

Get CECL-Ready: Operationalizing Risk and Finance Data Integration

Considerations for Implementing the Forthcoming Accounting for Financial Instruments: Credit Losses Standard

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- Background and current status
- What is it?

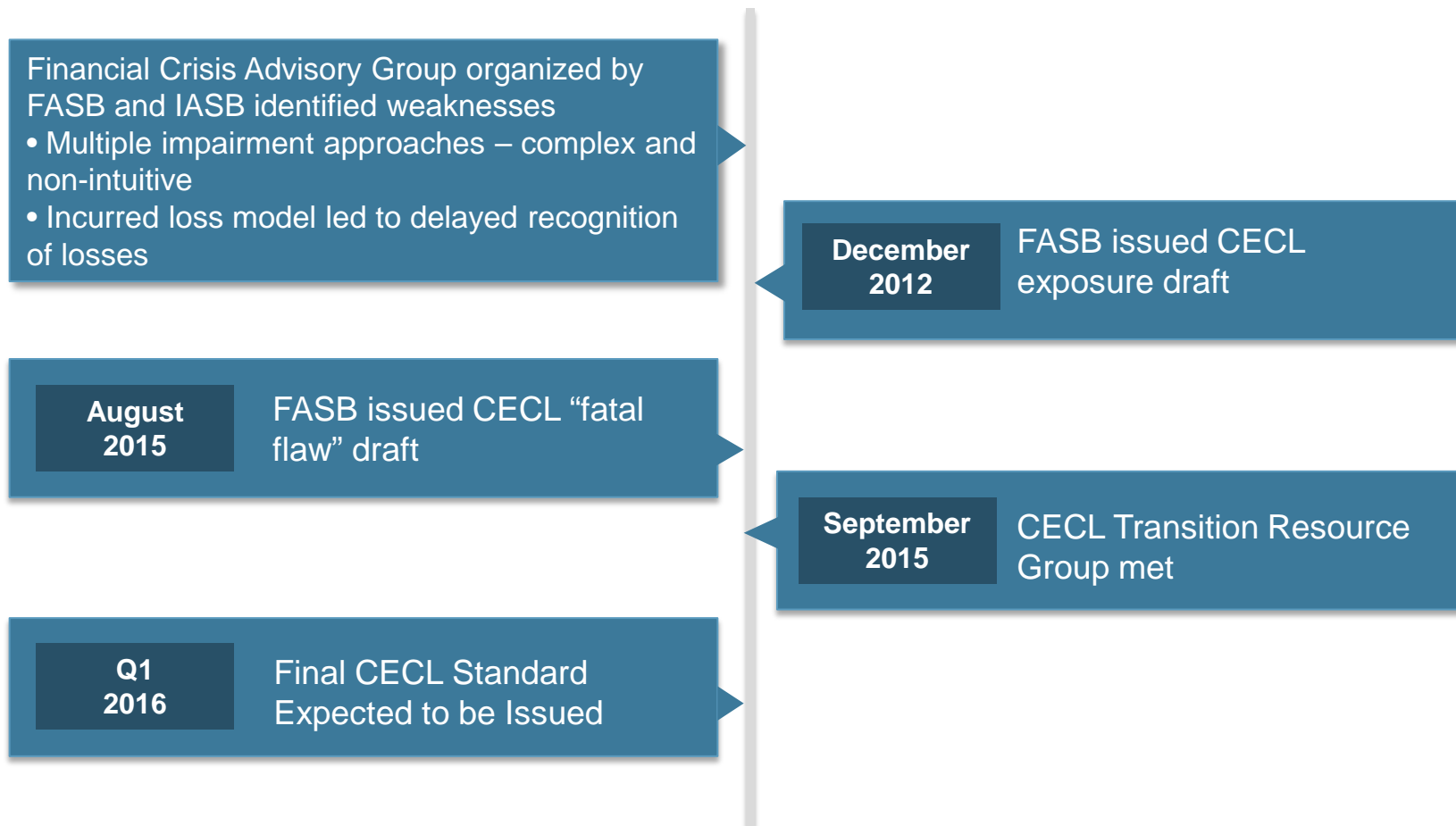
Implementation considerations

- Data
- Process and controls
- Technology
- Partnership between credit and finance
- Educating a diverse set of stakeholders

Models

- CECL in the context of other credit models
- Common misperceptions of CECL models

History and Background



Tentative effective date: Q1 2019 for public filers

CECL Specifics – Key Principles

The core concept is to recognize an allowance for credit losses that results in the financial statements reflecting the net amount expected to be collected.

- **Single Accounting Model** - applies to all financial instruments measured at amortized cost.
- **Expected Loss Model** - forward-looking, removes the *incurred* concept and the *probable threshold*.
- **Life of Instrument Reserve**
- **Must reflect a risk of loss**
- **Consider all contractual cash flows** - prepayments, but not extensions or renewals
- **Considers past information, current conditions, reasonable and supportable forecasts** – can revert to historical averages for periods after reasonable and supportable forecasts are not possible

Comparison to Existing Loan Standards

How CECL differs from FAS 5 (ASC 450):

The current reserve under **FAS 5, is an incurred loss model** meaning that an estimate of losses is recognized when it is *probable* that the loss has already occurred. It is typically expected that the loss will *emerge* in 12-24 months. **CECL is an expected loss model** meaning that an estimate of the life of instrument credit losses will be recognized on *all* financial instruments measured at amortized cost; there is no probable threshold.

How CECL differs from FAS 114 (ASC 310-10-35):

FAS 114 impairment is applied to individual instruments after they are identified as impaired. The estimate is based on the discounted expected cash flows. **CECL is similar to FAS 114 in that the reserve is based on life of instrument cash flows.** There are questions about whether CECL's reasonable and supportable requirements are implicitly embedded within expected cash flows under the existing FAS 114 discounted cash flow calculations.

How CECL differs from SOP 03-3 (ASC 310-30):

SOP 03-3 as we know it today will no longer exist. Pool accounting is retired. There will no longer be an accretable difference or non-accretable difference. The difference between the UPB and fair value at the time of purchase will be segregated by a credit and non-credit mark. The amortized cost of purchase credit impaired (PCI) instruments will be the purchase price plus the credit mark (expected credit loss at acquisition). The difference between the amortized cost and the UPB (non-credit mark) is amortized or accreted into income. Interest income (if not in non-accrual) will be recognized based on the amortized cost and the remaining contractual cash flows.

FASB Updates from AICPA Banking Conference on CECL Impacting Implementation Issues:

- Regulators emphasize that entities can leverage their current internal-risk management approach and systems
- Entities given judgment to apply loss methodologies they believe are more appropriate
- FASB concerned about PCAOB's undue influence on examination process over well documented judgement decisions already audited several years ago (opinion of FASB board member Larry Smith)
- Elimination of “probable threshold” was widely supported
- Retains separate accounting for interest income and credit losses
- Retains current GAAP nonaccrual guidance
- Public companies must disclose the loan value based on exit price in the financials quarterly

Level of CECL Challenge Will Vary by Institution

- Size matters
- Expectations
- Quantity of resources
- Skill sets of resources



Level of challenge is gap between expectations and capabilities

Challenges

- Regulators and auditors
- Data
- Process and controls
- Auditability (lot of judgment)
- Disclosures
- Modeling and forecasting future

Polling Question #1

For your institution, what do you think will be the biggest challenges?
Select as many as two answers.

- A. Regulators and auditors
- B. Data
- C. Process and controls
- D. Modeling and forecasting future
- E. NA – not a financial institution

Polling Question #2

How does your institution view CECL?

- A. Primarily an issue for risk/credit
- B. Primarily an issue for finance/accounting
- C. A joint risk/finance issue
- D. We haven't thought enough about it to know
- E. NA – not a financial institution

Partnership Between Credit and Finance

CECL requires the partnership of specialized knowledge set that Credit and Finance can contribute to the solution

Criteria for a successful CECL implementation partnership:

- Periodic team meetings
- Delegation of responsibilities to functional knowledge expertise
- Leading a cross functional – loan operations, IT, accounting, credit, etc.
- Shared success mindset

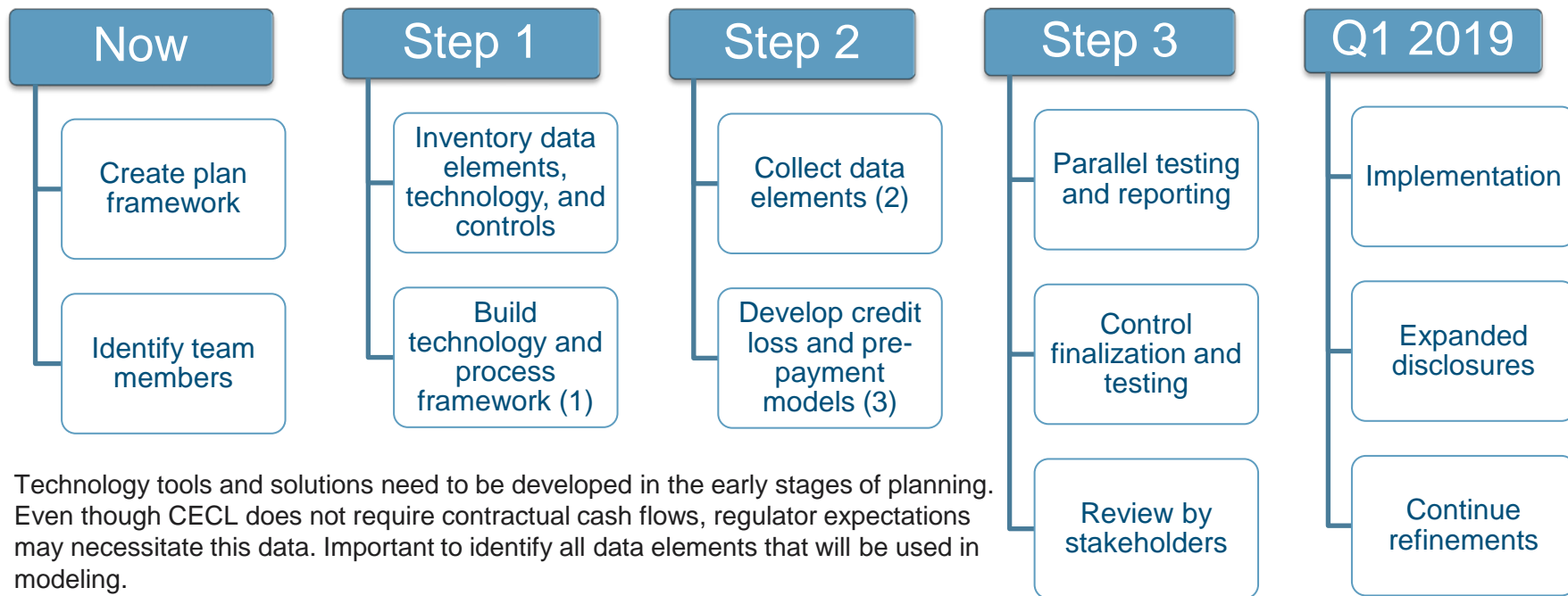
Educating a Diverse Stakeholder User Group

Education for teams – message to a diverse crowd

- Internal
 - Loan/Relationship Officers and Loan operations
 - Implementers (people directly impacted)
- External
 - Investor Relations
 - Management reporting
 - Board reporting

Implementation Plan Example

Each plan needs to consider bank's unique needs



1. Technology tools and solutions need to be developed in the early stages of planning.
2. Even though CECL does not require contractual cash flows, regulator expectations may necessitate this data. Important to identify all data elements that will be used in modeling.
3. Management elects CECL modeling approach with input with Regulator and Auditor

Dialogue with internal and external stakeholders.
Continually refine work plan and previously completed work.

Regulator Implementation Recommendations

Start implementation efforts early

- Draft a CECL implementation plan and discuss the proposed accounting changes with external auditors, industry peers, and regulators
- Develop multidisciplinary teams in preparation for implementation
- Review current ALLL and credit risk management practices to identify
- possible processes that can be leveraged to adopt the new standard
- Consider data availability, quality, and integrity (e.g., origination, maturity dates, charge-off dates, lifetime loss amounts)
- Use industry available resources (e.g., OCC Semiannual Risk Perspective)
- Consider capital adequacy
- Keep the bank's regulator up to date

Reality check

- Will methodology produce an amount reflective of loss expectations?
- Will methodology produce an amount reflective of past and current
- Underwriting practices?
- Will the methodology be sensitive to changing economic conditions in a timely manner?

Data and Process

- CECL requires effective data capture over originated loan data and other significant credit quality factor events
- Data Inventory to meet this requirements
- Data Supply Chain - data needs to cover from time customer walks in to origination to payments to partial payments to modifications (all events in lifecycle of loan)
- Key operational steps for CECL:
 - Accumulation
 - Computation
 - Iteration
 - Results
- If there is a gap in data, or management judgment is used, document, document, document (invest in a go-pro)

Some Basic Data Requirements for CECL Model

Servicing System Data:

1. Loan characteristics
 - a. Term – renewals, modifications and extension dates
 - b. Rate – fixed, variable, and index
2. Loan "credit enhancements"
3. TDR events
4. Collateral fair values
5. Transaction codes in loan servicing systems
6. Loan geography
7. Contractual cash flows for each loan or pool of loans

Risk System Data:

1. Loan classes and grades
2. Modification history by loan class
3. Loan renewal and funding history by loan class
4. Loan prepayments history by loan class
5. Loan cash flows not collected
6. Loan grade LGD and PD rates
7. Loan grade charge-off history
8. Loan grade migration history
9. External historical loss rate by loan class

Top 10 Loan Servicing System Data Issues

1. Missing or incorrect maturity dates
2. Variable rate loans (interest rate caps/floors)
3. Carve outs and other optionality on commercial loans
4. Participations
5. Balance Transfers
6. Foreclosure events (OREO)
7. Sale events
8. Modifications - often see these as a new loan and payoff on the old loan with no connection
9. Charge-offs (partial and full)
10. Accounting related:
 1. Non accrual identification (loan passed due beyond x days per the policy and still on accrual)
 2. Correct contractual level yield for fee amortization
 3. Proper non accrual accounting, including re-accrual
 4. Intent (Held for sale, Held for Investment)

Polling Question #3

For your institution, how would you describe the state of your data?

- A. A lot of work to be done – no significant efforts in flight
- B. A lot of work to be done – one or more significant projects ongoing
- C. Not bad – work to be done, but we can usually get what we need without too much pain
- D. Excellent shape – we have a centralized store with clean, normalized data that serves as single source of truth for nearly all processes
- E. NA – not a financial institution

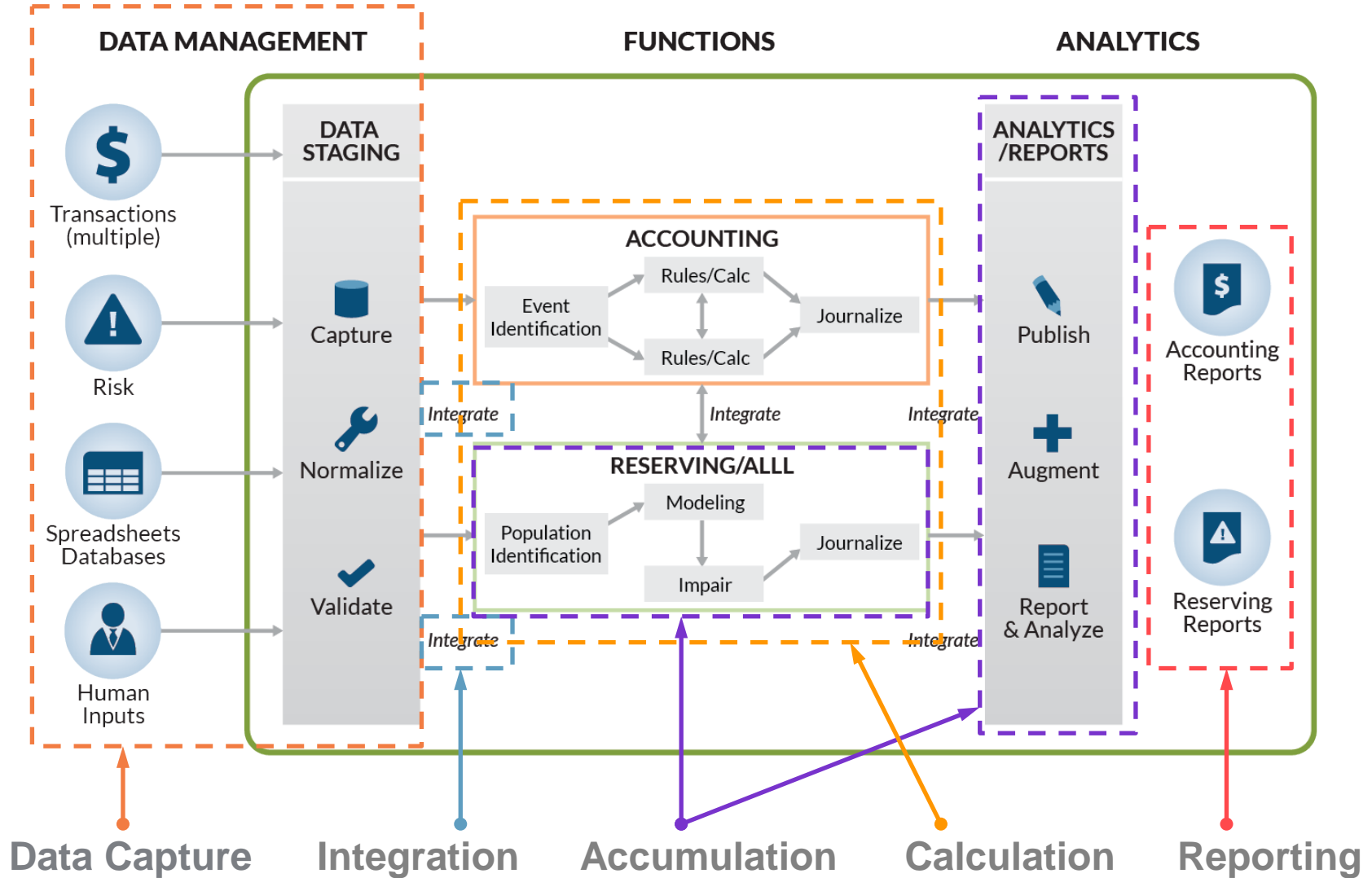
Internal Control Development and Operations for CECL

- SOX certified CECL process needs to consider a record to report mindset
- Record to Report - management process for providing strategic, financial and operational feedback to understand how a business is performing from start to finish.
- Accountable functions for the data capture, accumulation, calculation, integration, and reporting activities/control owners –
 - Loan Operations – data capture controls
 - IT – data capture, accumulation, and integration controls
 - Accounting – accumulation and reporting controls
 - Credit – accumulation and calculation controls
- Iteration process to calculation the allowance will require controls impacted with iteration

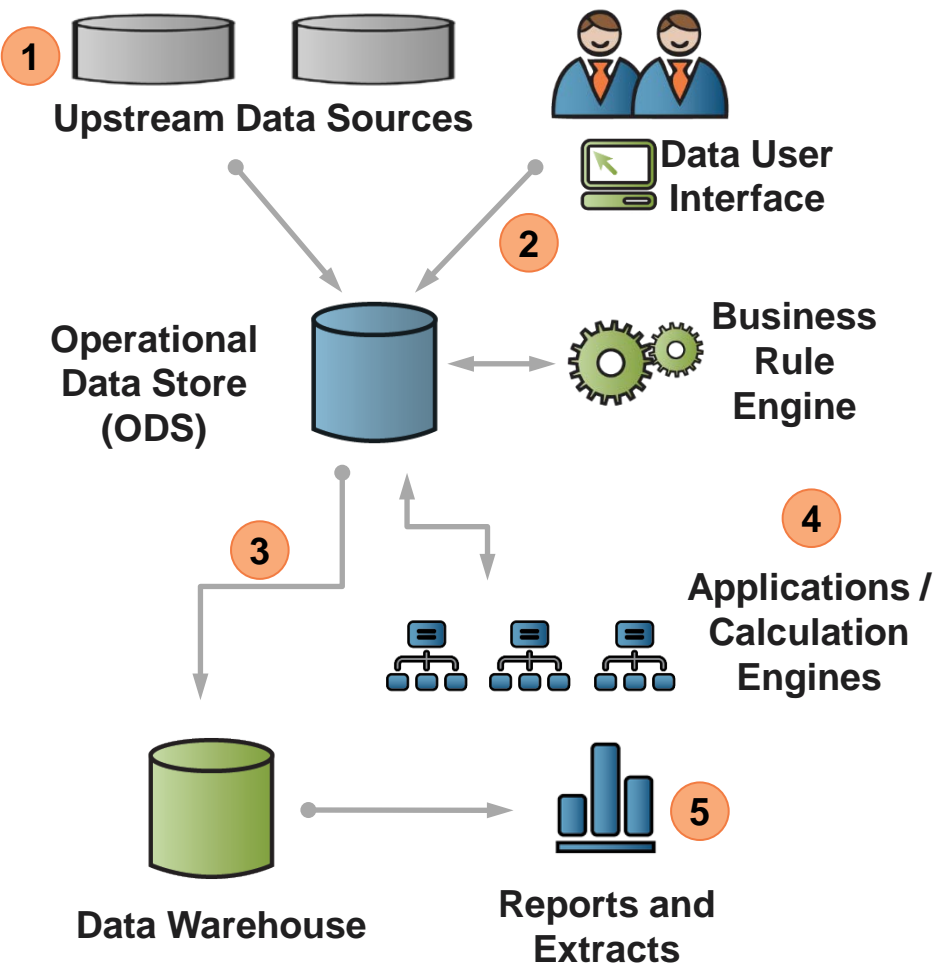
Record to Report – Key Controls for the Process Development and Operations for CECL

- **Data Capture Controls** – Need to ensure data is captured properly from origination – if interest rate is incorrect at origination, contractual cash flows will be incorrect.
- **Integration Controls** – Need to ensure proper controls across integration points and interfaces between systems. Limit transitions and need for unnecessary integration
- **Accumulation Controls** – Models and calculations need an aggregation point and a platform so that there is no need for a manual process to bring results together
- **Calculation Controls** – Calculations should be embedded and integrated into the overall process and not manual and in excel
- **Reporting Controls** – Limit manual pivots and slice & dice. Need loan level data mart to ensure multiple views of the data

Record to Report – Controls Map Groupings



Integrated Technology and Data Landscape



Business defines and hosts the CECL data party with technology requirements set by the Business and supported by IT. ODS, Data warehouse – need everything to talk via a common financial language. Who is responsible for this map - Chief Data Officer, CFO, Controller, etc.

Technology tool configuration a function of Bank's environment – integrated tools to solve CECL record to report process:

- 1 Loan and Risk systems
- 2 Other loan data capture systems
- 3 Operational Data Store & Data Warehouse
- 4 Business Rule Engine/Calculation Engines
- 5 Reports Platforms/Systems

Current Expected Credit Loss Model: Vintage Disclosures Example

Amortized cost basis of commercial loans

As of 31 December 2018

	Commercial and industrial	Leasing	Owner occupied	Municipal	Total
Pass	42,541,449	405,487	5,874,124	587,414	42,541,449
Special mention	1,152,119	8,794	797,411	45,101	1,382,363
Substandard	642,356	11,451	578,914	-	735,491
Doubtful	179,498	-	6,411	-	238,855
<i>Nonperforming</i>	1,973,973	20,245	1,382,736	45,101	2,356,709
Total	44,515,422	425,732	7,256,860	632,515	47,254,867



Amortized cost basis of commercial and industrial loans, by year of origination

As of 31 December 2018

	2018	2017	2016	2015	2014	2013 and prior	Total
1-2 internal grade	3,477,607	3,289,123	3,567,412	3,387,164	2,997,363	125,179	16,843,848
3-4 internal grade	3,908,847	3,925,320	4,212,353	3,854,654	3,105,852	329,541	19,336,567
5 internal grade	589,213	756,014	1,709,012	1,687,697	2,097,411	21,687	6,361,034
<i>Pass</i>	7,975,667	7,970,457	8,988,777	8,929,515	8,200,626	476,407	42,541,449
Special mention	-	578	125,154	104,512	140,874	781,001	1,152,119
Substandard	-	10,547	25,487	57,101	79,101	470,120	642,356
Doubtful	-	-	18,879	40,478	120,141	-	179,498
<i>Nonperforming</i>	-	11,425	169,520	202,091	340,116	1,251,121	1,973,973
Total	7,975,667	7,981,582	9,158,297	9,131,606	8,540,742	1,727,528	44,515,422

Note that the example disclosure in the FASB's December 2012 Proposed ASU suggests that companies should be providing more disaggregated credit quality information. See paragraph 825-15-55-43 of the Proposed ASU.

Modeling Approaches to CECL – *Some Thoughts*

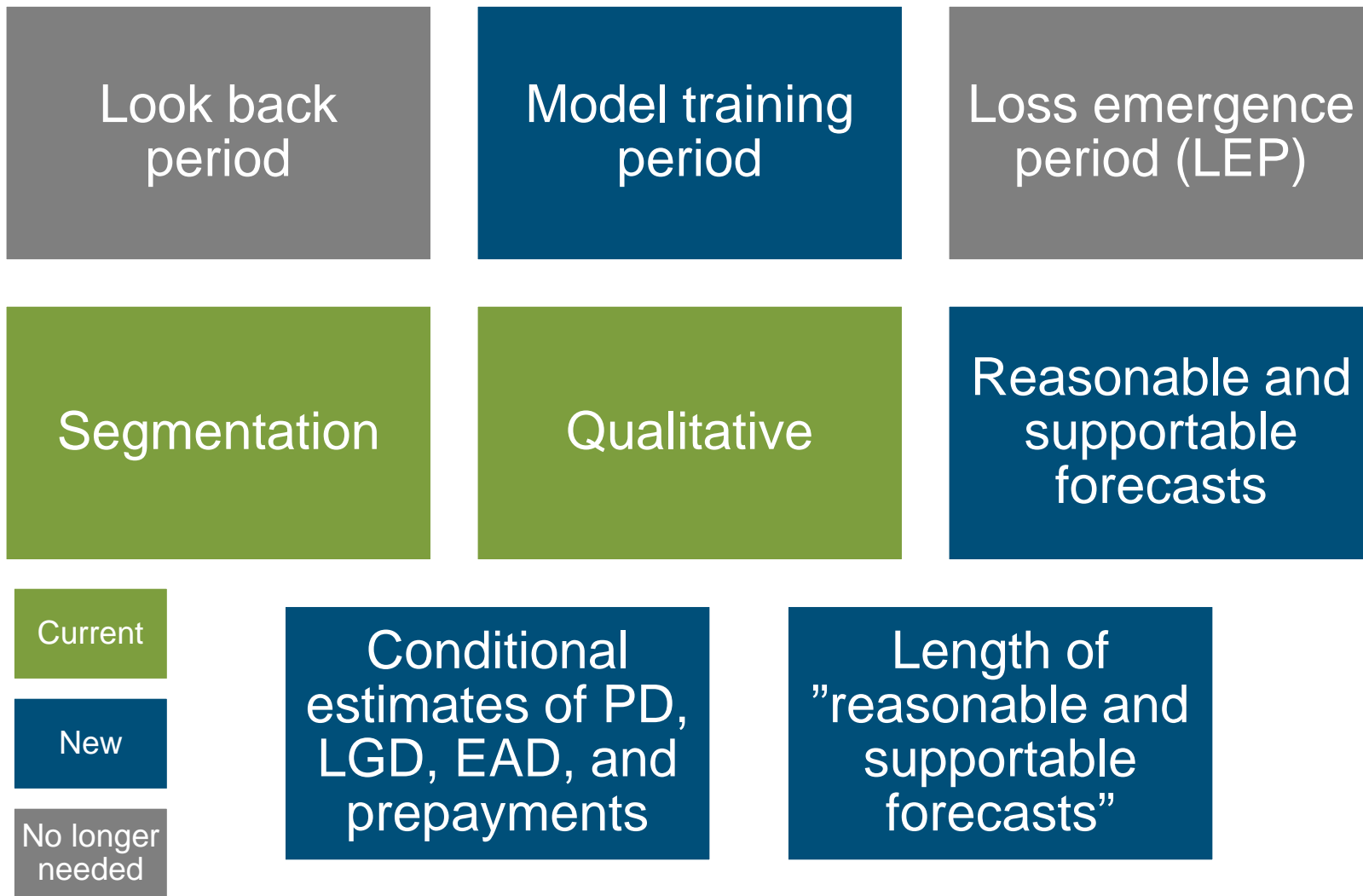
- CECL allows a wide range of modeling approaches
- CECL requirements different from existing reserving and many current stress testing approaches
- Capabilities typically depend on bank size
 - \$50 billion plus – history of modeling for risk management and stress testing. Process typically more challenging than math.
 - \$10 - \$50 billion – range of capabilities historically. Entire group getting stronger because of regulatory stress testing.
 - Less than \$10 billion – historically lower demands so lower capabilities. CECL poses questions that are not answered yet in terms of how to extend loss estimates to life of loan without requiring complex, new models. Transition Resource Group and regulatory forums such as “Ask the Fed” will be important.

Polling Question #4

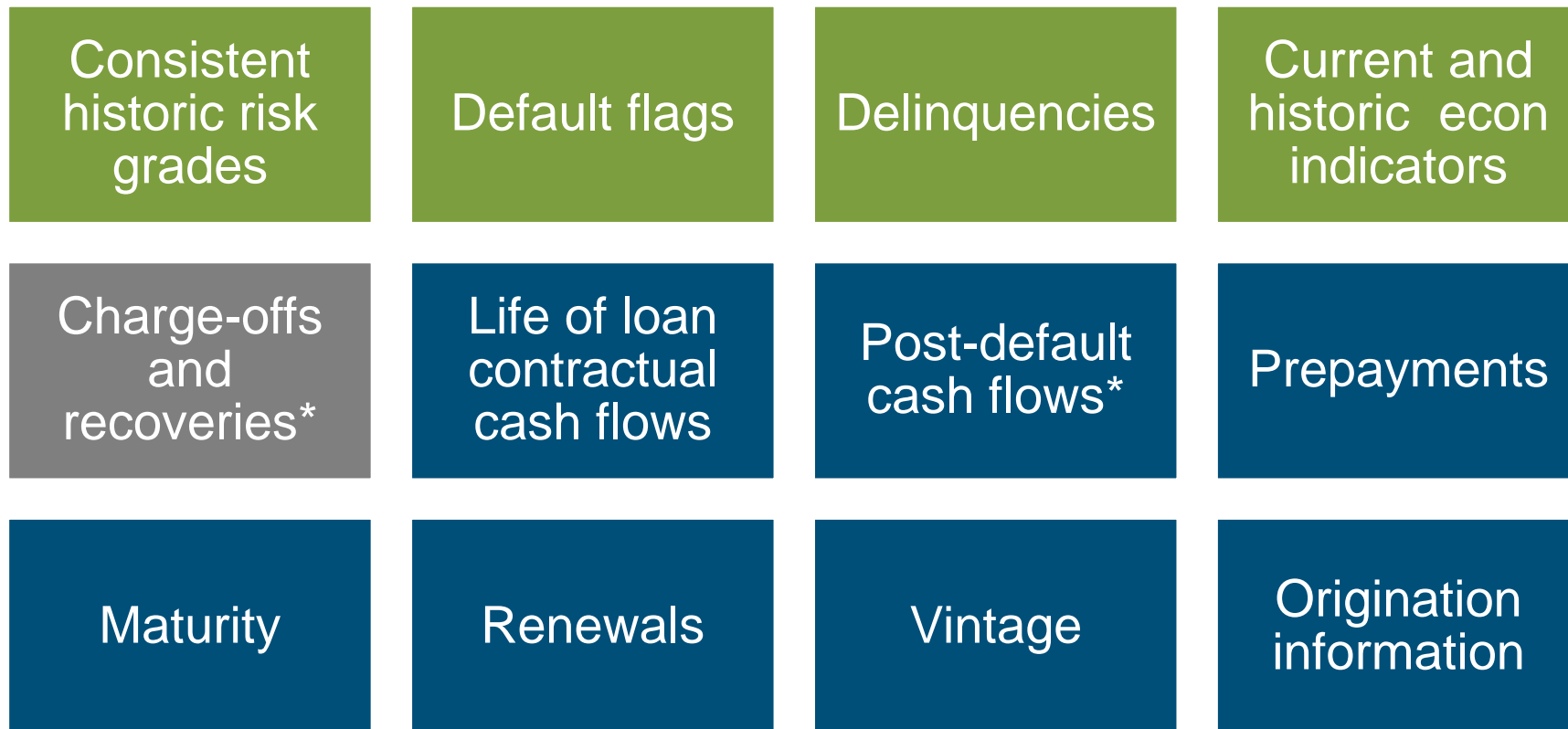
Choose the answer that best describes the CECL modeling approach for your institution:

- A. Will require totally new models or significant changes to existing
- B. Will try to use existing reserving models with minor tweaks
- C. Will try use our existing stress testing (DFAST/CCAR) models with minor tweaks
- D. Don't know – not my area of responsibility
- E. Don't know – my institution hasn't really thought about it yet
- F. NA – not a financial institution

Models: Expansion of Assumptions



Expansion of Data



Current

New

No longer needed

* Even though CECL does not require contractual cash flows, regulator expectations may necessitate the use of this data

CECL in the Context of Other Credit Risk Models

Model Attribute	CECL Proposal	ALLL (current – GAAP)	Basel Advanced IRB	CCAR/DFAST
Recognition threshold	No recognition threshold, updated at each reporting date	When a loss is “probable,” or “incurred” as of the financial statement date	No recognition threshold, updated at each reporting date	Same as current GAAP, based on the economic scenario
How much of a loss is recognized?	“current estimate of all contractual cash flows not expected to be collected”	The amount of unconfirmed loss, estimated as of the financial statement date, for loss events occurring prior to that date	12 months of defaults + LGDs	9 quarters of expected net charge-offs + change in ALLL
What information set is used in determining a loss?	Past events and current conditions + reasonable and supportable expectations about future	Past events and current conditions	“average ... experience ... over a mix of economic conditions (including economic downturn conditions)”	Past events, current conditions, and specific forward-looking scenarios
Portfolio	Existing loans	Existing loans	Existing loans	Existing + new loans

CECL in the Context of Other Credit Risk Models

Model Attribute	CECL Proposal	ALLL (current – GAAP)	Basel Advanced IRB	CCAR/DFAST
Probability of Default (PD) estimate				
Time horizon	“contractual term, considering prepayments but not extensions, renewals, modifications unless TDR expected”	Loss emergence period	“average one-year default rate”	9 quarters
Modeling goal or bias	Conditional on “reasonable and supportable forecasts”	Conditional on conditions as of the measurement date	“average ... over the economic cycle”	Conditional on specific scenarios, with a conservative bias
Loss Given Default (LGD) estimate				
Measure	“cash flows not expected to be collected”	Net charge-offs	“economic loss” including interest and workout costs	Net charge-offs
Model goal or bias	Conditional on “reasonable and supportable forecasts”	Conditional on conditions as of the measurement date	“long-run ... over a mix of economic conditions”	Conditional on specific scenarios, with a conservative bias

CECL Modeling Options for Large Banks

Should we use CCAR/DFAST models for CECL or build new models?

Issues with using CCAR/DFAST models might include:

- The CCAR process takes three months to run following quarter-end. CECL needs to be appear on the balance sheet three days after quarter-end. What if, after three months of review, CCAR results differ from what we published on our financial statements?
- Do we want our CECL estimates to be subject to the nuances of CCAR enforcement?
- Do we want CCAR models to be subject to the control environment required for external financial reporting?
- CECL is only for the contractual like of current loans, while CCAR includes new and renewed loans.
- CCAR models have a conservative bias and may over-estimate CECL.

What Could Drive Reserve Differences Between Current GAAP ALLL and CECL?

What could cause reserve levels to differ between GAAP and CECL?

- Life of loan losses rather than “loss emergence period”
- No losses after loan renewals or prepayments may be considered, except for TDRs

What could cause reserve volatility to differ between GAAP and CECL?

- Economic forecasts may have wide swings
- Conditional loss models are complex and subject to frequent changes due to changes in modeling assumptions
- Expected value rather than statistical mode
- Losses revert to mean after reasonable and supportable forecasts

The magnitude of these forces is dependent on loan portfolio characteristics and modeling assumptions.

Stakeholders expect reserves to increase unequivocally in all circumstances under CECL.

- But what if the “loss emergence period” is 3 years and the remaining contractual life is 1 year?

Reducing the procyclicality of reserves is not an objective of the FASB.

Some CECL Oddities

Q: Will reserves increase when the economy deteriorates?

- A-GAAP: Yes. Declining economy causes increase in ALLL.
- A-CECL: Not if economic decline was forecast. For example, CECL should decrease when unemployment increases from 5% to 7% if management expected unemployment to increase to 8%.

Q: Will the riskiest loan products have the highest reserve rates?

- A-GAAP: Yes. Those loan categories with the highest annual loss rates should have the highest reserves.
- A-CECL: Not always. For example, a consumer mortgage product with a 20 bps annual loss rate may have a higher reserve rate than a loan product with a 1-year renewal period and a 100 bps annual loss rate.

Questions

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Appendix

Data Expectations in the Audit Process and Regulatory Review

- Auditors and Regulators expect to audit/examine a well controlled data environment that will support the future CECL calculations.
- Consistent, reliable, well defined, well controlled, accessible, and high quality data is key for regulatory reporting associated with CECL.
- Existing CECL proposal will require additional investments to establish this new back office process to ensure a SOX compliant data process

- **Federal Reserve, OCC, FDIC and Basel Committee –**
 - Basel Committee on Bank Supervision - Principles for effective risk data aggregation and risk reporting
 - Call Report requirements per the FDIC to preserve data integrity and accuracy
 - OCC 2000-16 Bulletin on Risk Modeling including expectations for data integrity

- **Auditor / SEC/ PCAOB -**
 - STAFF AUDIT PRACTICE ALERT NO. 11 - Considerations for audits of Internal Control over Financial Reporting – October 24, 2013
 - SEC Financial Reporting and Audit Task Force – “accurate and reliable financial reporting” – July 2, 2013

PCAOB Control Comments on ALLL Process

- Review Control identified by auditors have included:
- Senior management or board review of the allowance calculation
- Senior management or board committee review of loan risk grades and impairment analyses
- Common audit deficiencies include failure to:
- Sufficiently test the design and operating effectiveness of review controls, particularly the level of precision
- Sufficiently test controls over the information produced by the company that was used in the performance of review controls
- Staff Alert No. 11: Consideration for Audits of ICFR
- Deficiencies identified in testing of the issuers' processes include failures to:
- Sufficiently test the reasonableness of the significant assumptions
- Appropriately evaluate whether the issuer's allowance considered relevant environmental factors
- Sufficiently test the accuracy and completeness of data used in the allowance calculation
- Sufficiently test the process for identifying problem loans, including loan risk grades and impaired loans
- Sufficiently test specific reserve calculations on impaired loans