

# Debt Securities and Other Assets Considerations Under CECL

September 2019

# Speakers



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# Today's Discussion Points

- » Changes to debt securities accounting as a result of ASC 326
- » PCD accounting
- » Transition Guidance, Disclosures and Reporting
- » Modeling considerations – securities and other insurance assets in scope
- » Q&A

# CECL Focus

## Different Exposure Profiles

### Banks

Retail loans

C&I – CRE loans

Securities

- Munis
- Bonds

### Insurance

Investments  
securities

- Bonds
- Structured
- munis

C&I loans

CRE

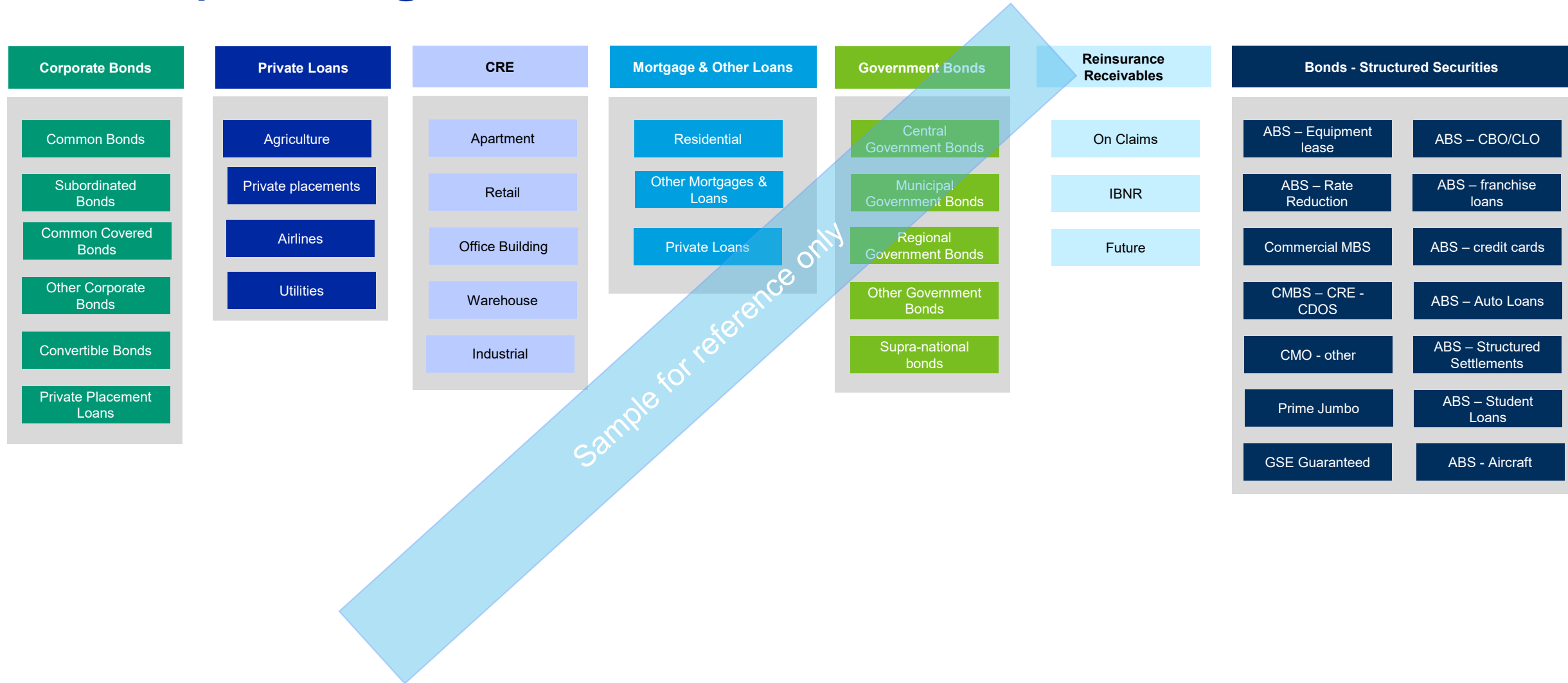
### Corporates

Small business  
loans

C&I loans

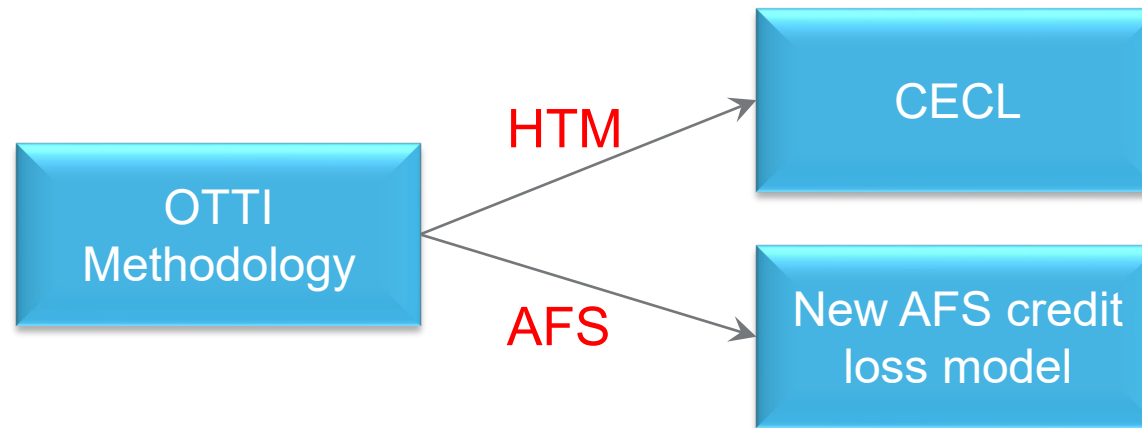
Short dated  
exposures

# Example Segmentation



# Overall Changes to Security Accounting

- » Treatment of AFS and HTM classified securities will be distinctly different
  - » HTM will follow the CECL model
  - » AFS securities have their own path
- » In both instances, replaces the current other-than-temporary-impairment (“OTTI”) logic



# HTM Debt Securities

## Future GAAP vs Current GAAP

### OTTI Model

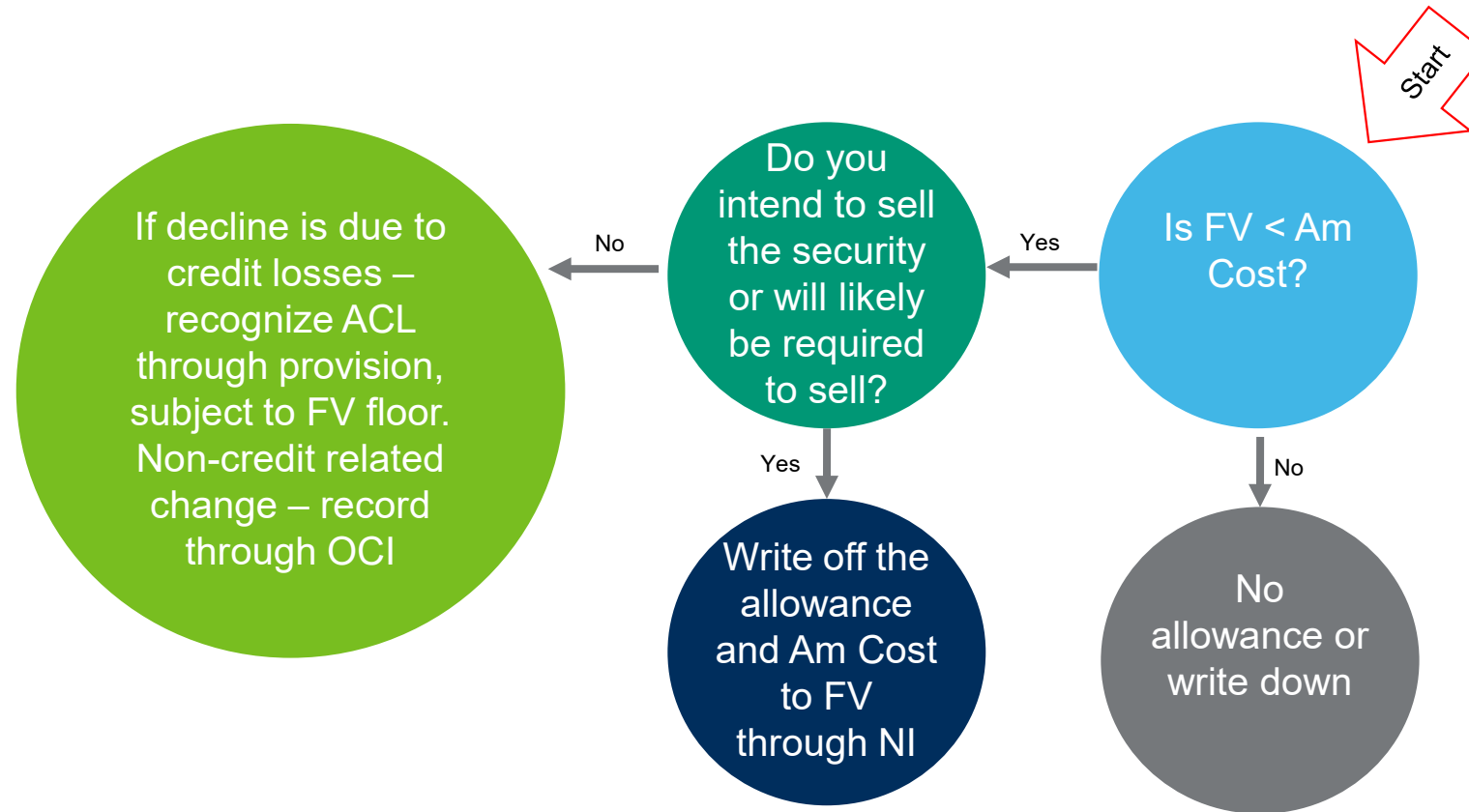
- » Impairment is measured and recorded only when FV is less than Amortized Cost (AM Cost)
- » Perform assessment at the individual security level
- » Use DCF method
- » Best estimate of the PV ECF basis
- » Write off AM Cost when OTTI is recognized
- » Considers length of time in unrealized loss position



### CECL Model

- » Measure ECL upon initial recognition
- » Perform assessment on a collective pool basis when similar characteristics exist
- » Various measurement methods
- » Risk of loss basis
- » Write off AM Cost only when security is deemed uncollectible
- » Length of time in unrealized loss position is irrelevant. Loss is recognized even if  $FV > AM$  Cost

# AFS Credit Loss Model Decision Tree





# AFS Securities will be treated differently

Future GAAP differences between HTM, HFI and AFS

## New AFS Credit Loss Model

- » ECL are measured and recorded through allowance only when FV is less than AM Cost
- » Perform assessment at the individual security level
- » Use DCF method
- » Best estimate basis



## CECL Model

- » Measure ECL upon initial recognition (HFI loans and HTM securities)
- » Perform assessment on a collective pool basis when similar characteristics exist
- » Various measurement methods
- » Risk of loss basis

# What is PCD?

## » PCD → Purchase Credit Deteriorated (PCD) assets

- » At acquisition experienced a more-than-insignificant deterioration in credit quality since origination
- » Replaces the former Purchase Credit Impaired (PCI) accounting which required evidence of deterioration

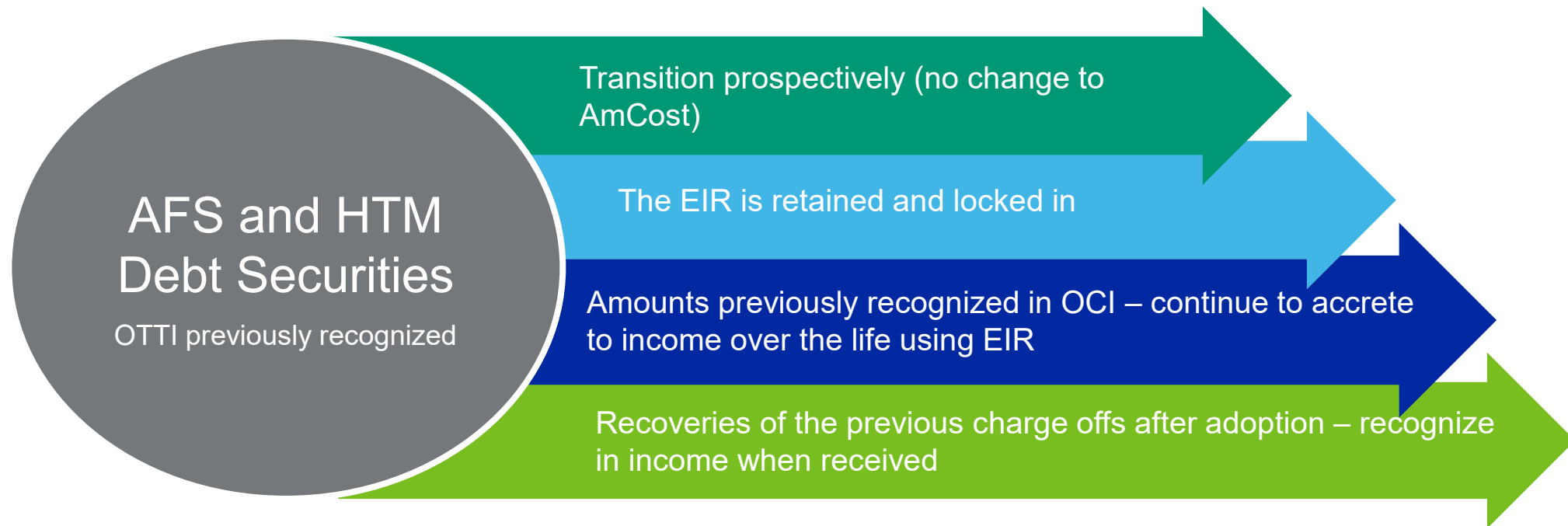
## » Applies to all assets within the CECL scope as well as AFS debt securities

## » Accounting for PCD assets:

- Allowance is determined in a similar manner as an originated or purchased performing asset
- No provision on Day 1. Instead, AM Cost = FV (price) + Allowance
- When non-DCF method is used, estimate loss on the basis of UPB

Day 1	Example	Day 2
<div>Dr Asset 100</div> <div>Cr Discount 20</div> <div>Cr Allowance 10</div> <div>Cr Cash 70</div> <div>Am Cost: \$80</div> <div>Carrying Value: \$70</div>	<div>Par Amount: \$100</div> <div>Purchase Price: \$70</div> <div>Loss Rate: .1</div> <div>ECL: \$10 (100 * .1)</div>	<div>Apply relevant credit loss models dependent on the asset classification</div> <div>Accrete the non-credit discount to income using the Effective Interest Rate (EIR)</div>

# Transition Guidance for HTM and AFS



# New Disclosure Requirements...Qualitative Disclosures



**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 ABOUT THE FUTURE**

*...A discussion of the changes in the factors that influence management's estimate (for example, changes in portfolio composition, current underwriting practices and significant events or conditions that were not relevant in previous periods...*

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

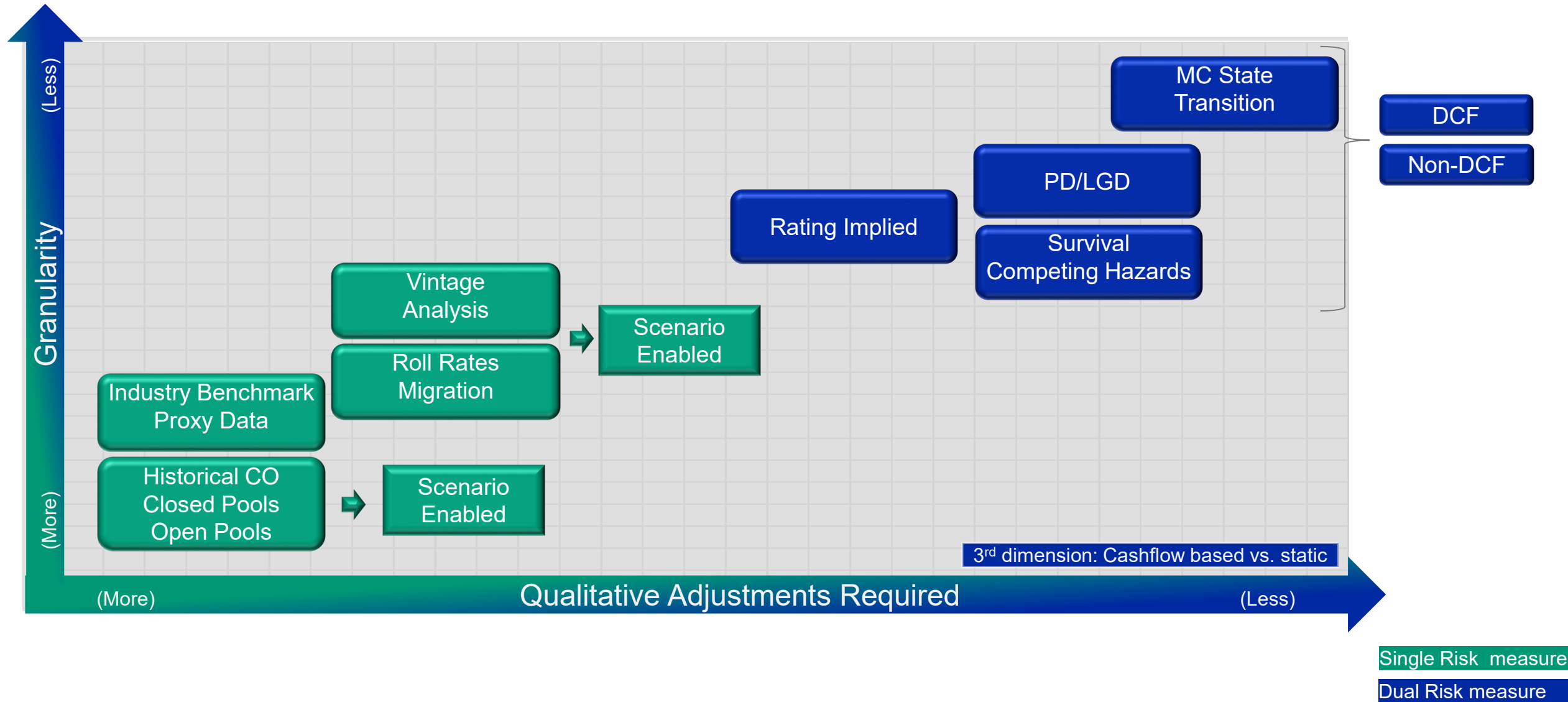
# New Disclosure Requirements...Roll Forwards!

	Total Loans and Leases	Total HTM Securities
<b><i>Allowance for Credit Losses</i></b>		
Beginning Balance		
Charge offs		
Recoveries		
Initial Allowance for PCD		
Provision		
Passage of time (optional)		
Ending Balance		

	<u>AFS Securities</u>
<b><i>Allowance for Credit Losses rollforward</i></b>	
Beginning Balance	
Charge offs	
Recoveries	
Additional ACL on AFS not reserved for previously	
Initial Allowance for PCD acquired this period	
Reduction for Sold AFS	
Reduction for securities that are moved to other categories	
Changes in ACL for AFS	
Ending Balance	

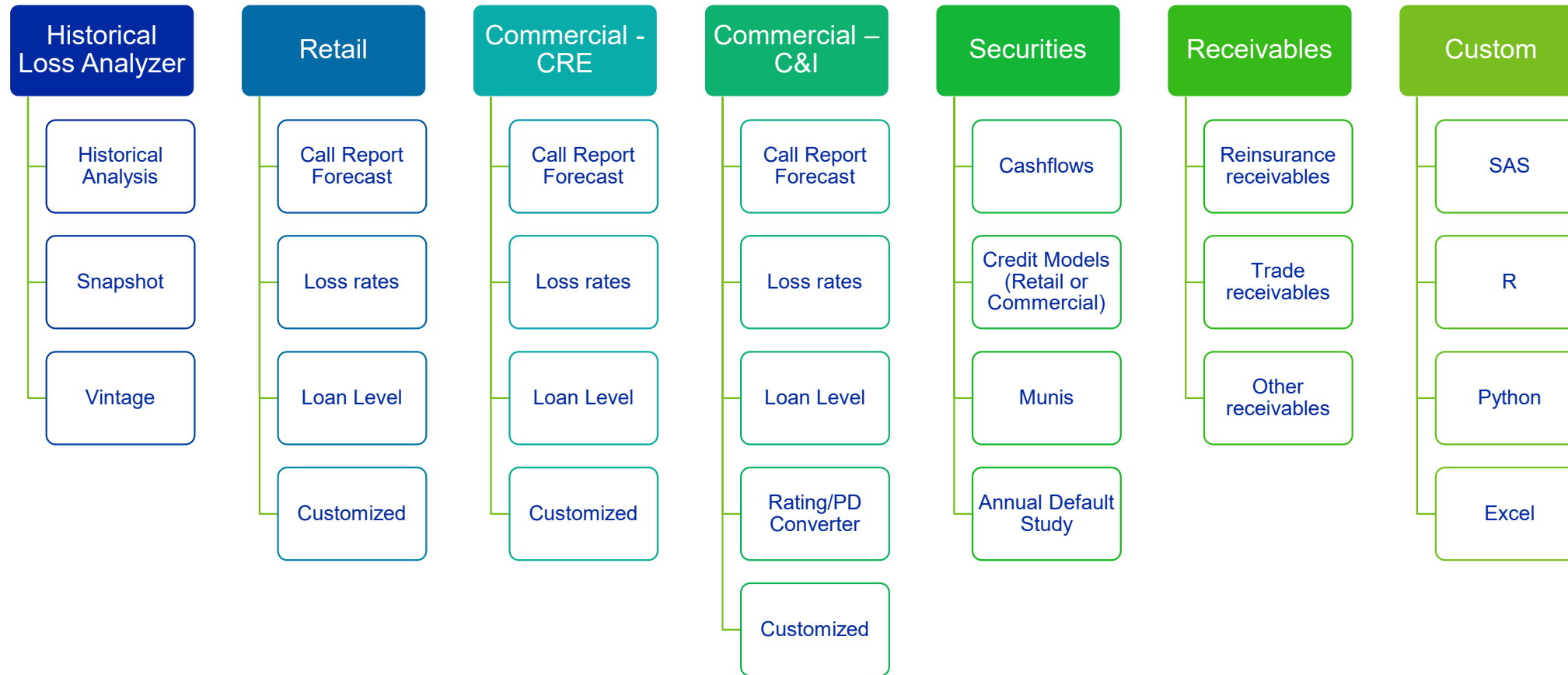
# CECL Modelling Approaches...which one is right?



# Methodologies

Example of Moody's models and methodologies offered

Adopt  
and  
Adapt



# Overview of ECL Calculation Engines

## Three Methodologies for ECL Calculations

Loss Rate	PD/LGD	Cash Flow
<ul style="list-style-type: none"><li>• Annualized</li><li>• Lifetime</li><li>• Curve</li></ul>	<ul style="list-style-type: none"><li>• Annualized</li><li>• Lifetime</li></ul>	<ul style="list-style-type: none"><li>• DCF - Expected Cash Flow</li><li>• DCF Loss Cash Flow</li><li>• Loss Cash Flow</li></ul>



# PD/LGD Method



## Probability of Default

What is the probability of a borrower defaulting over the contractual life of the loan?

PD

x

LGD

x

EAD

=

EL

## Loss Given Default

When the loan defaults, what percentage of the exposure at default is charged off?



## Exposure at Default

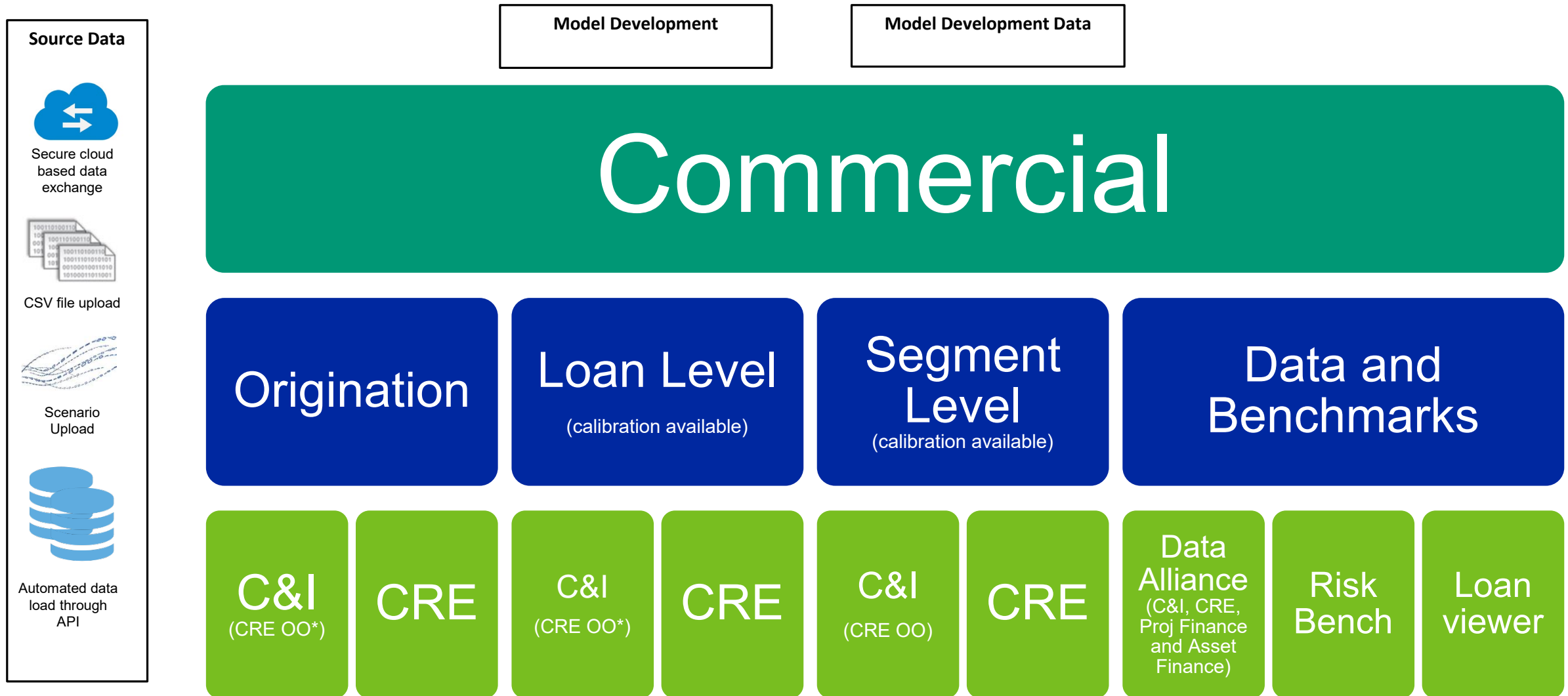
What is the outstanding loan balance at default?

## Expected Loss

The CECL allowance is the product of these three values!



# CECL – Commercial Loan Models and Data



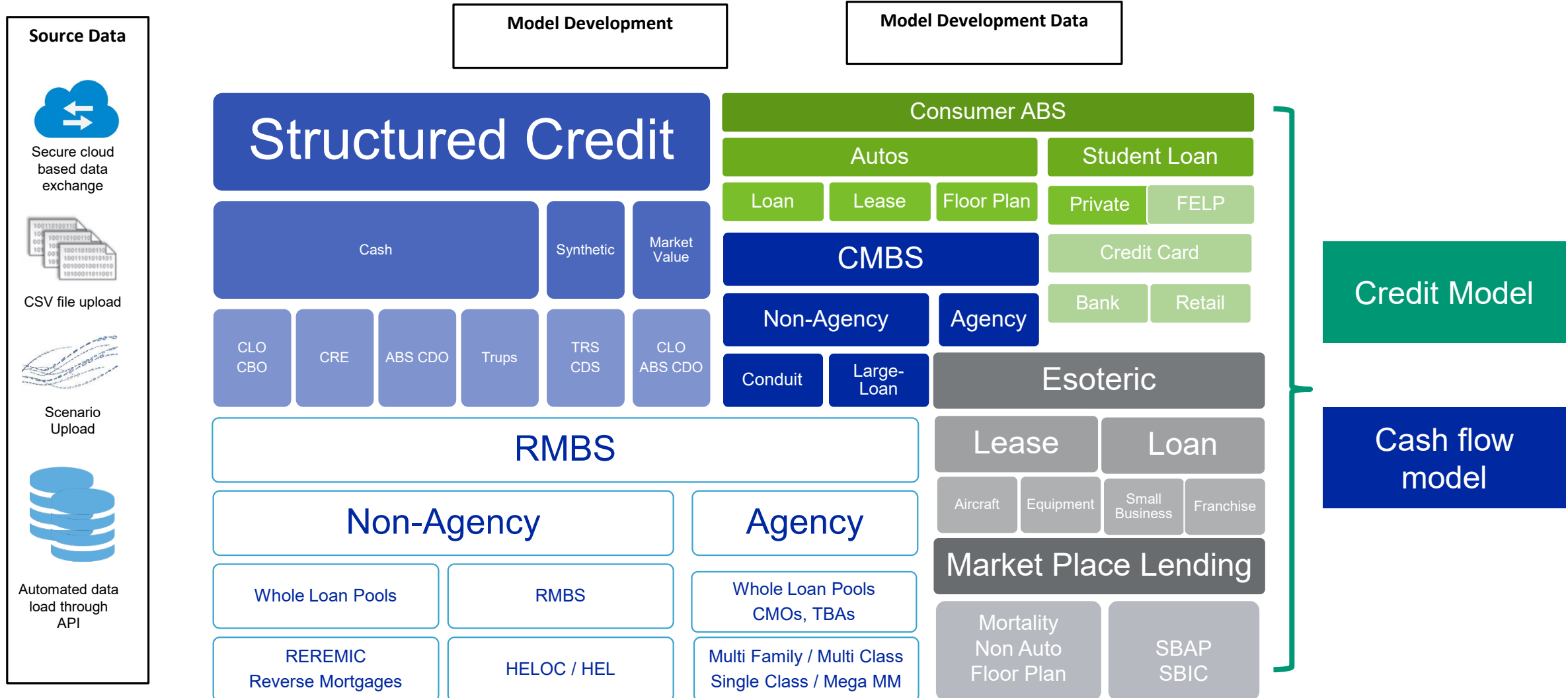
\* OO – CRE Owner Occupied

# Commercial Mortgage Metrics (“CMM”)

- » **CMM is the leading analytical model and risk management tool for assessing credit risk in commercial real estate loans.**
- » CMM offers:
  - » PD and LGD (PIT and TTC) metrics built on extensive, proprietary dataset and calibrated to recent financial crisis
  - » Robust scenario analysis/stress testing capabilities that support regulatory compliance (CECL, DFAST)
  - » Reflects local CRE market variables
  - » ECL projections – lifetime
  - » Analyze a variety of loan types:
    - » Permanent and Construction
    - » Fixed or Floating Rate loans
    - » Cross-Collateralized properties
    - » Senior or Subordinated loans
  - » Most property types (Hotel, Office, Retail, Multifamily, Industrial)



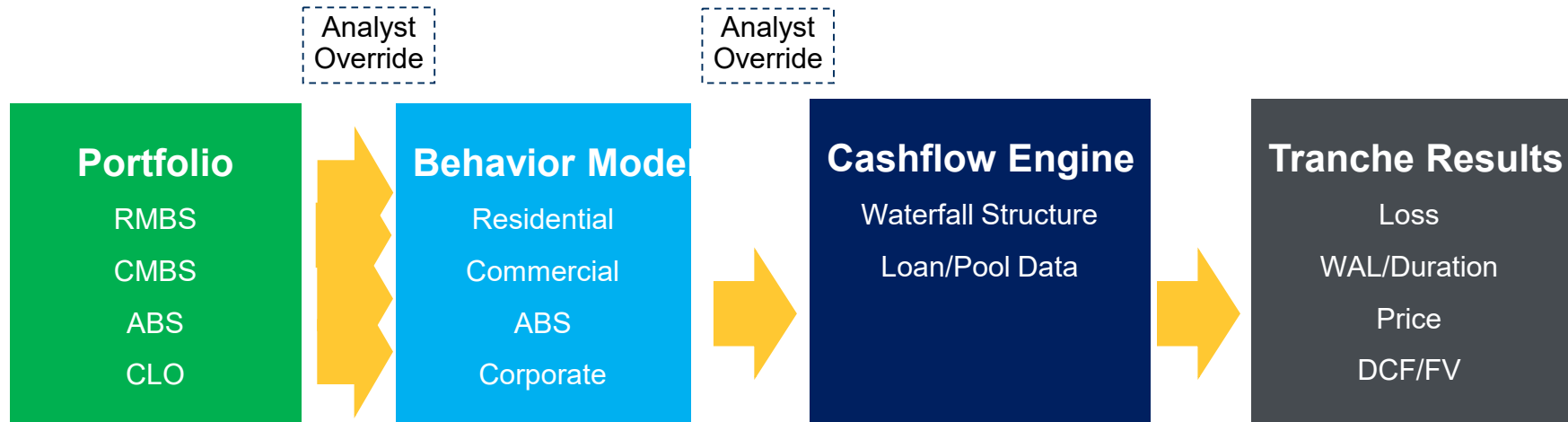
# CECL – Securities Model Development and Data



# Modeling Process

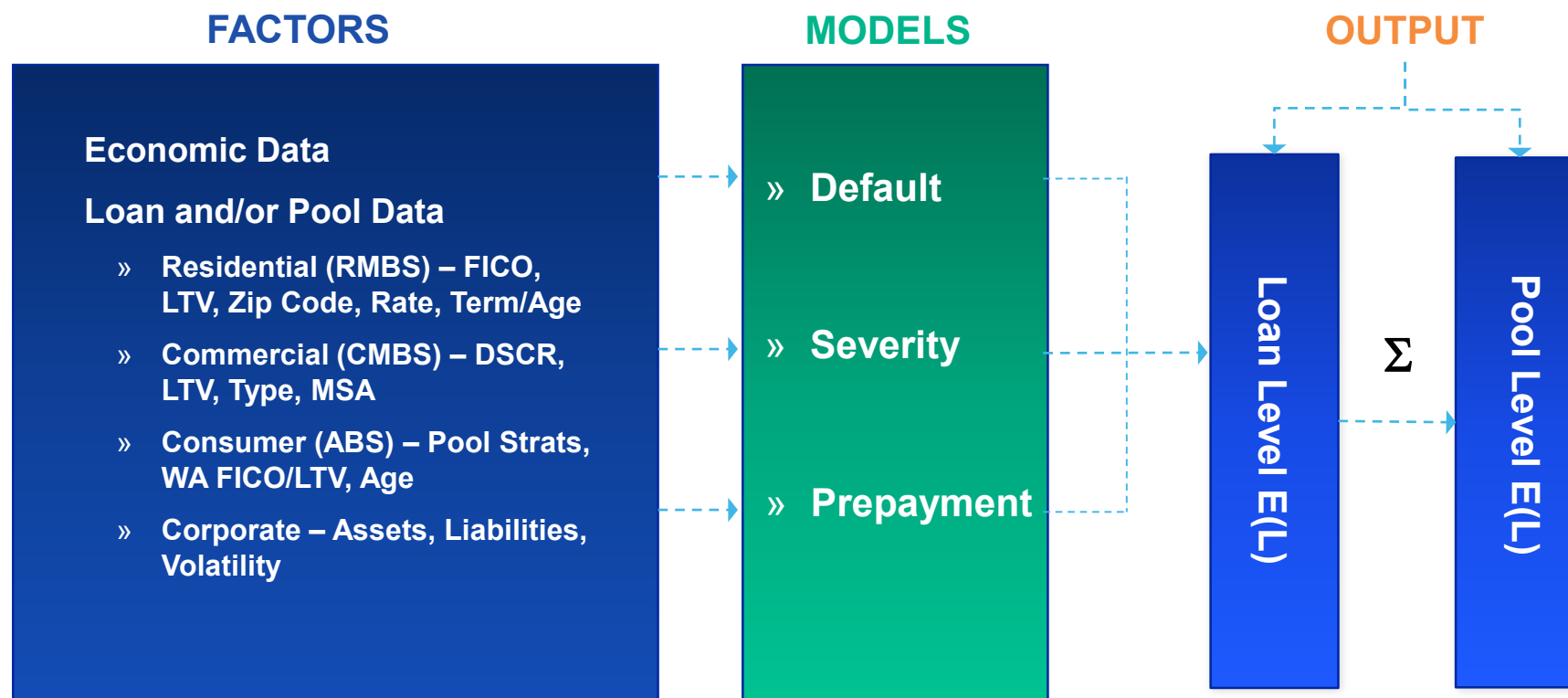
## Quantitative Approach

- » Complexity of underlying collateral and deal structure
- » Model-driven collateral forecasting
- » Analyst assumptions/overrides



# Credit Modeling Overview

For each asset type, forecast default, prepayment, and severity for each loan or pool in the transaction.



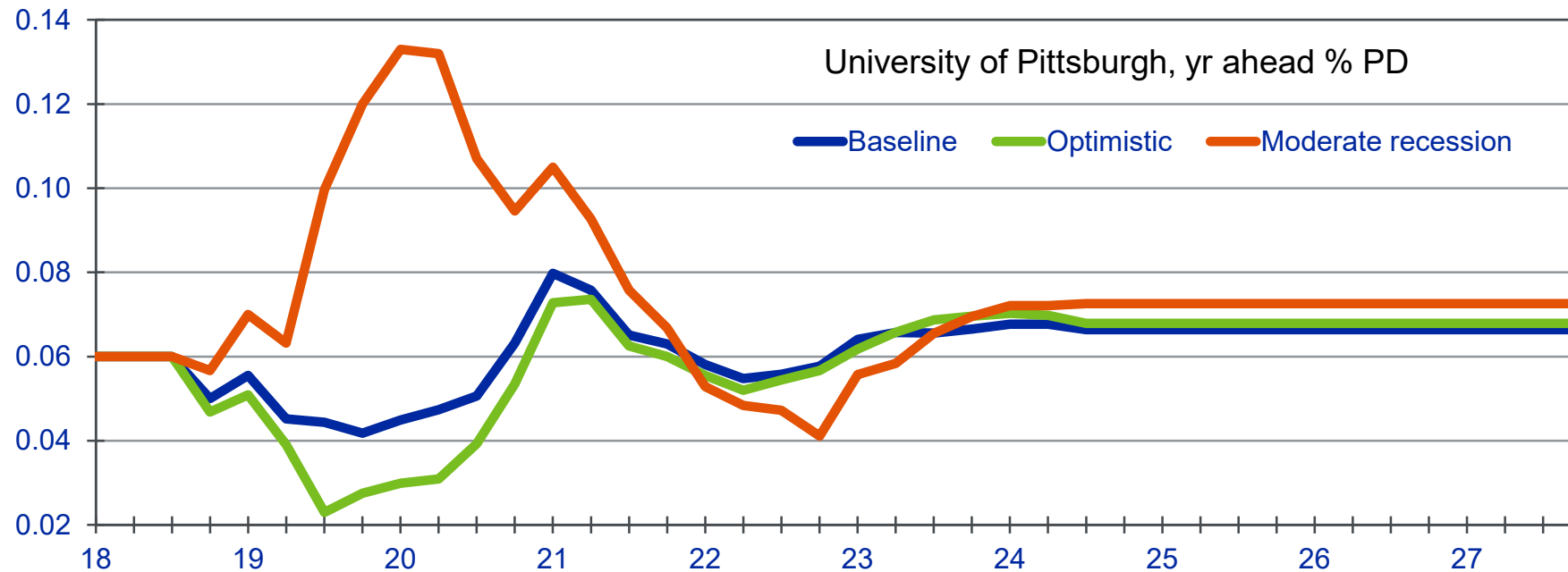
# Stress Potential Muni Credit Losses

## Muni Loss Forecasts: Scenario Conditioned PD and LR Forecasts

- » Allows users to stress individual muni issuers, or entire portfolios for CECL and other stress testing applications
- » Historical data spanning 5 decades and over 32,000 muni issuers
- » 2 step forecasting process links PDs to macroeconomic variables (national and sub-national) using structural models
- » Extensive off-the-shelf scenario coverage (S0-S9, Regulatory, etc.)

# Muni Loss Forecast Models

## Scenario-Conditioned and Issuer Specific



Source: Moody's Analytics



# Starting PD: TTC to PIT PD Converter

**Using Moody's internal models and data to produce a dynamic PD to rating map.**

## **(1) Credit cycle estimation**

Point-in-time PD term structure is adjusted to reflect the current credit cycle.

## **(2) Forward looking adjustments**

Additionally, for the calculation of lifetime ECL the tool extrapolates point-in-time PD term structure through the loan's maturity.



# Scenario Conditioning: GCORR Macro Model

- » **Industry Leading Model:** Moody's correlation framework is the industry standard to estimate clustered defaults and ratings downgrades in poor macro-economic conditions.
- » **Model ready to use “off the shelf”:** General segment, industry and country (including sector, region, industry, etc.) and asset correlation model that is calibrated on Moody's proprietary data set.
  - Parameterize credit factors to match risk of each individual exposure
  - Easily backtest/validate impairment estimates based on available loan loss history of individual institution (if available)
  - Annual updates of macro factors, relationships and credit factors
- » **Flexible Approach:** Model pre-calibrated to a full set of sector, industry, regional and asset class factors. For each run, user decides which variables will define the scenario and the tool creates a conditional model to reflect the scenarios impact on systemic credit risk.



# Questions & Answers

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