# THE PANIC BEGINS CECL AND THE COMING CHANGES APRIL 28, 2021

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## **CECL Fatigue**

- Like COVID, many of us are weary of talk about CECL.
- Today we are going to briefly discuss CECL for those who haven't found the need to spend much of your valuable time on this topic.
- We are going to discuss your options as to how you can implement FAS ASU 2016-13 Financial Instruments – Credit Losses; Topic 326 Measurement of Credit Losses on Financial Instruments
- Show you some of the tricks we developed as we began building the BancPath CECL Calculator
- Explain some of the pitfalls we discovered as we built our calculator

#### Important things to know...

- CECL is, unfortunately, NOT going away
- You can develop your own tools internally but there are potential pitfalls
  - "...the agencies expect that less complex institutions will be able ...to meet the requirements of the new accounting standard <u>without the use of costly and/or complex modeling techniques</u>."
    – FAQs on CECL, question #7
- If you decide to go with a third party vendor, make sure the solution is "right-sized" for your institution.
  - "The agencies will not require institutions to engage third-party service providers to assist management in calculating allowances for credit losses under CECL."

– FAQs on CECL, question #16

 You are not required to reconstruct data that is not readily available, BUT you are required to gather the appropriate data and begin the process of tracking data for future analysis

#### Important things to know...

- Qualitative Factors are even more relevant under CECL, and documentation is more important than ever.
  - Reasonable and Supportable
- Regulatory agencies expect supervised institutions to make good faith efforts to implement the new accounting standard in a sound and reasonable manner.
- Regulators will not establish "minimum" capital levels, or "establish benchmarks or floors for allowance levels under CECL."

## **CECL** Timeline



#### **The New CECL Model**



- Differs from historical loss method in that "life of loan" impacts must be considered.
- Q Factors under Historical Loss Method only applied to Current Conditions, CECL requires Current and Forecast Qualitative Factors
- Economic Forecasts must be "Reasonable and Supportable"

## A model gives you an answer based on inputs and assumptions, a calculator gives you a tool and process to determine the answers yourself.

#### **Qualitative Factors**

 The 9 Q Factors remain unchanged from previous guidance, BUT the way we think about them has

#### Must account for current and expected changes

- 1. in Loan Policies/Procedures
- 2. in the Nature of Loan Portfolio
- 3. in Staffing and Experience
- 4. in Volume and/or severity of NPA
- 5. in the quality of Loan Review
- 6. in the Value of Underlying Collateral
- 7. in Concentrations of Credit
- 8. in Regulatory/Legal environment
- 9. in National/Local/Regional economic conditions

#### **Qualitative Factors**

- Q Factors must be Reasonable and Supportable
- Look for correlations in National or Local economic data that will help us understand future exposures.
- Develop sources for current local economic data; city, county, state and regional economic forecasts to support your analysis
  - Is there a regional agency that provides this?
  - If in a more rural area, can crop/cattle/ag business forecasts be relied on
  - Is there a simple customer survey you can offer 2X a year to give you meaningful input

#### **Some Methods for gathering Historical Losses**

- Discounted Cash Flow
- Vintage
- Open Pool
- Risk Migration
  - Internal Rating
  - Roll Rate
- Weighted Average Remaining Maturity (WARM)
- PD / LGD

#### **Pros and Cons of CECL Methods**

	Data	Q			
Method	Requirements	Factors	Pros	Cons	ACL Impact
Discounted Cash Flow	Loan Level	Y	Discount Expected Losses; Forward Looking	Requires high Data and computational power; may require additional software	Lower
Vintage	Pools	Y	Generally Easier Calculations; data readily available	Requires Modeling; Q Factors Critical; Less Precise	Higher
Static Pool	Pools	Y	Generally Easier Calculations; data readily available	Ignores Change in Risk; Q Factors Critical; Less Precise	Higher
Migration Analysis	Pool by Risk	Y	Track loss by risk grade; relatively easy calculation; generally better precision	Ignores Change in Risk; Q Factors Critical; Less Precise; Track Changes in Risk Rtg	Lower
WARM	Pools	Y	Most similar to current process; data readily available	Need Sched Pmt and Prepayment Assumptions	Higher
PD / LGD	Loan Level	Y	Inputs include PD, LGD, and EAD. May need to be tweaked over time	Generally need more data for 'Key' inputs; Q Factors Critical	Lower
Regression Analysis	Pools	Y	Forward Looking; statistical analysis needed	Data Intensive; Requires modeling and statical analysis	Lower

#### **Discounted Cash Flow (DCF)**

- Typically done at the Account Level NOT at the Portfolio Level
- Usually required for Troubled Debt Restructured Loans (TDR's)
- Takes into Consideration
  - Timing of Cash Flows
  - Prepayments
  - Projected Charge-off
  - Projected Recovery
- One of the most complex in terms of computational and data capacity
- Tends to double count credit risk in the expected cash flows and the discount rate used.
- We will not be reviewing this method today

#### **Probability of Default**

- PD / LGD = Probability of Default / Loss Given Default method
- Can be the Most complex analysis
- Significant data requirements
- Depending on how complex you want to get, can take additional resources and skillset.
- Generally thought to be one of the most reliable methods
- Typically avoided by most vendors.

#### **Probability of Default**

	Curr	Unused	UGD	EAD	PD	LGD	EL	
Description	Balance	Commit	Usg Gvn Dflt	Exp @ Dflt	Prob Dflt	Loss Gvn Dflt	Expect Loss	% Net CO
Comm'l & Ind	54,047,994	0	50%	54,047,994	0.28%	28.79%	43,697	0.08%
Lease	0	0	50%	0	0.28%	28.79%	0	0.00%
Total Comm'l	54,047,994	0	50%	54,047,994	0.28%	28.79%	43,697	0.08%
Comm'l RE	0	0	50%	0	0.28%	28.79%	0	0.00%
CRE - Owner Occ	20,188,360	0	50%	20,188,360	0.28%	28.79%	16,322	0.08%
CRE - Non Owner Oc	3,050,500	579,142	50%	3,340,072	0.28%	28.79%	2,700	0.09%
Resid Develop	5,729,074	0	50%	5,729,074	0.28%	28.79%	4,632	0.08%
Const & Develop	7,166,033	0	50%	7,166,033	0.28%	28.79%	5,794	0.08%
Total Comm'l RE	<b>56,133,967</b>	579,142	50%	36,423,538	0.28%	28.79%	29,448	0.08%

#### **Regression Analysis**

- Estimates future exposures based on correlations to economic conditions or other predictive data
- Assumes that highly correlated data set is predictive.
- Generally needs a lot of historical economic and bank data to find a data set large enough to test for correlation.

#### **Risk Migration – by Internal Rating**

- Looking for patterns and tendencies over time
- Do Loans from a specific year have a higher propensity to migrate to higher risk?
- Do loans in a specific category have a tendency toward higher ratings?
- Must have a robust Internal Rating Discipline for this to work as desired.
- Must be able to keep ratings current, can lead to a lower overall reserve

#### **Risk Migration – by Internal Rating**

TOTAL F	ORTFOLIO by RI	SK RTG	ì															
Mod.	2015		2	2016		2017			2018			2	019		2	020		5Y
Risk Rtg	Balance	%'age	Balance	%'age	% Net CO	% Net CO												
	259,523,266	100%	265,159,662	100%	0.00%	274,307,158	100%	0.00%	278,407,992	100%	0.00%	0	0%	0.00%	0	0%	0.00%	0.00%
1	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	51,210,502	18%	0.05%	51,045,468	16%	0.24%	0.14%
2	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	86,907,053	31%	0.02%	100,377,709	31%	0.00%	0.01%
3	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	129,081,803	45%	0.13%	162,120,783	50%	0.06%	0.09%
4	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	1,054,445	0%	0.00%	140,792	0%	0.00%	0.00%
5	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	5,842,900	2%	0.48%	5,676,071	2%	0.09%	0.29%
6	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	2,581,456	1%	0.00%	1,799,632	1%	0.00%	0.00%
7	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	228,111	0%	25.29%	8,124	0%	735.30%	49.71%
8	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	0.00%
9	0	0%	0	0%	0.00%	0	0%	0.00%	0	0%	0.00%	7,178,853	3%	0.48%	5,158,671	2%	0.37%	0.44%
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Totals	259,523,266		265,159,662		0.00%	274,307,158		0.00%	278,407,992		0.00%	284,085,122		0.12%	326,327,250		0.10%	0.04%

#### **Risk Migration – by Roll Method**

- Tracks loan migration from past due to NPA to charge-Off.
- Generally Call report driven
- Easiest data to access, and least informative in its results.
- Can be tracked by loan type or by average total loans

#### **Risk Migration – by Roll Method**

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		2015			2016			2017			2018			2019			2020		5Y Avg
	90 days	NonAcc	% Net CO	90 days	NonAcc	% Net CO	90 days	NonAcc	% Net CO	90 days	NonAcc	% Net CO	90 days	NonAcc	% Net CO	90 days	NonAcc	% Net CO	% Net CO
Comm'l & Ind	0.00%	0.00%	0.11%	0.00%	0.44%	0.88%	0.02%	0.00%	-0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%	-0.02%	0.16%
Lease	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
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Total Comm'l	0.00%	0.00%	0.11%	0.00%	0.44%	0.88%	0.02%	0.00%	-0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%	-0.02%	0.16%
Comm'l RE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CRE - Owner Occ	0.00%	0.81%	-0.03%	0.00%	0.00%	0.71%	0.00%	0.00%	-0.02%	0.00%	0.00%	-0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.14%
CRE - Non Owner Occ	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Resid Develop	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Const & Develop	0.00%	2.47%	-0.17%	0.00%	0.00%	-0.24%	0.00%	0.00%	-0.38%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.12%
Total Comm'l RE	0.00%	0.73%	-0.03%	0.00%	0.00%	0.46%	0.00%	0.00%	-0.03%	0.00%	0.00%	-0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%

#### TOTAL PORTFOLIO MIGRATION by ROLL RATE (from Call Report Data)

#### Vintage Method

- Estimates future exposures based on charge-offs in successive periods from origination date.
- Assumes that loans follow patterns or loss curves that are predictive of future generations of loans of similar type
- Generally tends to overstate loss experience; relatively easy to calculate

## Vintage Analysis

By Origination Date			period_1		perio	period_2		period_3		od_4	period_5		Rem Lifetime		
Descripton	Orig	Amort Bal.	Avg Life	Chg Off \$	% Net CO	Chg Off \$	% Net CO	Chg Off \$	% Net CO	Chg Off \$	% Net CO	Chg Off \$	% Net CO	Chg Off \$	% Net CO
	2015	57,701,898	0.00	427,775	0.74%	300,358	0.52%	115,040	0.20%	21,764	0.04%	0	0.00%		
	2016	61,609,993	0.00	168,698	0.27%	65 <i>,</i> 689	0.11%	45,712	0.07%	26 <i>,</i> 538	0.04%	0	0.00%	0	0.00%
	2017	60,632,690	0.00	91,651	0.15%	60,389	0.10%	24,579	0.04%	24,493	0.04%	0	0.00%	24,493	0.04%
	2018	64,369,190	2.00	61,745	0.10%	31,980	0.05%	67,395	0.10%	26,003	0.04%	0	0.00%	93 <i>,</i> 398	0.15%
	2019	64,567,849	1.96	43 <i>,</i> 035	0.07%	125,332	0.19%	67,603	0.10%	26,083	0.04%	0	0.00%	219,018	0.34%
	2020	65,043,265	2.01	172,872	0.27%	126,255	0.19%	68,101	0.10%	26,275	0.04%	0	0.00%	393 <i>,</i> 503	0.60%
Total Consumer	2021	65,126,374	2.03											730,412	1.12%

#### Vintage Analysis



#### **Open / Static Pool Method**

- Uses Charge-Offs as a percentage of the remaining balance in each successive year from a "base" year.
- Designed to show the average charge-off %'age from a static pool of loans
- Tends to overstate charge-offs; relatively easy to calculate

#### **Open / Static Pool Method**

	Base Year	2015 Bal. re	main in	2015 Bal. re	mainin	2015 Bal. remain in		2015 Bal. remain in		2015 Bal. remain in			
By Call Report Code	2015	2016	2016		2017		2018		2019		2020		
Description	Amort Bal	Amort Bal	% Net CO	Amort Bal	% Net CO	Amort Bal	% Net CO	Amort Bal	% Net CO	Amort Bal	% Net CO	Chg Off \$	% Net CO
Total Comm'l	23,197,863	14,305,523	1.30%	11,095,278	0.38%	8,815,113	0.04%	5,834,644	0.00%	3,132,058	0.00%	124,503	0.54%
Total Comm'l RE	25,964,924	23,631,522	0.58%	23,461,716	0.00%	23,301,056	0.00%	22,630,274	0.00%	20,337,442	0.00%	29,403	0.12%
Total Real Estate	59,464,186	57,668,112	0.31%	57,089,682	0.29%	56,450,799	0.01%	55,559,875	0.09%	54,204,789	0.00%	84,482	0.14%
Total Farm/Ag	77,494,866	53,900,141	0.01%	51,423,253	0.17%	47,419,782	0.00%	43,539,772	0.00%	38,886,669	0.00%	81,203	0.04%
Total Consumer	57,701,898	54,934,911	1.43%	48,120,727	1.08%	35,256,453	0.84%	20,726,261	1.23%	7,309,517	0.00%	642,910	1.11%
Total Other	15,699,529	15,160,875	0.28%	14,865,374	0.27%	14,309,953	0.14%	13,811,235	0.12%	13,017,522	0.00%	37,701	0.17%
Total Loans / Est Loss	259,523,266	219,601,084	0.61%	206,056,031	0.41%	185,553,155	0.17%	162,102,061	0.20%	136,887,998	0.00%	1,000,203	0.31%

#### Weighted Average Remaining Maturity

- A simple way to extrapolate loss rates over the required life of a loan
- Requires less quantitative analysis than other methods
- May not meet expectations for a detailed analytical approach, but can be useful as a check on other methods
- Requires an accurate measurement of average life. Compare to information provided by your ALM provider
- May require inputs from other methods to estimate future charge-offs.
- Need prepayment assumptions, which may be available from your ALM provider.

## Weighted Average Remaining Maturity

Proj. Avg Balance	•	Avg								
Desc / Year	Cur Bal	Life	Sched Prin	Ррау %	Ppay\$	Tot Paydn	Rem Bal	Avg Bal	% Net CO	Chg Off \$
02/2021 54	4,047,994	1.22								
2021			4,790,487	5.16%	2,540,866	7,331,353	46,716,641	46,716,641	0.54%	250,728
2022			4,793,853	5.16%	2,409,800	7,203,653	39,512,988	43,114,815	0.54%	231,397
2023			3,307,312	5.16%	2,038,212	5,345,524	34,167,464	40,132,364	0.54%	215,390
2024			1,498,562	5.16%	1,762,472	3,261,034	30,906,430	37,825,881	0.54%	203,011
2025			732,267	5.16%	1,594,257	2,326,523	28,579,907	35,976,686	0.54%	193 <i>,</i> 087
Total Comm'l			15,122,481	5.16%	10,345,606	25,468,087			0.40%	218,722

#### Tricks we developed to handle data

- Excel gets a bad rap. Often described as "error prone", or "too simple".
- While there are many poorly constructed spreadsheets out there, it doesn't have to be that way. There are poorly designed Web Apps as well.
- Have a way to identify any changes made within the workbook, so any potential errors are identified and can be corrected.
- It is important to build in FLEXIBILITY, so different methods and constructs can be tested.
- Have a good understanding of CECL before you begin, it will save you time and effort.
- Use readily available economic data tools to support your forecasts. St. Louis Federal Reserve FRED Data is a good start.

#### **Pitfalls we encountered**

- DATA, DATA, DATA this is a data intensive undertaking, make sure you have the correct information in your core, or have the ability to get it. If you haven't begun this process by now, you need to start.
  - Can you normalize prior period data to help conform to current data requirements?
- You cannot just tweak your current Historical Loss method and say you're good.
- Call Report Data alone will not be sufficient to meet CECL Requirements.
- If you choose to go ahead with a "single method", you will need to test this against other available methods to determine if the one you chose initially is still the best for your current environment.

## **Final Thoughts**

- You do not need to use a third party to calculate ACL under this new rule; BUT you may want to use a third party to insure data integrity and consistency.
- This does not have to be an overly complex undertaking, but be prepared to address any shortcomings to your approach.
- Understand the difference between a MODEL and a CALCULATOR. A model gives you an answer based on model inputs and assumptions, a calculator gives you a process to determine the answer yourself.
- Have your methodology and process (whatever you choose) reviewed by your external auditor annually.

## **BancPath® CECL Calculator**

#### **Features and Functionality**

- Actual Bank loan data by individual loan
- Actual Call Report data for your bank; for total loans, noncurrent loans and chargeoffs, to provide a historical perspective
- Prepayment estimates provided by BancPath database
- Macroeconomic factors from FRED and BancPath
- Q-factors tab to allow weighting and documentation
- Macroeconomic factors tab allows different factors and trend analysis
- Collateral-dependent Loans tab for specific reserves
- Six CECL methodologies automatically calculated
- Summary tab allows your bank to customize by collateral pool
- All 'changes or tweaks' are recorded and stored in the change-log tab

#### **DEMO of BancPath Calculator**

#### BancPath® CECL Calculator



