



# Investment Accounting & Reporting

Presented by: United American Capital Corporation



Dennis Yacobozzi

President/CEO

United American Capital Corporation

(614) 885-7596

[dyacobozzi@uacc.com](mailto:dyacobozzi@uacc.com)

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## Topics to Cover

- Separation of Investment Accounting/Reporting Duties
- The Concept of Asset Conversion
- Understanding Investment Reports
  - Reconciliation vs. Custody Statement
- Cash Basis vs. Accrual Accounting
- Accounting Treatment of Example Securities

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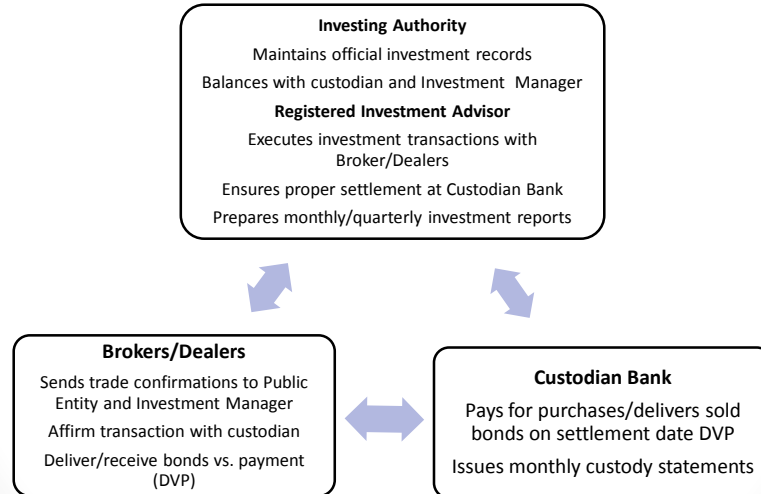
## Investment Accounting System for Public Entities

- A comprehensive investment accounting system ensures full disclosure and accountability.
  - Investment reports are public records.
  - Promotes “clean” audits.
  - Accurately describes all investment holdings and investment income.

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## Separation of Accounting Duties/ Checks and Balances



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## 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.

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## 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).



## Investment Reports

- Investment Report vs. Custody/Safekeeping Statement
  - What to reconcile?
  - How to assess performance?
  - How to account for accrued interest?

## Investment Report Components

- An Inventory of all securities
- A record of all investment activity for the period:
  - Purchases, Sales, Calls, Maturities
- A record of all income received during the period:
  - Interest Received, Realized Capital Gains
  - Investment Income = Proceeds - Cost

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## Components of Inventory

### Investment Report

- Description of security
  - CUSIP, Type, Issuer
- Par value
- Cost
  - Principal (Par x Purchase price)
  - Book value (Principal + Accrued)
- Market Value
- Coupon rate
- Maturity date
- Settlement date
- Yield to Maturity

### Custody Report

- Description of security
  - CUSIP, Type, Issuer
- Par Value (Face or Quantity)
- Cost (Tax Cost or Cost Basis)
- Market Value
- Coupon Rate
- Maturity Date
- Current Yield (Est. Yield)

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## Calculating Yield

### Current Yield

- Only refers to the yield of the bond at the current moment.
- Current Yield = Annual Interest Payment/ Current Market Value
- Does not take into account reinvestment risk or that bonds mature at par.

### Yield to Maturity

- Established at purchase and reflects the total return on the investment if held to maturity.
- Total Return includes income received and change in value.
- If a bond is purchased at:
  - Discount,  $YTM > CY > \text{Coupon}$
  - Premium,  $YTM < CY < \text{Coupon}$
  - Par,  $YTM = CY = \text{Coupon}$

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## Variants of Yield to Maturity

- Yield to Call:
  - When a bond is callable, the investor also looks at the yield to call, which is the same calculation as YTM but the cashflow is shortened to the expected call date.
  - When a callable bond is purchased at a discount: if the bond is called prior to maturity, the investor will realize a yield greater than the yield to maturity.
  - When a callable bond is purchased at a premium: if the bond is called prior to maturity, the investor will realize a yield less than the yield to maturity.
- Yield to Worst:
  - When a bond has option features, the YTW represents the lowest yield of the YTM, YTC, etc.

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# New 5 Year NC 1 Year Issue

GRAB

FHLB 3 08/23/23 Corp Settings Page 1/12 Security Description: Bond

Data not provided by Bloomberg 99 Notes 99 Buy 90 Sell

29 Bond Description 20 Issuer Description

Pages	Issuer Information	Identifiers
1) Bond Info	Name FEDERAL HOME LOAN BANK	ID Number AT9624053
2) Addtl. Info	Industry Government Agencies	CUSIP 3130AERM4
3) Reg/Tax	Security Information	ISIN US3130AERM46
4) Covenants	Mkt Iss US Domestic	Bond Ratings
5) Guarantors	Country US Currency USD	Moody's Aaa
6) Bond Ratings	Rank Unsecured Series	S&P AA+
7) Identifiers	Coupon 3.250000 Type Fixed	Composite AA+
8) Exchanges	Cpn Freq S/A	Issuance & Trading
9) Inv Parties	Day Cnt 30/360 Iss Price 100.00000	Amt Issued/Outstanding
20) Fees, Restrict	Maturity 08/23/2023	USD 15,000.00 (M) /
21) Schedules	CALL 08/23/19@100.00	USD 15,000.00 (M)
22) Coupons	Iss Sprd	Min Piece/Increment
Quick Links	Calc Type (1) STREET CONVENTION	10,000.00 / 5,000.00
23) ALLQ Pricing	Pricing Date 08/07/2018	Par Amount 5,000.00
24) ORD Qt Recap	Interest Accrual Date 08/23/2018	Book Runner WFS-sole
25) TDH Trade Hist	1st Settle Date 08/23/2018	Reporting TRACE
26) CACS Corp Action	1st Coupon Date 02/23/2019	Security created by firm WELLS FARGO SECURITIES LLC
27) CF Prospectus		
28) CN Sec News		
29) HDS Holders		
46) Send Bond		

Australia 61 2 9777 8600 Brazil 55 11 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 6900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2018 Bloomberg Finance L.P.  
SN 23660111137-1599-1 02-may-16 15:24:53 EDT GMT-4:00

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# Yield Scenarios @ Par

GRAB

66 <GD> to message data

FHLB 3 08/23/23 Corp Settings Page 1/1 Yield and Spread Analysis

99 Buy 90 Sell

1) Yield & Spread 2) Yields 3) Graphs 4) Pricing 5) Custom 6) Description 7) Calls

Settlement Date 08/23/19 Price 100.00 Blend Full Screen

YTC (3130AERM4)	Date	Price	Yield
Yield to Maturity	08/23/2023	100.00	3.250
Yield to Custom	08/23/2019	100.00	3.250
Yield to Next Call	08/23/2019	100.00	3.250
Yield to Worst Call	08/23/2019	100.00	3.250

May be called anytime starting 08/23/2019

Date	Price	Yield	Treas Crv	Spr	Adj Dur	Risk
08/23/19	100.0000	3.2500	2.435	0.815	0.976	0.976
08/23/23	100.0000	3.2500	2.815	0.435	4.581	4.581

Australia 61 2 9777 8600 Brazil 55 11 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 6900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2018 Bloomberg Finance L.P.  
SN 23660111137-1599-1 02-may-16 15:24:53 EDT GMT-4:00

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# Yield Scenarios @ 1 pt. Discount

GRAB  
66 <GD> to message data  
FHLB 3 08/23/23 Corp Settings Page 1/1 Yield and Spread Analysis

Yield & Spread Yields Graphs Pricing Custom Description Calls

Settlement Date 08/23/19 Price 99.00 Blend Full Screen

YTC (3130AERM4) Date Price Yield

Yield to Maturity	08/23/2023	100.00	3.470
Yield to Custom	08/23/2019	100.00	4.282
Yield to Next Call	08/23/2019	100.00	4.282
Yield to Worst Call	08/23/2023	100.00	3.470

May be called anytime starting 08/23/2019

Date	Price	Yield	Treas Crv	Spr	Adj Dur	Risk
08/23/19	100.0000	4.2822	2.435	1.847	0.971	0.961
08/23/23	100.0000	3.4696	2.813	0.656	4.574	4.528

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 6900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2018 Bloomberg Finance L.P.  
SN 256001 1137-1599-1 02-may-16 13:20:50 EDT GMT-4:00

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# Yield Scenarios @ 1 pt. Premium

GRAB  
66 <GD> to message data  
FHLB 3 08/23/23 Corp Settings Page 1/1 Yield and Spread Analysis

Yield & Spread Yields Graphs Pricing Custom Description Calls

Settlement Date 08/23/19 Price 101.00 Blend Full Screen

YTC (3130AERM4) Date Price Yield

Yield to Maturity	08/23/2023	100.00	3.033
Yield to Custom	08/23/2019	100.00	2.233
Yield to Next Call	08/23/2019	100.00	2.233
Yield to Worst Call	08/23/2019	100.00	2.233

May be called anytime starting 08/23/2019

Date	Price	Yield	Treas Crv	Spr	Adj Dur	Risk
08/23/19	100.0000	2.2332	2.435	-0.202	0.981	0.991
08/23/23	100.0000	3.0329	2.813	0.220	4.588	4.634

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 6900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2018 Bloomberg Finance L.P.  
SN 256001 1137-1599-1 02-may-16 13:27:07 EDT GMT-4:00

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## Public Entities - Cash Basis Accounting

### Cash Basis

- Purchase cost remains level to the maturity or sale date.
- Purchase cost is reduced by the amount of purchased accrued interest at the next interest payment date.
- Premiums are not amortized; discounts are not accreted (Exception: Premiums may be amortized over the life of the security through the application of realized income).
- Income is reported when received (realized).
- Realized income is shown as proceeds minus cost.

### Accrual Basis

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

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CUSIP	Issuer	Par Value	Stated Rate	Maturity Date	Purchase Date	DTM	YTM	Market Value	Accrued Interest At Purchase	Current Principal	Book Value
<b>Commercial Paper - Discount</b>											
2254EBFN6	CSFBNY	110,000.00	1.630	6/22/2018	9/29/2017	172	1.668	108,675.17		108,675.17	108,675.17
46640QJE2	JPMSCC	100,000.00	1.970	9/14/2018	12/21/2017	256	2.021	98,538.92		98,538.92	98,538.92
CP - Discount Totals		210,000.00				212	1.836	207,214.09		207,214.09	207,214.09
<b>Federal Agency - Coupon (NC)</b>											
3130A5FD6	FHLB	100,000.00	0.850	2/27/2018	5/27/2015	57	0.921	99,935.70		99,809.00	99,809.00
3133EETE0	FFCB	150,000.00	1.125	3/12/2018	3/13/2015	70	1.204	149,962.80	Received	149,652.00	149,652.00
313382LM3	FHLB	100,000.00	1.150	10/11/2018	8/7/2017	283	1.321	99,475.30	Received	99,800.00	99,800.00
3134G46P8	FHLMC	100,000.00	1.350	6/11/2019	6/29/2015	526	1.521	99,266.60	Received	99,346.60	99,346.60
3135G0R39	FNMA	100,000.00	1.000	10/24/2019	12/22/2016	661	1.598	98,369.40	Received	98,346.00	98,346.00
3135G0VY6	FNMA	100,000.00	1.700	3/27/2020	3/9/2017	816	1.773	99,411.80	Received	99,783.00	99,783.00
3134G9QB6	FHLMC	120,000.00	1.500	11/25/2020	5/25/2016	1,059	1.500	118,104.12		120,000.00	120,000.00
3133EHKK8	FFCB	135,000.00	1.670	5/24/2021	6/14/2017	1,239	1.713	132,953.81	Received	134,776.71	134,776.71
3135G0N82	FNMA	100,000.00	1.250	8/17/2021	8/19/2016	1,324	1.334	96,902.60		99,595.00	99,595.00
3135G0Q89	FNMA	135,000.00	1.375	10/7/2021	11/15/2016	1,375	1.644	131,290.47	Received	133,297.65	133,297.65
Fed. Agency (NC) Totals		1,140,000.00				751	1.456	1,125,672.60		1,134,405.96	1,134,405.96
<b>Federal Agency - Coupon (Callable)</b>											
3136G4GD9	FNMA	100,000.00	1.300	7/28/2020	10/31/2016	939	1.300	97,389.70		100,000.00	100,000.00
3136G3VG7	FNMA	50,000.00	1.500	9/29/2020	11/29/2017	1,002	1.968	49,155.90	125.00	49,357.50	49,482.50
3136G4AT0	FNMA	100,000.00	1.625	9/30/2021	12/22/2017	1,368	2.283	96,600.70	370.14	97,633.00	98,003.14
3136G4GF4	FNMA	100,000.00	1.550	10/28/2021	10/31/2016	1,396	1.550	97,396.70		100,000.00	100,000.00
Fed. Agency (C) Totals		350,000.00				1,200	1.744	340,543.00	495.14	346,990.50	347,485.64
<b>Treasury Securities - Coupon</b>											
912828P87	USTN	110,000.00	1.125	2/28/2021	3/13/2017	1,154	1.944	106,970.71	Received	106,579.69	106,579.69
912828S76	USTN	105,000.00	1.125	7/31/2021	7/27/2017	1,307	1.757	101,538.26	Received	102,440.63	102,440.63
912828T34	USTN	100,000.00	1.125	9/30/2021	8/3/2017	1,368	1.707	96,488.30	Received	97,671.88	97,671.88
Treas. Securities Totals		315,000.00				1,273	1.806	304,997.27		306,692.20	306,692.20
<b>Investment Totals</b>		<b>2,015,000.00</b>				<b>854</b>	<b>1.600</b>	<b>1,978,426.96</b>	<b>495.14</b>	<b>1,995,302.75</b>	<b>1,995,797.89</b>



## Accounting for a Discounted Purchase

- A FNMA with an original issue date of 9/30/16 and maturing on 9/30/21 with a coupon rate of 1.625%, purchased in the secondary market on settlement date 12/22/17, at a price of 97.633 (to yield 2.283%), will affect the total cash account as follows:

<b>97,633.00</b>	\$100,000 Par Value minus a discount of \$2,367.00
+ <u>    <b>370.14</b></u>	Accrued interest paid at purchase = Initial Purchase Cost
<b>= 98,003.14</b>	Reduction in total cash offset by an increase in total investments

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## Amortizing Accrued Interest

- At the following interest payment date (03/30/2018), cash and investments are affected as follows:

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

<b>\$ 812.50</b>	Interest received (credited by the custodian bank)
- <u>    <b>370.14</b></u>	Accrued interest paid at settlement date (2/21/2017)
<b>\$442.36</b>	Net interest income (Increase in cash offset by a decrease in investment cost)

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## Recognizing Income on Discount

- All subsequent interest payments (after the amortization has taken place) are paid-in totally, as an increase in the cash account.
  - First pay-in of \$442.36
  - Seven subsequent pay-ins of \$812.50 totaling \$5,687.50
  - Plus realized gain at maturity of \$2,367.00
  - Equals total realized income of \$8,496.86

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## Summary of Investment Accounting/Reporting Process

- The public entity's internal record-keeping is subject to audit by the State Auditor.
  - Investment Inventory, Activity, and Income.
- Reconcile internal records with Custody Statement and Investment Advisor Reports (if used).
  - Balance all reports to investment cost, not market value.
  - Ensure all income receipts are properly paid-in.
- Accurately track yields of securities to be able to better assess investment performance.

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