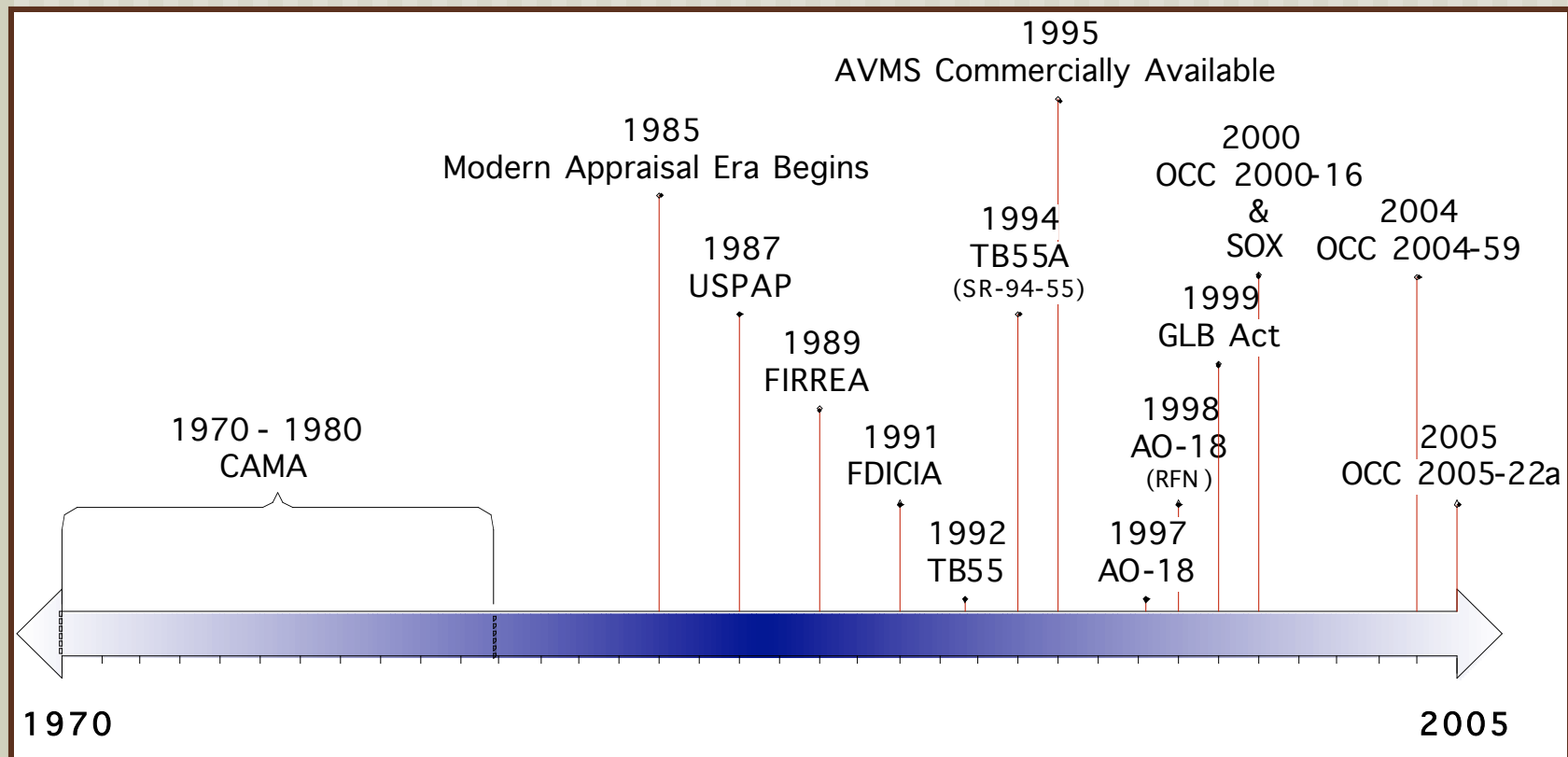


# AVM Testing Regulatory Guidance

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Interpretation of  
Regulatory Guidance from  
the OCC, OTS, FDIC,  
NCUA

# AVM Regulatory Timeline



# The Main Bulletin: OCC 2000-16

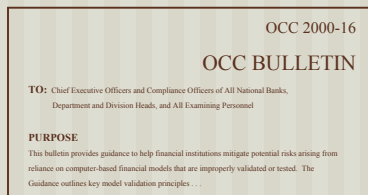
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## ***This bulletin was Implemented to address Risk Modeling and Model Validation Issues***

- Guidance to financial institutions on how to manage risks arising from reliance on computer-based financial models.
- Key model validation principles and expectations for a sound model validation process.
- Definition of “Model Risk”: too broad an interpretation of model results or the incorrect use of a model.

# 2000-16 Reflects the Regulator's Approach to Model Validation

The Basic Question: What is Done, is it Documented?



OCC Bulletin 2000-16 covers the basics of model validation policy.

Documentation!



1. Model theory and construction
2. Model validation policy and procedures
3. Model operating procedures
4. Reporting (e.g.: internal reports)

# Model Components from OCC 2000-16

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***Models consist of three components:***

- **Informational input** (*data used by model*)
- **Processing** (*theory and code that converts inputs into estimates*)
- **Reporting** (*results put into usable business presentation*)

***“an effective model validation process must address all three components.”***

# *General Procedures for Model Validation from OCC 2000-16*

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1. “(An) Independent Review of the logical and conceptual soundness (of the Model)”
2. “(A) Comparison against other (similar) models”
3. “(A) Comparison of (the) model predictions against subsequent real world events”

*In order to satisfy these requirements a lender needs to develop an internal or outsourced testing and auditing program that encompasses the requisite statistical skills that is independent from the vendors providing these services and products.*

# Model Validation Should Take Into Account Uses

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- As with any model, an AVM cannot be “validated” in a vacuum – only for a specific set of applications
- For a HELOC, where collateral value may not be particularly important to overall risk, the implications of a lower precision model may be less – but watch out for default rates!
- For a 100% LTV first, the loss implications may be much greater.
- AVM’s should be approved for use with particular products, with the potential cost of the estimated error rates calculated using the relevant credit model.

# Model Mechanics Cannot Be Assumed to Work

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## BIG NOTE:

Buying a vendor model does not eliminate the need for independent validation

## Rules of good validation:

- Independent review
- Qualified reviewers
- Documented exercises
- Continual review

## Methods for Validating Internal Processes

- Theoretical (abstract) review
- Running parallel models
- Proofreading code
- Backtesting

# The First Bulletin to address the use of AVM's: OCC 2004-59

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Bulletin OCC-59 only briefly addresses AVMs in its 134 pages. It directs lenders to focus on testing and understanding when testing comes to using AVMs. For example the bulletin states: *“If the bank uses such tools as Automated Valuation Models (AVMs) or Tax Assessment Values to meet evaluation requirements, [the bank must] determine the extent of usage (i.e. for portfolio management or to underwrite individual loan transactions). Also [the bank must] ascertain how management evaluates and ensures the accuracy and validity of these tools on an ongoing basis [separate and apart from the vendor providing the service or product].”*

# Lenders need to:

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- Understand OCC 2000-16 – examiners use this in the AVM Model Validation process (Testing & Auditing)
- Hire subject matter expertise - internal or outsource which is independent from the vendor providing services
- Document your Model Validation processes and “Trend” your resulting analytics
- Testing and Auditing results should be reflected in your policy, procedures and collateral risk decisioning

# Guidance from OCC 2005-22

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Lenders should have appropriate collateral valuation policies and procedures that ensure compliance with the agencies' appraisal regulations and the "Interagency Appraisal and Evaluation Guidelines" (guidelines) In addition, the institution should:

- Implement policies and controls to preclude "value shopping."
- When AVMs are used to support evaluations or appraisals, the financial institution should validate the models on a periodic basis to mitigate the potential valuation uncertainty in the model.
- Financial institutions that use AVMs should have an understanding of how the model works as well as what the confidence scores mean, and should also establish the confidence levels that are appropriate for the risk in a given transaction or group of transactions.

# Users Who Use Multiple AVM's Need to Validate Two Major Pieces

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1. Independent Validation of each AVM independent from the vendors providing AVMs
2. Validation of AVM choice engine independent from vendor providing the choice engine

# Rules of Good Model Validation

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- DOCUMENT YOUR WORK!
- All Models Are Wrong – You need to understand where they break down.
- Clear and candid reporting, which should include shock scenarios, not just current expectations.

# The Three Rules of Good Modeling

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