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NYU Stern's Ross and Salomon Roundtable on CECL: Transparency or Opacity? Implementation and Effects on Lending and Pro-Cyclicality

October 28, 2019

Ross and Salomon Roundtable on Current Expected Credit Losses
NYU Stern School of Business

CECL: Transparency or Opacity?

Implementation and Effects on Lending

Hal Schroeder
FASB Member

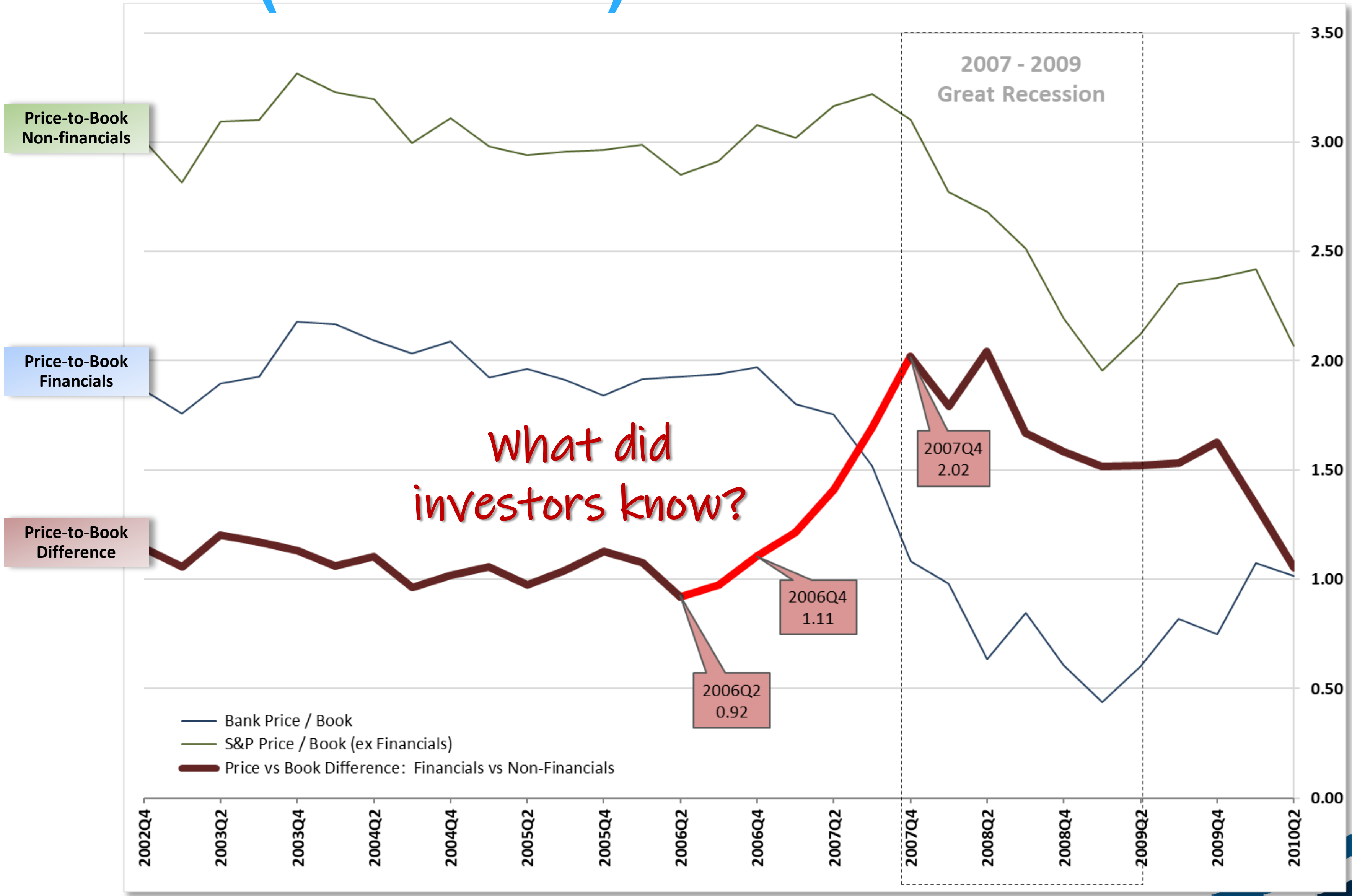
October 28, 2019

The views expressed in this presentation are those of the presenter. Official positions of the FASB are reached only after extensive due process and deliberations.

Recent . . .
Stop & Study?

FASB FINANCIAL ACCOUNTING STANDARDS BOARD

Transparency . . .
Markets (Investors)



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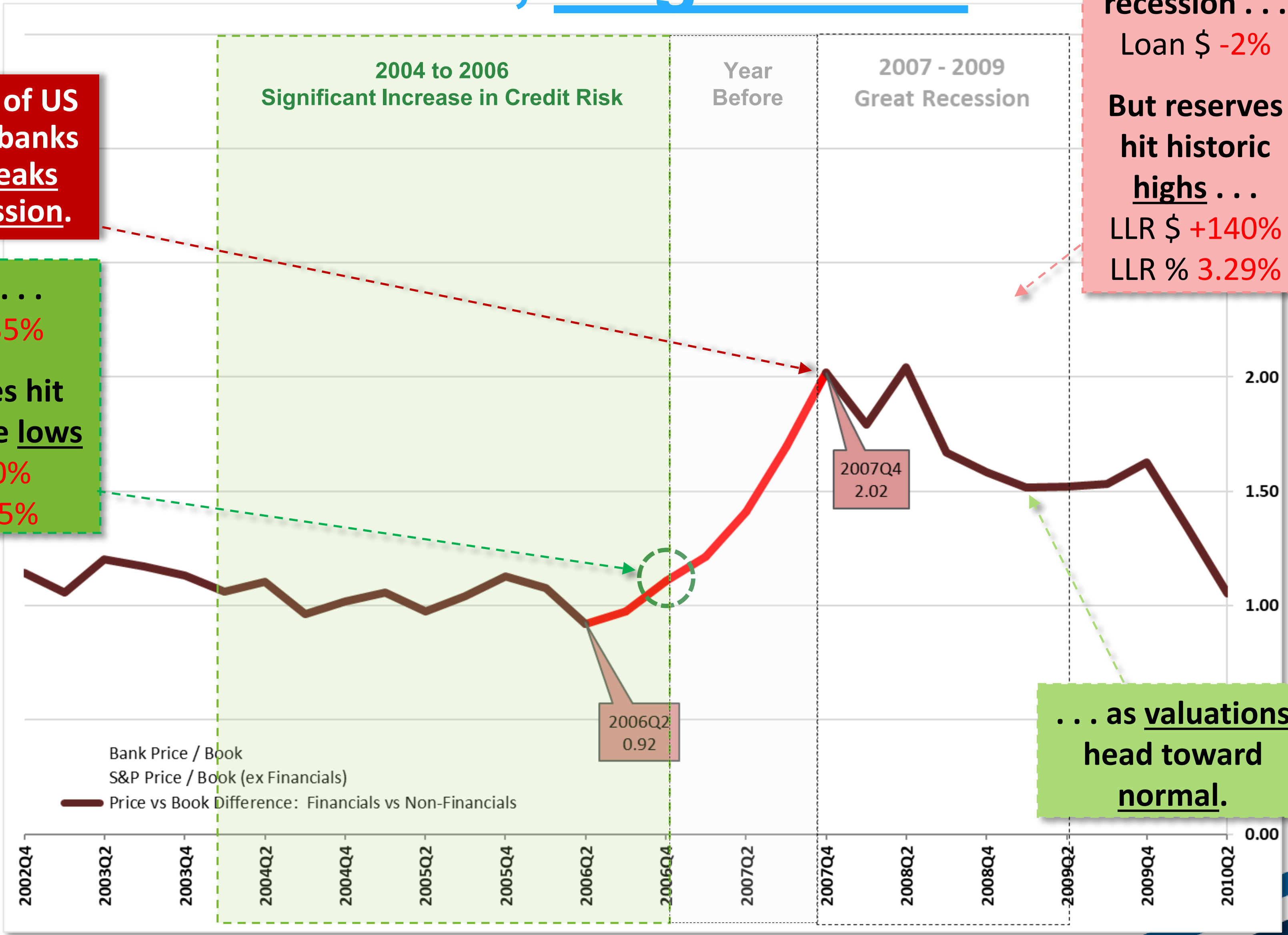
Transparency . . .
Investors Estimate, Regardless

Devaluation of US commercial banks begins & peaks before recession.

Risk rises . . .
Loan $ + 35%

But reserves hit multi-decade lows
LLR $ - 10%
LLR % 1.15%



During recession . . .
Loan $ -2%

But reserves hit historic highs . . .
LLR $ +140%
LLR % 3.29%

. . . as valuations head toward normal.

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Transparency . . . Alternatives Considered

Ignore Losses
- Results in ever-increasing pool of "non-bankable assets" (i.e., no value)

CECL—Day 1
- Focus on amounts lent & expected to collect; difference is allowance with changes in NI

CECL—Split [1]
- "CECL-compliant" reserve, with next 12-months NCOs expensed in NI & remainder in OCI

Defer & Amortize
"Matching"
- Amortize pool of "non-bankable assets' similar to S&L "supervisory goodwill" used in 1980s

Hybrid—Lower Threshold or Period
- "more likely than not" threshold or "reasonable & supportable" time period

CECL—Spread
"Matching"
- "CECL-compliant" reserve, offset by likely "non-bankable asset" amortized over time

Defer Until Loans Charged Off
- Aligns book & tax accounting; eliminates DTA, but delays losses

Incurred—Probable
- Current model investors ignored starting roughly two years before crisis

Fair Value
Option
- Considers all cashflows including interest income; rejected in 2010 by banks and investors

1) Alternative mentioned by a few regional banks in 2018 comment letters to Federal Reserve regarding regulatory capital; modified in 11/5/18 agenda request sent to FASB. Investors also have strongly supported separating the provision expense between newly originated loans and revisions to prior estimates. During CECL deliberations the Board considered such alternatives, however banks strongly opposed any separation citing various cost and complexities concerns. Based on this feedback, the Board didn't require any separation of the provision expense.

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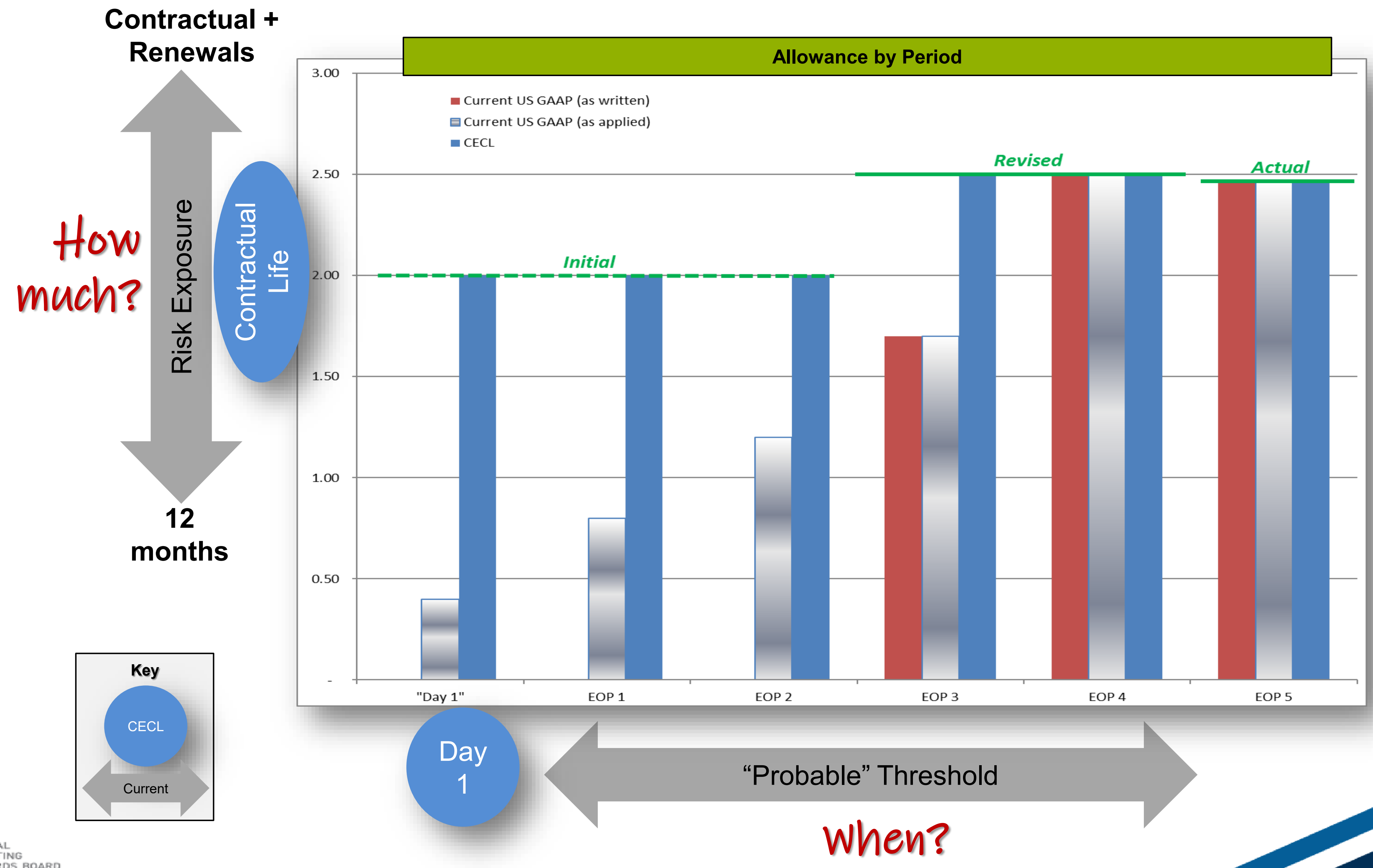
Transparency . . . Comparability



Transparency . . .
Enhanced Disclosures

Trust, but verify!

Current GAAP

As of December 31,	Term Loans 20X5	Term Loans 20X4
Residential Mortgage:		
Risk Rating:		
1 – 2 internal grade	34,614	37,122
3 – 4 internal grade	23,076	24,748
5 internal grade	43,477	44,651
6 internal grade	2,385	2,636
7 internal grade	294	708
Total residential mortgage loans	103,846	109,865
Residential Mortgage loans:		
Current-period gross writeoffs	110	220
Current-period recoveries	11	8
Current-period net writeoffs	99	212

Future GAAP

As of December 31,	Term Loans – Amortized Cost Basis by Origination Year 20X5	20X4	20X3	20X2	20X1	Prior	Revolving Loans	Total
Residential Mortgage:								
Risk Rating:								
1 – 2 internal grade	8,313	7,784	5,925	3,853	5,573	1,291	1,875	34,614
3 – 4 internal grade	5,542	5,190	3,950	2,568	3,716	860	1,250	23,076
5 internal grade	12,673	9,117	6,939	4,512	6,528	1,512	2,196	43,477
6 internal grade	695	500	381	248	358	83	120	2,385
7 internal grade	86	62	47	31	44	10	14	294
Total residential mortgage loans	27,309	22,653	17,242	11,212	16,219	3,756	5,455	103,846
Residential Mortgage loans:								
Current-period gross writeoffs	29	21	16	10	15	14	5	110
Current-period recoveries	-	-	2	5	2	1	1	11
Current-period net writeoffs	29	21	14	5	13	13	4	99

?

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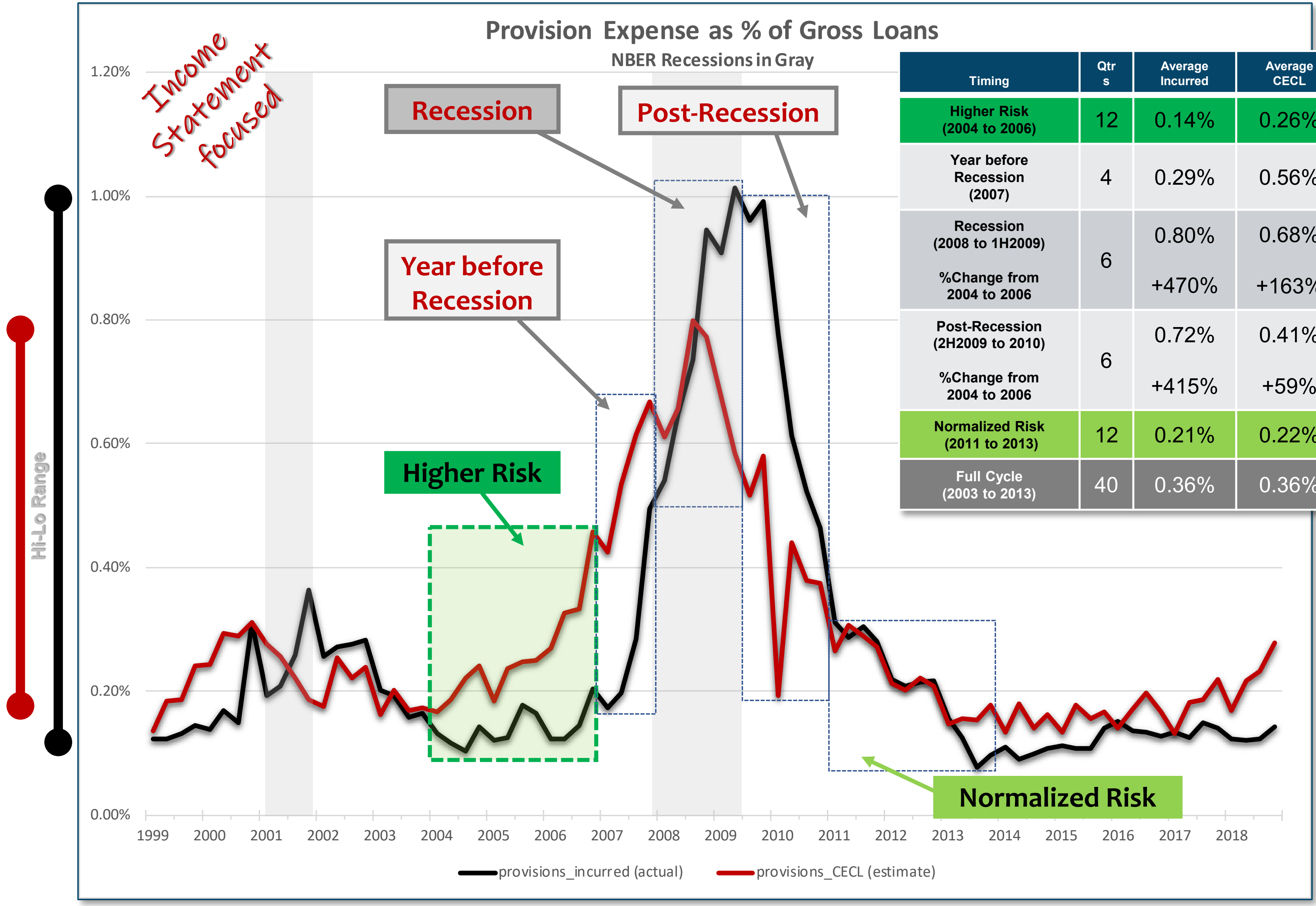
Transparency . . . Earnings Volatility

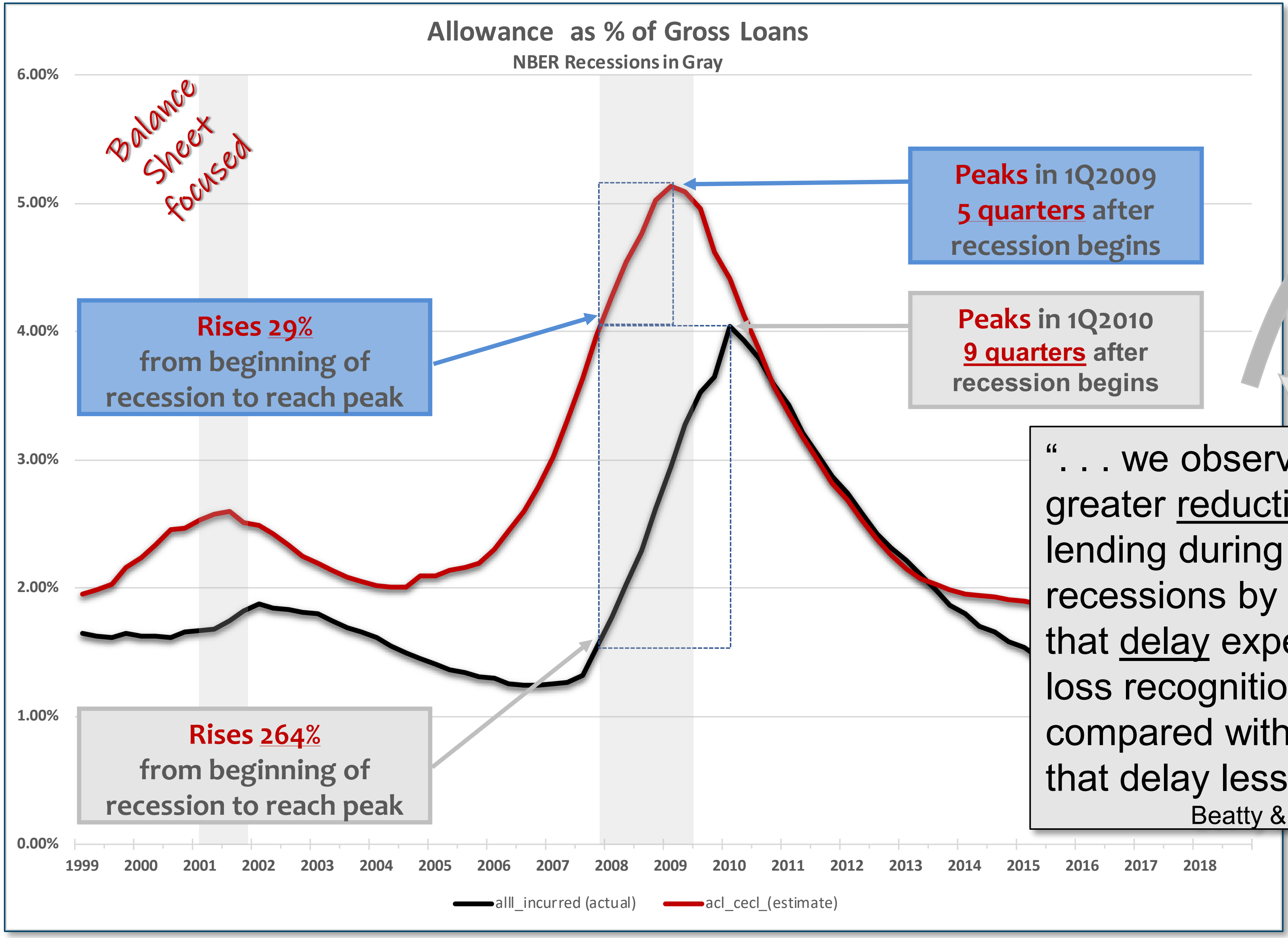


Timing	Qtrs	Average Incurred	Average CECL	Incurred vs CECL
Higher Risk (2004 to 2006)	12	0.14%	0.26%	-0.12%
Year before Recession (2007)	4	0.29%	0.56%	-0.27%
Recession (2008 to 1H2009) %Change from 2004 to 2006	6	0.80% +470%	0.68% +163%	+0.12%
Post-Recession (2H2009 to 2010) %Change from 2004 to 2006	6	0.72% +415%	0.41% +59%	+0.31%
Normalized Risk (2011 to 2013)	12	0.21%	0.22%	-0.01%
Full Cycle (2003 to 2013)	40	0.36%	0.36%	0.00%

FASB FINANCIAL ACCOUNTING STANDARDS BOARD

Source: Analysis based on quarterly Federal Reserve Bank Y9C data.

Lending . . . Pro-cyclicality



"... we observe a greater reduction in lending during recessions by banks that delay expected loss recognition more compared with banks that delay less."

Beatty & Liao (2011)

Source: Analysis based on quarterly Federal Reserve Bank Y9C data; quote from Beatty, Anne, and Scott Liao. 2011. "Do Delays in Expected Loss Recognition Affect Banks' Willingness to Lend?" Journal of Accounting and Economics 52: 1-20.

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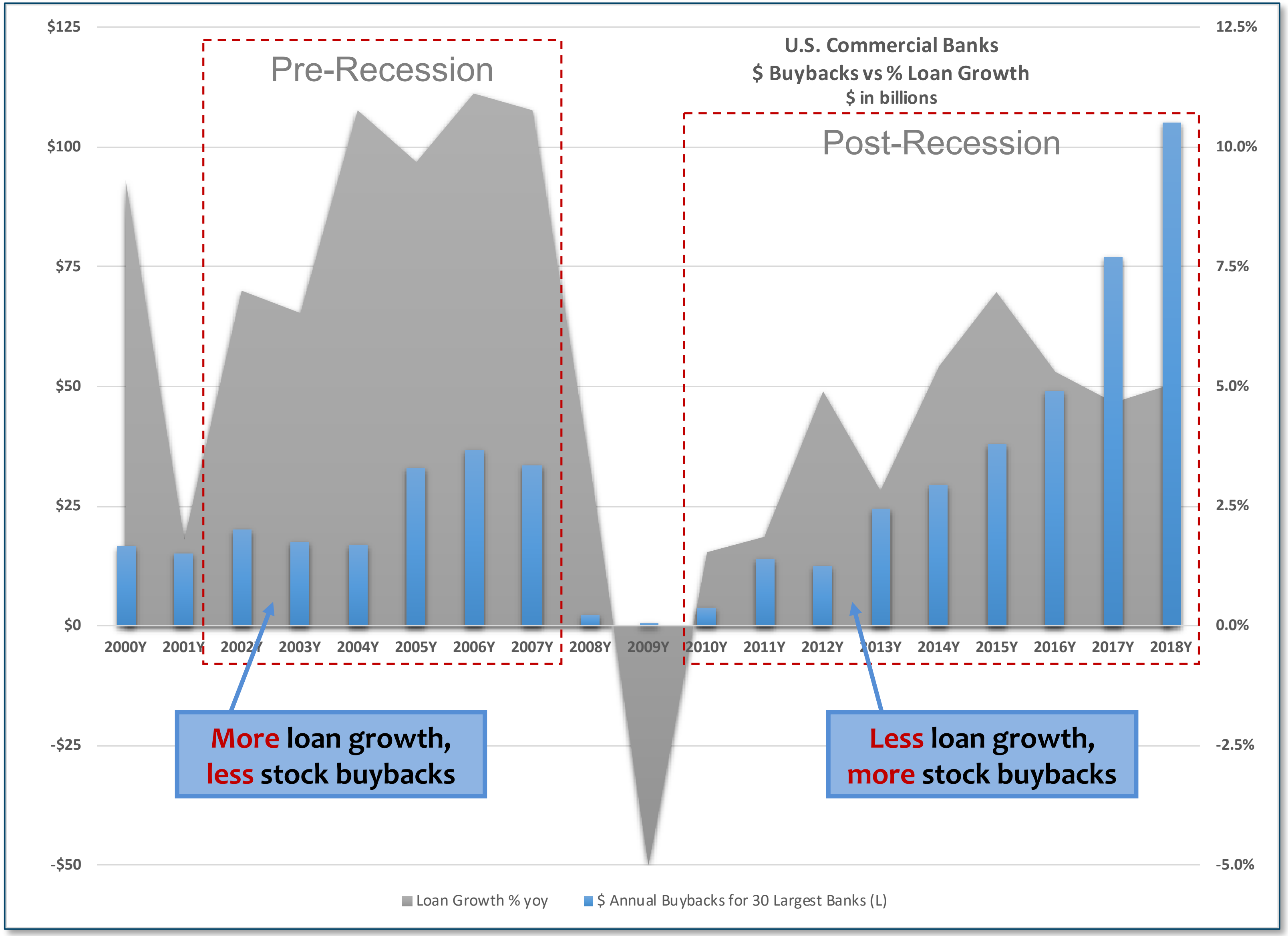
Lending . . . Less Loans vs Buybacks



Source: Analysis based on loan data for all FDIC-insured commercial banks and buyback data provided by KBW.

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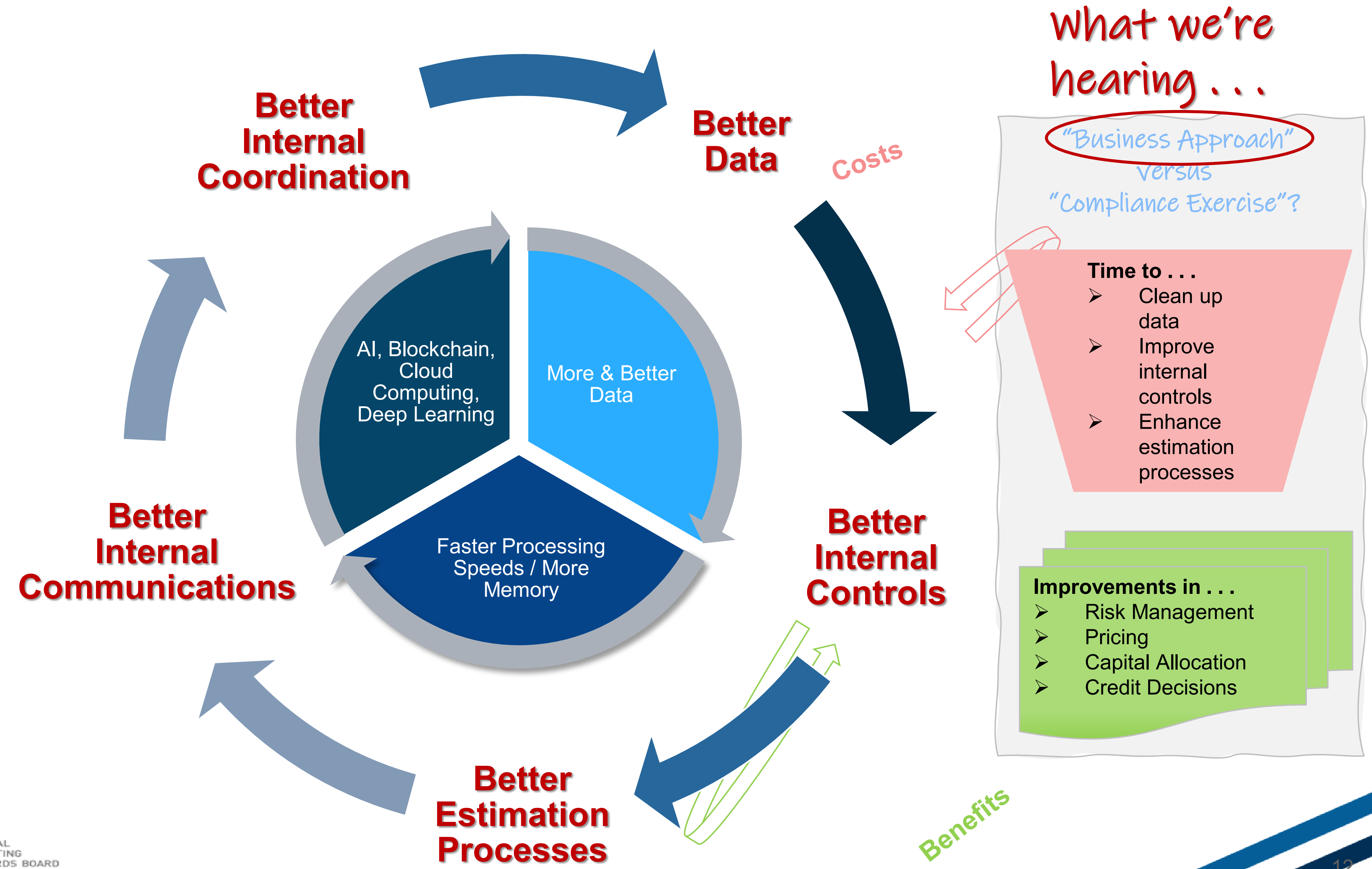
Implementation . . . Benefits Justify Costs



FASB FINANCIAL ACCOUNTING STANDARDS BOARD

Notable Events . . .

Regulation . . .

October 2018, trade associations' letter sent to Financial Stability Oversight Council chair seeking "delay in implementation until such a study can be completed."

December 2018, FSOC discussed CECL, minutes state "the OCC believes CECL is an improvement."

September 2018, CECL focus of roundtable hosted by three congressmen to facilitate discussion of "regional bank proposal."

Legislation . . .

August 2019, *CECL and the Credit Cycle* study, published in Federal Reserve's *Finance and Economics Discussion Series,* "shows that a disproportionate share of the associated provision expenses occurs prior to the recession under CECL, rather than during it."

"Stop-and-Study" movement seeks a "legislative fix" with bills proposed in both the House and the Senate.

Proposed House bill to require FASB "to consider, in adopting accounting principles, the impact such principles will have on the broader U.S. economy, market stability, and availability of credit.

Study-only directives attached to both the House and the Senate appropriations bills. Requests directed toward others including the SEC and the U.S. Treasury, but not to the FASB. Senate version seeks study to assess need for a change to regulatory capital; not to CECL.

Passage of appropriations bill? Reconciliation process? Continuing resolution?

Possible release of studies responsive to directives attached to any final appropriations bills?

2H18	1Q19	2Q19	3Q19	4Q19	2020	2023

November 2018, modified version of "regional bank proposal" formally submitted to FASB.

April 2019, FASB declined further consideration of "regional bank proposal."

FASB staff meet with financial and nonfinancial entities, other stakeholders. Views heard very consistent with comments at January 2019 public roundtable—splitting provision, with a portion flowing through net income and the remainder in OCI, was not operational. No surprise; banks—large and small—provided same feedback in 2013, when Board explored same idea.

October 2019, FASB vote whether to delay CECL until 2023 for smaller public and all private entities; roughly 90% by number, but only 10% of industry assets.

August 2019, FASB considers change in philosophy to extend and simplify how effective dates are staggered between larger public companies and all other entities.

1Q20, CECL required for larger public banks . . . the 10% / 90%.

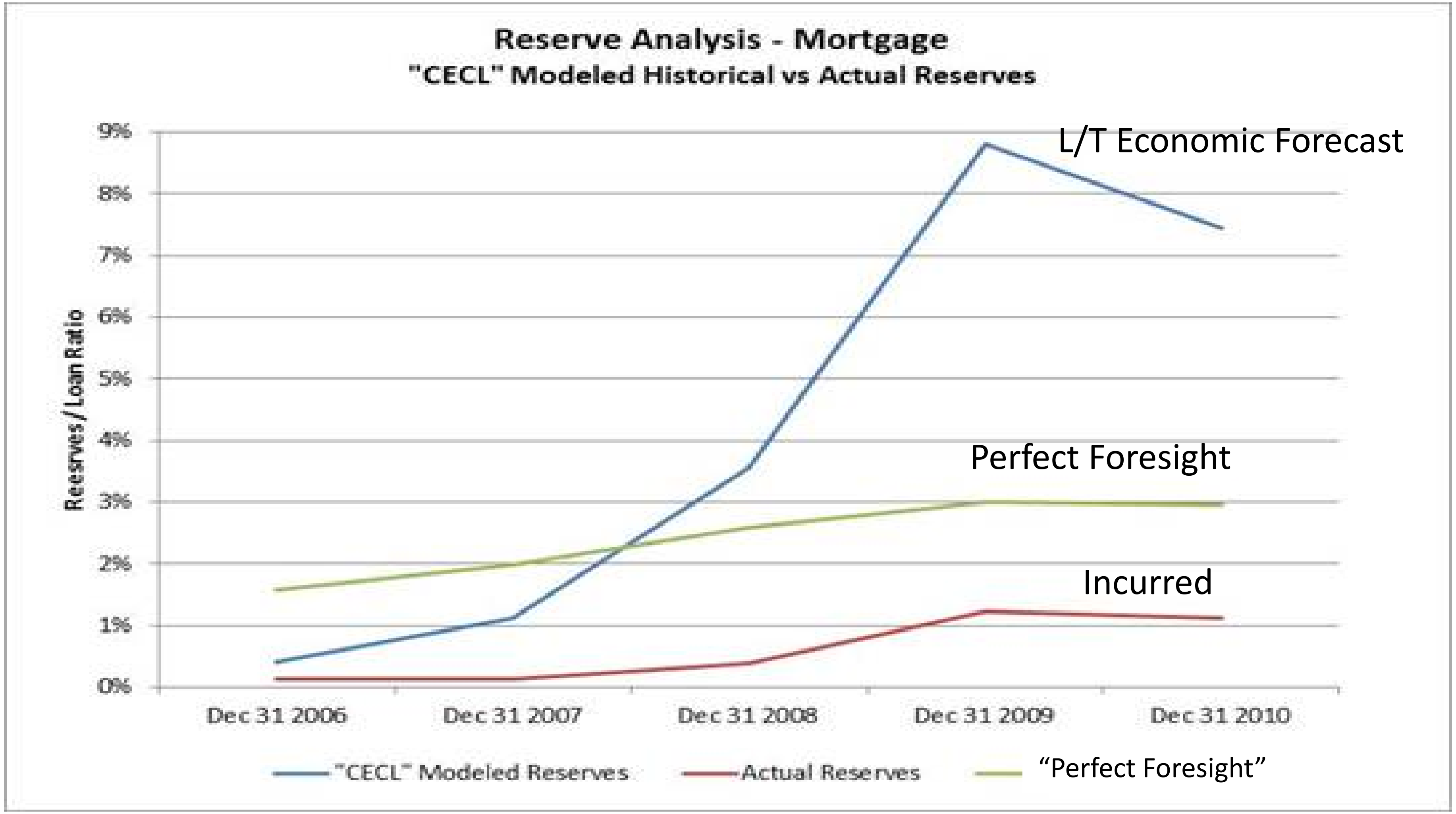
1Q23, CECL required for remaining 90% / 10%.

Michael Gullette
Senior Vice President

October 28, 2019

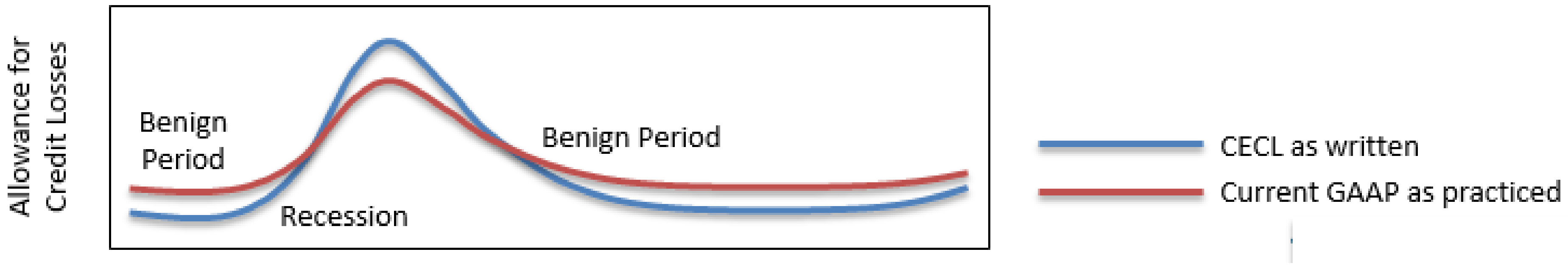
American Bankers Association®

CECL thru Financial Crisis: Resi Mtg.



American Bankers Association®

CECL thru Econ Cycle: 70% C&I



CECL Preliminary Estimates

Banks $1-10B	Current		"ABA Snapshot" Benign	"ABA Snapshot" Stress
1-4 family 1st	70	As Of May 2019	103-132	380-470
CRE no-own	88		112-119	417-559
C&I	157		95-105	314-347
CC	448		560-610	800-823
Auto	128		155-159	391-438

Past Stress Times (Total) 1992: 275,   2002: 192,   2010: 370

CECL Roundtable

Joshua Ronen

October 28, 2019

CECL

Loss on Origination

CECL requires recognition of full lifetime expected credit losses upon initial recognition of an asset

Discounted Cash Flow Method Uses the Contractual Rate, not the Hurdle Rate

The entity shall discount expected cash flows at the financial asset's effective interest rate.

When a discounted cash flow method is applied, the allowance for credit losses shall reflect the difference between the amortized cost basis and the present value of the expected cash flows.

The effective interest rate is defined in the standard as the contractual rate: "the rate of return implicit in the financial asset, that is, the contractual interest rate adjusted for any net deferred fees or costs, premium, or discount existing at the origination or acquisition of the financial asset"

Rational Lenders will Avoid Losses

The standard ignores that lenders will rationally increase interest rates to compensate for whatever default risk and consequent non-payment of principal and/or interest they anticipate over the lifetime of the loan.

Hence, rational lenders expect not to incur economic losses upon origination.

Hypothetical Loan Example

Loan of $1000 with 3-year maturity, a face value of $1000 and annual interest payments:

- Hurdle rate assuming no expected non-collections: 10%
- Expect non-collection of $100 of principal on maturity
- Contractual rate: 13.0213% to make lender whole
- Annual interest expected to be fully received over the 3 years

PV at 10% discount rate = $1000, the amount of loan extended.

Use of Contractual Rate Creates Fake Losses

PV at 13.0213% as required by the Standard = $930 .73

Reported credit loss = $69.27, about 7% of the loan.

Economic loss = $0

Fake loss = $69.27.

* To avoid a loss, lender would need to charge an interest rate of 4,694% !!!

What if the Lender Does not Make Itself Whole?

Irrational lenders or those who for business reasons purposefully fail to cover expected losses will properly suffer accounting losses that equal the economic losses by using the hurdle rate.

- PV of expected cash collections at 10% = $924.87
- Reported credit loss = Economic loss = $1000 - $924.87 = $75.13

How to estimate the hurdle rate? Use the rate charged on loans with no expected losses.

Implication for regulation: use the hurdle rate.

Conclusion

- CECL penalizes rational lenders who cover themselves against credit losses by requiring the discount rate to be the contractual rate.
- CECL creates accounting losses on origination when there is no economic loss. This is not transparent accounting.
- Loan growth will increase recorded credit loss over time.
- This will adversely affect capital, hence reducing lending, especially to poorer, high credit risk borrowers.
- Cure: Change the estimation method such that only economic losses are reflected as accounting losses upon origination. This can be done by using the hurdle rate.
- When lenders do not adjust for expected losses, requiring them to use the hurdle rate will give rise to accounting losses that equal the economic loss. This will induce them to be prudent.
- If GAAP is not amended, regulators should require the change into a hurdle rate.

Moody's
INVESTORS SERVICE

Access is everything™

NYU CECL Roundtable

Maria Mazilu, VP, Senior Accounting Analyst

October, 2019

CECL Model

Current Expected Credit Losses (CECL)

Lifetime Expected Credit Losses recorded at origination

EARLIER RESERVE RECOGNITION

- Good for bond holders
- Mismatch to income recognition

- Consider
  - reasonable and supportable forecasts
- No specific required methodology
  - DCF, PD/LGD, roll rates
  - Significant optionality (e.g. credit card paydown assumptions

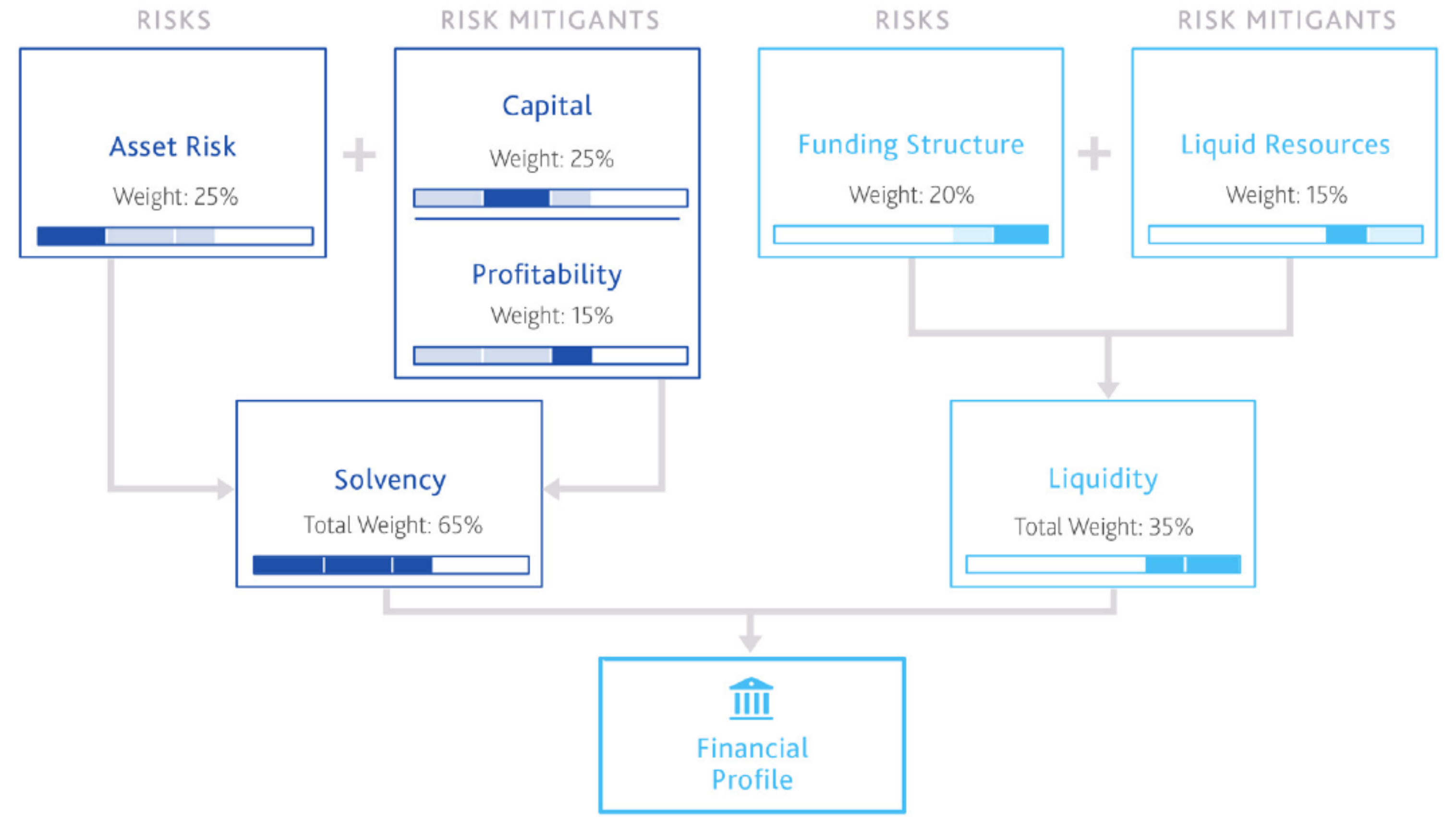
HIGHER VOLATILITY

REDUCED

COMPARABILITY

Moody's Banking Methodology – Financial Profile

Schematic of Financial Profile



Source: Moody's Investors Service

CECL – Impact on Rating Methodology

- ***No change to our rating methodology – historically we have not seen accounting changes impacting the rating methodology***
  - ***Unless the accounting change results in a change in business practices***
  - ***Which we will monitor closely subsequent to implementation***
- ***Capital scores will generally go down on day 1 for US banks***
- ***However, we do not expect to change the scorecard as a result of CECL implementation***
  - ***These are global metrics that should not change when accounting in one jurisdiction changes***
  - ***We have had a similar change under IFRS 9 recently***
- ***Moody's scorecard capital metrics***
  - ***Are based on USGAAP amounts without regulatory phase-in adjustments***
  - ***Are just the starting point of our analysis – analytical judgement is applied to arrive to final assigned scores***

CECL – Impact on Ratings

- ***The underlying economics do not change so we do not expect ratings to change solely as a result of the CECL implementation***
- ***Ratings are relative and all issuers will be impacted***
  - ***Outliers with a larger impact than peers will have to be analyzed***
    - ***Determine if the forward looking capital position has changed***
      - ***We will inquire and consider capital actions the company plans to take***
    - ***Determine if the new accounting provides information that we had already considered analytically in the assigned score***
      - ***Fast growth or higher risk portfolios - qualitative factors already considered in assigned ratings***
      - ***Forward looking information already considered as part of our assessment***
    - ***OR – this brings out new information that we were not aware about the issuer AND it has a potentially significant impact on the credit assessment***

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US Current Expected Credit Losses (CECL) Industry Benchmark Study

Project review for NYU

Nathaniel Royal, Global Credit Data

CECL Benchmarking: Methodology & Approach

Template: Hypothetical Portfolio

The hypothetical portfolio is composed of a set of loans chosen to provide coverage of various types of asset classes/borrowers, exposures and facilities, fit to the US market.

PERMUTATIONS BY ASSET CLASS / BORROWER	
Residential Mortgage	64
Heloc	16
Auto	32
Personal Unsecured	18
Credit Cards	64
Large Corporates	12
Mid Market	12
Business Banking	12
CRE – Income Producing, Construction	4

ASSET CLASS / BORROWER TYPE
Residential Mortgage
Heloc
Auto
Personal Unsecured
Credit Cards
Large Corporates
Mid Market
Business Banking
CRE – IP, Construction

OBLIGOR
Credit Quality
Industry
Geography

EXPOSURE
EAD Range
Avg. Usage
O/S
Limit
Revolver / Term
Reference Rate
Maturity

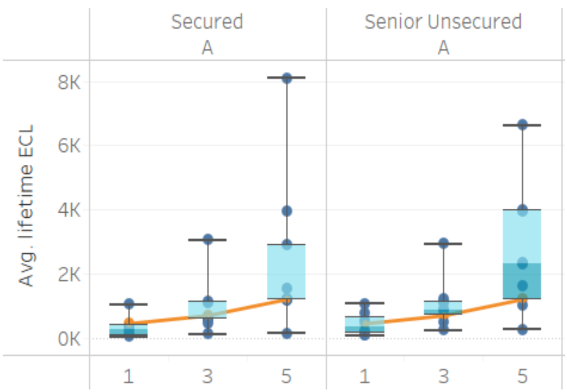
FACILITY
LGD Range
Facility Type
Secured / Unsecured

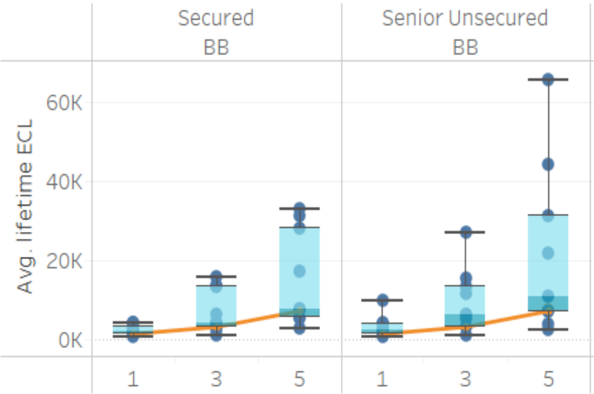
Illustrative
(Large Corporates)

Obs#	Geography	Credit Quality	Loan Term	Secured Type	Origination Exposure	Revolver Utilization	Loan Type	Amortization Method	Interest Rate Type	Reference Curve	Interest Rate	Historical Loss Rate	Annualized Prepayment Rate	Loss Estimate	Lifetime ECL	R&S Period ECL	Mean Reversion Period
1	U.S.	A	1	Secured	1,000,000	0.5	Revolver	Revolving	Floating	LIBOR	2.75%+50bps	5 bps					
2	U.S.	BB	1	Secured	1,000,000	0.5	Revolver	Revolving	Floating	LIBOR	2.75%+100bps	30 bps					
3	U.S.	A	3	Secured	1,000,000		Term	Linear	Fixed		4.00%	5 bps					
4	U.S.	BB	3	Secured	1,000,000		Term	Linear	Fixed		5.00%	30 bps					
5	U.S.	A	5	Secured	1,000,000		Term	Linear	Fixed		4.50%	5 bps					
6	U.S.	BB	5	Secured	1,000,000		Term	Linear	Fixed		5.50%	30 bps					
7	U.S.	A	1	Senior Unsecured	1,000,000	0.5	Revolver	Revolving	Floating	LIBOR	2.75%+50bps	5 bps					
8	U.S.	BB	1	Senior Unsecured	1,000,000	0.5	Revolver	Revolving	Floating	LIBOR	2.75%+100bps	30 bps					
9	U.S.	A	3	Senior Unsecured	1,000,000		Term	Linear	Fixed		4.00%	5 bps					
10	U.S.	BB	3	Senior Unsecured	1,000,000		Term	Linear	Fixed		5.00%	30 bps					
11	U.S.	A	5	Senior Unsecured	1,000,000		Term	Linear	Fixed		4.50%	5 bps					
12	U.S.	BB	5	Senior Unsecured	1,000,000		Term	Linear	Fixed		5.50%	30 bps					

Project Returns Example: Focused Insights

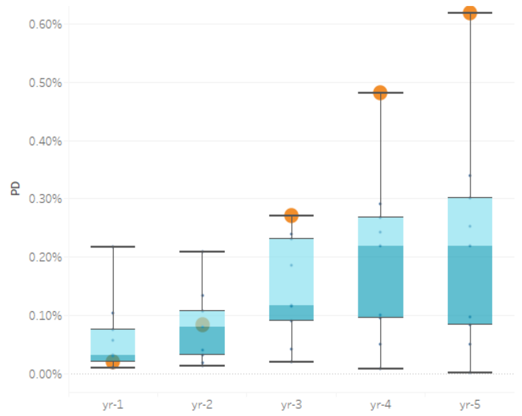
The considerable variability in the initial benchmarking results suggests that some banks can improve significantly the level and variability of their ALLL and PLLL estimates through targeted changes

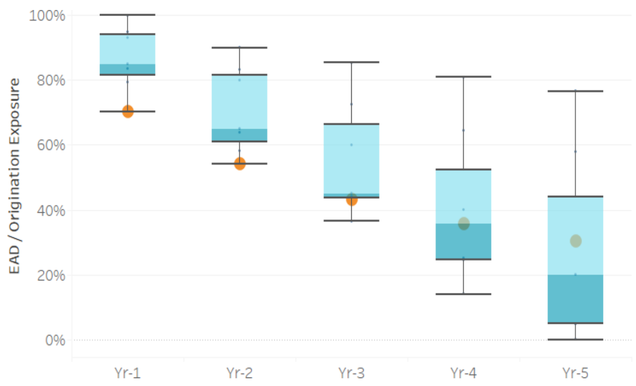




Variability of CECL at Borrower Level

- In the study we also focus on the variability for the various hypothetical borrowers for different portfolios, characterized by the various risk drivers
- For the sample in hand, the variability of the ECL changes with the risk drivers. The riskier the exposure, the lesser the consensus on the ECL
- The value of a particular bank is displayed as a orange dot/line, helping the bank understand their models better





Variability in Model Components over the Life of the Product

- Variability in PD (EAD, LGD) Models is an important driver in explaining variability in CECL among banks
- Banks vary in the 1-year PiT (starting point) as well as in the “steepness” of the curve
- The value of a particular bank is displayed as a orange dot, helping the bank understand their models over the time

Global Credit Data
accenture

The News

- There is variability amongst banks on their losses; sometimes a great deal
    - So what
    - Oh no!
- The overall effect CECL will have on banks bottom lines
    - No sure
    - Modelers and their models
        - But will the models be effective?
            - Model use will depend on bank management.
            - Are the parameters and scenarios used close enough to enough?
- Outlook: A post CECL returns future: examining each bank's the methodology
    - Who did it "better"
        - Will cross-evaluation be effective in achieving better models?

CECL Roundtable

Bobby Bean
Associate Director
FDIC
FEDERAL DEPOSIT INSURANCE CORPORATION

October 28, 2019

The Effect of the Current Expected Credit Loss Standard (CECL) on the Timing and Comparability of Reserves

Sarah Chae, Robert Sarama, Cindy Vojtech, and James Wang

New York University, Stern School of Business

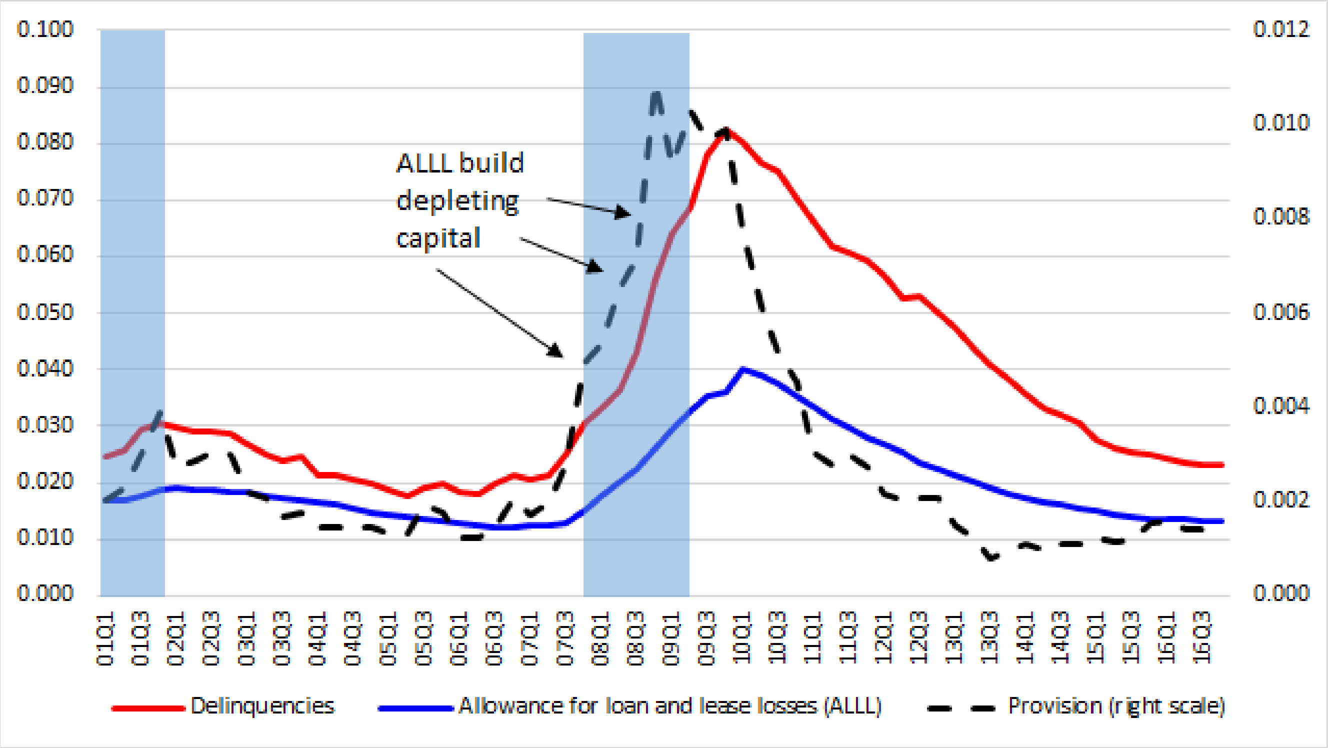
October 28, 2019

Disclaimer

The views expressed in this presentation represent those of the authors, and are not necessarily those of the Federal Reserve Board or the Federal Reserve System.

Loan Loss Accounting - Capital Effects

Figure: Delinquencies, ALLL, and Provisions as a Percent of Total Loans



Source: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

Empirical Design - Overview

Compare CECL to incurred in a simple stylized model

- When and how fast are reserves built under CECL vs incurred?
  - Examine the timing of peaks and the volatility of provisioning

- What is the impact of different forecast assumptions on CECL?
  - Ideal: Perfect forecast of the HPI path
  - Optimist: Constant 0.5% monthly HPI growth
  - AR: HPI forecast using an autoregressive trend
  - Hybrid: 6 months of perfect forecast and then revert to flat

- What is the impact of more frequently updating macro forecasts?
  - 24, 12, 6, 3 month scenario update cycles

Empirical Design - Implementing CECL

- Data
  - 30-yr fixed, first-lien mortgages
  - Originated in California 2002 - 2015
  - 1% sample from McDash servicer data

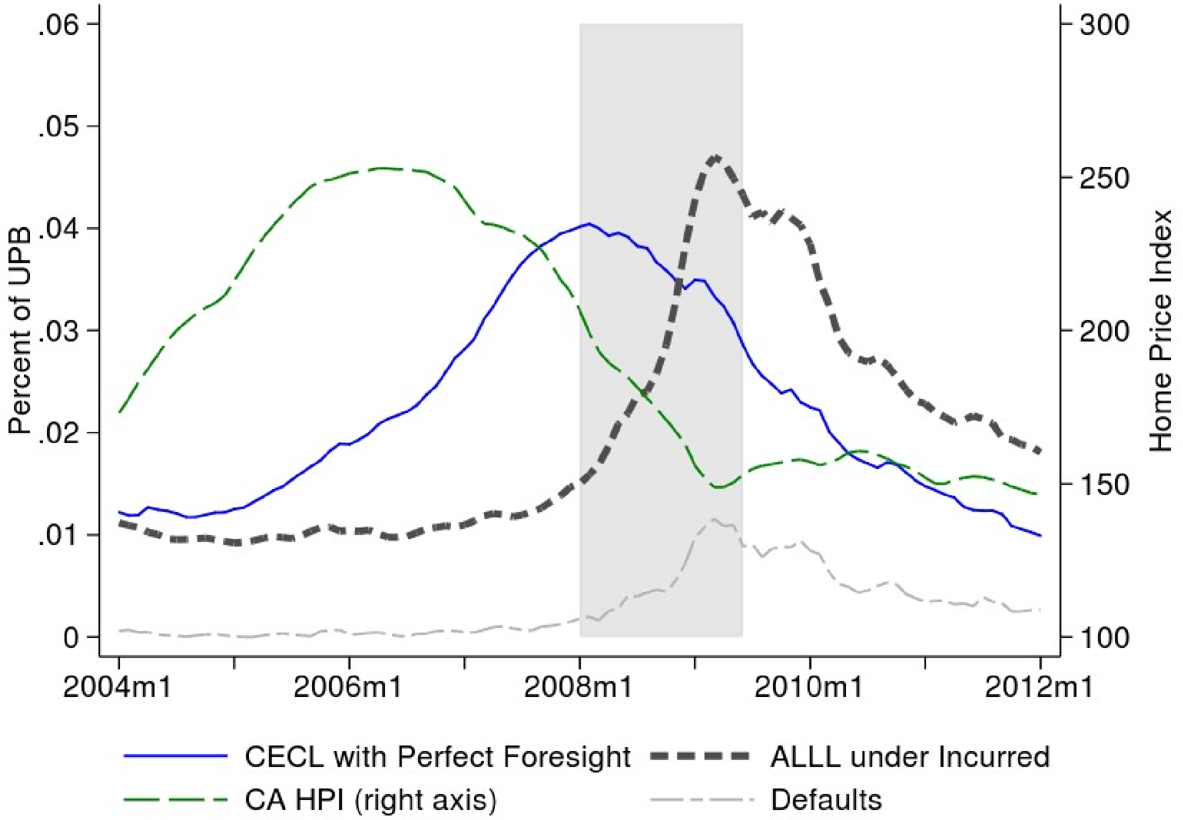
- CECL guidance: a “reasonable and supportable” forecast period
  - Point in Time: Condition on forecasted HPI for 2 years
  - Through the Cycle: Afterwards, revert to long run HPI

- Flexible econometric model for default and prepayment
  - Specification includes seasoning, LTV, and FICO
  - Update LTV following HPI forecasts
  - CECL = EL for the current loans + losses for defaulted loans assuming constant LGD

- Changing the HPI forecasts is the driver of the various scenarios

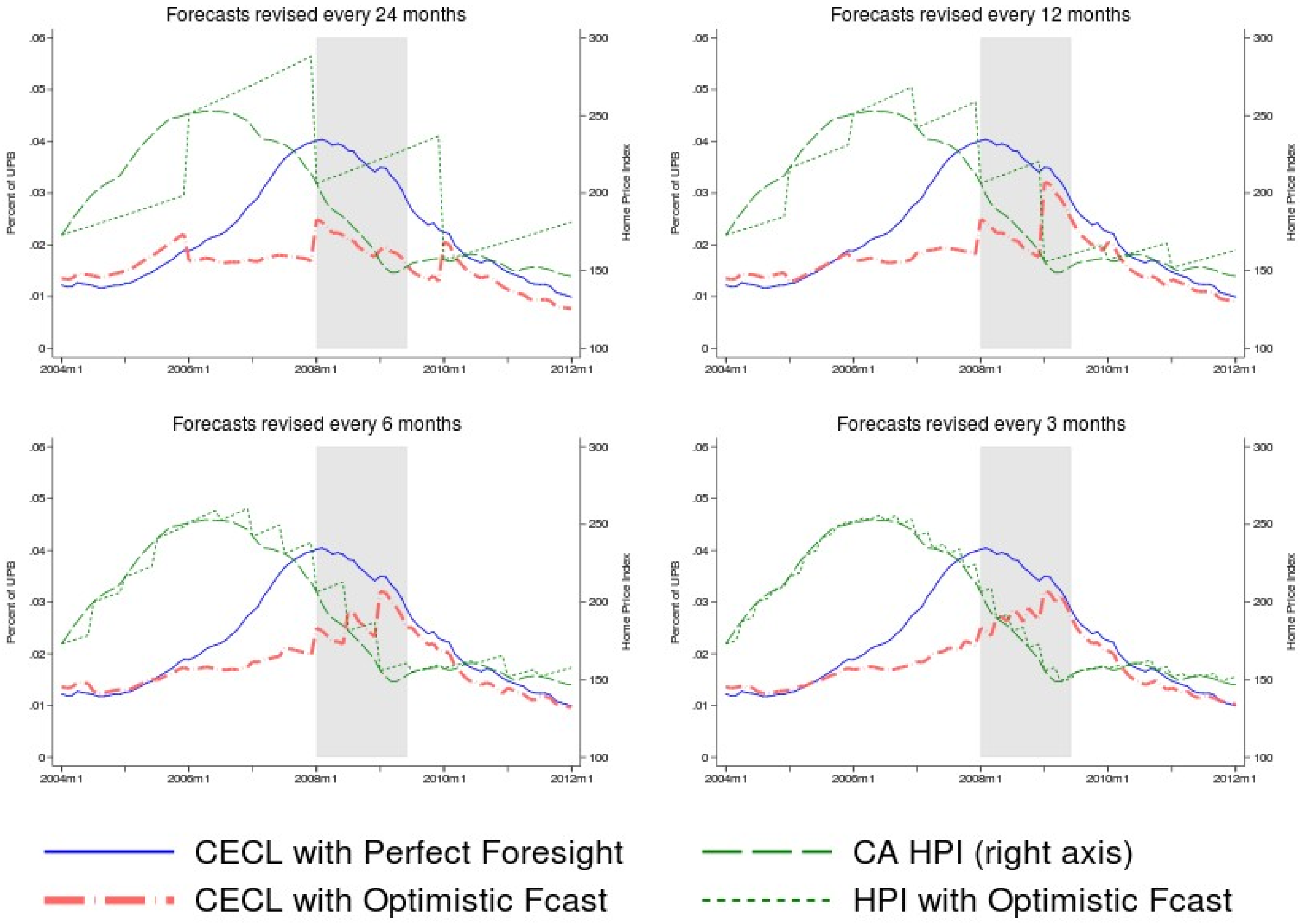
Interpolated Reserves and Idealized CECL - Perfect Foresight

Reserves under CECL are less procyclical and less volatile.

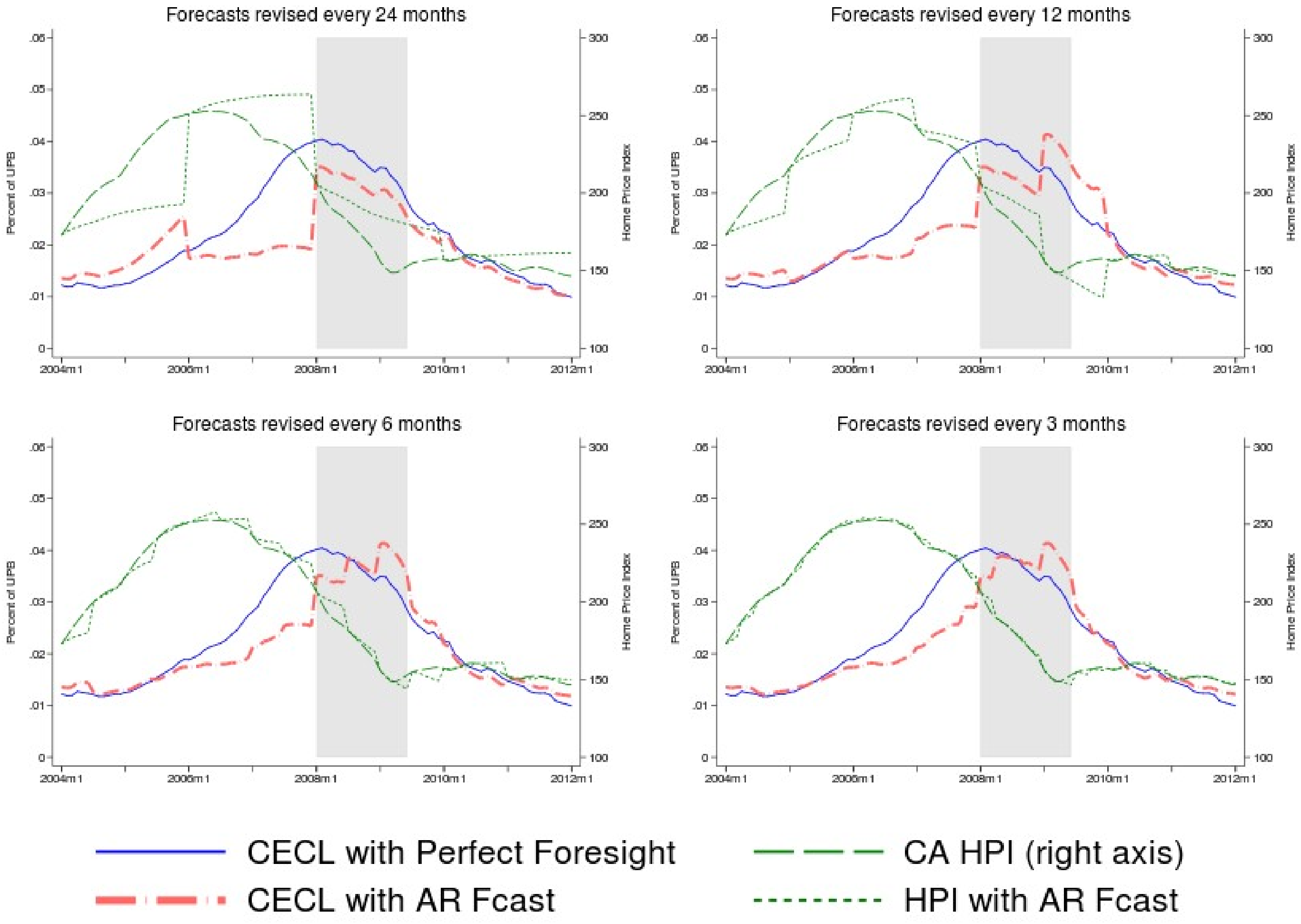


What if forecasts are not perfect?

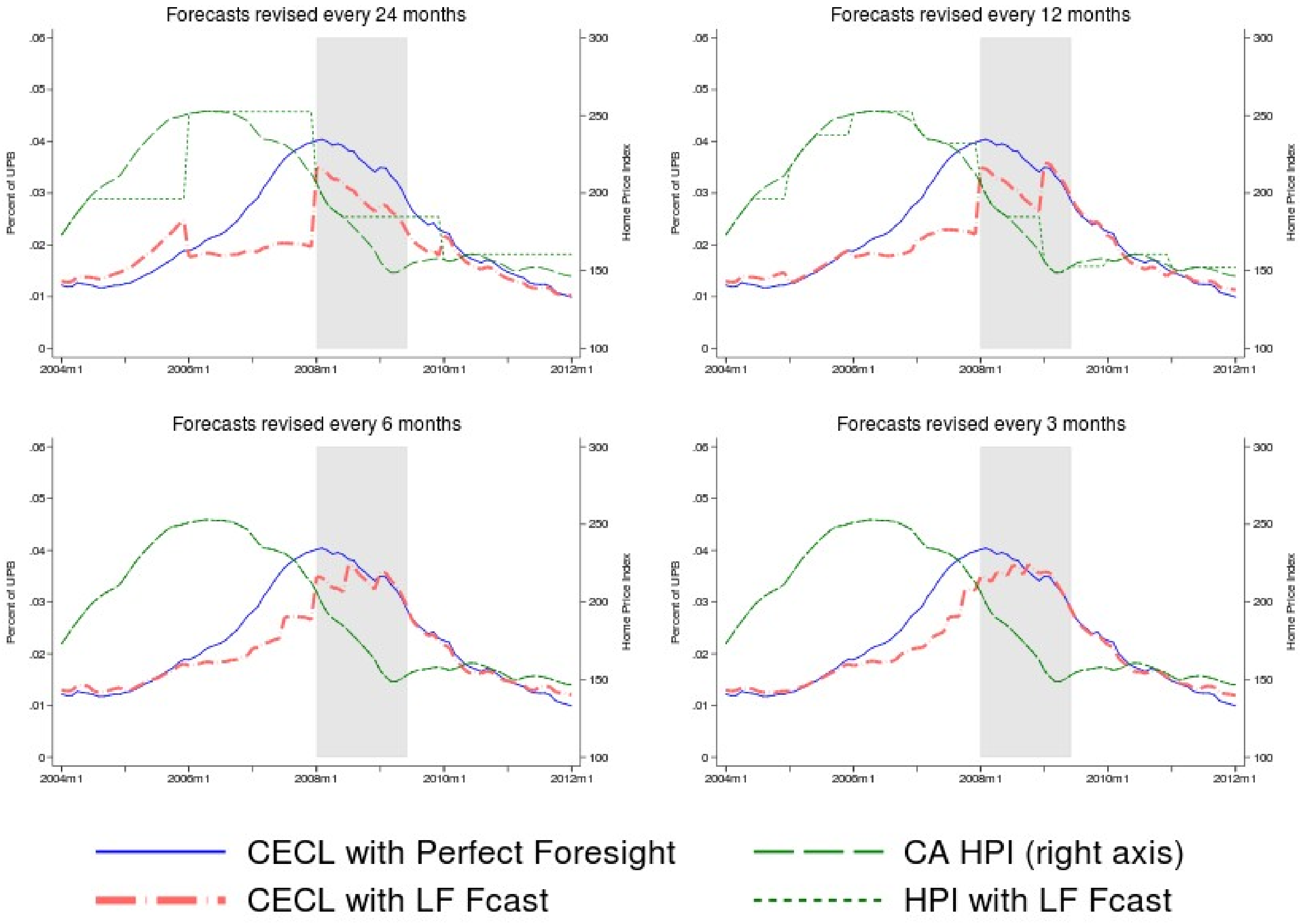
Optimistic Forecasts at Varying Cycles



AR Forecasts at Varying Cycles

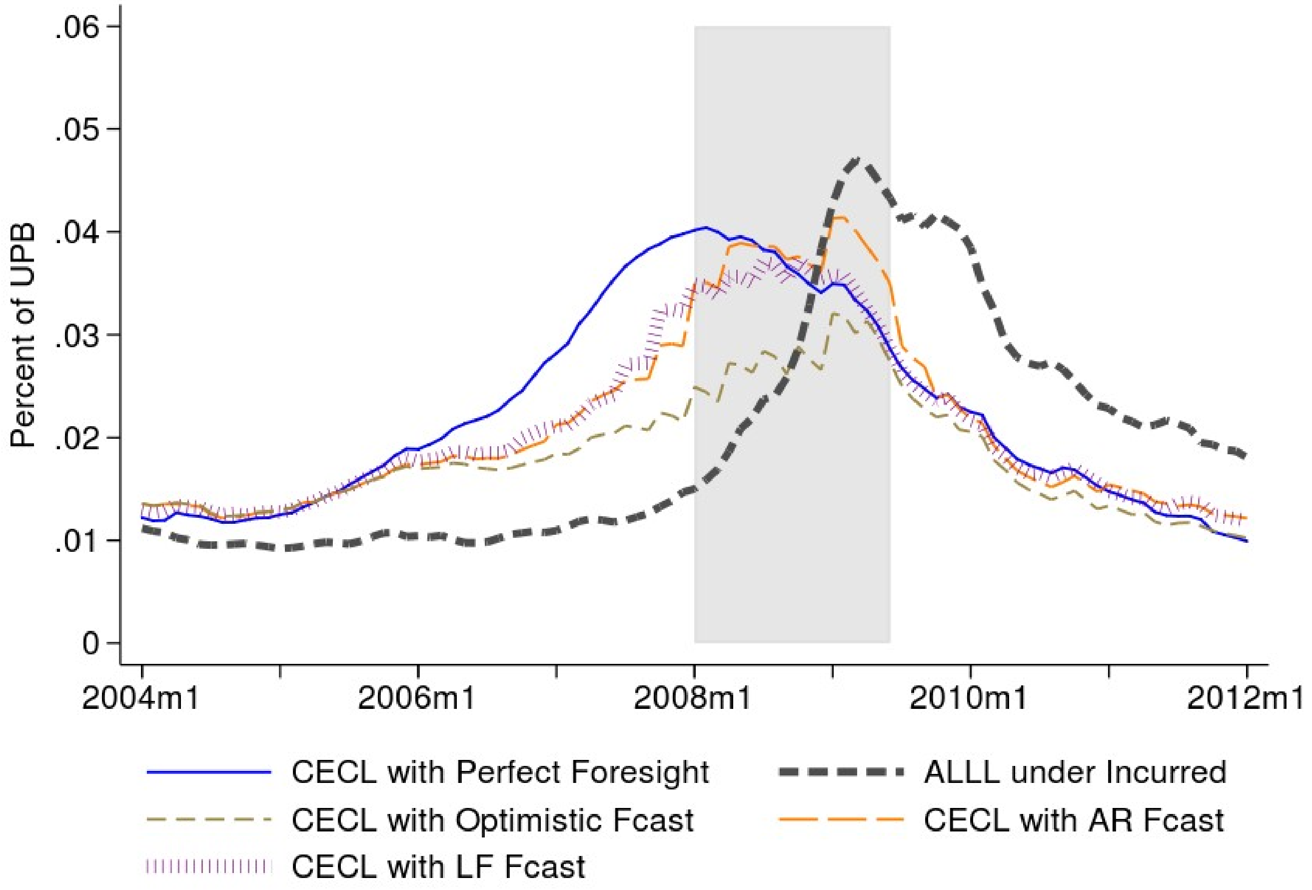


CECL with Limited Perfect Foresight - 6 months

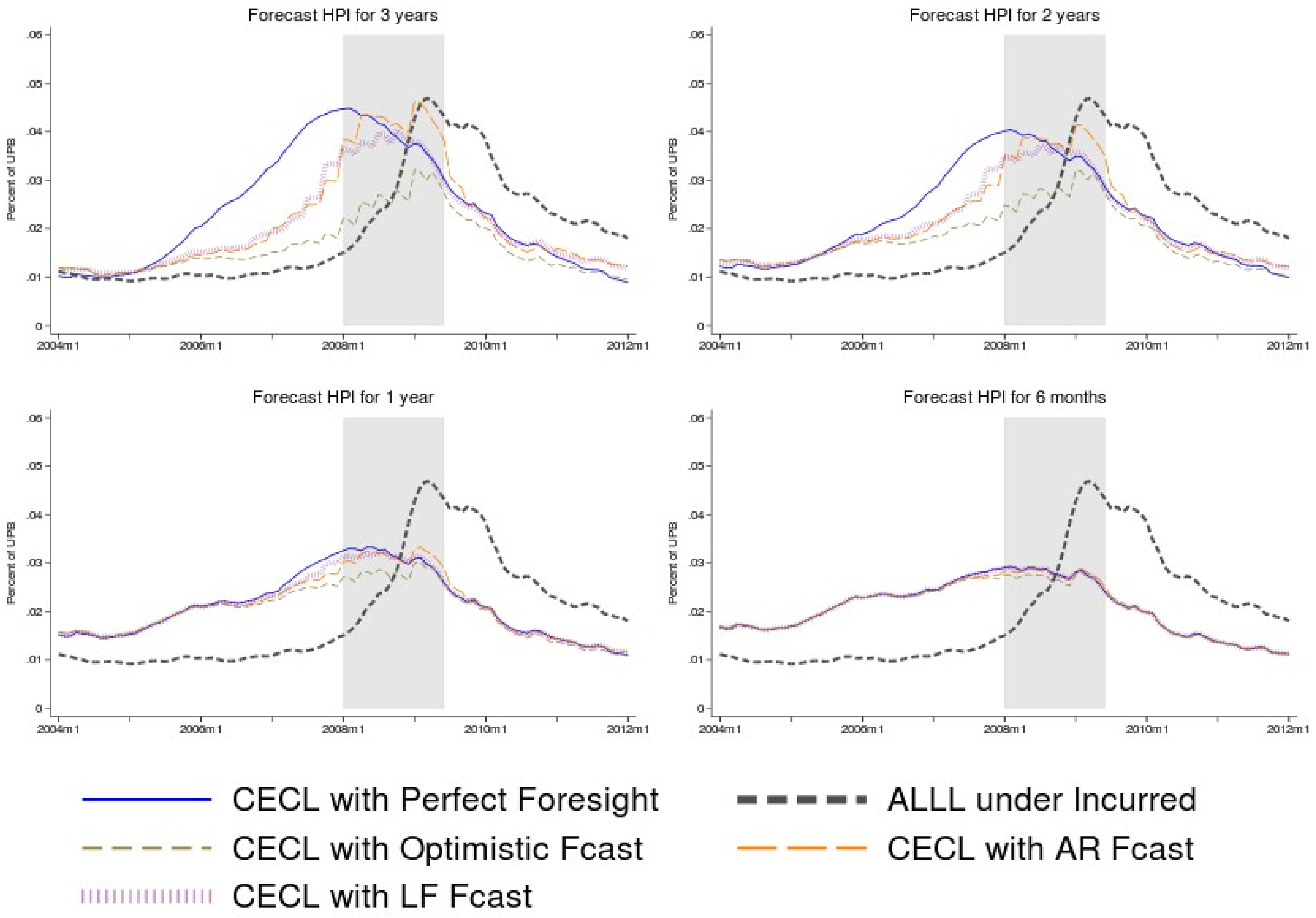


Forecast Comparison

Not too surprisingly, the optimistic forecast leads to the most delayed ALLL build.



Forecast Comparison - Different Forecast Window



Big Picture

- When setting provisions under CECL, risk managers need to be cognizant of the importance of the scenario projections, models, and update cycles
  - With inaccurate forecasts (optimistic), CECL can lead to undesired reserve buildup behavior even at frequent update frequencies
  - If forecasts are relatively accurate, CECL seems to be less procyclical and less volatile than ALLL under incurred losses

- Caveats
  - Mortgages have a fairly long loss emergence window, results may differ for loan losses that are quicker to deteriorate given stress
  - Model was estimated through the cycle i.e. sensitivities based on more information than risk managers would have had in 2006
  - Results on procyclicality have ignored the impact on loan originations
  - Loss given default was assumed constant

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