



Association  
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Certified Professional  
Accountants®

# CECL IMPLEMENTATION

Pre-conference workshop: Practical implementation and operational considerations of the CECL model for Credit Unions

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New Orleans, LA

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AICPA Conference on Credit Unions

#AICPAcu

“Where data are sparse, competing ideas abound that are clever and wishful.”

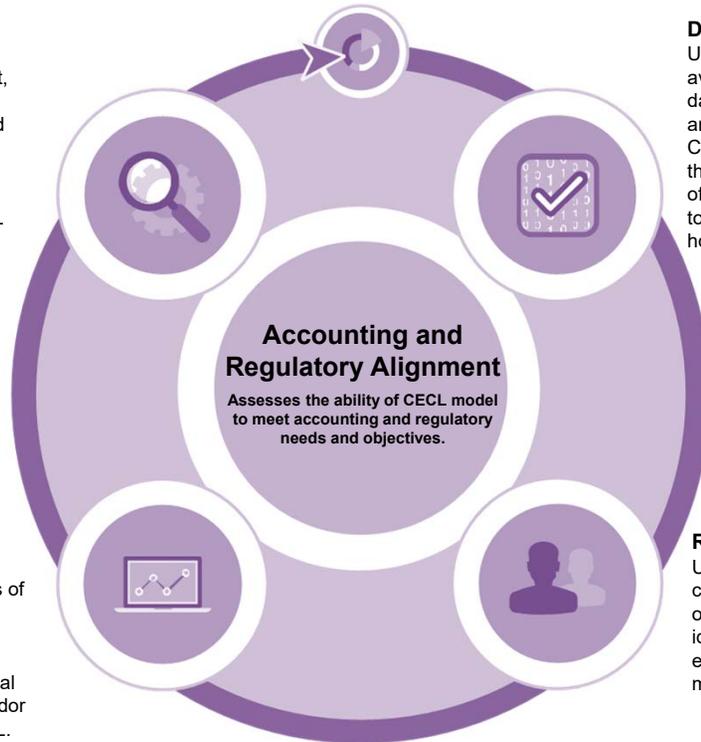
**Neil deGrasse Tyson**  
Astrophysics for People in a Hurry

### Risk Identification

Understanding portfolio characteristics and key drivers of portfolio performance, including lending attributes, loan structures, prepayment risks, and changes in the macroeconomic environment. This component will enable the entity to appropriately segment and model the portfolios based on common drivers of risk.

### Governance and Oversight

Understanding risk management practices surrounding the development, execution, and maintenance of the CECL model. This includes established roles and responsibilities of the board and senior management, as well as policies and procedures in place to articulate the expectations of the CECL model and ongoing execution of the model.



### Data Inventory

Understanding the availability and limitations of data required to develop and maintain an effective CECL model. This includes the reliability and accuracy of data elements in addition to the historical time horizon of data availability.

### Enabling Technology

Understanding the existing systems, including the capabilities and limitations of those systems that may support the execution of the CECL model. This includes source systems, data warehouses, modeling systems, financial statement spreading software, and vendor technology specially designed for CECL.

### Resource Capabilities

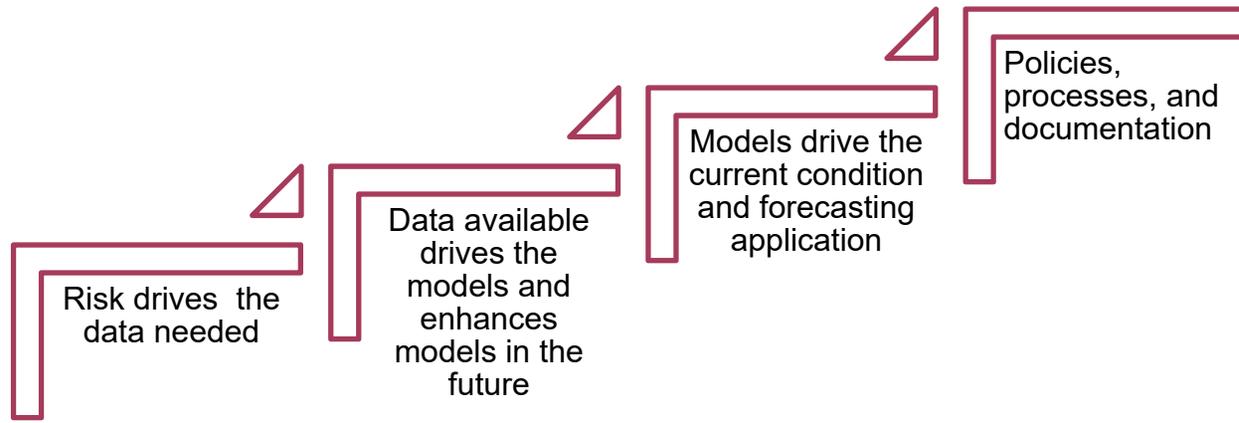
Understanding the capabilities and limitations of the human resources identified to develop and execute on the CECL model.

## How do we simplify the concepts?

<b>HISTORICAL LOSS INFORMATION</b>	Includes relevant internal or external information or a combination of both. Pooling or segmentation is based on identification of common risk characteristics.
<b>+ CURRENT CONDITIONS</b>	Adjustments to adequately fit historical information to current conditions – in other words, to be consistent with current asset-specific risk characteristics. This may be through qualitative or quantitative factors.
<b>+ REASONABLE AND SUPPORTABLE FORECASTS</b>	Adjustments to adequately reflect an entity's forecast of economic impact on the asset in the future. These adjustments may be qualitative or quantitative. In addition, they may be made at the input level or as top-of-model adjustments.
<b>+ REVERSION TO HISTORY</b>	Entities are to revert to <i>unadjusted</i> historical loss information when unable to make reasonable and supportable forecasts. This reversion may be done at the input level or in aggregate, and it should follow a rational, systematic approach.
<b>= EXPECTED CREDIT LOSS</b>	The result should represent the expected credit loss over the remaining contractual term of the financial asset or group of financial assets.

- The first two steps are similar to what we do today – just different math, more moving parts.
- Forecasting is interesting, but **history** is at the foundation

## Where to begin?



Data can provide insights into the Risk as well.

However, data is often missing to make this assessment quantitatively now.

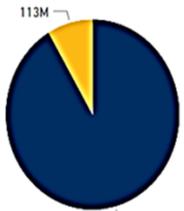
# Example Data & Risk Identification

*Commercial Real Estate Examples*

# Example Data Issues – CRE

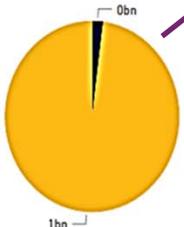
**1.33bn**  
 Total Current Balance  
**1,104**  
 Active Loan Count  
 5.10 %  
 WA Current Rate  
 3.01  
 WA Risk  
 4.56  
 WA Term  
 \$1,208,975  
 Avg. Current Balance

Fixed/Variable



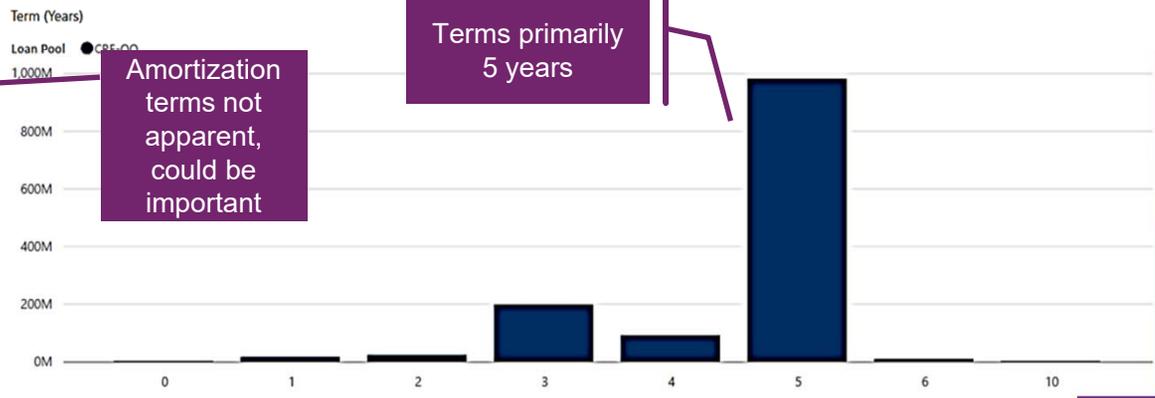
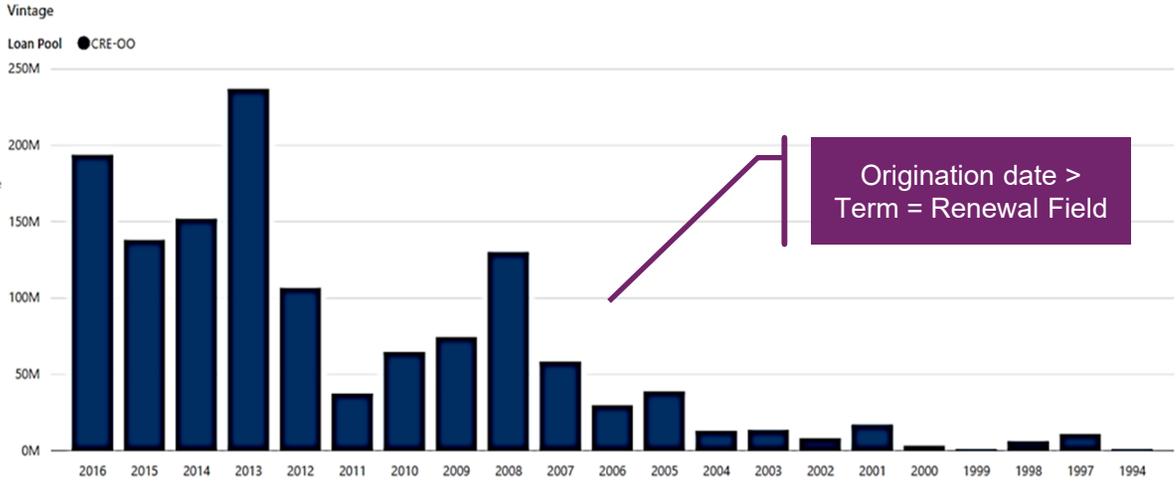
1.222M

Payment Type



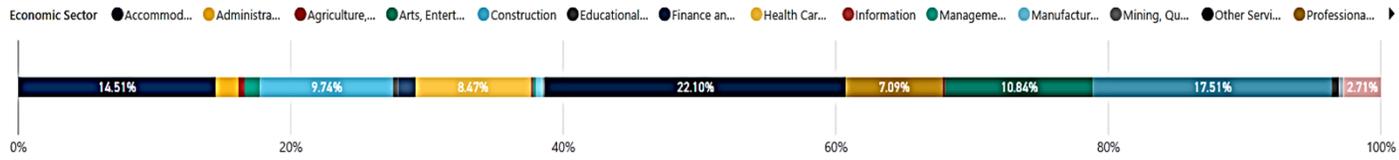
1bn

● Int. Only ● P&I ● Single Pay

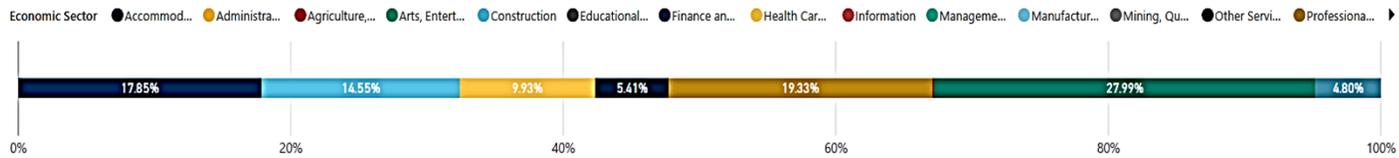


# CRE – OO: Economic Sector and Collateral

Origination Balance

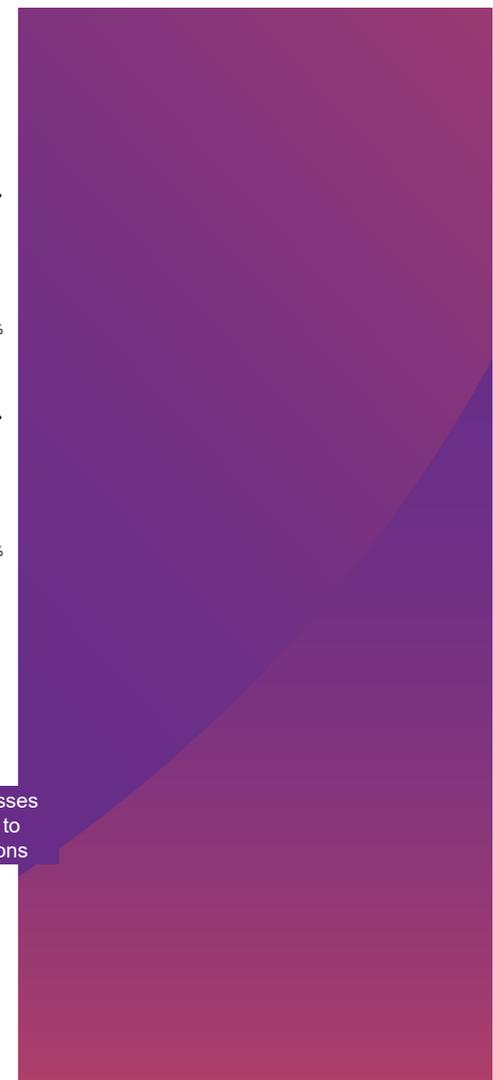


Net Charge Offs



Economic Sector	Origination Balance	%GT Origination Balance	Net Charge Off \$	%GT Net Charge Off \$	Net CO vs. Orig.	Active Current Balance	Active Loan Count
Other Services (except Public Administration)	574,608,346	22.10%	2,388,809	5.41%	-16.69 %	357,688,102	248
Accommodation and Food Services	377,457,794	14.51%	7,889,529	17.85%	3.34 %	201,758,847	116
Retail Trade	455,248,260	17.51%	2,120,758	4.80%	-12.71 %	165,275,016	144
Real Estate and Rental and Leasing	281,954,231	10.84%	12,367,859	27.99%	-17.15 %	122,262,807	100
Health Care and Social Assistance	220,296,917	8.47%	4,386,248	9.93%	1.45 %	118,478,232	96
Construction	253,404,975	9.74%	6,431,782	14.55%	4.81 %	108,524,496	108
Professional, Scientific, and Technical Services	184,320,563	7.09%	8,544,047	19.33%	-12.25 %	78,396,260	104
Wholesale Trade	70,495,746	2.71%	0	0.00%	-2.71 %	58,934,661	28
Administrative and Support and Waste Management and Remediation Services	42,979,014	1.65%	0	0.00%	-1.65 %	33,178,269	36
Finance and Insurance	32,537,084	1.25%	0	0.00%	-1.25 %	21,677,908	20
Arts, Entertainment, and Recreation	29,443,465	1.13%	0	0.00%	-1.13 %	13,308,074	16
Transportation and Warehousing	14,076,025	0.54%	0	0.00%	-0.54 %	13,142,410	16
Educational Services	10,727,843	0.41%	0	0.00%	-0.41 %	11,912,059	12
Manufacturing	12,764,374	0.49%	0	0.00%	-0.49 %	9,674,464	20
Undefined	7,796,818	0.30%	0	0.00%	-0.30 %	6,365,220	12
Agriculture, Forestry, Fishing and Hunting	11,759,050	0.45%	0	0.00%	-0.45 %	5,152,583	8
Management of Companies and Enterprises	6,179,297	0.24%	0	0.00%	-0.24 %	4,294,581	4
Mining, Quarrying, and Oil and Gas Extraction	3,511,613	0.14%	0	0.00%	-0.14 %	1,974,931	4
Utilities	1,463,722	0.06%	0	0.00%	-0.06 %	1,151,702	8
Public Administration	5,406,193	0.21%	62,102	0.14%	-0.07 %	557,842	4
Information	4,111,305	0.16%	0	0.00%	-0.16 %	0	0
<b>Total</b>	<b>2,600,542,634</b>	<b>100.00%</b>	<b>44,191,135</b>	<b>100.00%</b>	<b>0.00 %</b>	<b>1,334,707,867</b>	<b>1,104</b>

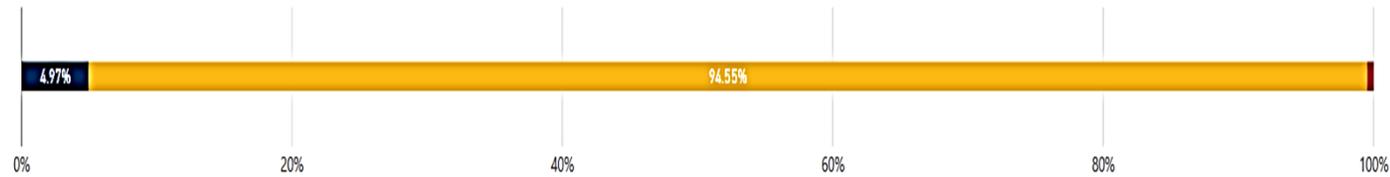
Higher losses relative to originations



# CRE – OO: Structure

Origination Balance

Payment Type ● Int. Only ● P&I ● Single Pay



Net Charge Offs

Payment Type ● Int. Only ● P&I ● Single Pay



Higher losses relative to originations

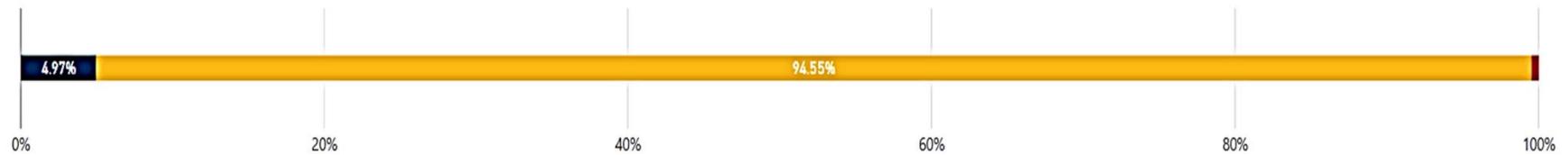
Payment Type	Origination Balance	%GT Origination Balance	Net Charge Off \$	%GT Net Charge Off \$	Net CO vs. Orig.	Current Balance	Active Loan Count
P&I	2,458,860,196	94.55%	32,299,348	73.09%	-21.46%	1,303,219,256	1,052
Int. Only	129,306,893	4.97%	11,891,787	26.91%	21.94%	27,260,563	48
Single Pay	12,375,546	0.48%	0	0.00%	-0.48%	4,228,048	4
<b>Total</b>	<b>2,600,542,634</b>	<b>100.00%</b>	<b>44,191,135</b>	<b>100.00%</b>	<b>0.00%</b>	<b>1,334,707,867</b>	<b>1,104</b>



# CRE – OO: Structure

## Origination Balance

Payment Type ● Int. Only ● P&I ● Single Pay



## Net Charge Offs

Payment Type ● Int. Only ● P&I ● Single Pay



Payment Type	Origination Balance	%GT Origination Balance	Net Charge Off \$	%GT Net Charge Off \$	Net CO vs. Orig.	Active Current Balance ▼	Active Loan Count
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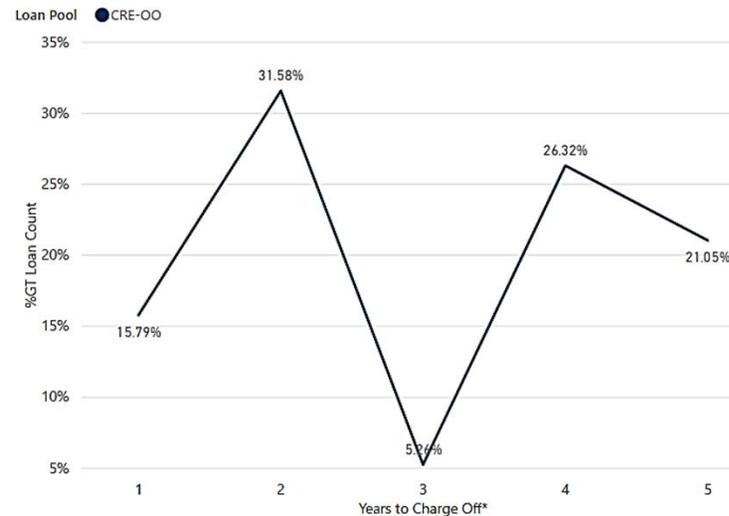
Higher losses relative to originations

# CRE – OO: Risk Identification Summary

## Risk characteristics identified:

- Risk rating overwritten in data warehouse
- Payment structure – interest only loans represent a small portion of the loans (~5%), but account for over 27% of the losses in the pool
- LTV exceptions – loans originated with an LTV exception have experienced higher losses than loans originated without an exception, relative to the originated balances.
  - Loan policy exceptions could be used to further segment the loan portfolio, or policy exception tracking could be used as a qualitative adjustment factor.

Percentage of Charged Off Loans by Years Since Origination/Renewal



## Loss History:

- 5 years of loss history would match the loan terms and the timing of defaults outlined above.



# Example Data & Risk Identification

*1-4 Family Examples*

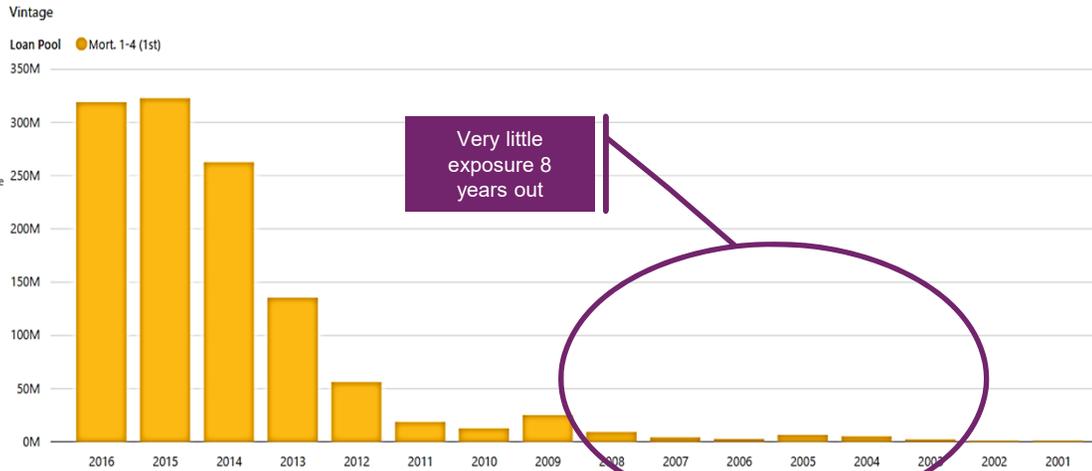
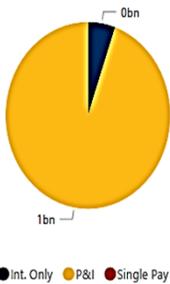
# Mort. 1-4 (1st): Structure

**1.18bn**  
 Total Current Balance  
**3,090**  
 Active Loan Count  
 5.23 %  
 WA Current Rate  
 3.00  
 WA Risk  
 8.90  
 WA Term  
 \$383,160  
 Avg. Current Balance

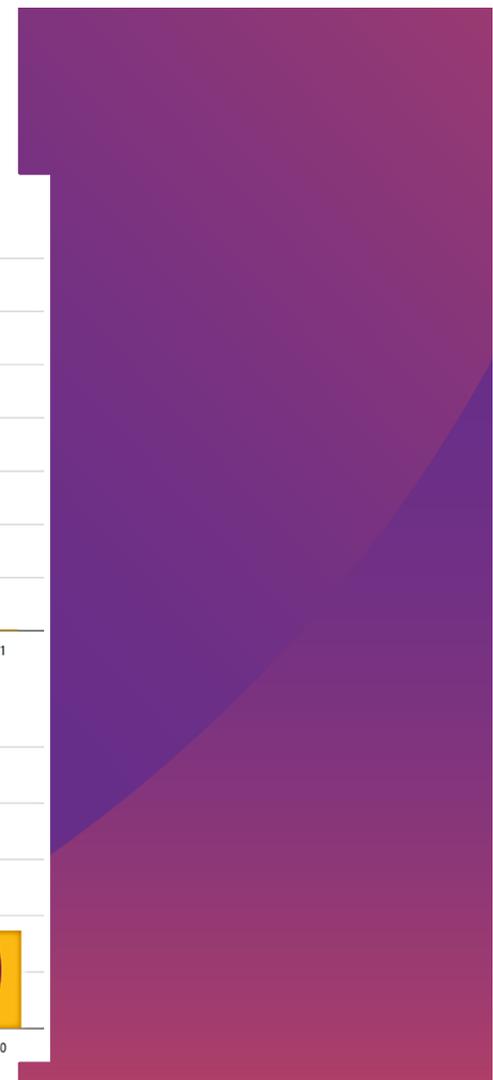
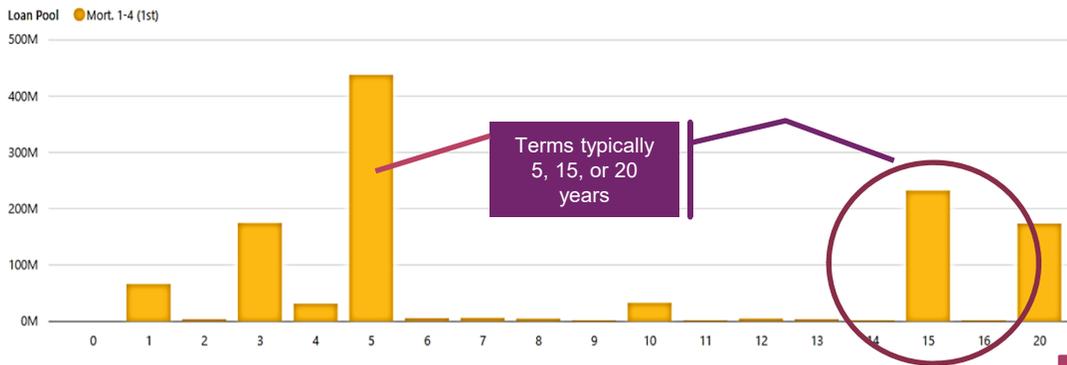
Fixed/Variable



Payment Type

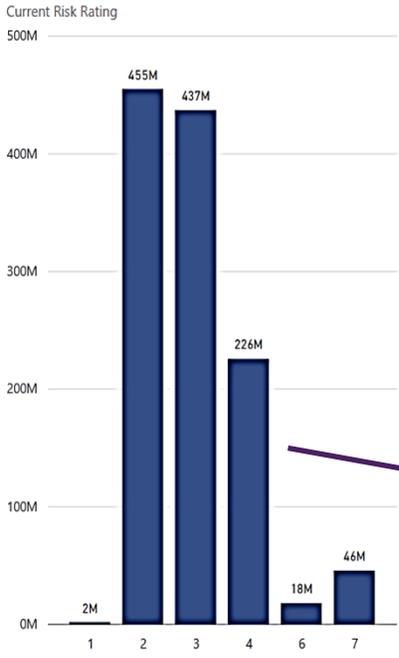


Term (Years)

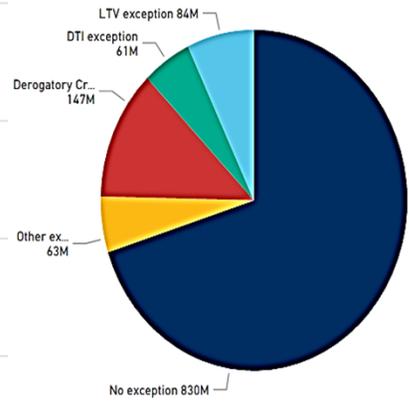


# Mort. 1-4 (1st): Credit Characteristics

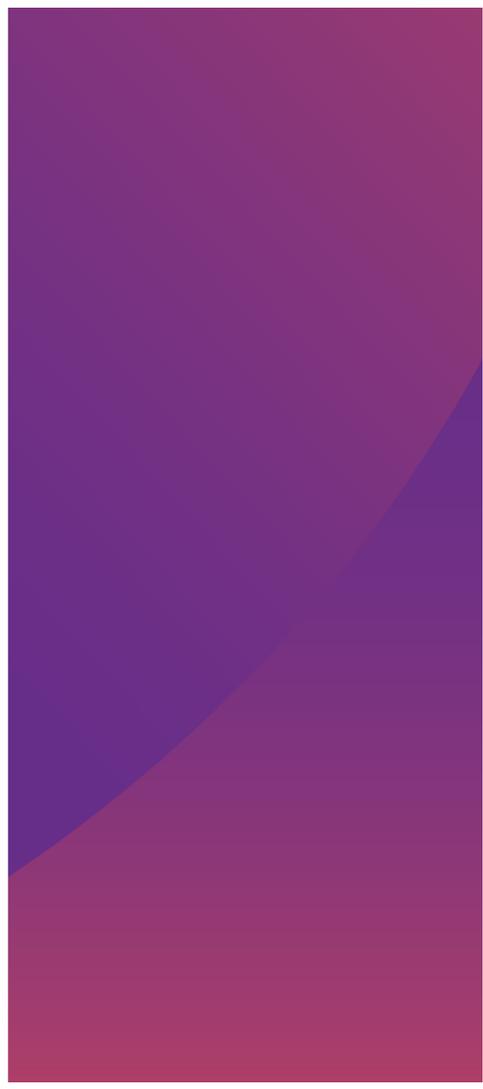
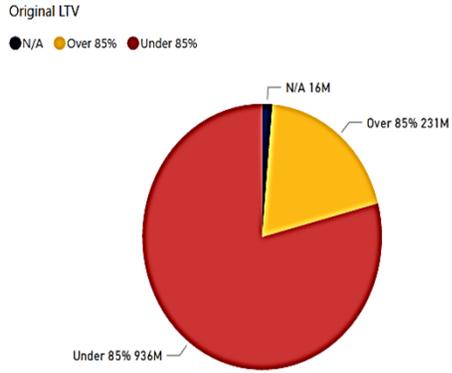
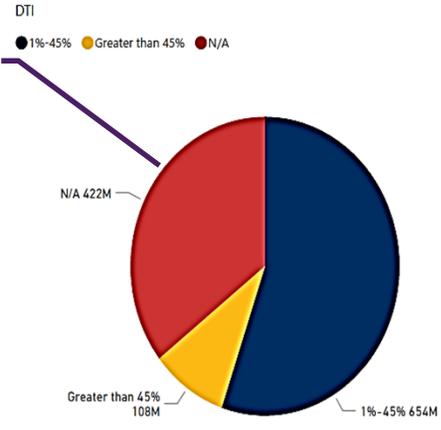
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 Total Current Balance  
**3,090**  
 Active Loan Count  
 5.23 %  
 WA Current Rate  
 3.00  
 WA Risk  
 8.90  
 WA Term  
**\$383,160**  
 Avg. Current Balance



**Debt-to-income not captured, yet deemed important**  
 Policy Exceptions  
 ● No exception ● Other excep... ● Derogatory ... ● DTI exception ● LTV exception



**Not archived, continually overwritten, but generally deemed irrelevant**



# Mort. 1-4 (1st): Credit Characteristics

## Origination Balance

Exception ● No exception ● Other exception ● Derogatory Credit ● DTI exception ● LTV exception



## Net Charge Offs

Exception ● No exception ● Other exception ● Derogatory Credit ● DTI exception ● LTV exception



Higher losses relative to originations

Exception	Origination Balance	%GT Origination Balance	Net Charge Off \$	%GT Net Charge Off \$	Net CO vs. Orig.	Active Current Balance	Active Loan Count
No exception	1,797,032,452	70.05%	26,976,160	50.05%	-20.00 %	829,570,103	2,252
Derogatory Credit	285,608,340	11.13%	12,029,324	22.32%	11.18 %	146,674,769	386
LTV exception	210,984,794	8.22%	6,954,793	12.90%	4.68 %	83,847,701	168
Other exception	142,667,532	5.56%	5,936,502	11.01%	5.45 %	62,530,439	162
DTI exception	129,117,393	5.03%	2,003,697	3.72%	-1.32 %	61,342,208	122
<b>Total</b>	<b>2,565,410,511</b>	<b>100.00%</b>	<b>53,900,477</b>	<b>100.00%</b>	<b>0.00 %</b>	<b>1,183,965,220</b>	<b>3,090</b>

# Mort. 1-4 (1st): Credit Characteristics

All Loans	Loans with No Exception	Derogatory Credit Policy Exceptions	LTV Policy Exceptions	DTI Policy Exceptions	Other Policy Exceptions
5.56 %	5.39 %	6.30 %	5.80 %	5.45 %	5.94 %
WA Rate (Origination)	WA Rate (Origination)	WA Rate (Origination)	WA Rate (Origination)	WA Rate (Origination)	WA Rate (Origination)
968,445	943,324	884,236	1,241,087	1,206,705	990,747
Avg. Origination Balance	Avg. Origination Balance	Avg. Origination Balance	Avg. Origination Balance	Avg. Origination Balance	Avg. Origination Balance
2,649	1,905	323	170	107	144
Loan Count	Loan Count	Loan Count	Loan Count	Loan Count	Loan Count

Is 90bps premium on pricing acceptable for derogatory credit given loss history?

Origination Balance and Rate by Loan (Including Closed and Charged Off Loans)

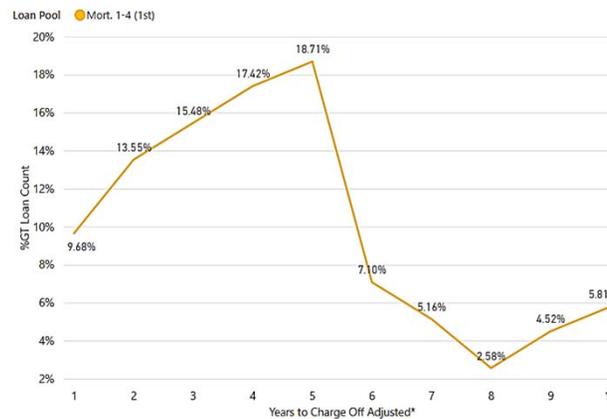


# Mort. 1-4 (1st): Risk Identification Summary

## Risk characteristics identified:

- FICO, DTI, and LTV – These attributes are considered important at origination, however, not consistently archived or not archived at all.
  - No FICO or LTV updates occur past origination.
- Origination exceptions - loans originated with a policy exception at origination have experienced higher losses than loans originated without an exception, relative to the originated balances.
  - Loan policy exceptions could be used to further segment the loan portfolio, or policy exception tracking could be used as a qualitative adjustment factor.
- Collateral type – loans with a residence other than “Primary” as the collateral account for higher losses relative to originated balances.
- Payment structure – interest only and single pay loans represent a small portion of the loans (~10%), but in total account for approximately 34% of the losses in the pool.

Percentage of Charged Off Loans by Years Since Origination/Renewal



## Loss History:

- While terms for 1-4 family 1st lien mortgage loans are generally 15 or 20 years, 82% of c/o's have occurred in the first 6 years after origination or renewal, as shown above. The Bank would need to either estimate losses past 6 years, or establish a qualitative factor for the estimated remaining loss by studying historical patterns.



# CECL Metrics and Operational Aspects

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# What are we seeing?

## Background – our take on some key concepts

- Forecasting is interesting – but data and history is the base
- Timing is everything
- Unfunded commitments
- HTM/AFS securities
- Acquisition accounting – what no one is talking about

## CECL Transition Framework

- Where to begin?
  - Resource Capabilities
  - Risk Identification
  - Data Inventory
  - Enabling Technology
- Roadmap creation
- Governance and Oversight

## Changes to Methodologies Under CECL

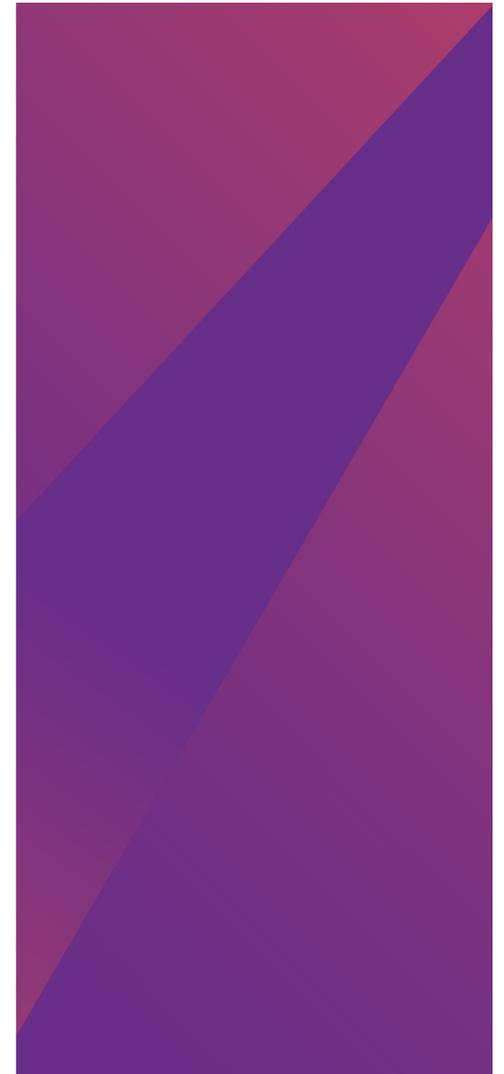
Have to change methodology (by either modifying existing methodology or making a wholesale change in methodology) to implement the CECL model

### Lifetime estimate

- Develop estimates that are clearly more forward-looking than they were in the past
- Not required to forecast economic cycle impacts throughout the loan life
  - Reversion to history is required – the history may be the hardest part to capture on longer-term assets!

FASB believes models do not need to be “unnecessarily complex”

- Re-evaluate the current primary drivers of loss
- Likely more than one driver of expected losses exists for each portfolio



## Changes to Methodologies Under CECL (cont.)

Changes in the data needed to implement the CECL model

- Changes in the methodologies implemented or the risk characteristics used to organize the portfolio could require new data to be historically gathered as well as prospectively tracked (examples include credit scores or other underwriting criteria)
- Need to consider remaining-life exposure to not overstate loss, requires understanding of loan terms and likely more discrete pooling than today.

This change will not eliminate qualitative adjustments and likely will result in more Q-factors than before



## The CECL Model: Defined

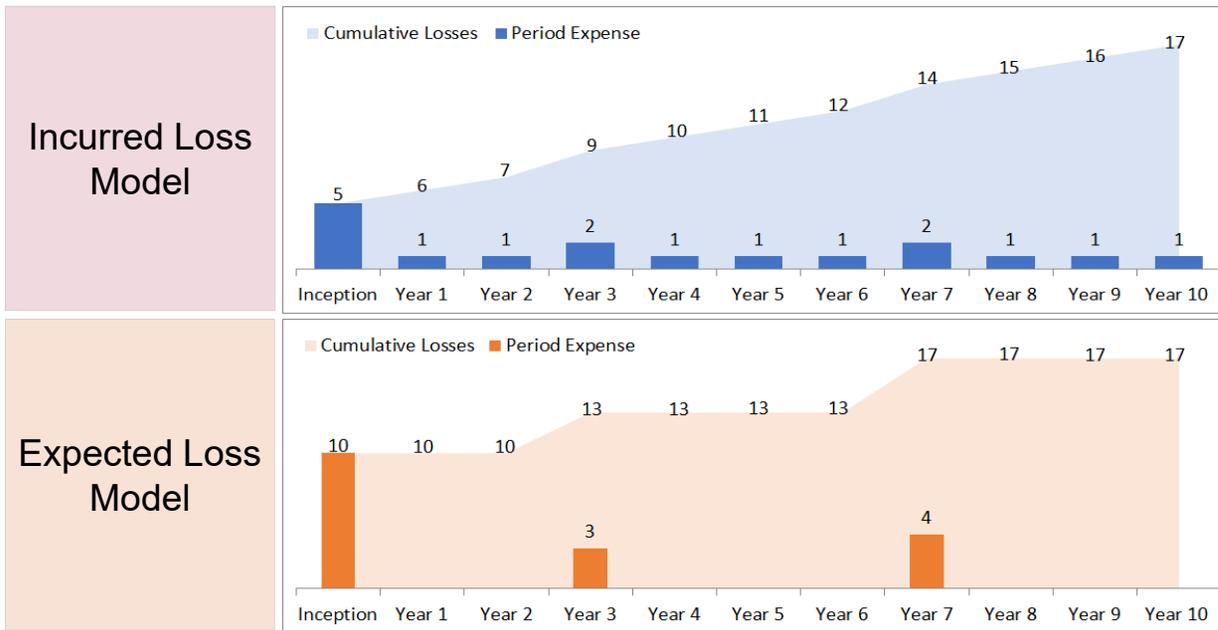
Recognize an allowance for expected credit losses on financial assets

- Allowance should be amount deducted from amortized cost of the financial asset to present net amount expected to be collected on the financial asset
- Considers more forward-looking information than is permitted under current U.S. GAAP
  - An entity shall not rely solely on past events to estimate expected credit losses. When an entity uses historical loss information, it shall consider the need to adjust historical information to reflect the extent to which management expects current conditions and reasonable and supportable forecasts to differ from the conditions that existed for the period over which historical information was evaluated
- Departs from the incurred loss model which means the probable threshold is removed
  - Removes the prohibition on recording day one losses
- Provides flexibility to utilize different methodologies



# Cumulative Credit Loss Example

10-year asset class with loss estimates determined at inception and revised in Years 3 and 7



# Scope for the CECL Model

## In CECL

- Financial assets measured at amortized cost basis, including:
  - Financing receivables
  - Held-to-maturity (HTM) debt securities
  - Receivables from revenue transactions (Topics 605, 606 and 610)
  - Reinsurance receivables from insurance transactions (Topic 944)
  - Receivables that relate to repurchase agreements and securities lending agreements (Topic 860)
- Net investments in leases by lessors (Topic 842)
- Off-balance-sheet credit exposures not accounted for as insurance
  - Off balance sheet loan commitments,
  - Standby letters of credit
  - Financial guarantees not accounted for as insurance
  - Other similar instruments, except for derivatives and hedges (Topic 815)

## Not in CECL

- Financial assets measured at FV through net income
- Available-for-sale debt securities
- Loans made to participants by defined contribution employee benefit plans
- Policy loan receivables of an insurance entity
- Promises to give (pledges receivable) of a not-for-profit entity
- Loans and receivables between entities under common control



# CECL: Contractual Life

Prepayment estimates will mainly be relevant in complex models

- “Consider expected prepayments; should not consider expected extensions, renewals, and modifications unless anticipate executing a TDR”

What factors should be considered in formulating a prepayment expectation?

- There will be heightened sensitivity to the prepay assumption given the impact on the allowance
- Consider auditability and actual history/trends of the subject portfolios
- Market statistics on CMBS, RMBS bond performance may be helpful in formulating the assumption
- Asset quality may impact the assumption – i.e. what’s the likelihood a substandard or past due loan will prepay?
- Note and rate structures – fixed vs. variable rate considerations, spreads to indices, teaser rates, etc.

More sophisticated models may forecast less losses due to prepay and other characteristics, but requires more data

# The CECL Model: Aggregation

## Aggregation

- “An entity shall measure expected credit losses of financial assets on a collective (pool) basis when similar risk characteristic(s) exist (as described in paragraph 326-20-55-5). If an entity determines that a financial asset does not share risk characteristics with its other financial assets, the entity shall evaluate the financial asset for expected credit losses on an individual basis.” [326-20-30-2]

### Similar risk characteristics from 326-20-55-5

(a) Internal or external (third-party) credit score or credit ratings	(g) Term
(b) Risk ratings or classification	(h) Geographical location
(c) Financial asset type	(i) Industry of the borrower,
(d) Collateral type	(j) Vintage
(e) Size	(k) Historical or expected credit loss patterns
(f) Effective interest rate	(l) Reasonable and supportable forecast periods.

Not all inclusive!

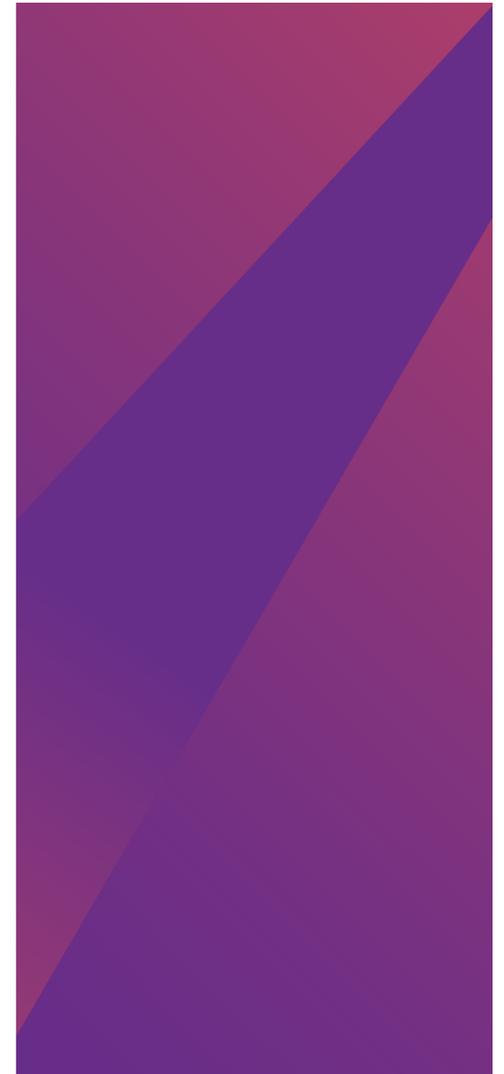
- Observation – PCI pooling criteria became much more rigid throughout the financial crisis and challenged for ‘gaming the system’. Will we see a similar evolution with CECL?



## The CECL Model: Forecasts and Beyond

Project the expected losses as far as can reasonably estimate

- “An entity shall not rely solely on past events to estimate expected credit losses. When an entity uses historical loss information, it shall consider the need to adjust historical information to reflect the extent to which management expects current conditions and reasonable and supportable forecasts to differ from the conditions that existed for the period over which historical information was evaluated.” [326-20-30-9]
- Revert to a historical lifetime loss experience for the future periods beyond which the entity is able to make or obtain reasonable and supportable forecasts
- Reversion should occur at either the component level or the entire loss estimate



## The CECL Model: Forecasts and Beyond (cont.)

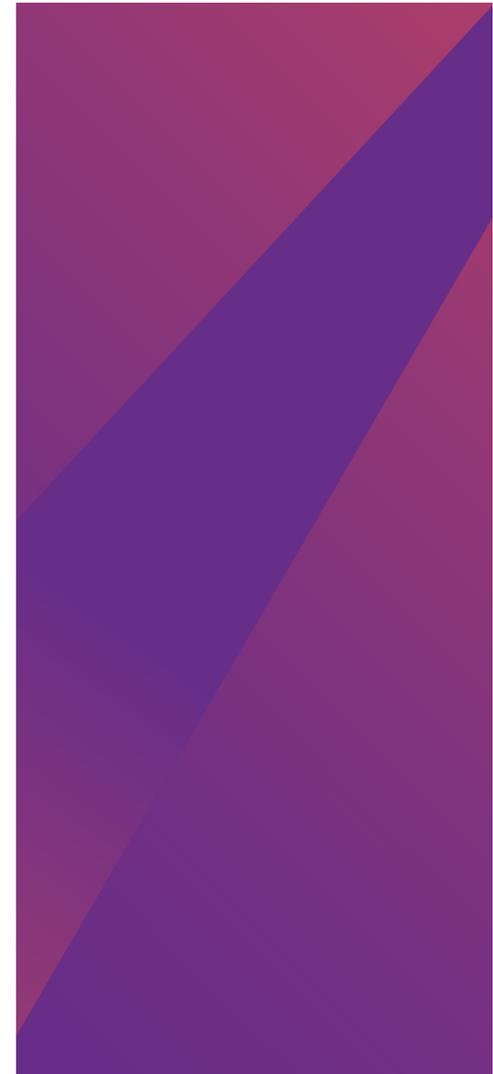
Permitted to revert: [326-20-30-9]

- (a) immediately
- (b) over the financial asset’s estimated life on a straight-line basis or
- (c) over a period and in a pattern that reflects the entity’s assumptions about expected credit losses over that period

Disclose pattern of reversion

Changes in the reversion period would represent a change in estimate rather than a change in accounting policy

Example	Historical Experience	Forecast Period (Years 1-2)	Periods Beyond Forecast (Years 3 and beyond)
Portfolio A	Historical Loss Experience	Expected Losses in Forecast Period	Expected Losses based on Reverting to Historical Loss Experience



## PCI (revised to PCD) Assets

Amortized cost at initial recognition = the purchase price and the associated expected credit loss at the date of purchase (Gross up approach)

- Establish a day one allowance – significant shift from current GAAP
  - Can use DCF or loss rate method on unpaid principal balance (face value)
- Contemplates use of existing systems
- Must allocate non-credit component to each asset
- Permits increases in expected cash flows to be recognized immediately

More than just loans!

Loan—par amount	\$ 1,000,000	
Loan—noncredit discount		\$ 75,000
Allowance for credit losses		175,000
Cash		750,000

Yield is “fixed” so existing systems can handle the amortization

### Scope

- Was PCI (Purchased Credit Impaired) assets
  - “Significant” credit deterioration since origination
    - Revised and renamed to PCD (Purchased Credit Deteriorated)
  - “More than insignificant” credit deterioration since origination
- Did not expand the scope to apply to either all acquired financial assets or all assets acquired in a business combination



## Non-PCD Loans: Impact

- Assume \$1,000,000 loan
- 2.5% lifetime credit loss expectation currently and at origination
- Coupon is effectively market rate of return required at acquisition

Key Point!  
 Purchased loans not in scope will record allowance for credit losses through earnings at acquisition

Serial acquirers need to be conscious of this issue now as many have \$0 ALLL today. This can have a significant impact upon transition.

<b>CECL Acquired Loans - Non-PCD</b>		
Loan - par amount	\$	1,000,000
Loan-noncredit discount	\$	-
Loan-credit related discount	\$	25,000
Cash	\$	975,000
Provision expense	\$	25,000
Allowance for credit losses	\$	25,000
<i>Carrying value of non-PCD Loan</i>	\$	950,000
<b>Current GAAP Acquired Loans - ASC 310-20</b>		
Loan - par amount	\$	1,000,000
Loan-noncredit discount	\$	-
Loan-credit related discount	\$	25,000
Cash	\$	975,000
Provision made under incurred loss model as needed.		
<i>Carrying value of non-PCD Loan</i>	\$	975,000



## PCI vs. PCD Example

Facts for the illustrative example

- Principal balance remaining is \$1,181
- Gross contractual cash flows are \$1,192
- Gross expected cash flows are \$831
- Day 1 fair value is \$746
- Gross estimated total principal loss is \$351 (~30% of principal balance)
- Present value of expected losses is \$314
- Discount rate of 10%
- Coupon rate of 5.5%, with 2 months to maturity and 10 month lag on cash flow recovery

Hypothetical  
fact pattern



## PCI vs. PCD – Day 1 General Ledger and Balance Sheet

	Today	Tomorrow
	<u>PCI</u>	<u>PCD</u>
<u>General ledger:</u>		
Principal balance	1,181	1,181
Contractual interest	11	-
Nonaccretable difference	(361)	-
Accretable discount	(85)	-
Noncredit discount	-	(121)
Loans	<u>746</u>	<u>1,060</u>
Allowance	-	(314)
Net loans	<u>746</u>	<u>746</u>
<u>Balance sheet:</u>		
Loans	746	1,060
Allowance	-	(314)
Net loans	<u>746</u>	<u>746</u>



## 90 Days Later - PCI vs. PCD – No Change in Forecasted Cash Flows

	PCI	PCD
<b><u>Entries:</u></b>		
Accretable discount	19	-
Interest income	19	-
Cash	-	-
Loans	-	-
Noncredit discount	-	27
Interest income	-	27
Credit loss expense	-	8
Allowance	-	8
<b><u>Balance sheet:</u></b>		
Loans	765	1,087
Allowance	-	(322)
Net loans	765	765
Impact to pre-tax income	19	19



## PCD – Presentation (Credit Loss Expense vs. Interest Income)

The change in the allowance for credit losses associated with the time value of money can be presented either as credit loss expense or as an adjustment to interest income [326-20-45-3]

Creditors that choose the latter alternative shall disclose the amount recorded to interest income that represents the change in present value attributable to the passage of time.



## 90 Days Later - PCI vs. PCD – Reduction in Forecasted Cash Flows

- Updated assumption – \$731 gross expected cash flows, compared to \$831 original estimate

	PCI	PCD
<u>Entries:</u>		
Accretable discount	8	-
Nonaccretable difference	8	-
Provision for loan losses	92	92
Allowance	92	92
<u>Balance sheet:</u>		
Loans	765	1,087
Allowance	<u>(92)</u>	<u>(414)</u>
Net loans	<u>673</u>	<u>673</u>
Impact to pre-tax income	(92)	(92)



## 90 Days Later - PCI vs. PCD – Increase in Forecasted Cash Flows

- Updated assumption – \$931 gross expected cash flows, compared to \$831 original estimate

	PCI	PCD
<u>Entries:</u>		
Nonaccretable difference	100	-
Accretable discount	100	-
Allowance	-	92
Credit loss expense	-	92
<u>Balance sheet:</u>		
Loans	765	1,087
Allowance	-	(230)
Net loans	<u>765</u>	<u>857</u>
Impact to pre-tax income	- *	92

\* PCI - Increase to yield prospectively (approximately 23.8%), PCD - yield remains at 10%



# Debt Securities

HTM – use CECL model

- Required pooling of HTM debt securities with common risk characteristics
- Will use an allowance instead of direct write-off (so permits reversals)
- Evaluations of expected credit losses for some debt securities likely to be similar to those previously used in practice
  - Uncertainty exists as to the rigor required to document \$0 loss assessment
  - May be addressed with AICPA guides being developed

AFS – modifies “other than temporary impairment” (OTTI) model

- Use an allowance instead of direct write-off (so permits reversals)
- Removes the criteria to consider the length of time and extent that  $FV < cost$
- Removes the criterion to consider recoveries or additional declines in value post B/S
- Includes a fair value floor – which means credit losses are limited to amount of  $FV < amortized\ cost$
- DCF???
- Example:

<b>AFS OTTI FV Floor</b>	
Par	100
ECL	(5)
Fair Value	96
<b>Recorded ECL</b>	<b>(4)</b>



## Troubled Debt Restructurings (TDRs)

- Credit losses should be measured using the CECL model as applied to all other financial assets measured at amortized cost.
- A discounted cash flow technique to measure credit losses upon a TDR that is required in current GAAP will no longer be required and an entity may use other approaches to measure credit losses upon a TDR.
  - Interest rate concessions will likely still require a DCF analysis to capture implied economic loss
- Concession given to the borrower upon a TDR will continue to be recorded through an allowance account



# Questions?

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# CECL IMPLEMENTATION

***What Should be Keeping you up at  
Night***

## Questions

- Where are you in the process?
    - Gathering data
    - How Many years have you found
    - When will your data be ready for analysis
    - Has anyone looked at models
- 



## CECL - Volatility

- The standard requires that companies “report in net income (as a credit loss expense or reversal) the amount necessary to adjust the allowance for credit losses for management’s current estimate of expected credit losses on financial asset(s).”
  - Which Method and Model you select will have a significant impact on your allowance balance.
- 



## Causes of Volatility

- CECL was created to estimate expected credit loss on a loan or investment
    - Volatility changes based on methods and models
  - Method Volatility (Data Aggregation)
    - Level of data sets
    - Quality of data
  - Model Volatility (Forecast period)
    - Over the life cycle – Loan level Risk Allocation
    - Reversion – Pool Level Risk Allocation
- 



## Causes of Volatility

- Charge offs will cause volatility
    - Charge offs should be estimated in CECL
    - The closer your estimate, the less volatility you will have
    - Timing of charge offs will also affect volatility if your estimate is creating volatility
- 



# Rethinking Historical Losses - Today



# Rethinking Historical Losses - CECL

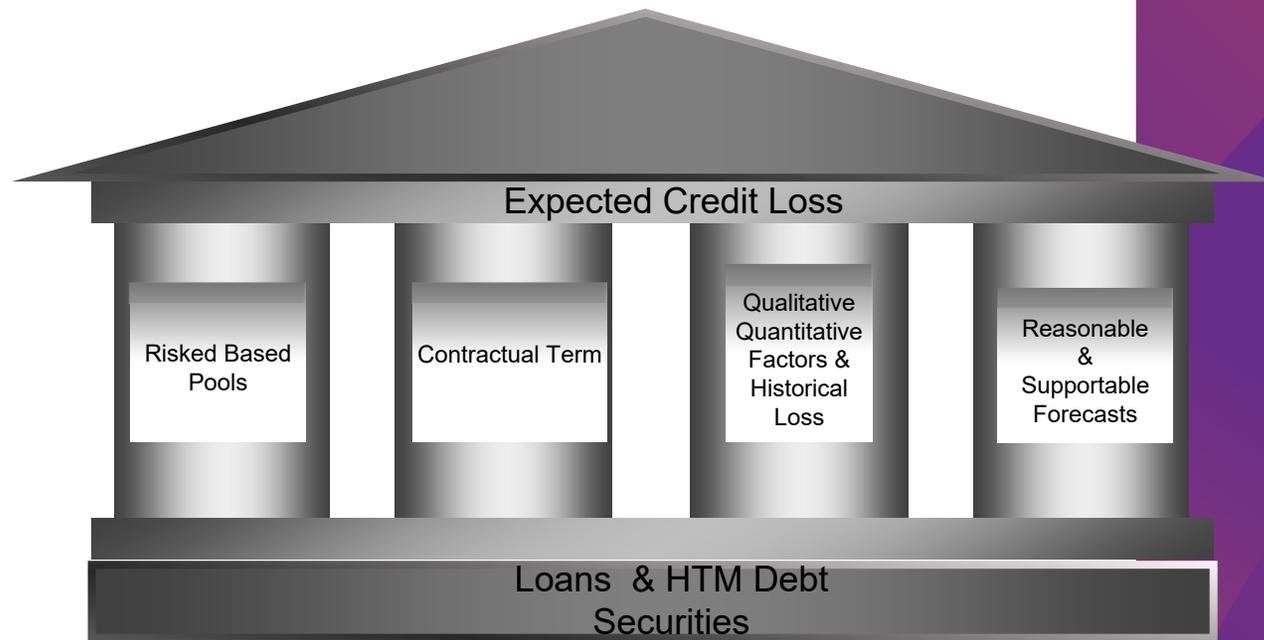


## Initial Measurement

- The allowance for credit losses is a valuation account that is deducted from the **amortized cost basis (definition replaces Recorded Investment)** of the **financial asset(s)** to present the net amount expected to be collected on the financial asset. (asset balance minus allowance balance)
  - At the reporting date, ***an entity shall record an allowance for credit losses on financial assets and shall report in net income (as a credit loss expense) the amount necessary to adjust the allowance for credit losses for management's current estimate of expected credit losses on financial asset(s).***
  - ***This will create Volatility!***
- 



# Pillars of Expected Credit Loss

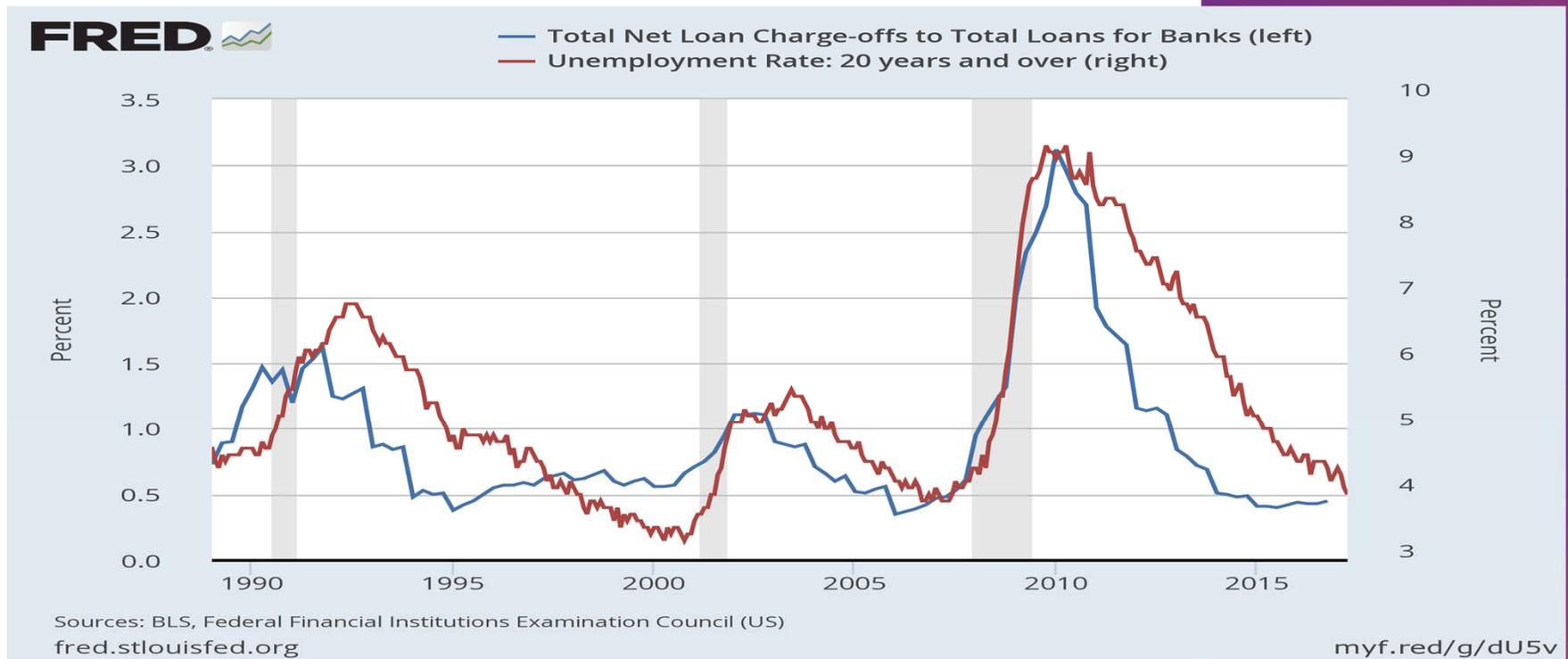


## CECL - Historical Loss Period (Contractual Term)

- The standard requires the contractual term be used for the beginning point for historical loss periods. You no longer control your historical loss period.
  - Remember, CECL marries contractual term with economic cycles. Having your data through multiple economic cycles will significantly reduce your volatility.
- 



# Loss Correlation with Economic or Employment Data



## Contractual Term

- The calculation must estimate expected credit losses over the contractual term of the financial assets (pools) regardless of the method chosen. A discounted cash flow method would be the principal and interest cash flows based on the term of the cash flows.
  
  - DCF models also include:
    - Forecasted Prepayment adjustments over the life cycle/economic cycle
    - Forecasted Default/loss adjustments over the life cycle/economic cycle
    - Deferred fees/costs and Premium/Discount amortization over the life cycles
- 



## CECL – Gaining Control Over the ACL

- Methods - Credit Quality Factors will be one of the most significant ways to help control your CECL calculation. Using Data strategies such as risk migration life cycle losses and static pools will help you manage your risks.



## CECL How to Control Your Allowance & Reduce Volatility

- Methods - Segment/Class Historical Data Aggregation
    - Life Cycle Losses
    - Risk Migration
    - Static Pools including Vintage Analysis
  - Data Aggregation is the most important first step in CECL
  - Credit Quality Indicators are Important to use to control your ACL
- 



## CECL Methods - Risked Based Pools

- The new standard requires the use of pools to determine risk. The concept of pools is similar to the segment/class structure we use today. These pools are both backward looking and forward forecasting. The way in which pools are grouped can have a significant effect on your overall loss calculation.
  - Call Report Code only segmentation is not a good idea!
  - Remember CECL Disclosures require you to disclose “How you monitor your credit risk”
  - Question, How do you monitor your credit risk today?
- 





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# METHODS

# ACTUAL DATA ANALYSIS

AUTO LOAN PORTFOLIO

2000 TO 2017

STATIC POOL AND RISK MIGRATION

## Data Statistics

- Auto Portfolio
  - Actual Client Data
  - History back to 2000
  - Client does not currently risk migrate by FICO
  - Client updated FICO since 2010 on a quarterly basis
- 



## Analysis Auto Loans Segment

- Current loans in Pool – 16,400
  - Total loans originated 200,017 over period
  - Original Maximum Term- 84 months or 7 years
  - Number of TDR's - 852
  - TDR maximum Term – 9.21 years
  - Maximum charge off period – TDR's 9.83 years (origination date to charge off date)
  - Maximum Charge off period – Non TDR's 6.40 years (no charge offs in last 5 months years of loan life)
- 



## Analysis of 740 to 900 FICO

- Total loans originated 101,627 over period
  - Original Maximum Term- 84 months or 7 years
  - Number of TDR's - 1
  - TDR maximum Term – 8.04 years ( 1 TDR) no charge off occurred
  - Maximum charge off period – TDR's None years (origination date to charge off date)
  - Maximum Charge off period – Non TDR's 4.57 years (no charge offs in last 2.5 years of loan life) 6.6 million in Loans
- 



## Analysis of 680 to 740 FICO

- Total loans originated 47,694 over period
  - Original Maximum Term- 84 months or 7 years
  - Number of TDR's - 52
  - TDR maximum Term – 9.21 years
  - Maximum charge off period – TDR's 7.02 years (origination date to charge off date)
  - Maximum Charge off period – Non TDR's 4.72 years (no charge offs in last 2.2 years of loan life)
- 



## Analysis of 640 to 680 FICO

- Total loans originated 21,862 over period
  - Original Maximum Term- 84 months or 7 years
  - Number of TDR's - 103
  - TDR maximum Term – 8.04 years
  - Maximum charge off period – TDR's 8.82 years (origination date to charge off date)
  - Maximum Charge off period – Non TDR's 5.18 years (no charge offs in last 1.8 years of loan life)
- 



## Analysis of 590 to 640 FICO

- Total loans originated 12,645 over period
  - Original Maximum Term- 84 months or 7 years
  - Number of TDR's - 123
  - TDR maximum Term – 8.13 years
  - Maximum charge off period – TDR's 9.58 years (origination date to charge off date)
  - Maximum Charge off period – Non TDR's 5.72 years (no charge offs in last 1.2 years of loan life)
- 



## Analysis of 0 to 590 FICO

- Total loans originated 16,189 over period
  - Original Maximum Term- 84 months or 7 years
  - Number of TDR's - 573
  - TDR maximum Term – 8.71 years
  - Maximum charge off period – TDR's 9.83 years (origination date to charge off date)
  - Maximum Charge off period – Non TDR's 6.40 years (no charge offs in last 7 months of loan life)
- 



## Analysis Of Charge offs

- Total number of 1228
  - Total Charge offs – 8.235 million
  - Total Recoveries – 1,126 million
  - Average FICO at charge off – 548
- 



## Analysis of FICO 740 to 900

- Total number of 30
  - Total Charge offs – 122,155
  - Total Recoveries – 12,931
  - Average FICO at charge off – 781
- 



## Analysis 680 to 740

- Total number of 85
  - Total Charge offs – 397,271
  - Total Recoveries – 46,406
  - Average FICO at charge off – 704
- 



## Analysis 640 to 680

- Total number of 125
  - Total Charge offs – 515,764
  - Total Recoveries – 94.583
  - Average FICO at charge off – 660
- 



## Analysis 590 to 640

- Total number of 144
  - Total Charge offs – 541,717
  - Total Recoveries – 176,052
  - Average FICO at charge off – 614
- 



## Analysis 0 to 590

- Total number of 844
  - Total Charge offs – 6.659 million
  - Total Recoveries – 796,281
  - Average FICO at charge off – 493
- 



## CECL Methods - Segment/Class Issues

- Data will help define the pool metrics – data always drives the history and the forecast
  - More detailed analysis probably a good thing
  - Important part of move to CECL – understanding and using credit quality indicators
  - Good modeling will help you determine the best layer to apply methodology
- 



## CECL Methods - Defining Pools Examples

- Risk Migration or Static Pools
  - Loans by industry type (hotel, shopping center)
  - Indirect loans by dealer
  - Residential Real Estate loans by State or MSA
  - FICO Scores/LTV/Other Factors
  - Why Internal Risk Ratings will not forecast! This is important
  - Question, Are risk ratings your main credit quality factor?
- 



DATA

# DATA Minimums



\$ Limit/Unused Commitments
Account Number
Accrued Interest
Charge off Amount
Charge off Date
Current Balance
Current Deferred Loan Cost
Current Deferred Loan Fees
Current Discount
Current Interest Rate
Current Maturity Date
Current Payment Amount
Current Premium
Current Recovery Amount
Current Recovery Date

Loan Number
Original Balance
Original Date
Original Discount
Original Premium
Days Delinquent
Zip+ 4#
Current Collateral Value/Original Collateral Value
Current /Original Collateral Value Date (appraisal date)
Current/Original Bankruptcy Score
Current/Original FICO Score
Current/Original Risk Rating
Debt Service Coverage Ratio or other ratios
Debt to Income or other ratios

## What Statistics Support your Risk Rating Process

- Commercial Loans
    - Occupancy Rates - CRE
    - Liquidity Ratios
    - Quick Ratios
    - Net Income Percentage
    - LTV Original and Current
    - Debt Service Coverage and others
- 

Question: How often do you update your risk ratings?

Question: Do you Risk Rate all Loans?

Question: Where do you store this information?



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# Risk Migration

## Why Risk Migration

- The **BEST** method to help control you allowance
  - If you don't do this you are limiting you control of you allowance by half, Yes 50% less control
  - As you update your credit quality indicators, you are periodically migrating you risk and moving you losses to the respective migrated loss category
  - Requires updating credit quality indicators
  - Benefit: creates pools of loans that can be used to apply different loss rates to pools of similar types loans
- 



# RISK MIGRATION

Loan Allowance | Metrics | Risk Migration - Periodic Comparison Analysis | Risk Migration - Trend Analysis | Static Pool Analysis

**Segment:** -- All Segments --

**Comparing Periods:** January 2016 v. June 2017

**Value Type:** Risk Rating  FICO Score  Days Past Due  Loan to Value

**Format:** Value  Percentage

Migration of loan balances between FICO score groups from January 2016 to June 2017

Jun 2017										
						Charged Off				
	0 - 590	590 - 640	640 - 680	680 - 740	740 - 900	0 - 590	590 - 640	640 - 680	680 - 740	740 - 900
<b>0 - 590</b>	\$1,997,662.51	\$1,352,148.38	\$1,750,470.41	\$4,490,103.07	\$6,974,757.89	\$363,905.44	\$25,355.86	\$24,795.56	\$12,183.51	
<b>590 - 640</b>	\$483,032.48	\$326,399.41	\$343,819.09	\$613,279.28	\$177,917.10	\$43,764.32	\$9,701.03			
<b>640 - 680</b>	\$420,748.12	\$393,413.14	\$741,753.74	\$1,723,238.07	\$984,114.66	\$51,367.74		\$9,526.39		
<b>680 - 740</b>	\$200,917.15	\$317,701.55	\$810,201.90	\$3,429,696.50	\$4,527,540.68	\$58,328.00		\$18,130.06	\$39,531.96	
<b>740 - 900</b>	\$66,772.79	\$93,824.72	\$387,552.67	\$3,177,438.37	\$17,352,778.38	\$22,352.19	\$7,427.51	\$2,954.69		\$24,053.32
<b>New &amp; Non Rated</b>	\$8,765,887.60	\$14,241,391.46	\$30,846,399.92	\$74,319,643.78	\$96,587,276.88	\$120,234.97	\$7,789.16	\$23,120.00	\$62,958.82	-\$27.02
<b>Total Jun 2017</b>	\$11,935,020.65	\$16,724,878.66	\$34,880,197.73	\$87,753,399.07	\$126,604,385.59	\$659,952.66	\$50,273.56	\$78,526.70	\$114,674.29	\$24,026.30
<b>Total Jan 2016</b>	\$33,316,161.73	\$4,986,043.78	\$9,464,195.05	\$21,957,323.65	\$47,356,892.79					
<b>% Jun 2017</b>	4.28%	6.00%	12.51%	31.47%	45.41%	0.24%	0.02%	0.03%	0.04%	0.01%
<b>% Jan 2016</b>	28.46%	4.26%	8.08%	18.75%	40.45%					
<b>Variance</b>	-24.18%	1.74%	4.43%	12.72%	4.96%					

## CECL - Life Cycle Losses

- Historical experience may not fully reflect an entity's expectations about the future. Therefore, management should adjust historical loss information, as necessary, to reflect the current conditions and reasonable, supportable forecasts not currently reflected in the historical loss information.
  - Reversion models should do this because they do not utilize regression modeling
- 

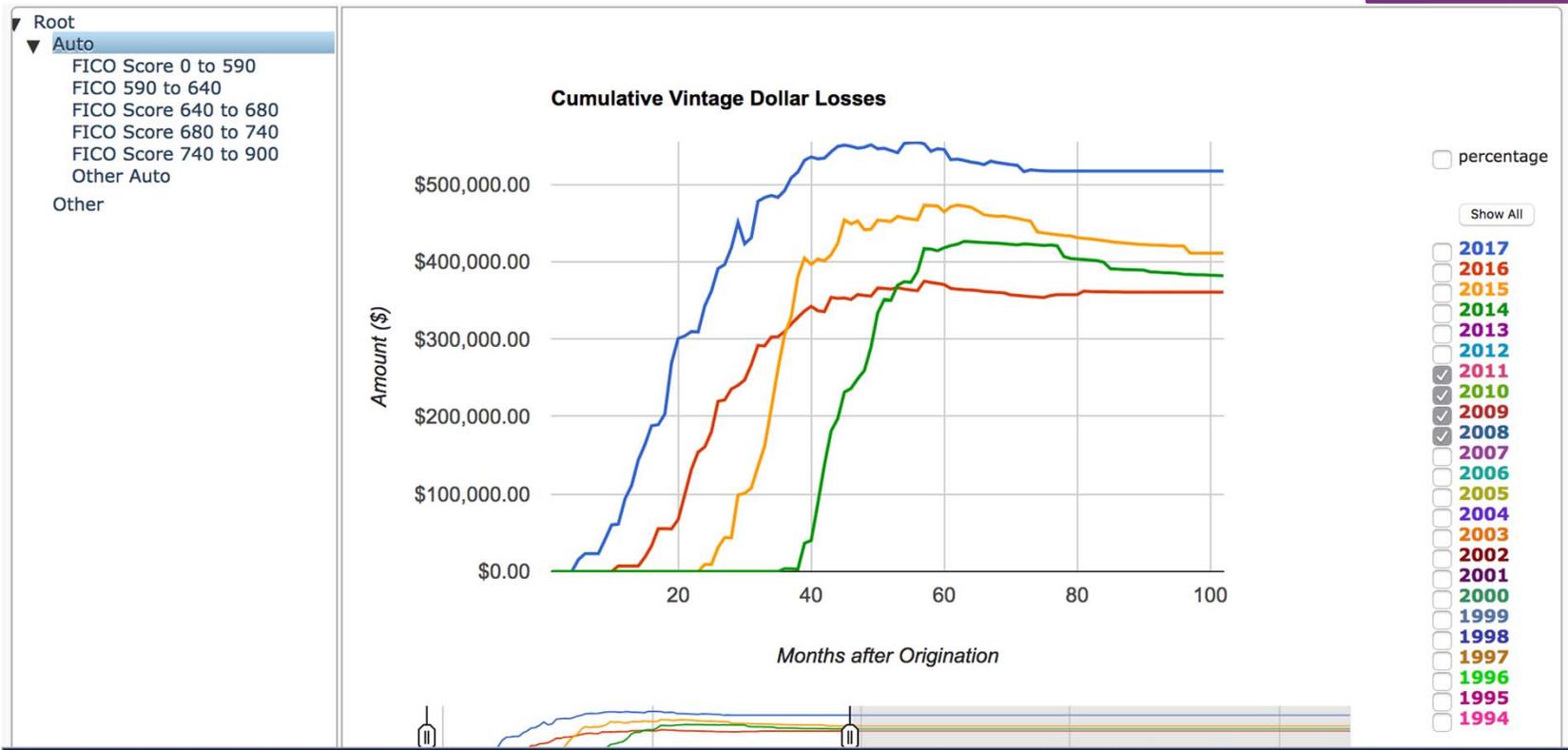


## Loan Life Cycles

- Based on Origination period
  - Contractual Term & Contractual Cash Flows
  - Can be calculated based on any pool methodology
  - Must correlate Life Cycle loss History with Economic Cycles
  - Need to understand correlation with regression and forecasting factors
- 



# AUTO Segment Life Cycle



## CECL SN4 - Prepayments

- Prepayments must be included in your CECL calculation. The values must be either a separate input or embedded in the credit loss information for non-discounted cash flow methods. **Note - you cannot average terms!**
  - Question: How do you calculate prepayments?
  - Prepayments are calculated through Economic Cycles
- 



## Prepayments

- Prepayments: prepayments can either be considered as a separate input or can be embedded in the credit loss information for non DCF methods.
  - For DCF methods estimated prepayments must be included in the future principal and interest cash flows.
  - Contractual terms cannot be changed for expected extensions, renewals, and modifications unless it has a reasonable expectation at the reporting date that it will execute a **troubled debt restructuring** with the borrower.
- 



## CECL - Loan Commitments

- You are now required to include outstanding loan commitments in your allowance calculation and forecast the likelihood of use, unless unconditionally cancelable.





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# CECL – Gaining Control Over the ACL

Models – the standard requires you forecast the loss allowance

## CECL How to Control Your Allowance

- Models – Forecasting your Allowance – Must use 1 of 2 methods required by CECL Standard
    - Over the Life Cycle Forecast - Forecast over the entire contractual term
      - Discounted Cash Flow (DCF)
      - Probability of Default (PD)
      - Regression Model Forecast (RM)
    - Reversion – Short Term Forecast
  - Forecasting is the second most important part of CECL
- 



## CECL SN7 – Contractual Term Forecast

- Reasonable and Supportable Forecasts may be done in two ways:
    1. Forecast over the entire contractual term. (Over the Life Cycle) It is important to note that FASB **does** expect you to consider the contractual term of each pool. This will be the preferred method for those using third party systems.
- 



## CECL SN7 – Short Term Forecast

2. Forecast for a portion of the contractual term and revert to historical loss information that is reflective of the contractual term considering the effects of prepayments. This does not mean your term is shorter, but rather accounts for how prepayments over the term would affect your losses.
    - **This method was added for the scenario in which an entity is unable to develop reasonable and supportable forecasts over the contractual term. Keep in mind that you will need to associate economic cycles with historical loss information so that the loss information selected is reflective of both economic cycles and contractual terms. You cannot simply pick a historical loss period and apply that loss percentage.**
- 



## Contractual Term Forecast - Over the Life Cycle

- DCF, PD, & RM models all contain the following:
    - Low or **Lowest Volatility**
    - Loan Level loss application for remaining term
    - Different loss balances by each method
    - PD model may **result in a Zero balance**
    - Best documented and validated
    - Can be applied to any pool of loans
    - Always results in the **Lowest Allowance Balance**
- 



## Short Term Forecast- Reversion Model

- Short Term Forecast then reversion to the Adjusted Historical Loss
    - Always **Highest Volatility**
    - Pool Level application (**No Loan Level Application**)
    - Forecast model driven mainly by contractual term historical loss method
    - **No Zero allowance** balance generally not possible due to pool application
    - Less documented and harder to document forecast
    - Always results in the **Highest Allowance Balance**
- 



## Confusion Abounds – Forecasting under CECL

- Don't get confused about the Forecast Models
  - All Models Use Historical data sets
  - It's the forecast that important!
  - A short term forecast using life cycle losses is a Reversion Model!
  - People are putting fancy names on Reversion Models but the model is still a reversion Model
- 



## Reversion Model # 2 - Adjusting Historical Loss

- An entity shall not rely solely on past events to estimate expected credit losses.
  - When an entity uses historical loss information, it shall consider the need to **adjust historical information to reflect the extent to which management expects current conditions and reasonable and supportable forecasts** to differ from the conditions that existed for the period over which historical information was evaluated.
  - **This concept is reiterated several times in the standard!**
- 



## Forecasting - Q Factors All Models

- You must consider all of the following relevant information:
  - Qualitative and quantitative internal information such as LTV, FICO, Risk Ratings, Guarantees, Historical Loss
  - Qualitative and quantitative external information such as unemployment rates, housing price indices, and GDP
  - Past events and current conditions as they relate with the internal and external factors such as actual loss history and economic cycles
  - Qualitative and quantitative factors that relate to the environment in which the entity operates and are specific to the borrower(s)
- 



## Zero Loss

- An entity's estimate of expected credit losses shall include a measure of the expected risk of credit loss even if that risk is remote, regardless of the method applied to estimate credit losses. However, an entity is not required to measure expected credit losses on a financial asset (or group of financial assets) in which historical credit loss information adjusted for current conditions and reasonable and supportable forecasts results in an expectation that nonpayment of the amortized cost basis is zero.
- 



## Questions to Ask

CECL question	Why is this important
Will the vendor allow you to use your data?	Reduces volatility and removes assumptions
If you don't have enough data, how can the vendor help?	Data sets should be available at loan levels not summarized at the Call Report Level
Are they asking you to collect your data back as far as the year 2000? Two economic cycles	Need two economic cycles – reduces volatility
Does the vendor calculate loan loss at the loan level using regression modeling?	Over the life cycle models should be calculated on each loan using regression forecasts – reduces volatility
Does the vendor have a working allowance solution today with customers using the solution?	Can they build a model in time
Does the vendor have a segment/class structure that is created using your credit quality factors and customized to your data and risk? This is a one of the primary ways you will control your allowance calculation.	Risk Migration and Static Pools will result in less volatility

# Questions to Ask

<p>Does the vendors system allow you to use risk migration within the segment/class structure using your credit quality indicators?</p>	<p>Results in less volatility and enhances PD models</p>
<p>Does the vendors system allow you to create static pools within your segment/class structure using internal data such as origination dates (vintage analysis)?</p>	<p>Static Pools are on way to control allowance</p>
<p>How does your model forecast, short term, long term (over the contractual term) or both?</p>	<p>Each forecast and model will give you different allowance results</p>

---

# Questions to Ask

<p>Does the vendors software utilize both “over the life cycle” and “Reversion” forecasting models? This is the second key way you will control your allowance. If you only have the Reversion models, you will lose control over your allowance calculation. These models include the following:</p>	
<p><b>Over the life cycle models</b></p>	<p>Vendor must use regression long term modeling</p>
<p><b>Discounted Cash Flow (DCF)</b></p>	<p>Must forecast cash flows at the loan level over the contractual term</p>
<p><b>Probability of Default (PD)</b></p>	<p>Must forecast PD, LGD &amp; EAD over the contractual term at the loan level</p>
<p><b>Regression Model Forecast (RM)</b></p>	<p>Necessary to do DCF and PD Models</p>
<p><b>Reversion models</b></p>	<p>Regression models generally not used</p>
<p><b>Life cycle historical loss calculations based on origination date over the contractual term of each pool</b></p>	<p>How are they providing forecasts for these models. How are prepayments calculated and applied in the model</p>
<p><b>Life Cycle Vintage analysis forecast over the contractual term of each pool</b></p>	

# Questions to Ask

<p>Does the vendor provide a solution for Investments?</p>	<p>AFS &amp; HTM Investments will have allowances and additional Disclosures</p>
<p>Does the vendor provide financial statement disclosures? This will be very important in saving you many hours of work and analysis.</p>	<p>Disclosures are more detailed and require significant effort and analysis</p>





# Forecasting Economic Cycles

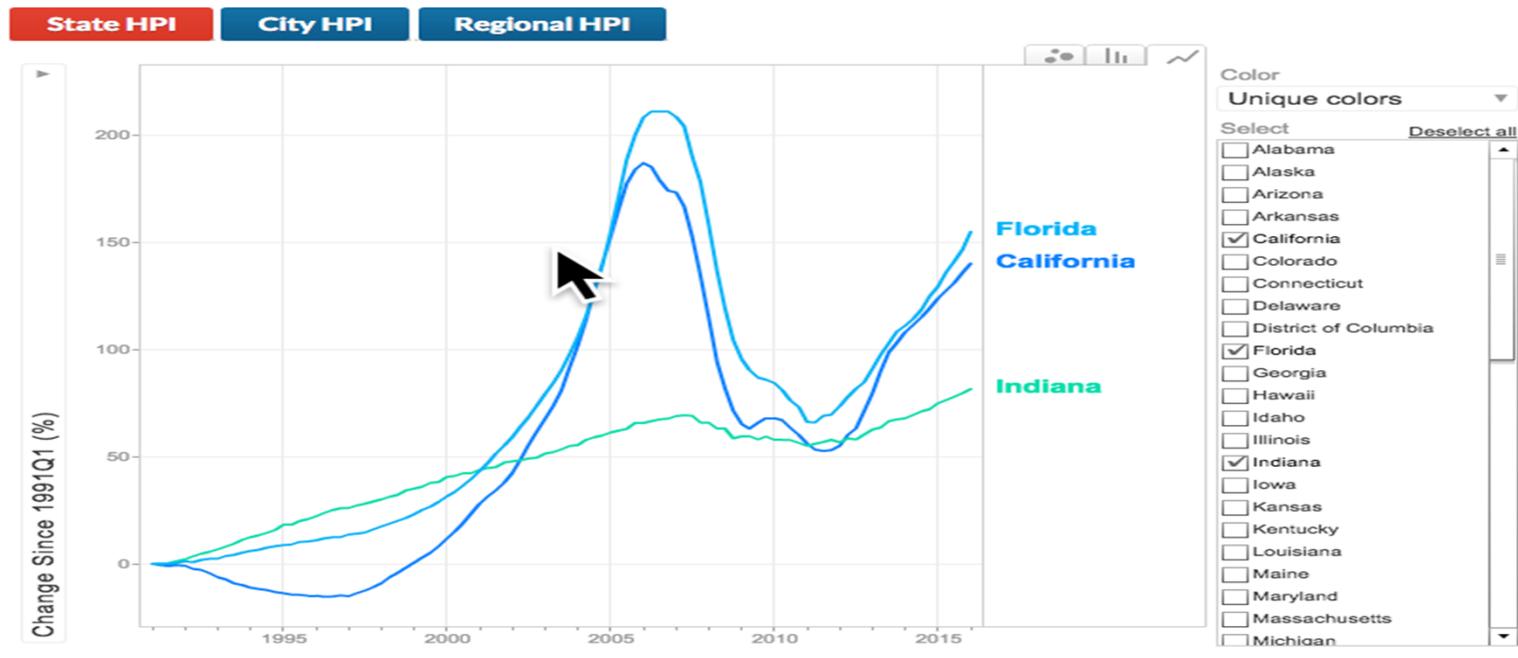
## Economic Cycles

- National and State
  - Cycles affect all methods
  - Historical loss modeled to economic cycles
  - Must find a way to correlate with losses to forecast – regression is best way!
  - Regression will do this for you!
- 



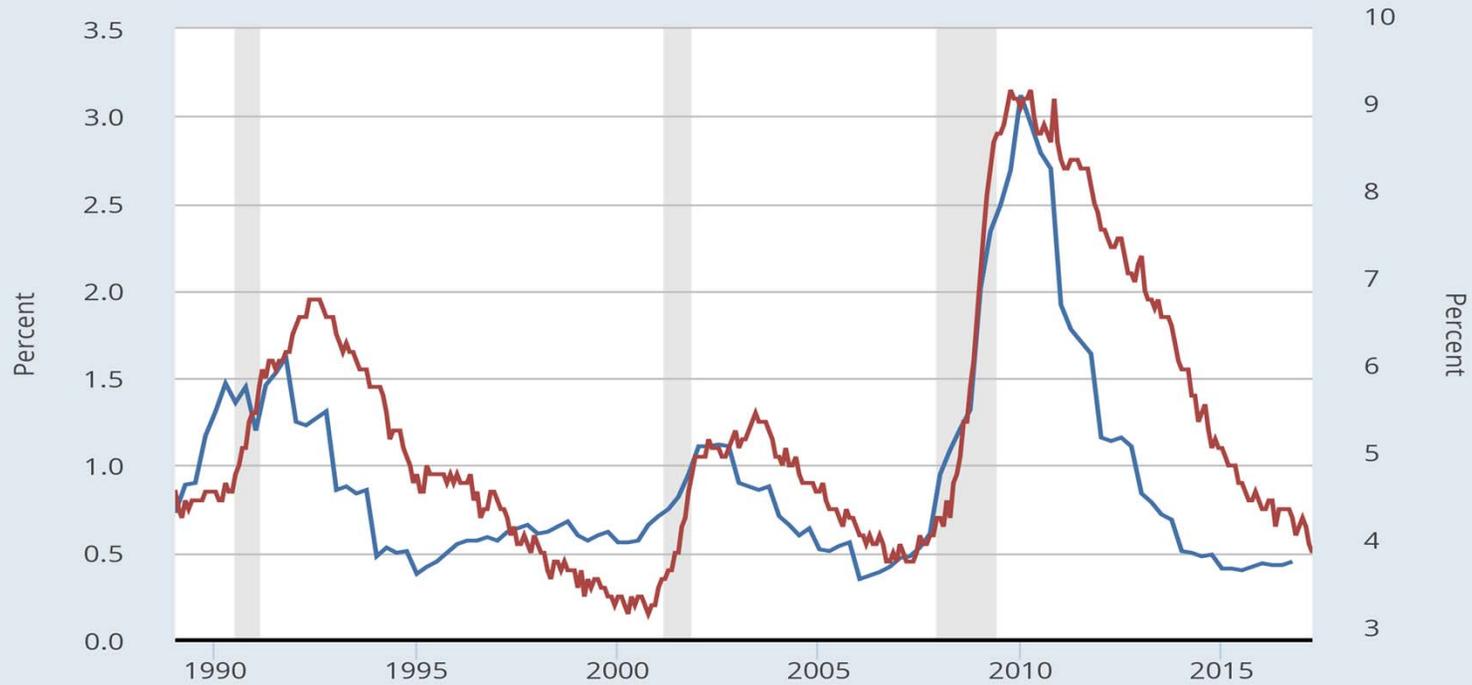
# Housing Price Indexes

Percent Change in FHFA State-Level House Price Indexes (Seasonally Adjusted Purchase-Only Index, 2016Q1)





— Total Net Loan Charge-offs to Total Loans for Banks (left)  
— Unemployment Rate: 20 years and over (right)



Sources: BLS, Federal Financial Institutions Examination Council (US)  
[fred.stlouisfed.org](http://fred.stlouisfed.org)

[myf.red/g/dU5v](https://myf.red/g/dU5v)



— Net Charge-Offs on All Loans and Leases, Commercial and Industrial, All Commercial Banks



Source: Board of Governors of the Federal Reserve System (US)  
fred.stlouisfed.org

myf.red/g/6aZA



— Net Charge-Offs on All Loans and Leases, Secured by Real Estate, Single Family Residential Mortgages, Booked in Domestic Offices, All Commercial Banks



Source: Board of Governors of the Federal Reserve System (US)

[fred.stlouisfed.org](http://fred.stlouisfed.org)

[myf.red/g/eHXP](https://myf.red/g/eHXP)





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# Purchase Credit Deteriorated

Affects All Purchases of Loans and Investments

## CECL - PCD

- *Purchased Credit Deteriorated* – One of the most significant changes affecting both loan purchases and all debt security purchases.



## PCD

- **Purchased Financial Assets with Credit Deterioration**
  - Acquired individual financial assets (or acquired groups of financial assets with similar risk characteristics) that, as of the date of acquisition, have experienced a more-than-insignificant deterioration in credit quality since origination, as determined by an acquirer's assessment.
- 



## PCD Assets Affects

- Purchased Loans or Loan Pools
- Purchased HTM and AFS Investments
- Business Combinations





# Initial Measurement - PCD

## Initial Measurement

- An entity shall record the allowance for credit losses for **purchased financial assets with credit deterioration** by the acquirer using any CECL method the acquirer deems appropriate.
  - AFS securities would have the AFS DCF method applied.
- 



## Initial Measurement

- An entity shall account for purchased financial assets that **do not have** a more-than-insignificant deterioration in credit quality since origination in a manner consistent with originated financial assets.
  - At purchase, Non PCD financial assets will have an allowance on the acquirers books at purchase with the effect of the allowance through income.
- 



## PCD Gross Up Approach

- The amortized cost of the PCD asset at initial recognition would be the sum of the purchase price and the associated expected credit loss at the date of purchase.



## CECL - Participation Loans

- Participation Loans – Anyone who is funding or purchasing participation loans will need to understand the underwriting risk and risk of loss from the institution they purchase loans from.





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# Investment CECL & AFS Impairment

## Initial Classification

- Trading – Hours or Days (no preclusion)
  - Available for Sale – Not Trading or HTM
  - HTM – Positive Intent and Ability to Hold
  - Standard Requires Documentation of the Classification (What will be required)
-

## HTM & AFS

- HTM Allowance – CECL Impairment adjustments through earnings
- AFS Allowance – DCF Impairment adjustments through earnings
  - AFS Limited to gross FV loss if Non PCD
  - HGL Loss through OCI
  - Previous OCI requirements gone
- Equity Securities – Fair Value through earnings

## PCD Implementation Guidance

- Impairment shall be assessed at the individual security level
- Individual security level means the level and method of aggregation used by the reporting entity to measure realized and unrealized gains and losses on its debt securities. (For example, debt securities bearing the same Committee on Uniform Security Identification Procedures [CUSIP] number that were purchased in separate trade lots may be aggregated by a reporting entity on an average cost basis if that corresponds to the basis used to measure realized and unrealized gains and losses for the debt securities.)
- **Providing a general allowance for an unidentified impairment in a portfolio of debt securities is not appropriate.**

## PCD Implementation Guidance

- The estimates of expected future cash flows shall be the entity's best estimate based on past events, current conditions, and on reasonable and supportable forecasts.
- Available evidence shall be considered in developing the estimate of expected future cash flows. The weight given to the information used in the assessment shall be commensurate with the extent to which **the evidence can be verified objectively**. If an entity estimates a range for either the amount or timing of possible cash flows, the likelihood of the possible outcomes shall be considered in determining the **best estimate of expected future cash flows**.



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# AFS & HTM

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## HTM Impairment Process

- At Purchase
  - PCD determination – if PCD, calculate allowance, gross up balance
- After Purchase
  - If PCD Monthly or quarterly – update calculation and adjust allowance up or down
  - If not impaired at purchase, update estimate and create allowance as necessary

## AFS Impairment Process

- At Purchase
  - PCD determination – if PCD, calculate allowance, gross up balance (MUST use DCF method)
- After Purchase
  - IF PCD – update DCF calculation and adjust balance up or down
  - If not PCD
    - When security moves to a loss position, you must perform a DCF calculation to determine if a credit loss exists.
      - If a loss exists, record an allowance and adjust and recalculate ongoing.
      - If no loss exists, continue to estimate allowance ongoing as long as in loss position.

## AFS Impairment Process

- If impaired – Decision to sell or more-likely than not required to sell
  - Once decision made, mark security to market (write-down) and move allowance to zero and remove HGL amount to loss on income statement
  - Continue to re-evaluate DCF
  - The difference between the new amortized cost basis and the cash flows expected to be collected shall be accreted in accordance with existing applicable guidance as interest income. Adjustment to yield through interest income
  - Changes in Fair Value through OCI

## Speaker Bio & Information

- Michael T. Umscheid has been providing accounting, consulting and auditing services to public and non-public companies for over 30 years. Mike is a past member of the Auditing Standards Board and a published author on Accounting and Auditing for Financial Institutions. Mike has spoken at numerous AICPA conferences as well as other national and local financial institution associations.
  - Mike is Currently, President and CEO of ARCSys, a consulting firm that specializes in Allowance for Credit Loss software and CECL. He graduated from Virginia Polytechnic Institute and State University in Blacksburg, Virginia.
  - Mr. Umscheid is also the author of the 8-hour CPE course published by the AICPA for CECL.
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