


**89TH ANNUAL WEST TEXAS
COUNTY JUDGES AND
COMMISSIONERS ASSOCIATION
CONFERENCE**

Wednesday, April 25, 2018
10:15 – 11:05 a.m.

**“4.010 Financial
Accounting:
Investments”**

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 TEXAS ASSOCIATION of COUNTIES

West Texas County Judges and Commissioners Assoc.

INVESTMENT ACCOUNTING


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Why the Court Gets Investment Reports

- ▶ Court is *statutorily* the ultimate fiduciary on portfolio
- ▶ Court sets parameters in its investment policy each year
- ▶ Are the investments following the policy guidelines?

- ▶ These are citizen's funds and your assets

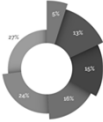
- ▶ Investments *always represent risk*
- ▶ You must look for the risks



What the Court Needs To Know

- ▶ A macro view of the portfolio
 - ▶ The 'big' picture
 - ▶ The summary not every detail

- ▶ Does the portfolio represent and give the County:
 - ▶ safety
 - ▶ liquidity
 - ▶ diversification
 - ▶ yield



PFIA Gives Guidelines and Flexibility

- ▶ Your policy chooses from a menu of available investments

- ▶ Your investments are very restricted
 - ▶ No stocks – don't compare to stocks
 - ▶ Little risk – so restricted yields
 - ▶ Highest credit quality

- ▶ Basically:
 - ▶ US Government investments
 - ▶ Money markets (pools and money market funds)



Key Concepts in Investment Safety

- ▶ The key concepts focus on safety and are shown in reports

- ▶ Maximum maturity

- ▶ Maximum weighted average maturity

- ▶ Diversification/Allocation

- ▶ Not sheltering but nourishing



Key Security Accounting Concepts to Know

- ▶ Weighting information

- ▶ How the security is bought
 - ▶ Par
 - ▶ Premium
 - ▶ Discount

- ▶ How it changes value over time
 - ▶ Accretion
 - ▶ Amortization
 - ▶ Gain/losses

- ▶ How securities earn

- ▶ Benchmarks



Two Types of Securities

▶ **Money market** = created with maturities 1 year or less

▶ **Here you earn solely from accretion of principal**

- ▶ US Government > T-Bills
- ▶ US Agencies > Discount Notes
- ▶ Local Government > BANS, TRANS
- ▶ Corporations > Commercial Paper



▶ **Fixed income** = created with maturities 1 year or more

▶ **Here you can earn from principal and interest**

- ▶ US Government > Treasury Notes/Bond
- ▶ US Agencies > Agency Notes
- ▶ Local Government > Long-term Bonds
- ▶ Corporations > Corporate Notes



What I Need to Know about Investment Accounting

▶ The book value of my portfolio

- ▶ What is my investment worth throughout its life

▶ The market value of my portfolio

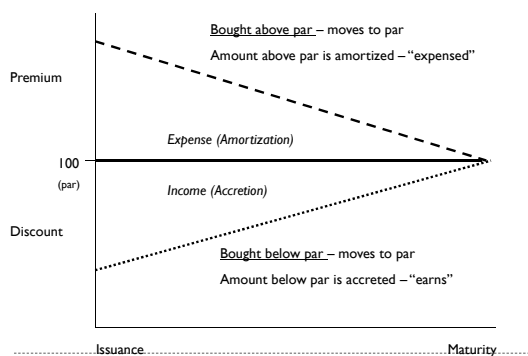
- ▶ What could I sell it for if I need to
- ▶ Less important since you are buy-and-hold portfolios

▶ How these values are changing

- ▶ Illustrates volatility
- ▶ Volatility = risk
- ▶ How that affects my strategy



BOOK Values Move Only Straight to Par



Market Values: Prices and Yields Move Inversely

A 5% coupon at par (100)

Coupon = 5% Yield = 5%

Market Values: Prices and Yields Move Inversely

If Rates Go UP

A 5% coupon is not worth as much if rates go up so price goes down

Coupon = 5% Yield = 6%

Market Values: Prices and Yields Move Inversely

If Rates Go DOWN

A 5% coupon is worth more if rates go down so price goes up

Coupon = 5% Yield = 4%

How Do We Earn?

- ▶ Earnings come everyday just like your pay basis – not tied to cash
- ▶ Earnings come from only two sources:
 - ▶ Principal
 - ▶ The value of the principal increases
 - ▶ Interest
 - ▶ A note's coupon accrues then pays on a set schedule
 - ▶ Interest accrues then pays on a fund/pool – usually monthly
 - ▶ A CD usually accrues then pays at maturity



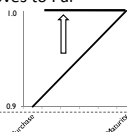
Accounting Three-Step

- ▶ Entry made when security is bought
 - ▶ Capturing detail and position value
- ▶ Entries made monthly
 - ▶ Capturing interest accruals
 - ▶ Capturing cash flows from coupons
 - ▶ Capturing changes in the principal owned (book value)
- ▶ Entry made at maturity
 - ▶ Capturing last interest payment
 - ▶ Capturing the repayment of your principal



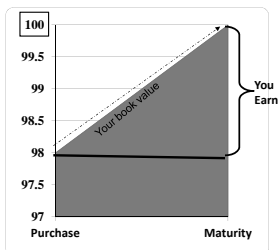
How Do We Earn? Every Day!

- ▶ On interest
 - ▶ A CD is bought at Par and stays at Par (100¢ = \$1)
 - ▶ It's *principal* never changes
 - ▶ It must earn on the coupon (interest)
- ▶ On Principal
 - ▶ A T-Bill has no coupon so it has to earn on principal only
 - ▶ You buy it at a discount and the book value moves to Par
 - ▶ You buy it at \$0.90/\$1 and it matures at \$1/\$1



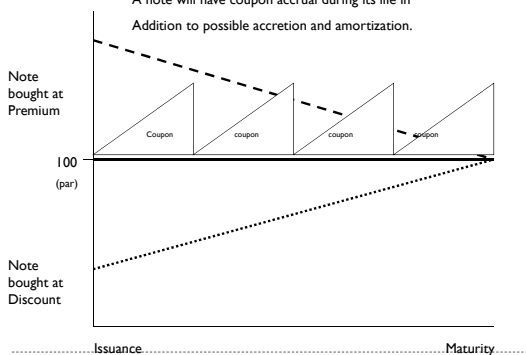
Discount Structured Securities

- ▶ Always bought at a price less than 100
- ▶ Always accrete on a straight line
- ▶ Earn daily and only through **accretion**
- ▶ Buying a \$100,000 T-Bill
 - ▶ Price = \$ 98,000
 - ▶ You own it 200 days until maturity
 - ▶ Discount / # of days
 - ▶ $2,000/200 \text{ days} = \$ 10 / \text{day}$



You buy it at \$ 98,000
it matures at \$ 100,000

A note will have coupon accrual during its life in
Addition to possible accretion and amortization.



Accrued Interest: Earnings from Banks, Pools and Funds

- ▶ Both these earn for you from interest only
 - ▶ You report the beginning principal as beginning book value
 - ▶ Add the earnings from the month as interest
 - ▶ You report the ending balance with the principal plus interest
- ▶ Money market mutual funds (MMMF)
 - ▶ MMMF's under Act must Strive for \$1 NAV
 - ▶ They accrue daily and pay monthly
- ▶ Bank accounts (including money market *accounts*)
 - ▶ All accounts accrue on balances daily and pay monthly

Portfolio Earnings Move Every Day/Month

- ▶ Accrued interest
 - ▶ Pools and banks accrue on your accounts
 - ▶ Accrue daily and pay monthly
- ▶ Plus Accretion
 - ▶ Any security bought below par (at a discount) is accreting daily
- ▶ Minus Amortization
 - ▶ Any security bought above par (at a premium) is amortizing daily



Interest Distribution

- ▶ Effectively distributing earnings to various funds
- ▶ Replaces separate portfolios
- ▶ May add to your overall yield by better utilization
- ▶ Distributed on a pro rata basis by percent of fund
 - ▶ Just like a pool or fund distributes to you
- ▶ Accuracy
- ▶ Ease
- ▶ Timeliness



Distributing Interest

Total Earnings = \$10,000		
Balance	Percent of Balance	Distribution of Earnings
150,000	8.14%	813.67
40,000	2.17%	216.98
101,500	5.51%	550.58
250,000	13.56%	1,356.12
90,000	4.88%	488.20
112,000	6.08%	607.54
75,000	4.07%	406.83
125,000	6.78%	678.06
900,000	48.82%	4,882.02
1,843,500	100%	10,000.00

Yield

- ▶ Yield allows us to compare any security to another
 - ▶ This is the common denominator

- ▶ Your yield remains the same for you as long as you own it
 - ▶ Your 'holding' yield

- ▶ Yield is a calculation based on price and coupon
 - ▶ Coupons on debt securities will not change (they are "fixed")
 - ▶ Market price will change daily
 - ▶ If your book value is > market value you have a _____?



Unrealized and Realized

- ▶ A gain or loss is not 'realized' until it is taken
- ▶ This is the difference between market and book value
- ▶ Differences between book and market show volatility
- ▶ What is the risk of taking out a big gain? big loss?



Pricing

- ▶ Require an independent source
 - ▶ Brokers, banks, IDC, Sungard, Thomson-Reuters

- ▶ **PRICE X FACE = MARKET VALUE**

- ▶ Gains and Losses
 - ▶ realized and unrealized

- ▶ Structured securities can be tricky
 - ▶ Calls, step-ups, floaters, indexed, TIPS, pools

- ▶ Mortgage backed securities need more
 - ▶ particularly subjective/judgmental pricing
 - ▶ Prepayment speed assumptions, PSA rates



A Cardinal Reporting Rule: Weighting

- ▶ **Weighting** the Information
 - ▶ All weighting is done on book value
 - ▶ Shows level of risk
- ▶ Illustrates strategy
 - ▶ Extending or shortening
- ▶ Recognizes the impact of
 - ▶ Dollar value
 - ▶ Maturity
 - ▶ Yield

Book Value	Days to Maturity	Net
1,000,000	250	250,000,000
500,000	100	50,000,000
500,000	360	180,000,000
250,000	300	75,000,000
1,000,000	200	200,000,000
1,500,000	100	150,000,000
1,500,000	30	45,000,000
750,000	30	22,500,000
1,000,000	90	90,000,000
8,000,000	132.8 days	

Weighted Average Yield

- ✓ The weighted average yield will accurately describe the performance of a buy-and-hold portfolio.
- ✓ Weighted yield is a measure against your benchmark.
- ✓ This measure does not consider market value impact.
- ✓ This measure reflects the price at which you bought the securities.



Calculating Weighted Average Yield

Weighted yield allows comparison to benchmark

Book Value	Yield	Calculation
1,000,000	0.70	700,000
500,000	0.30	150,000
500,000	0.10	50,000
250,000	0.60	150,000
1000,000	0.55	550,000
1,500,000	0.90	1,350,000
1,500,000	0.01	15,000
750,000	0.65	487,500
1,000,000	0.99	990,000
8,000,000	0.55%	4,442,500

Your Strategy Protects You – Look for It

- ▶ Buy and Hold
- ▶ Diversification by issuer or market sector
- ▶ Laddering out to meet liabilities
- ▶ Combining fund for investment



Reporting the Results

- ▶ The solid accounting should result in *informative* reports
- ▶ Show the detailed accounting but focus on information
- ▶ Detail information
 - ▶ Archival, full details on each position
 - ▶ Bank positions and compensating balances
- ▶ Summary information
 - ▶ Book and market values to measure value and volatility
 - ▶ Risk parameters: weighted maturities and weighted yield



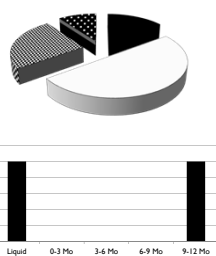
What Should the Court Look For On Reports?

- ▶ Diversification
 - ▶ By market sector and maturity
 - ▶ Shows strategy and planning – using the markets
 - ▶ Laddered maturities fulfill upcoming liabilities
- ▶ Maximum weighted average maturity
 - ▶ Shows how long before funds are liquid
- ▶ Benchmark comparison



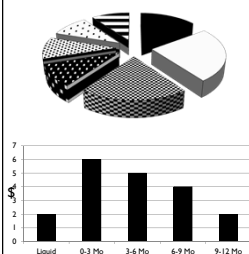
See Any Problems Here?

▶ Begin Book	20,000,000
▶ Begin Market	18,000,000
▶ Yield	2.0%
▶ WAM	200 days
▶ End Book	17,000,000
▶ End Market	14,000,000
▶ Yield	2.6%
▶ WAM	230 days
▶ Benchmark	1.8%



See Any Problems Here? What do you see?

▶ Begin Book	20,000,000
▶ Begin Market	18,000,000
▶ Yield	1.85%
▶ WAM	157 days
▶ End Book	19,000,000
▶ End Market	18,000,000
▶ Yield	1.80%
▶ WAM	145 days
▶ Benchmark	1.82%



Income Accounting Terms For Your Later Use

- ▶ Interest Earned = par x interest rate x time (I=PRT)
 - ▶ Time (day count method) varies by type of security
- ▶ Accrued Interest = interest earned since last interest payment
 - ▶ CDs may be either 360 or 365 days for calculation
- ▶ 0/360 basis (Agency, instrumentality, Municipal Notes)
 - ▶ Par x $\frac{\text{interest rate}}{360} \times \# \text{ days held in period}$ (*each month is 30 days regardless)
- ▶ Actual/Actual (T-Note)
 - ▶ Par x $\frac{\text{interest rate / payments per year}}{\# \text{ days in current coupon period}} \times \# \text{ days held in period}$

Questions ?

Thank you and good investing!