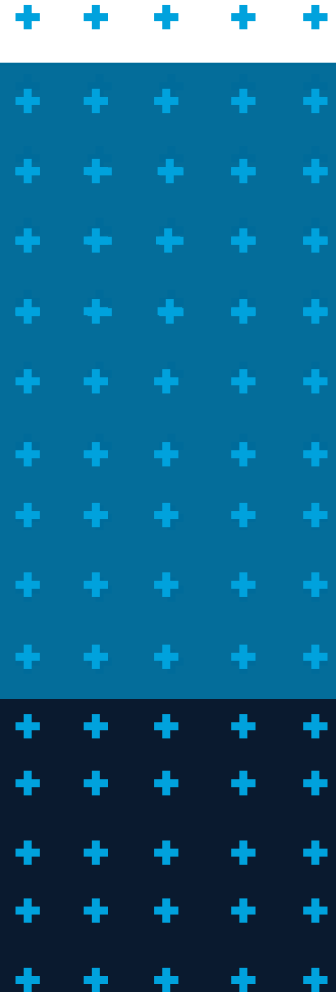


CECL: Implications and Approaches to Implementation

GARP Webcast Series

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Kevin Guckian



Kevin Guckian – Ernst & Young - Partner, National Professional Practice

Kevin Guckian is a Partner in Ernst & Young's National Professional Practice Group based in New York where he leads a group of partners and staff providing technical assistance on accounting issues related to US GAAP and IFRS, with a particular focus on financial instruments. Kevin has over 30 years of experience providing assurance and advisory services to companies in the financial services industry. Prior to his current role, Kevin served as an audit partner on large financial services entities. Kevin holds an MBA in Finance from Stern School of Business at New York University and a BS in Accounting from Saint Peter's University. He is a licensed CPA in New York, New Jersey and Pennsylvania.

Anna Krayn



Anna Krayn, Moody's Analytics, Team Lead, Impairment, Capital Planning and Stress Testing

Anna Krayn is a Senior Director and Team Lead, responsible for solution structuring across Moody's Analytics products and services focusing on impairment, stress testing and capital planning solutions. Her clients include a variety of financial services institutions, including those in the banking and insurance sectors across Americas. Prior to her current role she was with Enterprise Risk Solutions as engagement manager leading projects with financial institutions across Americas in loss estimation, enhancements in internal risk rating capabilities and counterparty credit risk management. Anna holds a B.S. and MBA from Stern School of Business at New York University.

Emil Lopez

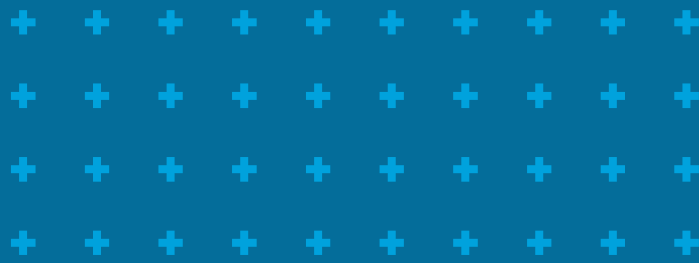


Emil Lopez, Moody's Analytics, Director – Risk Measurement

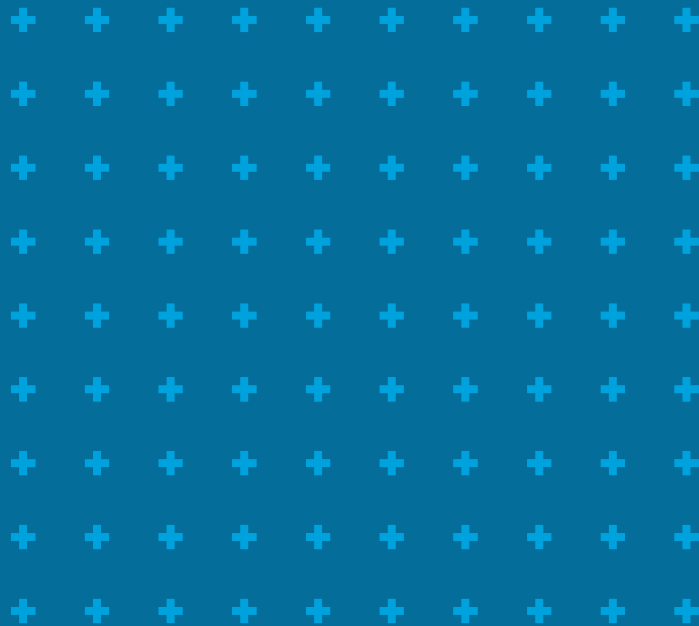
Emil Lopez is a Director in the Moody's Analytics Risk Measurement Group, where he leads risk modeling advisory engagements and manages the team's data quality, risk reporting, and IFRS 9/CECL research. Prior to joining the group, he oversaw operations for Moody's Analytics Credit Research Database, one of the world's largest private firm credit risk data repositories. Emil has extensive experience in credit risk modeling and reporting, data sourcing, and quality control. Emil has an MBA from New York University and a BS in Finance and Business Administration from the University of Vermont.

Agenda

- » The Road to CECL
- » CECL vs. IFRS 9
- » Practical Implementation Considerations
- » Disclosures
- » Timelines



○ The Road to CECL



The credit loss journey



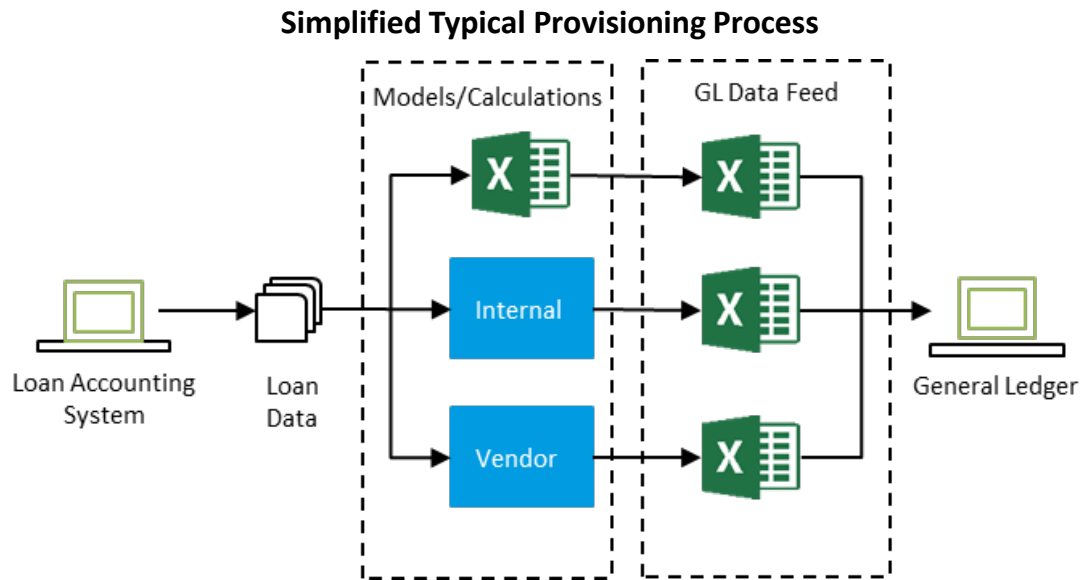
- » The financial crisis of 2008 exposed weaknesses in the existing incurred loss model
 - Complexity of and differences among various models
 - Delay in recognition of losses
- » The Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) discussed and proposed many approaches to impairment
- » FASB’s final standard should accelerate recognition of credit losses

What is changing?

- » The probable initial recognition threshold is removed
- » Entities will consider reasonable and supportable forecasted information when forming expectations of credit losses
- » Estimate of expected credit loss must reflect the risk of loss, even when that risk is remote
- » Purchased financial assets with credit deterioration (PCD) will be more comparable with originated and non-PCD assets
- » Entities will disclose significantly more information, including information they use to track credit quality by year of origination (vintage) for most financing receivables
- » For securities:
 - HTM will be in the scope of CECL
 - For available-for-sale debt securities with unrealized losses, entities will measure credit losses in a manner similar to what they do today, except that the losses will be recognized as allowances rather than reductions in the amortized cost of the securities.

Review of current state

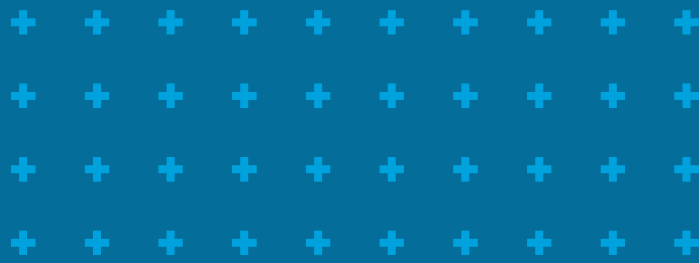
- » From a systems perspective, most institutions rely on Excel-based calculation / assembly at one or more points in the process



- » Reliance on spreadsheet processes sustainable thus far due to prevalence of historical loss / segment level models
- » Qualitative overlays (q-factors) tend to be proportionately higher for smaller firms

Audit considerations

- » At this time, not expecting any new standards to explicitly address CECL
- » Continue to look to AS 2501 (PCAOB)/AU 342 (AICPA), *Auditing Accounting Estimates*
- » Continue to consider SAB 102 when evaluating methodology
- » Auditors will now need to audit
 - Data and assumptions from outside traditional accounting systems, including forward-looking data and assumptions
 - More complex credit loss models
- » On assumptions, will focus on
 - To the extent possible, reasonableness of assumptions using external information
 - Consistency in the process for developing or obtaining assumptions
 - Consistent use of similar data and assumptions
 - How they change over time
 - Directional consistency
 - Controls, controls, controls!!!



○ CECL vs. IFRS 9



FASB vs. IASB's new impairment frameworks

FASB's CECL

- » "Life of loan" loss estimate upon initial recognition of asset
- » Refinement of impairment model for AFS debt securities
- » Initial allowance for PCI Assets and wider application; amortized cost based on purchase price plus initial allowance
- » Implementation by 2020-2021

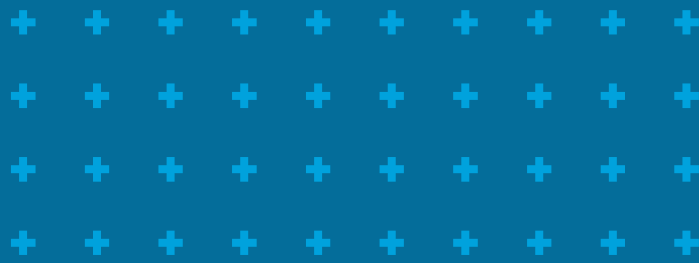
IASB's IFRS 9

- » 12-month forward look for performing loans
- » Life of loan loss recognition upon significant deterioration
- » Three bucket impairment model
- » Unbiased, probability-weighted scenarios
- » No initial allowance for PCI Assets; use credit-adjusted interest rate
- » Implementation by 2018

- » **"Probable" and "Reasonably Estimable" thresholds for estimation no longer applicable**
- » **Credit loss estimates that reflect historical, current, and forward looking information**
- » **Use reasonable and supportable forecasts**
- » **Scalability based on size and complexity**

Considerations for firms subject to both standards

- » Timeline of adoption likely to cause multiple parallel processes
 - IFRS 9 implementation in 2018 (parallel runs during 2017)
 - Financial Instruments – Credit Losses standard adoption in 2019 / 2020 / 2021 (parallel runs during 2018 / 2019 / 2020)
- » Added complexity of calculation has impact on system requirements:
 - IFRS 9 impairment calculation requires tracking of stages, use of multiple scenarios
 - CECL approach is not equal to IFRS 9 stage 2/3 calculations
 - Speed of calculation post quarter close



○ Practical Implementation Considerations



Methods for estimating expected credit losses

Discounted Cash Flow Model (DCF)

- » Forecast future cash flows/shortfalls over remaining term, discounted at the effective rate
- » ECL is the Amortized Cost Basis less the PV of expected Future Cash Flows

Loss Rate

- » Apply a historic loss rate percentage, either collective or individual evaluation
- » Provision matrices where loss rates are applied to aging category (e.g., trade receivables)

Roll Rate

- » Common among retail portfolios
- » Roll rates estimate the proportion that “rolls” from one delinquency stage to the next

Vintage Analysis

- » Common among retail portfolios
- » Vintage analysis estimates ECL incorporating seasoning and/or origination quality

PD, LGD, and EL

- » Separates default and recovery risk, providing greater insight into the ECL estimate
- » Typically delivered through single-obligor models or scorecards for wholesale portfolios

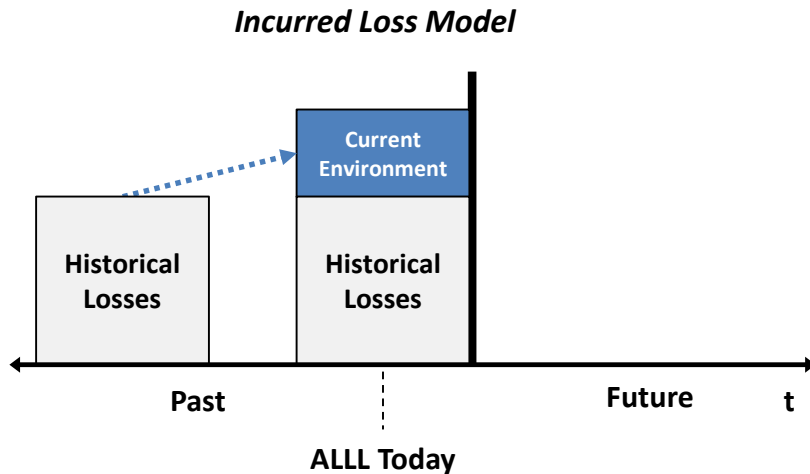
- » These methods must reflect measurement of lifetime risk and incorporate adjustments for current conditions and supportable forward looking information

**CECL also allows practical expedients for collateral-dependent loans (e.g., repayment through foreclosure and sale of CRE property), or with collateral maintenance*

Reasonable and supportable forecasts

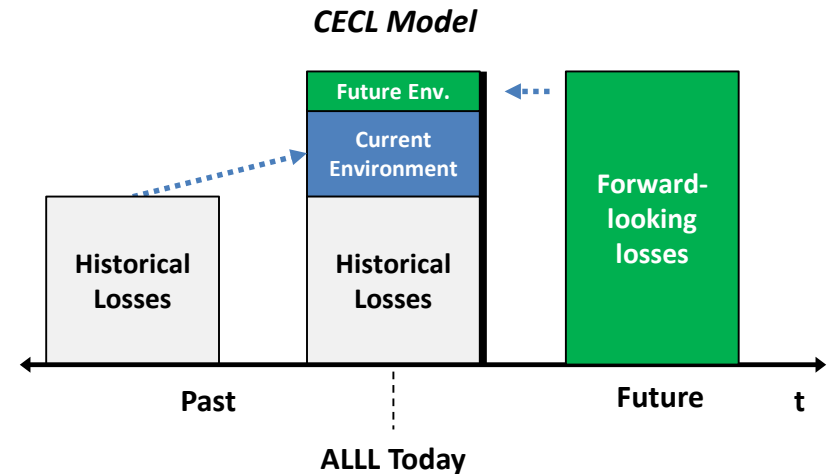
- » Preparers told the FASB that ignoring forecasts would result in a misleading expected credit loss estimate
- » “Reasonable and supportable” puts parameters around what forecasted information is acceptable to include in the estimate
- » Entities are not required to develop forecast over the contractual term of the financial asset or groups of financial assets
- » For periods beyond which they cannot make or obtain reasonable and supportable forecasts, the entity shall revert to historical loss information that is reflective of the contractual term
- » Undue cost and effort

CECL may change application of qualitative overlays



» Today, qualitative overlays (Q-factors) adjust model or historical loss driven allowances to account for differences with regards to:

- Lending policies (e.g. underwriting)
- Credit monitoring / loan review
- Portfolio characteristics
- Business conditions
- Composition of nonperforming loans
- Value of collateral
- Competition and regulatory requirements
- Others



» Under CECL, they may also need to account for forward looking expectation if not accounted elsewhere (i.e. through scenario conditioned credit risk models)

*Even more significant source of judgment!
Therefore, defensible, auditable and transparent
process will be required*

Data capture considerations

1

Model Development

- » Data to cover at least one economic cycle
- » Granularity of data and methodology choice are interrelated
- » For acquisitive firms, relevancy of historical data may be questionable
- » Coarse industry data (e.g. call reports, etc.) can be useful but requires adjustment for acquisition activity

2

Calculation

- » Related to choice of methodology
- » If changing from a segment-level to loan-level approach, capture of borrower and exposure characteristics (and therefore linkage to source systems)

3

Qualitative Overlay

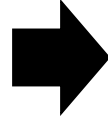
- » Depends on what is intended to be captured by Q-factors
 - Economic forecasts (by portfolio segment, geographical footprint)
 - Current conditions (e.g. point in economic cycle)
 - Changes in portfolio characteristics, underwriting standards

Incorporating forward-looking information quantitatively

Approach

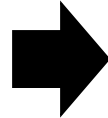
Key Characteristics

Direct Forecast of Risk Measure



- » Macro data embedded directly as a variable in the risk model
- » Requires sufficient default/recovery/loss data

Change in Risk Measure



- » Models the shock to PD/LGD/Loss
- » Requires a reliable starting-point risk measure
- » Often based on the observed relationship between macro variables and a risk estimate rather than observed defaults/recoveries

Change in Risk Measure's Drivers



- » Models the impact of macro variables on factors underlying the PD/LGD/Loss (profitability, systematic factors, etc.)
- » Requires access to sufficient data on the underlying risk drivers

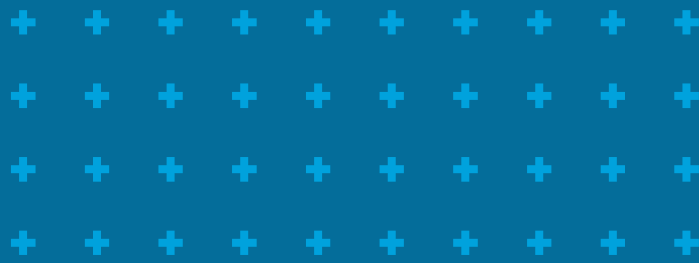
- » These methods were commonly used for stress testing
- » However, stress testing models are often estimated to perform really well under distressed scenarios, not baseline or expansionary scenarios

Implication for a quarterly reporting process

- » The quarterly process will allow as little as 10 days to:
 - Get the input data
 - Run multiple scenarios
 - Make qualitative adjustments / overlays
 - Management narrative and disclosures



- » Process automation is critical:
 - Integration of data sources
 - Automation of model execution
 - Automation of workflow and review
 - Management and disclosure reporting



○ Disclosures



Disclosures on Credit Quality of Financing Receivables & Allowances



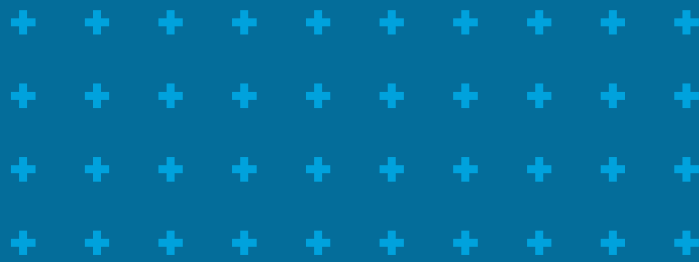
- » By Class (i.e. amortized cost, purchased credit impaired) or
- » By Segment (i.e. type of financing receivable, industry sector, etc.)

- » Roll forward schedule of credit loss allowances
- » Credit quality indicators (i.e. ratings)
- » Aging of past due financing receivables
- » Information on TDR and defaults post restructurings
- » Significant purchases and sales of financing receivables

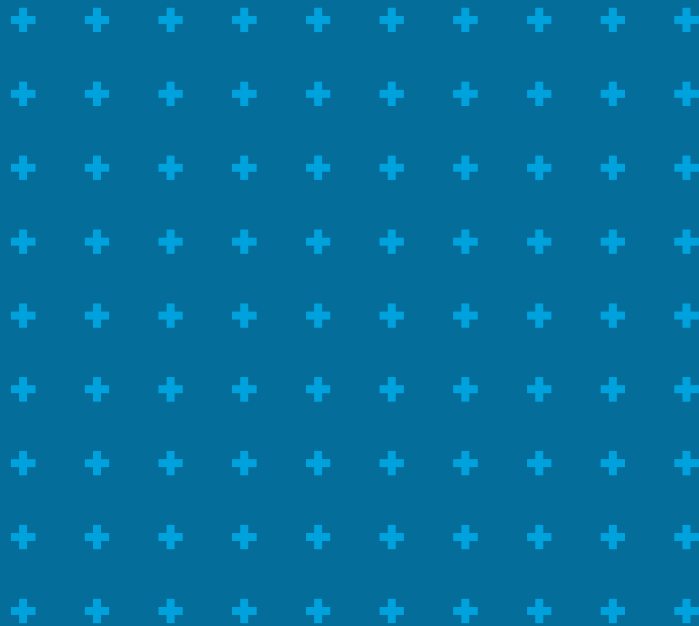
- » Further disaggregate credit quality for each class of loans by year of origination

EVALUATE

- Nature of credit risk inherent in the portfolio
- How that risk is analyzed and assessed
- The changes and reason for changes in the allowance



○ Timelines



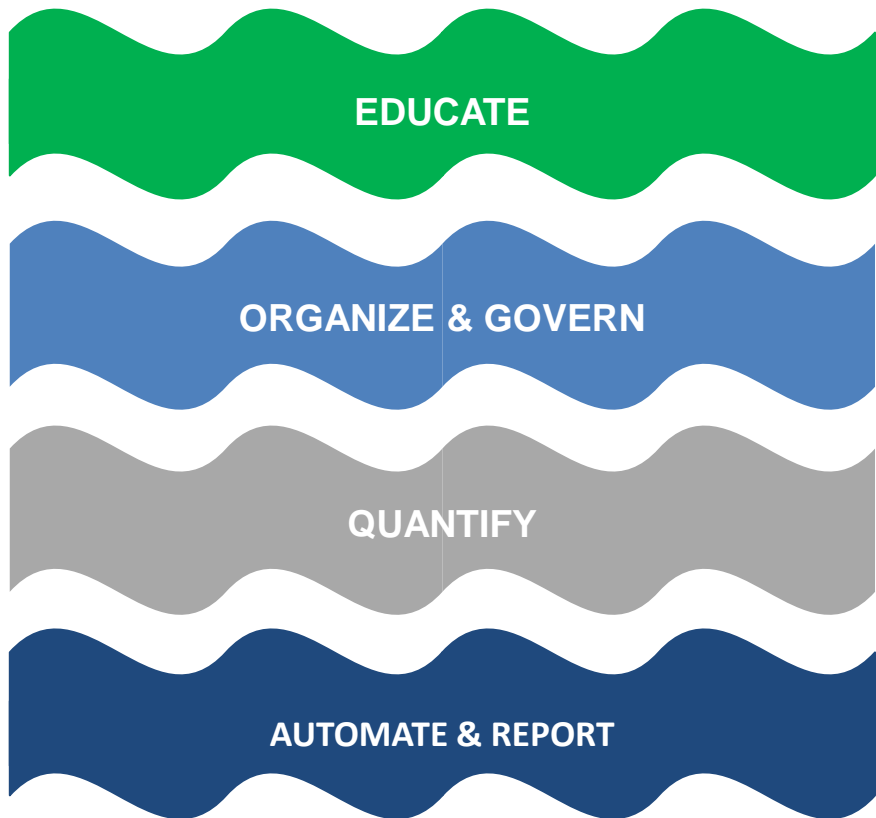
Effective date and transition

Type of entity	Effective date	Early adoption?
Public business entities (PBEs) that are SEC filers	Annual periods beginning after 15 December 2019, and interim periods therein	Yes, annual periods beginning after 15 December 2018, and interim periods therein
Other PBEs	Annual periods beginning after 15 December 2020, and interim periods therein	
All other entities	Annual periods beginning after 15 December 2020, and interim periods within annual periods beginning after 15 December 2021	

- » An entity will apply the new guidance using a modified retrospective approach
 - Recognize a cumulative-effect adjustment as of the beginning of the first reporting period in which the guidance is effective

What to think about now

CECL Implementation Cycle



- » Executive Education
- » Internal Training

- » Operational Training
- » Staff Coursework

- » Gap analysis
- » Framework design

- » Project planning
- » Program management

- » Credit risk models
- » Cash flow generation
- » Economic forecasts

- » Benchmark Data
- » Qualitative Adjustments (supporting data)

- » Calculation engine / model execution
- » Workflow

- » Management reporting
- » G/L Posting
- » Disclosures

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