CPIM
Center for Public Investment Management

The Seal of the Treasurer of the State of Ohio
With God All Things Are Possible

A Program Brought to You By:
Josh Mandel
State Treasurer of Ohio

INVESTMENTS 240:

PRINCIPLES OF INVESTMENT ACCOUNTING

2013 CPIM Academy

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INVESTMENTS 240: PRINCIPLES OF INVESTMENT ACCOUNTING

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Investment Accounting System

- Ensures full disclosure and accountability (reports are public records)
- Accurately describes all investments
- Can be used to accurately measure performance
- Promotes “clean” audits

Investment Reports

- Components of investment reports include:
  - An inventory of all securities which includes CUSIP, par value, market value, book value, settlement date, maturity date, coupon rate, and yield
  - A record of all investment transactions (purchases, sales, calls, maturities)
  - A record of all income (interest received, realized capital gains)

Components of the Inventory

- ***CUSIP:*** Letter and number combinations assigned to identify publicly traded securities. Each number is unique to the issue.
- ***Par Value:*** The value of a bond at maturity; its future value.
- ***Market Value:*** The liquidation value of each security as of a specific date; may be greater (or less) than your purchase cost due to changing interest rates.

Components of the Inventory

- ***Book Value (Cost):*** The amount disbursed to purchase a security, including any accrued interest due to the seller on the settlement date.
  - The buyer will receive the entire coupon payment at the next interest payment date.

    Book Value = Principal + Accrued Interest

    (Principal Cost = Par Value * Purchase Price)
  - After the next interest payment is received, the accrued interest is amortized from the book value and the book value will equal the principal cost.

Components of the Inventory

- ***Settlement Date***: The date in which the securities are delivered versus payment. The legislation requires "delivery vs. payment" (DVP) and the use of a qualified safekeeping agent.
- ***Maturity Date***: The future date in which the par amount is paid to the investor. The par value will be paid at maturity, regardless of original purchase cost.

Components of the Inventory

- ***Coupon (or Rate)***: The annual percentage amount paid to an investor, based upon the par value of the bond; the rate may be fixed or variable.
- ***Yield to Maturity***: The rate of return anticipated on a bond if it is held to maturity.
  - If coupon < YTM, the bond was purchased at a discount.
  - If coupon > YTM, the bond was purchased at a premium.
  - If coupon = YTM, the bond was purchased at par (100).

The Portfolio Inventory

- Categorize investments by issuer and type
  - Issuers include: Fannie Mae (FNMA), Freddie Mac (FHLMC), Federal Home Loan Bank (FHLB), Federal Farm Credit Bank (FFCB), and Farmer Mac (FAMCA), U.S. Treasury (UST)
  - Types include: Callable bonds (fixed rate and step-ups), Non callable bonds (or bullets), Discount notes

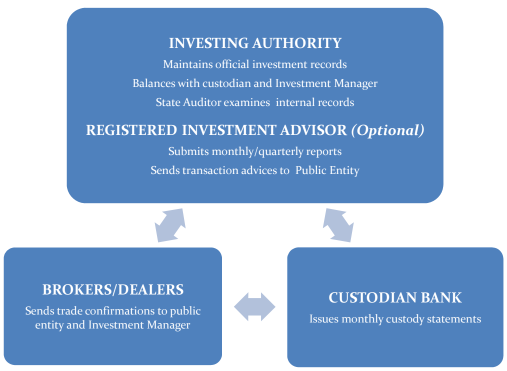
The Portfolio Inventory

- Assign a transaction number or some other form of internal identification number [useful during audits].
- Retain transaction numbers until the security matures or is sold.
- Include all details of the trade.

The Portfolio Inventory

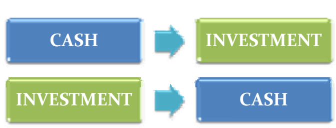
CUSIP	Investment #	Issuer	Par Value	Stated Rate	Maturity Date	Purchase Date	Days to Maturity	Yield to Maturity	Market Value	Accrued Interest At Purchase	Current Principal	Book Value
Commercial Paper - Discount												
36959HR17	13-0009	General Electric Capital Corp.	250,000.00	0.223	4/1/2013	11/29/2012	0	0.223	249,812.08	0.00	249,812.08	249,812.08
74433GR57	13-0012	Prudential Funding	1,000,000.00	0.142	4/5/2013	3/6/2013	4	0.142	999,883.33	0.00	999,883.33	999,883.33
36959HMV6	13-0011	General Electric Capital Corp.	250,000.00	0.233	8/21/2013	2/22/2013	142	0.233	249,712.50	0.00	249,712.50	249,712.50
	Commercial Paper - Discount Totals		**1,500,000.00**				**26**	**0.171**	**1,499,407.91**	**0.00**	**1,499,407.91**	**1,499,407.91**
Federal Agency - Coupon (NC)												
3133EAYL6	13-0007	Federal Farm Credit Bank	1,000,000.00	0.300	7/18/2014	8/6/2012	473	0.306	1,000,702.00	150.00	999,880.00	1,000,030.00
	Federal Agency - Coupon (NC) Totals		**1,000,000.00**				**473**	**0.306**	**1,000,702.00**	**150.00**	**999,880.00**	**1,000,030.00**
Federal Agency - Coupon (Callable)												
3133EAZG6	13-0003	Federal Farm Credit Bank	2,000,000.00	0.800	11/23/2016	7/26/2012	1332	0.807	2,000,118.00	Received	1,999,400.00	1,999,400.00
3134G3C81	13-0006	Federal Home Loan Mortgage Corp.	1,000,000.00	1.010	8/22/2017	8/22/2012	1604	1.010	1,001,288.00	0.00	1,000,000.00	1,000,000.00
3134G3C40	13-0005	Federal Home Loan Mortgage Corp.	1,000,000.00	0.915	8/23/2017	8/23/2012	1605	0.946	1,002,276.00	0.00	998,500.00	998,500.00
3136G0YE5	13-0008	Federal National Mortgage Assn.	900,000.00	1.000	8/28/2017	8/28/2012	1610	1.000	906,362.10	0.00	900,000.00	900,000.00
3135G0TM5	13-0013	Federal National Mortgage Assn.	3,000,000.00	1.020	1/30/2018	3/28/2013	1765	1.027	3,002,016.00	4,930.00	2,998,950.00	3,003,880.00
	Federal Agency - Coupon (Callable) Totals		**7,900,000.00**				**1597**	**0.956**	**7,912,060.10**	**4,930.00**	**7,896,850.00**	**7,901,780.00**
Money Market Funds												
GVIXX	MMF	Wells Fargo Advantage Government MMF	575,769.46	0.010	- -	- -	1	0.010	575,769.46	0.00	575,769.46	575,769.46
	Money Market Funds Totals		**575,769.46**				**1**	**0.010**	**575,769.46**	**0.00**	**575,769.46**	**575,769.46**
		Investment Totals	**10,975,769.46**				**1196**	**0.740**	**10,987,939.47**	**5,080.00**	**10,971,907.37**	**10,976,987.37**

Separation of Duties



The Concept of Asset Conversion

- An investment transaction is a conversion process.



  - Cash and investments are both assets of your public entity.
  - Adjustments are made between cash and investments when bond purchases, sales, maturities, and calls take place.

The Concept of Asset Conversion

- Cash account and Investment account
  - A bond purchased for $1 million reduces cash and increases investments on the settlement date by that amount.
  - The total assets of the public entity remains the same.
- The total asset value of the public entity increases when the investment pays interest (or when capital gains are realized).

Cash Increases → Income is credited.

Cash Basis Portfolio Accounting

- Public entity investment reports use cash basis portfolio accounting.
  - Purchase cost is reduced by the amount of purchased accrued interest at the next interest payment date.
  - Purchase cost remains level to the maturity or sale date.
  - Premiums are not amortized; discounts are not accreted.
  - Income is reported when received (realized).
  - Realized income is shown as proceeds minus cost.

Accrual Portfolio Accounting

- Purchase cost is adjusted daily (“adjusted book value”)
- Premiums are amortized over the life of the security
- Discounts accrete over the life of the security
- Interest accrues daily
- Capital gains/losses are based upon adjusted book value

Reconciliation Process

- The public entity's internal record-keeping is subject to audit by the State Auditor.
- Components of the Reconciliation Process:
  - Internal Records (the official books)
  - Custodian bank – safekeeping of investment assets, purchase cost, income, trade activity
  - Investment advisor (if used) – inventory of assets and individual purchase cost, income, list of transactions
  - Additional records – broker/dealer trade confirms

Reconciliation Process

- A "pay-in" is made by the Public Entity evidencing a receipt of funds. This transaction is based upon a transaction that lists the original investment cost minus the proceeds of a sale (or called bond).
- Other investment transactions to be "paid-in" include interest payments. It is recommended that a pay-in occurs when a receipt of funds occurs (credited) at the custodian; other acceptable methods include periodic pay-ins during the month provided that such multiple transactions are reconciled prior to the pay-in to ensure that the Public Entity's records balance with the custodian.

Common Reconciliation Errors

- Using market value rather than book value (cost)
- Failing to account for purchased accrued interest
- Not recognizing a discount at maturity
- Not amortizing a premium paid
- Not maintaining supporting documentation
- Not recognizing income when received

Net Effect Between "Total Cash" & "Total Investments"

- A bond with an original issue date of 2/13/13, purchased in the secondary market for a settlement date of 3/12/13, at a price of 99.95 with a coupon of 0.79% and maturing on 2/13/2017, will affect the total cash account as follows:

1,999,000.00	2,000,000 minus a discount of 1,000
+ **1,272.78**	Accrued interest paid at purchase = Initial Purchase Cost
= **2,000,272.78**	Reduction in total cash offset by an increase in total investments

Net Effect between "Total Cash" & "Total Investments"

- At the following interest payment date (08/13/2013), cash and investments are affected as follows:

  Gross interest payment received minus accrued interest paid at purchase = net interest income (the "pay-in" amount):

$ 7,900.00	Interest received (credited by the custodian bank)
- **1,272.78**	Accrued interest paid at settlement date (3/12/2013)
$ 6,627.22	Net interest income (Increase in cash offset by a decrease in investment cost)

Net Effect between "Total Cash" & "Total Investments"

- Another method is to increase cash by the full amount of the next interest payment received, which has been previously offset by a negative addition to income at the original settlement date of purchase.
- In the example shown, the amount of accrued interest paid at original purchase, $1,272.78, is treated as a negative to total cash on the purchase date, noted as a bracketed entry, (1,272.78).

Net Effect between "Total Cash" and "Total Investments"

- The amount of the decrease in the cash account and the amount of the increase in the investment account = the price of the bond, plus any accrued interest paid at purchase (with the amount of purchased accrued interest eventually reduced at the payment date of the next interest payment).
- Price may also include a premium paid at purchase, as illustrated in the following example:

Par	**$2,000,000.00**	
Premium	**1,000.00**	If purchased at $100.05 from previous example
Acc. Int	**1,272.78**	
Net	**$2,002,272.78**	Due on settlement date and paid upon delivery – DVP

- Purchased accrued interest is amortized at the next interest payment date. The premium is amortized at maturity.

Net Effect between "Total Cash" & "Total Investments"

- A straight interest payment (after the amortization has taken place) is paid-in totally, as an increase in the cash account.
  - This amount is recognized even if the amount of interest paid has been totally credited to the money market sweep account within the custody account.
  - From an accounting perspective, cash is debited and interest income is credited.

Net Effect between "Total Cash" & "Total Investments"

- On cash basis accounting (utilized by Ohio public entities), a negative pay-in may occur at maturity if the purchase premium of a bond exceeds the final interest payment amount.
- Additionally, in the case of callable securities where a premium has been paid, a lower yield will be realized if the bond is called prior to maturity.

Net Effect between "Total Cash" & "Total Investments"

- The premium paid remains a part of the fixed-cost at purchase, plus any accrued interest paid.
- The actual "yield" of the bond would have been reflective of current market yields at the time of purchase:
  - FFCB 0.79% due 2/13/17 with an original settlement date of 3/12/13 is currently offered at a price of 100.05, resulting in a true yield to maturity of 0.78% and a yield to call on 2/13/14 of 0.74%.

Checks & Balances

INVESTING AUTHORITY (PUBLIC ENTITY)

- Investment manager verifies inventory purchase cost with custody statement
- State Auditor examines individual transactions and compares to Custody statements and internal records of Treasurer (transaction advices and broker/dealer confirms)

BROKERS/DEALERS

- Affirm transaction with custodian
- Deliver/receive bonds vs. payment (DVP)
- Payment date = settlement date

CUSTODIAN BANK

- Pays for purchases/delivers sold bonds on settlement date DVP

Review & Questions