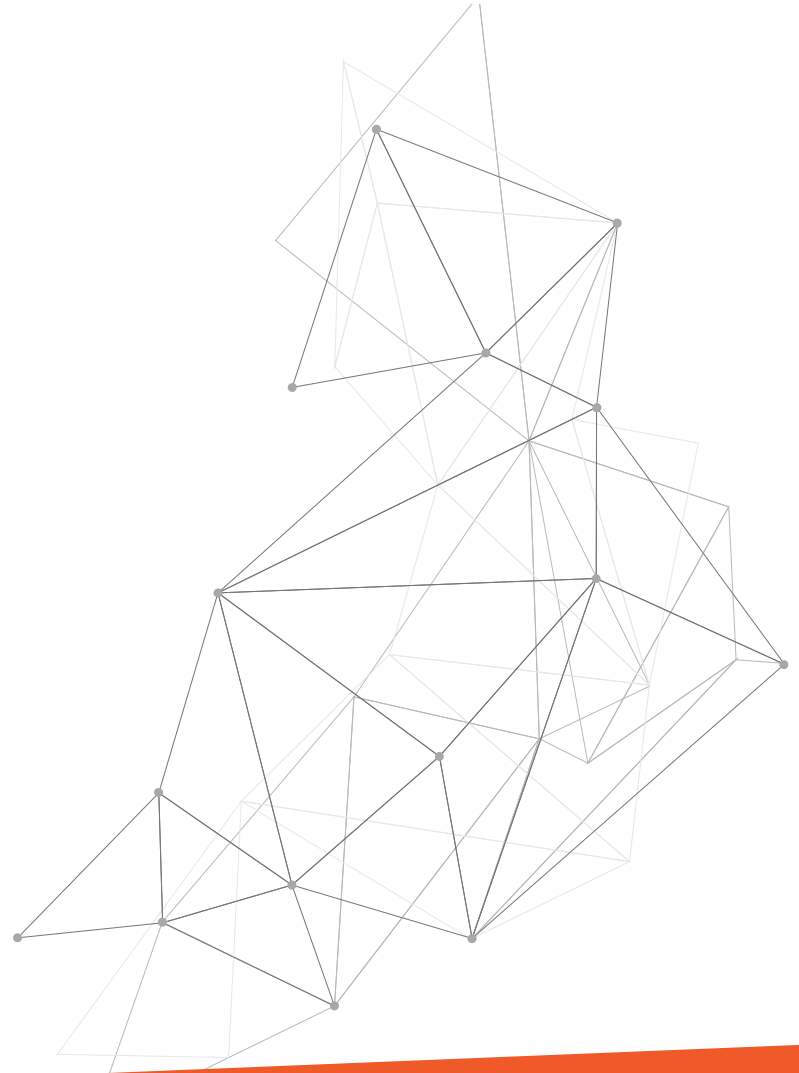
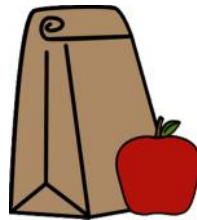


 Plansmith

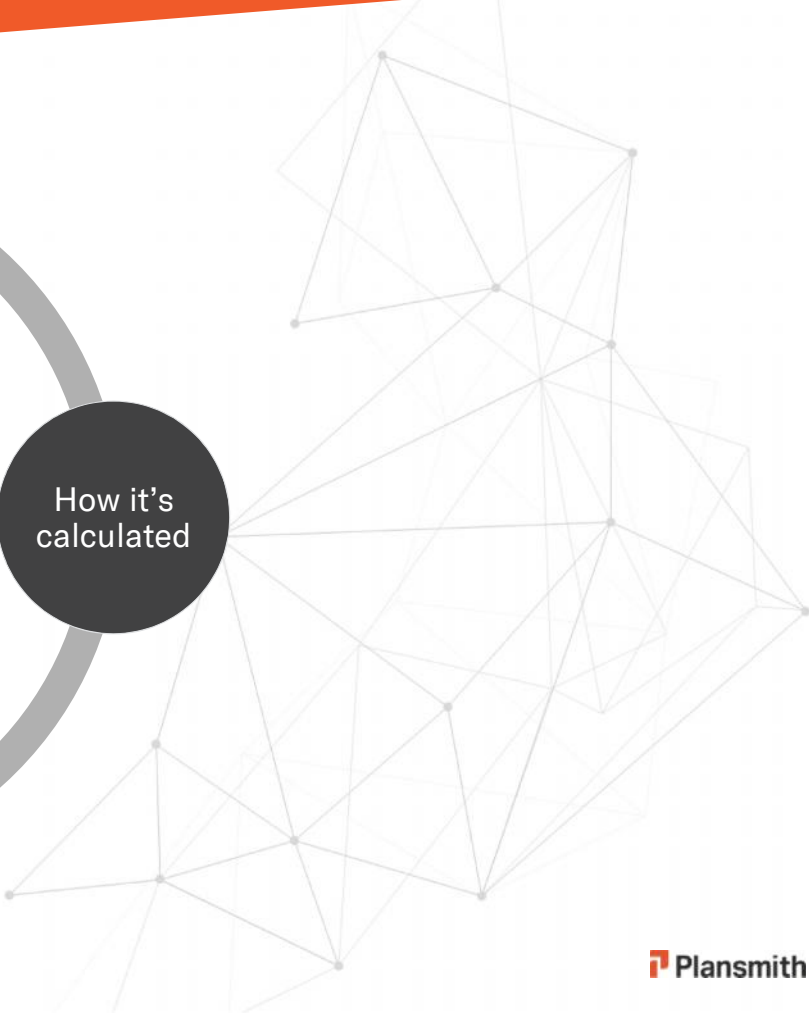
Lunch 'n Learn

IRR Simplified



Presenter: Jenny Mello & Bill Smith

Interest Rate Risk Simplified



Interest Rate Risk Simplified

COMPUTE PARALLEL AND NON-PARALLEL RATE SHOCKS

Current Month is Mar, 2018

PARALLEL RATE SHOCK OPTIONS

Shock Time Period:

Shock Timing:

Shock Future:

NON-PARALLEL RATE SHOCK OPTIONS

Shock Time Period:

Shock Timing:

PARALLEL RATE SHOCK POLICY LIMITS

Shock Intervals	1 Year NII Limit	2 Year NII Limit	3 Year NII Limit	4 Year NII Limit	EVE Limit
-400	-25.00%	-25.00%	0.00%	0.00%	-40.00%
-300	-20.00%	-20.00%	0.00%	0.00%	-30.00%
-200	-15.00%	-15.00%	0.00%	0.00%	-20.00%
-100	-10.00%	-10.00%	0.00%	0.00%	-10.00%
0					
100	-10.00%	-10.00%	0.00%	0.00%	-10.00%
200	-15.00%	-15.00%	0.00%	0.00%	-20.00%
300	-20.00%	-20.00%	0.00%	0.00%	-30.00%
400	-25.00%	-25.00%	0.00%	0.00%	-40.00%

NON-PARALLEL RATE SHOCK POLICY LIMITS

Shock Intervals	1 Year NII Limit	2 Year NII Limit	3 Year NII Limit	4 Year NII Limit	EVE Limit
All	-20.00%	-20.00%	-20.00%	-20.00%	-30.00%

GAP POLICY LIMITS

12 Month Gap - Minimum %

12 Month Gap - Maximum %

This feature can be edited as often as needed for:

- time period
- timing
- future shock
- shock intervals
- policy %

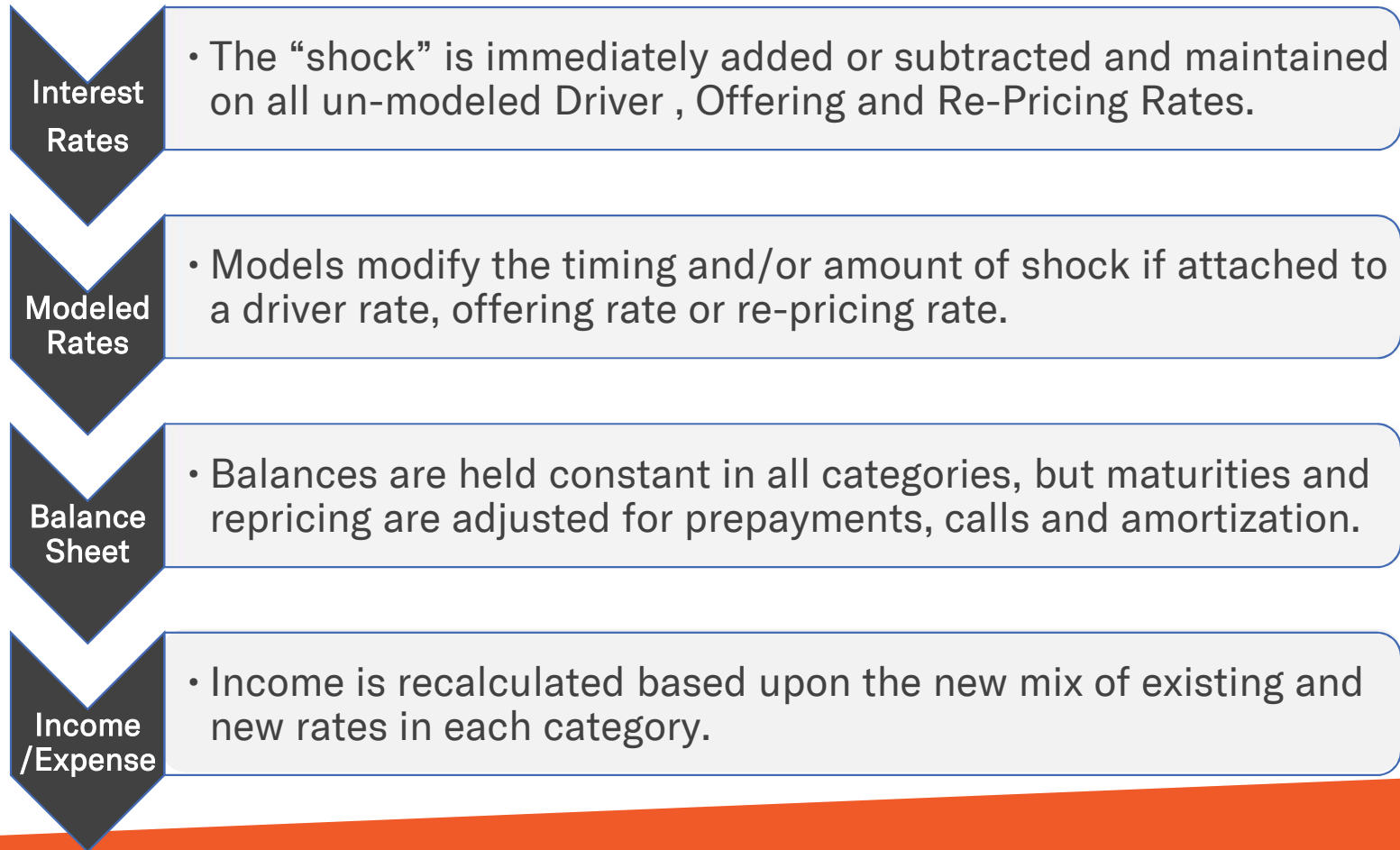
Rate Shock Income

Projected income as impacted
by various scenarios
of changes (400bp, 300bp,
etc.) in market rates.

Rate Shock Income

- **Quantifies Risks of Unpredictable Rate Changes**
- **The Industry Standard for Short-term Impact**
- **Examiners Expect Quarterly Review**

Rate Shocked Income



Rate Shock Income

Directory		< Parallel Rate Shock Offering Rates																																																																																																																																																																																																																																																																																																																							
<ul style="list-style-type: none"> Reports <ul style="list-style-type: none"> Chart of Accounts Custom Reports Financial Reports <ul style="list-style-type: none"> Balance Sheet BUDGET BALANCE BUDGET INCOME Capital Adequacy Capital Ratios Income Statement profit plan balance sheet profit plan income stmt Rate Risk <ul style="list-style-type: none"> Account Present Value/Duration Dynamic GAP Summary Gap Non-parallel Driver Rate Analysis Non-parallel Economic Value of Equity Non-parallel Rate Shock Duration Non-parallel Rate Shock Income Non-parallel Rate Shock Rate Detail Non-parallel Rate Shock Summary Non-parallel Rate Shock Yield Parallel Economic Value of Equity Parallel R S Income Summary Parallel Rate Shock Duration Parallel Rate Shock Income Parallel Rate Shock Offering Rates Parallel Rate Shock Summary Parallel Rate Shock Yield Risk Tolerance Summary Present Value/Duration Rate Reports <ul style="list-style-type: none"> Budget Yields and Costs Driver Rates Offering Rates Repricing Rates Yields and Costs Variance Reports <ul style="list-style-type: none"> Balance Sheet Board Ratios 		<p>Community Federal 1 Year Parallel Rate Shock - Offering Rates As of the end of March, 2018 Immediate Shock</p> <table border="1"> <thead> <tr> <th></th> <th>-400</th> <th>-300</th> <th>-200</th> <th>-100</th> <th>0</th> <th>100</th> <th>200</th> <th>300</th> <th>400</th> </tr> </thead> <tbody> <tr> <td colspan="11">Assets</td> </tr> <tr> <td>I/B Bank Accounts</td> <td>0.05</td> <td>0.05</td> <td>0.05</td> <td>0.66</td> <td>1.66</td> <td>2.66</td> <td>3.66</td> <td>4.66</td> <td>5.66</td> </tr> <tr> <td>Fed Funds Sold</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.88</td> <td>1.88</td> <td>2.88</td> <td>3.88</td> <td>4.88</td> </tr> <tr> <td>US Agencies - HTM</td> <td>0.56</td> <td>0.56</td> <td>0.56</td> <td>1.31</td> <td>2.31</td> <td>3.31</td> <td>4.31</td> <td>5.31</td> <td>6.31</td> </tr> <tr> <td>US Agencies - AFS</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.54</td> <td>1.54</td> <td>2.54</td> <td>3.54</td> <td>4.54</td> <td>5.54</td> </tr> <tr> <td>US Agencies - AFS - Stepups</td> <td>0.56</td> <td>0.56</td> <td>0.56</td> <td>1.31</td> <td>2.31</td> <td>3.31</td> <td>4.31</td> <td>5.31</td> <td>6.31</td> </tr> <tr> <td>MBS - 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AFS</td> <td>0.00</td> <td>0.00</td> <td>0.72</td> <td>1.72</td> <td>2.72</td> <td>3.72</td> <td>4.72</td> <td>5.72</td> <td>6.72</td> </tr> <tr> <td>Municipals - Out of State - AF</td> <td>1.25</td> <td>2.25</td> <td>3.25</td> <td>4.25</td> <td>5.25</td> <td>6.25</td> <td>7.25</td> <td>8.25</td> <td>9.25</td> </tr> <tr> <td>Municipals - Revenue</td> <td>1.25</td> <td>2.25</td> <td>3.25</td> <td>4.25</td> <td>5.25</td> <td>6.25</td> <td>7.25</td> <td>8.25</td> <td>9.25</td> </tr> <tr> <td>FHLB Stock</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>1.00</td> <td>2.00</td> <td>3.00</td> <td>4.00</td> </tr> <tr> <td>Corporate Bonds - AFS - FLT.</td> <td>1.94</td> <td>1.94</td> <td>1.94</td> <td>2.69</td> <td>3.69</td> <td>4.69</td> <td>5.69</td> <td>6.69</td> <td>7.69</td> </tr> <tr> <td>ARM Fund</td> <td>0.08</td> <td>0.08</td> <td>0.42</td> <td>1.42</td> <td>2.42</td> <td>3.42</td> <td>4.42</td> <td>5.42</td> <td>6.42</td> </tr> <tr> <td>Corporate Bonds - HTM</td> <td>0.00</td> <td>0.44</td> <td>1.44</td> <td>2.44</td> <td>3.44</td> <td>4.44</td> <td>5.44</td> <td>6.44</td> <td>7.44</td> </tr> <tr> <td colspan="11">Liabilities</td> </tr> <tr> <td>NOW Accounts</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.77</td> <td>1.22</td> <td>1.67</td> <td>2.12</td> <td>2.57</td> </tr> <tr> <td>Money Market Accounts</td> <td>0.50</td> <td>0.50</td> <td>0.50</td> <td>0.50</td> <td>0.50</td> <td>0.96</td> <td>1.59</td> <td>2.20</td> <td>2.80</td> </tr> <tr> <td>Savings Accounts</td> <td>0.50</td> <td>0.50</td> <td>0.50</td> <td>0.50</td> <td>0.60</td> <td>1.20</td> <td>1.80</td> <td>2.40</td> <td>3.00</td> </tr> <tr> <td>Large CDs - 0 - 12 mos.</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.49</td> <td>1.29</td> <td>2.09</td> <td>2.89</td> <td>3.69</td> <td>4.49</td> </tr> <tr> <td>Large CDs - > 12 - 24 mos.</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.06</td> <td>1.06</td> <td>2.06</td> <td>3.06</td> <td>4.06</td> <td>5.06</td> </tr> <tr> <td>Large CDs - > 24 - 36 mos.</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.06</td> <td>1.06</td> <td>2.06</td> <td>3.06</td> <td>4.06</td> <td>5.06</td> </tr> <tr> <td>Large CDs - > 36 mos.</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.06</td> <td>1.06</td> <td>2.06</td> <td>3.06</td> <td>4.06</td> <td>5.06</td> </tr> <tr> <td>IRA > 250K</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.61</td> <td>1.61</td> <td>2.61</td> <td>3.61</td> <td>4.61</td> <td>5.61</td> </tr> <tr> <td>Regular CDs - 0 - 12 mos.</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.75</td> <td>1.55</td> <td>2.35</td> <td>3.15</td> <td>3.95</td> <td>4.75</td> </tr> </tbody> </table>											-400	-300	-200	-100	0	100	200	300	400	Assets											I/B Bank Accounts	0.05	0.05	0.05	0.66	1.66	2.66	3.66	4.66	5.66	Fed Funds Sold	0.00	0.00	0.00	0.00	0.88	1.88	2.88	3.88	4.88	US Agencies - HTM	0.56	0.56	0.56	1.31	2.31	3.31	4.31	5.31	6.31	US Agencies - AFS	0.00	0.00	0.00	0.54	1.54	2.54	3.54	4.54	5.54	US Agencies - AFS - Stepups	0.56	0.56	0.56	1.31	2.31	3.31	4.31	5.31	6.31	MBS - Fixed - AFS	0.00	0.00	0.84	1.84	2.84	3.84	4.84	5.84	6.84	MBS - GNMA Adj - AFS	0.00	0.00	0.84	1.84	2.84	3.84	4.84	5.84	6.84	MBS - Adj - AFS	0.00	0.00	0.84	1.84	2.84	3.84	4.84	5.84	6.84	MBS - Fixed - HTM	0.00	0.00	0.84	1.84	2.84	3.84	4.84	5.84	6.84	Municipals - HTM	1.25	2.25	3.25	4.25	5.25	6.25	7.25	8.25	9.25	Municipals - Taxable - AFS	0.00	0.26	1.26	2.26	3.26	4.26	5.26	6.26	7.26	Municipals - AFS	0.00	0.00	0.72	1.72	2.72	3.72	4.72	5.72	6.72	Municipals - Out of State - AF	1.25	2.25	3.25	4.25	5.25	6.25	7.25	8.25	9.25	Municipals - Revenue	1.25	2.25	3.25	4.25	5.25	6.25	7.25	8.25	9.25	FHLB Stock	0.00	0.00	0.00	0.00	0.00	1.00	2.00	3.00	4.00	Corporate Bonds - AFS - FLT.	1.94	1.94	1.94	2.69	3.69	4.69	5.69	6.69	7.69	ARM Fund	0.08	0.08	0.42	1.42	2.42	3.42	4.42	5.42	6.42	Corporate Bonds - HTM	0.00	0.44	1.44	2.44	3.44	4.44	5.44	6.44	7.44	Liabilities											NOW Accounts	0.00	0.00	0.00	0.00	0.77	1.22	1.67	2.12	2.57	Money Market Accounts	0.50	0.50	0.50	0.50	0.50	0.96	1.59	2.20	2.80	Savings Accounts	0.50	0.50	0.50	0.50	0.60	1.20	1.80	2.40	3.00	Large CDs - 0 - 12 mos.	0.00	0.00	0.00	0.49	1.29	2.09	2.89	3.69	4.49	Large CDs - > 12 - 24 mos.	0.00	0.00	0.00	0.06	1.06	2.06	3.06	4.06	5.06	Large CDs - > 24 - 36 mos.	0.00	0.00	0.00	0.06	1.06	2.06	3.06	4.06	5.06	Large CDs - > 36 mos.	0.00	0.00	0.00	0.06	1.06	2.06	3.06	4.06	5.06	IRA > 250K	0.00	0.00	0.00	0.61	1.61	2.61	3.61	4.61	5.61	Regular CDs - 0 - 12 mos.	0.00	0.00	0.00	0.75	1.55	2.35	3.15	3.95	4.75
	-400	-300	-200	-100	0	100	200	300	400																																																																																																																																																																																																																																																																																																																
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Municipals - Taxable - AFS	0.00	0.26	1.26	2.26	3.26	4.26	5.26	6.26	7.26																																																																																																																																																																																																																																																																																																																
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NOW Accounts	0.00	0.00	0.00	0.00	0.77	1.22	1.67	2.12	2.57																																																																																																																																																																																																																																																																																																																
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Regular CDs - 0 - 12 mos.	0.00	0.00	0.00	0.75	1.55	2.35	3.15	3.95	4.75																																																																																																																																																																																																																																																																																																																

Parallel Rate Shock
Offering Rate Report =
behavior of pricing model
in each scenario

Non-Interest Income/Expense

Consider adding rate induced changes
to non-interest income or expense
if the amounts are significant.

Rate Shocked Income

LIMITATIONS...

1.

Different Than Your Budget or Projections

2.

Some Shocks Are Unrealistic or Unusual

Rate Shocked Income

HIGH IMPACT ASSUMPTIONS...

1. Pricing Models

2. Prepayment Models

Economic Value of Equity (EVE)

The difference between
the net present value of assets
and the net present value of liabilities.

Why EVE is important:

- It is the best measure of longer term rate risk available.
- Regulatory guidance requires ALL financial institutions to use it.

Rate Shocked EVE

Interest Rates

- The “shock” is added or subtracted from all un-modeled Driver Rates and Offering Rates.

Modeled Rates

- Models modify the timing and/or amount of shock on driver rates, offering rates and re-pricing rates.

Cash Flow

- Cash flows (principal and/or interest) are changed in response to the shocked rates.

Present Value

- The modified cash flow is discounted by the modified offering rate for each account.

Rate Shocked EVE

Directory < Account Present Value/Duration

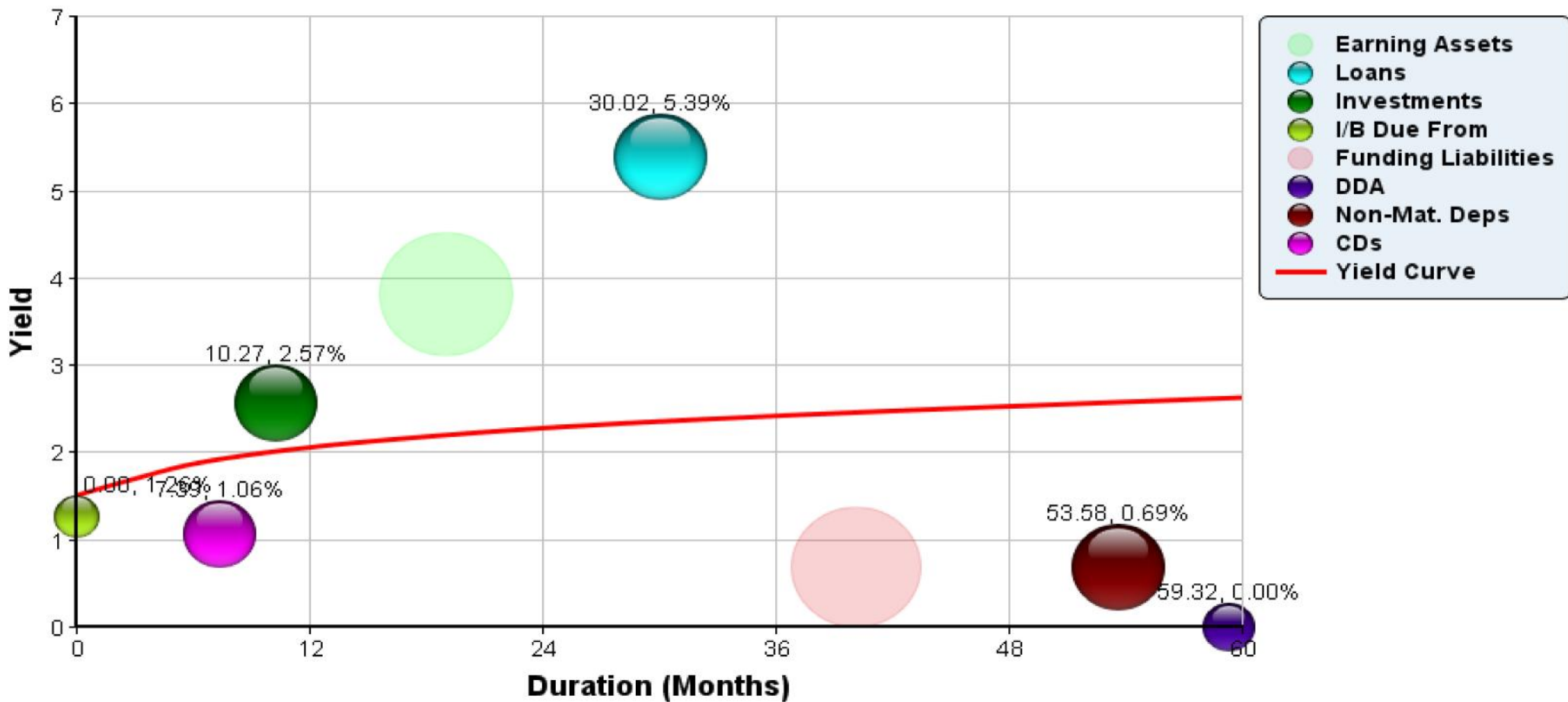
Community Federal
Account Present Value/Duration
MBS Fixed AFS
 As of the end of March, 2018

Period	Total Maturity	Interest Payment	Total Cashflow	Discount Rate	Discount Period	Discount Factor	Discounted Cashflow	Cashflow x Period
4 Apr 18	1,825	46	1,871	2.84	-	0.99764	1,867	1,867
5 May 18	1,611	43	1,654	2.84	2	0.99528	1,646	3,292
6 Jun 18	1,570	40	1,610	2.84	3	0.99283	1,598	4,795
7 Jul 18	1,530	37	1,567	2.84	4	0.99039	1,552	6,298
8 Aug 18	1,491	34	1,524	2.84	5	0.98825	1,507	7,533
9 Sep 18	1,734	30	1,765	2.04	6	0.98582	1,740	10,440
10 Oct 18	1,410	27	1,437	2.84	7	0.98359	1,414	3,807
11 Nov 18	1,373	25	1,398	2.84	8	0.98127	1,372	10,974
12 Dec 18	1,337	22	1,359	2.84	9	0.97885	1,337	11,975
3 Jan 19	1,301	20	1,320	2.84	10	0.97664	1,290	12,896
14 Feb 19	1,266	17	1,283	2.84	11	0.97453	1,250	13,754
15 Mar 19	1,493	15	1,508	2.84	12	0.97253	1,466	17,587
16 Apr 19	250	13	263	2.04	13	0.96974	250	3,012
17 May 19	244	12	257	2.84	14	0.96745	246	3,478
18 Jun 19	239	12	251	2.84	15	0.96516	242	3,634
19 Jul 19	234	11	245	2.84	16	0.96288	238	3,779
20 Aug 19	229	11	240	2.84	17	0.96061	233	3,914
21 Sep 19	1,151	10	1,161	2.84	18	0.95834	1,112	20,021
22 Oct 19	868	8	876	2.84	19	0.95628	836	15,916
23 Nov 19	89	8	197	2.84	20	0.95432	188	3,754
24 Dec 19	705	7	712	2.04	21	0.95177	700	3,037
25 Jan 20	780	7	787	2.84	22	0.94932	748	3,013
26 Feb 20	765	7	771	2.84	23	0.94708	734	3,734
27 Mar 20	737	6	743	2.84	24	0.94485	698	16,709
28 Apr 20	48	5	153	2.84	25	0.94262	146	3,614
29 May 20	745	5	749	2.84	26	0.94039	701	3,654
30 Jun 20	741	4	745	2.84	27	0.93817	697	3,688
31 Jul 20	738	4	742	2.84	28	0.93595	693	3,717
32 Aug 20	720	4	724	2.04	29	0.93374	679	3,056
33 Sep 20	329	3	332	2.84	30	0.93154	310	3,288
34 Oct 20	711	3	714	2.84	31	0.92934	665	3,284
35 Nov 20	708	3	711	2.84	32	0.92715	661	3,292
36 Dec 20	65	3	103	2.84	33	0.92496	100	3,296
	23,953						23,889	234,410

Current Balance: 23,953 **Macaulay's Duration:** 9.012 months
Current Yield: 2.38 **Modified Duration:** 9.789 months
Market Rate: 2.84
Premium: 0

Account Present
 Value/Duration Report =
 Cashflow and Discount Rate

Community Federal Rate Risk Bubbles - Detail



Rate Shocked EVE

LIMITATIONS...

1.

Not for Stock Pricing or Liquidation Value

2.

Results Are Not Fully Verifiable

Rate Shocked EVE

HIGH IMPACT ASSUMPTIONS...

1. Pricing Models
2. Prepayment Models
3. Decay and Alternate Discount Rates

What's Next?

Thur, June 21st - Fri, June 22nd 2018 - 2-day Roundtable & Coaching Event

Thur, Sept 13th - Fri, Sept 14th 2018 - 2-day Roundtable & Coaching Event

Thur, Dec 13th - Fri, Dec 14th 2018 - 2-day Roundtable & Coaching Event

Upcoming Lunch 'n Learns

July - Risk Compass

August - Assumptions

Check out www3.plansmith.com/events-page for more event info

Thanks for attending!

 **Plansmith**
www.plansmith.com



Questions?

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