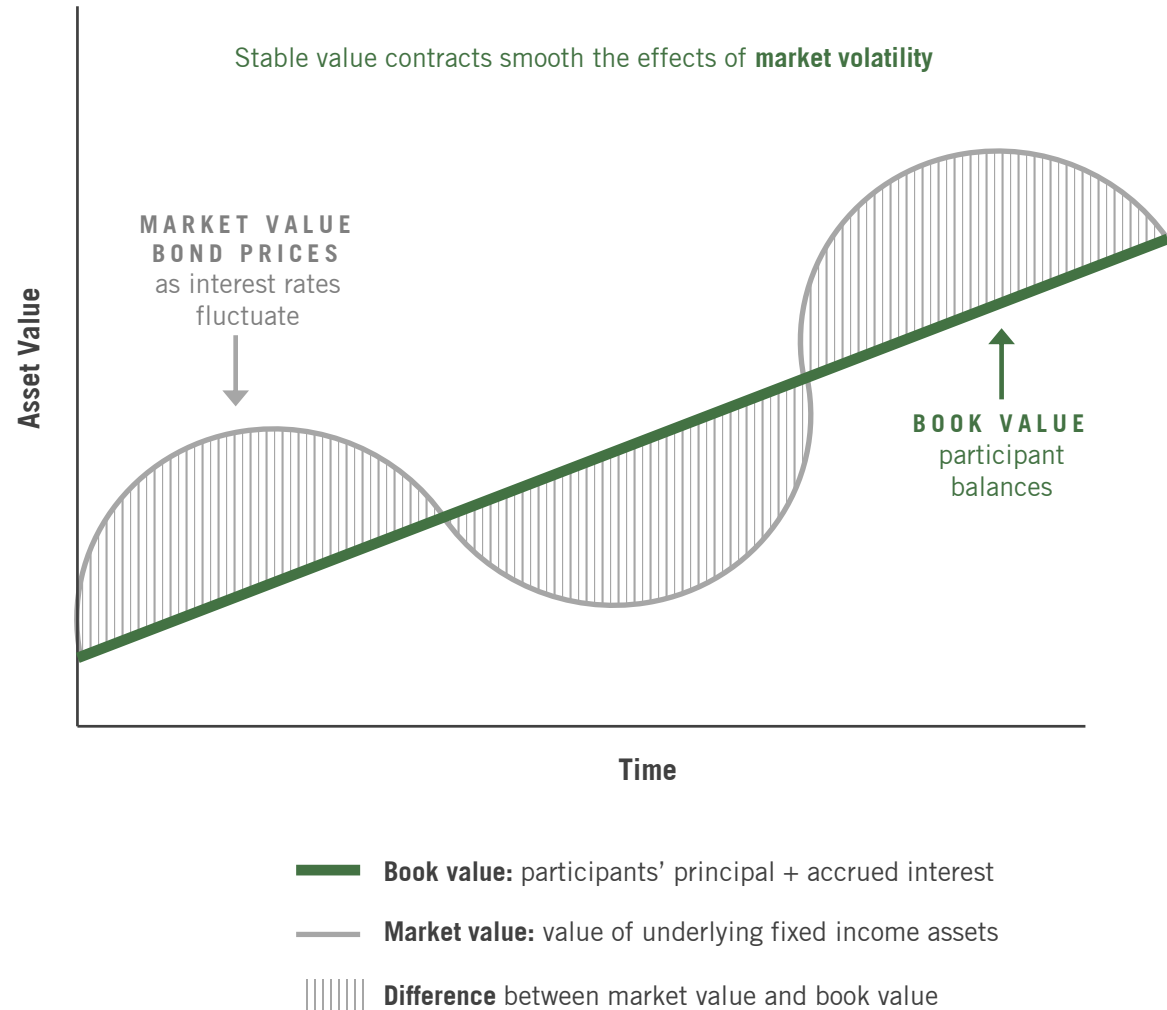


The synthetic GIC structure unbundles book value protection (wrap contract) from underlying investments. The contract is backed by bonds owned by the plan or trust.

MECHANICS OF STABLE VALUE THE ROLE OF THE CREDITING RATE

Wrap contracts are designed to help preserve principal and provide a stable return pattern.

A wrap contract's crediting rate formula tends to smooth the impact of fluctuating interest rates and their effect on bond prices by amortizing the gains or losses over the duration of the portfolio.



Crediting Rate Formula: $\text{Crediting Rate} = (\text{MV of portfolio} / \text{BV of portfolio})^{(1/\text{Duration})} * (1 + \text{YTM}) - 1$

MECHANICS OF STABLE VALUE THE CREDITING RATE FORMULA

The role of the crediting rate is to assign a book value yield to investors that reflects the market value yield, but also amortizes gains/losses on the underlying bond portfolios to par (when Market Value = Book Value) over the duration of the portfolio.

Looked at as an equation:

$$(\text{BV of Portfolio}) \times (1 + \text{Crediting Rate})^{\text{Portfolio Duration}} = (\text{MV of Portfolio}) \times (1 + \text{Annualized YTM})^{\text{Portfolio Duration}}$$

Solving for the crediting rate, the formula may be rewritten as:

$$\text{Crediting Rate} = (\text{MV of portfolio} / \text{BV of portfolio})^{(1/\text{Duration})} \times (1 + \text{YTM}) - 1$$

As the formula suggests, a variety of factors impact a stable value fund's crediting rate.

MECHANICS OF STABLE VALUE

HOW A CONTRACT CREDITING RATE WORKS

Simple Formula

Book Value	\$100,000,000	Gain/(Loss)	(1.00%)
Market Value	\$99,000,000	Portfolio Yield	2.00%
Loss	(\$1,000,000)	Portfolio Duration	3.0 Years

Compound Formula

$$\text{Gross Crediting Rate} = (MV/BV)^{(1/D)} * (1+AYTM) - 1$$

MV : Market Value

BV : Book Value

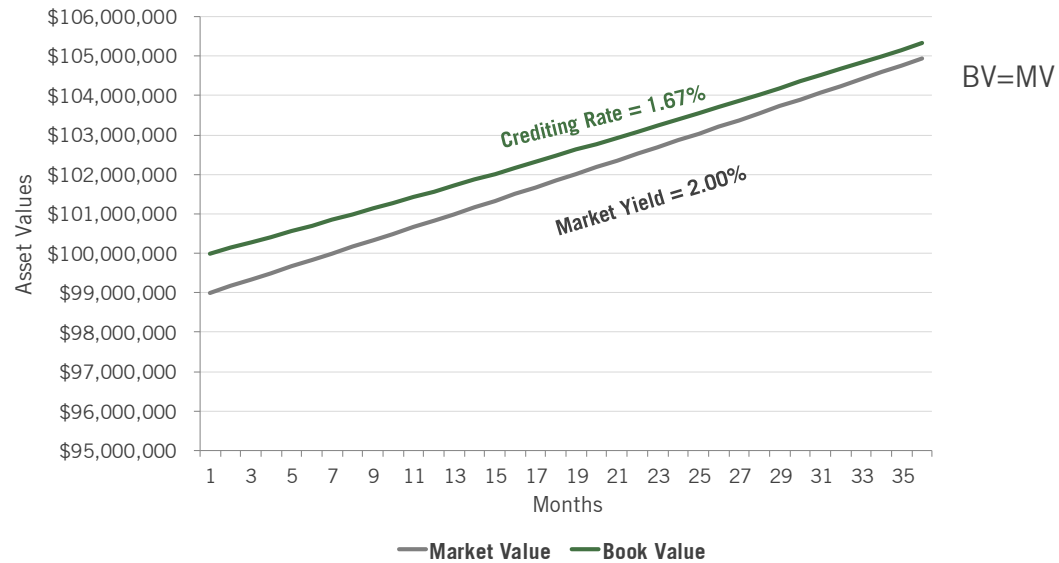
D : Duration

AYTM : Annualized Yield to Maturity which is equal to $(1+YTM/2)^2 - 1$

$$2.00\% - (1.00\%/3) = \text{Estimated Crediting rate of } 1.67\%$$

The crediting rate formula spreads the 1% loss over a 3-year period, from the rate reset data.

The crediting rate amortizes gains/losses over the duration of the portfolio in order to smooth the rate earned by participants

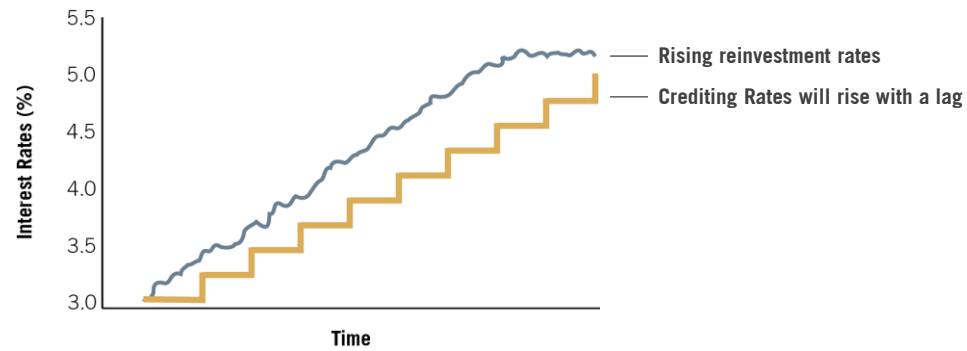


MECHANICS OF STABLE VALUE

IMPACT OF MARKET RATES ON STABLE VALUE YIELDS

STABLE VALUE YIELDS IN A RISING INTEREST RATE ENVIRONMENT

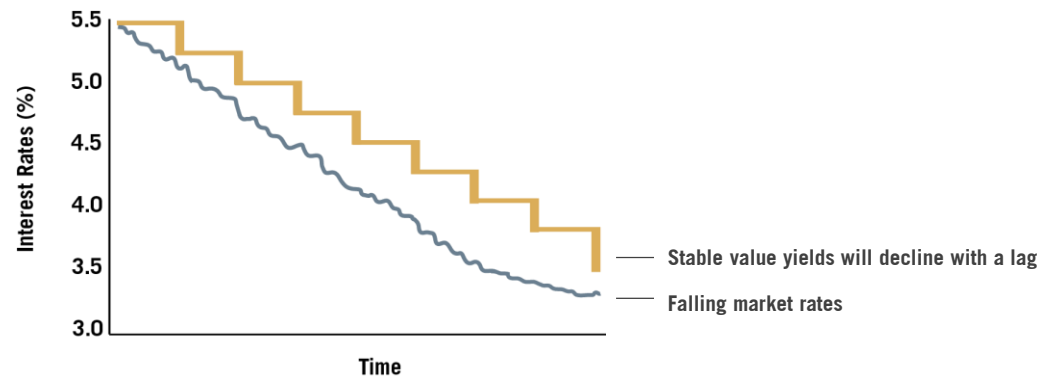
- If reinvestment rates are higher when cash flows are reinvested, the fund's yield will increase (with a lag)...



- In a rapidly rising interest rate environment, stable value yields would likely lag market interest rates and money market funds

STABLE VALUE YIELDS IN A FALLING INTEREST RATE ENVIRONMENT

- If reinvestment rates are lower when cash flows are reinvested, the fund's yield will decrease (with a lag)...



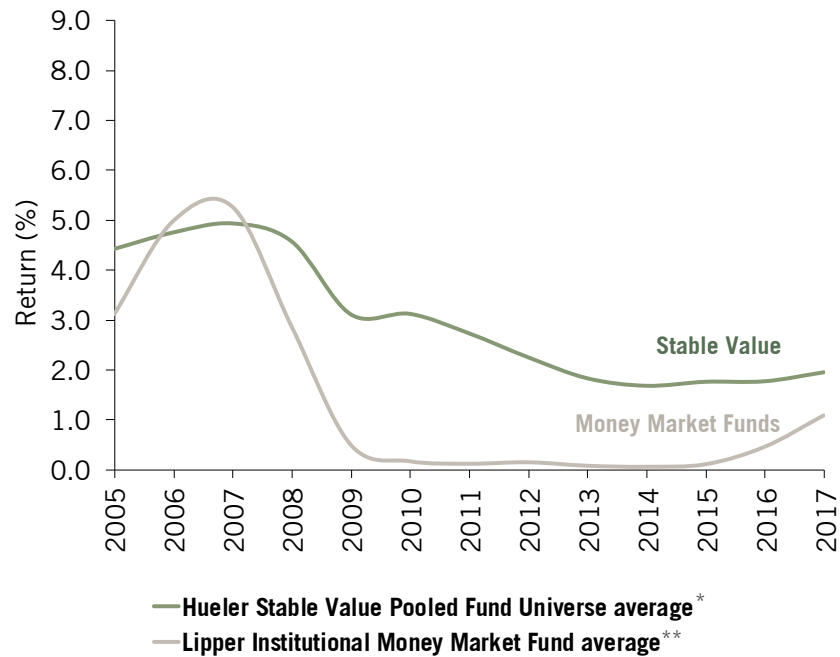
- In a stable or rapidly decreasing interest rate environment, stable value yields would likely outperform market interest rates and money market funds

STABLE VALUE RESULTS

RETURNS VERSUS COMPETING OPTIONS

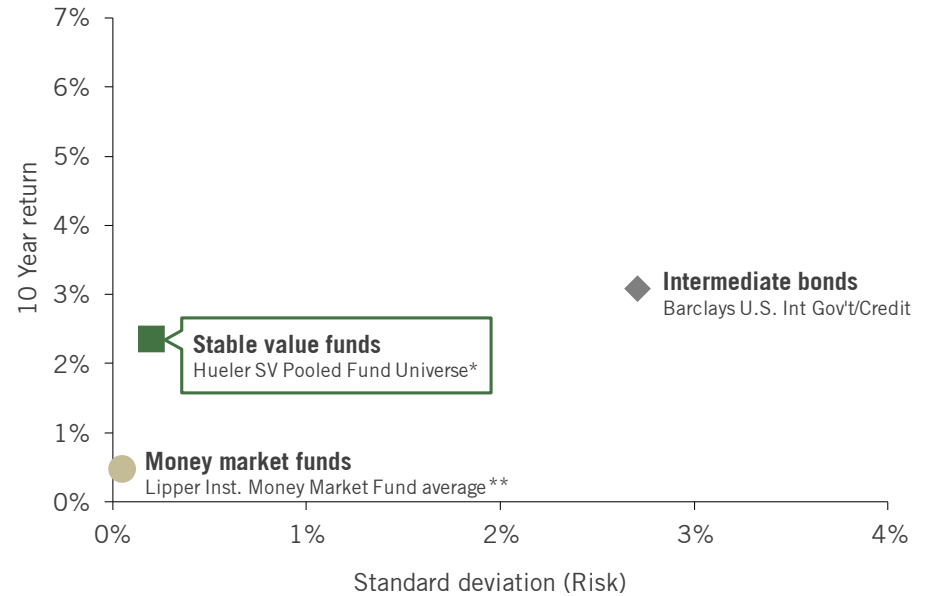
INVESTMENT PERFORMANCE COMPARISON

Annual Returns



Stable value funds have historically delivered a very attractive return pattern versus money market funds.

Risk/Return Comparison as of 6/30/18



Stable Value funds offer bond-like returns with less volatility than money market funds.

*As of June 30, 2018 The Hueler Analytics Stable Value Pooled Fund Universe represented \$105.29 billion in stable value assets across 16 pooled funds. Data from Hueler Analytics, Inc. © 2018. All Rights Reserved.

**The Lipper US Index – Inst Money Market Funds is the average of the 30 largest funds in the Lipper Money Market Funds Category. These funds invest in high quality financial instruments rated in top two grades with dollar-weighted average maturities of less than 90 days. You cannot invest directly in a Lipper Average.

SECTION III

STABLE VALUE MARKET UPDATE

STABLE VALUE MARKET VIEW

MARKET VIEW

CONTRACT ISSUERS

- 19 providers in the market currently issuing contracts (3 banks, 16 insurance companies)
- Bank of Tokyo's orderly exit from the market continues
- Contract supply/demand dynamics continue to favor stable value investors
- Issuers remain flexible with respect to underlying managers, strategies, and guidelines
- More favorable/balanced approach to contract provisions
- Contract fees have been consolidating

PORTFOLIO

- The Fed remains on course for four 2018 rate hikes, supported by U.S. GDP growth data and rising labor and input costs
- Despite continued strong fundamentals, we are mindful that the global economic cycle is in the late stages of expansion
- Cash flows in stable value accounts remain flat year-to-date on average

GALLIARD POSITIONING

- Maintaining strong relationships with established market participants
 - Held no Bank of Tokyo contracts
 - Continue to be a preferred manager among issuers
 - Negotiated broader investment guidelines that are consistent across all issuers
 - Standardized more advantageous contract provisions
 - Have negotiated significant reductions of contract fees
-
- Maintaining neutral-to-slightly short duration positioning to balance earnings potential and rate responsiveness
 - Continue to stress quality, liquidity, and diversification as “cheap insurance”
 - Opportunistically seeking yield in high quality spread assets, particularly in shorter maturity corporate and consumer ABS

STABLE VALUE MARKET UPDATE CONTRACT ISSUER SUMMARY

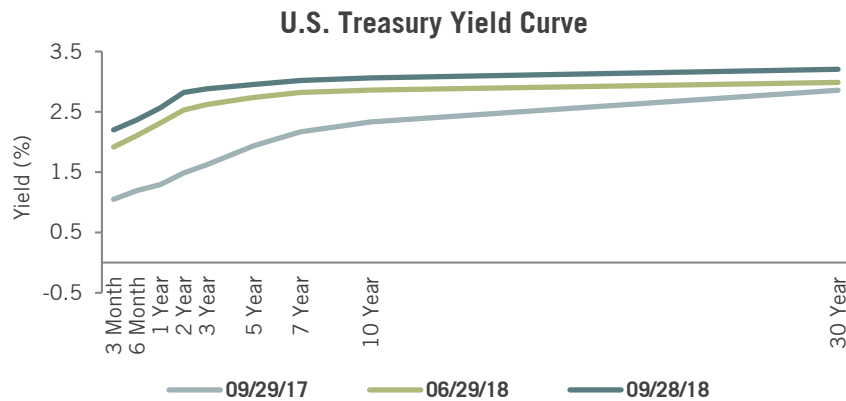
AS OF SEPTEMBER 30, 2018

NAME	MOODY'S CREDIT RATING	S&P CREDIT RATING
AMERICAN GENERAL LIFE	A2	A+
MASSMUTUAL LIFE INS. CO.	Aa2	AA+
METROPOLITAN LIFE INS. CO.	Aa3	AA-
NATIONWIDE LIFE INS. CO.	A1	A+
NEW YORK LIFE INS. CO.	Aaa	AA+
PACIFIC LIFE INS. CO.	A1	AA-
PRUDENTIAL LIFE INS. CO.	A1	AA-
RGA REINSURANCE CO.	A1	AA-
ROYAL BANK OF CANADA	Aa2	AA-
STATE STREET BANK AND TRUST CO.	Aa3	AA-
TRANSAMERICA PREMIER LIFE INS. CO.	A1	AA-
VOYA RETIREMENT AND ANNUITY COMPANY	A2	A

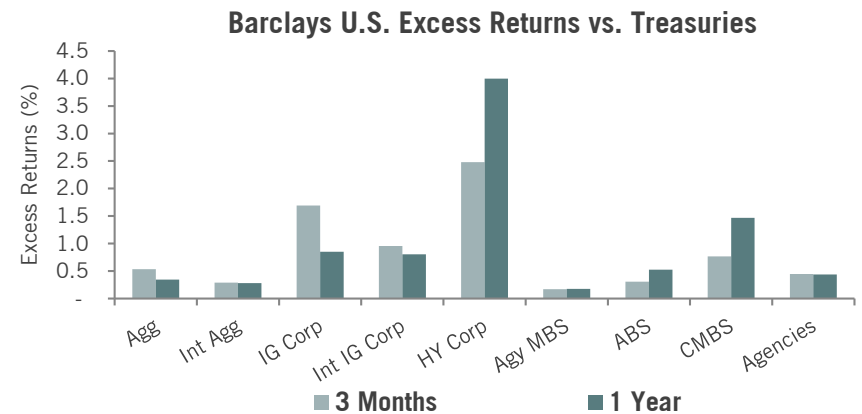
MARKET REVIEW

THIRD QUARTER 2018

Interest Rates Continue Upward Trend on Fed Hike, Growth Expectations – Spread Sectors Outperform



Source: Bloomberg



Source: Bloomberg Barclays Indices, Barclays Live

- The Fed unanimously raised its policy rate during the quarter via a single 25 bps hike at its September meeting. Policymakers continue to react to the strong incoming data, signaling their intent to stay the course with an additional rate increase in the fourth quarter.
- Interest rates rose modestly across the yield curve, with shorter maturities rising 25-30 bps and longer rates increasing around 20 bps, resulting in continued curve flattening over the quarter.
- Spread sectors generally outperformed Treasuries over the quarter, led by high yield and investment grade corporate bonds. As such, IG corporates reversed last quarter's poor performance. September new issue volume of \$140 billion (SIFMA data) was the strongest month year-to-date and M&A-related activity continued during the quarter. Intermediate corporate bonds outperformed similar-duration Treasuries by 96 bps, while long corporates outperformed Treasuries by 328 bps. BBBs and crossovers outperformed AA/A rated bonds.
- Agency MBS posted 17 bps of excess return vs. U.S. Treasuries during the quarter, similar to the previous quarter. Net Agency MBS supply remains fairly benign and interest rate volatility has once again ground down to an all-time low level, but shifting demand dynamics as the Fed reduces/stops purchases could be problematic for Agency MBS spreads.
- ABS outperformed similar-duration Treasuries by 31 bps over the third quarter, supported by continued tightening of short swap spreads (10-15 bps year-to-date). Auto ABS returns slightly outpaced credit card receivables during the quarter.
- After posting flat excess returns last quarter, CMBS generated a whopping 77 bps of excess return during the third quarter. Single Asset/Single Borrower (SASB) deals continue to make up a larger share of supply than in years past. Commercial real estate values remain stretched versus year-over-year NOI growth that has slowed. Commercial property values are now ~26% higher than the 2007 peak.

The information contained herein reflects the views of Galliard Capital Management, Inc. & sources believed to be reliable by Galliard as of the date of publication. The views expressed here may change at any time subsequent to the date of publication. This publication is for informational purposes only. For institutional investor use only.

PORTFOLIO STRATEGY AND POSITIONING

INVESTMENT OUTLOOK – OCTOBER 2018

OUTLOOK

GALLIARD VIEW

GALLIARD POSITIONING

Economic Growth, Inflation, & the Fed

- A rebound in personal consumption and government spending plus a strong boost from exports **drove 2Q GDP growth of 4.2% q/q annualized, the fastest pace since 2014**
- **Accelerating wage inflation and rising input costs will likely feed through to consumer measures**, which should continue to gradually approach target levels
- The Fed raised interest rates 25 bps as expected at its September meeting, to 2-2.25%; **the accompanying statement and updated economic projections reflect continued gradual rate hikes into 2019 and the transition of monetary policy from accommodative to neutral**
- We continue to expect that the sunset of QE both in the U.S. and in Europe will ultimately exert upward pressure on long-term yields globally

- **Maintain neutral-to-slightly-short duration positioning**
- **Own long Treasuries** as an insurance policy to protect against a spike in volatility or market turn
- **Own intermediate TIPS** as a hedge against higher inflation, where appropriate

Market Liquidity & Risk Appetite

- Despite continued strong fundamentals, investors should be mindful that **the economic cycle is in the late stages of expansion and excesses are building**
- **The impact of further Fed tightening on emerging market economies bears watching** as credit concerns and risks of contagion are developing
- Uncertainty over U.S. trade policy and tariffs remains elevated, but so far the broad economic impact has been muted
- **The short-end of the Treasury yield curve is increasingly attractive** from a relative value standpoint

- **Continue to add front-end assets (2-4 years)**
- **Continue to stress high quality, diversification, and liquidity** within portfolios as “cheap insurance”

Credit

Corporate & Taxable Municipal, Non-Corporate Credit

- **We took advantage of spread widening earlier this year to add to our weighting in Corporates**, emphasizing shorter maturities to add yield while limiting spread duration risk
- **Corporate spreads remain volatile and curves have steepened recently**, despite reasonably solid fundamentals, **reflecting investor uncertainty** regarding the durability of the economic expansion and credit cycle
- **Our allocation to Taxable Municipals is near a cyclical low across strategies**, constrained by limited new issue supply and tight valuations relative to other high quality spread assets

- **Overweight market value in Corporates**, focus on short/intermediate maturities (3-7 years); **prepared to add opportunistically** on spread widening and/or new issue concession
- Maintain allocation to muni and non-corporate credit sectors
- **Continue to emphasize diversification and best-of-breed issuers**

Structured Assets

MBS, Structured Government, CMBS/ABS

- Higher mortgage rates and constrained supply of homes for sale have kept Agency MBS net production in check; however, **the Fed’s cap on mortgage run-off (taper) will increase from \$16 billion to the maximum \$20 billion per month in October, potentially stemming its reinvestment activity**
- **Agency step-up modification program MBS continue to be another attractive opportunity** for risk diversification within the Agency MBS sector
- **Yields on front-end consumer ABS look attractive** relative to extending duration in other sectors

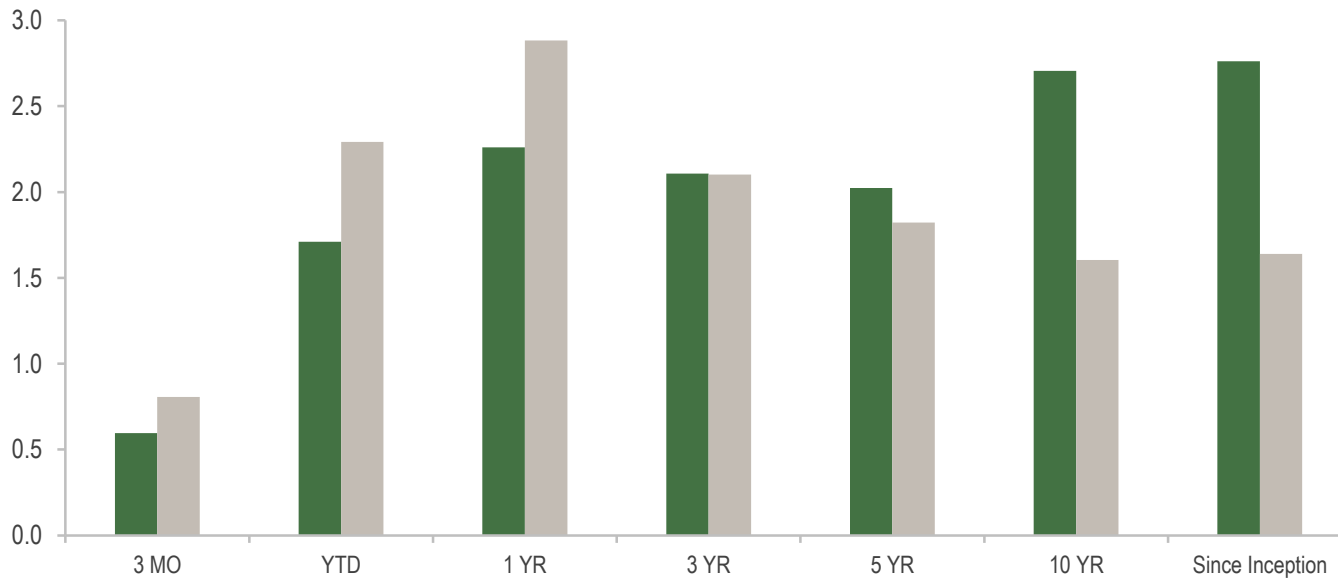
- **Hold Agency MBS pass-throughs for liquidity**
- **Maintain diversification across other Agency MBS structures**, including step-up modification, hybrid ARMS, and multifamily
- **Add to high quality consumer ABS positions**

SECTION IV

STABLE VALUE PORTFOLIO REVIEW - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

ANNUALIZED INVESTMENT PERFORMANCE AS OF 9/30/18¹



	3 Mo.	YTD	1 Yr.	3 Yr.	5 Yr.	10 Yr.	Since Inception ⁴
Portfolio (net of all fees - NAV level) ^{2,3}	0.59	1.71	2.26	2.11	2.02	2.71	2.76
Linked Benchmark ⁵	0.81	2.29	2.88	2.10	1.82	1.60	1.64
Value Added (net of all fees - NAV level)⁶	(0.21)	(0.58)	(0.62)	0.01	0.20	1.10	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: Prior to Jul 1, 2008, the portfolio invested exclusively in the Wells Fargo Stable Return Fund, a stable value collective fund. Since then, the portfolio has been managed as a separate account. Periods prior to July 1, 1999 include separate account returns linked with the historical returns of the Wells Fargo Stable Return Fund.

4: Performance inception: July 1, 2008.

5: Linked benchmark: 3 Year Constant Maturity Treasury + 0.50%; Prior to 7/1/08 was 50% Citigroup 3 Month T-Bill, 50% ICE BofA Merrill Lynch 1-3 Year US Treasury Index.

6: May not add due to rounding.

STABLE VALUE PORTFOLIO REVIEW - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

CITY OF LOS ANGELES STABLE VALUE FUND

ACCOUNT SUMMARY

Benchmark	3 Year Constant Maturity Treasury + 0.50%
Galliard Inception Date	July 1, 1999
Net Asset Value	\$1,165,277,216

PORTFOLIO CHARACTERISTICS

	Portfolio 6/30/18	Portfolio 9/30/18
Average Quality - Book Value¹	A+	A+
Average Quality - Market Value²	AA	AA
Number of Contract Issuers	5	5
Blended Yield (after all fees)³	2.33%	2.43%
Yield to Maturity	3.09%	3.25%
Effective Duration	2.95 years	2.95 years
Market/Book Value Ratio	98.71%	98.36%

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.

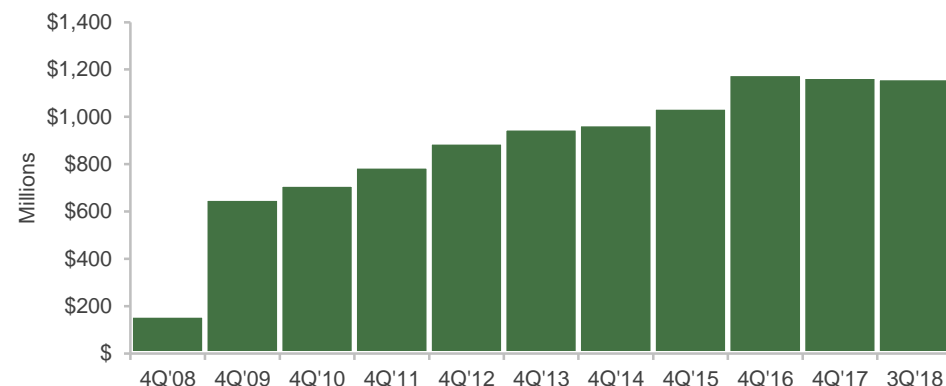
2: Average holdings quality of the underlying assets of the portfolio. The Weighted Average Quality of the portfolio has NOT been assessed by a nationally recognized statistical rating organization. The Weighted Average Quality shown represents an average quality of the individual holdings' Composite 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.

HISTORICAL FUND ASSETS



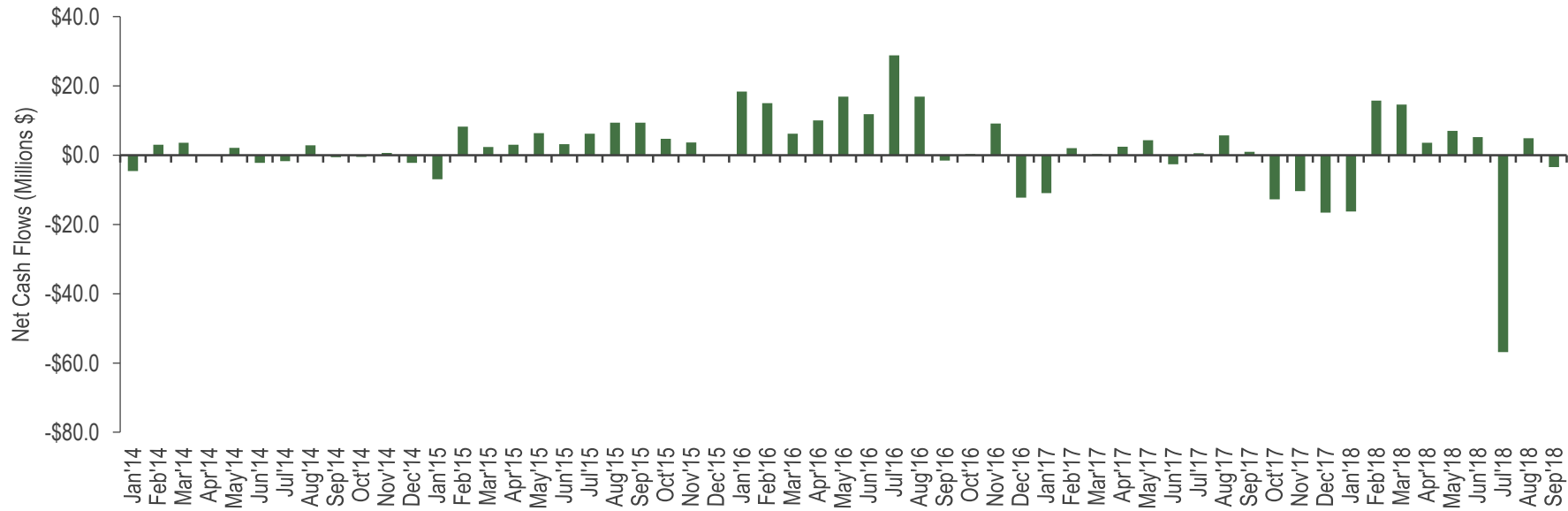
PORTFOLIO DISTRIBUTION

	% Portfolio 6/30/18	% Portfolio 9/30/18
Liquidity Buffer: Cash & Equivalents⁴	6.8	2.3
Short Portfolio	36.0	37.7
Intermediate Portfolio	57.2	60.0
Total	100.0%⁵	100.0%⁵

STABLE VALUE PORTFOLIO REVIEW - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

HISTORICAL CASHFLOWS



	2014	2015	2016	2017	1Q'18	2Q'18	3Q'18	2018 YTD
Beginning Assets	\$953.6	\$971.3	\$1,040.6	\$1,183.5	\$1,170.7	\$1,191.1	\$1,213.7	\$1,170.7
Net Cash Flow (\$)¹	\$0.3	\$49.5	\$119.9	-\$36.8	\$14.1	\$15.8	-\$55.3	-\$25.5
Net Cash Flow (%)	0.03%	5.10%	11.52%	-3.11%	1.20%	1.35%	-4.72%	-2.17%
Estimated Investment Earnings	\$17.4	\$19.8	\$23.0	\$24.0	\$6.3	\$6.8	\$6.9	\$20.0
Ending Assets²	\$971.3	\$1,040.6	\$1,183.5	\$1,170.7	\$1,191.1	\$1,213.7	\$1,165.3	\$1,165.3

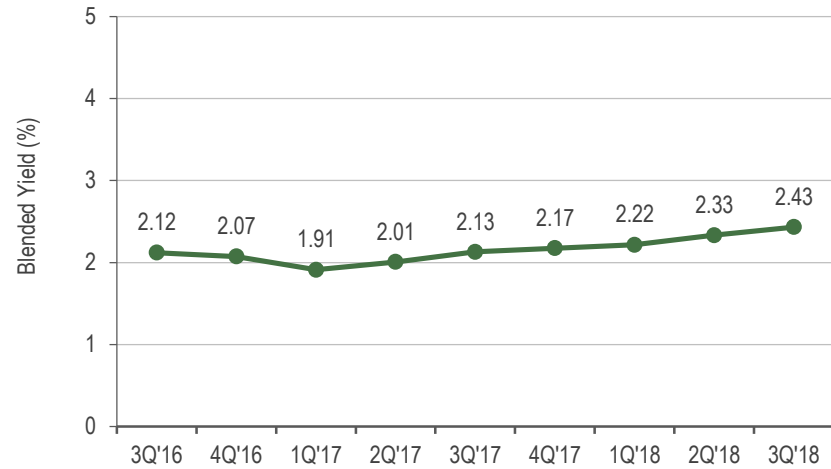
1: Contributions, Withdrawals and Investment Transfers

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

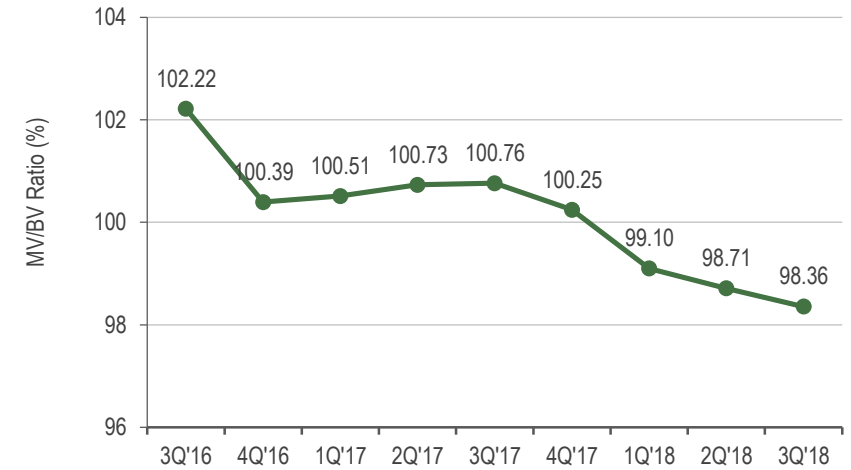
STABLE VALUE PORTFOLIO REVIEW - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

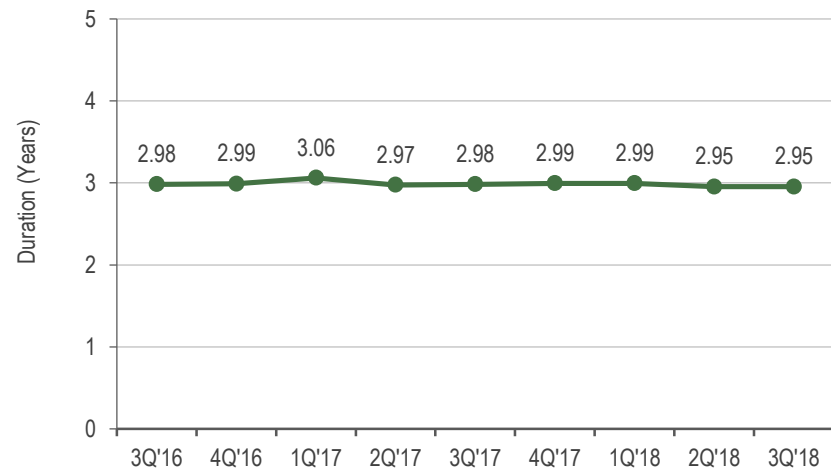
HISTORICAL BLENDED YIELD¹



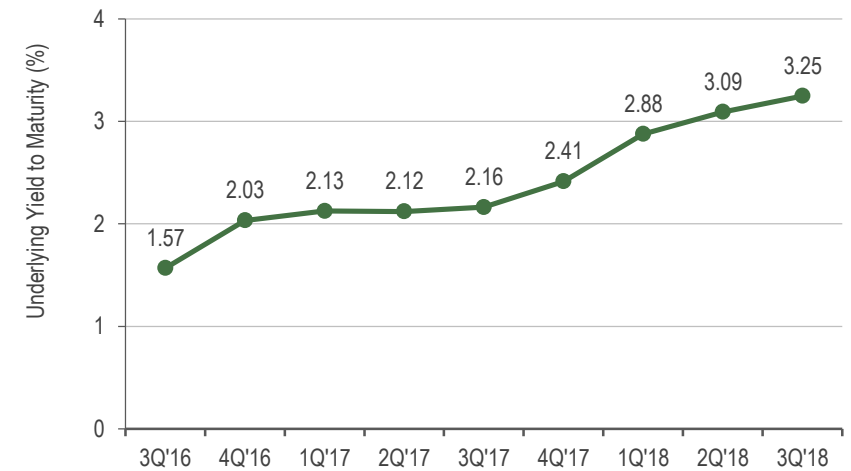
HISTORICAL MARKET VALUE TO BOOK VALUE RATIO



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 - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

CONTRACT ISSUER DISTRIBUTION & RATING SUMMARY¹

	% Portfolio 6/30/18	% Portfolio 9/30/18	Rating 6/30/18	Rating 9/30/18
Metropolitan Life Ins. Co.	20.6	21.6	AA-	AA-
Pacific Life Ins. Co.	17.1	17.9	A+	A+
Prudential Ins. Co. of America	18.9	19.8	AA-	AA-
Transamerica Premier Life Ins. Co.	17.6	18.4	A+	A+
Voya Ret. Ins. and Annuity Co.	19.0	19.9	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 - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

MANAGER DISTRIBUTION

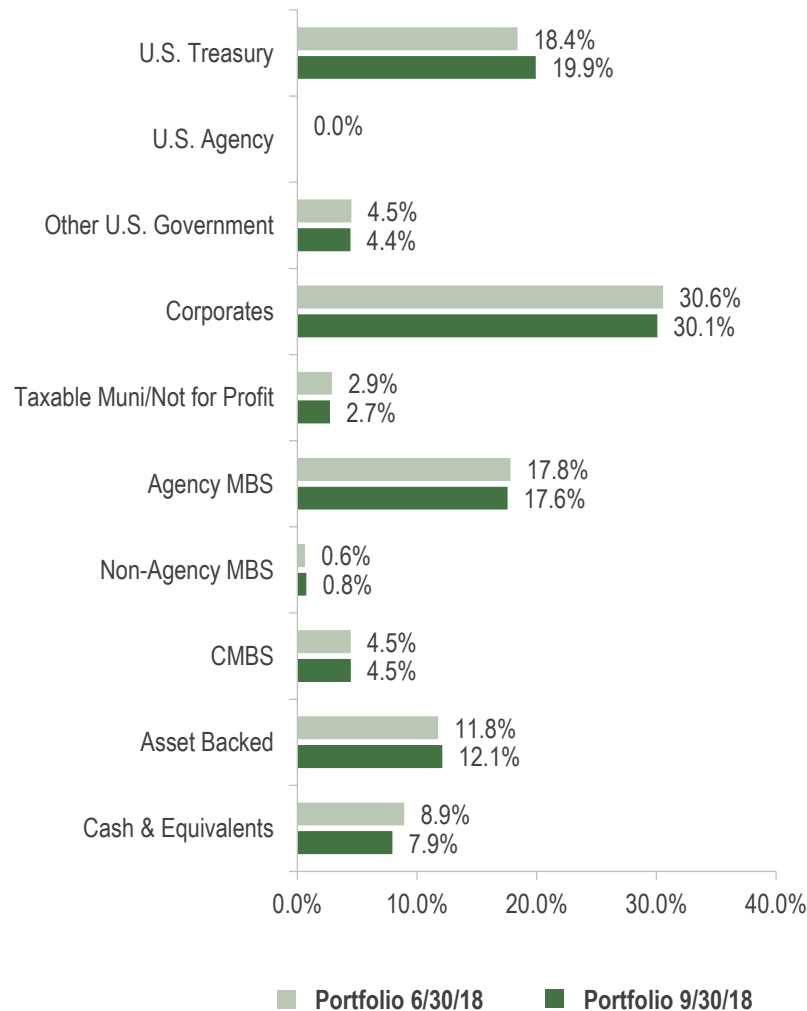
	Strategy	Benchmark	% of Portfolio 6/30/18	% of Portfolio 9/30/18
Liquidity Buffer: Cash & Equivalents	STIF/Money Market		6.8	2.3
Galliard	Short	Bloomberg Barclays U.S. 1-3 Year Government/Credit Bond Index	10.4	10.9
Galliard	Short	Targeted Duration Portfolio	25.5	26.8
Galliard	Intermediate	Bloomberg Barclays U.S. Intermediate Aggregate Bond Index	15.4	16.1
Galliard	Intermediate	Bloomberg Barclays U.S. Intermediate Government/Credit Bond Index	10.6	11.1
Dodge & Cox	Intermediate	Bloomberg Barclays U.S. Intermediate Aggregate Bond Index	15.6	16.4
Jennison Assoc.	Intermediate	Bloomberg Barclays U.S. Intermediate Government/Credit Bond Index	15.6	16.4
Total			100% ¹	100% ¹

¹: Total % of portfolio may not add to 100% due to rounding.

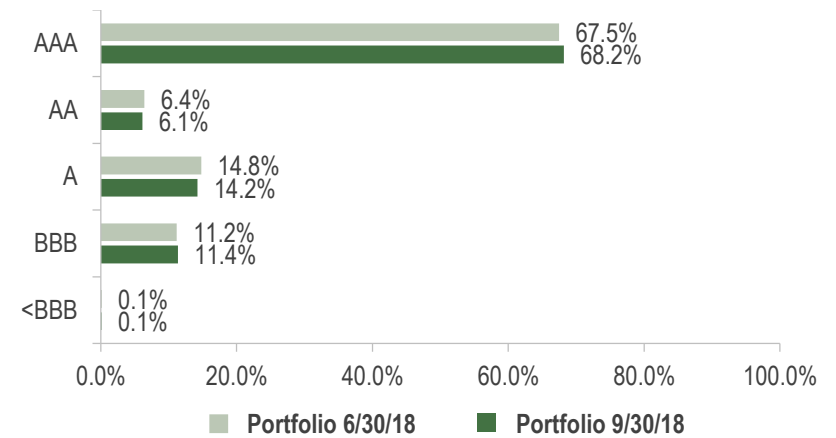
STABLE VALUE PORTFOLIO REVIEW - CITY OF LOS ANGELES STABLE VALUE FUND

Third Quarter 2018

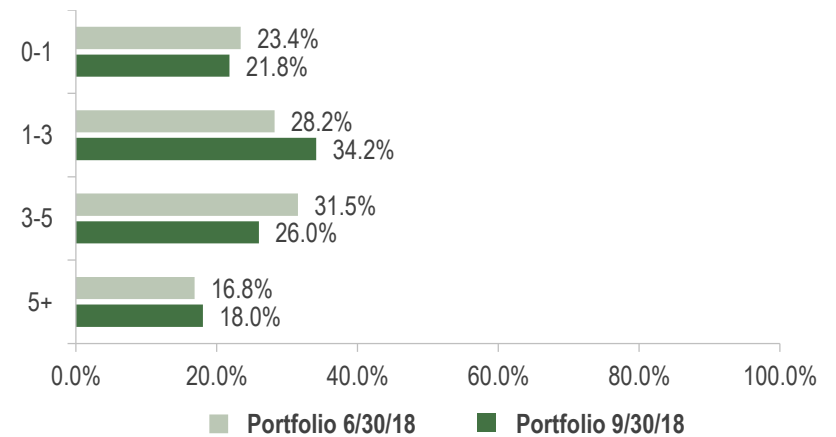
UNDERLYING FIXED INCOME ASSET ALLOCATION¹



UNDERLYING QUALITY DISTRIBUTION¹



UNDERLYING DURATION DISTRIBUTION



¹: Market Value. Total % of portfolio may not add to 100% due to rounding. The external managers provide holdings and the securities are classified using Galliard's analytics methodology for maximum comparability across managers. The quality distribution shown represents the distribution of 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. Distributions represent the portfolio positions for reporting purposes only. Investment guideline compliance is reported in your quarterly portfolio commentary or separately through your Galliard relationship manager.

CITY OF LOS ANGELES STABLE VALUE FUND PORTFOLIO HOLDINGS

September 30, 2018

Asset ID	Security Description	Contract ¹ Type	Manager	Contract 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)			-498,890	-498,890	100.0	0.0	2.25	2.25	0.10	AAA	
9983008\$P	WF/BlackRock Short Term Investment Fund S			27,471,715	27,471,715	100.0	2.4	2.25	2.25	0.10	AAA	
TOTAL LIQUIDITY BUFFER				26,972,825	26,972,825	100.0	2.3	2.25	2.25	0.10	AAA	
SHORT PORTFOLIO												
590994MZ9	Metropolitan Life Ins. Co.	SAGIC	Galliard	127,462,693	125,345,265	98.3	10.9	2.45	3.00	1.66	AA-	19.0
694992KB3	Pacific Life Ins. Co.	SBIC	Galliard	92,080,106	90,275,069	98.0	7.9	2.52	3.18	1.87	A+	18.0
744999AR4	Prudential Ins. Co. of America	SBIC	Galliard	40,305,199	39,713,659	98.5	3.5	2.47	3.18	1.87	AA-	18.0
600996KT8	Transamerica Premier Life Ins. Co.	SBIC	Galliard	77,221,518	75,898,764	98.3	6.6	2.56	3.18	1.87	A+	18.0
75952ULK7	Voya Ret. Ins. and Annuity Co.	SBIC	Galliard	102,466,904	100,777,867	98.4	8.8	2.58	3.18	1.87	A	16.0
TOTAL SHORT PORTFOLIO				439,536,419	432,010,624	98.3	37.7	2.52	3.13	1.81	A+	
INTERMEDIATE PORTFOLIO												
590994MZ9	Metropolitan Life Ins. Co.	SAGIC	Dodge & Cox	124,184,694	122,121,721	98.3	10.7	2.45	3.58	3.86	AA-	19.0
694992KB3	Pacific Life Ins. Co.	SBIC	Galliard	116,962,378	114,669,577	98.0	10.0	2.52	3.50	4.28	A+	18.0
744999AR4	Prudential Ins. Co. of America	SBIC	Jennison Assoc.	190,543,153	187,746,641	98.5	16.4	2.47	3.08	3.57	AA-	18.0
600996KT8	Transamerica Premier Life Ins. Co.	SBIC	Dodge & Cox	66,659,168	65,517,341	98.3	5.7	2.56	3.20	3.03	A+	18.0
600996KT8	Transamerica Premier Life Ins. Co.	SBIC	Galliard	70,871,172	69,657,196	98.3	6.1	2.56	3.50	4.28	A+	18.0
75952ULK7	Voya Ret. Ins. and Annuity Co.	SBIC	Galliard	129,547,408	127,411,983	98.4	11.1	2.58	3.45	3.73	A	16.0
TOTAL INTERMEDIATE PORTFOLIO				698,767,973	687,124,458	98.3	60.0	2.51	3.36	3.79	A+	
TOTAL PORTFOLIO				1,165,277,216	1,146,107,907	98.4	100.0	2.51	3.25	2.95	A+	

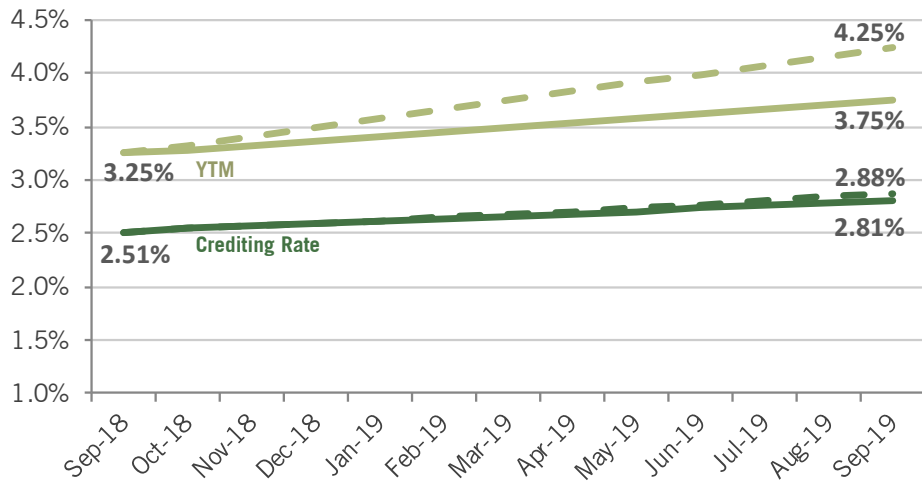
1: SAGIC = Separate Account GIC. SBIC = Security Backed Investment Contract.

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

CITY OF LOS ANGELES – STABLE VALUE FUND SCENARIO ANALYSIS – AS OF 9/30/18

- Our base scenarios assume rates continue to rise gradually over the next year at a rate of 50 bps/yr to 100 bps/yr

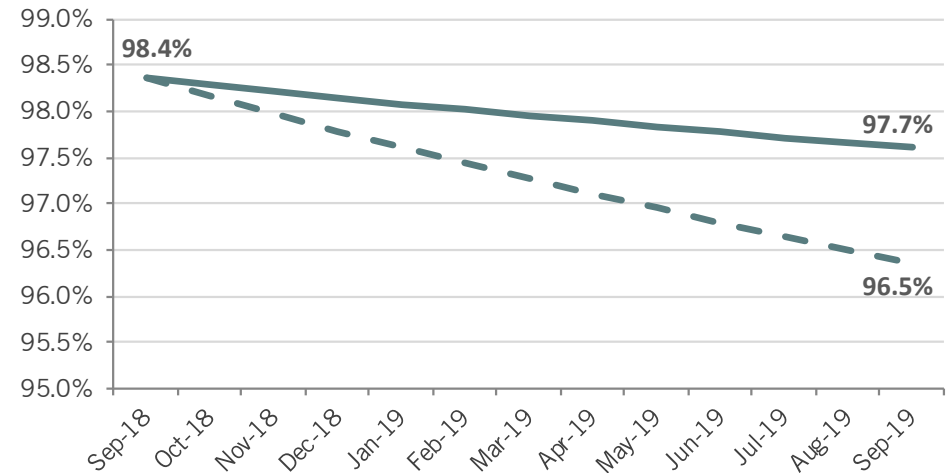
Crediting Rate



Scenario 1 — +50 bps

Scenario 2 - - +100 bps

Market-to-Book Value Ratio



Scenario 1 — +50 bps

Scenario 2 - - +100 bps

- Should these assumptions hold, we anticipate a higher crediting rate with a slightly lower market-to-book ratio as the fund's crediting rate adjusts to prevailing interest rates

*Gross of investment management fees.

**This analysis presents a range of potential impacts to the stable value fund's crediting rate and market-to-book ratio based on variations in participant cash flows and movements in the U.S. Treasury yield curve. Analysis is based on the stable value fund's actual crediting rate, market-to-book ratio, and underlying portfolio of fixed income securities as of 9/30/18. Analysis assumes the following: interest rate changes and participant flows occur evenly throughout the year, the impact of interest rate changes results in a parallel shift to the U.S. Treasury yield curve (i.e. the relationship between shorter and longer term rates remains constant), the duration and sector exposures of the underlying portfolio(s) of fixed income securities remain unchanged, and crediting rates reset quarterly. This analysis is presented based on information available as of 9/30/18 and is not a guarantee of future outcomes or stable value fund performance.

CITY OF LOS ANGELES – STABLE VALUE FUND SCENARIO ANALYSIS – AS OF 9/30/18

- For purposes of additional stress, we run the same exercise over a wider array of interest rates and cash flows
- Crediting rate and market-to-book behavior is in line with other portfolios across most shocks

Crediting Rate – 12 Months Forward

		Gradual Interest Rate Trajectory					
		-100 bps	-50 bps	+0 bps	+50 bps	+100 bps	+150 bps
Participant Cash Flow	5%	2.59%	2.67%	2.76%	2.84%	2.91%	2.79%
	0%	2.59%	2.66%	2.74%	2.81%	2.88%	2.75%
	-5%	2.59%	2.66%	2.72%	2.78%	2.84%	2.58%
	-10%	2.59%	2.64%	2.70%	2.75%	2.80%	2.53%
	-15%	2.59%	2.63%	2.68%	2.72%	2.67%	2.35%

Market-to-Book Value Ratio – 12 Months Forward

		Gradual Interest Rate Trajectory					
		-100 bps	-50 bps	+0 bps	+50 bps	+100 bps	+150 bps
Participant Cash Flow	5%	101.5%	100.2%	99.0%	97.8%	96.6%	95.4%
	0%	101.5%	100.2%	98.9%	97.7%	96.5%	95.3%
	-5%	101.5%	100.2%	98.9%	97.6%	96.3%	95.1%
	-10%	101.5%	100.2%	98.8%	97.5%	96.2%	95.0%
	-15%	101.5%	100.1%	98.8%	97.4%	96.1%	94.8%

*Gross of investment management fees.

**This analysis presents a range of potential impacts to the stable value fund's crediting rate and market-to-book ratio based on variations in participant cash flows and movements in the U.S. Treasury yield curve. Analysis is based on the stable value fund's actual crediting rate, market-to-book ratio, and underlying portfolio of fixed income securities as of 9/30/18. Analysis assumes the following: interest rate changes and participant flows occur evenly throughout the year, the impact of interest rate changes results in a parallel shift to the U.S. Treasury yield curve (i.e. the relationship between shorter and longer term rates remains constant), the duration and sector exposures of the underlying portfolio(s) of fixed income securities remain unchanged, and crediting rates reset quarterly. This analysis is presented based on information available as of 9/30/18 and is not a guarantee of future outcomes or stable value fund performance.

APPENDIX

GALLIARD CAPITAL MANAGEMENT PROFESSIONALS



Michael D. Norman
Chief Administrative Officer
Partner
612.667.3219
michael.d.norman@galliard.com



Matt Kline
Senior Director
612.667.0856
matt.kline@galliard.com

Responsibilities

As Chief Administrative Officer, Mike oversees firm operations. In this role, he helps to assure consistency of service delivery across all investment products at Galliard. Mike oversees the coordination and execution of all middle- and back-office functions. He also oversees major initiatives within the client facing teams, including new product development. Mike also coordinates service for certain key clients.

Oversight Committees

New Business & Fees Committee (Chairperson and Secretary), Client Contract Committee, Compliance Committee, Contract Provider Credit Committee, External Manager Oversight Committee, Investment Contract Review Committee, Executive Operating Committee, Stable Value Collective Fund Strategy Committee, Stable Value Separate Account Strategy Committee, Systems Governance Committee

Experience

- Joined Galliard in 1996
- Previously a Securities Lending Trader and Trust Officer with Norwest Bank

Education

B.A., Economics, University of Notre Dame
MBA, Carlson School of Management at the University of Minnesota

Memberships

Formerly on the Board of Directors of the Stable Value Investment Association (SVIA)
American Society of Pension Professionals & Actuaries (ASPPA)
Association of Governmental Risk Pools (AGRIP)
National Association of Government Defined Contribution Administrators (NAGDCA)
National Association of Plan Advisors (NAPA)
The Society of Professional Asset-Managers and Record Keepers (SPARK)

Responsibilities

As a member of the Client Portfolio Specialist Team, Matt is responsible for stable value client relationship management and assisting in the formulation of customized stable value solutions for separate account clients. This includes determining the optimal portfolio structure and working directly with clients in order to meet their unique needs. Matt also supports Galliard's Fund Direct business, working with advisors and trading partners to serve investors in the Wells Fargo Stable Return Fund and the Galliard Managed Income Fund.

Experience

- Joined Galliard in 2014
- Previously an investment finance manager at General Mills covering 401(k), pension, and VEBA plans

Education

B.S., Finance, Carlson School of Management at the University of Minnesota
B.A., History, University of Minnesota

Memberships

Stable Value Investment Association (SVIA) - Communications and Education Committee Member
National Association of Government Defined Contribution Administrators (NAGDCA)
Defined Contribution Institutional Investment Association (DCIIA)