NCUA EDS Meeting
Alexandria, Virginia
February 16, 2012

Asset/Liability Management
Deposit & Loan Pricing

Mike Schenk
Vice President, Economics & Statistics
Credit Union National Association
Telephone: 608-231-4228 Facsimile: 608-231-4924
E-Mail: mschenk@cuna.com

Asset-Liability Management

1. ALM is….
2. Nomenclature/acronyms (e.g., Equity - Net Worth – Capital - Reserves and Undivided Earnings)
3. Risk/return tradeoff
4. Timing, magnitude, certainty of cash flows
5. Identify and quantify key CU balance sheet risks
   Credit Risk - likelihood members don't pay us when they say they will
   Liquidity Risk - likelihood that we lose money when fulfilling financial obligations
   Interest Rate Risk – likelihood that earnings change when market interest rates change
6. NCUA/Examiners – CAMEL rating system:

Capital adequacy	**1 key ratio:**	Net worth/assets (7%+)
Asset quality	**2 key ratios**:	
		Delinquencies/loans (< 1.25%)
		Net chargeoffs/average loans (<0.25%)
Management	No key ratios	
Earnings	**1 key ratio**:	Net inc./avg. assts (>1.00%)
asset/**L**iability mgmt.	No key ratios	

7. What's missing? Three pillars of success:
   - Make Money
   - Stay solvent
   -

Growth / Net Worth / ROA Tradeoff

Beginning net worth ratio = 10%

Assumed asset growth rate = 10%

Required return on ending assets to maintain net worth ratio
= Beginning net worth ratio x Assumed asset growth rate

= .10 x .10

= .01

= 1.00%

Tools of the Trade

1. **Simulation analysis:**
   Spread analysis
   Measures:
   - Change in net income
   - Changes in capital (MVPE, NEV, etc.)
2. **Gap analysis:**
   Maturity "buckets" - focus on rate-sensitive assets and liabilities
   Measures:
   - Dollar gap
   - Ratio of rate sensitive assets to rate sensitive liabilities
   - Gap-to-asset ratio
3. **Duration analysis:**
   Weighted average term to maturity
   Weights = time period of each cash flow
   Used for single instrument or portfolio
   Measures:
   - Duration
   - Modified duration

Spread Analysis

A Four-Step Process……

1) Examine the balance sheet (stocks)

2) Examine the income statement (flows)

3) Combine information from both into an interest yield/cost analysis

4) Combine information from income statement & interest yield/cost analysis

BASE CASE CU

BALANCE SHEET

	Jan. 1	Balance at end of: Mar.	June	Sept.	Dec.	Year's Avg.	Percent of Total	Annual Percent Change
Assets								
Consumer loans	$597	$599	$600	$601	$603	$600	60%	1%
Mortgage loans	0	0	0	0	0	0	0%	0%
Investments	264	282	300	318	337	300	30%	28%
Other assets	97	98	100	102	104	100	10%	7%
Total Assets	$958	$979	$1,000	$1,022	$1,044	$1,000	100%	9%
Liabilities & Equity								
Regular shares	$381	$391	$400	$410	$420	$400	40%	10%
Share drafts	197	199	200	201	203	200	20%	3%
Certificates	283	292	300	309	317	300	30%	12%
Reserves & UDE	96	98	100	102	104	100	10%	8%
Total Liabs. & Equity	$958	$979	$1,000	$1,022	$1,044	$1,000	100%	9%

BASE CASE CU

INCOME STATEMENT

Income	Mar.	June	Sept.	Dec.	Total for Year
	Total for quarter ending:				
Consumer loan interest	$13.4	$13.5	$13.5	$13.6	$54.0
Mortgage loan interest	0.0	0.0	0.0	0.0	0.0
Investment interest	2.0	2.2	2.3	2.5	9.0
Fees and other income	1.8	1.9	1.9	1.9	7.5
Total Income	$17.3	$17.5	$17.7	$17.9	$70.5
Expense					
Regular share dividends	$2.9	$3.0	$3.0	$3.1	$12.0
Share draft dividends	1.0	1.0	1.0	1.0	4.0
Certificate dividends	2.9	3.0	3.0	3.1	12.0
Operating expenses	7.9	8.0	8.2	8.4	32.5
Loan loss provisions	0.7	0.7	0.8	0.8	3.0
Total Expense	$15.4	$15.7	$16.1	$16.4	$63.5
Net Income	$2.0	$1.8	$1.7	$1.5	$7.0

BASE CASE CU

INTEREST YIELD/COST ANALYSIS

Yields:	Average Balance	Percent of Total	Interest Income	Effective Rate
Consumer loans	$600	60%	$54.0	9.00%
Mortgage loans	0	0%	$0.0	0.00%
Investments	300	30%	$9.0	3.00%
Other assets	100	10%		
Totals	$1,000	100%	$63.0	6.30%

Costs:	Average Balance	Percent of Total	Interest Expense	Effective Rate
Regular shares	$400	40%	$12.0	3.00%
Share drafts	200	20%	$4.0	2.00%
Certificates	300	30%	$12.0	4.00%
Reserves & UDE	100	10%		
Totals	$1,000	100%	$28.0	2.80%

SPREAD ANALYSIS

		Dollar Amount	Percent of Average Assets	Basis Points
	Yield on total assets	$63.0	6.30%	630
-	Cost of total assets	$28.0	2.80%	280
=	Gross spread	$35.0	3.50%	350
+	Other income (fees)	$7.5	0.75%	75
-	Operating expenses	$32.5	3.25%	325
=	Net spread	$10.0	1.00%	100
-	Loan loss provisions	$3.0	0.30%	30
=	Net income	$7.0	0.70%	70

Third Quarter 2011 Credit Union Financial Results

Asset size: ($ in Millions)	Sample # of CUs	Interest yield -	Div. & int. cost =	Gross spread +	Fee income +	Other income -	Oper. Exp. -	Loss Provision =	ROA: Net Income
		1. Make Money — **Spreads - Basis Points of Average Assets - Annualized YTD**							
$0.0 - 0.5	296	373	64	316	32	31	471	45	-137
0.5 - 1.0	241	421	83	357	36	5	418	50	-70
1.0 - 2.0	390	427	80	359	39	25	457	38	-72
2.0 - 5.0	818	431	82	368	45	15	425	33	-31
5.0 - 10.0	921	415	85	353	54	17	400	32	-8
10.0 - 20.0	1,079	403	85	343	77	22	401	34	7
20.0 - 50.0	1,341	404	93	338	77	28	391	37	15
50.0 - 100.0	806	416	99	344	87	38	400	36	32
100.0 - 200.0	574	413	108	335	93	43	390	39	42
200 - 500.0	462	410	110	327	94	52	372	48	54
500.0 - 1,000.0	215	405	118	316	77	56	338	46	64
$1,000.0 and over	179	405	136	297	60	67	280	58	86
All CUs	7,322	407	93	314	73	56	328	50	65
All CUs 2010	7,486	446	121	325	78	55	330	78	50
All CUs 2009	7,708	491	173	318	83	41	316	111	15
All CUs 2008	7,486	556	241	315	86	50	335	85	31
All CUs 2007	8,262	589	278	311	87	49	338	43	66

Third Quarter 2011 Credit Union Financial Results

		2. Stay Solvent					**3. Grow**		
	Sample	**Capital Adequacy**	**Asset Quality**		**Liquidity**	**IRR**	**YTD Growth**		
Asset size: ($ in Millions)	# of CUs	Net Worth to Total Assets	$ Delinquent Loans/Loans	Net Chargeoffs/ Average Loans	Loans/ Savings	Net LT Assets /Assets	Savings	Loans	Members
$0.0 - 0.5	296	21.5%	8.19%	1.41%	48.7%	2.3%	-9.9%	-9.0%	-4.0%
0.5 - 1.0	241	18.9%	4.35%	0.79%	57.1%	2.8%	1.6%	-2.7%	-4.2%
1.0 - 2.0	390	16.7%	4.16%	0.71%	56.8%	4.3%	2.5%	-2.0%	-2.6%
2.0 - 5.0	818	15.2%	2.49%	0.61%	57.8%	6.5%	2.8%	-1.1%	-1.0%
5.0 - 10.0	921	13.8%	2.10%	0.67%	55.3%	11.9%	3.6%	-1.7%	-1.0%
10.0 - 20.0	1,079	13.0%	1.74%	0.68%	56.0%	17.2%	3.6%	-0.9%	-0.5%
20.0 - 50.0	1,341	11.6%	1.54%	0.70%	58.4%	24.0%	4.0%	-0.8%	-0.3%
50.0 - 100.0	806	10.8%	1.42%	0.69%	62.6%	29.1%	4.2%	0.1%	-0.1%
100.0 - 200.0	574	10.2%	1.44%	0.75%	66.5%	33.3%	3.7%	0.1%	0.1%
200 - 500.0	462	10.3%	1.53%	0.89%	68.3%	37.8%	4.0%	0.3%	1.3%
500.0 - 1,000.0	215	10.2%	1.44%	0.82%	70.6%	42.0%	4.6%	0.9%	1.4%
$1,000.0 and over	179	9.7%	1.69%	1.02%	72.9%	38.7%	5.4%	1.5%	3.6%
All CUs	7,322	10.2%	1.59%	0.91%	69.5%	36.8%	4.7%	0.9%	1.7%
All CUs 2010	7,486	10.1%	1.75%	1.13%	72.2%	33.1%	5.2%	-0.4%	1.7%
All CUs 2009	7,708	10.2%	1.82%	1.22%	76.3%	31.6%	11.6%	2.3%	2.7%
All CUs 2008	7,486	11.0%	1.37%	0.84%	83.2%	32.0%	7.9%	7.7%	2.7%
All CUs 2007	8,262	11.5%	0.93%	0.50%	83.4%	26.3%	6.1%	7.5%	2.4%

The Good Old Days

Balance sheet management was simple:

- Investments had clearly defined, one dimensional outcomes
- Mortgages were prepaid only when significant advantage was obvious
- Savers saw the certainty of retail deposits as an advantage
- Competition was local and relationships drove banking

Life was good:

- High margin balance sheets produced steady performance
- Stable cash flows led to ample and predictable liquidity

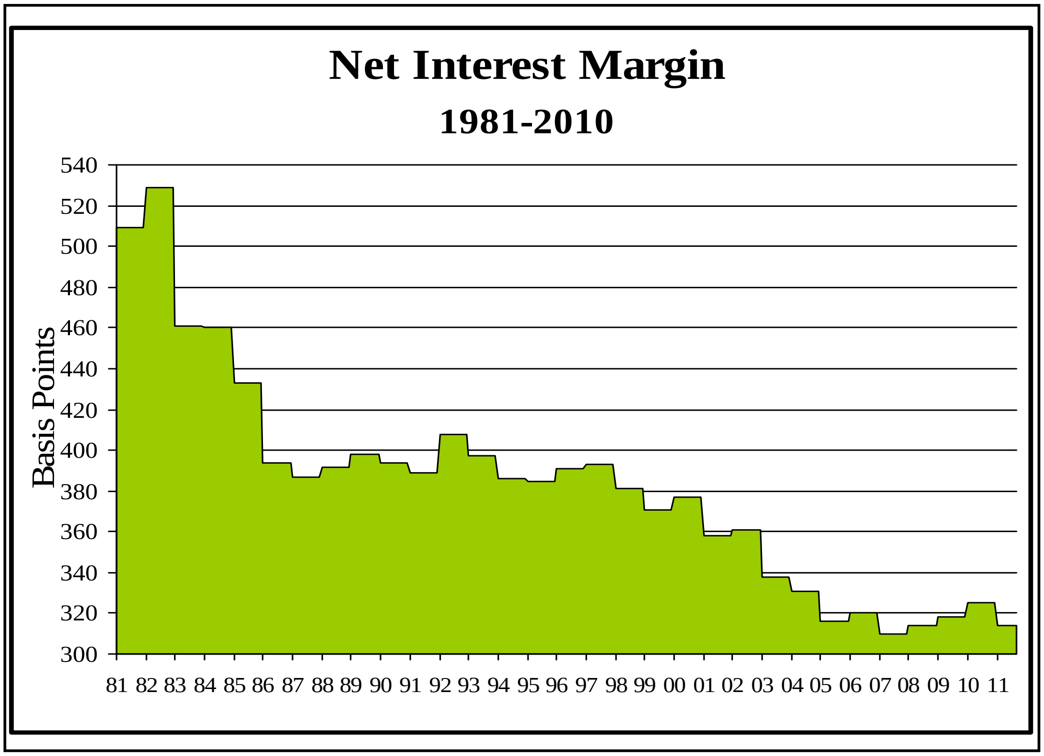
The Environment Today

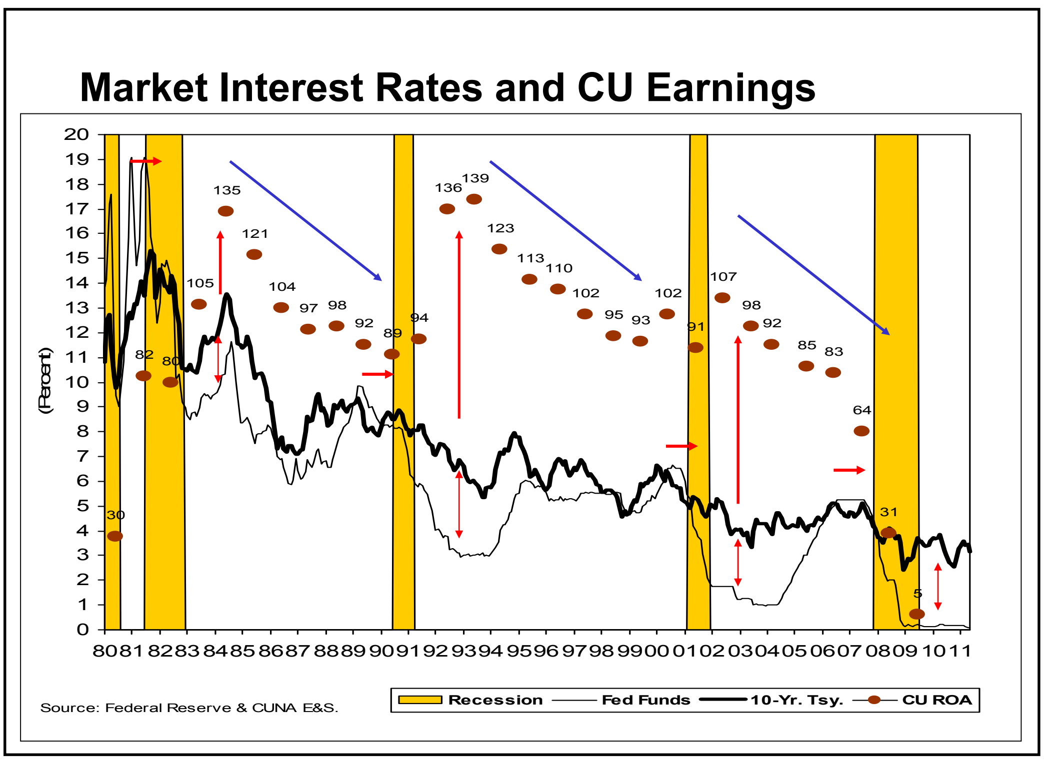
Balance sheet management is more complex

- Investments are multi-dimensional and optionality driven
- Mortgages prepay at the first hint of a rate advantage
- Retail deposits are a constant supply and cost challenge

Life is Much Tougher:

- Low margins and optionality have transformed balance sheets
- Producing highly variable cash flows, unsteady performance and uncertain liquidity


Net Interest Margin
1981-2010
Basis Points
540
520
500
480
460
440
420
400
380
360
340
320
300
81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11


Market Interest Rates and CU Earnings
(Percent)
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11
30
82
80
105
135
121
104
97
98
92
89
94
136
139
123
113
110
102
95
93
102
91
107
98
92
85
83
64
31
5
Source: Federal Reserve & CUNA E&S.
Recession
Fed Funds
10-Yr. Tsy.
CU ROA

Wisely Enhancing Margin in a Low Rate Environment

Margin compression has caused financial institutions to make expensive mistakes. History reflects:

- Unwise levels/types of risk
- Unsupportable acquisitions
- Ill-advised diversification schemes
- Etc.

Pricing Strategies

Competitive-based Pricing

- Set rate within members fair price range
- Retains balances during period of aggressive rate competition

Penetration Pricing

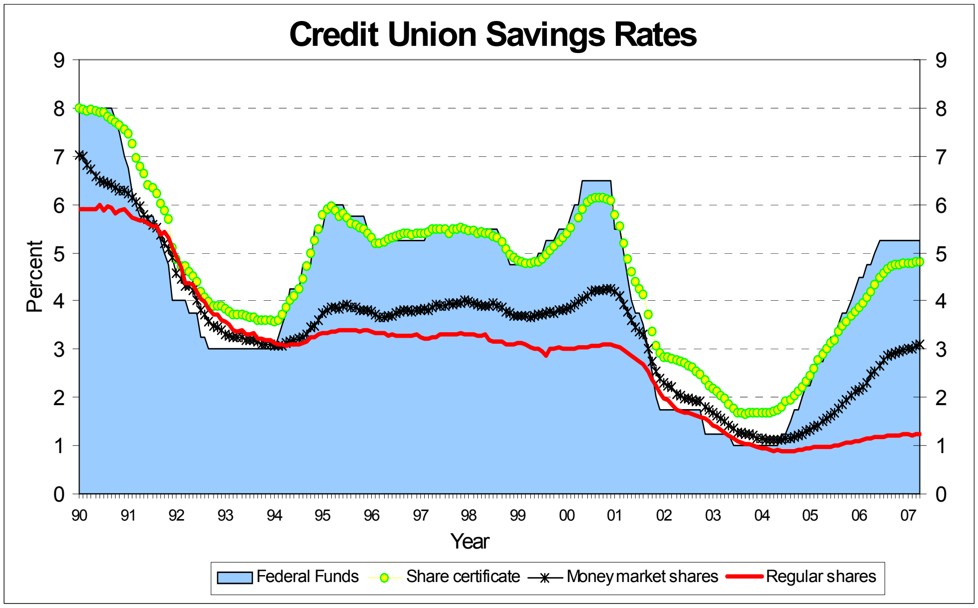
- Pay high rate to increase volume and market share
- Apply to sensitive supply
- Use if competition not expected to respond
- Economies of scale: increase volume to reduce operating expense ratio

Below-market Pricing

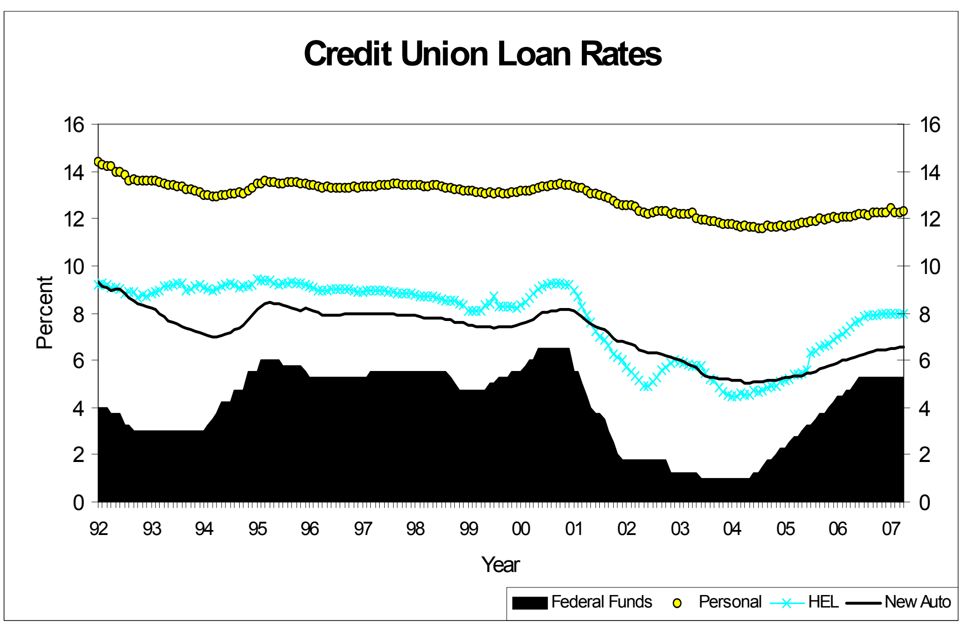
- Differentiate on non-price benefits/dimension
- Personal service
- Loyalty
- CU philosophy (people before money)

Loss-leader Strategy

- Pay above market rate
- Used to attract new members who then use complementary services that are profitable



Credit Union Savings Rates
Percent
Year
90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07
Federal Funds
Share certificate
Money market shares
Regular shares



Credit Union Loan Rates
Percent
Year
92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07
Federal Funds
Personal
HEL
New Auto

CASE #1a: CD PRICING - MEET THE COMPETITION

No change in balances, increase certificate rates 1.00%

INTEREST YIELD/COST ANALYSIS

Yields:	Average Balance	Percent of Total	Interest Income	Effective Rate
Consumer loans	$600	60%	$54.0	9.00%
Mortgage loans	0	0%	$0.0	0.00%
Investments	300	30%	$9.0	3.00%
Other assets	100	10%		
Totals	$1,000	100%	$63.0	6.30%

Costs:	Average Balance	Percent of Total	Interest Expense	Effective Rate
Regular shares	$400	40%	$12.0	3.00%
Share drafts	200	20%	$4.0	2.00%
Certificates	300	30%		
Reserves & UDE	100	10%		
Totals	$1,000	100%		

SPREAD ANALYSIS

		Dollar Amount	Basis Points
	Yield on total assets	$63.0	630
-	Cost of total assets		
=	Gross spread		
+	Other income (fees)	$7.5	75
-	Operating expenses	$32.5	325
=	Net spread		
-	Loan loss provisions	$3.0	30
=	Net income		

CASE #1b: CD PRICING - IGNORE THE COMPETITION

No change in rates, balances fall by one-half (i.e., 50%)

INTEREST YIELD/COST ANALYSIS

Yields:	Average Balance	Percent of Total	Interest Income	Effective Rate
Consumer loans	$600	71%	$54.0	9.00%
Mortgage loans	0	0%	$0.0	0.00%
Investments		18%		3.00%
Other assets	100	12%		
Totals		100%		6.88%

Costs:	Average Balance	Percent of Total	Interest Expense	Effective Rate
Regular shares	$400	47%	$12.0	3.00%
Share drafts	200	24%	$4.0	2.00%
Certificates		18%		4.00%
Reserves & UDE	100	12%		
Totals		100%		2.59%

SPREAD ANALYSIS

		Dollar Amount	Basis Points
	Yield on total assets		
-	Cost of total assets		
=	Gross spread		
+	Other income (fees)	7.5	88
-	Operating expenses	32.5	382
=	Net spread		
-	Loan loss provisions	3.0	35
=	Net income		

Sound Pricing Strategy

1. Focus on marginal cost / marginal yield
2. Create benchmarks
3. Segment!

1. Marginal Cost / Marginal Yield

• Current share rate	0.50%
• Proposed change	1.00%
• Current balances	$85M
• Expected growth	$4.25M

1. Marginal Cost / Marginal Yield

This strategy is consistent with their goal to grow deposits. Assume that $4.25m in new money is attainable. Would you:

- Raise the rate to 1.00%?
- Keep the rate at 0.50%?
- Reduce the rate further?

1. Marginal Cost / Marginal Yield

	Balance		Rate		Annualized Expense
Base Case	$85,000,000	x	0.50%	=	$425,000
Alternative Strategy	$89,250,000	x	1.00%	=	$892,500
Difference	$4,250,000				$467,500
Marginal Cost	(Δ expense) / (Δ balances)				$\boxed{11.00\%}$

1. Marginal Cost / Marginal Yield

- How can our cost of funds be 11.0% when we're only paying 1.00% on the average?
  - Average cost doesn't evaluate one alternative vs. another
  - Average cost hides the extra money you had to pay on balances you would have had at the lower rate anyway
  - ***11.0% cost does not include any shift***

1. Marginal Cost / Marginal Yield

	Balance		Rate		Annualized Expense
Base Case	$85,000,000	**x**	0.50%	**=**	$425,000
Alternative Strategy	$83,000,000	**x**	0.40%	**=**	$332,000
Difference	$2,000,000				($93,000)
Marginal Cost	(**Δ** expense) / (**Δ** balances)				$\boxed{4.65\%}$

1. Marginal Cost / Marginal Yield

- What does this analysis tell us?
  - We will be more profitable as long as we can raise the $2,000,000 we chased off via another source of funding that is less expensive than 4.65%
  - Why 4.65% and not 0.50%? Because we're saving 10bp on $83 million of existing balances, we can pass that savings on to the cost of our alternative funding source

1. Marginal Cost / Marginal Yield

- Objective is to use the funding source that provides the lowest marginal cost PROVIDED IT FITS IN THE CONTEXT OF YOUR A/L GUIDELINES!
- Tactical decisions focus on short-term profitability - most of today's discussion is geared towards tactical analysis!!
- Strategic decisions focus on long-term solvency and risk scenarios (ie. ALM).

2a. Creating Deposit Benchmarks

- Running a credit union is a series of decisions within your risk return profile
- Select ANY interest bearing asset or liability on your balance sheet, you made a choice to take it based on risk versus reward
- Retail versus wholesale choice

2a. Creating benchmarks for your deposits

- What's our retail option for funding?
  - Checking, savings, CD's, MMDA's
- What's our wholesale option for funding?
  - Corporate Credit Union
  - FHLB District Banks
  - Brokered CD's

Federal Housing Finance Agency - Bank Districts

Federal Housing Finance Agency

Mission Statement:
Provide effective supervision, regulation and housing mission oversight of Fannie Mae, Freddie Mac and the Federal Home Loan Banks to promote their safety and soundness, support housing finance and affordable housing, and support a stable and liquid mortgage market.

Bank Districts

The following is the contact information for each of the FHLBanks and the states for which each bank is responsible.

Atlanta	Dallas	Pittsburgh
1475 Peachtree St. Atlanta, GA, 30309 Tel: 1.800.536.9650 http://www.fhlbatl.com/ States: Alabama, District of Columbia, Georgia, Florida, Maryland, North Carolina, South Carolina, Virginia	P.O. Box 619026 8500 Freeport Pkwy South, Suite 100 Dallas, TX 75261 Tel: 214.441.8500 http://www.fhlb.com/ States: Arkansas, Louisiana, New Mexico, Mississippi, Texas	601 Grant Street Pittsburgh, PA 15219 Tel: 412.288.3400 http://www.fhlb-pgh.com/ States: Delaware, Pennsylvania, West Virginia
Boston	**Des Moines**	**San Francisco**
P.O. Box 990411 800 Boylston Street 9th Floor Boston, MA 02199 Tel: 617.292.9600 http://www.fhlbboston.com/ States: Connecticut, Maine, Massachusetts, Rhode Island, New Hampshire, Vermont	Skywalk Level 801 Walnut Street, Suite 200 Des Moines, IA 50309-3513 Tel: 1.800.544.3452 http://www.fhlbdm.com/ States: Iowa, Minnesota, Missouri, North Dakota, South Dakota	P.O. Box 7948 600 California Street, Suite 300 San Francisco, CA 94120 Tel: 415.616.1000 http://www.fhlbsf.com/ States: Arizona, California, Nevada
Chicago	**Indianapolis**	**Seattle**
200 East Randolph Drive, Suite 1800 Chicago, IL 60601 Tel: 312.565.5700 http://www.fhlbc.com States: Illinois, Wisconsin	8250 Woodfield Crossing Blvd. Indianapolis, IN 46240 Tel: 317.465.0200 http://www.fhlbi.com/ States: Indiana, Michigan	1501 Fourth Ave., 18th Floor Seattle, WA 98101-1693 Tel: 800.973.6223 http://www.fhlbsea.com/ States: Alaska, Idaho, Montana, Oregon, Utah, Washington, Wyoming, Guam, Hawaii

Federal Home Loan Bank of Chicago

Rate Indications 2/13/12 8:14 AM

Information Box

Funding Opportunity: No Minimum size (available untill funds run out) Maturing 03/02/12 @ .155%

Member Transaction

877-230-1610

David Vidler, Manager Adan

Anne Halloran Ange

FAX 312-552-122(

Hours of Operation: 8:00 a.m.

Fixed Rate Advances

Term		CICA	Regular	Prior Day
1 week	A120	n/a	0.18%	0.17%
2 week	A120	n/a	0.19%	0.18%
3 week	A120	n/a	0.20%	0.19%
1 month	A121	0.16%	0.21%	0.21%
3 month	A121	0.18%	0.23%	0.23%
6 month	A121	0.21%	0.26%	0.26%
1 year	A121	0.25%	0.30%	0.30%
18 month	A121	0.31%	0.36%	0.36%
2 year	A121	0.41%	0.46%	0.46%
3 year	A121	0.54%	0.69%	0.68%
4 year	A121	0.83%	0.98%	0.97%
5 year	A121	1.10%	1.24%	1.23%
6 year	A121	1.37%	1.52%	1.49%
7 year	A121	1.65%	1.88%	1.86%
10 year	A121	2.38%	2.52%	2.51%
Amort- 5y fully Am		0.79%	0.94%	0.92%
Amort- 10y fully Am		1.84%	1.99%	1.96%
Amort-30y Am-10y Balloon		2.33%	2.48%	2.45%

Symmetrical Prepay Advances A125 add 0.02% to regular A121 rates above.

Floating Rate Adva

		Today
Open Line	A010	Set in PM
Available until 3:00 pm by calling 877-230-1610		
Late Day Advances Available until 4:30 pm by calling 877-230-1		
Maturity/Term		Index
1 month	A012	FHLBC Fed Effe
1 month	A016	Federal Fund Ef
3 month	A016	Federal Fund Ef
6 month	A400	
9 month	A400	
1 year	A400	
1.5 year	A400	
2 year	A400	
3 year	A400	
4 year	A400	
5 year	A400	

Prepayable LIBOR (A380) add between 0.02% and 0.15% to spr

2a. Creating benchmarks for your deposits

All financial instruments can be broken down into 4 distinct risks and costs:

- – interest rate risk
- – option risk
- – credit risk
- – servicing cost

2a. Creating benchmarks for your deposits

How does a 12 month CD compare to a 12 month wholesale advance?

▪ interest rate risk	same
▪ option risk	same
▪ credit risk	same
– **servicing cost**	**different**

2a. Creating benchmarks for your deposits

Where can we get deposit servicing costs?

- **http://www.occ.treas.gov**
- Left side: Click on Key Resources
- Click on *Asset and Liability Price Tables*
- Deposits start on page 21 (approximately)
- Look for footnotes (e.g., "Annual non-interest cost of 0.20 percent")

2a. Creating benchmarks for your deposits

- OCC servicing cost values (4th quarter 2011):
  - Share savings 1.39%
  - Share draft / checking 1.80%
  - MMDA 0.86%
  - Certificates 0.20%

2a. Creating benchmarks for your deposits

?

12 Month CD
at 2.57% - 0.20% = 2.37%

FHLB 12 month advance
2.57%

Theoretically, I'm indifferent between these two options.

2a. Creating benchmarks for your deposits

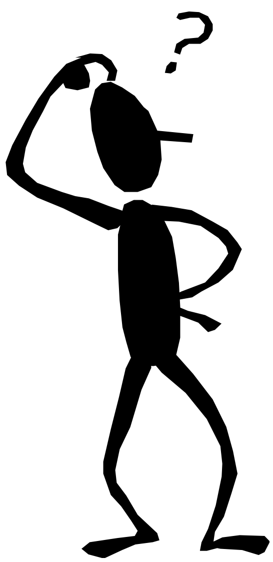
- Don't let my competitors be the sole influence in setting my prices!!
- Let my wholesale option plus a servicing cost adjustment serve as my benchmark.
- Objective is to minimize my marginal cost of funding within the context of my balance sheet (and member relations) constraints.

2a. Creating benchmarks for your deposits

Efficiently priced deposits have 2 benefits:

1. Minimized cost of funds = max net income
2. Use the benchmark as your discount rate when calculating present value of projected cash flows (NEV). To the extent that you consistently beat your wholesale alternative, your PV will be optimized.

What about member relations?



It would seem that the key to minimizing cost of funds is to consistently price below our wholesale benchmark.

But, how can we prices this low and ALSO keep members satisfied with our rates?

3a. Deposit market segmentation

- Segment your membership
  - Separate price-sensitive members from non-price-sensitive members
  - Pay the best rate, not the best rates
  - If someone in your market is doing it, you will have to also
  - Current market conditions could be favorable towards implementation.

3a. Deposit market segmentation

Current Position	% Retained	$ Retained	Proposed Rate	Annual Exp.
Savings		$32,456,252	1.00%	$324,563
Money Market-$10,000 min bal		12,000,000	1.70%	$204,000
3 Month CD		465,000	1.00%	$4,650
6 Month CD		315,000	1.25%	$3,938
Total		**$45,236,252**		**$537,151**
Alternative Position	**% Retained**	**$ Retained**	**Proposed Rate**	**Annual Exp.**
Savings	97%	$31,482,564	0.90%	$283,343
Money Market-$2500 min bal	100%	$12,000,000	1.70%	$204,000
3 Month CD	50%	$232,500	0.95%	$2,209
6 Month CD	50%	$157,500	1.15%	$1,811
7 Month CD Special		$3,500,000	1.45%	$50,750
Total		**$47,372,564**		**$542,113**
Difference		**$2,136,312**		**$4,962**
		Δ Expense / Δ Balances =		**0.23%**

3a. Deposit market segmentation

The 6 month advance from
Topeka FHLB was 2.01%.

Wholesale option
2.01%

OR

Retail Equivalent
0.23% + 0.20 = 0.43%

Implementing CD Specials

- Divide CDs' into 2-3 time bands
- In each time band, run an off-maturity special at or near the top of the market
- Reduce rates on regular CD's
- As the special matures, roll it into an existing product
- Move the specials around
- Always offer a special
  - **Offensive, to gain market share**
  - **Defensive, to hold on to your balances**
- Look at the balance turnover to determine when to advertise
  - **Low roll, advertise**
  - **High roll, don't advertise**

Implementing Non-Maturity Specials

- Make sure you consider marginal (not average!) cost
- CAUTION: 100% EXPOSURE!
- Tier existing accounts down, but not up
- Make the member **DO** something to tell you they're rate sensitive

Performance and IRR Elements of Core Deposit Behaviors

- Customer focus on service creates stable funding with comparatively low rates
- Such funding is slow to change interest expense that can be used to hedge income at risk IRR
- Premiums reflect the long term, comparatively low cost nature of core deposits, and they can be applied to hedge equity at risk IRR and add performance

2b. Creating benchmarks for loans

- Approaches to pricing loans
  - Competitor survey
    - “We want to be the best/middle/worst in the market”
    - What if the market is wrong?
    - Involves a lot of instinct, hard to document your decisions

2b. Creating benchmarks for loans

- Fully allocated cost approach
  - Add up overhead, cost of funds, servicing cost and desired ROA
  - Considers average yield only, not marginal yield
  - Process to allocate overhead and determine servicing costs is not easy, not cheap
  - If you price each loan to contribute 1.0% profitability, will you end up with 1.0% ROA?

2b. Creating benchmarks for loans

– **Retail alternative benchmark approach**
  - Start with risk-free rate and add adjustments for
    - – servicing cost
    - – credit risk
    - – option risk
    - – interest rate risk

2b. Creating benchmarks for loans

	Wholesale instrument
30 YR FNMA MBS	5.75%
	Retail equivalent
Credit Risk Adjustment	0.05%
Servicing Cost Adjustment	0.25%
Other Risk Adjustment	0.00%

	6.05%

This rate covers all risks and cost inherent
in making this one additional mortgage loan.

Creating benchmarks for loans

30 Year FRM vs. 1/1 ARM (2/6 caps)

	Our Price	**Market Low**
– 30 Yr FRM	6.375 %	5.90 %
– 1/1 ARM	4.356 %	4.34 %

Which loan is a better priced loan, considering its risks and costs?

30 YR FRM

30 YR FNMA MBS	5.75%
	Retail equivalent
Credit Risk Adjustment	0.05%
Servicing Cost Adjustment	0.25%
Other Risk Adjustment	0.00%

	6.05%

Our current price – 6.375 % Market Low – 5.90%

We're beating the benchmark by 32.5 bp

1/1 ARM

	Wholesale instrument
1/1 ARM FNMA MBS	3.87%
	Retail equivalent
Credit Risk Adjustment	0.05%
Servicing Cost Adjustment	0.25%
Other Risk Adjustment	0.00%

	4.17%

Our current price - 4.356% Market Low – 4.34%
We are beating the benchmark by only 18.6 bp.

2b. 30 YR FRM vs. 1/1 ARM

Our loan production is about $5 million per month behind budgeted goals. We want to make up this volume this next month and have decided it will come from either our 30 Yr FRM or our 1/1ARM. How do we decide which product to promote?

30 YR FRM

	Balance		Rate		Expense
Base Case	$5,000,000	x	6.38%	=	$318,750
Alternative Strategy	$10,000,000	x	5.90%	=	$590,000
Difference	$5,000,000				$271,250
Marginal Yield	(Δ yield) / (Δ balances)				5.43%

The MARGINAL yield on our new $5M is 5.43%, 62 bp below our risks/costs.

1/1 ARM

	Balance		Rate		Annualized Expense
Base Case	$1,000,000	x	4.36%	=	$43,560
Alternative Strategy	$6,000,000	x	4.34%	=	$260,400
Difference	$5,000,000				$216,840
Marginal Yield	(Δ expense) / (Δ balances)				4.34%

The MARGINAL yield on our new $5M is 4.34%, or 0 bp above our risks/costs.

3b. Loan market segmentation

Your auto loan volume has been dropping over the past 3 months and the obvious culprit has been another lender in your marketplace that's beating your rates. Your indirect rates reigned supreme for the past 12 months, now this upstart has bested you by 50bp. Your lending VP wants to drop rates and match them so you can return to previous volumes. Let's do the math…….

3b. Loan market segmentation

	Wholesale instrumen
Auto paper ABS	2.76%
	Retail equivalent
Credit Risk Adjustment	0.40%
Servicing Cost Adjustment	0.70%
Other Risk Adjustment	0.00%

	3.86%

Our rate is at 4.50%, we're beating the benchmark by 64 bp. Looks like a loan that's priced to cover its risks and costs.

3b. Loan market segmentation

	Balance		Rate		Annualized Expense
Base Case	$2,500,000	x	4.50%	=	$112,500
Alternative Strategy	$3,500,000	x	4.00%	=	$140,000
Difference	$1,000,000				$27,500
Marginal Yield	(Δ income) / Δ balances)				$\boxed{2.75\%}$

But we're not done-we need to consider the cost of dropping rate to get volume. What is the yield at the margin?

3b. Loan market segmentation

- How can they be beating us by 50 bp?
  - IRR + Option Risk 276 bp
  - Servicing Costs 70 bp
  - Credit Risk 40 bp

3b. Loan market segmentation

- Risk-based lending allows credit unions to separate price-sensitive consumers from non-price-sensitive consumers.
- Creating a benchmark pricing approach documents the reason for the different prices between A credits and C credits
- If you're not offering your A members the best rate in the market, someone else will

3b. Loan market segmentation

	Balance		Rate		Annualized Expense
Base Case					
New Autos	$10,000,000	x	5.25%		$525,000
Alternative Strategy					
New Autos - A	$7,000,000	x	5.00%		$350,000
New Autos - B	$2,000,000	x	5.50%		$110,000
New Autos - C	$1,000,000	x	7.50%	=	$75,000
Total	$10,000,000				$535,000