Moody's Analytics

Better Faster Decisions

Reinsurance Receivables Under CECL

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Agenda

1. Understanding CECL requirements for Reinsurance Receivables
2. Modeling approach
3. Q&A

Speakers

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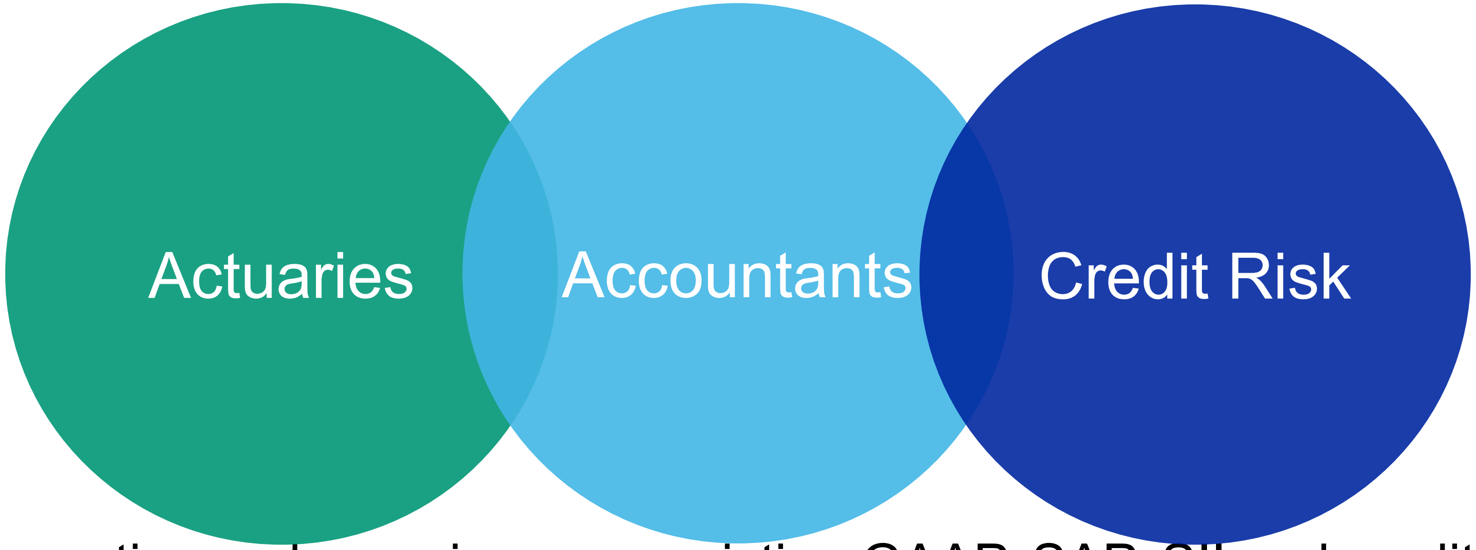
Common CECL Challenges for Reinsurance

- Contracts are highly customized and tailored
- Lack of historical loss experience data
- Accounting offset may exist



Leverage the expertise and experience on existing GAAP, SAP, SII and credit risk management practice

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Understanding the CECL Requirements

Reinsurance Receivables: Definition

- Current FASB accounting master glossary:

  Reinsurance Recoverable/Receivable

  All amounts recoverables from reinsurers for paid and unpaid claim settlement expenses, including estimated amounts receivables for unsettles claims, claims incurred but not reported, or policy benefits

- NAIC statutory report schedule F (for P&C business) use the same term and definition as existing GAAP.

Source of Uncollectible Receivables

- Disputes: due to the complexity of reinsurance contract, ceding company and its reinsurers may have different interpretation of the coverage
  - *the terms of the reinsurance contract do not reflect the intent of the parties of the contract or there is a disagreement between the parties as to their intent the terms of the contract cannot be legally enforced*
  - *the reinsurance transaction performs differently than anticipated due to a flawed design of the reinsurance structure, terms or conditions*
  - *the interpretation of the laws and regulations, materially impacts a reinsurance transaction, etc.*
- Financial difficulty: reinsurers may have trouble paying their claims on time
- Receivership: state regulator can take over once reinsurer is in trouble

CECL Requirement

» ASU 2016-13

– ***An entity shall measure contingent losses relating to disputed amounts in accordance with Subtopic 450-20 on loss contingencies. However, the ceding entity shall measure expected credit losses relating to reinsurance receivables in accordance with Subtopic 326-20 on financial instruments measured at amortized cost.***

– **only requires** measurement of expected losses related to the **credit risk of the reinsurer/assuming company**.

» Removes the term “collectability” and requires entities to measure

– Contingent loss relating to disputed amounts following ASU 450-20, and

– **Expected credit loss following CECL guidance for amortized cost instruments**.

CECL Requirements (continued)

- Collective vs. individual assessment:
  - If similar risk characteristics are not present in the reinsurance receivables, the ceding insurer should measure expected credit losses on an individual basis.
  - Similar risk characteristics include, but not limited to:
    - Reinsurance agreements that have standardized terms
    - Reinsurance agreements that involve similar insured risks and underwriting practices
    - **Reinsurance counterparties that have similar financial characteristics and face similar economic conditions**.

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CECL Modeling for Reinsurance Receivables

Reinsurance Receivables and Impairments

- » Reinsurance Receivables
  - *All amounts recoverable from reinsurers for paid and unpaid claim settlement expenses, including estimated amounts receivables for unsettles claims, claims incurred but not reported, or policy benefits*
  - Only expected losses related to the credit risk of the reinsurer are subject to CECL

Top Down vs. Bottom Up

- » Top Down Approach
  - Apply impairment rate for similarly rated companies based on duration of the receivables.
  - The challenge is the limited availability of historical loss data
- » Bottom Up Approach
  - Calculate expected losses on a collective or individual basis based on PD of the reinsurers and LGD/EAD of the receivables
  - Useful for differentiating risk

Lifetime ECL Measurement

- Bottom up approach
  - Lifetime Expected Credit Loss (ECL) is calculated as

$$ECL(t_0) = AC_{t_0} \cdot PD_{Maturity} \cdot LGD$$

- Amortized Cost (AC) can be thought of as the discounted value of Exposure at Default (EAD)
- Probability of Default (PD) and Loss Given Default (LGD) are needed

CECL Modelling for Reinsurance Receivables

» CECL allowance covers losses from three types:

Type 1: ECL on paid and unpaid claim, not settled yet (Life & P&C)
- Term is usually less than 6 months

Type 2: ECL from the IBNR claim (Life and P&C)
- Term is around 6 month; typically less than one year

Type 3: ECL from future claim (Life)
- Longer time horizon; term could be 10~20 years

» The three loss types above will have same PD term structure, but potentially different "maturity," EAD, and LGD

Measuring PDs

- PDs should reflect
  - The likelihood that the contract will not be fulfilled, due to financial difficulties
  - Term structure of PDs
    - type 1 has shorter maturity than type 3
  - Point-in-Time and forward looking assessment of future risk
- PD sources: forward-looking assessments from the markets, e.g., Moody's Expected Default Frequency (EDF)
  - Public firms: Implied from the equity market
  - Private firms: internal or external ratings + rating converter
- Additional considerations:
  - Parent vs subsidiary
  - Third-party guarantee

Moody's Expected Default Frequency (EDF) Measure

» EDF measures are *predicted probabilities of default* over some time horizon, e.g., one year

» EDF measures are *cardinal*, or absolute, measures of credit risk: they do not just rank order credit risk; rather, they provide exact probabilities

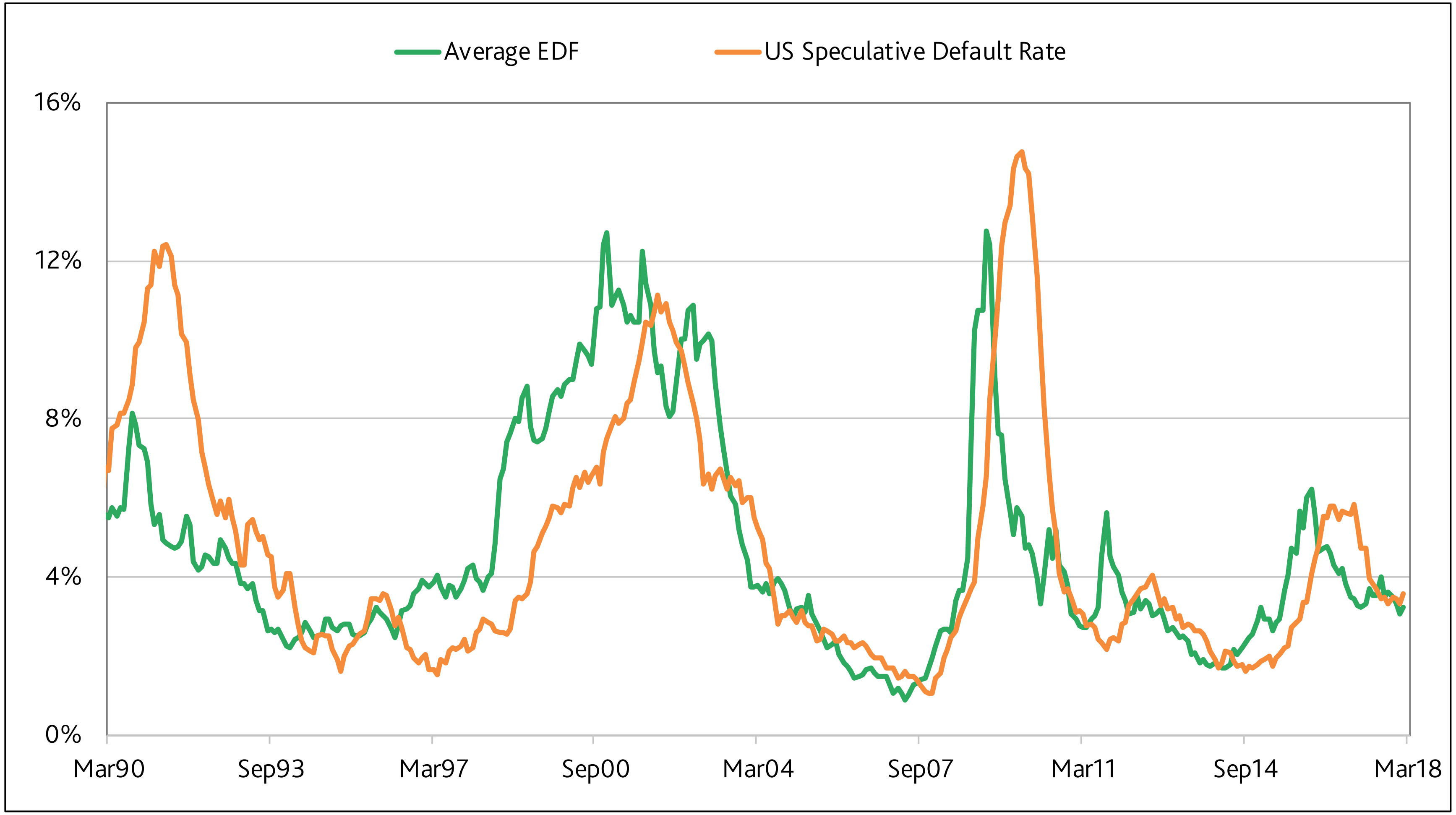
– An EDF measure of 1% for one-year horizon means that out of a portfolio of 100 firms of similar credit risk, we would expect one default by the end of the year, on average

– An EDF of 1% carries the same expected default risk across the business cycle

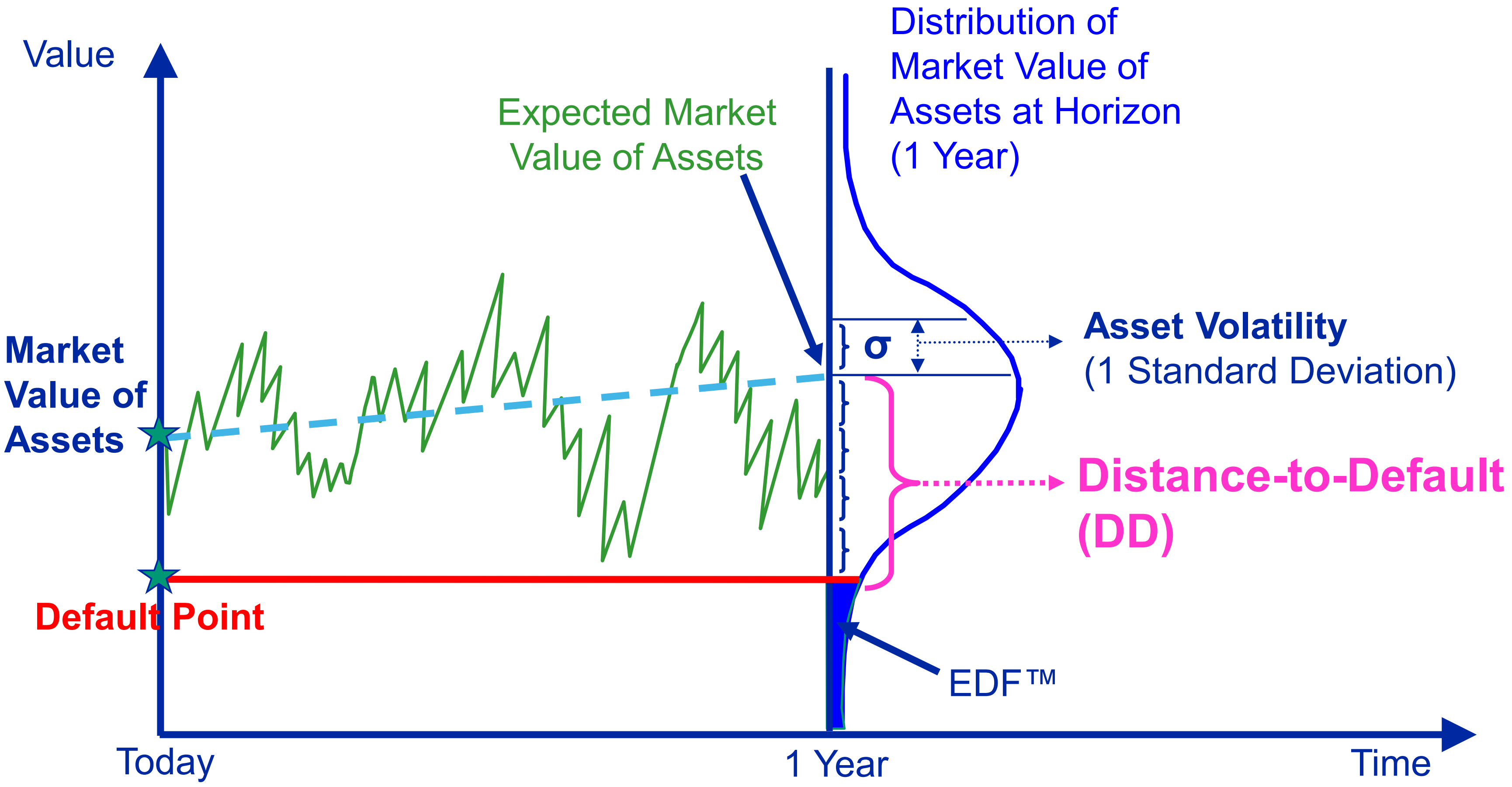
» EDFs are *point-in-time* measures of credit risk, meaning that they reflect all relevant risks, short-term and long-term

» EDF measures are *not* "equity market signals", they are measures of *credit risk*. EDF measures convey *fundamentally different information* from equity prices

EDF Measures Lead Realized Default Rates, and Generally Get the Levels Right As Well



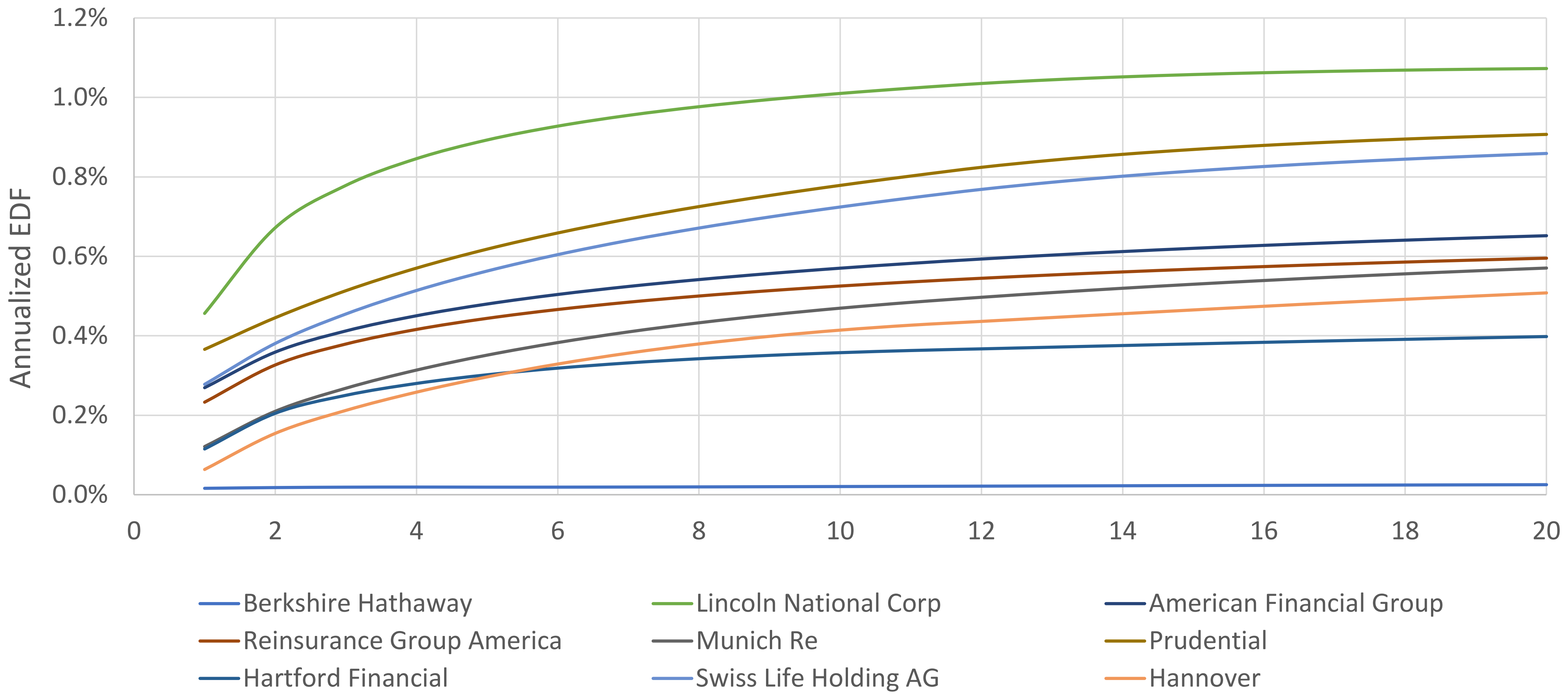
EDF model in a nutshell



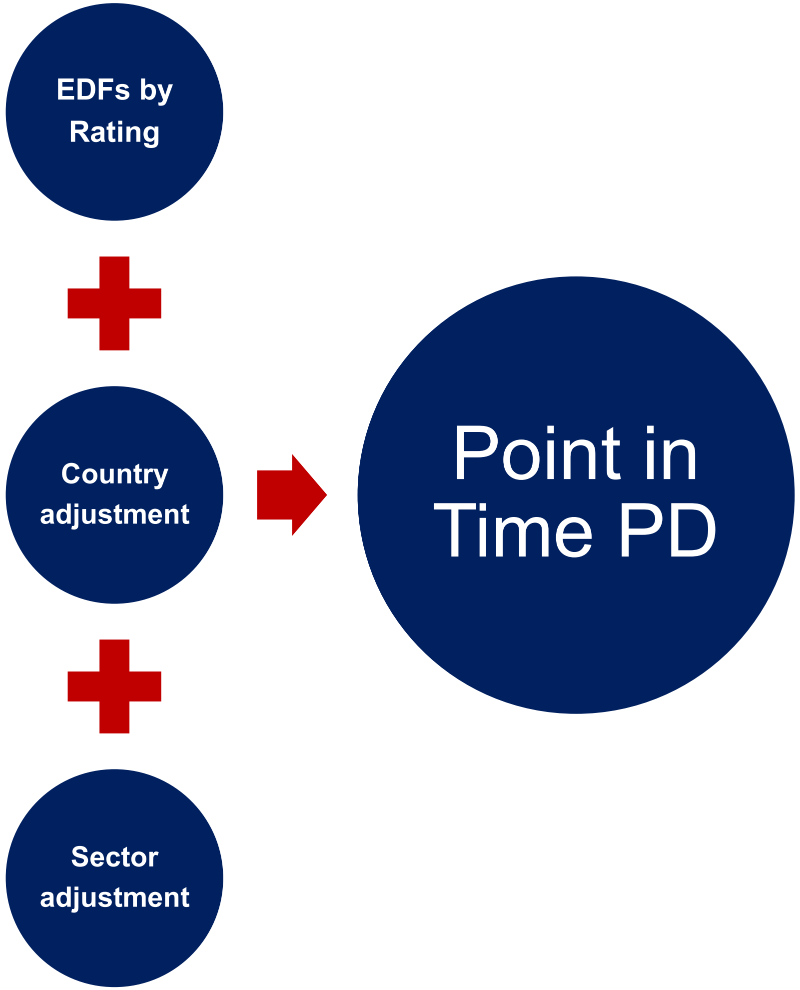
Distance-to-Default (DD) ≈ The number of standard deviations the Market Value of Assets is away from the Default Point

Differentiate Credit Risk for Each Company

Large Reinsurers in the US market

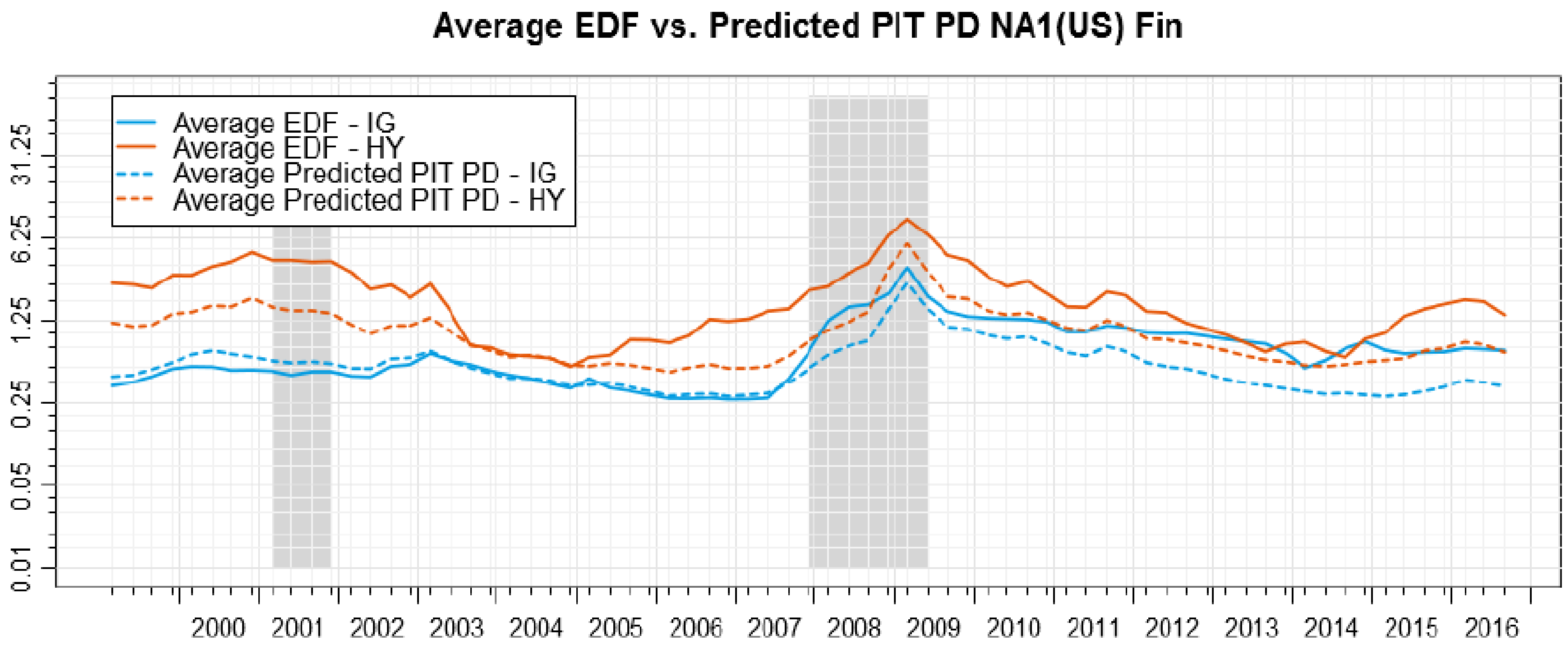


What if the Reinsurer Is a Private Firm? – Rating to PD Convertor



- Use the public firm EDF database to estimate the typical EDF given the rating
- Adjust for sector and country trends
- Use the EDF term structure to generate a Point-in-Time PD term structure
- Can be applied to a financial institution's internal rating

Ratings Converted into “Point-in-Time 1-year PD”



Should the PDs be Macro Scenario Conditioned?

» PDs based on market consensus reflect forward-looking assessment and implicit weighting of all possible future scenarios

» Reinsurers' PDs are less sensitive to the macro variables than corporate borrowers

» CECL does not require explicit scenario conditioning

» In general, internal and external ratings may also reflect certain forward-looking assessment of future scenario that may significantly affect reinsurers (e.g., how strong this year's hurricane season will be)

» If the internal or external ratings are 100% Through-The-Cycle (TTC), they need to be converted to a forward-looking Point-in-Time (PIT) version

Modeling EAD

» EAD and LGD for the three types should be estimated separately

– Otherwise, EAD and LGD need to be expected value averaged across the these types

– The degree of uncertainty and difficulty in estimation increases from type 1 to type 3

» EAD

– Exposure amount that may not be collectable

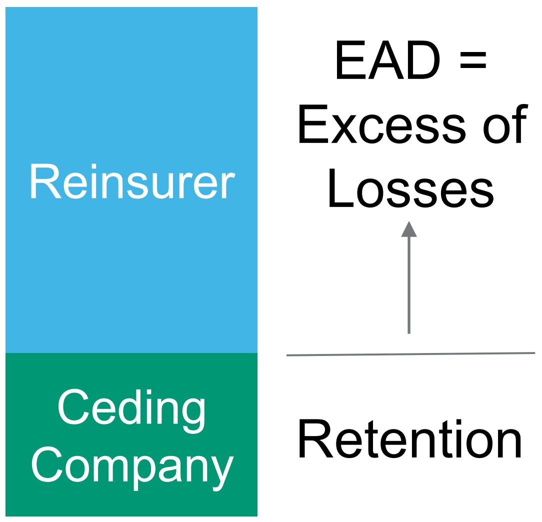
› Reinsurers only pay a stated percentage of claims

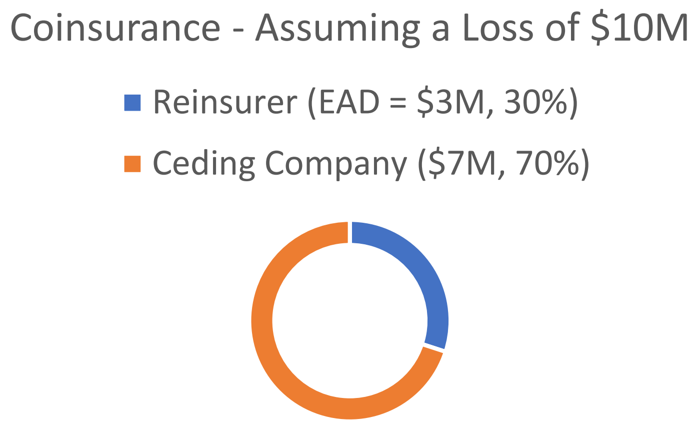
Ex. Coinsurance, Modco, Yearly renewable term

› Reinsurers are required to pay out only if the total claims suffered by the ceding company in a given period exceed a stated amount (Catastrophe, stop loss coverage)

– Can be potentially assessed from the actuarial system

– Hardest for type 3





Modelling LGD

- LGD is closely linked to how EAD is parameterized
  - If EAD is the total amount in default, LGD =(1- recoverable portion) of the EAD
  - If EAD is the amount the cannot be received, LGD =100%
- LGDs for reinsurance contracts are typically low because of high seniority of reinsurance claims by regulation
- LGDs depend on specific arrangements between the ceding companies and their reinsurers and are influenced by contract type, collateral, etc.
  - If the contract is fully collateralized, LGD=0

Questions & Answers

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