

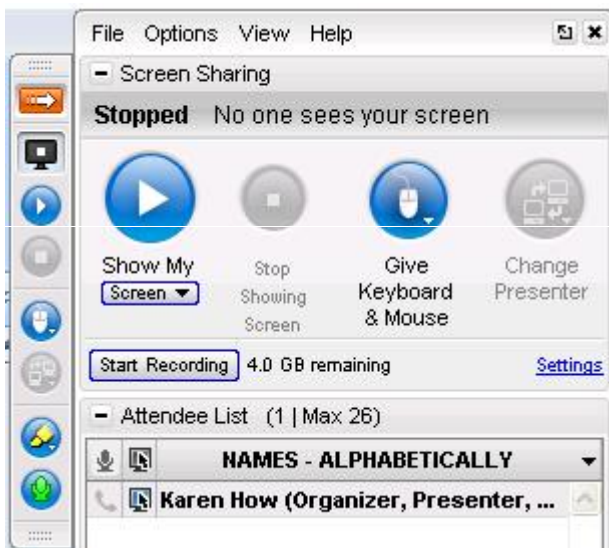
- Connect to the conference call,
1-888-394-8197, pass code 775629
- Problems connecting, call Plansmith
at 1-800-323-3281 and ask for Danielle



“BEST PRACTICES” BUDGETING BOOT CAMP : [PRICING MODELS](#)



Click here to minimize the Control Panel.



Click here to type in your Questions.



PRICING MODELS

Overview

Pricing Models

Pricing Models (Offering Rates)

Offering Rates or Pricing is perhaps the *most important* assumption in an ALM Model. It can also be the most difficult to develop as one needs to consider *future events*.

All interest bearing accounts on the balance sheet require a Pricing Model!

Your Compass Model Needs to be told how each Product will Behave now and under Different Rate Environments.

	EOM Balance	New Balance	Offering Rate	Total Maturities	Total Maturities Xrate	Interest	Yield	Average Balance
2011	Manual	[User Edit]	Manual					[User Edit]
Dec	9,948					53,786	6.17	10,256
2011 Jan	10,508					61,467	7.03	10,302
Feb	9,933					55,217	7.13	10,090
Mar	9,170					56,544	7.11	9,365
Apr	7,971					52,237	7.65	8,308
May	7,950					48,479	7.14	7,991
Jun	7,713					45,842	7.18	7,771
Jul	7,623				EOM Yield:	43,823	6.87	7,514
Aug	7,559				6.74	45,157	7.01	7,581
Sep	7,559	1,489	5.25	1,489	6.83	40,941	6.59	7,559
Oct	7,559	880	5.25	880	6.34	40,873	6.37	7,559
Nov	7,559	662	5.25	662	6.74	38,735	6.23	7,559
Dec	7,559	942	5.25	942	6.55	39,091	6.09	7,559
2012 Jan	7,559	309	5.25	309	6.97	38,253	5.97	7,559
Feb	7,559	271	5.25	271	7.34	35,352	5.90	7,559



**PRICING ASSUMPTION
DEVELOPMENT**

**Procedures for Identifying
Behaviors**

Review with a Group

- *ALCO*
- *Deposit Pricing Committee*

Review Past Pricing Behaviors

Two good reasons to do the research:

- *Makes creation of the models much easier*
- *You'll have documentation to support the assumption*

Pricing Models

Where Should We Start?

CD Rate Chart		As of 10/4/11
Term	Interest Rate	APY**
3 Months	0.40%	0.40%
6 Months	0.80%	0.80%
9 Months	0.90%	0.90%
12 Months	1.09%	1.10%
18 Months	1.19%	1.20%
24 Months	1.29%	1.30%
30 Months	1.39%	1.40%
3 Years	1.59%	1.60%
4 Years	1.73%	1.75%
5 Years	2.13%	2.15%

Gather historical pricing information

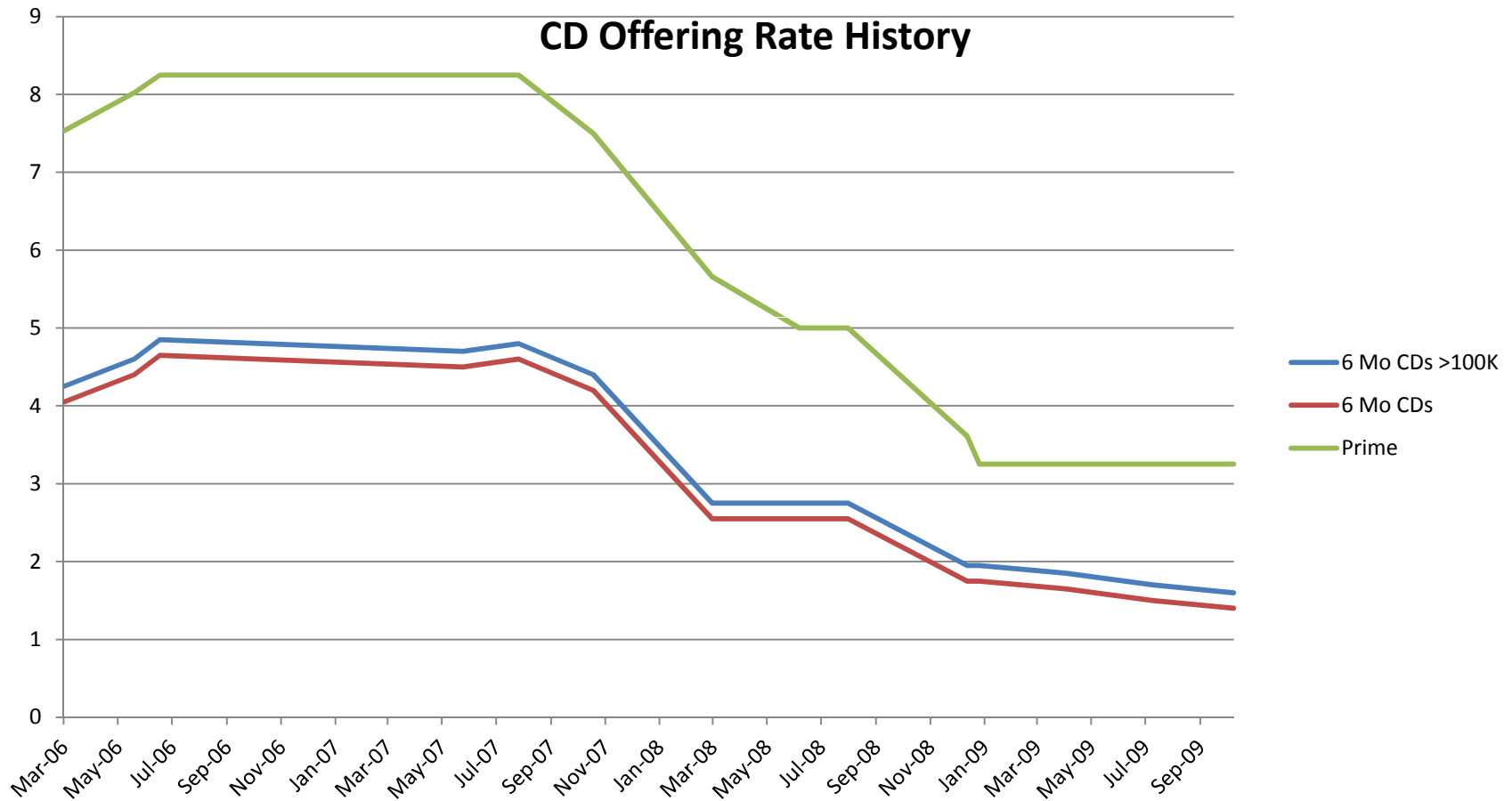
Interest Rates from Federal Reserve website:

<http://www.federalreserve.gov/releases/h15/>

	Mar-06	Jun-06	Jul-06	Jun-07	Aug-07	Aug-07	Nov-07	Mar-08	Jun-08	Aug-08	Dec-08	Jan-09	Apr-09	Jul-09	Oct-09
6 Mo CDs	4.25	4.6	4.85	4.7	4.8	4.8	4.4	2.75	2.75	2.75	1.95	1.95	1.85	1.7	1.6
6 Mo CDs	4.05	4.4	4.65	4.5	4.6	4.6	4.2	2.55	2.55	2.55	1.75	1.75	1.65	1.5	1.4
Prime	7.53	8.02	8.25	8.25	8.25	8.25	7.50	5.66	5.00	5.00	3.61	3.25	3.25	3.25	3.25

Pricing Models

Where Should We Start?





CREATING PRICING MODELS

Procedures for Model Set Up

Pricing Models

Driver Rates

- *Make sure Rate Forecast is updated*
- *Pricing Model = Link to Driver Rates*

Rates are Current These buttons process the data for all three scenarios

Scenario: ▼

		Fed Funds	3 mo Tbill	6 mo Tbill	1 yr CMT	2 yr CMT	3 yr CMT	5 yr CMT	10 yr CMT	30 yr CMT	PRIME
2011	Jan	0.17	0.15	0.18	0.27	0.61	1.03	1.99	3.39	4.52	3.25
	Feb	0.16	0.13	0.17	0.29	0.77	1.28	2.26	3.58	4.65	3.25
	Mar	0.14	0.10	0.16	0.26	0.70	1.17	2.11	3.41	4.51	3.25
	Apr	0.10	0.06	0.12	0.25	0.73	1.21	2.17	3.46	4.50	3.25
	May	0.09	0.04	0.09	0.19	0.56	0.94	1.84	3.17	4.29	3.25
	Jun	0.09	0.04	0.10	0.18	0.41	0.71	1.58	3.00	4.23	3.25
	Jul	0.07	0.04	0.08	0.19	0.41	0.68	1.54	3.00	4.27	3.25
	Aug	0.10	0.02	0.06	0.11	0.23	0.38	1.02	2.30	3.65	3.25
	Sep	0.10	0.10	0.10	0.20	0.30	0.60	1.20	2.50	3.80	3.25

Pricing Models

Model #1 – Fed Funds Sold

Parallel Relationship to Driver Rate

The screenshot shows a 'Pricing Model' dialog box with the following settings:

- Model Selection:** Radio buttons for 'Manual', 'Quick Model' (selected), 'New Model', and an empty dropdown.
- Driver:** Dropdown menu set to 'Fed Funds'.
- September Rate:** Text field containing '0.10 %'.
- Calc:** Dropdown menu set to 'Spread'.
- Value:** Text field containing '0%'. **Lag:** Text field containing '0'. **Mon:** Text field containing 'Mon'.

Buttons on the right side of the dialog include 'Ok', 'Cancel', 'Save', 'Save As', and 'Chart'.

Pricing Models

Model #2 – Municipals

Parallel Relationship to Driver Rate

The image shows a software dialog box titled "Pricing Model". It contains several configuration options:

- Model Selection:** A group box containing four radio buttons: "Manual", "Quick Model" (which is selected), "New Model", and an empty dropdown menu.
- Driver:** A dropdown menu currently showing "State & Local".
- September Rate:** A text field containing "4.00 %".
- Calc:** A dropdown menu currently showing "Spread".
- Value:** A text field containing "0 %".
- Lag:** A text field containing "0".
- Mon:** A text field containing "Mon".

On the right side of the dialog, there are five buttons: "Ok", "Cancel", "Save", "Save As", and "Chart".

Pricing Models

Model #3 – Commercial Var

Parallel Relationship to Driver Rate

The screenshot shows a 'Pricing Model' dialog box with the following settings:

- Model Selection:** Radio buttons for 'Manual', 'Quick Model' (selected), 'New Model', and an empty dropdown.
- Driver:** 'PRIME' (selected in a dropdown menu).
- September Rate:** 3.25 %
- Calc:** 'Spread' (selected in a dropdown menu).
- Value:** .5 %
- Lag:** 0
- Mon:** Mon

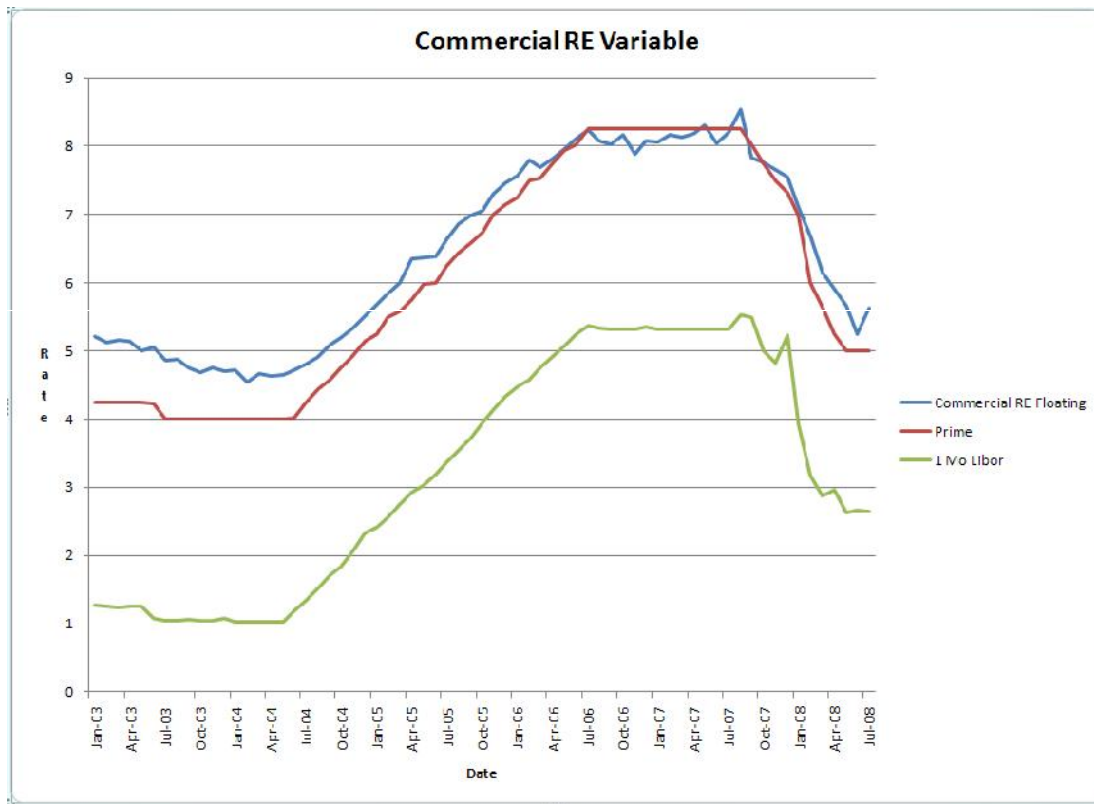
Buttons on the right side of the dialog include: Ok, Cancel, Save, Save As, and Chart.

Pricing Models

Model #4 – Commercial RE Var

Note spread going negative after Prime reaches 8%

New Model option captures changing spread relationship



Pricing Model

Model Selection

Manual
 Quick Model
 New Model
 Comm RE Var

Driver: PRIME

September Rate: 3.25 %
Time Lag: 0 Months
Current Price: 3.70 %

Calc: Spread
Edit: Spread/Factor

Seg.	Driver	Spread	Rate
	0.00	0.00	0.00
A	0.00	0.75	0.75
B	8.00	0.00	8.00
C	20.00	-0.25	19.75
D			
E			
F			

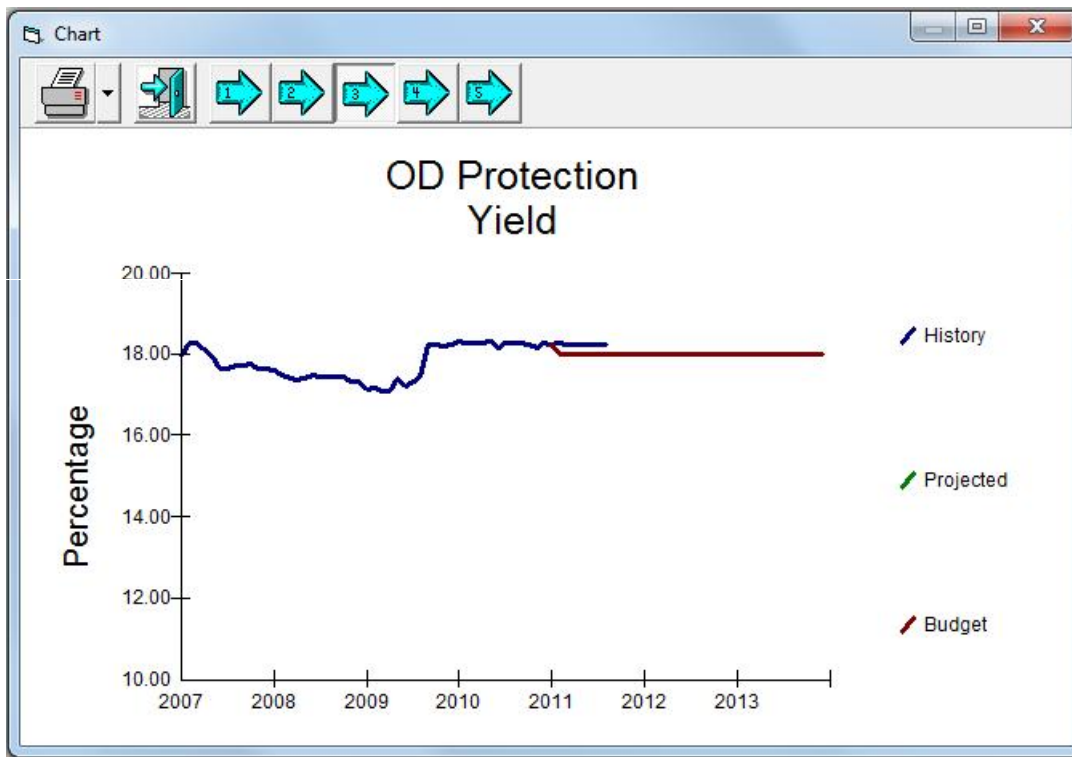
Pricing Models

Model #5 – OD Protection

Note constant rate in history

Driver Rate used immaterial

When entering Rate into model, switch Edit mode to Modeled Rate



Pricing Model

Model Selection

Manual
 Quick Model
 New Model

Driver: PRIME

September Rate: 3.25 %

Time Lag: 0 Months

Current Price: 18.00 %

Calc: Spread

Edit: Modeled rate

Beta Create A Promotion

Seg.	Driver	Rate	Spread
		0.00	0.00
A	0.00	18.00	18.00
B	20.00	18.00	-2.00
C			
D			
E			
F			

Add Insert Delete Clear

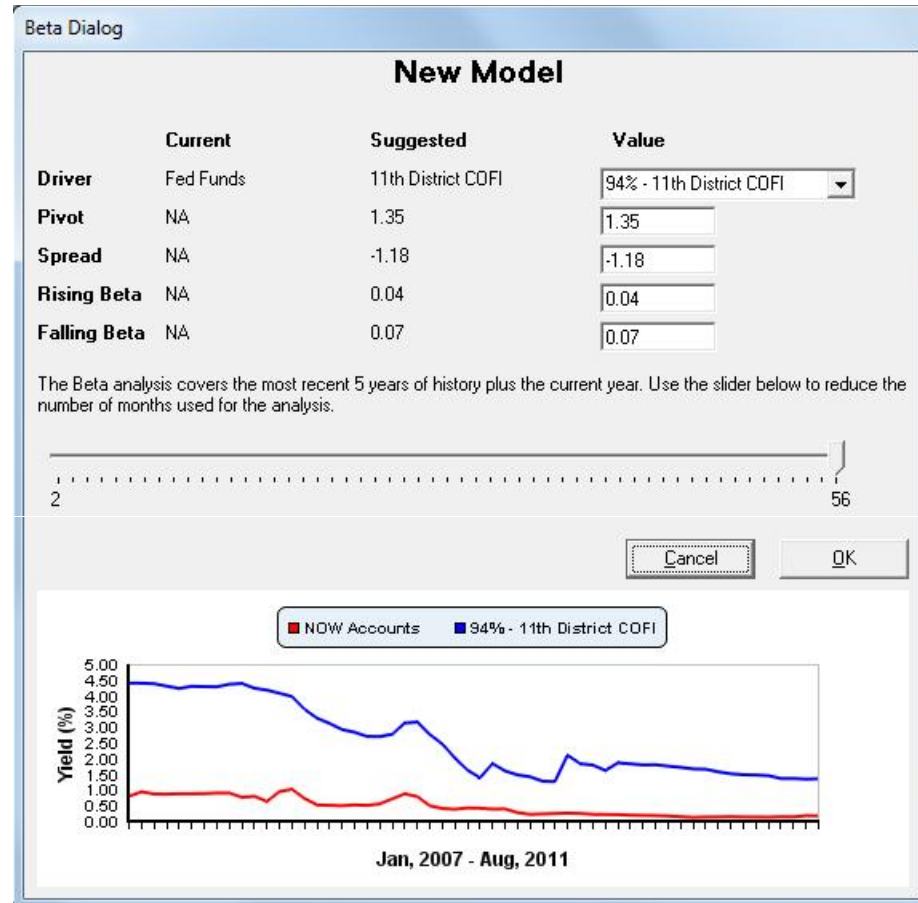
Pricing Models

Model #6 – NOW

Rate Insensitive?

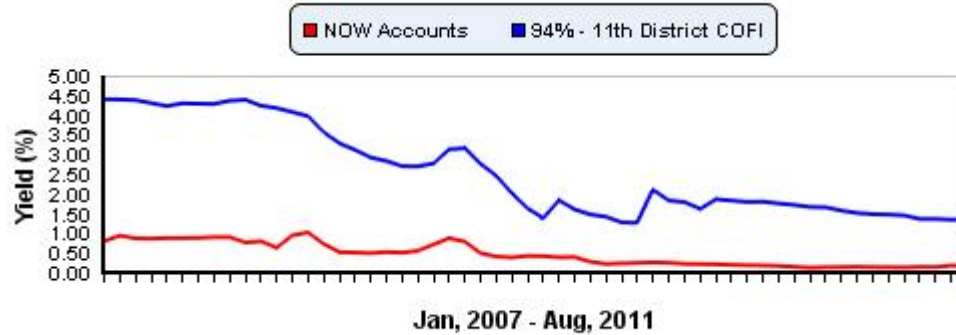
Administered Rate?

Use History for Beta?



Pricing Models

How Beta Works:



Beta Dialog

New Model

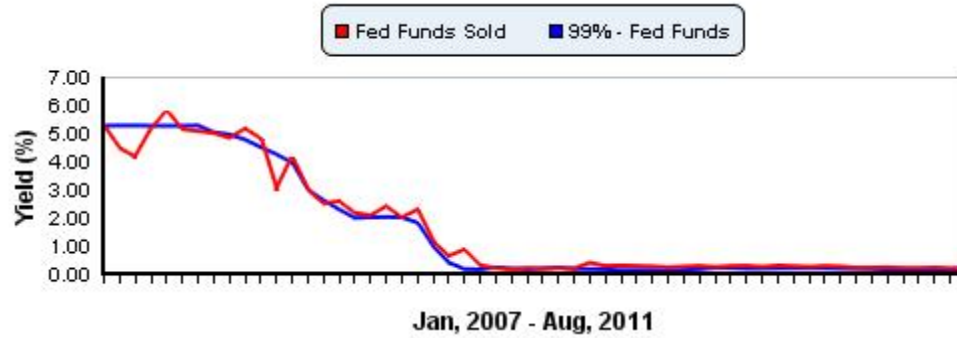
	Current	Suggested	Value
Driver	Fed Funds	11th District COFI	94% - 11th District COFI
Pivot	NA	1.35	1.35
Spread	NA	-1.18	-1.18
Rising Beta	NA	0.04	0.04
Falling Beta	NA	0.07	0.07

The Beta analysis covers the most recent 5 years of history plus the current year. Use the slider below to reduce the number of months used for the analysis.

2 56

Pricing Models

When NOT to use Betas:



	Current	Suggested	Value
Driver	Fed Funds	Fed Funds	99% - Fed Funds
Pivot	NA	0.10	0.10
Spread	NA	0.11	0.11
Rising Beta	NA	6.19	6.19
Falling Beta	NA	1.57	1.57

Pricing Models

Model #6 – NOW

Using Betas:

When using Plansmith's Beta, save with "Beta" in the model name.

Pricing Model

Model Selection

Manual
 Quick Model
 New Model
 NOW Beta

Driver: 11th District COFI

September Rate: 1.35 %

Time Lag: 0 Months

Current Price: 0.17 %

Calc: Spread

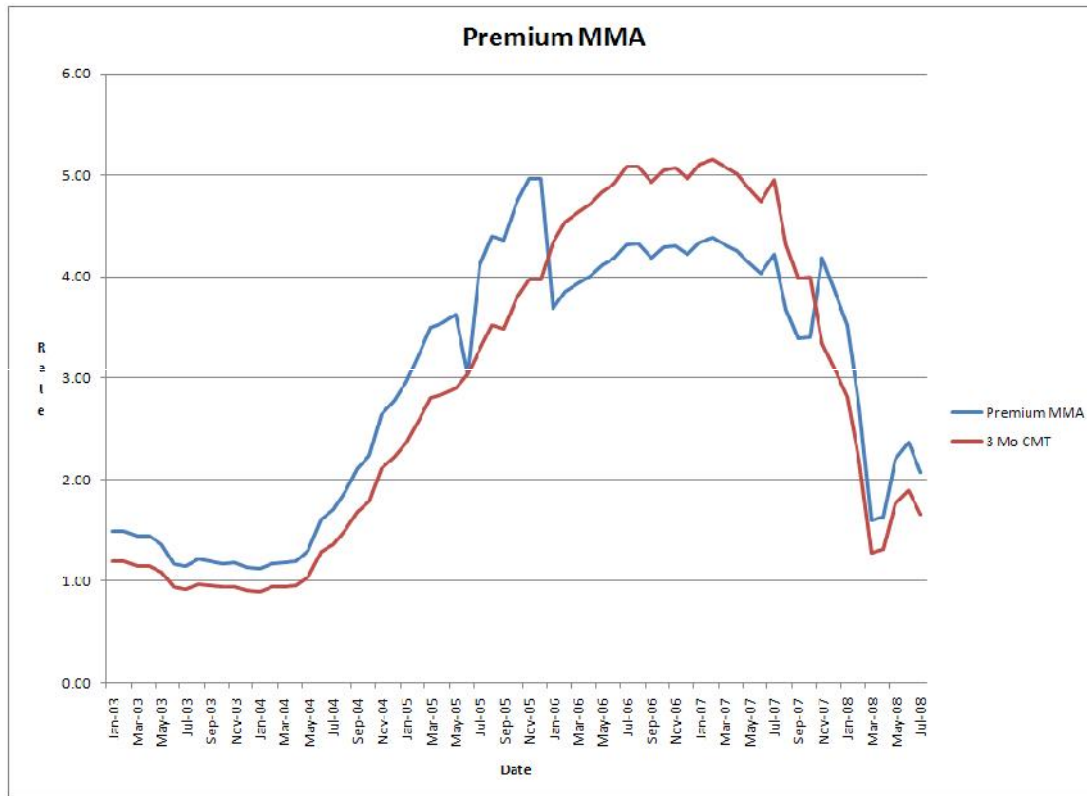
Edit: Spread/Factor

Seg.	Driver	Spread	Rate
	0.00	0.00	0.00
A	0.00	0.08	0.08
B	1.35	-1.18	0.17
C	100.00	-95.88	4.12
D			
E			
F			

Pricing Models

Model #7 – Premium MMA

Factor Models use a percentage of the Driver Rate



Pricing Model

Model Selection

Manual
 Quick Model
 New Model
 Premium MMA

Driver: 3 mo Tbill
September Rate: 0.10 %
Time Lag: 0 Months
Current Price: 0.12 %

Calc: Factor
Edit: Spread/Factor

Seg.	Driver	Factor	Rate
	0.00	0.00	0.00
A	0.00	1.25	0.00
B	20.00	0.75	15.00
C			
D			
E			
F			

Pricing Models

Model #8 – CDs <= 250K 12 Mo.

Rate Model may need to account for Driver going to zero

Current Price at 1.20, Quick Model floors out at 1.00. Reasonable? If not, use New Model option to bring rate below 1.00

Pricing Model

Model Selection

Manual

Quick Model

New Model

[]

Driver: yr CMT

September Rate: 0.20 %

Calc: Spread

Value: 1% **Lag:** 0 **Mon**

Ok
Cancel
Save
Save As
Chart

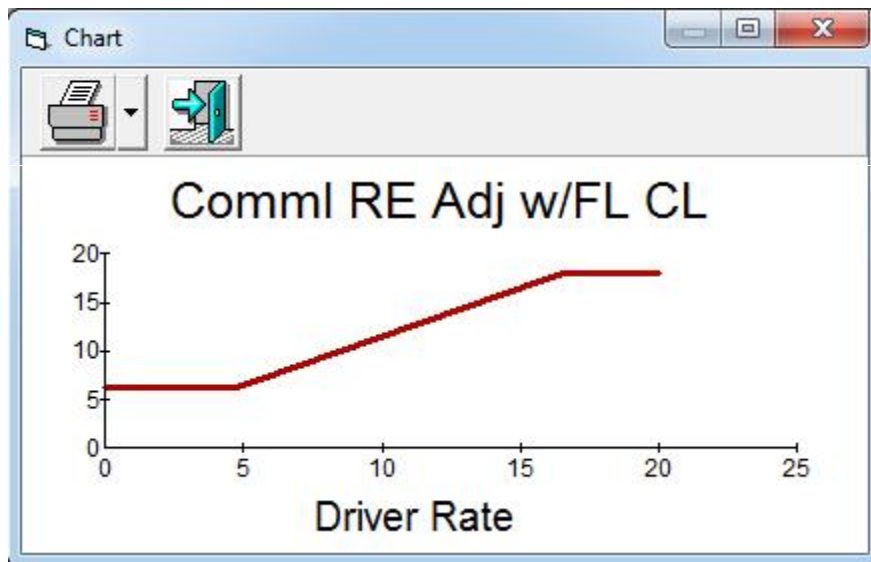
	-400	-300	-200	-100	0	100	200	300	400	
CDs <= 250K										
CDs <= 250K 6 Mo		0.15	0.15	0.15	0.26	1.02	1.79	2.56	3.33	4.10
CDs <= 250K 12 Mo		1.01	1.01	1.01	1.01	1.13	1.69	2.25	2.83	3.38

Pricing Models

Model #9 – Comml RE Adj W/Floor/Ceiling

Adjustable Rate Product Models with Floors can be set up in Projections screen

Avg Floor/Ceiling	6.27/18.00
Weighted Avg Mat	110



Pricing Model

Manual
 Quick Model
 New Model
 Comml RE Adj w/FL CL

Driver: PRIME
September Rate: 3.30 %
Time Lag: 0 Months
Current Price: 6.25 %

Calc: Spread
Edit: Spread/Factor

Seg.	Driver	Spread	Rate
	0.00	0.00	0.00
A	0.00	6.25	6.25
B	4.75	1.50	6.25
C	16.50	1.50	18.00
D	20.00	-2.00	18.00
E			
F			

Pricing Models

Repricing Models

Model #10 – Comml RE Adj W/Floor/Ceiling

Adjustable Rate Products should have contractual reset rates

Use average spread to index

Periodic Caps, Max Rate Adjustments handled by Account Wizard

Floors/Ceilings Modeled as in Offering Rate Models

Multiple indices used? Follow Financial Compass breakout rule

Repricing Model

Model Selection

Manual
 Quick Model
 New Model
 Comml RE Adj w/FL CL

Driver: PRIME

September Rate: 3.25 %

Time Lag: 0 Months

Current Price: 6.25 %

Calc: Spread

Edit: Spread/Factor

Beta Create A Promotion

Seg.	Driver	Spread	Rate
	0.00	0.00	0.00
A	0.00	6.25	6.25
B	4.75	1.50	6.25
C	16.50	1.50	18.00
D	20.00	-2.00	18.00
E			
F			

Add Insert Delete Clear

Repricing Models

Model #10 – Comml RE Adj W/Floor/Ceiling

Repricing Rates report available now

Use to review repricing assumptions



	Sep 2011	Oct 2011	Nov 2011	Dec 2011
Assets				
Securities				
U. S. Agencies				
US Agencies - Step Ups	1.25	1.25	1.25	1.32
Mortgage-Backed Securities				
MBS - Adjustable GNMA	3.20	3.20	3.20	3.20
Avg. Securities	1.25	3.20	0.00	0.00
Loans				
Commercial				
Commercial Loans - Adj.	3.30	3.30	3.30	3.30
Real Estate				
Commercial				
Commercial RE - Adj w/FL CL	6.25	6.25	6.25	6.25
Avg. Real Estate	6.25	6.25	6.25	6.25
Avg. Loans	5.85	6.25	6.25	6.25
Average Rate on Assets	1.86	6.22	6.25	6.25

Pricing Models

Model #11 – Commercial Var w/Floor

Driver Models

Useful for Branch (SBU) set up

Necessary for Variable or Floating rate accounts with Floors/Ceilings

Add a New Rate

Enter the name of the rate you want to add in the box below and then select the 'Add Rate' button.

Commercial Loans - Var w/Floor - Maturity							
Projections	Budget	Maturity	Variance	Fed Funds	Notes		
Last EOM Balance	2,140	Total Scheduled Maturities		2,140	Balance Difference	0	Avg Floor/Ceiling 5.74/50.00
EOM Yield	5.74	XRate		5.74	Yield Difference	0.00	Weighted Avg Mat 29

Pricing Models

Driver Model Linked to Other Driver = Auto Update

Needs floor/ceiling and spread

Apply Driver Model to Account with Zero Spread

Comm Var w/Floor
0.00
0.00
0.00
0.00
0.00
0.00
0.00
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75
5.75

Pricing Model

Model Selection

Manual

Quick Model

New Model

[Dropdown]

Driver: Comm Var w/Floor

September Rate: 5.75 %

Calc: Spread

Value: 0% **Lag:** 0 **Mon**

Ok
Cancel
Save
Save As
Chart

Pricing Models

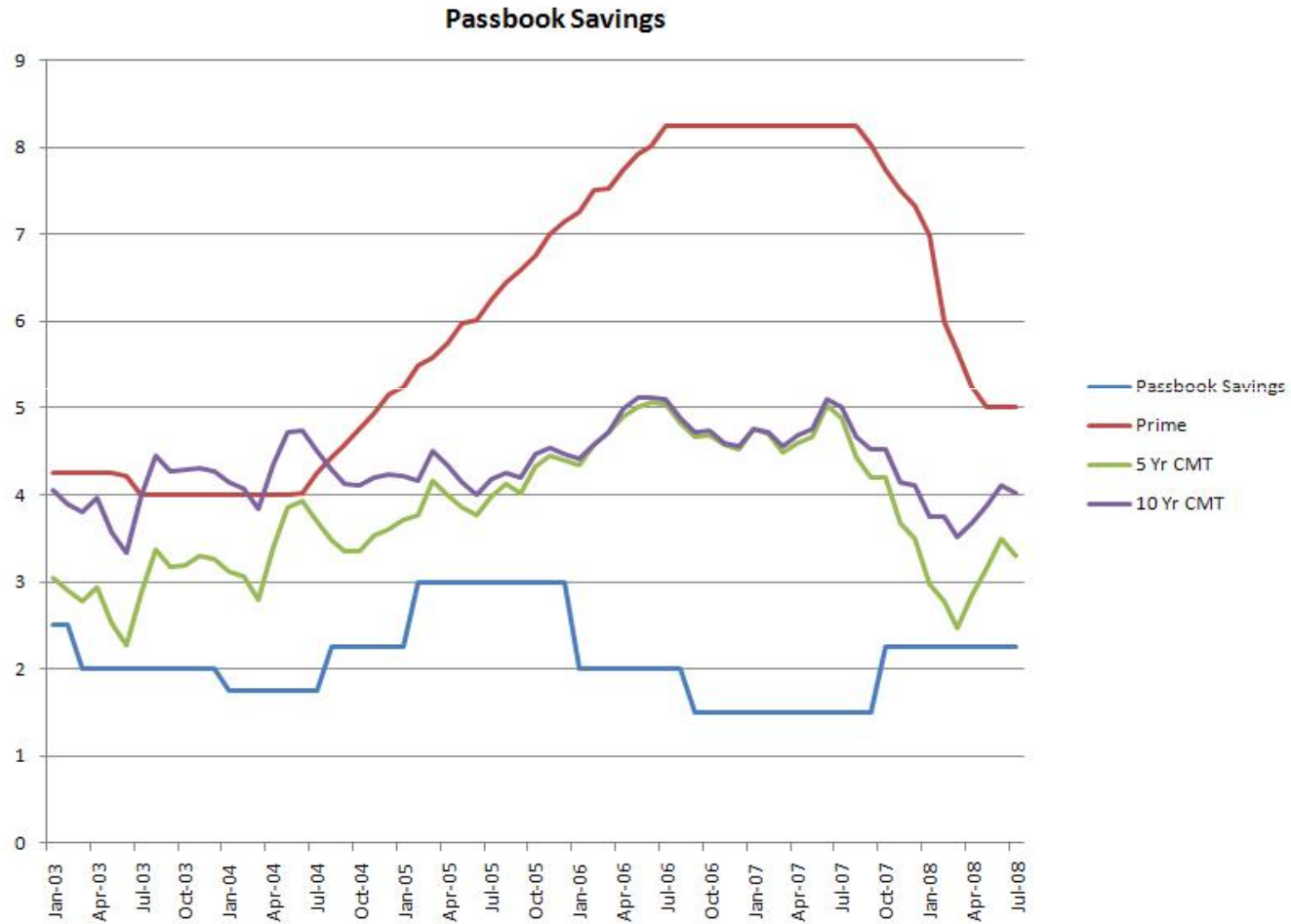
	-400	-300	-200	-100	0	100	200	300	400
Commercial Loans - Var w/Floor	5.74	5.74	5.74	5.74	5.74	5.74	6.29	7.30	8.30

After Driver Model is applied, note behavior in rate shock:

- *Prime @ 3.25 and shocked down = floor holds*
- *Prime @ 3.25, shocked up to 4.25 + 100 BPS, loan rate = 5.25 (below floor)*

Pricing Models

What if product isn't linked to, or hasn't followed an index?



Pricing Models

Time Lags:

Reference Driver from previous month

Not considered in Rate Shock analysis

Driver: Fed Funds
September Rate: 0.10 %
Time Lag: 2 Months
Current Price: 0.08 %
Calc: Spread
Edit: Spread/Factor

Jun	0.09
Jul	0.07
Aug	0.10
Sep	0.10
Oct	0.10

	EDM Balance	New Balance	Offering Rate	Expense	Cost	Average Balance
2011	Quick		Modeled			
Dec	97,677			11,048	0.14	95,268
2011 Jan	102,512			12,264	0.14	100,834
Feb	100,522			10,543	0.14	101,093
Mar	101,103			11,398	0.13	100,412
Apr	100,870			10,865	0.13	101,721
May	96,838			11,057	0.14	91,295
Jun	96,171			10,982	0.14	96,374
Jul	58,186			10,431	0.18	69,781
Aug	54,729			7,620	0.17	53,930
Sep	54,729	0	0.17	7,647	0.17	54,729
Oct	54,729	0	0.42	19,522	0.42	54,729
Nov	54,729	0	0.42	18,893	0.42	54,729
Dec	54,729	0	0.42	19,522	0.42	54,729
2012 Jan	54,729	0	0.17	7,880	0.17	54,729

Promotions:

If applied to current month, then considered in Rate Shock

Rate Promotions

This form allows promotions to be added to a pricing model. Use the table below to enter any desired rate adjustments by month. These adjustments are applied after the model is calculated. Also, by default the promotions are only applied to the current year. If you want to apply the promotions to all years of the planning cycle, place a check mark next to the "Apply to all years" option.

Adjustment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25

Apply to all years



MODEL MAINTENANCE

**Keeping the Models
Up to Date**

Pricing Models

- ✓ **Review plan regularly**
- ✓ **Make adjustments for changes in strategy/direction**
- ✓ **Note changes in interest rates that may warrant change to models**

CD Rate Chart		As of 10/4/11	
Term	Interest Rate	APY*	
3 Months	0.40%	0.40%	
6 Months	0.80%	0.80%	
9 Months	0.90%	0.90%	
12 Months	1.09%	1.10%	
18 Months	1.19%	1.20%	
24 Months	1.29%	1.30%	
30 Months	1.39%	1.40%	
3 Years	1.59%	1.60%	
4 Years	1.73%	1.75%	
5 Years	2.13%	2.15%	

Offering Rate

Modeled

Calc: Spread

Edit: Spread/Factor

Beta

Create A Promotion

CDs <= 250K 6 Mo - Projections

Projections	Budget	Maturity	Variance	Fed Funds	Notes		
	EOM Balance	New Balance	Offering Rate	Total Maturities	Total Maturities Xrate	Expense	
2011	Quick		Quick				
	Oct	15,563	2,850	0.50	2,850	0.67	7,853

Pricing Models

- ✓ **Check on Current Rate/Product Price Monthly or Quarterly**
- ✓ **View Offering Rates Looking Forward**
- ✓ **Focus on Larger Accounts = Most Impact**

2011	Jan	10,508				
	Feb	9,933				
	Mar	9,170				
	Apr	7,971				
	May	7,950				
	Jun	7,713				
	Jul	7,623				EOM Yield:
	Aug	7,559				6.74
	Sep	7,559	1,489	5.25	1,489	6.83
	Oct	7,559	880	5.25	880	6.34
	Nov	7,559	662	5.25	662	6.74
	Dec	7,559	942	5.25	942	6.55
2012	Jan	7,559	309	5.25	309	6.97
	Feb	7,559	271	5.25	271	7.34
	Mar	7,559	190	5.25	190	7.15
	Apr	7,559	498	5.25	498	6.74
	May	7,559	286	5.25	286	6.71
	Jun	7,559	177	5.25	177	6.80
	Jul	7,559	163	5.25	163	6.64

Report Properties - Current Rates

Level of Detail: Date Range:

Reporting Period: to

FTE Adjusted

Page break after assets:

Pricing Models

✓ Review floor data and models



Commercial Loans - Var w/Floor Actual/365

Taxable Floating Loan - New Amortizes over 120 months - Wtd Avg Floor = 5.74%
- Wtd Avg Ceiling = 50.00% - Downloads Floors/Ceilings - Risk Based Capital = 100%

Report Properties - Chart of Accounts

Level of Detail:	Full (Account) ▼
Include account numbers:	No ▼
Page break after each section:	No ▼
Include accrual:	Yes ▼
Include tax:	Yes ▼
Include other:	Yes ▼

Header Cancel Save As Save Preview

Pricing Models

How do you know if assumption is reasonable?

- ***Rate Shock Yield Report***
- ***Compute on High/Low Scenarios and View Offering Rates***

NOW Accounts	-400	-300	-200	-100	0	100	200	300	400
NOW Accounts	0.00	0.00	0.00	0.00	0.30	1.30	2.30	3.30	4.30

Plan Compute #439

Select a scenario: <2> High

- Step 1 - Diagnostics
- Step 2 - Changing scenarios
- Step 3 - Computing individual accounts
- Step 4 - Analyzing the plan
- Step 5 - Summary data

User has Excel AddIn (compute time is slower)

Compute Cancel

Pricing Models



CONCLUSION

Pricing Models

- **Pricing Assumptions can get complicated – Don't let them!**
- **Devise process to create and review assumptions and be consistent!**
- **Document your efforts!**



THANK YOU FOR ATTENDING

“Best Practices” Budgeting Boot Camp
Session #2: Pricing Models

1.800.323.3281

support@plansmith.com