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Pre-CECL Audit – Internal Audit's Role

Dean Rohne, Principal

Session Objectives

- Review the requirements related to CECL
- Discuss key dates in preparing for CECL
- Identify management and internal audit's role related to CECL
- Discuss key risks related to complying with CECL



Acronyms

- CECL – current effective credit losses
- ALLL – allowance for loan and lease losses
- ASC – Accounting Standards Codification





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Overview

CECL Overview

Expected credit loss is an estimate of the present value of cash flows not expected to be collected based on quantitative and qualitative information

- Past events
- Historical loss experience
- Current conditions
- Borrower credit worthiness
- Forecasts of expected credit losses
- Current point and forecast direction of economic cycle



Mapping Current ALLL to CECL

1) Replaced by Historic Lifetime Loss Rate

Average Annual Loss Rate

+

2) Retained, but forecasting was added as a specific element to these adjustments

Qualitative Factors

=

Adjusted Annual Expected Loss Rate

×

Loan Principal

=

ASC 450 ALLL Amount



Mapping Current ALLL to CECL

1) Replaced by Historic Lifetime Loss Calculation

ASC 450 ALLL Amount

+

2) Removed, could still calculate lifetime losses in a similar fashion if you choose

ASC 310-10 ALLL Amount (Impaired Loans)

+

3) Removed, included in normal reserves

ASC 310-30 ALLL (Purchased Impaired Loans)

=

ASC 450 ALLL Amount



Current Expected Credit Loss Rate

Step 1: What methodology are you going to use to calculate the number?

Historical Lifetime Loss Rate

+

Step 2: How are we going to adjust our qualitative factors and narratives to the new standard?

Qualitative Factors

+

Step 3: What is our forecast period and how are we going to adjust our history?

Forecast Adjustments

=

Current Expected Lifetime Loss Rate



We have to start here, until we can compute our historic lifetime losses, we cannot start adjusting them to current expectations

Implementation Committee

Core members include:

- Chief Financial Officer
- Chief Risk Officer/Chief Audit Executive
- Chief Lending Officer
- Chief Information Officer



Effective Dates

Evaluate and monitor Public Business Entity (PBE) status as strategic initiatives can alter your CECL effective date

Entities	Document(s)	Effective date
SEC filers	10-Q and Call Reports	March, 2020
Non-SEC public business entities (PBE)	Call Report	March, 2021
All other entities	Financial statements and Call Report	December, 2021

The above dates assume a calendar year end



Industry Wide Net Charge-Off Data (12/31/17)

Description	12/31/2017	12/31/2016	12/31/2015	12/31/2014	12/31/2013
LN SECURED BY 1-4 FAM RES CONSTRUCTI	-0.02%	-0.08%	-0.01%	0.12%	0.51%
LN SECURED BY OTHR CNSTRCTN LN & LA	-0.02%	-0.02%	-0.06%	0.00%	0.51%
R.E. LOANS-FARMLAND	0.04%	0.02%	0.02%	0.04%	0.09%
REVOLVING, OPEN-END LNS SECD BY 1-4F	0.14%	0.27%	0.39%	0.59%	1.08%
ALL OTH LNS SECD BY 1-4FMLY-1ST LIEN	0.02%	0.05%	0.13%	0.16%	0.40%
ALL OTH LNS SECD BY 1-4FMLY-JR LIENS	0.03%	0.23%	0.64%	1.01%	2.33%
R.E. LOANS MULTI-FAMILY	-0.01%	0.00%	0.00%	0.02%	0.10%
LN SECURED BY OWNER OCCPD NONFARM NO	0.05%	0.04%	0.08%	0.15%	0.32%
LN SECURED BY OTHR NONFARM NONRES PR	0.03%	0.00%	0.07%	0.06%	0.22%
C&I LOANS	0.42%	0.49%	0.29%	0.27%	0.37%
LOANS TO FINANCE AGRICULTURAL PROD	0.23%	0.24%	0.08%	0.04%	0.06%
CREDIT CARDS LOANS	3.74%	3.33%	3.11%	3.36%	3.68%
AUTO LOANS	0.87%	0.71%	0.58%	0.55%	0.52%
OTHER CONSUMER LOANS	1.02%	0.94%	0.88%	1.11%	1.33%
LNS TO FGN GOVTS & OFFICIAL INST	0.00%	0.00%	0.00%	0.01%	0.23%
OTHER LOANS	0.18%	0.13%	0.16%	0.15%	0.15%
LEASE FINANCING RECEIVABLES	0.18%	0.26%	0.18%	0.10%	0.16%
Total	0.52%	0.49%	0.46%	0.52%	0.74%
3 Year Average	0.49%				
5 Year Average	0.55%				
12 Year Average	1.13%				



Current Allowance Levels (As of 12/31/17)

Loan Type	Impaired ALLL as % of		Purchased Impaired	
	Loans	Collective Allowance as % of Loans	Allowance as % of Loans	Total Allowance as % of Loans
Real Estate Construction	4.43%	1.12%	3.71%	1.15%
Commercial Real Estate	4.17%	0.79%	2.35%	0.83%
Residential Real Estate	6.21%	0.48%	2.26%	0.57%
Commercial Loans	10.07%	1.03%	2.97%	1.14%
Credit Cards	28.74%	3.98%	26.21%	4.25%
Other Consumer Loans	9.89%	1.08%	1.82%	1.14%
Total	10.03%	1.22%	2.38%	1.32%

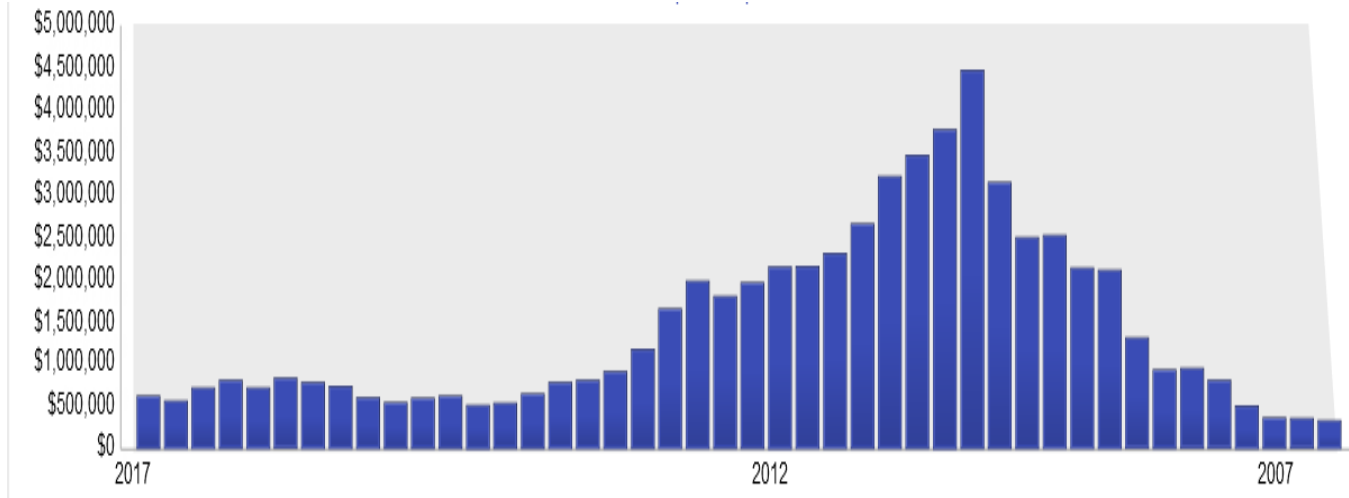


Current Allowance Levels (As of 12/31/17)

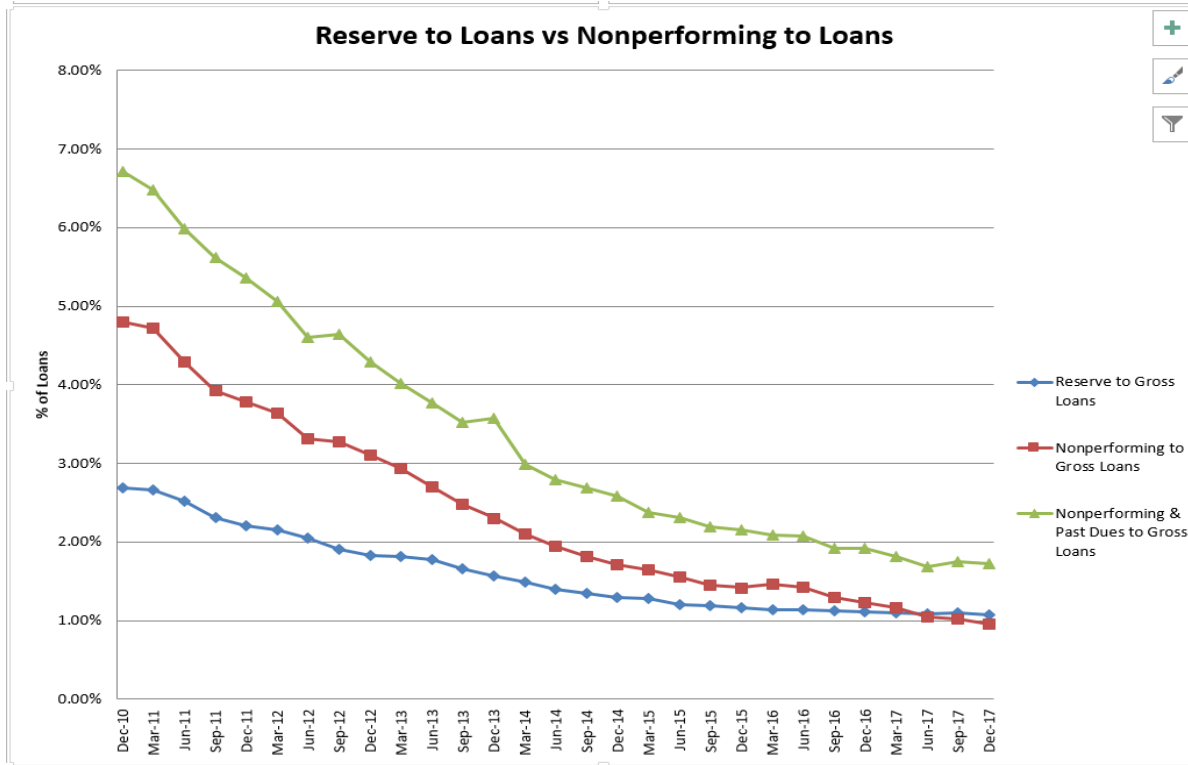
ALLL Type	% of Total ALLL
Impaired Allowance %	7.14%
Collective %	89.94%
Purchased Credit %	1.52%
Unallocated %	1.39%
	100.00%



Large Bank Charge-Off Curve

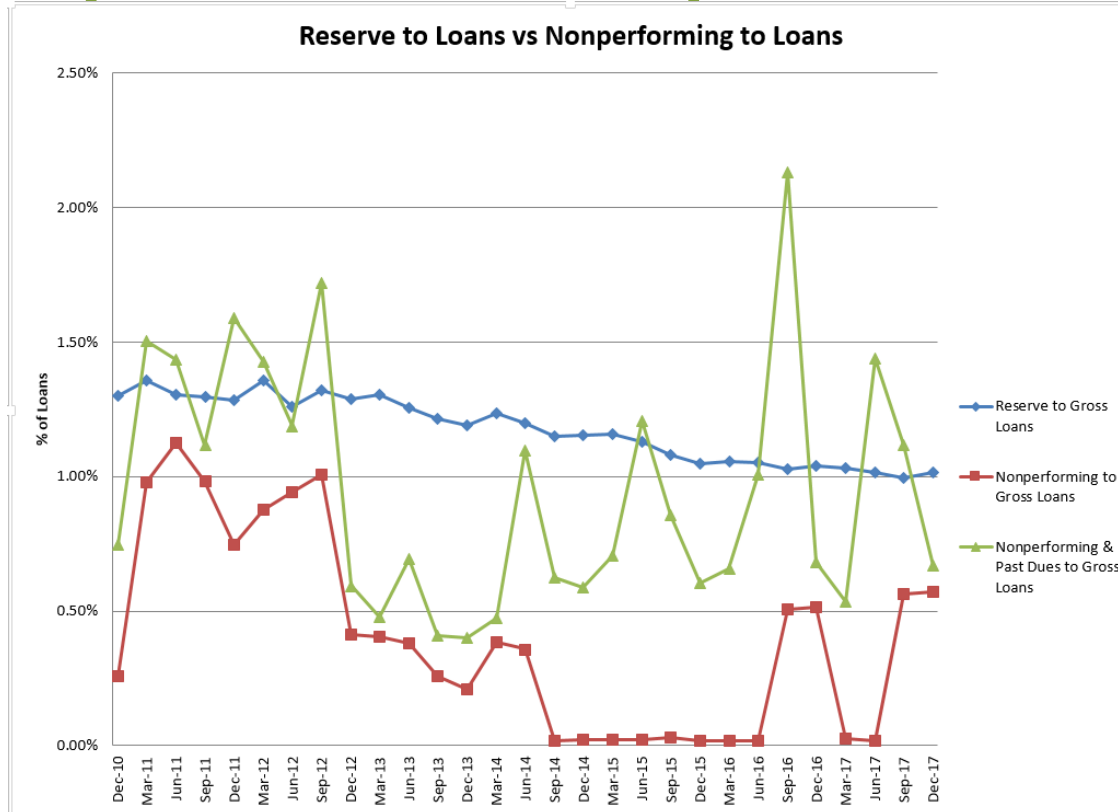


Large Bank Trend Analysis



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Community Bank Trend Analysis



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Model Examples

CECL Methodologies

Any reasonable approach or approaches may be used – guidance is not prescriptive such as

- Loss-rate methods
- Probability of default and loss given default
- Migration analysis
- Vintage analysis
- Cash flow analysis



Financial Impact

- Complexity vs accuracy of utilizing multiple methodologies
- Importance of risk rating accuracy, timely update and tracking
- Changes to policies, procedures and process controls
- Consistency of assumptions across models

Static Pool Analysis

Row Labels	Total 12/31/12 Principal Balance	Net Charge- Offs	Net Charge-Off Rate
1-4 FAMILY RES CONST	4,434,000	-	0.00%
AGRICULTURAL	1,792,959	-	0.00%
ALL OTHER CONSUMER	14,774,250	38,413	0.26%
ALL OTHER LOANS	12,371,000	-	0.00%
COMMERCIAL LOANS	245,893,169	3,104,204	1.26%
COMMERCIAL R/E OTHER	132,786,783	760,133	0.57%
COMMERCIAL R/E OWNER OCCUPIED	104,924,623	(2,613)	0.00%
CONSTRUCTION & LAND DEVELOPMENT	16,581,869	90,202	0.54%
CONSUMER AUTO	495,000	2,173	0.44%
CONSUMER LINES OF CREDIT	17,839,755	182,933	1.03%
FARMLAND	833,000	-	0.00%
HELOCS	128,059,329	1,179,642	0.92%
MULTIFAMILY	6,457,000	7,402	0.11%
PURCHASING OR CARRYING SECURITIES	373,000	-	0.00%
RESIDENTIAL 1ST MTG	43,667,624	37,699	0.09%
RESIDENTIAL 2ND MTG	1,912,037	-	0.00%
Grand Total	733,195,398	5,400,187	0.74%



Static Pool Analysis

Historical Lifetime Loss Rates							
Pool	12.31.11	12.31.12	12.31.13	12.31.14	12.31.15	12.31.16	Total Adjustment
1-4 FAMILY RES CONST	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AGRICULTURAL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ALL OTHER CONSUMER	0.16%	0.08%	0.06%	0.13%	0.00%	0.00%	0.42%
ALL OTHER LOANS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL LOANS	2.08%	0.38%	0.05%	0.04%	0.00%	0.00%	2.56%
COMMERCIAL R/E OTHER	0.28%	0.17%	0.05%	0.03%	0.00%	0.00%	0.53%
COMMERCIAL R/E OWNER OCCUPIED	0.05%	0.00%	0.00%	0.01%	0.00%	0.00%	0.06%
CONSTRUCTION & LAND DEVELOPMENT	0.22%	0.16%	0.05%	0.04%	0.00%	0.00%	0.47%
CONSUMER AUTO	0.20%	0.13%	0.06%	0.05%	0.00%	0.00%	0.44%
CONSUMER LINES OF CREDIT	0.63%	0.31%	0.13%	0.11%	0.00%	0.00%	1.17%
FARMLAND	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HELOCS	0.46%	0.28%	0.06%	0.04%	0.00%	0.00%	0.83%
LOANS TO NONDEPOSITORY INSTITUTIONS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MULTIFAMILY	0.06%	0.03%	0.00%	0.00%	0.00%	0.00%	0.10%
PURCHASING OR CARRYING SECURITIES	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL 1ST MTG	0.05%	0.03%	0.01%	0.00%	0.00%	0.00%	0.08%
RESIDENTIAL 2ND MTG	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.34%
Weighting	50.00%	30.00%	10.00%	10.00%	0.00%	0.00%	100.00%



Static Pool Analysis

Row Labels	Sum of Net Active Principal Balance	Expected Lifetime Loss Rate	Expected Lifetime Losses
1-4 FAMILY RES CONST	9,917,367	0.25%	24,793
AGRICULTURAL	871,152	0.25%	2,178
ALL OTHER CONSUMER	1,022,412	0.67%	6,891
ALL OTHER LOANS	27,837,071	0.25%	69,593
COMMERCIAL LOANS	348,256,691	2.81%	9,773,754
COMMERCIAL R/E OTHER	177,462,120	0.78%	1,377,734
COMMERCIAL R/E OWNER OCCUPIED	133,924,399	0.31%	414,658
CONSTRUCTION & LAND DEVELOPMENT	49,648,863	0.72%	358,813
CONSUMER AUTO	348,454	0.69%	2,417
CONSUMER LINES OF CREDIT	39,049,072	1.42%	555,144
HELOCS	140,414,605	1.08%	1,522,847
LOANS TO NONDEPOSITORY INSTITUTIONS	1,436,303	0.25%	3,591
MULTIFAMILY	16,817,761	0.35%	58,217
RESIDENTIAL 1ST MTG	62,269,882	0.33%	206,424
RESIDENTIAL 2ND MTG	2,140,136	0.59%	12,532
Grand Total	1,011,416,286		
		Total Required ALLL	14,389,586
		ALLL/Loans	1.42%



Static Pool with Risk Ratings Analysis

Row Labels	Sum of Total Advanced During the Loan Life	Sum of Net Chargeoffs	Sum of Net Chargeoff Rate
COMMERCIAL LOANS 1 Pass	266,318,554	956,706	0.36%
COMMERCIAL LOANS 3 Special Mention	7,599,560	125,771	1.65%
COMMERCIAL LOANS 4 Substandard	1,796,000	-	0.00%
COMMERCIAL R/E OTHER 1 Pass	149,218,635	-	0.00%
COMMERCIAL R/E OTHER 3 Special Mention	4,459,000	-	0.00%
COMMERCIAL R/E OTHER 4 Substandard	11,857,000	(49,481)	0.00%
COMMERCIAL R/E OWNER OCCUPIED 1 Pass	102,502,828	-	0.00%
COMMERCIAL R/E OWNER OCCUPIED 3 Special Mention	2,065,000	-	0.00%
COMMERCIAL R/E OWNER OCCUPIED 4 Substandard	3,598,572	479,800	13.33%
HELOCS 1 Pass	147,934,984	224,820	0.15%
HELOCS 3 Special Mention	629,150	207,903	33.05%
HELOCS 4 Substandard	2,180,106	227,304	10.43%
Grand Total	885,741,115	2,414,320	0.27%



Static Pool with Risk Ratings Analysis

Sum of Total Advanced During the Loan Life	Column Labels					
Row Labels	1 Pass	3 Special Mention	4 Substandard	Paid Off/Charged Off	Grand Total	
COMMERCIAL LOANS 1 Pass	133,537,046	6,319,044	3,827,000	122,635,463	266,318,554	
COMMERCIAL LOANS 3 Special Mention	894,560	3,538,000	81,000	3,086,000	7,599,560	
COMMERCIAL LOANS 4 Substandard	527,000			1,269,000	1,796,000	
COMMERCIAL R/E OTHER 1 Pass	84,706,938	3,940,000	2,467,569	58,104,128	149,218,635	
COMMERCIAL R/E OTHER 3 Special Mention	1,514,000			2,945,000	4,459,000	
COMMERCIAL R/E OTHER 4 Substandard	329,000			11,528,000	11,857,000	
COMMERCIAL R/E OWNER OCCUPIED 1 Pass	58,966,116	72,000		43,464,712	102,502,828	
COMMERCIAL R/E OWNER OCCUPIED 3 Special Mention	413,000	199,000		1,453,000	2,065,000	
COMMERCIAL R/E OWNER OCCUPIED 4 Substandard	350,000		1,766,572	1,482,000	3,598,572	
HELOCS 1 Pass	80,046,555	520,000	2,140,455	65,227,974	147,934,984	
HELOCS 3 Special Mention	45,000	63,150		521,000	629,150	
HELOCS 4 Substandard	139,000	51,000	398,106	1,592,000	2,180,106	
Grand Total	439,840,781	17,006,194	14,156,308	414,737,832	885,741,115	



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Static Pool with Risk Ratings Analysis

Historical Lifetime Loss Rates					
Pool	12.31.14	12.31.15	12.31.16	12.31.17	Total Adjustment
COMMERCIAL LOANS 1 Pass	0.18%	0.19%	0.00%	0.00%	0.37%
COMMERCIAL LOANS 3 Special Mention	0.83%	0.00%	0.00%	0.00%	0.83%
COMMERCIAL R/E OTHER 1 Pass	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL R/E OTHER 3 Special Mention	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL R/E OWNER OCCUPIED 1 Pass	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL R/E OWNER OCCUPIED 3 Special Mention	0.00%	0.00%	0.00%	0.00%	0.00%
HELOCS 1 Pass	0.08%	0.00%	0.00%	0.00%	0.08%
HELOCS 3 Special Mention	16.52%	9.07%	0.00%	0.00%	25.59%
HELOCS 4 Substandard	5.21%	0.00%	0.00%	0.00%	5.21%
Weighting	50.00%	50.00%	0.00%	0.00%	100.00%



Static Pool with Risk Ratings Analysis

Row Labels	Sum of Net Active Principal Balance	Expected Lifetime Loss Rate	Expected Lifetime Losses
COMMERCIAL LOANS 1 Pass	280,516,887	1.37%	3,852,030
COMMERCIAL LOANS 3 Special Mention	8,349,557	1.83%	152,587
COMMERCIAL R/E OTHER 1 Pass	169,103,262	1.00%	1,691,033
COMMERCIAL R/E OTHER 3 Special Mention	7,485,481	1.00%	74,855
COMMERCIAL R/E OWNER OCCUPIED 1 Pass	217,304,798	1.00%	2,173,048
COMMERCIAL R/E OWNER OCCUPIED 3 Special Mention	766,220	1.00%	7,662
HELOCS 1 Pass	135,769,630	1.08%	1,460,862
HELOCS 3 Special Mention	825,685	26.59%	219,547
HELOCS 4 Substandard	300,341	6.21%	18,661
Grand Total	1,001,030,853		
		Total Required ALLL	11,713,658
		ALLL/Loans	1.17%



Loss Rate Vintage Analysis

Origination Year		2012		
Row Labels		Total Loans Advanced	Net Charge-Offs	Net Charge-Off %
1-4 FAMILY RES CONST		4,207,000	-	0.00%
AGRICULTURAL		2,356,959	-	0.00%
ALL OTHER CONSUMER		2,272,000	-	0.00%
ALL OTHER LOANS		18,136,000	-	0.00%
COMMERCIAL LOANS		313,424,773	2,353,641	0.75%
COMMERCIAL R/E OTHER		27,889,000	-	0.00%
COMMERCIAL R/E OWNER OCCUPIED		23,994,000	-	0.00%
CONSTRUCTION & LAND DEVELOPMENT		8,678,000	-	0.00%
CONSUMER AUTO		302,000	-	0.00%
CONSUMER LINES OF CREDIT		21,283,000	123,513	0.58%
FARMLAND		1,064,000	-	0.00%
HELOCS		37,447,132	-	0.00%
MULTIFAMILY		2,601,000	-	0.00%
PURCHASING OR CARRYING SECURITIES		375,000	-	0.00%
RESIDENTIAL 1ST MTG		24,701,000	-	0.00%
RESIDENTIAL 2ND MTG		1,829,000	-	0.00%
Grand Total		490,559,865	2,477,154	0.50%



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Loss Rate Vintage Analysis

Historical Lifetime Loss Rates							
Pool	12.31.11	12.31.12	12.31.13	12.31.14	12.31.15	12.31.16	Total Adjustment
1-4 FAMILY RES CONST	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AGRICULTURAL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ALL OTHER CONSUMER	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.22%
ALL OTHER LOANS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL LOANS	0.00%	0.23%	0.01%	0.02%	0.00%	0.00%	0.26%
COMMERCIAL R/E OTHER	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%
COMMERCIAL R/E OWNER OCCUPIED	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.04%
CONSTRUCTION & LAND DEVELOPMENT	0.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.72%
CONSUMER AUTO	0.00%	0.00%	0.19%	0.00%	0.00%	0.00%	0.19%
CONSUMER LINES OF CREDIT	0.00%	0.17%	0.01%	0.11%	0.00%	0.00%	0.29%
FARMLAND	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HELOCS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LOANS TO NONDEPOSITORY INSTITUTIONS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MULTIFAMILY	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PURCHASING OR CARRYING SECURITIES	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL 1ST MTG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL 2ND MTG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Weighting	50.00%	30.00%	10.00%	10.00%	0.00%	0.00%	100.00%



Loss Rate Vintage Analysis

Row Labels	Sum of Net Active Principal Balance	Expected Lifetime Loss Rate	Expected Lifetime Losses
1-4 FAMILY RES CONST	9,917,367	1.25%	123,967
AGRICULTURAL	871,152	1.25%	10,889
ALL OTHER CONSUMER	1,022,412	1.47%	14,987
ALL OTHER LOANS	27,837,071	1.25%	347,963
COMMERCIAL LOANS	348,256,691	1.51%	5,261,025
COMMERCIAL R/E OTHER	177,462,120	1.26%	2,232,249
COMMERCIAL R/E OWNER OCCUPIED	133,924,399	1.29%	1,730,527
CONSTRUCTION & LAND DEVELOPMENT	49,648,863	1.97%	977,152
CONSUMER AUTO	348,454	1.44%	5,008
CONSUMER LINES OF CREDIT	39,049,072	1.53%	598,450
HELOCS	140,414,605	1.25%	1,755,183
LOANS TO NONDEPOSITORY INSTITUTIONS	1,436,303	1.25%	17,954
MULTIFAMILY	16,817,761	1.25%	210,222
RESIDENTIAL 1ST MTG	62,269,882	1.25%	778,374
RESIDENTIAL 2ND MTG	2,140,136	1.25%	26,752
Grand Total	1,011,416,286		
		Total Required ALLL	14,090,701
		ALLL/Loans	1.39%



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Simplified Cash Flow (Principal Reductions)

Principal	ALLL Category	Annual Prepayment %	Maturity	Annual Contractual Payment	12/31/2017	12/31/2018
1,022,802.89	LOANS TO NONDEPOSITORY INSTITUTIONS	0.00%	12/31/2045	1,022,802.89	971,662.75	50,017.11
492,717.79	COMMERCIAL LOANS	15.00%	9/24/2019	177,315.36	226,587.14	203,530.15
248,232.45	RESIDENTIAL 2ND MTG	10.00%	12/31/2045	248,232.45	244,832.39	-
238,914.16	COMMERCIAL R/E OWNER OCCUPIED	10.00%	5/7/2020	27,987.84	40,769.75	38,570.45
333,730.44	COMMERCIAL R/E OWNER OCCUPIED	10.00%	7/12/2023	27,288.84	47,479.53	44,578.41
100,041.99	COMMERCIAL LOANS	15.00%	5/4/2021	23,134.08	34,939.03	30,720.81
1,076,262.04	1-4 FAMILY RES CONST	5.00%	11/22/2016	120.00	1,075,185.78	-
100,000.00	COMMERCIAL LOANS	15.00%	12/31/2045	12.00	10,512.00	9,323.37
5,132,995.06	COMMERCIAL LOANS	15.00%	12/31/2045	5,132,995.06	5,091,503.65	-
15,066.82	COMMERCIAL LOANS	15.00%	12/31/2045	15,066.82	14,945.03	-
279,407.54	COMMERCIAL LOANS	15.00%	12/31/2045	279,407.54	277,149.01	-
998.04	COMMERCIAL LOANS	15.00%	10/11/2016	998.04	989.97	-
16,459.50	COMMERCIAL LOANS	15.00%	12/23/2017	13,562.64	16,326.45	-
849,999.99	COMMERCIAL LOANS	15.00%	12/31/2045	849,999.99	843,129.21	-
300,000.00	COMMERCIAL LOANS	15.00%	12/31/2045	300,000.00	297,575.02	-
1,074,272.11	COMMERCIAL R/E OTHER	10.00%	12/30/2016	76,799.16	1,072,314.85	-
142,877.28	COMMERCIAL R/E OTHER	10.00%	12/31/2045	142,877.28	142,616.97	-



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Simplified Cash Flow (Annual Charge-off Rates)

Description	3 Year Avg	5 Year Avg	7 Year Avg	9 Year Avg	11 Year Avg
1-4 FAMILY RES CONST	-0.72%	-0.74%	2.72%	2.12%	1.73%
AGRICULTURAL	0.00%	0.00%	0.00%	0.00%	0.00%
ALL OTHER CONSUMER	0.08%	0.22%	0.42%	0.56%	0.46%
ALL OTHER LOANS	0.00%	0.00%	0.00%	-0.01%	-0.02%
COMMERCIAL LOANS	-0.10%	1.13%	0.90%	0.85%	0.66%
COMMERCIAL R/E OTHER	0.15%	0.05%	0.08%	0.07%	0.06%
COMMERCIAL R/E OWNER OCCUPIED	0.03%	0.02%	0.03%	0.07%	0.06%
CONSTRUCTION & LAND DEVELOPMENT	-0.19%	-0.32%	1.01%	1.21%	1.00%
CONSUMER AUTO	0.22%	0.13%	0.10%	0.07%	0.06%
CONSUMER LINES OF CREDIT	0.08%	0.22%	0.42%	0.56%	0.46%
FARMLAND	0.00%	0.00%	0.00%	0.00%	0.00%
HELOCS	-1.96%	-1.33%	1.77%	2.52%	2.06%
LETTER OF CREDIT	0.00%	0.00%	0.00%	0.00%	0.00%
LOANS TO NONDEPOSITORY INSTITUTIONS	0.00%	0.00%	0.00%	0.00%	0.00%
MULTIFAMILY	0.01%	-0.03%	0.05%	0.04%	0.03%
PURCHASING OR CARRYING SECURITIES	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL 1ST MTG	-0.10%	-0.13%	0.04%	0.14%	0.11%
RESIDENTIAL 2ND MTG	-1.96%	-1.33%	1.77%	2.52%	2.06%
TREASURY MANAGEMENT EXPOSURE (ACH LIMITS)	0.00%	0.00%	0.00%	0.00%	0.00%



Simplified Cash Flow (Expected Remaining Principal)

ALLL Category	12/31/2016	12/31/2017	12/31/2018	12/31/2019
<i>Remaining Principal</i>				
1-4 FAMILY RES CONST	9,917,366.68	5,385,794.75	4,525,439.01	3,676,101.97
AGRICULTURAL	871,152.22	152,550.76	95,529.25	38,336.68
ALL OTHER CONSUMER	1,022,412.08	307,939.52	161,626.26	28,555.54
ALL OTHER LOANS	27,837,070.50	14,225,472.52	4,606,752.18	2,623,224.21
COMMERCIAL LOANS	348,256,690.85	92,468,891.50	60,723,280.71	35,862,074.54
COMMERCIAL R/E OTHER	177,462,119.98	108,966,745.60	86,610,449.34	65,144,567.80
COMMERCIAL R/E OWNER OCCUPIED	133,924,398.54	93,194,274.67	66,797,661.56	49,706,720.26
CONSTRUCTION & LAND DEVELOPMENT	49,648,862.66	33,852,961.50	26,662,692.14	14,511,357.55
CONSUMER AUTO	348,454.10	206,990.45	86,345.75	17,939.38
CONSUMER LINES OF CREDIT	39,049,072.17	15,303,578.45	9,659,336.99	5,637,411.13
FARMLAND	-	-	-	-
HELOCS	140,414,605.17	126,110,935.31	115,001,763.60	102,567,697.50
LETTER OF CREDIT	-	-	-	-
LOANS TO NONDEPOSITORY INSTITUTIONS	1,436,302.89	66,243.84	-	-
MULTIFAMILY	16,817,760.52	13,040,669.93	11,397,793.90	9,135,992.98
PURCHASING OR CARRYING SECURITIES	-	-	-	-
RESIDENTIAL 1ST MTG	62,269,882.30	49,575,999.65	39,066,580.22	26,375,315.16
RESIDENTIAL 2ND MTG	2,140,135.58	627,835.91	417,093.79	356,758.25



Simplified Cash Flow

<i>Lifetime Expected Loss</i>	ALL % to Loans	Total Expected				
		Lifetime Loss	12/31/2016	12/31/2017	12/31/2018	12/31/2019
1-4 FAMILY RES CONST	0.44%	43,397.90	9,917.37	10,771.59	9,050.88	3,676.10
AGRICULTURAL	0.16%	1,405.65	871.15	305.10	191.06	38.34
ALL OTHER CONSUMER	0.71%	7,263.27	4,568.11	1,683.80	883.77	127.59
ALL OTHER LOANS	0.28%	77,092.05	27,837.07	28,450.95	9,213.50	2,623.22
COMMERCIAL LOANS	1.54%	5,360,149.27	2,815,054.22	839,920.27	551,566.19	289,882.97
COMMERCIAL R/E OTHER	0.68%	1,214,740.95	323,324.64	307,497.19	244,409.15	118,689.24
COMMERCIAL R/E OWNER OCCUPIED	0.59%	788,912.14	189,762.00	225,244.39	161,445.52	70,431.13
CONSTRUCTION & LAND DEVELOPMENT	3.01%	1,494,598.04	369,474.03	285,777.97	225,079.57	107,989.78
CONSUMER AUTO	0.50%	1,732.15	759.95	658.42	274.66	39.12
CONSUMER LINES OF CREDIT	2.02%	787,751.16	174,470.13	83,679.52	52,816.98	25,187.79
FARMLAND	0.00%	-	-	-	-	-
HELOCS	1.98%	2,784,515.43	448,914.25	529,295.46	482,669.57	327,915.32
LOANS TO NONDEPOSITORY INSTITUTIONS	0.11%	1,568.79	1,436.30	132.49	-	-
MULTIFAMILY	0.72%	121,387.86	21,156.64	29,445.75	25,736.15	11,493.02
PURCHASING OR CARRYING SECURITIES	0.00%	-	-	-	-	-
RESIDENTIAL 1ST MTG	0.79%	492,104.13	99,444.56	128,748.52	101,455.63	42,121.19
RESIDENTIAL 2ND MTG	3.63%	77,704.13	29,313.57	9,227.34	6,130.05	4,886.54
	1.31%	13,254,322.91	4,516,303.99	2,480,838.77	1,870,922.69	1,005,101.36



True Vintage Analysis (Average Annual Loss Rates by Year of Loss)

<i>Average</i>	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1-4 FAMILY RES CONST	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AGRICULTURAL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ALL OTHER CONSUMER	0.00%	0.00%	0.22%	1.45%	0.00%	-0.01%
ALL OTHER LOANS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL LOANS	0.15%	0.20%	0.13%	-0.01%	0.14%	0.40%
COMMERCIAL R/E OTHER	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COMMERCIAL R/E OWNER OCCUPIED	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CONSTRUCTION & LAND DEVELOPMENT	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CONSUMER AUTO	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CONSUMER LINES OF CREDIT	0.00%	0.03%	1.00%	0.23%	-0.02%	-0.61%
HELOCS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LETTER OF CREDIT	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL 1ST MTG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RESIDENTIAL 2ND MTG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TREASURY MANAGEMENT EXPOSURE (ACH LIMITS)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



True Vintage Analysis

<u>12.31.16</u>	Originated Balance	Principal Balance	Actual Loss Rates	Historical + Q Factors + Forecast			Revert to Historical Mean	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1-4 FAMILY RES CONST	2,853,855	839,785	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
AGRICULTURAL	-	-	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
ALL OTHER CONSUMER	50,200	44,873	0.00%	0.20%	0.42%	1.65%	0.00%	-0.01%
ALL OTHER LOANS	14,050,592	11,721,750	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
COMMERCIAL LOANS	176,040,926	155,311,900	0.00%	0.40%	0.33%	0.19%	0.14%	0.40%
COMMERCIAL R/E OTHER	60,488,921	48,849,326	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
COMMERCIAL R/E OWNER OCCUPIED	19,900,284	18,798,489	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
CONSTRUCTION & LAND DEVELOPMENT	31,087,156	6,644,582	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
CONSUMER AUTO	75,512	73,000	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
CONSUMER LINES OF CREDIT	12,865,200	5,010,600	0.00%	0.23%	1.20%	0.43%	-0.02%	-0.61%
HELOCS	42,527,824	17,988,697	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
LETTER OF CREDIT	1,125,848	-	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
RESIDENTIAL 1ST MTG	2,177,887	1,843,046	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%
RESIDENTIAL 2ND MTG	-	-	0.00%	0.20%	0.20%	0.20%	0.00%	0.00%



We promise to know you and help you.

Data Elements

- Note Number
- Purpose Code
- Original Amount
- Current Principal Balance
- Origination Date
- Renewal/Extension Date
- Maturity Date
- Risk Rating
- Charge-off and Recovery Data (with date and note)



Data Elements

- Interest Rate
- Payment Amount
- Payment Frequency
- Prepayment Expectations
- Narrative to Support Inputs



Data Collection

- Additional data collection may be necessary depending on how granular you want to get
- Other elements may include loan to value, debt service coverage, credit scores, etc.
- You do not want to get too granular, as you may end up with very small pools that will not be statistically relevant





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Other Items

Initial Entry

ASC 326-10-65-1 - An entity shall apply the pending content that links to this paragraph by means of a cumulative-effect adjustment to the opening retained earnings as of the beginning of the first reporting period in which the pending content that links to this paragraph is effective.



Initial Entry

- For an institution that is not an SEC registrant or public business entity, a computation of the ALLL balance will need to be done as of 1/1/2021 and 12/31/21 to determine the amount which will be recorded in earnings.
- The remainder of the adjustment will be recorded through retained earnings.



Initial Entry

- Example:
 - ALLL Balance 12/31/2021: \$1,000,000
 - Computed CECL ALLL Balance 1/1/2021: \$1,500,000
 - Computed CECL ALLL Balance 12/31/2021: \$1,600,000
- The entry would be as follows:
 - Debit: Retained Earnings: \$500,000
 - Debit: Provision for Loan Loss: \$100,000
 - Credit: ALLL Balance: \$600,000

Acquired Loans

- Separated into performing and purchase credit deteriorated (PCD) buckets
- PCD defined as loans that have incurred “more-than-insignificant deterioration since origination”
- More loans will qualify as PCD loans compared to purchased credit impaired (PCI) loans under the current standard
- Discounts associated with credit loss are added to the reserve upon acquisition



Acquired Loans

- Performing loans will currently require reserve be added on day one, as you are not allowed to factor in discounts recorded on day 1 of an acquisition associated with performing loans
- Adjustments for PCD will be applied prospectively, which result in an adjustment to the amortized cost basis of the loan to reflect the addition of the ALLL (i.e. a debit to the discount and credit to ALLL)
- Institutions are not required to reassess whether current PCI loans meet the definition of PCD loans



Acquired Loans

- Institutions may elect to maintain current pools of PCI loans and will not be required to reassess whether modifications to individual acquired loans accounted for in pools are TDR's
- The noncredit discount or premium, after the adjustment for the ALLL, will be accreted to interest income using the interest method based on the effective interest rate determined after the adjustment for credit losses



Impaired Loans

- Various models do not treat impaired loans differently than performing loans.
- This is permitted under CECL
- You are allowed to break out problem assets and utilize a fair value of collateral method less costs to sell to compute the expected lifetime loss



Investments

- Investments are subject to CECL
- Held-to-Maturity investments (which are carried at cost) will require reserve for the expected lifetime credit losses
- Available-for-Sale investments (which are carried at market value) will require reserve for the portion of the fair market value adjustment that is related to credit loss (replaces Other-Than-Temporary Impairment, OTTI)



Investments

- For plain vanilla portfolios, in which credit risk is minimal, complex models are not expected
- For investments with credit risk (i.e. certain municipals, private label mortgage backed securities, etc.) reserve will be required



Management's Role in CECL

- Prepare in advance for compliance with CECL
 - Gather data
 - Plan and perform research on options for calculating CECL
- Assess potential impact to the credit union
 - Impact to capital
- Develop a process to provide for ongoing compliance with CECL
 - Use of a purchased model
 - Use of spreadsheets

Internal Audit's Role in CECL

- Understand the CECL standard to a level where internal audit can assess risks and if needed provide consulting advice.
- Prior to CECL implementation consider need to assess management's calculation to determine whether adequate controls are in place for a reasonable method of calculating CECL.



Internal Audit's Role in CECL

- Assess reliability of data and output, whether using a model or spreadsheets
 - Assumptions reasonable?
 - Data representative of current loan portfolio?
 - Controls in place to protect formulas if using spreadsheets?



Closing Thoughts

Overall impact on the industry

- Initial diversity in application of standard will result in hazy comparatives after implementation
- Expected diversities in practice
 - ◇ Reasonable and supportable periods
 - ◇ Methodologies for certain loan types
 - ◇ Examiner expectations and auditor expectations
 - ◇ Simplifying assumptions
- The standard is intended to be scalable, as the complexity of your models should reflect the complexity of your loan portfolio



Closing Thoughts

Overall impact on the industry (continued)

- Given this potential for diversity in practice internal audit should consider the following:
 - Active role in planning of CECL implementation
 - Assess management's preparation of CECL implementation
 - Assess key assumptions in CECL estimate





Questions?

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