

Commercial Lending Strategies

Navigating Loan Pricing Model Implementation Roadblocks



## **Navigating Loan Pricing Model Implementation Roadblocks**

## Agenda

- 1. What is the purpose of a commercial loan and relationship pricing model?
- 2. Pricing model implementation roadblocks
- 3. Pricing with a badly calibrated model
- 4. Overcome roadblocks with proper assumption & target development
- 5. Pricing with a well calibrated model
- 6. LoanPricingPRO® resources



What is the purpose of a commercial loan & relationship pricing model?

## **Navigating Loan Pricing Model Implementation Roadblocks**

What is the purpose of a commercial loan & relationship pricing model?

- Quantifies pricing decisions
- Helps financial institutions profitably grow their commercial loan portfolios
  - Optimizes proposed loan terms with real-time profitability analysis
  - Factors in the value of existing customer relationships
- Users price loans to meet established Return on Equity (ROE) targets
- Eliminates the "fly by the seat of your pants" approach that many institutions currently use



**Pricing model implementation roadblocks** 

## **Navigating Loan Pricing Model Implementation Roadblocks**

#### Pricing model implementation roadblocks

- Roadblock 1: Lender Resistance
  - dialed in to growing their portfolios without much concern of the profitability impact to their institution
  - look at models as a roadblock prohibiting them from doing their jobs
- Roadblock 2: Users don't believe model results
  - Challenge assumptions & targets
  - Model produces out of market pricing suggestions

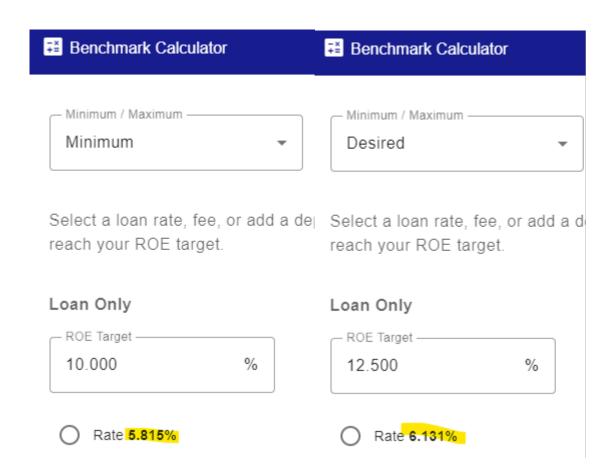


Pricing with a badly calibrated model

## **Navigating Loan Pricing Model Implementation Roadblocks**

#### Example loan with a badly calibrated model

- Loan Parameters
  - \$1,000,000
  - 5-year fixed rate at 7.25%
  - 0.50% loan fee
  - Average credit quality
- Product Assumptions
  - 1.00% base allowance for credit loss
  - 0.50% fixed overhead expense
  - 10.00% capital allocation
  - ROE targets: 10.00% minimum & 12.50% desired





Model assumption & target development

## **Navigating Loan Pricing Model Implementation Roadblocks**

Model assumption & target calibration

- The key to a successful implementation is having a well-calibrated model.
- Perform a complete product profitability analysis of the institution's existing loans & deposits
  - Produces accurate model assumptions
  - Defines realistic Return on Equity Targets



## **Navigating Loan Pricing Model Implementation Roadblocks**

#### **Product Profitability Analysis Components**

- Funds Transfer Pricing
  - Choose a curve & methodology (cash flow vs. coterminous)
  - Assign cost of funding to loans & credit for funding to deposits
- Capital Allocation
- Provision Expense (Credit Risk)
- Fee Allocation
  - Assign to accounts that directly produce the income (loan fees, interchange fees for deposits)
  - Allocate remainder based on statistical rules (# of accounts by product, \$'s by product)
- Non-Interest Expense Allocation
  - Allocated based on statistical rules (# of accounts by product, \$'s by product)



## **Navigating Loan Pricing Model Implementation Roadblocks**

#### **Product Profitability Funds Transfer Pricing**

- What is FTP?
  - Process of assigning cost of funding to Loans & credit for funding to deposits
  - Determines Net Interest Margin of each account
  - Key account characteristics include origination date, last rate reset date, rate term, & average life
  - Cost of funds assigned to Assets equals credit for funding assigned to liabilities & capital

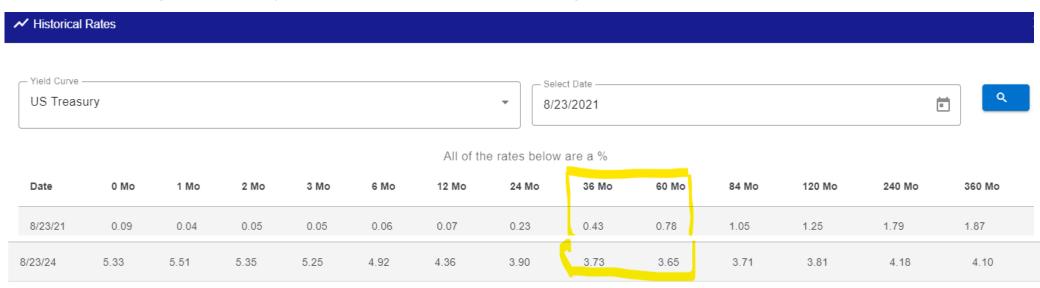
FTP Methodology	Description
Coterminous Maturity Matched	Term of the loan (fixed term for fixed rate loans & reprice frequency for adjustable-rate loans) is matched directly with the same term on the funding curve
Duration Cash Flow	Each principal payment is weighted by the month in which it is paid back. The remaining principal balance after the loan term is weighted by the full term. The weighted amounts are then divided by the loan amount to calculate the FTP term.
Coterminous Cash Flow	Each principal payment is weighted by the month in which it is paid back. The % of the total weighted principal is then calculated for each weighted principal amount. The % of total weighted principal for each month is then compared to the funding curve. The final funding rate is calculated based on the weighted cash flows



## **Navigating Loan Pricing Model Implementation Roadblocks**

#### **Product Profitability Funds Transfer Pricing**

- FTP example
- 5-Year fixed rate loan amortized over 20 years & originated 3 years ago. Institution uses the U.S. Treasury curve for FTP
  - Using a cash flow FTP method, the FTP term is 57 months
  - Cost of funding equals the 57 month point on the UST curve as of 3 years ago (roughly 0.67%)
  - Same loan originated today would receive a cost of funding of 3.68%





## **Navigating Loan Pricing Model Implementation Roadblocks**

#### Product Profitability Capital Allocation

- 100% of institution's capital allocated out to products
- Allocated based on risk
  - 100% risk weighted commercial loans get full Equity/Asset ratio, or roughly 10%
  - 50% risk weighted 1–4 family mortgages get half of what is assigned to commercial loans, or roughly 5%
  - Deposits get a low level of capital, usually 20% of what is assigned to commercial loans, or roughly 2%

#### **Proforma Product Profitability**

PRODUCT	Current/ Average Balance	Number of Active Accounts	Balance Per Account	Equity %	Equity Allocation
Total Commercial Loans Total Mortgage Loans Total Consumer Loans Total Loans	\$500,549,018 \$241,711,495 \$6,491,020 \$748,751,532	1,127 2,849 <u>867</u> 4,843	\$444,143 \$84,841 <u>\$7,487</u> <b>\$154,605</b>	9.61 7.69 <u>9.61</u> <b>8.9</b> 9	\$48,124,231 \$18,597,667 <u>\$624,065</u> \$67,345,963
Cash & Due Total Investments & Fed Reserve Reserve for Loan Losses Oth Assets/Misc Loans/Balancing Total Assets	\$16,198,000 \$142,993,000 -\$7,151,000 <u>\$54.328.468</u> \$955,120,000			3.08 3.08 9.61 3.08 7.67	\$499,198 \$4,406,828 -\$687,518 <u>\$1,674,321</u> \$73,238,793
Total Non-Interest DDA Total NOW Accounts Total Money Markets Total Savings Accounts Total Certificates Total Core Deposits	\$138,453,938 \$254,714,294 \$61,822,425 \$140,105,941 <u>\$161.626,401</u> \$756,723,000	12,519 2,149 698 8,193 3,645 27,204	\$11,060 \$118,527 \$88,571 \$17,101 \$44,342 \$27,817	1.92 1.92 1.92 1.92 1.92 1.92	\$2,662,272 \$4,897,794 \$1,188,757 \$2,694,038 \$3,107,846 \$14,550,708
CDARS/ICS Total Borrowings Other Liabilities/Balancing Total Capital Total Liabilities and Capital	\$0 \$108,027,000 \$10,508,000 <u>\$79.862,000</u> \$955,120,000			3.08 3.08 3.08 0.00	\$0 \$3,329,229 \$323,841 <u>\$0</u> \$18,203,777
Total All Products	\$1,910,240,000				<b>\$</b> 91,442,570

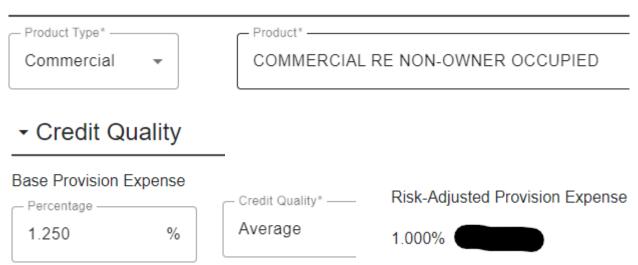


## **Navigating Loan Pricing Model Implementation Roadblocks**

#### **Product Profitability Provision Expense Allocation**

- Allocated base credit risk expense/provision based on data from Allowance/CECL calculation
- Use institution's commercial loan risk rating scale
- Adjust base credit risk expense based on risk rating

#### Loan Details



#### **Credit Factors**

Grade	Description	Factor
1	Excellent	0.1
2	Above Average	0.38
3	Average	0.8
4	Acceptable	1
5	Marginally Acceptable	1.5
6	Watch	5
7	Special Mention	15
8	Substandard	25
9	Doubtful	50



## **Navigating Loan Pricing Model Implementation Roadblocks**

## Product Profitability Analysis Expense Allocation

Expense Allocation 2024 Budget							
Client Verify/Modify as desired							
Description Non-Interest Expense	2024 Budget	Loans	<u>Deposits</u>	Treasury	Loans	Deposits	Treasury
Salary & Benefits	\$17,676,000	50.00%	40.00%	10.00%	\$8,838,000	\$7,070,400	\$1,767,600

Expense Allocation 2024 Budget	% of balance		S - active accou 0.87%	<u>ints</u> 32.28%	55%		
Client Verify/Modify as desired	% of # accts wgt average		17.90% 8.53%	58.83% 44.23%	45% wgt		
<u>Description</u>		Commercial Ln	Consumer Ln	Mortgage Ln	Commercial Ln	Consumer Ln	Mortgage Lr
Non-Interest Expense Salary & Benefits		47.24%	8.53%	44.23%	\$4.175.067	\$754.125	\$3.908.80

Expense Allocation	DEPOSITS - active accounts													
2024 Budget	% of balance	18.30%	33.66%	8.17%	18.51%	21.36%	55%							
Client Verify/Modify as desired	% of # accts	46.02%	7.90%	2.57%	30.12%	13.40%	45%							
	wgt average	30.77%	22.07%	5.65%	23.74%	17.78%	wgt							
	Factor	2.00	1.75	1.00	1.25	1.00								
	Factor Adj	40.16%	25.20%	3.69%	19.36%	11.60%								
Description		Non-Int DDA	NOW Accts	Money Mkt Say	vings Accts	CDs	Non-Int DDA	NOW Accts	Money Mkt S	avings Accts	CDs			
Non-Interest Expense														
Salary & Benefits		40.16%	25.20%	3.69%	19.36%	11.60%	\$2,839,262	\$1,781,658	\$260,566	\$1,368,794	\$820,120			



## **Navigating Loan Pricing Model Implementation Roadblocks**

#### Product Profitability Analysis Expense Allocation

Expense Allocation	Current	Number of Active	Expense	Fixed	Variable	Fixed Expense	Fixed	Variable Expense	Annual Variable Expense	Variable
Product	Balance	Accounts	to Allocate	Expense	Expense	% of Balance	Expense	Factor	per Account	Expense
COMMERCIAL LINE OF CREDIT	\$24,314,136	172	\$7,041,248	\$3,754,118	\$3,287,131	0.75%	\$182,356	1.50	\$3,270	\$562,387
COMMERCIAL TERM	\$274,928,109	605		•		0.75%	\$2,061,961	1.00	\$2,180	\$1,318,776
COMMERCIAL/GOV'T GUARANTEE	\$114,919	2				0.75%	\$862	0.75	\$1,635	\$3,270
COMMERCIAL SINGLE PAY NOTES	\$5,805,821	19				0.75%	\$43,544	1.00	\$2,180	\$41,416
LETTER OF CREDIT	\$0	12				0.75%	\$0	1.50	\$3,270	\$39,236
COMMERCIAL TAX EXEMPT	\$11,106,038	6				0.75%	\$83,295	1.00	\$2,180	\$13,079
COMMERCIAL PART PURCH.	\$54,322,138	43				0.75%	\$407,416	1.50	\$3,270	\$140,597
COMMERCIAL CONST & DVLPMNT	\$72,802,771	98				0.75%	\$546,021	2.00	\$4,360	\$427,240
COMMERCIAL - REIT TERM	\$57,155,086	<u>170</u>				0.75%	\$428,663	2.00	\$4,360	\$741,130
Total Commercial Loans	\$500,549,018	1,127					\$3,754,118			\$3,287,131

- Total expense for each product area is then allocated to each product individually
  - Cost can be assigned based on a "\$ per account" or a "% of balance" methodology
  - Costs are split between Fixed/Variable or Direct/Indirect
  - Scaling factors can be applied based on the time & effort required to originate various loan products
    - · CRE, LOC, Construction, etc.



# **Navigating Loan Pricing Model Implementation Roadblocks**

## **Product Profitability Analysis**

Proforma Product Profitability																
PRODUCT	Current/ Average Balance	Number of Active Accounts	Balance Per Account	Equity %	Equity Allocation	Interest Income	Interest Expense	Net Interest Margin	Provision for Loan Loss	Non- Interest Income	Variable Expenses	Operating Margin	Fixed Expenses	After Tax Net Income	Return on Balance	Return on Equity
LOAN DETAIL																
LOAN DETAIL COMMERCIAL LINE OF CREDIT	\$24.314.136	172	\$141,361	9.61	\$2,337,631	\$2.091.277	\$1,293,449	\$797,828	\$35,071	\$26,704	\$562,387	\$227,074	\$182,356	\$36,166	0.15	1.55
COMMERCIAL TERM	\$274,928,109		\$454,427	9.61	\$26,432,384	\$14,803,558	\$7,617,748	\$7,185,812	\$396,557	\$301,948	\$1,318,776	\$5,772,428	\$2,061,961	\$3,000,852	1.09	11.35
COMMERCIAL/GOVT GUARANTEE	\$114,919		\$57,459	9.61	\$11,049	\$12,676	\$6,232	\$6,445	\$166	\$126	\$3,270	\$3,135	\$862	\$1,839	1.60	16.64
COMMERCIAL SINGLE PAY NOTES	\$5,805,821	19	\$305,570	9.61	\$558,188	\$501,536	\$309,320	\$192,216	\$8,374	\$6,376	\$41,416	\$148,802	\$43,544	\$85,128	1.47	15.25
LETTER OF CREDIT	\$0	12	\$0	9.61	\$0	\$0	\$0	\$0	\$0	\$0	\$39,236	-\$39,236	\$0	-\$31,732	0.00	0.00
COMMERCIAL TAX EXEMPT	\$11,106,038	6	\$1,851,006	9.61	\$1,067,767	\$303,457	\$109,922	\$193,535	\$16,019	\$12,198	\$13,079	\$176,634	\$83,295	\$75,488	0.68	7.07
COMMERCIAL PART PURCH.	\$54,322,138	43	\$1,263,306	9.61	\$5,222,687	\$2,914,337	\$1,648,511	\$1,265,825	\$78,354	\$59,661	\$140,597	\$1,106,535	\$407,416	\$565,415	1.04	10.83
COMMERCIAL CONST & DVLPMNT	\$72,802,771	98	\$742,885	9.61	\$6,999,469	\$5,815,616	\$3,359,838	\$2,455,778	\$105,011	\$79,958	\$427,240	\$2,003,486	\$546,021	\$1,178,729	1.62	16.84
COMMERCIAL - REIT TERM	\$57,155,086	170	\$336,206	9.61	\$5,495,055	\$2,561,741	\$565,483	\$1,996,258	\$82,441	\$62,772	\$741,130	\$1,235,460	\$428,663	\$652,499	1.14	11.87
Total Commercial Loans	\$500,549,018	1,127	\$444,143	9.61	\$48,124,231	\$29,004,198	\$14,910,501	\$14,093,698	\$721,992	\$549,743	\$3,287,131	\$10,634,318	\$3,754,118	\$5,564,384	1.11	11.56

Proforma Product Profitability															
PRODUCT	Current/ Average Balance	Number of Active Accounts	Balance Per Account	Equity %	Equity Allocation	Interest Income	Interest Expense	Net Interest Margin	Provision for Loan Loss	Non- Interest Income	Variable Expenses	Operating Margin	Fixed Expenses	Return on Balance	Return on Equity
LOAN DETAIL															
COMMERCIAL LINE OF CREDIT	\$24,314,136	172	\$141,361	9.61	\$2,337,631	8.60	5.32	3.28	0.14	0.11	2.31	0.93	0.75	0.15	1.55
COMMERCIAL TERM	\$274,928,109	605	\$454,427	9.61	\$26,432,384	5.38	2.77	2.61	0.14	0.11	0.48	2.10	0.75	1.09	11.35
COMMERCIAL/GOV'T GUARANTEE	\$114,919	2	\$57,459	9.61	\$11,049	11.03	5.42	5.61	0.14	0.11	2.85	2.73	0.75	1.60	16.64
COMMERCIAL SINGLE PAY NOTES	\$5,805,821	19	\$305,570	9.61	\$558,188	8.64	5.33	3.31	0.14	0.11	0.71	2.56	0.75	1.47	15.25
LETTER OF CREDIT	\$0	12	\$0	9.61	\$0	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
COMMERCIAL TAX EXEMPT	\$11,106,038	6	\$1,851,006	9.61	\$1,067,767	2.73	0.99	1.74	0.14	0.11	0.12	1.59	0.75	0.68	7.07
COMMERCIAL PART PURCH.	\$54,322,138	43	\$1,263,306	9.61	\$5,222,687	5.36	3.03	2.33	0.14	0.11	0.26	2.04	0.75	1.04	10.83
COMMERCIAL CONST & DVLPMNT	\$72,802,771	98	\$742,885	9.61	\$6,999,469	7.99	4.61	3.37	0.14	0.11	0.59	2.75	0.75	1.62	16.84
COMMERCIAL - REIT TERM	\$57,155,086	170	\$336,206	9.61	\$5,495,055	4.48	0.99	3.49	0.14	0.11	1.30	2.16	0.75	1.14	11.87
Total Commercial Loans	\$500,549,018	1,127	\$444,143	9.61	\$48,124,231	5.79	2.98	2.82	0.14	0.11	0.66	2.12	0.75	1.11	11.56



## **Navigating Loan Pricing Model Implementation Roadblocks**

#### Product Profitability Analysis Components

- Report shows current product average return levels
- Product specific ROE targets can be determined from this analysis
- Targets can vary by loan size tranche based on complexity
  - Lender authority
  - Loan committee approval
  - Board approval
  - All assumptions & targets from the product profitability study should be applied in the pricing model
  - Complete this process annually to ensure model is kept current

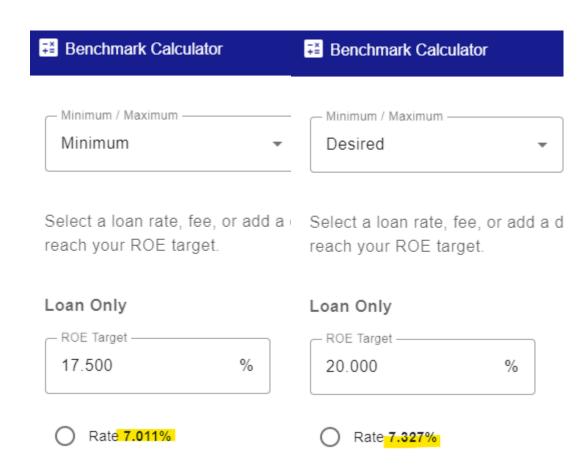


Pricing with a well calibrated model

## **Navigating Loan Pricing Model Implementation Roadblocks**

#### Example loan with a well calibrated model

- Loan Parameters
  - \$1,000,000
  - 5-year fixed rate at 7.25%
  - 0.50% loan fee
  - Average credit quality
- Product Assumptions
  - 1.25% base allowance for credit loss
  - 0.75% fixed overhead expense
  - 10.00% capital allocation
  - ROE targets: 17.50% minimum & 20.00% desired





# Section 07 **LoanPricingPRO resources**

## **Navigating Loan Pricing Model Implementation Roadblocks**

#### LoanPricingPRO resources

- Product page on website
  - forvismazars.us/loanpricingpro
- System Demonstration see the model in action
  - Schedule a LoanPricingPRO demo





## **LoanPricingPRO Team**



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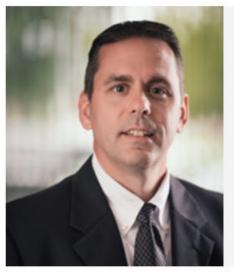
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## Thank You!

#### **Forvis Mazars**

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