

Investing 101: Back to Basics



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Investment Universe vs. California Government Code

Securities	1 Day	180 Days	270 Days	1 Year	5 Years	Over 5 Years
U.S. Treasuries		✓ Permitted				Requires Approval
Federal Agencies		✓ Permitted				Requires Approval
Municipal Securities		✓ Permitted				Requires Approval
Negotiable Certificates of Deposit		✓ Permitted				Requires Approval
Commercial Paper	✓ Permitted				X Prohibited	
Bankers' Acceptances	✓ Permitted				X Prohibited	
Medium-Term Corporate Notes		✓ Permitted				X Prohibited
Asset-Backed Securities (ABS)		✓ Permitted				X Prohibited
Supranationals		✓ Permitted				X Prohibited
Repurchase Agreements		✓ Permitted			X Prohibited	
Money Market Funds/Bond Mutual Funds	✓ Permitted				X Prohibited	
Local Government Investment Pools	✓ Permitted				X Prohibited	
Foreign Sovereign						X Prohibited
Fixed-Income ETFs						X Prohibited
High-Yield Bonds						X Prohibited
Private Placements						X Prohibited
Convertibles						X Prohibited
Non-U.S. Dollar Investment Grade						X Prohibited
Emerging Markets Debt						X Prohibited
Bank Loans						X Prohibited
Domestic Equities (Large, Mid, Small Cap)						X Prohibited
International Equities (Large, Mid, Small Cap)						X Prohibited
Emerging Markets						X Prohibited
Preferred Stock						X Prohibited
Equity Mutual Funds and ETFs						X Prohibited
Commodities						X Prohibited
Real Estate						X Prohibited
Hedge Funds						X Prohibited
Private Equity						X Prohibited
Venture Capital						X Prohibited
Tangible Assets						X Prohibited
Complex Derivatives, Futures and Options						X Prohibited

Key Investment Objectives

1

Safeguard
Principal



2

Meet Liquidity
Needs



3

Achieve
a Return

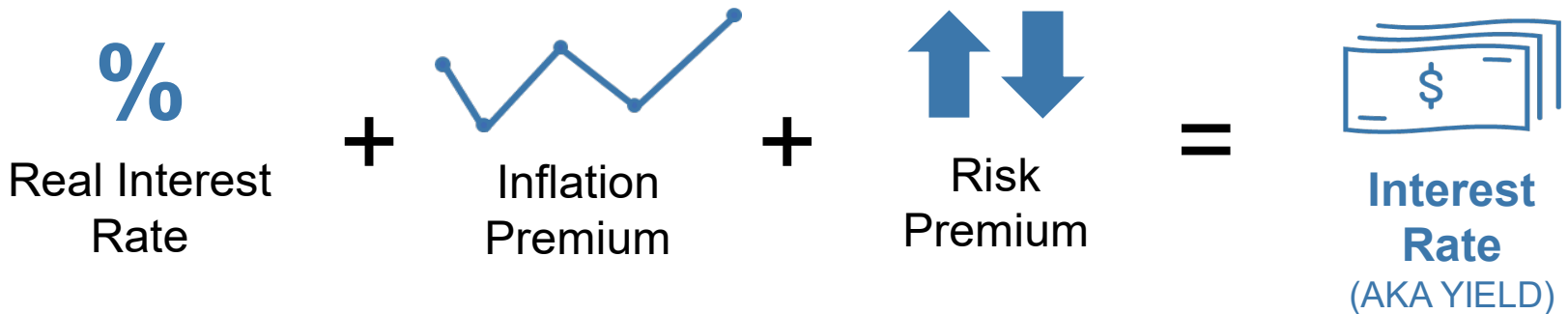


Investment Basics

Fixed Income Securities

- A debt obligation of a corporation, governmental entity or trust
- Typically provides periodic interest payments
 - Fixed rate
 - Floating rate
- At maturity, the face value or principal of the security is paid back to the investor

Interest Rates



Compensation to the investor

Averages
2 – 3% over
long historical
periods

Expectations of
inflation over
the investment
term

Preserves the
purchasing
power of the
investor

Compensation
for current or
possible risks

Components of Fixed Income Securities

Par Value (Face Value) – principal amount of the bonds

- Amount that will be repaid by issuer
- Price may be above (premium) or below (discount) the face amount

Coupon Rate (Nominal Yield) – stated interest rate

- Expressed as a fixed percentage of par

Coupon Payment – dollar value of interest payment

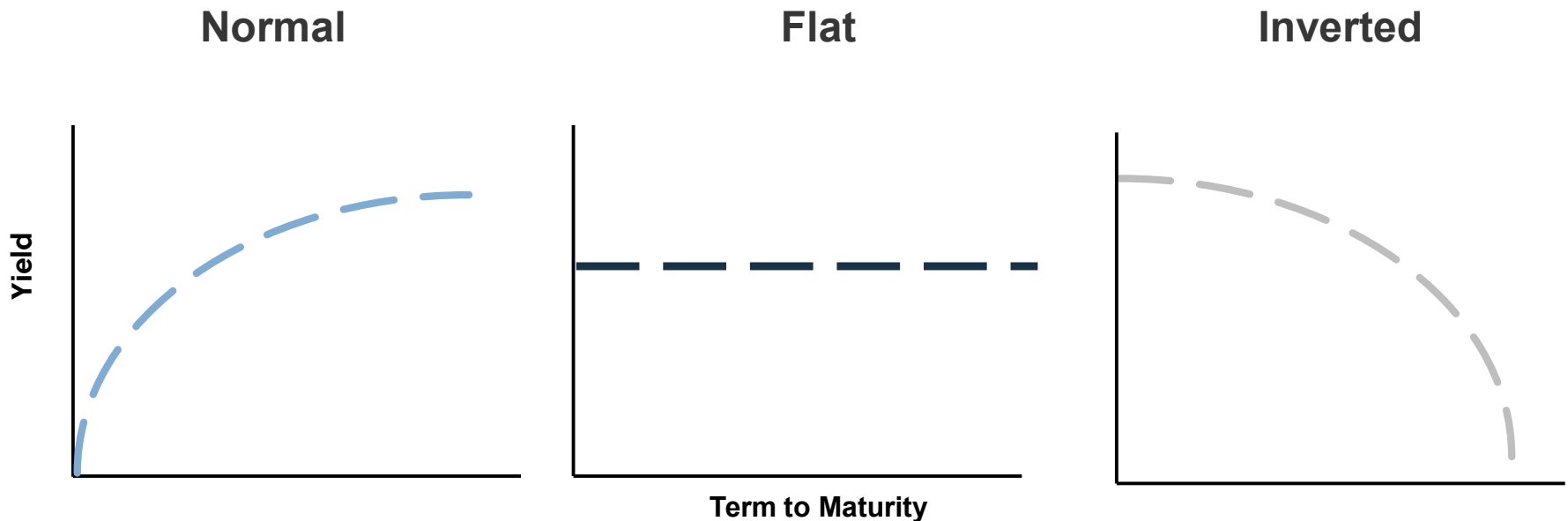
- Multiply the coupon rate by par value
- Typically paid semi-annually
- Last interest payment is made when the bond matures
- ***(Coupon ÷ Market Price) = Current Yield***

Maturity – end of investment period

- The length of time until the principal is scheduled to be repaid

Yield Curves

- Shows the relationship between yield and maturity.
- Rates at the short end of the curve (under 1 year) are directly correlated to the **federal funds rate** established by the Federal Open Market Committee.
- The longer end of the curve typically reflects **investor expectations**.
- There are three types of curves:



Types of Bonds



Coupon Bonds

Bonds that pay interest periodically, typically semiannually



Zero Coupon Bonds

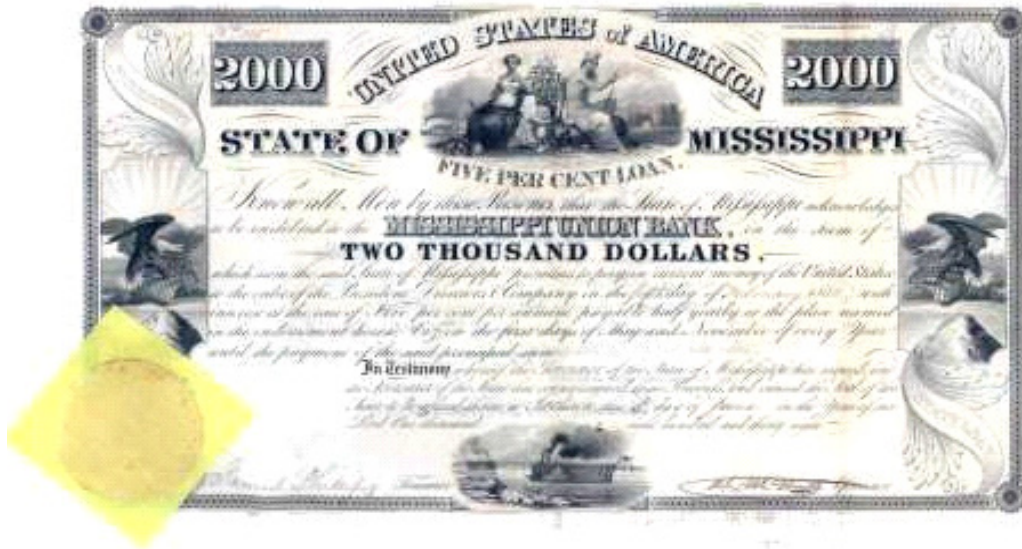
Bonds that pay no interest (0%) and sell at a deep discount



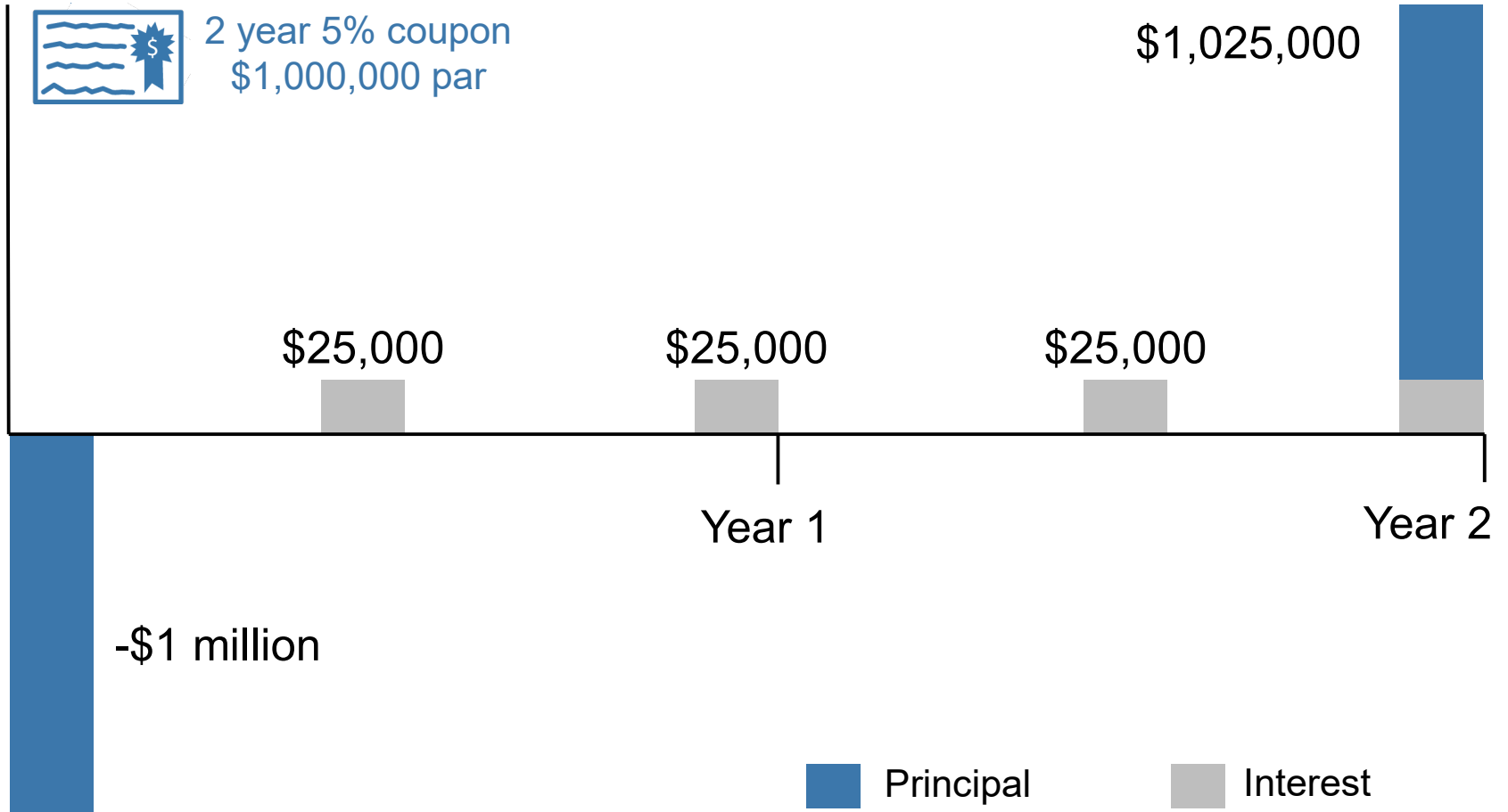
Callable Bonds

The issuer may redeem the bond prior to the stated maturity date

Original Coupon Bond

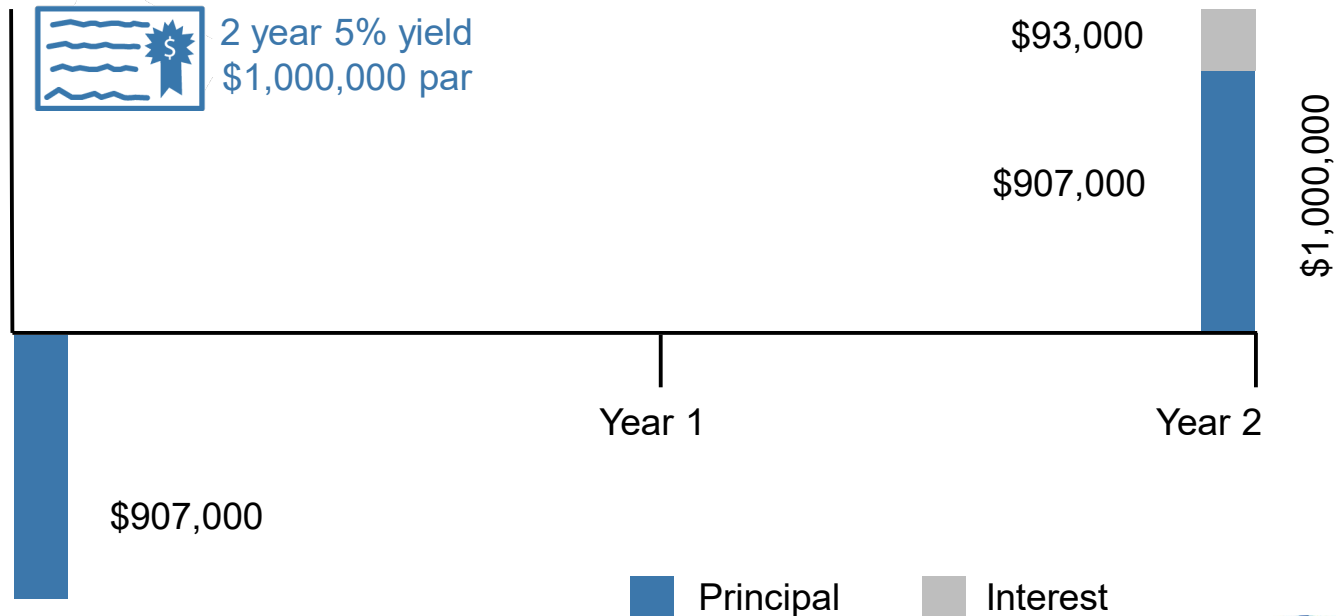


Coupon Bond



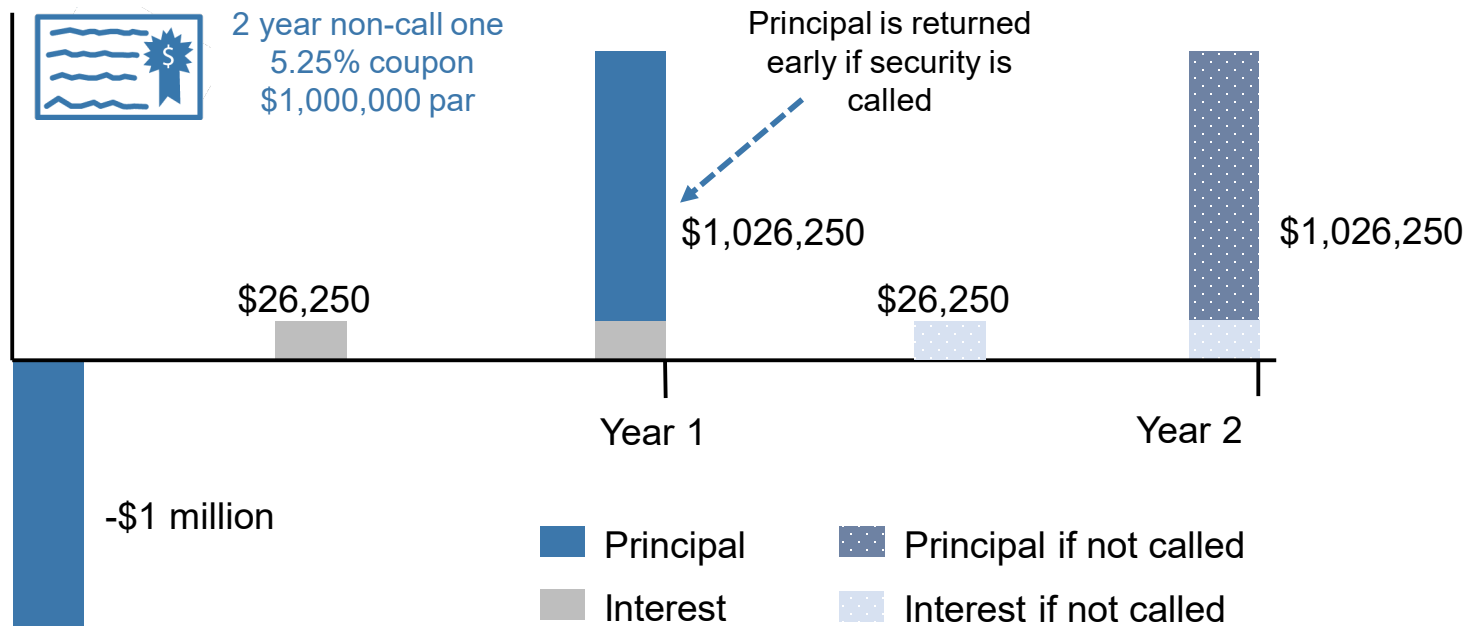
Zero Coupon Bond

- No periodic interest is paid
- All interest is paid at maturity
- Discounted
 - Securities are priced at a deep discount
 - Income is equal to the difference between the purchase price and the face amount



Callable Bond

- The yield includes a premium for the call option (benefits the investor)
- The option premium is based on:
 - Current interest rates
 - Expected future rates
 - Call structure (one-time vs. continuous)



Risks Associated with Investing in Fixed Income Securities

Types of Bond Risks

Liquidity Risk

- Inability to sell portfolio holdings at a competitive price

Credit Risk

- Risk of default or decline in security value due to conditions outside investor's control

Reinvestment Risk

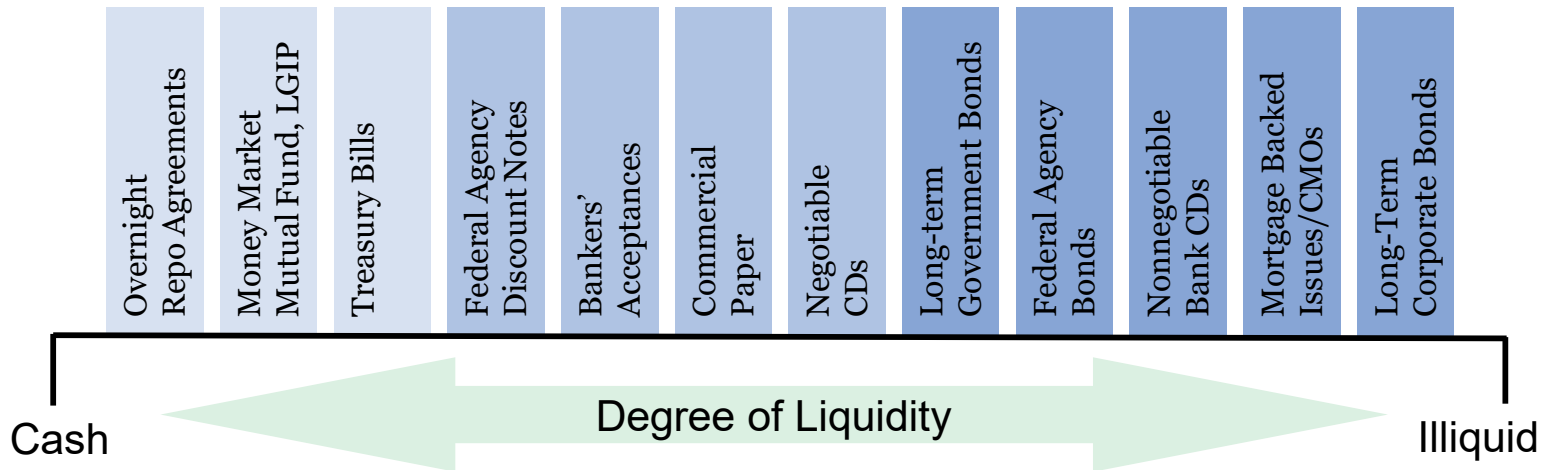
- The risk that a security's cash flow will be reinvested at a lower rate of return

Interest Rate Risk

- Variability of return/price related to changes in interest rates

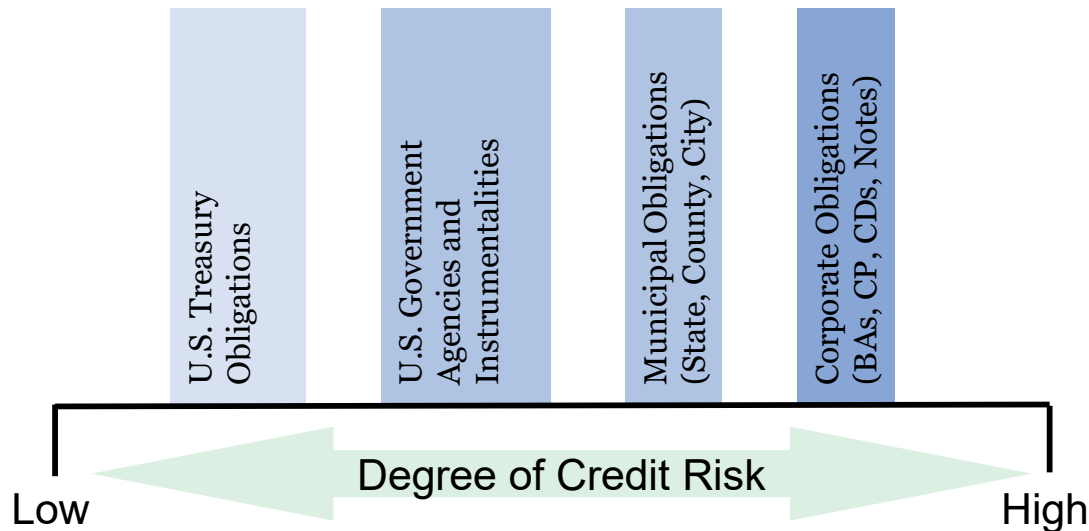
Liquidity Risk

- Inability to sell portfolio holdings at a competitive price
 - Substantial penalty for earlier withdrawal
 - Capital losses if interest rates have gone up
 - Fire sale prices



Credit Risk

- Risk of default or decline in security value due to conditions outside investors control
 - Bankruptcy
 - Rating agency downgrades
 - Regulatory changes



Monitoring Credit Risk

- Nationally Recognized Statistical Rating Organizations (NRSRO)

- Designated by the SEC

- Largest and most active NRSROs

- Standard & Poor's
- Moody's Investors Service
- Fitch Ratings

Actions

Definition

Credit Rating

- Reflection of the probability of default (default rate) & loss to investor (loss rate)

Rating Watch

- Indication that the NRSRO is reassessing the rating in response to a material change to the credit quality of the issuer
- Potential upgrade or downgrade may occur within 3 months

Rating Outlook

- Longer-term projection of a possible ratings change
- Potential upgrade or downgrade may occur 6 months – 2 years

Long-Term Credit Ratings

S&P	Moody's	Explanation of Rating
AAA	Aaa	High quality. Smallest degree of investment risk.
AA	Aa	High quality. Differs only slightly from highest-rated issues.
A	A	Adequate capacity to pay interest and repay principal.
BBB	Baa	More susceptible to adverse effects of changes in economic conditions.
BB	Ba	Has speculative elements; future not considered to be well-assured.
B	B	Generally lack characteristics of desirable investment.
CCC	Caa	Poor standing. Vulnerability to default.
C	C	Extremely poor prospect.
D	D	In default.

For additional information and detail regarding ratings criteria, you can visit S&P (https://www.standardandpoors.com/en_US/web/quest/article/-/view/sourceId/504352) and Moody's (https://www.moodys.com/Pages/amr002002.aspx?stop_mobi=yes).

Short-Term Credit Ratings

S&P	Moody's	Explanation of Rating
A-1+	P-1	High quality. Smallest degree of investment risk.
A-1	P-1	High quality. Differs only slightly from highest-rated issues.
A-2	P-2	Adequate capacity to pay interest and repay principal.
A-3	P-3	More susceptible to adverse effects of changes in economic conditions.
B	Not Prime	Highly speculative; future not considered to be well-assured.
C	Not Prime	Poor standing. Vulnerability to default.
/	/	In default.

For additional information and detail regarding ratings criteria, you can visit S&P (https://www.standardandpoors.com/en_US/web/quest/article/-/view/sourceld/504352) and Moody's (https://www.moodys.com/Pages/amr002002.aspx?stop_mobi=yes).

Reinvestment Risk

- The risk that a security's cash flow will be reinvested at a lower rate of return than what is being earned by the security.
- Exposure to reinvestment risk
 - Callable securities
 - Asset and mortgage backed securities
 - Securities with larger earlier cash flows (high coupon bonds)

Interest Rate Risk

- Market values and interest rate movements are inversely related.
- Longer maturity = Greater risk.

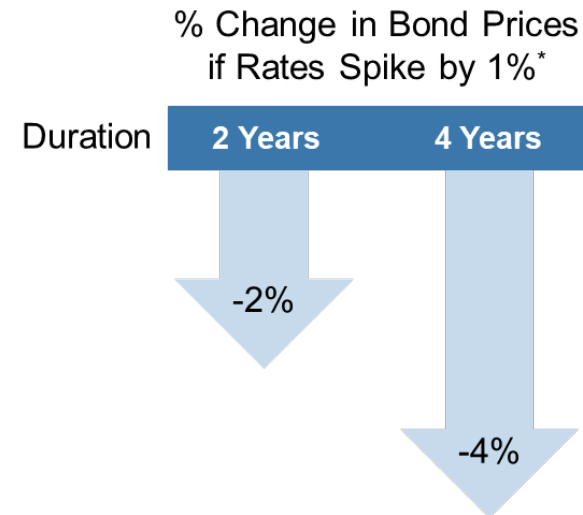
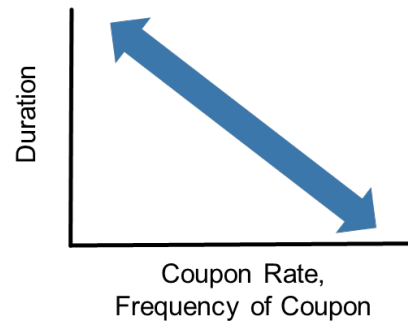
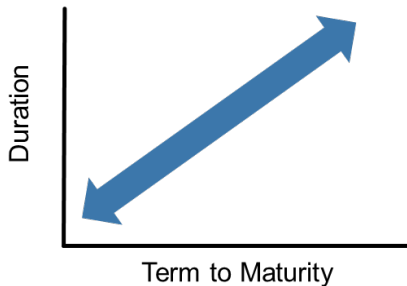


Duration is the metric for interest rate risk on individual securities and your portfolio.



Duration

- Simply defined, duration is a measure of a security's or portfolio's interest-rate sensitivity.
- Duration is similar to, but more precise than, average life or average maturity.
- The longer the duration of a security or portfolio, the more sensitive it is to changes in interest rates.
- Market values of longer-duration portfolios are more impacted by a change in interest rates than shorter ones.



* For illustrative purposes only.

How to Mitigate Risk

- Diversification
 - Asset class
 - Issuer
 - Maturity
- Purchase securities with an active secondary market
- Match portfolio to expected cash flow requirements

Designing a Strong Investment Program

Building Blocks for a Strong Investment Program

How do we communicate results?

Communication & Reporting

How should we implement our strategy?

Strategy Execution

How much/how should we invest?

Strategy Development
Cash Flow Analysis and Investment Policy

What is our risk tolerance?

Goals and Objectives

Components of Constructing a Strong Investment Policy

- Objectives
- Standard of Prudence
- Ethics & Conflicts
- Delegation of Authority
- Competitive Selection
- Safekeeping and Custody
- Authorized Investments
- Diversification
 - Sector
 - Issuer
- Maximum Maturity
- Security Downgrades
- Performance and Reporting Standards

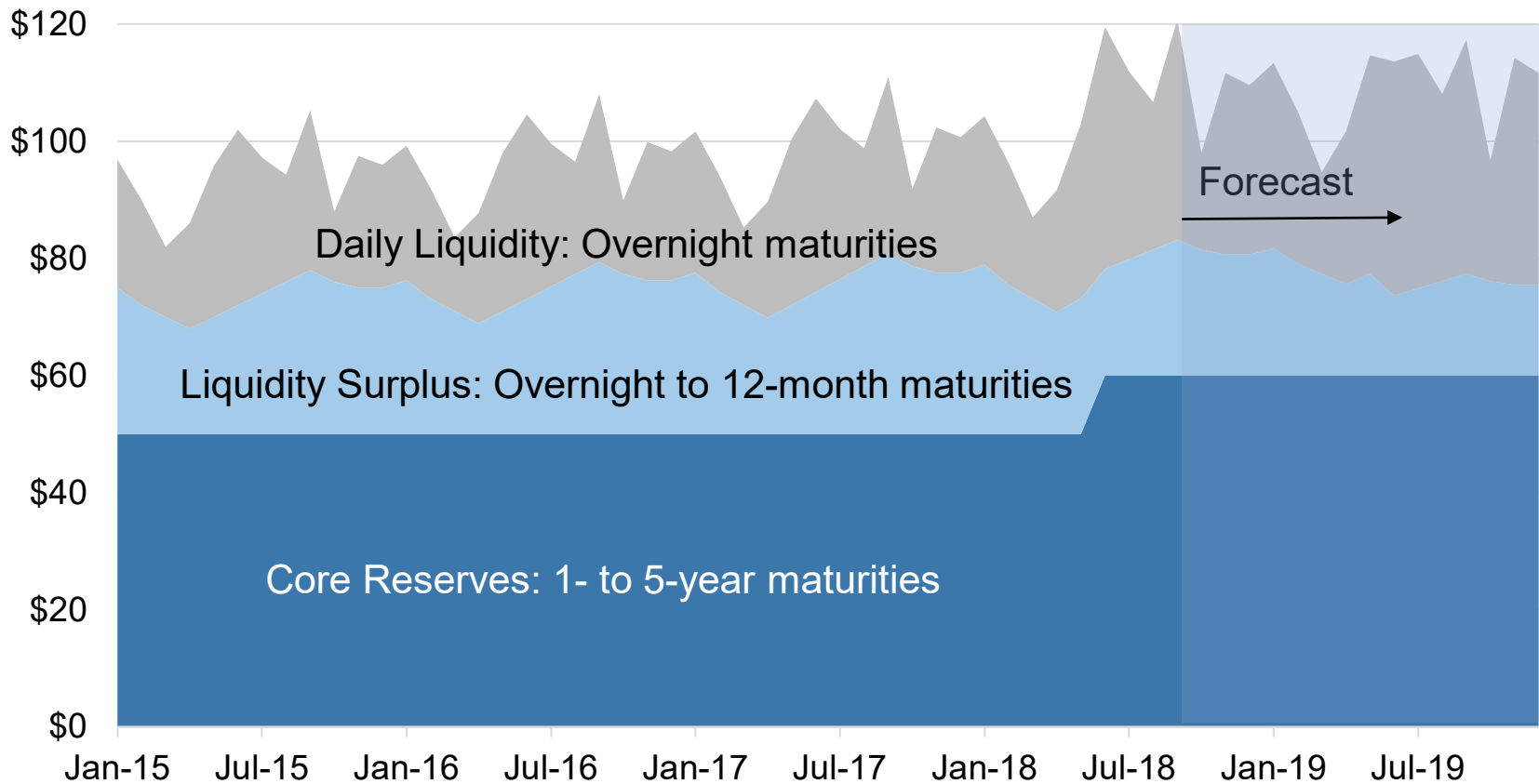


Investment Policy Best Practices

- ✓ Update language to meet current industry standards and best practices
- ✓ Update language to conform to current Code requirements
- ✓ Reevaluate use of different investment sectors
- ✓ Reevaluate maturity limits
- ✓ Incorporate diversification and maturity standards
- ✓ Strengthen controls

The Importance of Knowing Your Cash Flows

- Understanding your liquidity needs is vital to define investment strategies.
- There are opportunity costs to excess and insufficient liquidity.



Benefits of Diversifying Among Permitted Investments

Index Ending Duration	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
U.S. Treasury 1.89 years	0.24%	7.32%	7.78%	13.34%	5.55%	3.16%	4.49%	1.54%	1.14%	1.68%	1.91%	1.75%	1.82%
Bullet Agencies 1.82 years	0.19%	7.12%	6.61%	8.01%	4.59%	2.36%	2.94%	1.07%	1.08%	1.19%	1.56%	1.50%	1.77%
Callable Agencies 1.69 years	0.18%	6.95%	5.94%	5.90%	4.25%	1.71%	2.01%	1.06%	0.93%	1.05%	1.19%	1.37%	1.76%
Corp AAA 1.87 years	0.12%	6.58%	5.16%	4.79%	3.96%	1.68%	1.60%	0.87%	0.84%	1.03%	0.99%	1.14%	1.75%
Corp AA 1.88 years	0.11%	6.18%	4.68%	4.21%	2.67%	1.60%	1.03%	0.85%	0.73%	0.92%	0.95%	0.99%	1.69%
Corp A 1.90 years	0.09%	5.84%	4.66%	2.23%	2.35%	1.55%	0.89%	0.43%	0.72%	0.76%	0.89%	0.86%	1.64%
MBS 0-3 4.55 years	0.02%	5.77%	1.73%	1.83%	1.29%	1.45%	0.69%	0.40%	0.62%	0.64%	0.52%	0.59%	1.61%
Municipals 1.85 years	0.00%	4.69%	-5.74%	0.78%	1.08%	1.21%	0.43%	0.36%	0.58%	0.54%	0.33%	0.42%	1.58%

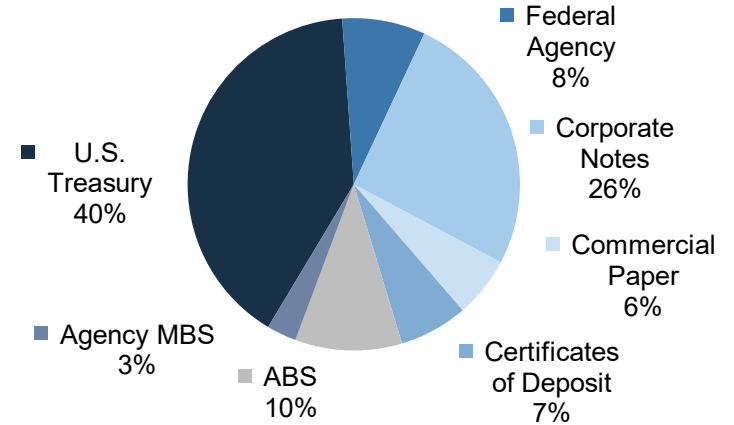
Source: Bloomberg. Annual returns of 1-5 Year ICE BofAML Indices unless specified otherwise.

Sample Portfolio Composition

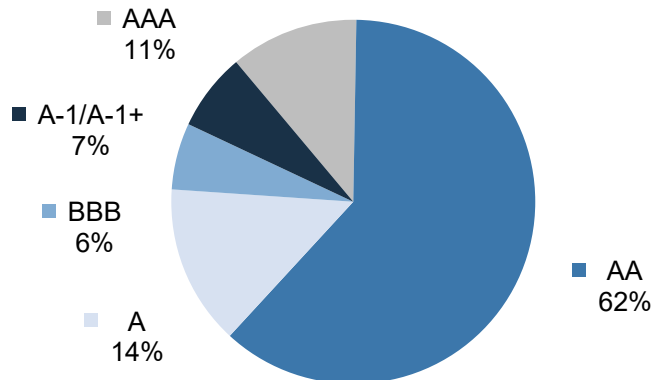
Portfolio Statistics

Market Value	\$100,000,000
Duration	2.65 years
Average Credit Rating	AA

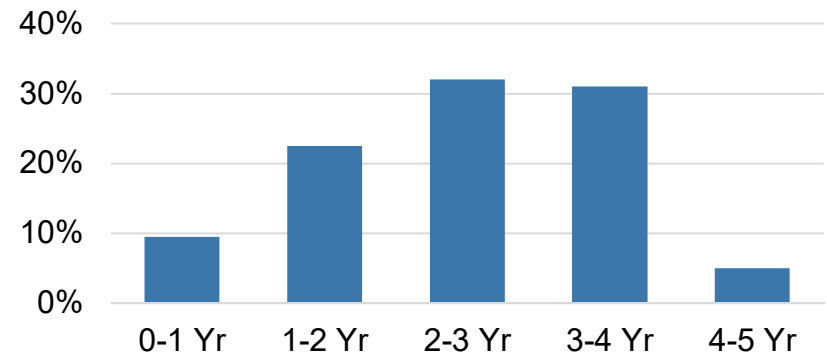
Sector Allocation



Credit Quality (S&P Ratings)



Maturity Distribution



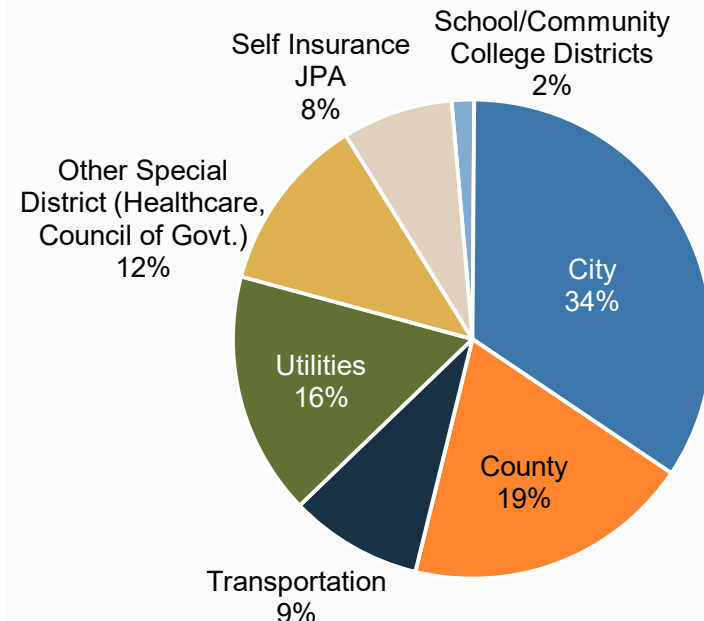
Sample portfolio provided for illustrative purposes only. Specific securities included in the sample portfolio were selected based upon current market and available pricing as of August 31, 2019. As economic and market conditions may change in the future, so may PFM's recommendations as to the sale and purchase of securities in the sample portfolio.

Information About CAMP

Introduction to the California Asset Management Program

- The California Asset Management Program (CAMP) is a California Joint Powers Authority established in 1989 to provide California public agencies with professional investment services.
- Highlights:
 - S&P “AAAm” rated Cash Reserve Portfolio²
 - Customized individual portfolios
 - Specialized services for bond proceeds
 - Investment and safekeeping services

Percent of Shareholder’s by Agency Type¹



1. As of June 30, 2019. Percentages are based on number of Shareholders.

2. Standard & Poor’s fund ratings are based on analysis of credit quality, market price exposure, and management. According to Standard & Poor’s rating criteria, the AAAM rating signifies excellent safety of investment principal and a superior capacity to maintain a \$1.00 per share net asset value. However, it should be understood that the rating is not a “market” rating nor a recommendation to buy, hold, or sell the securities. For a full description on rating methodology, visit Standard & Poor’s website (http://www.standardandpoors.com/en_US/web/guest/home).

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Click the linked title or QR code, which can also be scanned



[Breaking Down the California Government Code & Recent Changes](#)



[Security Enhancements: Multi-Factor Authentication & Account Activity Notification Center](#)

CAMP also periodically hosts **market update webinars**, presented by one of our portfolio managers.

Stay tuned for more information about upcoming webinars!

Visit **PFM's Newsroom** for Other Webinar Recordings:
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Best Practices in Local Program Design for Small Business Survival The team discusses how government at all levels can help keep local businesses operating and/or solvent during the COVID-19 economic recession Watch Video →	Reforecasting Budgets in an Uncertain Economy Watch Video →

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