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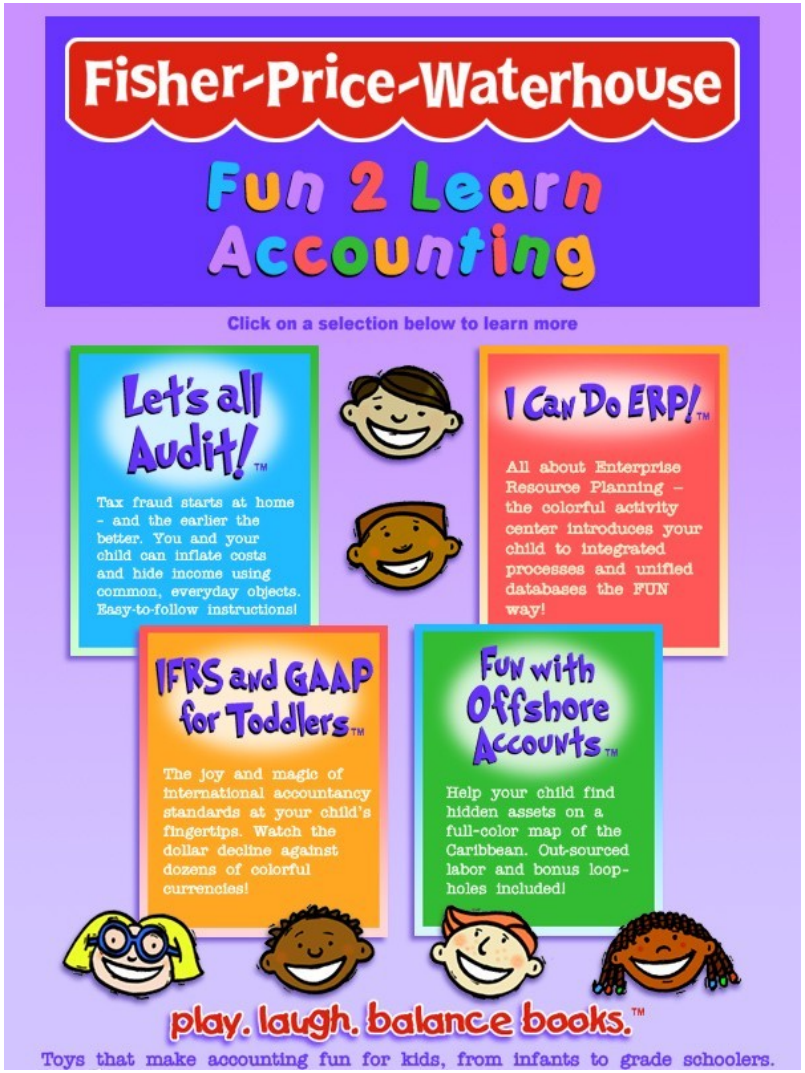


Investment Vehicles

"Is it better to invest during a bull market or bear market? Depends...would you rather be gored or mauled?"

Equities (Stocks)

- Issued by publicly owned corporations
  - Ownership interest
  - May pay dividends
- Rights to future growth and profits
- Market fluctuations can create fluctuations in value
  - No guarantee of dividends
  - No guarantee of return of investment
- Risk of poor corporate performance

Mutual Funds

- Customized by asset classes, maturities, etc.
- Highly liquid
- Convenient
- Constant Net Asset Value (Low Volatility)
  - 2a-7 funds (money market funds)
  - $ in, $ out
  - Money market funds typically lag changes in short-term investments
- Fluctuating Net Asset Value (High Volatility)
  - Bond and equity funds
  - Can result in principal losses
- Fees netted from income
- Don’t invest without first reading the fund’s prospectus

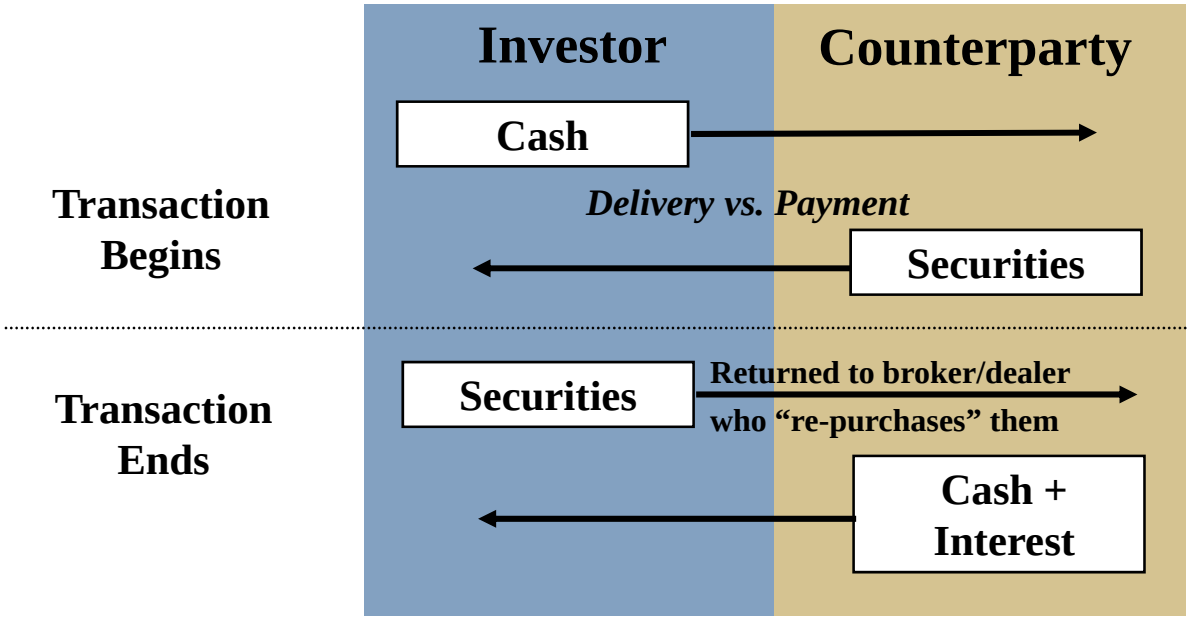
Money Market Fund / LGIP

- Constant share price of $1.00
- Daily liquidity
- Yield fluctuates with market
- Restrictions on weighted average life
- Restrictions on issuer concentrations

Repurchase Agreements

- An agreement in which an investor buys securities from a counterparty who agrees to buy the securities back at a later date at an agreed upon price and rate
- Yield determines the "repurchase price"

Repos



Fixed Income Securities

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

Types of Fixed Income Securities

Money Market

- U.S. Treasury Bills
- Federal Agency Discount Notes
- Commercial Paper
- Bankers' Acceptances
- Repurchase Agreements
- Certificates of Deposit
- Money Market Mutual Funds

Mature in < 1 Year

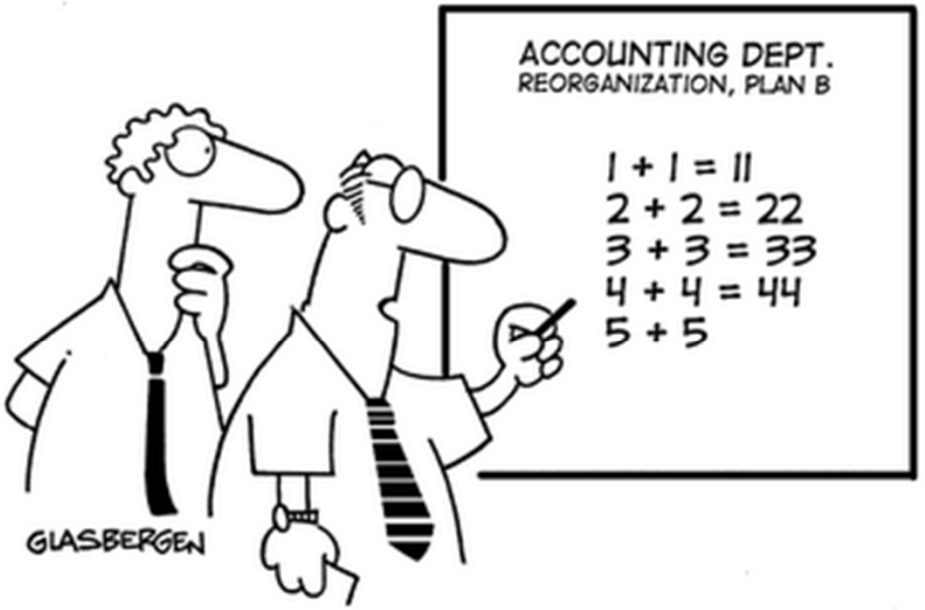
Bonds

- U.S. Treasury Notes/Bonds
- Federal Agency Notes/Bonds
- Mortgage Backed Securities
- Corporate Notes
- Mutual Funds (aka Bond Funds)

Mature in > 1 Year

Interest at Maturity

- Purchased at Par
- Pays a stated interest rate in a single payment at maturity



"For years, we've been playing by old rules and the results have been dismal. It's time for a bold new direction!"

Discount Securities

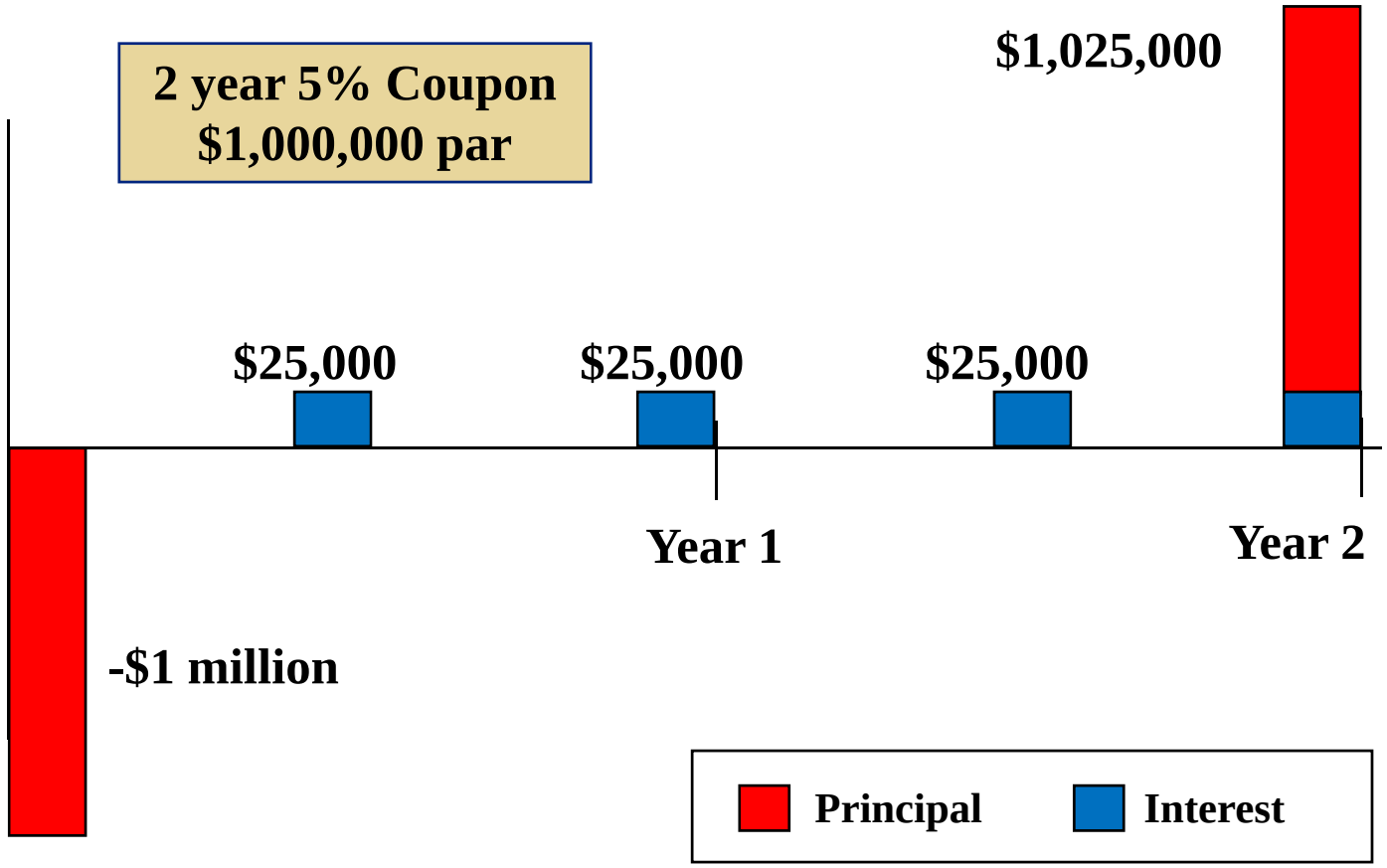
- No periodic interest is paid
- All interest paid at maturity
- Discounted
  - Securities issued at a discount
  - Income equal to the difference between the purchase price and face
- Earnings rate is inputted; usually on a 360 day basis

Interest Bearing

- Can be purchased at par, at a premium (above par) or at a discount (below par)
- Pays periodic interest, typically semi-annually or monthly
- Interest can be calculated in a variety of methods

Original Coupon Bond

Coupon Security



Floating/Variable Rate Interest Securities

- Interest rate periodically resets
  - Rate is not fixed for entire term
  - Reset period varies (daily, weekly, monthly, quarterly)
- Coupon normally based on financial index
  - Fed Funds Rate
  - 91-day Treasury Bills
  - LIBOR
- Issued by Federal Agencies and corporations

Relationship between Basis and Yield

- Securities are quoted and traded on different basis
- Rates as quoted are not necessarily comparable

Security	Type	Basis	Yield Quoted
U.S. Treasury Bills	Discount	Actual/360	Money Market Yield
U.S. Treasury Notes	Coupon-Bearing	Actual/Actual	Government Bond Equivalent Yield
U.S. Treasury Bonds	Coupon-Bearing	Actual/Actual	Government Bond Equivalent Yield
U.S. Treasury STRIPS	Discount	Actual/Actual	Government Bond Equivalent Yield
Agency Discount Notes	Discount	Actual/360	Money Market Yield
Federal Agency Notes	Coupon-bearing	30/360	Corporate Bond Equivalent Yield
Commercial Paper	Discount	Actual/360	Money Market Yield
Bankers' Acceptances	Discount	Actual/360	Money Market Yield
Municipal Bonds	Coupon-bearing	30/360	Corporate Bond Equivalent Yield
Certificates of Deposit	Coupon-bearing	Actual/360	Money Market Yield
Repurchase Agreements	Coupon-bearing	Actual/360	Money Market Yield
ReverseRepo	Coupon-bearing	Actual/360	Money Market Yield
Corporate Bonds	Coupon-bearing	30/360	Corporate Bond Equivalent Yield

Methods of Accounting

"HOWEVER, BY USING AN ALTERNATE METHOD OF ACCOUNTING...."

Cash Basis

- Based on completed transactions (receipt of interest, proceeds of sale, etc.)
- Recognizes impact on financial statements only when assets are exchanged
- Is verifiable and objective
- Some potential for manipulation (e.g., purchasing investments at a deep discount that mature into the next fiscal year)

Accrual Basis

- Revenues are recognized when earned
- Expenses are recognized when incurred, regardless of when the cash flows occur
- Based on matching principle
- Provides a better measurement of current performance
- It is subject to some management discretion (due to the subjectivity associated with the estimation that is an inherent aspect of the accrual process)

Accrual Basis

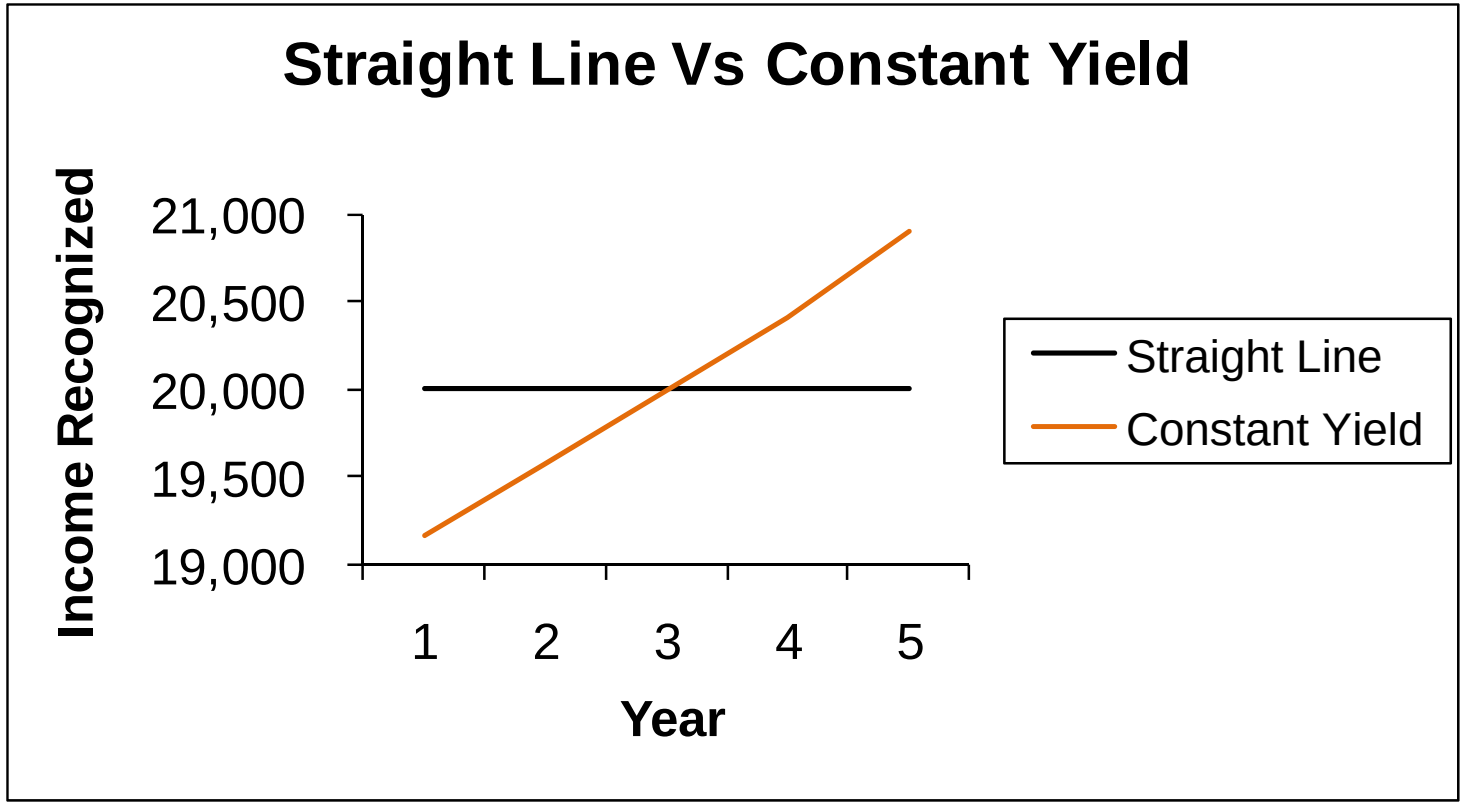
- Straight Line
  - Equal amount recognized in each accounting period
  - For example if $1 million par of a security was purchased for $900,000 that would not mature for 5 years; $20,000 of income would be recognized each year

- Constant Yield
  - Calculates amount of income to be recognized in each period so that a consistent rate of return is maintained
  - For example if $1 million par of a security was purchased for $900,000 that would not mature for 5 years; $19,156 of income would be recognized in the first year; $19,563, $19,980, $20,405 and $20,896 respectively each following year

Constant Yield

- First Year
  - $19,156 / $900,000 = 2.13%
- Second Year
  - $19,563 / $919,156 = 2.13%
- Third Year
  - $19,980 / $938,719 = 2.13%
- Fourth Year
  - $20,405 / $958,699 = 2.13%
- Fifth Year
  - $20,896 / $979,104 = 2.13%

Accrual Basis

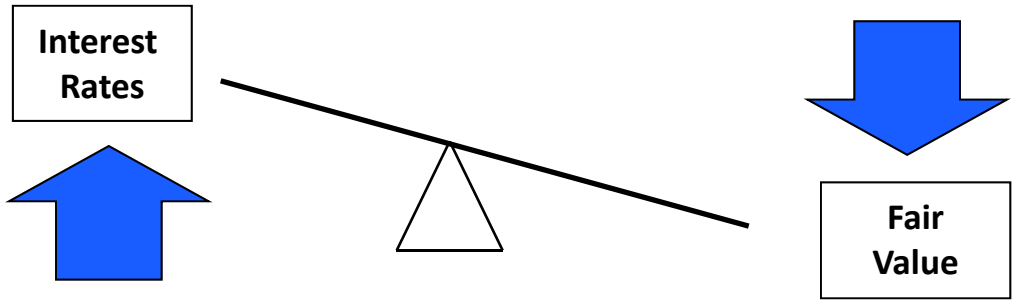


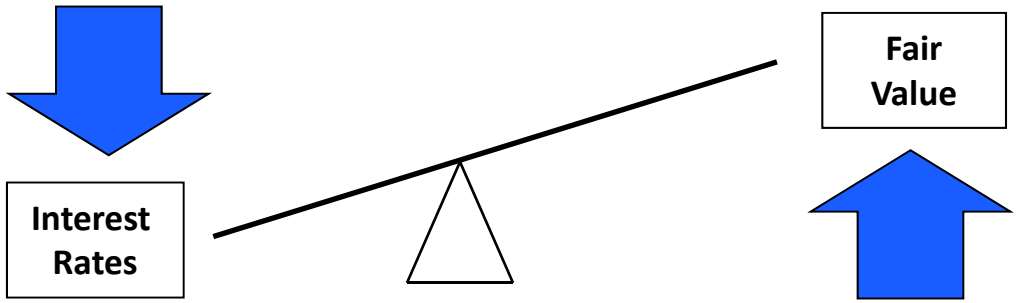
* For illustrative purposes only.

Fair Value

- Recognizes market fluctuation
- Investments are reported at fair value on the balance sheet
- Changes in fair value are reported on the income statement as revenue

Interest Rates and Fair Values





Changes in Interest Rates / Yields

- $1 million par of a security was purchased for $800,000 that would not mature for 5 years
  - $36,409 of income would be recognized in the first year; $38,174, $39,916, $41,854 and $43,647 respectively each following year

- $1 million par of a security was purchased for $950,000 that would not mature for 5 years
  - $9,769 of income would be recognized in the first year; $9,896, $9,999, $10,130 and $10,206 respectively each following year

Changes in Interest Rates / Yields

- Cost = $800,000
- First Year
  - $36,409 / $800,000 = 4.56%
- Second Year
  - $38,174 / $836,409 = 4.56%
- Third Year
  - $39,916 / $874,583 = 4.56%
- Fourth Year
  - $41,854 / $914,499 = 4.56%
- Fifth Year
  - $43,647/ $956,353 = 4.56%

- Cost = $950,000
- First Year
  - $9,769 / $950,000 = 1.03%
- Second Year
  - $9,896 / $959,769 = 1.03%
- Third Year
  - $9,999 / $969,665 = 1.03%
- Fourth Year
  - $10,130 / $979,664 = 1.03%
- Fifth Year
  - $10,206/ $989,794 = 1.03%

Total Return vs. Book Value Return

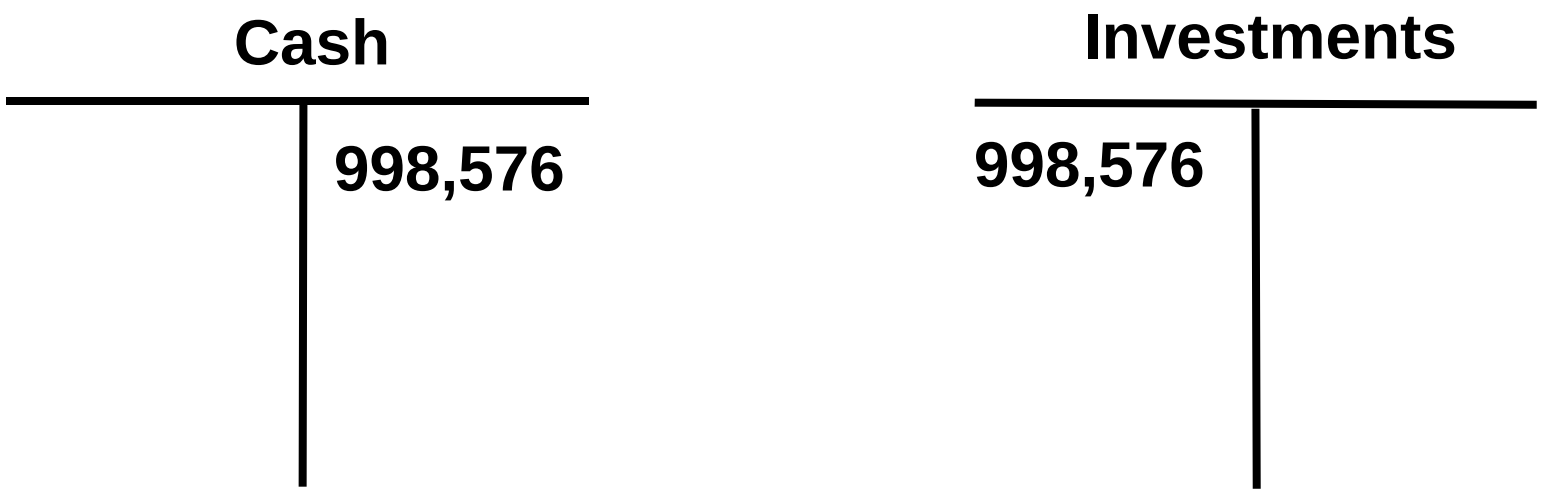
- An entity buys $1,000,000 par value of 5-Year Treasury Notes at a yield of 5%. The Notes have a coupon of 5% and were purchased at par.

Scenario - After 3 Months	Total Return		Book Value Return	
Interest Rates Are Unchanged	Market Value of Securities	$1,000,000	Book Value of Securities	$1,000,000
	Accrued Interest	12,500	Accrued Interest	12,500
	Total	$1,012,500	Total	$1,012,500
	Total Return = 5.00%		Book Value Return = 5.00%	
Interest Rates Have Increased by 25 Basis Points	Market Value of Securities	$989,528	Book Value of Securities	$1,000,000
	Accrued Interest	12,500	Accrued Interest	12,500
	Total	$1,002,028	Total	$1,012,500
	Total Return = 0.81%		Book Value Return = 5.00%	
Interest Rates Have Decreased by 25 Basis Points	Market Value of Securities	$1,010,446	Book Value of Securities	$1,000,000
	Accrued Interest	12,500	Accrued Interest	12,500
	Total	$1,022,946	Total	$1,012,500
	Total Return = 9.49%		Book Value Return = 5.00%	

Comparison of Methods – Discount Security

- Bank of Tokyo Commercial Paper, $1,000,000 par bought 8/16 for $998,576; matures 12/17
- Amortized cost as of August 31 - $998,751
- Fair value on August 31 - $998,620

Comparison of Methods – Discount Security



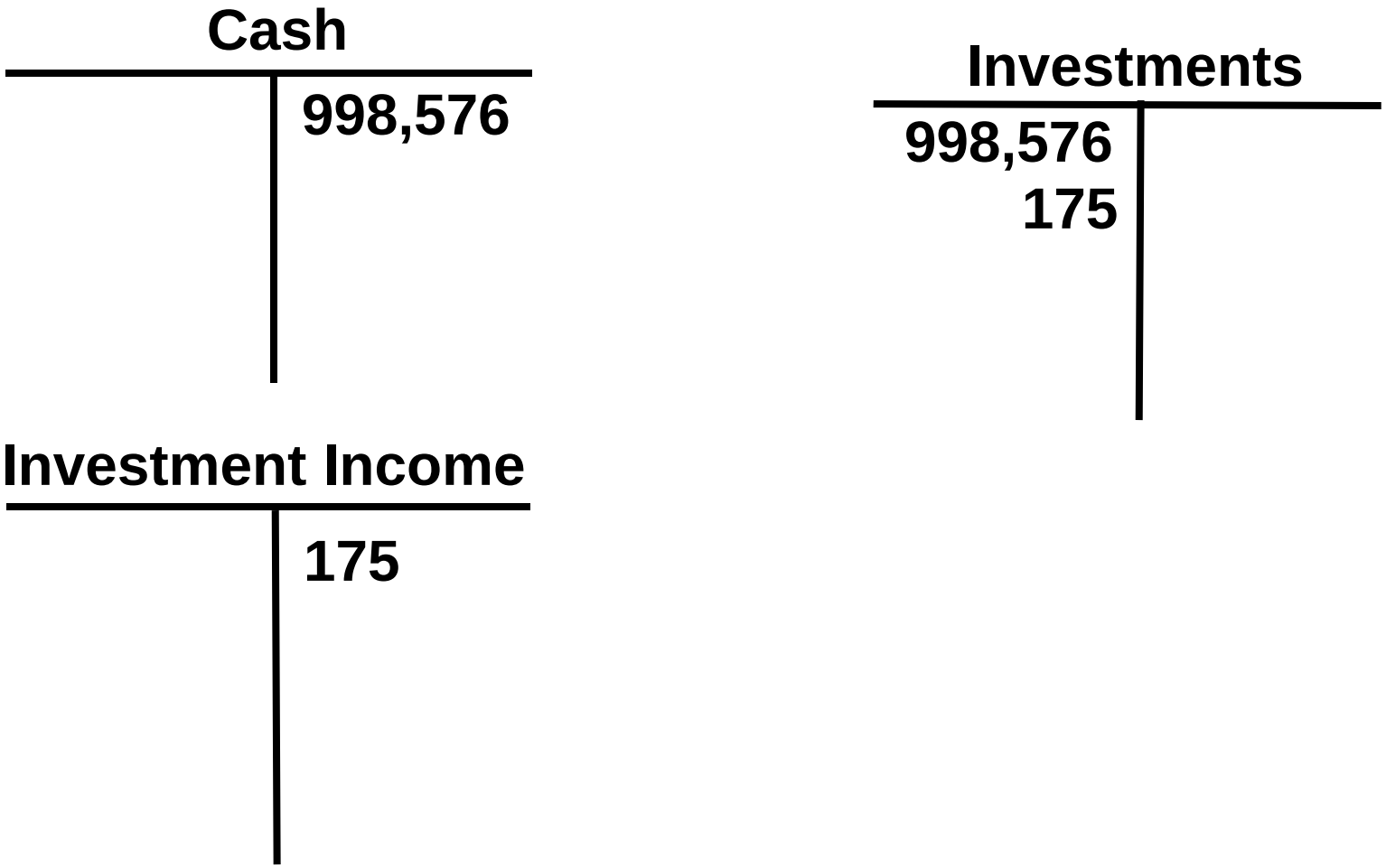
Cash Basis

Amortized Cost

Fair Market Value

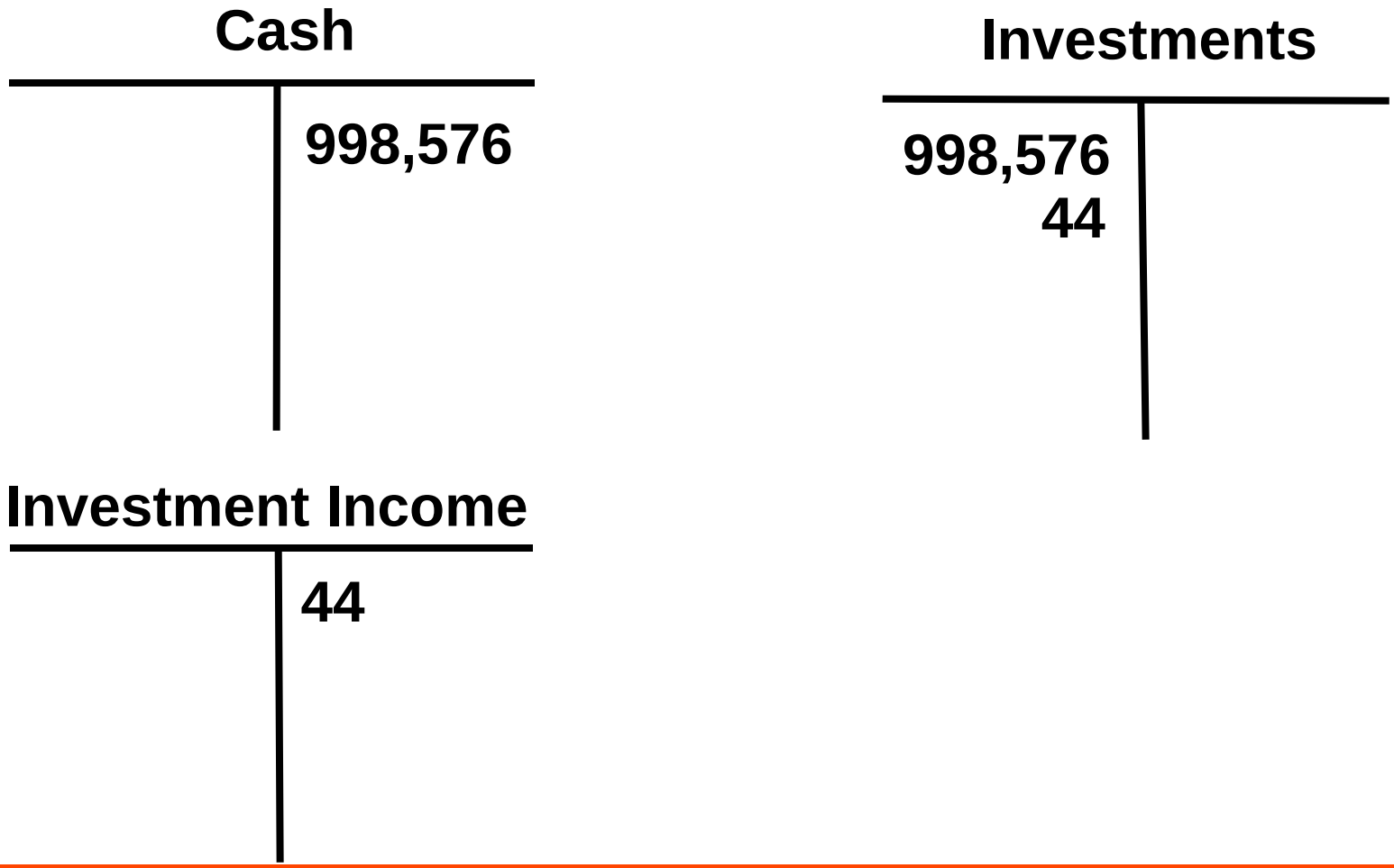
Comparison of Methods – Discount Security

Amortized Cost



Comparison of Methods – Discount Security

Fair Market Value



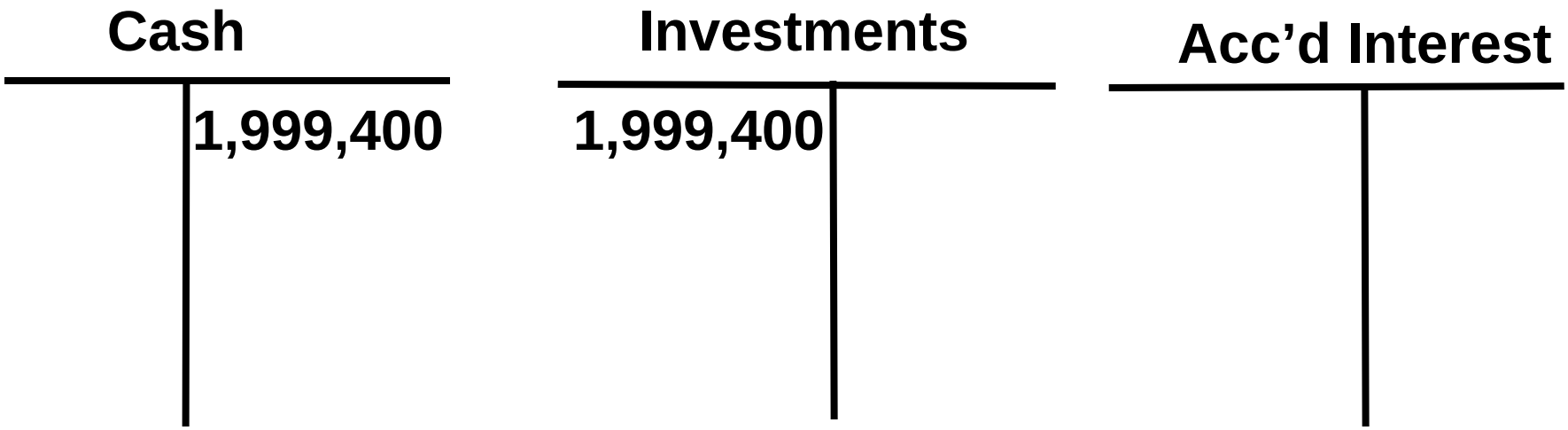
Comparison of Methods – Discount Security

	Cash	Accrual	Fair Value
August	-	175	44
September	-	361	1,171
October	-	362	(28)
November	-	360	163
December	1,424	166	74
Total	1,424	1,424	1,424

Comparison of Methods – Interest Bearing Security

- FNMA Note 0.500% coupon, $2,000,000 par bought 8/3/2012 for $1,999,400: accrued interest $0 matures 8/7/2015
- Amortized cost as of August 31 - $1,999,413, accrued interest of $667
- Fair value basis as of August 31 - $1,999,364, accrued interest of $667

Comparison of Methods – Interest Bearing Security



Cash Basis
Amortized Cost
Fair Market Value

Comparison of Methods – Interest Bearing Security

Amortized Cost

Cash	
	1,999,400

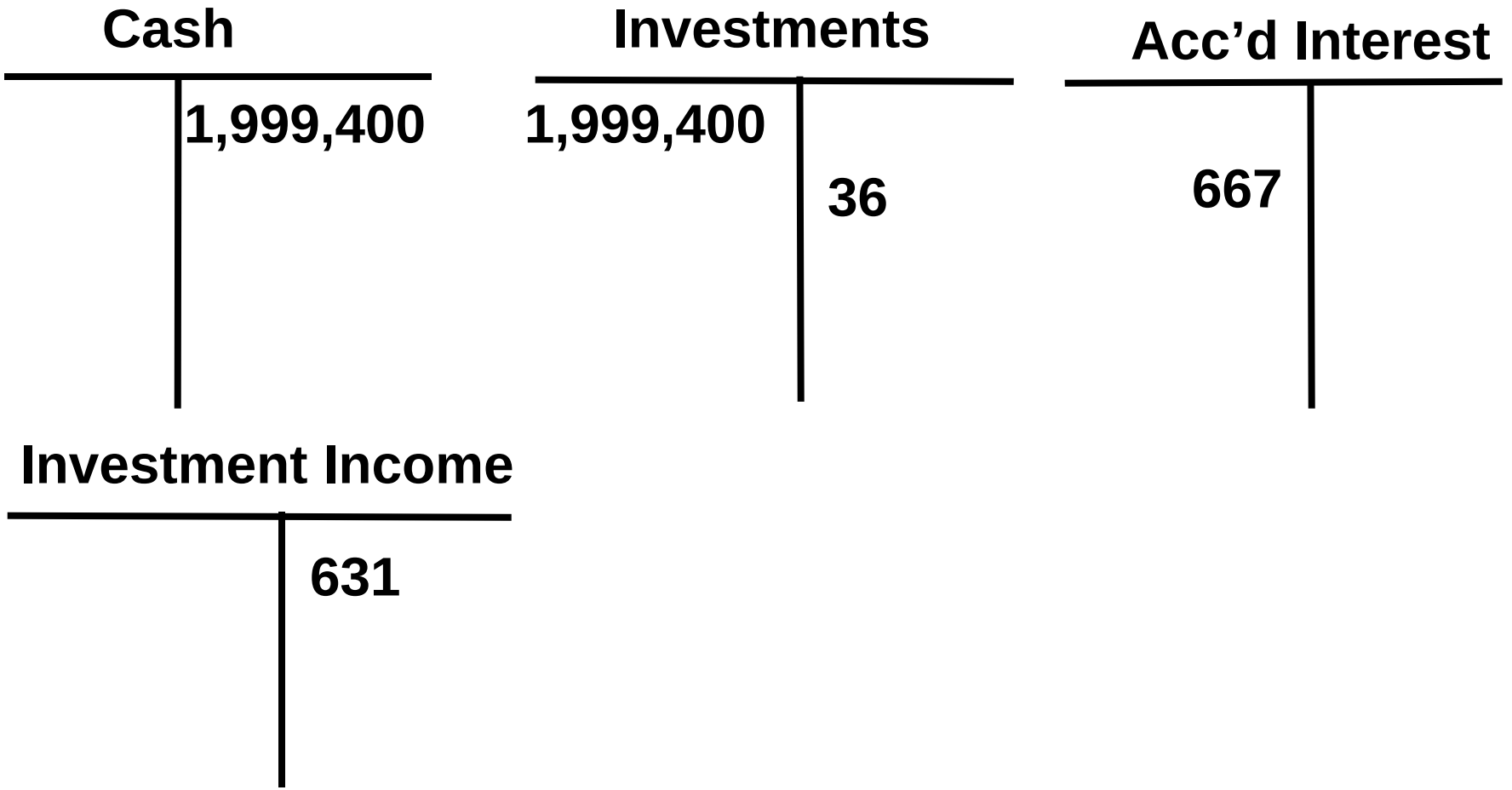
Investments	
1,999,400	
13	

Acc'd Interest	
667	

Investment Income	
	680

Comparison of Methods – Interest Bearing Security

Fair Market Value



Comparison of Methods – Interest Bearing Security

- Cash basis - No income earned as of August 31, on balance sheet at a value of $1,944,400

- Accrual basis - Income of $680 as of August 31, on balance sheet at a value of $1,999,413, accrued interest of $667

- Fair value basis - Income of $631 as of August 31, on balance sheet at a value of $1,999,364, accrued interest of $667

Examples

- Calculate the investment income earned to date on a discount security, $540,000 par purchased on July 1 for $537,000, amortized value on August 31 is $537,600, market value is $538,500 on August 31

- Calculate the investment income on a Note, $1,700,000 par with an interest rate of 1.75%; purchased for $1,717,000 with accrued interest of $3,000 at the beginning of the fiscal period. Current amortized cost is $1,713,000 and market value is $1,723,000. The current accrued interest is $8,800

Portfolio Level Calculations

- Start – Current month-end accrued interest
- Deduct – Purchased accrued interest
- Add – Coupons received and interest received on sold securities
- Deduct - Prior month-end accrued interest

Portfolio Level Calculations

- Start – Current month-end $185,000
- Deduct – Purchased interest (5,000)
- Add – Coupons and interest sold 30,000
- Deduct - Prior month-end (175,000)

- **What is the journal entry?**

	Debit	Credit
• **Cash**		
• **Accrued Interest**		
• **Investment Income**		

Portfolio Level Calculations

- Start – Current month-end fair value or amortized cost
- Deduct – Purchases
- Add – Sales, maturities or paydowns
- Deduct - Prior month-end fair value or amortized cost

Portfolio Level Calculations

- Start – Current month-end $14,050,000
- Deduct – Purchases (6,750,000)
- Add – sales, maturities 5,000,000
- Deduct - Prior month-end (13,000,000)

- **What is the journal entry?**

	Debit	Credit
• **Cash**		
• **Investments**		
• **Investment Income**		

Example

- Current month-end investment value $10,000,000, accrued interest $50,000
- Prior month-end investment value $9,800,000, accrued interest $55,000
- **What are the journal entries?**

Transaction Type	Description	Par	Proceeds	Accrued Interest	Total Amount
BUY	FHLB NOTE 1.625% 03/27/2017	2,820,000	(2,850,000)	(900)	(2,850,900)
BUY	FHLB NOTE 1.625% 04/28/2017	830,000	(840,000)	0	(840,000)
	Sub Total	**3,650,000**	**(3,690,000)**	**(900)**	**(3,690,900)**
INTEREST RECEIPT	ANY BANK CD 0.562% 01/04/2016	3,400,000	0	4,450	4,450
	Sub Total	**3,400,000**	**0**	**4,450**	**4,450**
SELL	FHLB NOTE 0.375% 08/28/2015	2,160,000	2,163,600	800	2,164,400
SELL	US TREASURY NOTE 4.500% 11/15/2015	650,000	694,000	11,300	705,300
SELL	FHLB NOTE 0.375% 08/28/2015	840,000	841,400	350	841,750
	Sub Total	**3,650,000**	**3,699,000**	**12,450**	**3,711,450**

Evaluation of Options for Recordkeeping During the Year

Option No. 1 – Record investment at cost, don't amortize discount, and adjust to fair value at end of year

- Meets requirements of GAAP
- Simplicity
- Disadvantage – No recognition during the year of fair value change that will be recognized at end of year

Evaluation of Options for Recordkeeping During the Year

Option No. 2 – Record investment at cost, amortize discount on a monthly basis, and adjust to fair value at end of year

- Meets requirements of GAAP
- Monthly amortization of discount approximates the monthly change in fair value
- Smaller adjustment at end of year

Evaluation of Options for Recordkeeping During the Year

Option No. 3 – Record investment at cost and each month or quarter adjust to fair value

- Meets requirements of GAAP
- Recognizes on a monthly or quarterly basis the full amount of the fair value adjustment applicable to that reporting period
- No distortion created by year end adjustment
- Disadvantage – may require more time to identify and calculate the fair value adjustment each month/quarter

Investments Purchased With Accrued Interest

- Sometimes when investments are purchased, the prior owner of the investment is paid for the portion of interest revenue earned (but not yet remitted)
- Some local governments simply **debit interest revenue** for that portion of the payment made to the prior owner when the investment is acquired by that local government
- This serves to appropriately reduce the interest revenue reported by the reporting government when it receives the full amount of interest collected on the next interest payment date for that investment

Number of Checking Accounts

- Best practice is to limit the number of checking accounts
- Best practice is to use a single checking account for all funds, component units, and related entities that are managed by the entity
- Legal requirements may call for a separate "account" for the cash of that program or fund – typically these requirements are satisfied by means of the separate "fund" accounting that government systems establish for pooled cash

General Ledger vs. Subsidiary Ledger

- Each fund in the entity's accounting system (general ledger) may use one account ("cash") to represent that fund's position in the entity-wide cash and investment pool
- Typically, a separate set of records is maintained for the entity-wide cash and investment pool that identifies all of the bank accounts and individual investments that are contained in the pool (including the entity's investment in LAIF, CAMP or the county investment pool)
- Those records can be in the form of a:
  - Report provided by your investment management firm
  - Purchased investment software that provides for reporting of the portfolio
  - Excel spreadsheets that keep track of each bank account and investment in the pool

[Note - A single pool can be used for all component units and entities that are managed by that entity]

General Ledger Cash Reconciliation

- What is a General Ledger Cash Reconciliation:
  1. Prepare a listing that totals up each fund's cash balance as of a given date (e.g., month end) – from the general ledger reports produced by the entity's accounting system
  2. Prepare a listing that totals up the balance of each bank account (adjusted for recorded items not yet cleared) and investment balances held as of that date – from the month end bank/custodian statements
  3. Ensure that the two listings are in agreement (investigate differences)

*[Note – internal control objectives are maximized when the amounts for step 2 are pulled from **independent custodian statements** (rather than statements from your investment manager)*

General Ledger Cash Reconciliation

The amounts pulled from monthly custodian statements in step 2 must be comparable with the amounts recognized in the general ledger:

- If discounts are not amortized and fair values are only adjusted at year end, then the amounts pulled from the monthly custodian statement would be **cost**
- If fair value adjustments are made in the general ledger every month, then the amounts pulled from the monthly custodian statement would be **fair value**
- If discounts are amortized in the general ledger each month (and fair value adjustments not made until year end), then the amounts pulled from the monthly custodian statement would be **cost plus accumulated amortization of discounts** (i.e., accumulated amortization from the entity's amortization worksheets would be a reconciling item in the reconciliation process)

General Ledger Cash Reconciliation

- Bank Reconciliation vs. General Ledger Cash Reconciliation
- General ledger cash reconciliation may be the most important accounting control for an entity
- It is best for the general ledger cash reconciliation to be done on a monthly basis and in a timely manner (within 30-60 days of month end)

Allocation to Funds

- GAAP requires that investment earnings be allocated to the various funds represented in the pool
- Predominant practice is for such allocation to be done on a monthly or quarterly basis using the ending cash balances of each fund

Allocation to Funds – Effect of Negative Cash Balances

- GAAP allows a variety of methodologies to deal with funds with negative cash balances
- Some local governments **exclude** funds with negative cash balances in the basis for the allocation
- Under that methodology, only funds with positive cash balances would be represented on the spreadsheet that forms the basis for the allocation.
- The total of the spreadsheet would be the total of only the positive cash balances

Allocation to Funds – Effect of Negative Cash Balances

- Some local governments **include** negative cash balances in the allocation spreadsheet.
- In those cases, those funds are assigned “negative” interest revenue
- This is analogous to a charge to that fund for its interfund borrowing (such a charge is neither required, nor prohibited by GAAP)
- For agencies that use that methodology, they should be careful to avoid entries to grant funds that could be questioned by federal agencies as substantively representing a charge for unallowable interest expense.

Allocation to Funds

- Some funds are required by law to receive interest earned by their cash balances
- For other funds, there is no legal requirement for that fund to be allocated interest
- Some agencies allocate interest to all funds and then, for those funds that are not legally required to receive interest, the agency makes a separate “transfer out” entry to transfer that interest to the General Fund

Allocation to Funds

- Other agencies, in their interest allocation spreadsheet, include in the amount shown on the spreadsheet for the General Fund all of the cash balances of those funds for which there is no legal requirement to be allocated interest
- This effectively assigns such interest to the General Fund without the recording of a transfer in and a transfer out
- For certain states (including California), this is an acceptable option

Allocation to Funds

GASB Cod. I50.113 – “Often, income from investments associated with one fund is assigned to another fund because of legal or contractual provisions. In that situation, the accounting treatment should be based on the specific language of the legal or contractual provisions.”

Allocation to Funds

53647 (a) Interest on all money deposited belongs to, and shall be paid quarterly into the general fund of, the local agency represented by the officer making the deposit, unless otherwise directed by law.

(b) Notwithstanding the provisions of subdivision (a), and except as otherwise directed by law, if the governing body of the local agency represented by the officer making the deposit so directs, such interest shall be paid to the fund which contains the principal on which the interest accrued.

[Note that the assignment process described above is an option, not a requirement]

Allocation to Funds

- Amortization entries and fair value entries need to be allocated to each fund in the pool
- Can be included in same allocation spreadsheet as is used for interest revenue
- Typically the allocation is based upon the ending cash balance of each fund as reported in the general ledger
- Some entities use separate accounts in their revenue ledger to report:
  - Interest revenue
  - Amortization of discount
  - Fair value adjustments

Other Cash Accounts

- Some bank accounts/investments are associated with specific funds
- Example – bond trustee accounts ("cash with fiscal agent")
- These "fund specific" bank accounts should be excluded from the entity-wide pool
- A separate asset account in the general ledger should be used to reflect the balance of the account
- That fund's separate asset account (in the general ledger) should be reconciled on a monthly basis to the statement provided by the bank/custodian

Segregation of Duties

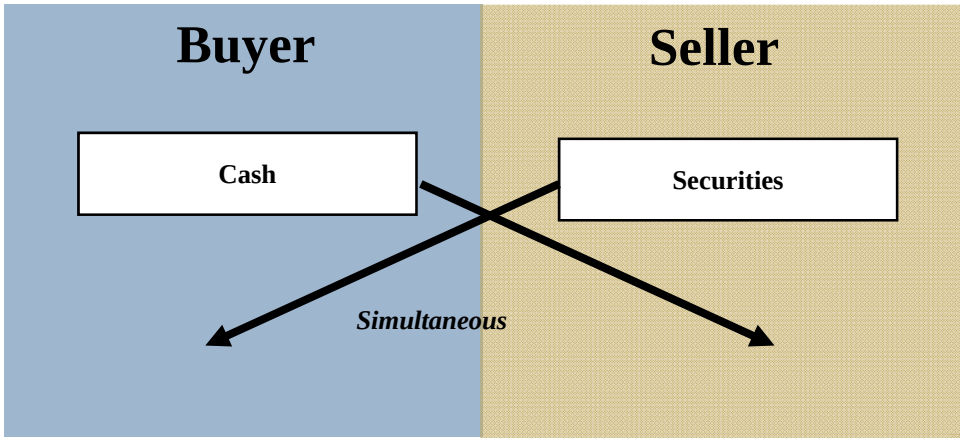
- Internal control objectives are maximized when different persons perform the following functions:
  - Execution of investment transactions
  - Maintenance of investment subsidiary ledger (tracking of investments, receipt of trade tickets and custodian statements, and preparation of Treasurer's reports)
  - Reconciliation of general ledger cash balances

Controls Over Bank Transfers

- Initiator of the transfer
- Approver of the transfer
- Bank enforcement of this protocol
- Use of tokens to ensure identity of approver (random passwords that change constantly)
- Establishment of templates that prescribe the bank accounts involved in transfers
- Requirement of two persons to change template
- During the bank reconciliation process, the reconciler should verify that the required approval was obtained for each transfer

Delivery Versus Payment (DVP)

- The simultaneous exchange of cash for a security
- Protects both parties to the transaction



Security Custody

- Federal Reserve Book Entry - Security ownership recorded through electronic accounts
  - Treasury Obligations
  - Federal Agencies
  - Repurchase Agreement Collateral
- Depository Trust Company (DTC) - A clearing agency which provides book entry settlement service
  - Commercial Paper
  - Corporate Notes/Bonds
  - Municipal Bonds
- Physical - Security ownership documented by a paper receipt or certificate
  - Bankers' Acceptances (some)
  - Certificates of Deposit

Use of Independent Investment Custodian

- History of issues associated with failure to use independent custodians
- Internal controls are maximized when different parties are used for each of the following roles:
  - Investment advisor/manager
  - Broker/dealer used to execute the transactions
  - Custodian – the institution holding the investment on behalf of the owner

Best Practices With Respect to Use of Investment Custodian

- The custodian will only release securities with the explicit direct authorization of the local government (not the broker-dealer) on a transaction by transaction basis
- The custodian provides directly to the local government a confirmation of each purchase or sale as they occur
- The custodian provides directly to the local government a monthly statement of investments held on behalf of the local government
- There is a written agreement between the local government and the custodian that clearly address the above issues

Sample Statement

Description	CUSIP	Par	S & P	Moody's	Trade Date	Settlement Date	Original Cost	YTM at Cost	Amortized Cost	YTM at Market	Fair Value	Accrued Interest
Commercial Paper												
UBS FINANCE DELAWARE LLC 10/03/2013	90262CX36	13,500,000	A-1	P-1	4/3/2013	4/4/2013	13,478,843	0.31%	13,496,280	0.13%	13,498,407	0
RABOBANK USA FIN CORP 10/15/2013	74977KXF1	4,500,000	A-1+	P-1	4/15/2013	4/15/2013	4,494,739	0.23%	4,998,735	0.12%	4,499,307	0
Sub Total		**18,000,000**					**17,973,581**		**18,495,015**		**17,997,714**	0
Corporate Notes												
GENERAL ELECTRIC CO NOTES 0.850% 10/09/2015	369604BE2	4,400,000	AA+	Aa3	10/1/2012	10/9/2012	4,398,812	0.86%	4,399,163	0.85%	4,399,683	14,752
TOYOTA MOTOR CREDIT CORP 2.800% 01/11/2016	89233P4R4	7,000,000	AA-	Aa3	3/1/2013	3/6/2013	7,403,830	0.75%	7,335,496	1.00%	7,292,453	27,222
Sub Total		**11,400,000**					**11,802,642**		**11,734,659**		**11,692,136**	**41,974**
U. S. Treasury Notes												
US TREASURY NOTES 2.125% 12/31/2015	912828PM6	1,530,000	AA+	Aaa	12/18/2012	12/19/2012	1,610,265	0.38%	1,591,718.00	0.50%	1,587,375	5,566
US TREASURY NOTES 0.375% 01/15/2016	912828UG3	4,220,000	AA+	Aaa	1/30/2013	2/4/2013	4,214,230	0.42%	4,215,353.00	0.52%	425,162.00	2,064
Sub Total		**5,750,000**					**5,824,496**		**5,807,071**		**2,012,537**	**7,630**
Grand Total		**35,150,000**					**35,600,719**		**36,036,745**		**31,702,387**	**49,604**

* For illustrative purposes only.

GASB 31

Why Was GASB 31 Issued?

- Issued in 1997
- Prior to issuance, investments reported at cost unless there was a **permanent** decline in market value (unexpected recoveries of market value were not permitted to be recognized)
- GASB had been looking at changing this for a number of years
- Events in 1994 (including the Orange County bankruptcy) caused the GASB to look at this issue more seriously
- Post 1997, government investments are generally reported at fair value
- Lets the reader know the effect on the government if the government was forced to liquidate all of its investments as of the date of the financial statements

Significant Changes

- Public entities should report investments at fair value on the balance sheet
- The change in fair value from year to year should be recognized in the operating statement
- Applicable to investments which are a security or other asset acquired primarily for the purpose of obtaining income
  - Interest earning investment contracts (with some exceptions)
  - External investment pools
  - Mutual funds
  - Debt securities
  - Equity securities

Investment in Local Government Pool

- A local government's investment in LAIF, CAMP (or a county pool) must also be fair valued
- This would be based upon a proportionate assignment of the total fair value of all of the investments in the pool as a percentage of the total cost (carrying value) of the pool
- For LAIF, this information can be obtained at:

  http://www.treasurer.ca.gov/pmia-laif/reports/valuation.asp

Pooled Money Investment Account
Market Valuation
6/30/2013

Description	Carrying Cost Plus Accrued Interest Purch.	Amortized Cost	Fair Value	Accrued Interest
United States Treasury:				
Bills	$ 18,019,781,458.84	$ 18,031,788,345.99	$ 18,035,146,300.00	NA
Notes	$ 17,866,551,757.96	$ 17,864,039,275.14	$ 17,866,601,500.00	$ 14,141,398.00
Federal Agency:				
SBA	$ 510,792,442.52	$ 510,792,442.52	$ 510,253,568.70	$ 517,567.05
MBS-REMICs	$ 192,640,776.24	$ 192,640,776.24	$ 208,753,614.81	$ 921,014.69
Debentures	$ 1,229,014,505.38	$ 1,227,601,588.70	$ 1,225,462,000.00	$ 4,859,598.00
Debentures FR	$ -	$ -	$ -	$ -
Discount Notes	$ 2,248,563,445.13	$ 2,248,994,695.02	$ 2,249,228,500.00	NA
GNMA	$ 451.55	$ 451.55	$ 454.80	$ 4.70
IBRD Debenture	$ 450,053,540.85	$ 450,053,540.85	$ 450,282,500.00	$ 107,637.50
IBRD Deb FR	$ -	$ -	$ -	$ -
CDs and YCDs FR	$ 400,000,000.00	$ 400,000,000.00	$ 400,000,000.00	$ 252,251.67
Bank Notes	$ -	$ -	$ -	$ -
CDs and YCDs	$ 8,870,129,024.17	$ 8,870,011,579.74	$ 8,866,790,803.69	$ 2,820,216.67
Commercial Paper	$ 4,253,842,581.96	$ 4,254,541,430.57	$ 4,254,012,847.23	NA
Corporate:				
Bonds FR	$ -	$ -	$ -	$ -
Bonds	$ -	$ -	$ -	$ -
Repurchase Agreements	$ -	$ -	$ -	$ -
Reverse Repurchase	$ -	$ -	$ -	$ -
Time Deposits	$ 4,474,640,000.00	$ 4,474,640,000.00	$ 4,474,640,000.00	NA
AB 55 & GF Loans	$ 287,302,443.82	$ 287,302,443.82	$ 287,302,443.82	NA
TOTAL	$ 58,803,312,428.42	$ 58,812,406,570.14	$ 58,828,474,533.05	$ 23,619,686.28

Fair Value Including Accrued Interest $ 58,852,094,221.33

Repurchase Agreements, Time Deposits, AB 55 & General Fund loans, and Reverse Repurchase agreements are carried at portfolio book value (carrying cost).

The value of each participating dollar equals the fair value divided by the amortized cost (**1.000273207**). As an example: If an agency has an account balance of $20,000,000.00, then the agency would report its participation in the LAIF valued at $20,005,464.14 or $20,000,000.00 x **1.000273207**.

Exceptions

- Highly liquid short-term securities that at the time of purchase had less than one year to maturity. These securities may be reported at amortized cost (unless significantly impaired by the credit standing of the issuer)
- Nonparticipating contracts such as non-negotiable certificates of deposit and certain investment agreements may be reported at cost (unless significantly impaired by the credit standing of the issuer)
  - Nonparticipating contracts generally cannot be negotiated, transferred, sold, or redeemed prior to maturity (or if redeemed, their redemption value ignores their fair value at that time)

Exceptions (continued)

- External pools that are 2a-7 like may use amortized cost
- Real estate held for investment purposes
- Investments in joint ventures accounted for under the equity method
- Investments in common stock (such as that of a water company) that were acquired to enhance government service
- Loans made to other funds or to private parties

Bid Price or Asked Price

GASB *CIG 6.11.7. *Q*—A bid price represents the price a willing buyer will pay; an asked price represents the price the seller would like to receive. If actual sales prices are not available when determining fair value, should bid or asked prices be used?

A—Statement 31 does not take a position on this issue. Practice generally is to use **bid prices**, because they are the amounts at which transactions presumably will be completed.

* The acronym CIG represents refers to the *Comprehensive Implementation Guide* published by GASB

Trade Date or Settlement Date

GASB CIG 6.28.1. *Q*—Should investment transactions be accounted for based on the trade date (the date the order to buy or sell the investment is placed) or the settlement date (the date that the cash and investment instrument are exchanged)?

A—Investment transactions should be accounted for based on the **trade date**. The trade date is the date on which the transaction occurred and is the date the government is exposed to (or released from) the rights and obligations of the ownership of the instrument.

Note – This becomes important for transactions that occur close to year end

Risks to Portfolios

"To begin with, your portfolio is too conservative."

Basis Points

1 Basis Point = 1 1/100 of 1%

100 Basis Points = 1.00%

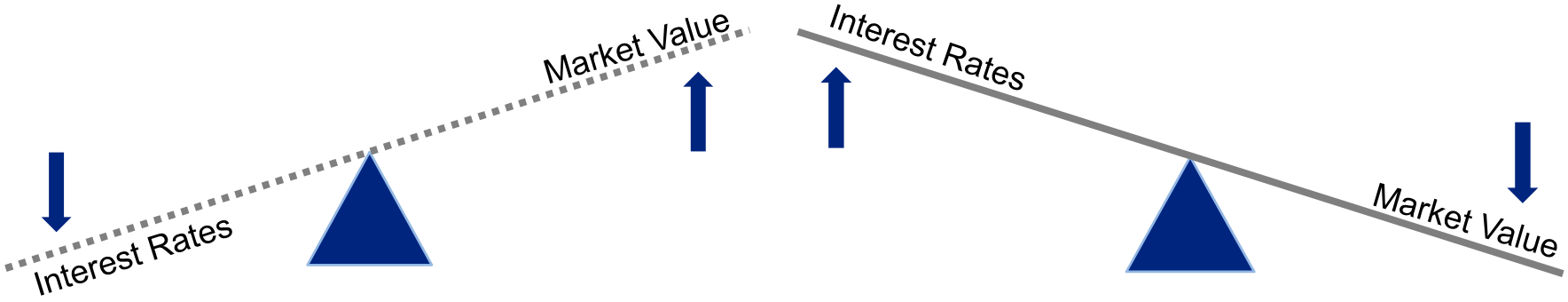
½% = 50 Basis Points

The difference between 4.90% and 4.95% is 5 basis points

Volatility

- The effect of interest rate changes on the price/return of a security or portfolio

- Interest rates and portfolio value are **inversely** related (normally)



Relationship Between Rates and Market Values

	Investment Choices			Amount you Receive at Maturity		
	Spend	**Coupon Rate**	**Annual Interest Earnings**	**Return of Face Amount**	**Interest Earnings**	**Return of Principal + Interest**
Today	$1 mm	5%	$50,000	$1 mm	$50,000	$1,050,000
Tomorrow	$1 mm	6%	$60,000	$1 mm	$60,000	$1,060,000
Tomorrow	$????	5%	$50,000	$1 mm	$50,000	$1,050,000

How much would you pay for this security?

Impact of Interest Rate Movements on Value

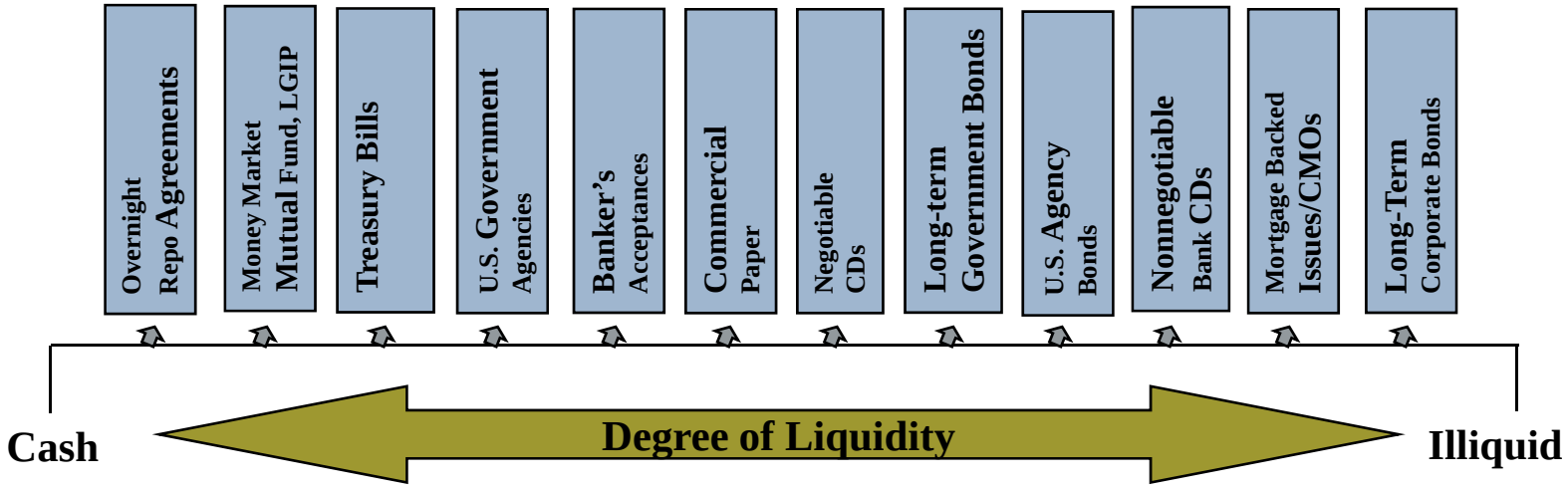
- Market value of longer duration portfolios are more impacted by a change in interest rates than shorter ones.

Portfolio Duration	Simultaneous Change in Interest Rates				
	(2.00%)	(1.00%)	No Change	1.00%	2.00%
1.00	200,000	100,000	-	(100,000)	(200,000)
2.00	400,000	200,000	-	(200,000)	(400,000)
4.00	800,000	400,000	-	(400,000)	(800,000)

Portfolio duration measured in years. Assumes instantaneous shock.

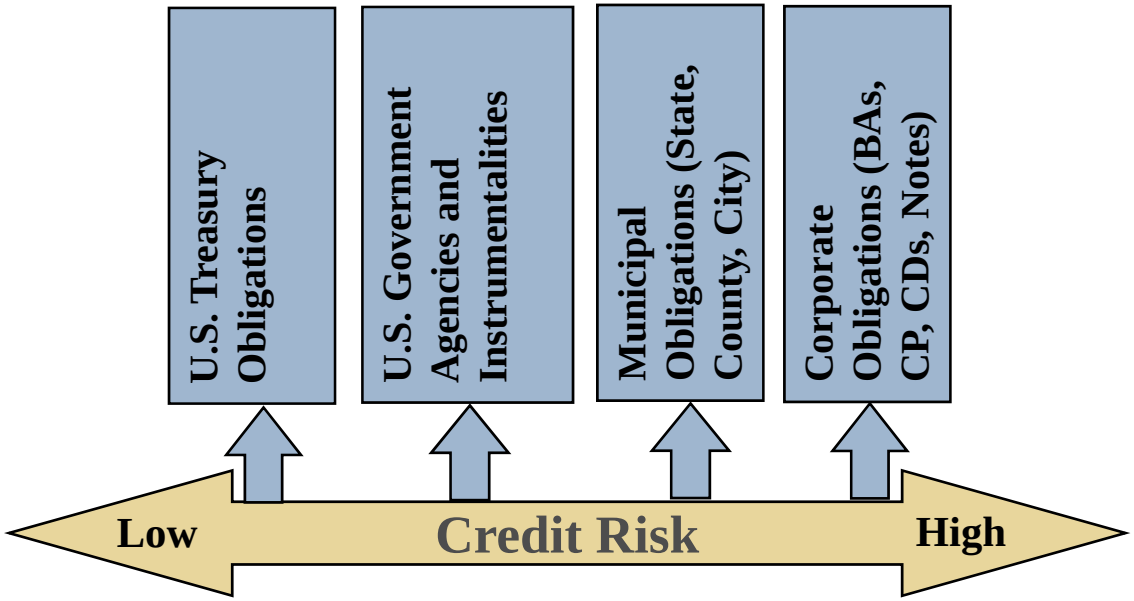
Liquidity Risk

- 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
- Long period to maturity



Credit Risk

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



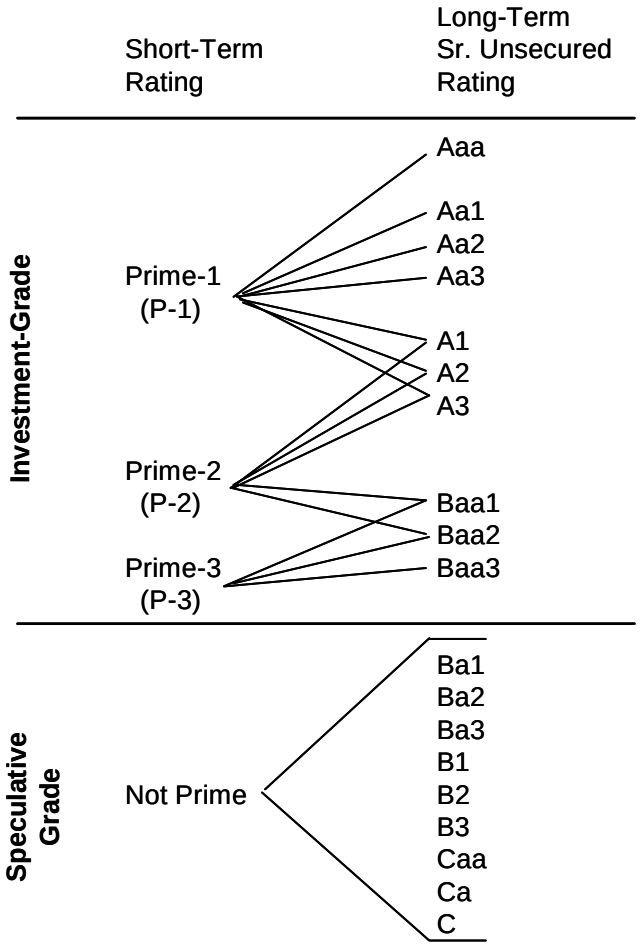
Monitoring Credit Risk

- Nationally Recognized Statistical Rating Organizations ("NRSRO")
  - Designated by the SEC
- Largest and most active NRSROs
  - Standard & Poor's
  - Moody's Investors Service
  - Fitch Ratings

Ratings

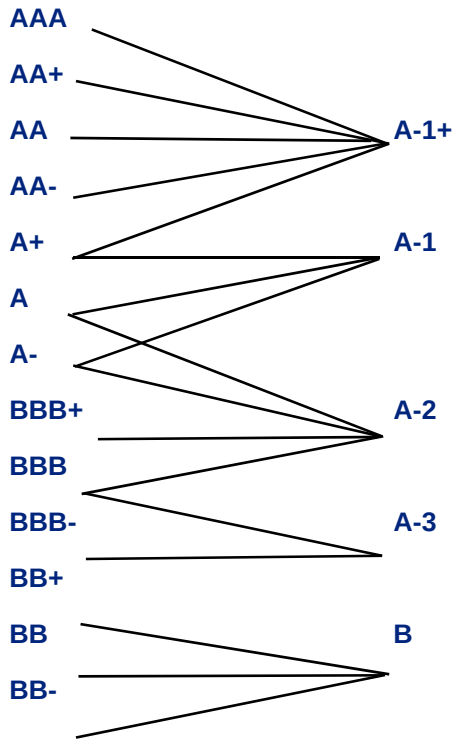
S&P	Moody's	Explanation of Rating
AAA	Aaa	High quality. Smallest degree of investment risk
AA	Aa	High quality. Differs only slightly from highest-rated issues
A	A	Adequate capacity to pay interest and repay principal
BBB	Baa	More susceptible to adverse effects of changes in economic conditions
BB	Ba	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

Short-Term and Long-Term Ratings



Source: Moody's Investors Service, Commercial Paper Default and Rating Transitions, 1972-1995

Correlation of CP Ratings with Debt Ratings



Source: Standard & Poor's Commercial Paper Guide

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
  - Mortgage backed securities
  - Securities with larger earlier cash flows (high coupon bonds)

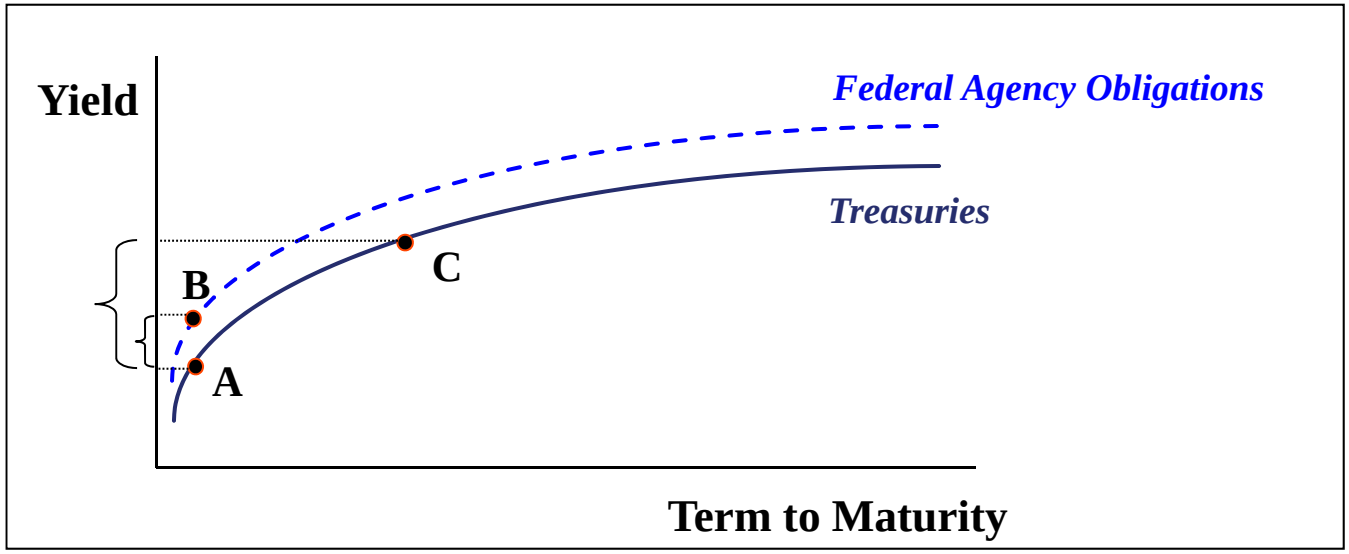
Developing an Investment Strategy

Basic Considerations

- Safety of principal
- Securities and maturities permitted by California Statutes
- Securities and maturities permitted by your investment policy
- Cash flow needs
- Diversification
- Risk tolerance
- Capabilities of investment staff
- Relative value of securities being purchased

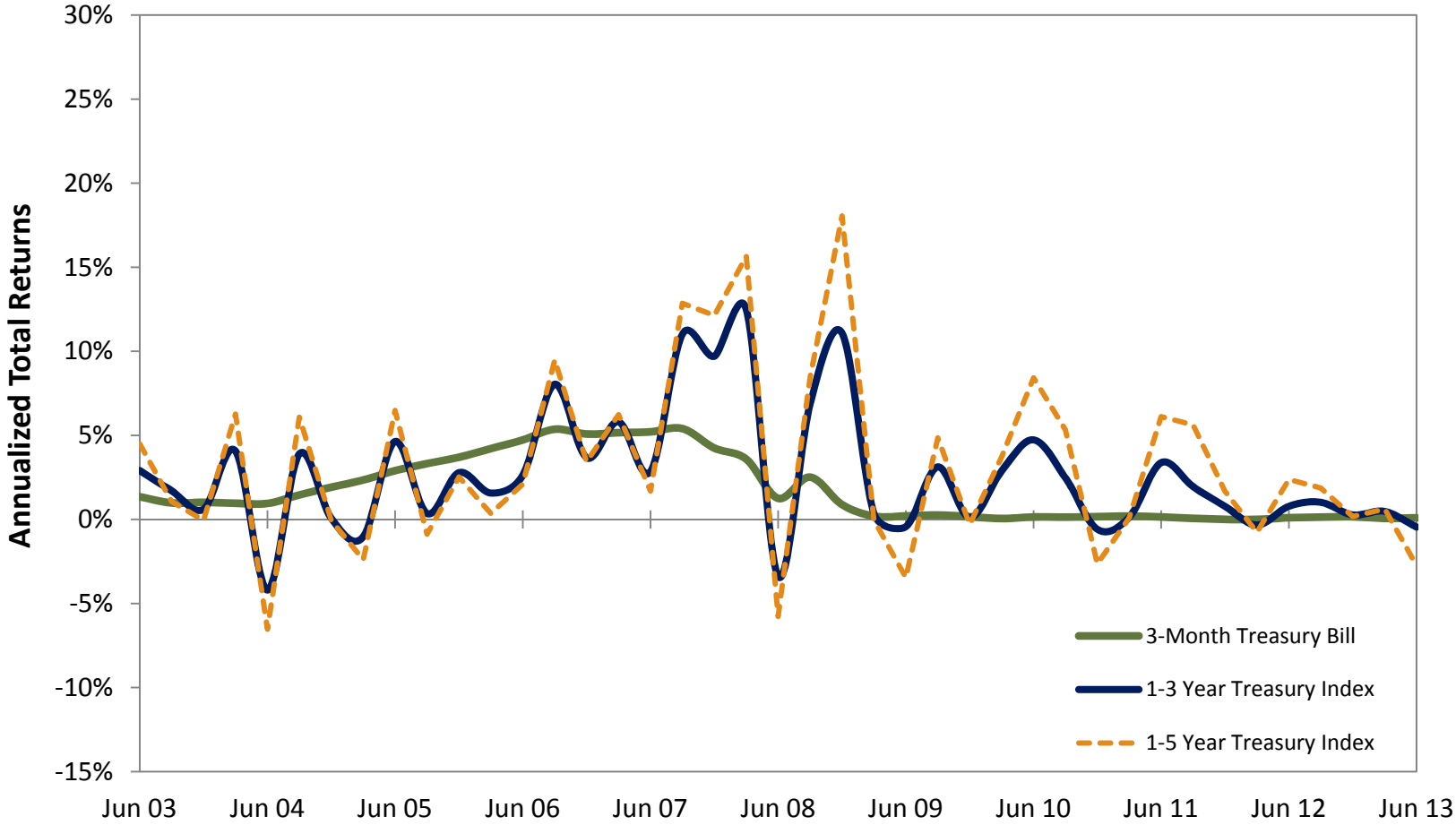
Average Maturity

- Average maturity determines investment performance
- To increase returns:
  - extend maturities
  - increase credit risk
  - reduce liquidity



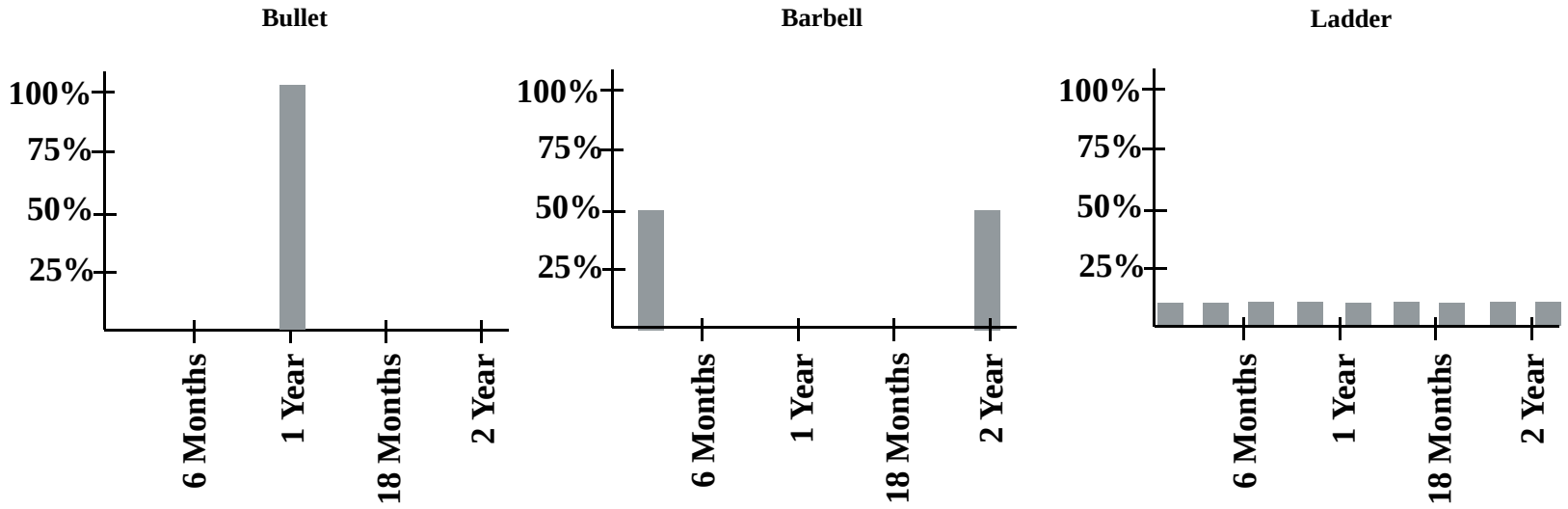
Benchmark Volatility

Comparison of Annualized Quarterly Returns
June 2003 - June 2013

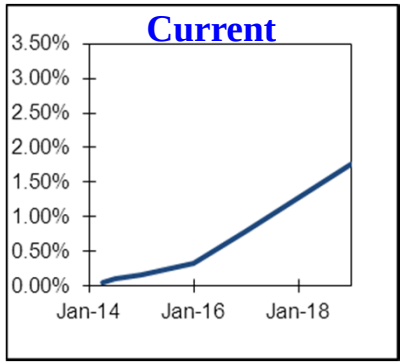


Portfolio Structuring

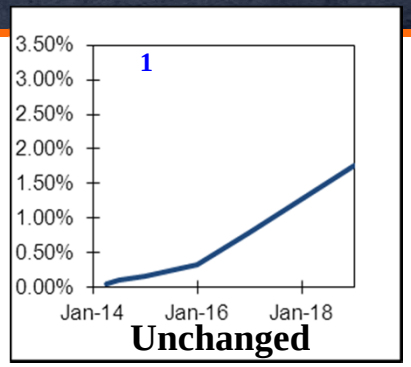
- Many ways to achieve a specific target maturity
- The optimal structure will depend on the shape of the yield curve

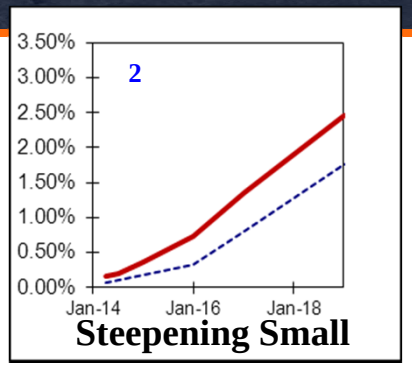


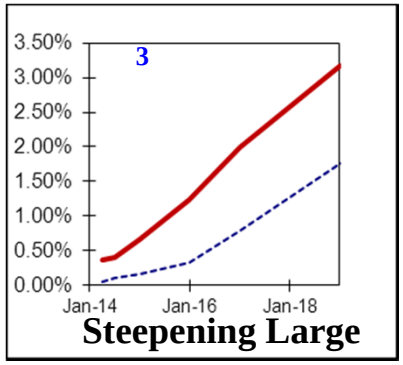
The Market

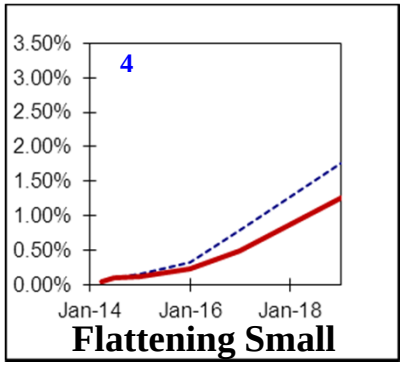


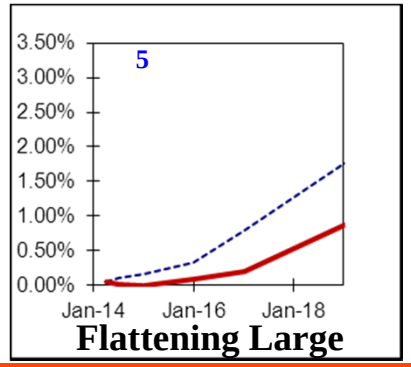
Current Market *	
Overnight	0.07%
3 Month Agency	0.06%
6 Month Agency	0.10%
1 Year Agency	0.17%
2 Year Agency	0.33%
3 Year Agency	0.80%
5 Year Agency	1.76%

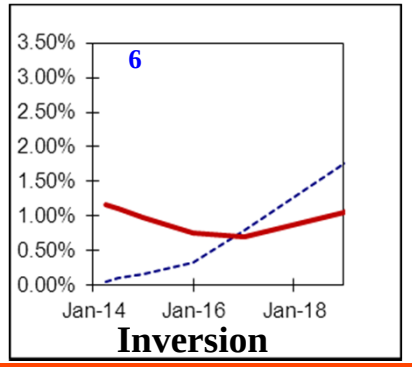












Sample Portfolios

- Structure a portfolio of $14,000,000
- Will need $5,000,000 in the next 6 months
- A – Bullet in 6 months
- B – Barbell $7,000,000 overnight and $7,000,000 in 5 years
- C – Ladder
- B – Bullet in 3 years

What happens to each investment strategy in the 6 scenarios?

Is there one that always does the better?

GASB 40

"I was floating in a tunnel toward a very bright light and then a voice told me I had to go back and finish listening to the presentation."

Background

- GASB previously addressed risk disclosure in Statement No. 3
- Statement No. 3 focused on credit risk including custodial credit risk
- GASB 40 Objectives:
  - Update custodial credit risk disclosure
  - Establish comprehensive disclosure requirements for other risks

Level of Detail

- All GASB 40 disclosures must be broken down at least by investment type
- For GASB 40 purposes, an investment in an external investment pool (County pool, LAIF, CAMP, etc.) is a single investment
- Don't have to "look through" the pool to give disclosures for the various investment types contained in the pool
- Generally, if a major **fund has its own investments** (such as those held in a separate fiscal agent account associated solely with that fund) **and** those investments have risks that are **materially different** than the risks of that agency's entire portfolio, additional disclosures may be required

Investment Policy and State Law

- Allowable investments (and any limitations) under entity's investment policy must be disclosed
- Differences between investment policy and requirements of state law should be disclosed
- If government's policy is to simply comply with state investment statues, relevant portions of statue relating to risk should be disclosed
- Violations of investment policy or state law must also be disclosed
- Best practice is for monthly Treasurer's Report to provide information as to compliance with these requirements (e.g., identifying the percentage of the portfolio that is held in each category of investments that is subject to limitation)
- Prospectuses should also be retained for examination by auditors (for money market funds, mutual funds, and any unusual investments)
- Bond requirements for investment of bond proceeds should be disclosed

Credit Risk

- ***Credit risk*** — the risk that the issuer will not fulfill its obligation to the holder of the investment
- Disclose any state laws or policy requirements associated with this risk (i.e., where a **minimum** rating has been stipulated)
- If no requirement for a minimum rating, so state

Credit Risk

- Only need to disclose ratings as of end of year
- Ratings by a nationally recognized statistical rating organization (NRSRO)
  - If split rating, use lowest (or show both)
  - By investment type or by credit rating
- Securities **explicitly** guaranteed by the U. S. government are not considered to have credit risk
- Disclose credit quality ratings of external investment pools, money market funds or other pooled investments
- Identify unrated investments
- Retain for auditor's review evidence of rating as of year end

Custodial Credit Risk - Deposits

- **Deposits** are checking accounts, savings accounts, and traditional non-negotiable certificates of deposit, etc.
- If a bank account (or CD) is not collateralized, disclose the dollar amounts in excess of FDIC insurance limits
- Retain evidence of collateralization for auditors

Custodial Credit Risk - Investments

- Exception based
- Disclose investments that are uninsured and not registered in the government's name that are held by the:
  - Counterparty (i.e., the broker-dealer), or
  - Counterparty's trust department or agent, but not in the government's name

What Does "In the Government's Name" Mean

Two criteria must be met:

1. The holder of the securities must hold them in an account for that institution's customers (i.e., segregated from the institution's own investments) – GASB considers this requirement to be met if the securities are held in a "street name" or "nominee name" account
2. The holder must have records that identify the local government as the owner of the security (rather than tracking the securities by broker-dealer)

Custodial Credit Risk

- Best practice is for investments to be held by an independent custodian other than the broker-dealer that was used to purchase the investment
- No disclosure for external investment pools and money market mutual funds
- Includes collateral on repos and securities lending

Concentration of Credit Risk

- Any one issuer that represents 5 percent or more of the entity's total portfolio
- If a major fund has its **own** investments, then this rule is applied at the fund level
- Exclude:
  - Assets issued or explicitly guaranteed by the U. S. Government
  - Mutual funds
  - External investment pools (CAMP, LAIF, etc.)

Interest Rate Risk

- *Interest rate risk*—the risk that changes in interest rates demanded by the market will adversely affect the fair value of an investment
- One of these methods must be used:
  - Specific identification
  - Segmented time distribution
  - Weighted average maturity
  - Simulation model
  - Duration

Interest Rate Risk

- Method used should be consistent with how that local government manages interest rate risk
- Can use different methods for different investments
- Disclose assumptions made for calculation purposes
- Similar investments may be aggregated
- Disclosure detail should be broken down by investment type
- Investments with values that are highly sensitive to changes in market interest rates must be described in the notes

Examples of Highly Sensitive Investment

- **Auction rate securities**—securities whose interest rates are set by frequent remarketing
- **Coupon multipliers**—a variable rate instrument where the interest rate is expressed as a *multiple* of an underlying index.
- **Variable rates with floors, caps, and collars**
- **Securities with callable step-up features**
- **Range notes**—interest rates depends on whether or not the benchmark index falls within a pre-determined range.
- **Inverse floaters**—interest rate moves in the opposite direction of the underlying index
- **Mortgage-pass through securities**—cash flows determined by the mortgage payments of an underlying pool of mortgages

Highly Sensitive Investments

- Retain for auditors documentation of the details of investment characteristics (descriptions on investment statements and trade tickets do not necessarily provide the level of detail needed to be examined by the auditors)
- For this reason, entities often retain for auditors' review Bloomberg print shots (obtained from the broker) that display all of the characteristics necessary for the auditors to evaluate whether or not the investment has a fair value that is highly sensitive to changes in market interest rates

Specific Identification

		Maturity Date
U.S. Treasury note	$ 6,000,000	November 6, 2013
U.S. Treasury bond	3,000,000	October 4, 2015
U.S. Treasury strip	2,000,000	March 7, 2014
Federal Farm Credit Note	35,000,000	December 31, 2016
ABC corporate note	5,000,000	February 18, 2015
LEF commercial paper	3,000,000	September 15, 2014
Bankers acceptances	2,000,000	September 6, 2014
GNMA	3,000,000	May 17, 2017
State investment pool	15,000,000	1.47 year average
Held by bond trustee:		
Money market funds	500,000	.13 year average
Investment contracts	1,000,000	October 1, 2022
Total	$75,500,000	

Segmented Time Distribution

Investment Type		Remaining Maturity (in Months)			
		12 Months Or Less	13 to 24 Months	25-60 Months	More Than 60 Months
U.S. Treasury notes	$ 6,000,000	6,000,000	-	-	-
U.S. Treasury bonds	3,000,000	-	-	3,000,000	-
U.S. Treasury strips	2,000,000	-	-	2,000,000	-
Federal agency securities	35,000,000	5,000,000	22,000,000	8,000,000	-
Corporate medium term notes	5,000,000	-	5,000,000	-	-
Commercial paper	3,000,000	3,000,000	-	-	-
Bankers acceptances	2,000,000	2,000,000	-	-	-
Mortgage-backed securities	3,000,000	-	-	3,000,000	-
State investment pool	15,000,000	15,000,000	-	-	-
Held by bond trustee:					
Money market funds	500,000	500,000	-	-	-
Investment contracts	1,000,000	-	-	-	1,000,000
Total	$75,500,000	31,500,000	27,000,000	16,000,000	1,000,000

Weighted Average Maturity

Investment Type	Weighted Average Days to Maturity
U.S. Treasury notes	852
U.S. Treasury bonds	1,642
Federal agency securities	947
Corporate medium term notes	1,460
Commercial paper	87
Mortgage backed securities	2,012

Simulation Model

- *Simulation model*—calculates effect on investment fair values for hypothetical (negative) changes in interest rates.
- If this is not being used during the year to monitor interest rate risk in your portfolio, you probably should not use this method for the cash and investment note.

Duration

- *Duration*—calculates in years or months the time to elapse for a group of investments to become due and payable (weighted for the *present value* of investment cash flows).
- If this is not being used during the year to monitor interest rate risk in your portfolio, you probably should not use this method for the cash and investment note.

Duration

- Duration shows that price volatility is influenced by:
  - Timing of cash flows
  - Influenced by coupon rate and yield to maturity
- The higher the duration, the greater the price volatility for changes in interest rates

Risk/Return of Various Benchmarks

10 Years Ended 12/31/2013

Merrill Lynch Index	Duration	Average Annual Return	Cumulative Value of $100,000,000	Quarters With Negative Returns
3-Month Treasury Bill	0.23 Years	1.67%	$118,061,183	0 out of 40
6-Month Treasury Bill	0.48 Years	1.97%	$121,532,948	0 out of 40
1-3 yr Agency	1.77 Years	2.83%	$132,189,449	5 out of 40
1-5 yr Agency	2.48 Years	3.18%	$136,813,297	6 out of 40
3-5 yr Agency	3.57 Years	4.06%	$148,943,300	7 out of 40
5-7 yr Agency	5.33 Years	5.10%	$164,477,339	12 out of 40
1-3 yr TSY/Agency	1.89 Years	2.64%	$129,840,427	6 out of 40

Foreign Currency Risk

- *Foreign currency risk*—risk that changes in foreign exchange rates will adversely affect the fair value of an investment
- Only applies to investments that are denominated in foreign currencies.
- Can be satisfied by listing the *specific investments* showing amount, maturity, and identification of the foreign currency

Total Return

GIPS

- GIPS stands for Global Investment Performance Standards
  - The CFA Institute sponsored and funded the GIPS Committee
  - The first GIPS were published in April 1999, the second edition of the GIPS was published in 2005, and the 2010 edition of the GIPS standards is the most recent edition.
  - The standards will be reviewed and updated every 5 years

GIPS

- Created and funded by CFA Institute
- Provides an ethical framework for the calculation and presentation of performance history
- Voluntary (not mandated by SEC or any other body)
- Gives clients and prospects the ability to fairly compare performance of investment managers
- Standardized framework for presentation
- Outlines necessary internal controls

Calculation Methodology Requirements

- Total returns must be used
- Time-Weighted Rates of return must be used
- Composite returns must be asset weighted

Calculation Methodology

The Modified-Dietz method of calculation is defined as follows:

$$\textbf{Rate of Return} = \frac{\textbf{EMV} - \textbf{BMV} - \textbf{NCF}}{\textbf{BMV} + \textbf{WCF}}$$

where:

EMV is the market value including accrued interest at the end of period t_0

BMV is the market value including accrued interest at the end of period t_{-1}

NCF is the net cash flow during the period

WCF is the daily weighted cash flow during the period

(sum of each individual cash inflow times the number of days it was invested and each individual cash outflow times the number of days it was not invested)

WCF = CFd*(Dm-d+1)/Dm

where:

CFd is the net cash flow for the day

d is the day of the month

Dm is the number of days in the month

Calculation Example Period #1

- Beginning value of $1,000,000
- Client withdraws $45,000 on the 15th of the month
- Ending value of $950,000
- Weighted Cash Flow = 45,000 * ((30 – 15 + 1)/30) = 24,000
- Net Cash Flow = ($45,000)

(950,000 – 1,000,000 – -45,000) ÷ (1,000,000 + 24,500) =
-5,000 ÷ 1,024,500 = -0.49%

$$\textbf{Rate of Return} = \frac{\textbf{(EMV – BMV – NCF)}}{\textbf{(BMV + WCF)}}$$

Calculation Example Period #2

- Beginning value of $950,000
- Client deposits $55,000 on the 10th of the month
- Ending value of $1,007,500
- Weighted Cash Flow = 55,000 * ((31 – 10 + 1)/31) = $39,032
- Net Cash Flow = $55,000

(1,007,500 – 950,000 – 55,000) ÷ (950,000 + 39,032) =

2,500 ÷ 989,032 = +0.25%

$$\textbf{Rate of Return} = \frac{\textbf{(EMV – BMV – NCF)}}{\textbf{(BMV + WCF)}}$$

Geometrically Linking Returns

- Year 1 return = -1.49%
- Year 2 return = +2.35%
- (((1 + -1.49%) * (1 + 2.35%))^(1/2)) – 1 =
- ((0.9851 * 1.0235)^(1/2)) – 1 =
- (1.00825^(1/2)) – 1 =
- 0.99879 – 1 = 0.41%

Exposure Draft on Fair Value

What Will This Statement Do

- Clarify how fair value should be measured for those assets (such as investments) and liabilities (such as derivatives that are in a liability position) that are currently required to be reported at fair value
- This statement will not expand the use of fair value reporting to other liabilities (other than where currently required)
- This statement will not expand the use of fair value reporting to other assets (other than where currently required)
- However, the definition of investments subject to fair value will be expanded somewhat

Exposure Draft of Concept Statement

- Definition of an **investment** is expanded
  - A security or other asset that a government holds primarily for the purpose of income or profit
  - Ability to generate cash
  - To be sold to generate cash
  - Procure services for the citizenry (land and land rights, natural resources, real estate, etc.)

Expanded Scope of Fair Value Reporting

- Examples of expanded definition of *investment*:
  - Real estate held for investment purposes
  - Intangible assets held for investment purposes
  - Land rights held for investment purposes (such as oil and gas rights)
  - Natural resources held for investment purposes
  - Alternative investments
  - Stock warrants and stock rights
  - Unit investment trusts and closed-end mutual funds

Measurement Approaches

- *Initial transaction* date based – amount assigned when the asset was acquired or liability was incurred, including subsequent modifications such as depreciation or impairment
- *Current financial statement* date based – amount assigned when the asset or liability is remeasured as of the financial statement date
- Initial amounts are generally better suited to presenting information about cost of services
- Re-measured amounts are generally better suited to presenting financial position

Fair Value

- Price that would be received to sell an asset or paid to transfer a liability in an orderly transaction
- An exit price
  - Not adjusted for transaction costs
- Market based
  - Fair value measurement using assumptions market participants would use

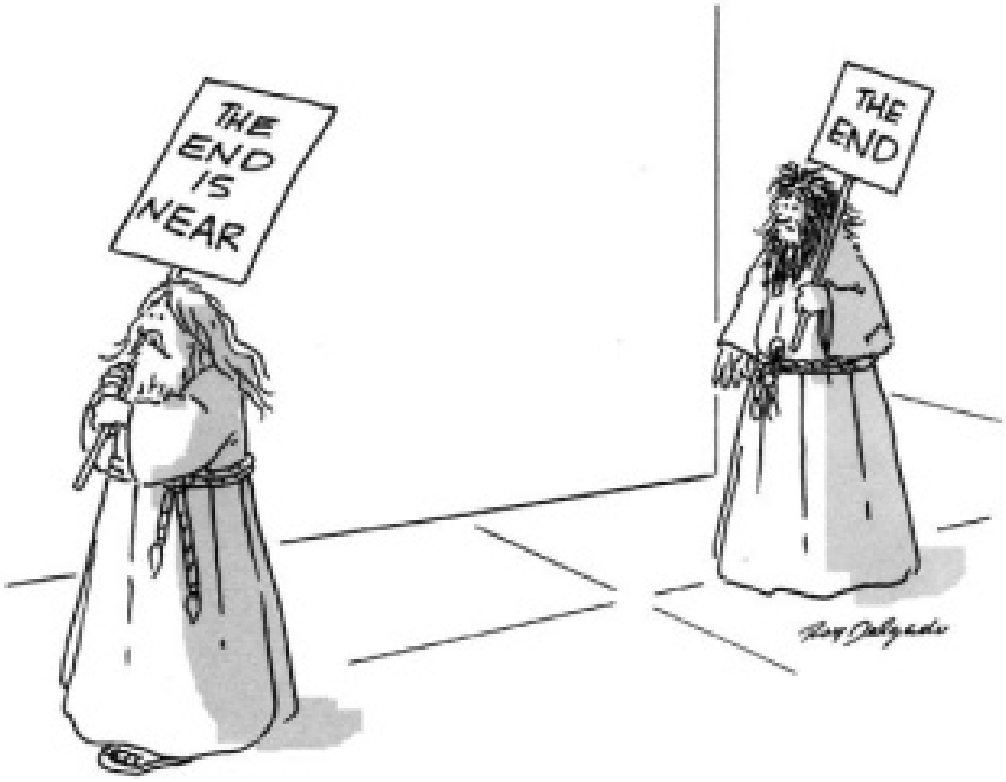
Hierarchy of Fair Value Inputs

- **Level 1** – quoted prices in active markets for identical assets or liabilities
- **Level 2** – quoted prices for similar assets or liabilities
  - quoted prices for identical or similar assets/liabilities in markets that are not active
  - Other than quoted prices that are observable
- **Level 3** – unobservable inputs

Disclosure of Fair Value Inputs

	FYE	Level 1	Level 2	Level 3
Debt securities				
U.S. Treasury	$ 100	$ 20	$ 80	
Corporate bonds	25	5	20	
Total debt securities	125	25	100	0
Equity securites				
Financial services	50	50		
Health care	30	30		
Total equity securities	80	80	0	0
Hedge fund investments				
Equity long/short	40		40	
Real estate fund	20			20
Total hedge funds	60	0	40	20
Total fair value	$ 265	$ 105	$ 140	$ 20

* For illustrative purposes only.


THE END IS NEAR
THE END

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