Commercial Lending Strategies
Navigating Loan Pricing Model Implementation Roadblocks

Andy Morgan, Director

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Commercial Lending Strategies
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

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Section 01

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

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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

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Section 02

Pricing model implementation roadblocks

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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

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Section 03

Pricing with a badly calibrated model

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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

Benchmark Calculator

Minimum / Maximum

Minimum

Select a loan rate, fee, or add a de[...] reach your ROE target.

Loan Only

ROE Target

10.000   %

⊙ Rate **5.815%**

Benchmark Calculator

Minimum / Maximum

Desired

Select a loan rate, fee, or add a d[...] reach your ROE target.

Loan Only

ROE Target

12.500   %

⊙ Rate **6.131%**

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Section 04

Model assumption & target development

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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

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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)

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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

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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%

Historical Rates

Yield Curve
US Treasury

Select Date
8/23/2021

All of the rates below are a %

Date	0 Mo	1 Mo	2 Mo	3 Mo	6 Mo	12 Mo	24 Mo	36 Mo	60 Mo	84 Mo	120 Mo	240 Mo	360 Mo
8/23/21	0.09	0.04	0.05	0.05	0.06	0.07	0.23	0.43	0.78	1.05	1.25	1.79	1.87
8/23/24	5.33	5.51	5.35	5.25	4.92	4.36	3.90	3.73	3.65	3.71	3.81	4.18	4.10

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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	$500,549,018	1,127	$444,143	9.61	$48,124,231
Total Mortgage Loans	$241,711,495	2,849	$84,841	7.69	$18,597,667
Total Consumer Loans	$6,491,020	867	$7,487	9.61	$624,065
Total Loans	**$748,751,532**	**4,843**	**$154,605**	**8.99**	**$67,345,963**
Cash & Due	$16,198,000			3.08	$499,198
Total Investments & Fed Reserve	$142,993,000			3.08	$4,406,828
Reserve for Loan Losses	-$7,151,000			9.61	-$687,518
Oth Assets/Misc Loans/Balancing	$54,328,468			3.08	$1,674,321
Total Assets	**$955,120,000**			**7.67**	**$73,238,793**
Total Non-Interest DDA	$138,453,938	12,519	$11,060	1.92	$2,662,272
Total NOW Accounts	$254,714,294	2,149	$118,527	1.92	$4,897,794
Total Money Markets	$61,822,425	698	$88,571	1.92	$1,188,757
Total Savings Accounts	$140,105,941	8,193	$17,101	1.92	$2,694,038
Total Certificates	$161,626,401	3,645	$44,342	1.92	$3,107,846
Total Core Deposits	**$756,723,000**	**27,204**	**$27,817**	**1.92**	**$14,550,708**
CDARS/ICS	$0			3.08	$0
Total Borrowings	$108,027,000			3.08	$3,329,229
Other Liabilities/Balancing	$10,508,000			3.08	$323,841
Total Capital	$79,862,000			0.00	$0
Total Liabilities and Capital	**$955,120,000**				**$18,203,777**
Total All Products	**$1,910,240,000**				**$91,442,570**

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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

Product Type*
Commercial

Product*
COMMERCIAL RE NON-OWNER OCCUPIED

▼ Credit Quality

Base Provision Expense

Percentage
1.250 %

Credit Quality*
Average

Risk-Adjusted Provision Expense
1.000% ⬛

Credit Factors
Add Credit Factor

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

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Product Profitability Analysis Expense Allocation

Expense Allocation
2024 Budget
Client Verify/Modify as desired

Description	2024 Budget		Loans	Deposits	Treasury		Loans	Deposits	Treasury
Non-Interest Expense									
Salary & Benefits	$17,676,000		50.00%	40.00%	10.00%		$8,838,000	$7,070,400	$1,767,600

Expense Allocation
2024 Budget
Client Verify/Modify as desired

		LOANS - active accounts				
% of balance	66.85%	0.87%	32.28%	55%		
% of # accts	23.27%	17.90%	58.83%	45%		
wgt average	47.24%	8.53%	44.23%	wgt		

Description	Commercial Ln	Consumer Ln	Mortgage Ln	Commercial Ln	Consumer Ln	Mortgage Ln
Non-Interest Expense						
Salary & Benefits	47.24%	8.53%	44.23%	$4.175.067	$754.125	$3.908.808

Expense Allocation
2024 Budget
Client Verify/Modify as desired

		DEPOSITS - active accounts				
% of balance	18.30%	33.66%	8.17%	18.51%	21.36%	55%
% 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	Savings Accts	CDs	Non-Int DDA	NOW Accts	Money Mkt	Savings 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

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Product Profitability Analysis Expense Allocation

Expense Allocation

Product	Current Balance	Number of Active Accounts	Expense to Allocate	Fixed Expense	Variable Expense	Fixed Expense % of Balance	Fixed Expense	Variable Expense Factor	Annual Variable Expense per Account	Variable 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	170				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.

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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																
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	605	$454,427	9.61	$26,432,384	$14,803,558	$7,617,746	$7,185,812	$396,557	$301,948	$1,318,776	$5,772,428	$2,061,961	$3,000,852	1.09	11.35
COMMERCIAL/GOV'T GUARANTEE	$114,919	2	$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

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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

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Section 05

Pricing with a well calibrated model

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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

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LoanPricingPRO resources

- Product page on website

  - forvismazars.us/loanpricingpro

- System Demonstration – see the model in action

  - Schedule a LoanPricingPRO demo

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LoanPricingPRO Team

Andy Morgan

Director

TOLEDO, OH

Enterprise Risk & Quantitative Consulting

andy.morgan@us.forvismazars.com

419.517.1777

in

Matt Wainscott

Senior Managing Consultant

TOLEDO, OH

Enterprise Risk & Quantitative Consulting

matt.wainscott@us.forvismazars.com

419.377.0062

in

Cara Peppers

Innovation Product Manager

KANSAS CITY, MO

EDGE – The Innovation Lab of Forvis Mazars

cara.peppers@us.forvismazars.com

816.489.4223

in

Nate Thiry

Business Development Executive

SPRINGFIELD, MO

EDGE – The Innovation Lab of Forvis Mazars

nate.thiry@us.forvismazars.com

405.596.1029

in

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Thank You!

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