

# CECL – Using a Reasonable and Supportable Forecast

July 2019

# Speakers



**Chris Henkel**

*Senior Director,  
Enterprise Risk Solutions*

Moody's Analytics



**Robby Holditch**

*Director, Regulatory and  
Accounting Solutions*

Moody's Analytics



**Sohini Chowdhury**

*Director, Regulatory and  
Accounting Solutions*

Moody's Analytics

# Today's Discussion Points

- » CECL Overview: What's Changing?
- » Recent Updates: Real-life Impact
- » Estimating Expected Credit Losses ("ECL"): A Refresher
- » Understanding and Defending Your Reasonable and Supportable Forecast
- » Concluding Remarks and Q&A

1

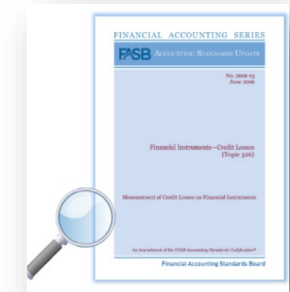
## CECL Overview



# What is CECL

FASB, ASU No. 2016-13, June 2016

Financial Instruments—Credit Losses (Topic 326)



CECL means CURRENT EXPECTED CREDIT LOSS Lifetime loss estimate from origination which replaces “incurred loss” model, where:

“The measurement of expected credit losses is based on relevant information about ***past events, including historical experience, current conditions, and reasonable and supportable forecasts*** that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances.”

# Changes Under CECL

Applies to all banks, savings associations, credit unions

- » **Scope: financial instruments measured at amortized cost basis**
  - Loans held for investment
  - Debt securities held to maturity
  - Debt securities available for sale\*
  - Off balance sheet exposures (Loan commitments, Letters of Credit)
- » **Measure expected credit losses over the life of financial asset based on:**
  - Past events, including historical experience
  - Current conditions
  - Reasonable and supportable forecasts
- » **New and changing GAAP Disclosure requirements: amortized cost by credit quality indicators and vintage, collateral dependent loans and PCD disclosure**

\* Credit losses are recorded through the allowance and can be reversed. Allowance is subject to FV floor. Holding gain/loss – OCI. AFS security's Am Cost is written down to FV only if Am Cost < FV and the institution intends to sell or more than likely will be required to sell.

# Summary

Your CECL Formula =



\*326-20-30-9 - An entity is not required to develop forecasts over the contractual term of the financial asset or group of financial assets. Rather, for periods beyond which the entity is able to make or obtain reasonable and supportable forecasts of expected credit losses, an entity shall revert to historical loss information.

# Defining What is Acceptable...

There are a few elements that are required to be incorporated when using any methods...

- » Historical Information
- » Current conditions
- » Reasonable & Supportable Forecast
- » Reversion to long term averages
- » Expert Judgement

**326-20-30-9** 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 reasonable and supportable forecast**.....The adjustments to historical loss information may be qualitative in nature and should reflect changes related to relevant data .....

**326-20-30-9 Con't**..... Some entities may be able to develop reasonable and supportable forecasts over the contractual term of the financial asset or a group of financial assets. However, an entity is not required to develop forecasts over the contractual term of the financial asset or group of financial assets. Rather, for periods beyond which the entity is able to make or obtain reasonable and supportable forecasts of expected credit losses, an entity shall revert to historical loss information



# New disclosure requirements!



326-20-50-11 An entity shall disclose all of the following by portfolio segment and major security type:

- a) A description of how expected loss estimates are developed
- b) A description of the entity's accounting policies and methodology to estimate the allowance for credit losses, as well as a discussion of the factors that influenced management's current estimate of expected losses, including:
  - 1) Past Events
  - 2) Current Conditions
  - 3) **REASONABLE AND SUPPORTABLE FORECAST**

*...as CECL nears, look for new and changed disclosures from FASB, SEC, and regulatory bodies...*

# From AICPA Banking Conference 2018

“ CECL is sensibly designed...” ”

Prepares need to present economic assumption,  
perhaps in a tabular format....

SEC Remarks at the 2018 AICPA Banking Conference

# Economic Assumption Tabular Example

U.S. MACRO BASELINE FORECAST SUMMARY										
	Units	18Q3	18Q4	19Q1	19Q2	2018	2019	2020	2021	2022
Gross Domestic Product	bcw\$	18,676.2	18,834.8	18,956.5	19,060.6	18,585.5	19,087.8	19,256.7	19,697.1	20,198.2
Change	%AR	3.7	3.4	2.6	2.2	3.0	2.7	0.9	2.3	2.5
Federal Budget	\$ bil	-198.5	-302.7	-346.9	-34.5	-883.4	-1,125.9	-1,460.5	-1,540.6	-1,647.4
Total Employment	mil	149.3	149.9	150.5	150.9	149.0	151.1	151.6	151.6	152.9
Change	%AR	1.5	1.8	1.5	1.1	1.6	1.4	0.3	-0.0	0.9
Unemployment Rate	%	3.8	3.7	3.5	3.4	3.9	3.4	3.9	4.7	4.9
Light Vehicle Sales	mil, SAAR	17.0	17.0	17.1	17.0	17.1	16.8	16.0	16.8	18.0
Residential Housing Starts	mil, SAAR	1.33	1.43	1.50	1.57	1.34	1.57	1.58	1.77	1.93
Median Existing-Home Price	\$ ths	261.9	264.1	265.7	267.3	260.5	268.1	276.0	286.3	298.0
Change	%YA	5.4	4.6	3.3	3.3	5.1	2.9	2.9	3.7	4.1
Consumer Price Index	%AR	2.8	2.4	2.6	2.6	2.6	2.5	2.3	2.3	2.2
Federal Funds Rate	%	2.0	2.3	2.7	3.0	1.9	3.1	3.5	3.3	2.8
Treasury Yield: 10-Yr Bond	%	3.08	3.21	3.37	3.48	2.99	3.50	3.60	3.93	4.29
Baa Corp. - 10-Yr Treasury	DIFF	2.1	2.5	2.5	2.5	2.0	2.5	2.6	2.4	2.3
Corporate Profits With IVA & CCA	\$ bil	2,189.8	2,217.5	2,235.0	2,248.5	2,191.5	2,261.8	2,346.5	2,563.0	2,697.0
Change	%YA	4.2	3.1	2.6	3.1	4.4	3.2	3.7	9.2	5.2
S&P 500	1941=10	2,756.2	2,754.7	2,705.3	2,633.2	2,736.7	2,579.9	2,502.5	2,737.2	2,932.2
Change	%YA	11.7	5.7	-1.0	-2.6	11.8	-5.7	-3.0	9.4	7.1

Moody's Example

2

Recent Updates

# Potential Timeline Changes

- » There are currently 4 initiatives underway that could alter the timeline for the implementation of CECL. All 4 are being actively monitored but could yield changes to the implications of the new standard.
- » Those in House and Senate are in committee and require committee chairs to agree to put them on the agenda
- » Current feeling is that the House Finance committee chair (Rep. Waters D-CA) does not have an appetite to take this on.
- » Potential motivating factors are emerging:
  - » House bill has bi-partisan support and may be used to showcase this
  - » There are similar bills in both the House and Senate
- » FASB has introduced through their Private Company Council a possible compromise that would push back the effective date for 1/1/2021 filers to 1/1/2022 (coincides with credit unions, non-profits, and small banks).

Issuer	Legislation	Summary	Status
<b>FASB</b>	Private Company Council (PCC) proposal for effective date changes  Introduced: June 2019	The PCC within the FASB is considering a change within it's standard issuance process that would make the effective date on new guidance a standard 2 years after public companies.	The implication is that this would push the non-SEC filing PBE's (many mid-sized banks) to a 1/1/2022 effective date for CECL from the current 1/1/2021. Possible change was well accepted by the FASB and is being discussed further.
<b>US Senate</b>	Continued Encouragement for Consumer Lending Act (S. 1564)  Introduced: May 2019	AKA the 'Stop and Study' bill would require FASB to halt implementation of CECL and conduct a quantitative study to determine the standard's impact	Introduced in the Senate by Thom Tillis (R-NC). Referred to Committee on Banking, Housing and Urban Affairs.
<b>US House of Representatives</b>	CECL Consumer Impact and Study Bill of 2019 (H.R. 3182)  Introduced: June 2019	Similar parameters to Senate bill requiring a halt to implementation of CECL until further study can be done.	Introduced by Rep. Gonzalez (D-TX). Moved to Committees (Financial Services and Agriculture).
<b>US House of Representatives</b>	Prohibit regulators from requiring CECL compliance (H.R. 7394)  Introduced: Dec. 2018	Directly from bill: "To prohibit the Federal financial regulators from requiring compliance with the accounting standards update of the Financial Accounting Standards Board related to current expected credit loss ("CECL")..." Bill includes SEC from requiring compliance.	Introduced by Rep. Luetkemeyer (R-MO). Moved to Committees (Financial Services and Agriculture).



# Regulatory Capital Changes

NR 2018-142  
FOR IMMEDIATE RELEASE  
December 21, 2018

## Agencies Allow Three-Year Regulatory Capital Phase In for New Current Expected Credit Losses (CECL) Accounting Standard

The federal bank regulatory agencies approved a final rule modifying their regulatory capital rules and providing an option to phase in over a period of three years the day-one regulatory capital effects of the update to the accounting standard known as the “Current Expected Credit Losses” (CECL) methodology. The final rule also revises the agencies’ other rules to reflect the update to the accounting standards.



# Proposed Changes to Call Report FFIEC 031, 041 & 051

## Draft Reporting Form Call Report Revisions Proposed

This draft reporting form reflects revisions addressing the revised accounting for credit losses under the Financial Accounting Standards Board's Accounting Standards Update No. 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments"

- 1) April 2019 Proposed Call Report Revisions for the Community Bank Leverage Ratio to RC-R
- 2) September 2018 Proposed Call Report Revisions to RI-B & RI-C



# 3

## Estimating Expected Credit Losses (“ECL”): A Refresher

# Common Methodologies to Estimate Credit Loss

## » Loss Rate

- Pool/cohort approach
- Rating and loan type
- “WARM” method

## » Probability of Default (“PD”) and Loss Given Default (“LGD”)

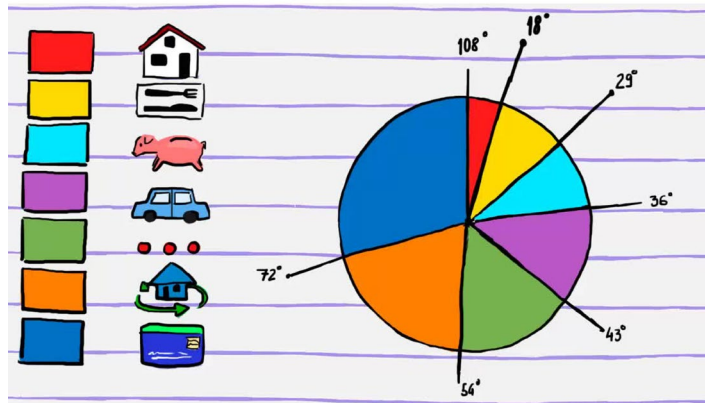
- Mapping internal ratings to agency ratings
- Use internal rating distribution and a central tendency of default
  - › Improve granularity with a PD (LGD) model
- Build or buy PD/LGD scorecards as part of a “dual risk ratings” framework

*An institution may apply different estimation methods to different groups of financial assets. However, to properly apply an acceptable estimation method, an institution’s credit loss estimates must be well supported*

# Solving the Data Problem

A sensible way to think about it...

*How should I segment my portfolio?*



*Which methodologies are appropriate?*




*Where can I find the data I need?*



# Regardless of the approach, you will need three types of data to derive CECL estimates

1. Data that captures the segment/pool's historical loss experience
2. Data for adjusting historical loss data to reflect the current credit environment on instruments in the segment/pool
3. Data for incorporating the impact of economic forecasts on instruments in the segment/pool



*Data can be used to model ECL quantitatively or to support qualitative adjustments*

*You may also require data to support prepayments and other assumptions*



# Loss Rate Method Example

A group of loans have an amortized cost of \$5M at the end of 2015.

Year	Amortized Cost	Average Balance	Observed NCOs
2015	\$ 5,000		
2016	\$ 5,500	\$ 5,250	\$ 20
2017	\$ 6,000	\$ 5,750	\$ 50
2018	\$ 6,500	\$ 6,250	\$ 40
2019	\$ 7,000	\$ 6,750	\$ 30
2020	\$ 7,500	\$ 7,250	\$ 50

2015 Pool's Cumulative NCOs	\$ 190
Lifetime Historical NCO (unadjusted)	3.80%

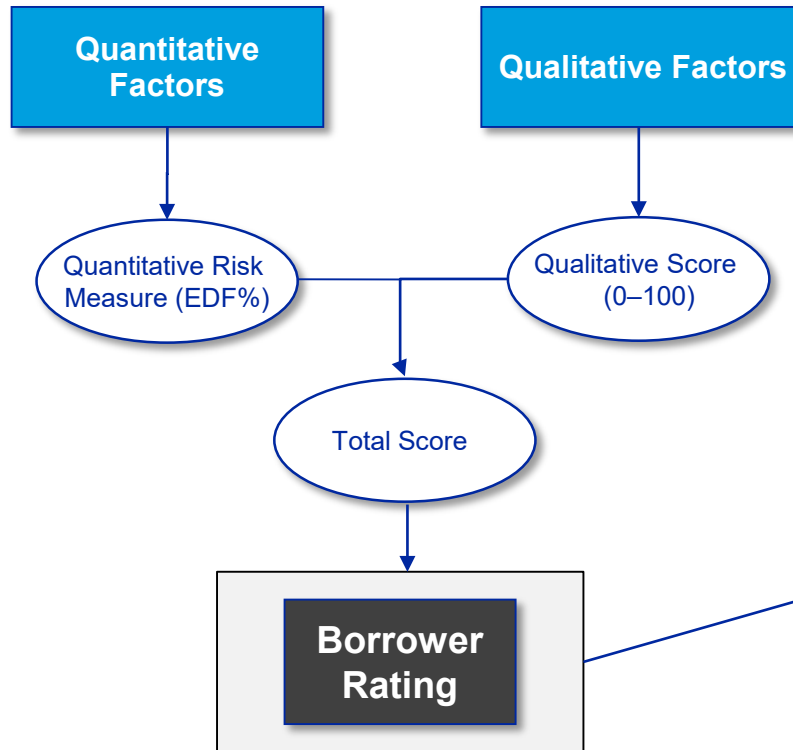
During 2016-2020, \$190K of the \$5M are charged off (includes recoveries), resulting in a cumulative loss rate of 3.80%.

Qualitative Adjustment	0.25%
Total ACL (%) as of 2020	<b>4.05%</b>
Total ACL (\$) as of 2020	<b>\$ 304</b>

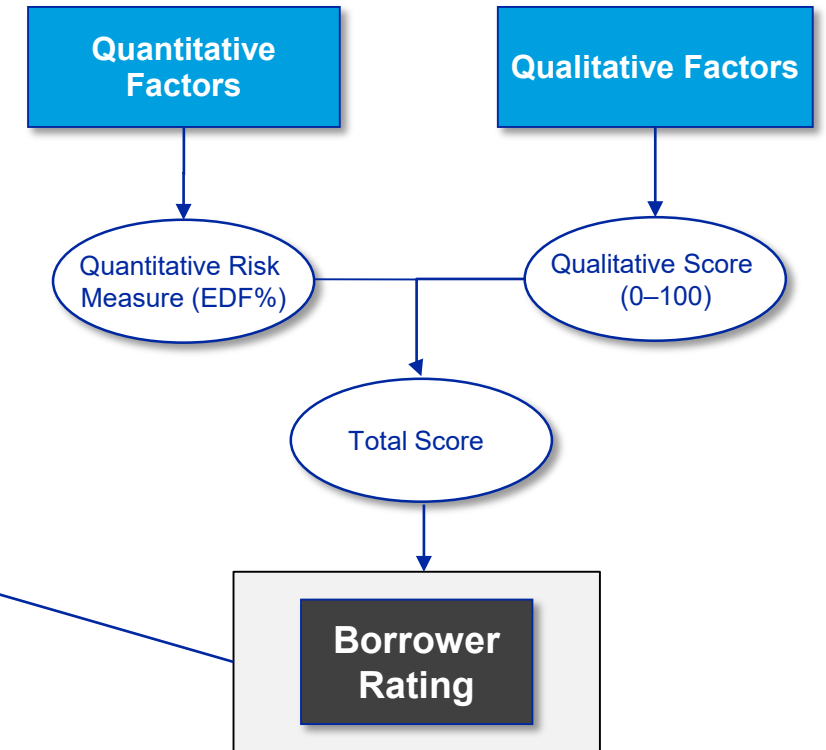
After qualitatively adjusting for the effects of current conditions and economic forecasts, we arrive at a cumulative loss rate of 4.05% to be applied to the amortized cost of the pool at the end of 2020 – resulting in an allowance of \$304k. .

# PD and LGD Method

## Commercial Real Estate Loan



## Commercial & Industrial Loan



## Master Rating Scale

Rating Grade	PD (1 Year)	Rating Grade
1	0.08%	1
2	0.14%	2
3	0.25%	3
4	0.43%	4
5	0.75%	5
6	1.31%	6
7	2.30%	7
8	4.02%	8
9	7.04%	9
10	12.31%	10
...	...	...

*What information would be required?*

Consistent grades across the entire loan portfolio

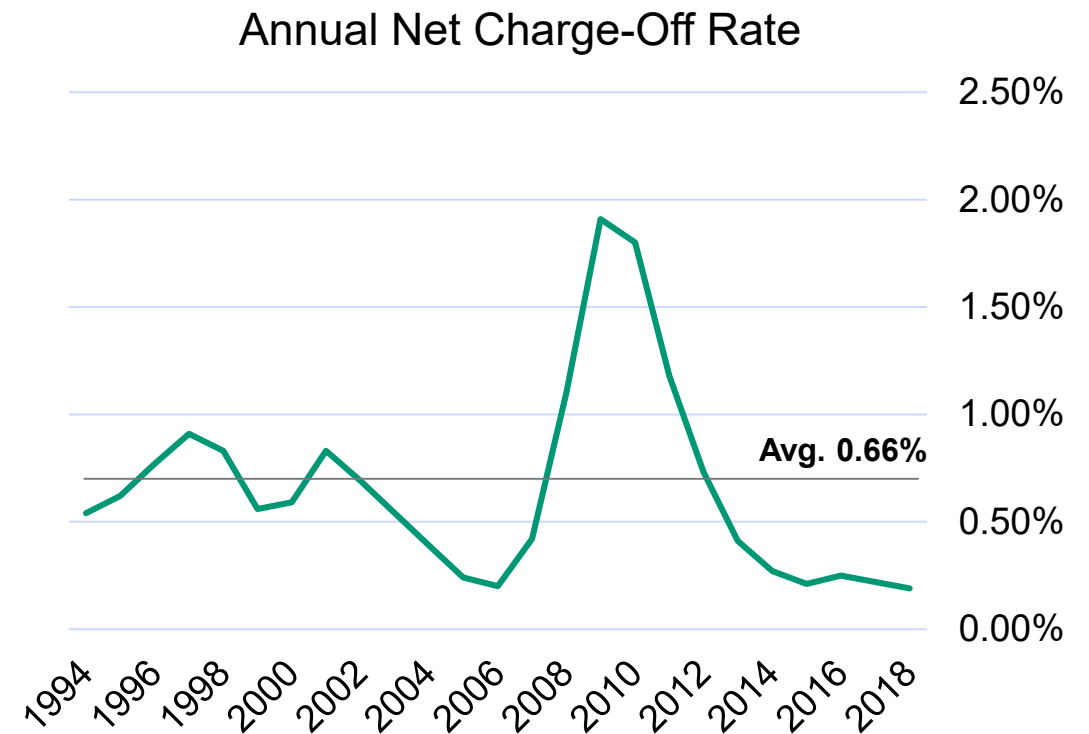
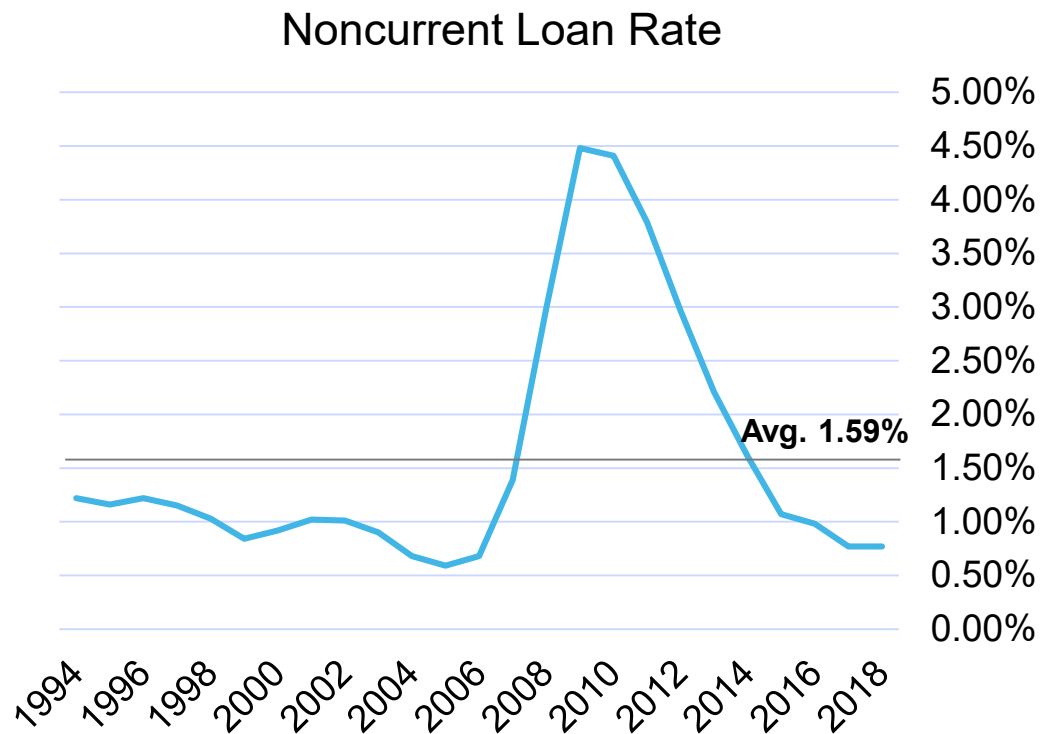
# Example of a PD and LGD Rating Scale

		A	B	C	D	E	F	G
		5%	15%	20%	25%	35%	45%	55%
1 Pass	0.08%	0.00%	0.01%	0.02%	0.02%	0.03%	0.04%	0.04%
2 Pass	0.14%	0.01%	0.02%	0.03%	0.04%	0.05%	0.06%	0.08%
3 Pass	0.25%	0.01%	0.04%	0.05%	0.06%	0.09%	0.11%	0.13%
4 Pass	0.43%	0.02%	0.06%	0.09%	0.11%	0.15%	0.19%	0.24%
5 Pass	0.75%	0.04%	0.11%	0.15%	0.19%	0.26%	0.34%	0.41%
6 Pass	1.31%	0.07%	0.20%	0.26%	0.33%	0.46%	0.59%	0.72%
7 Pass	2.30%	0.11%	0.34%	0.46%	0.57%	0.80%	1.03%	1.26%
8 Pass	4.02%	0.20%	0.60%	0.80%	1.01%	1.41%	1.81%	2.21%
9 Pass	7.04%	0.35%	1.06%	1.41%	1.76%	2.46%	3.17%	3.87%
10 OAEM	12.31%	0.62%	1.85%	2.46%	3.08%	4.31%	5.54%	6.77%
11 Substandard - A	20.00%	1.00%	3.00%	4.00%	5.00%	7.00%	9.00%	11.00%
12 Substandard - NA	35.00%	1.75%	5.25%	7.00%	8.75%	12.25%	15.75%	19.25%
13 Doubtful	50.00%	2.50%	7.50%	10.00%	12.50%	17.50%	22.50%	27.50%
14 Loss	100.00%	5.00%	15.00%	20.00%	25.00%	35.00%	45.00%	55.00%

# Asset Quality Statistics

*Noncurrent loans are well below the long-run average...*

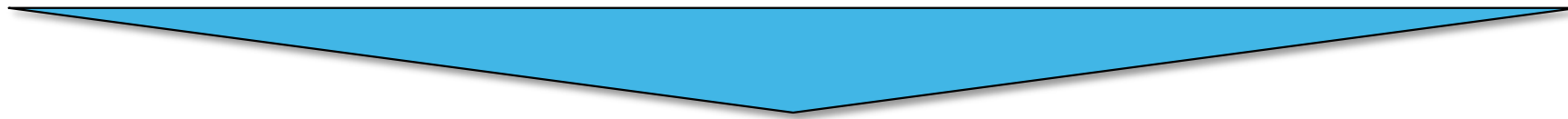
*...therefore so are the amount of loans being charged-off*



Source: FDIC (all insured institutions \$1B to \$10B in total assets)

# Food for Thought...

*It is acceptable to adjust historical loss information for current conditions and the reasonable and supportable forecasts through a qualitative approach rather than a quantitative approach...but is it really easier?*



*Small changes to “Q Factor” assumptions may result in large changes to credit loss provisions, potentially inviting greater scrutiny from auditors, examiners, and bank board members.*

# 4

## Understanding and Defending “Reasonable and Supportable” (R&S) Forecasts



# CECL Forecasting Requirements

*“The measurement of expected credit losses is based on relevant information about past events, including **historical experience**, **current conditions**, and **reasonable and supportable forecasts** that affect the collectability of the reported amount. An entity must use judgment in determining the relevant information and estimation methods that are appropriate in its circumstances.”*

*Source: Page 3, Financial Instruments—Credit Losses (Topic 326), FASB, No. 2016-13, June 2016*


# 3 Ways of Satisfying the R&S Requirement

## 1. Reversion in inputs

Revert to unadjusted historical average economic values

## 2. Reversion in outputs

Revert to unadjusted historical average losses



R&S period < life of the loan

## 3. Lifetime R&S

R&S period = life of the loan

# How to Incorporate Economic Forecasts in CECL?

CECL does NOT require a specific approach

- ✓ Qualitatively leveraging the forecasts acceptable for smaller institutions
- ✓ No strict rules on number of scenarios, weights etc. But,
  - Using multiple scenarios mitigates the uncertainty from a single forecast
  - Controls for the non-linearity in credit losses
  - Provides guidance regarding sensitivity of losses to economic slowdown/downturn

# R&S Shorter Than Life of the Loan

Elect an R&S period, a reversion period and a reversion technique.  
Reversion to unadjusted historical averages can be –

## 1. IN INPUTS

Over R&S period = Economic forecasts using the model

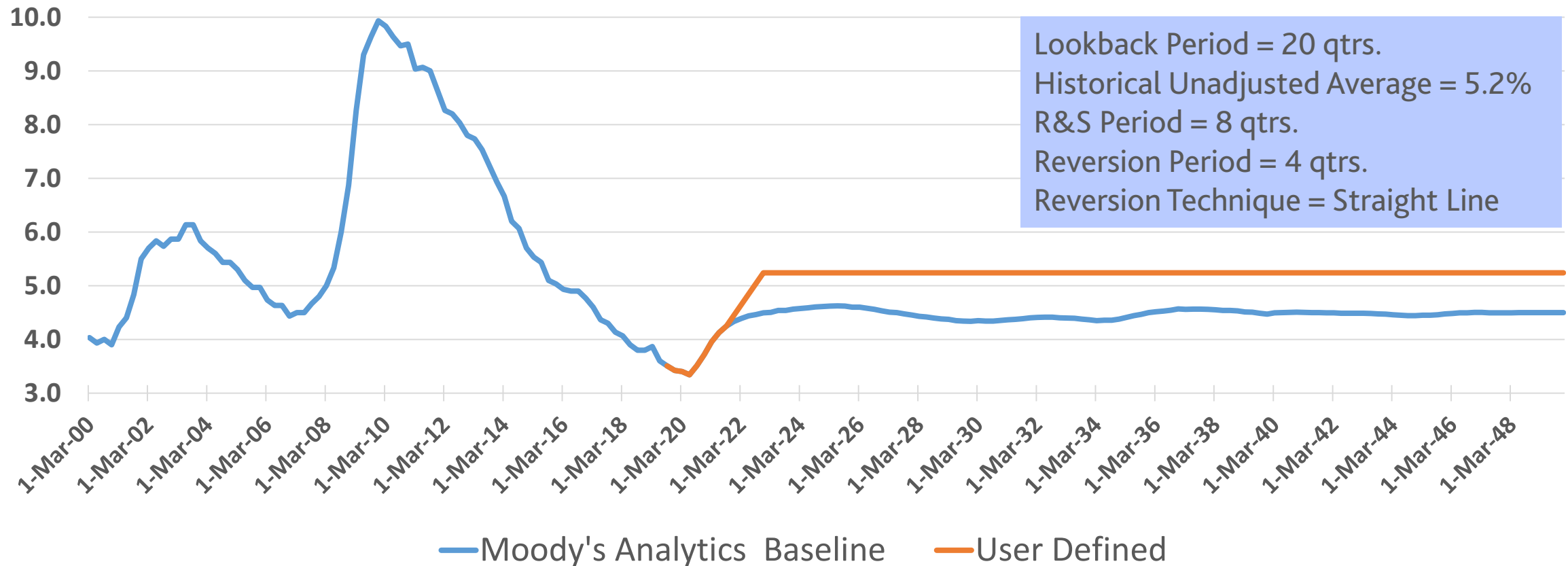
Over reversion period = Economic forecasts artificially revert to **unadjusted** historical averages

After reversion period until the end of life = Economic forecasts set equal to **unadjusted** historical averages

Estimate lifetime loss using this economic forecast as input into credit loss model

# Input Reversion Example

Unemployment rate, %, US



# R&S Shorter Than Life of the Loan

## 2. IN OUTPUTS

Over R&S period = Credit loss and economic forecasts using the model

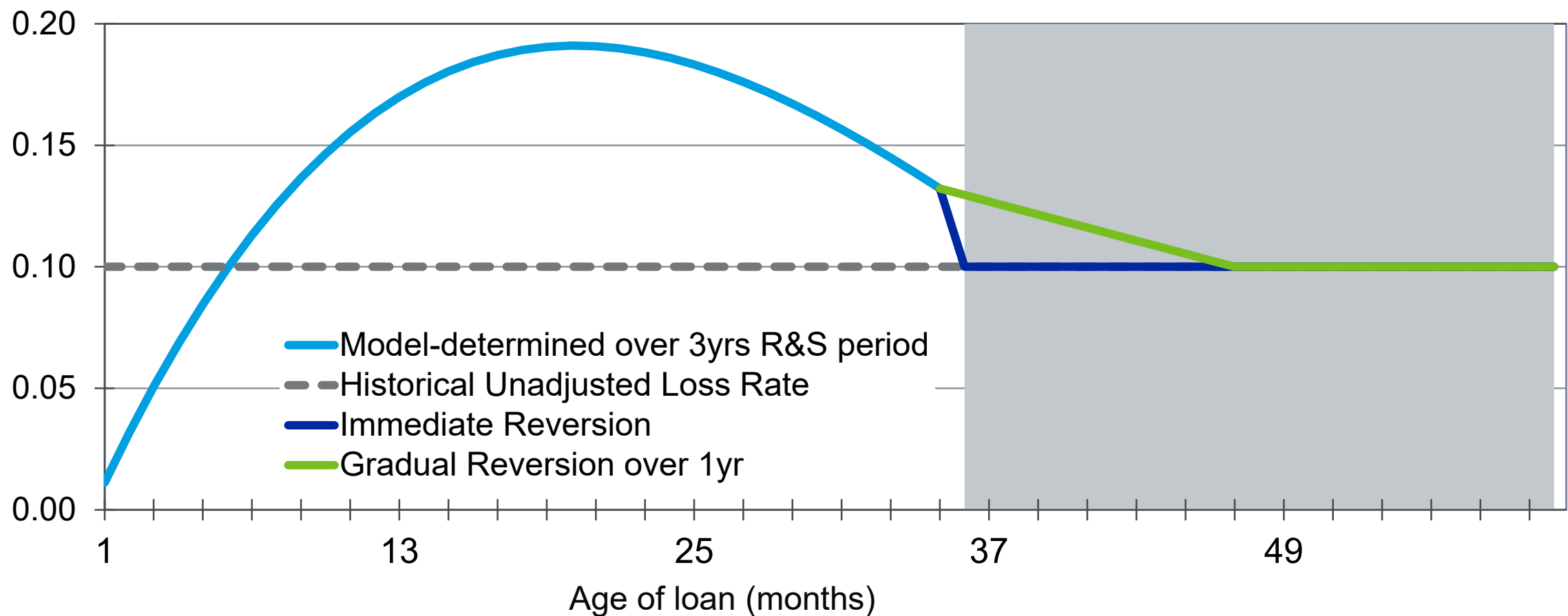
Over reversion period = Credit losses artificially revert to some **unadjusted** historical average

After reversion period until the end of life = Credit losses set equal to **unadjusted** historical averages



# Output Reversion Example

Monthly Loss Rate, %



For illustration purposes only

# R&S = Life of the Loan

## 3. LIFETIME R&S

Possible only if BOTH a) and b) are satisfied

- a) Economic forecasts are R&S over the life of the loan ★
- b) Credit loss models produce reasonable estimates of losses over the life of the loan

# What Makes an Economic Forecast R&S Over Lifetime?

It is produced by a **model** which:

- ☑ is based on **sound, generally accepted economic theory**
- ☑ incorporates **inter-relationships and feedback effects**
  - a shock to one factor impacts all other factors over time
- ☑ considers a **range of possible outcomes**
- ☑ provides info at varying **levels of geography** & captures **local economic effects**
- ☑ utilizes a **rigorous, auditable process** for data and forecasting

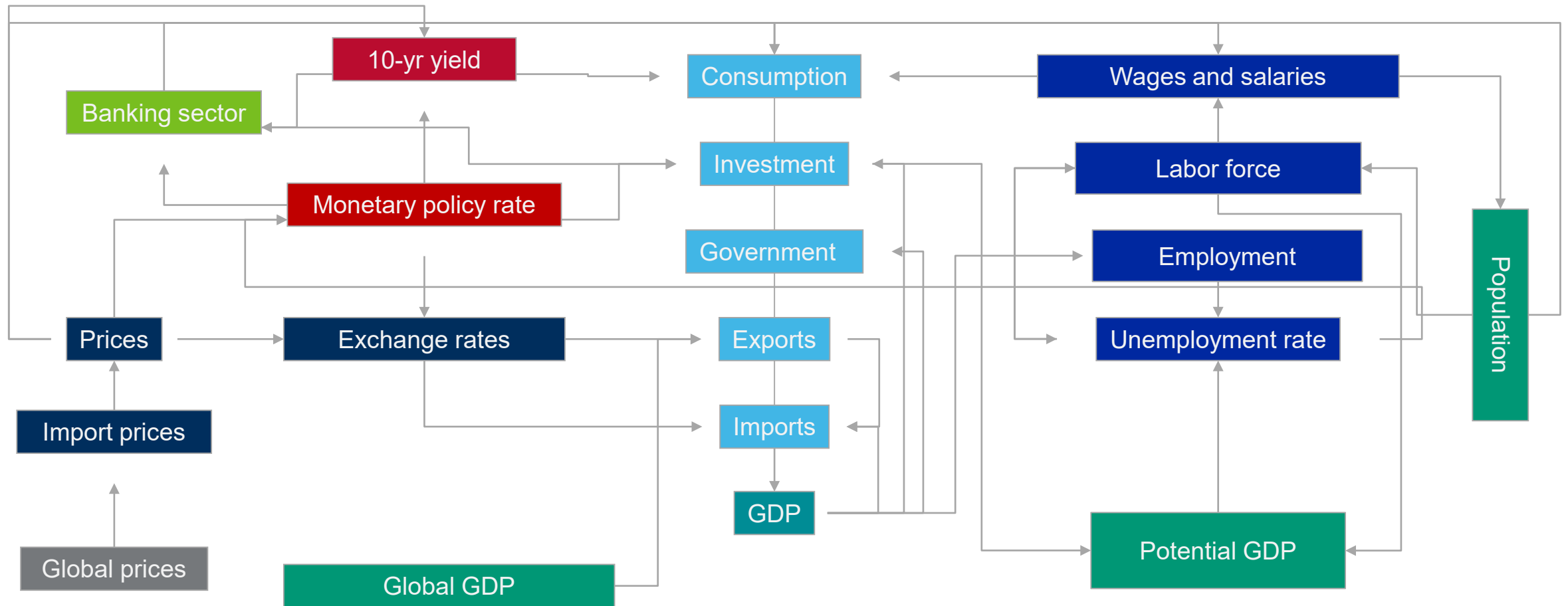
AND...

**Converges to historical trends** in the long run

**Moody's Economic Forecasts are R&S over Lifetime!!**

# Structural Forecast Model: Set of Interlinked Equations

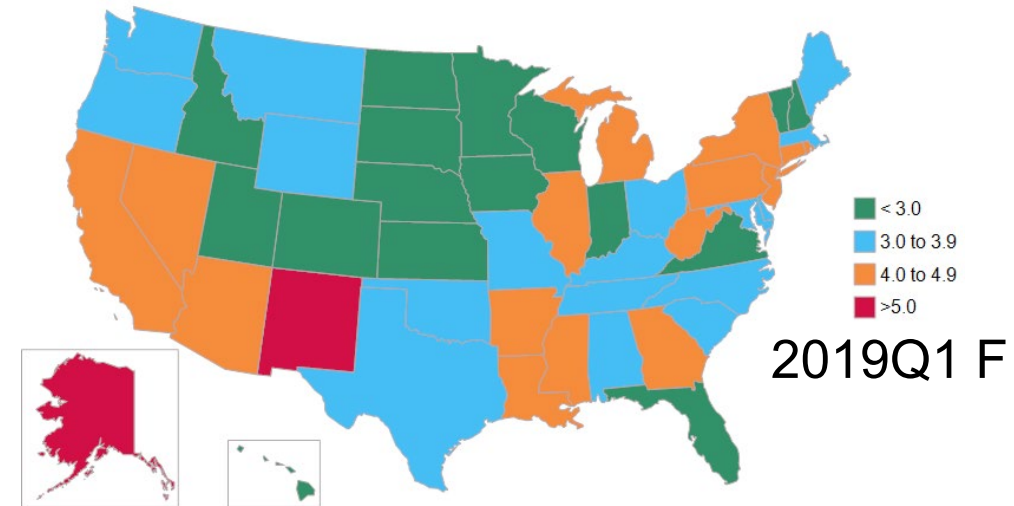
The approach used by Federal Reserve, IMF, Central Banks, and Moody's Analytics



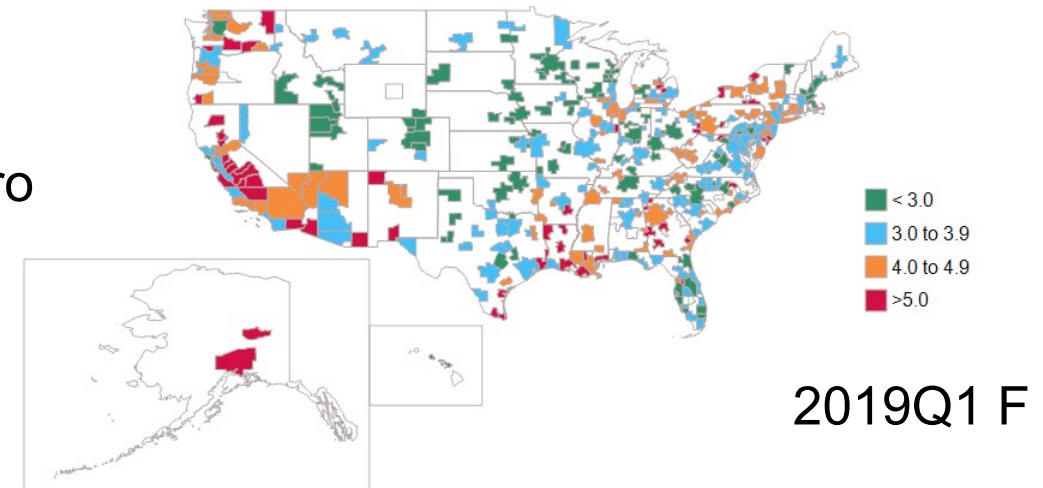
# Integrated National, State, and Metro-Level Forecasts



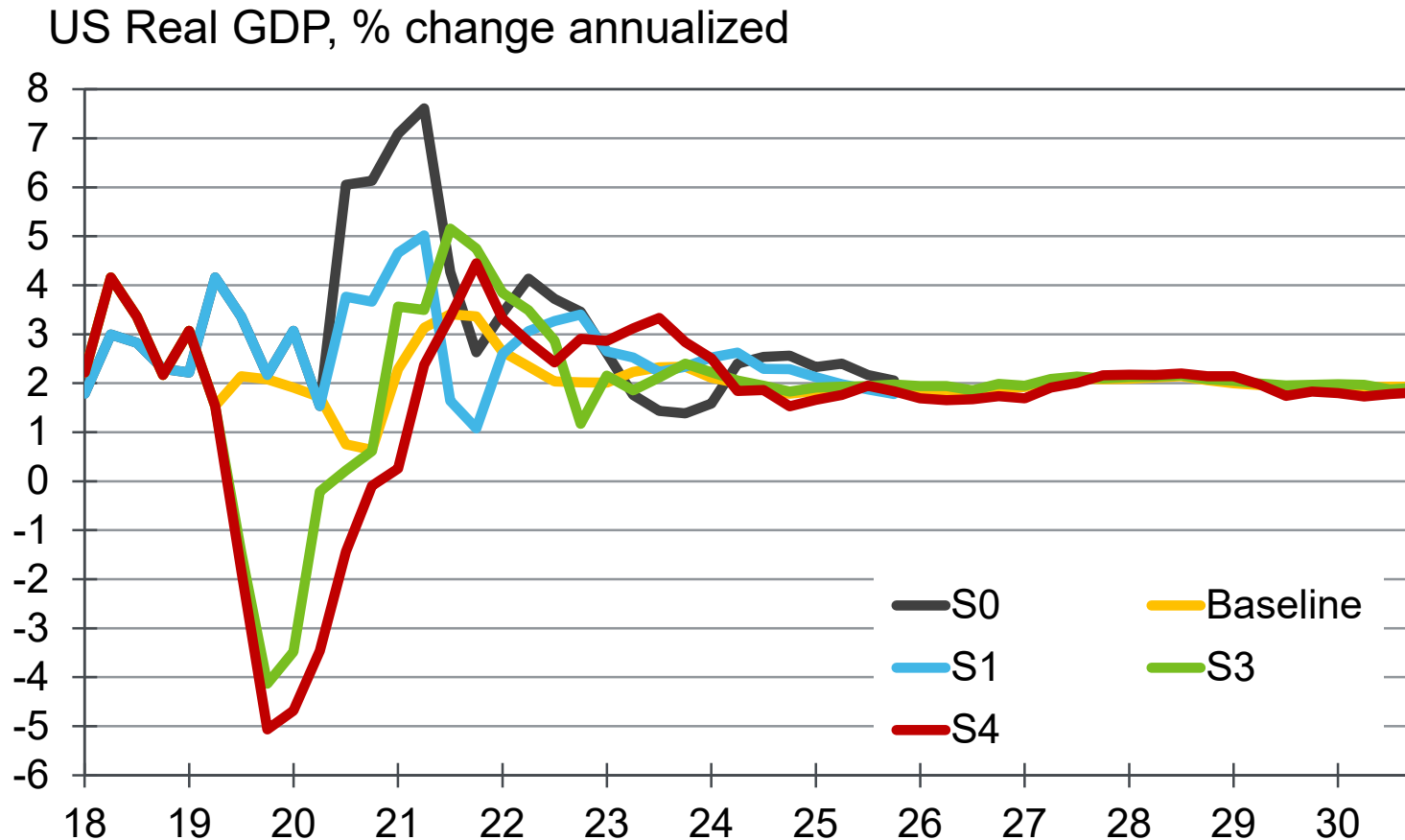
State



Metro



# Moody's Forecasts Cover a Range of Possible Outcomes



Source: Moody's Analytics

## Scenario Inventory

- BL Baseline Forecast (50<sup>th</sup> pctile)
- CB Consensus Baseline
- S0 Strong Upside (4<sup>th</sup> pctile)
- S1 Stronger Near-Term Growth (10<sup>th</sup> pctile)
- S2 Slower Near-Term Growth (75<sup>th</sup> pctile)
- S3 Moderate Recession (90<sup>th</sup> pctile)
- S4 Protracted Slump (96<sup>th</sup> pctile)
- S5 Below-Trend Long-Term Growth
- S6 Stagflation
- S7 Next-Cycle Recession
- S8 Low Oil Price
- CS Constant Severity
- CB Consensus Baseline

- FB Fed Baseline
- FA Fed Adverse
- FS Severely Adverse Scenario
- BC Bank-Specific Scenario

# Which R&S Approach Should You Use?

Each has its pros and cons

R&S Approach	PROS	CONS
Reversion in Inputs or Outputs (R&S period < life of loan)	<ul style="list-style-type: none"><li>– Need economic forecast only through R&amp;S period</li><li>– Need credit loss model to produce defensible forecasts only through R&amp;S period</li></ul>	<ul style="list-style-type: none"><li>– Have to defend choice of R&amp;S period</li><li>– Have to defend choice of lookback period used for calculating unadjusted historical averages</li><li>– In output reversion, portfolio-specific lookback period will be harder to defend</li><li>– Harder to validate and monitor</li><li>– Input reversion might underestimate provisions</li></ul>
Lifetime R&S	<ul style="list-style-type: none"><li>– Easier to interpret, monitor and validate a forecast coming out of a single model</li><li>– Convergence is to a historical trend which is intuitive and model-determined</li></ul>	<ul style="list-style-type: none"><li>– Might underestimate provisions in certain cases</li><li>– Requires economic forecasts which are R&amp;S through life of the loan</li><li>– Requires credit loss models which produce valid results through life of the loan</li></ul>



# 5

## Concluding Remarks and Q&A

ANY  
QUESTIONS  
?

# Globally and locally acknowledged for award-winning tools to measure and manage risk.



CECL Technology  
Category Leader



Balance Sheet  
Management Technology  
Category Leader



Compliance Risk Technology  
Implementation of the Year  
and Credit Risk Technology  
Implementation of the Year



CLO Data Provider of  
the Year



Innovation in Customer Service -  
Financial Services Industries



Best ESG Solution  
Best Solvency II Solution



Best Solvency II Tech  
Solutions Category  
Winner



Technology Vendor of  
the Year



Stress Testing Product of the Year  
Category Winner  
Economic Scenario Generation  
Product of the Year Category Winner  
Solvency II Product of the Year  
Category Winner  
Regulatory Reporting Product of the  
Year Category Winner



Best Buy-Side Market Surveillance  
Tool Category Winner –  
Structured Finance Portal



Ranked 5 out of 100  
Credit Risk Category Winner  
Enterprise Stress Testing  
Solution Category Winner



#1 IFRS 9  
#1 Asset and Liability Management  
#1 Regulatory Capital Calculation  
and Management



Ranked 19th in the Overall  
Top 100 Rankings



Best Credit Risk Solution  
Provider – RiskCalc™



Robby Holditch

Director

+1 (212) 553-2119

Robby.Holditch@moodys.com

Chris Henkel

Senior Director

+1 (212) 553-4679

Chris.Henkel@moodys.com

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