

Quiz: Lesson 7.4 – Model Risk Governance and Validation  
Module 7: The Compliance Problem

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## Question 1 (Understand)

What is the definition of model risk according to SR 11-7?

- A The probability that a model will produce statistically insignificant results
- B **The potential for adverse consequences from decisions based on incorrect or misused model outputs**
- C The risk that a model will be too expensive to maintain
- D The risk that competitors develop better models

## Question 2 (Understand)

Which regulatory document established the foundational framework for model risk management in US banks?

- A SR 11-7 (2011)**
- B GDPR Article 22
- C Basel III Capital Accord
- D Dodd-Frank Act Section 165

## Question 3 (Understand)

What are the three pillars of the SR 11-7 framework?

- A Model development, model validation, model use and governance**
- B Data quality, algorithm design, deployment
- C Risk assessment, capital allocation, reporting
- D Prevention, detection, response

## Question 4 (Understand)

In the three lines of defense, what is the role of the 2nd line?

- A Deploy models into production systems
- B **Provide independent validation and effective challenge of models**
- C Audit the overall model risk governance framework
- D Build and maintain models in production

## Question 5 (Understand)

Which of the following is NOT one of the three components of model validation?

- A Benchmarking
- B Conceptual soundness
- C Outcome analysis
- D **Profitability assessment**

## Question 6 (Apply)

A large bank has a Basel IRB PD model used for regulatory capital calculations. What tier should this model be assigned?

- A Untiered (no formal validation required)
- B **Tier 1 (annual validation, full independent review)**
- C Tier 2 (biennial validation, targeted review)
- D Tier 3 (triennial validation, streamlined review)

## Question 7 (Apply)

A bank's VaR model produced 7 exceedances over 250 trading days at the 99% confidence level. In which Basel traffic light zone does this fall?

- A Yellow zone (capital multiplier of 1.38x)**
- B Red zone (capital multiplier of 1.75x or higher)
- C Cannot be determined without additional information
- D Green zone (no capital impact)

## Question 8 (Understand)

What is the primary purpose of a model inventory?

- A To maintain a centralized register of every model used, including ownership, validation status, and tier**
- B To track the profitability of each model
- C To store the source code of all models
- D To rank models by computational performance

## Question 9 (Analyze)

In the London Whale incident (2012), which model governance failure was most directly responsible for the \$6.2 billion loss?

- A The model used incorrect market data feeds
- B The model was too complex for the available compute infrastructure
- C The model had never been backtested
- D **The VaR model was changed without independent validation or formal change control**

## Question 10 (Apply)

During champion-challenger testing, the challenger model shows a Gini coefficient of 0.72 compared to the champion's 0.70, but the challenger uses a deep neural network while the champion is logistic regression. What should the Model Risk Committee recommend?

- A Immediately replace the champion with the challenger
- B Deploy both models simultaneously in production
- C **Extend the test period, as the marginal improvement may not justify the added complexity and explainability challenges**
- D Discard both models and develop a new one

## Question 11 (Understand)

What does the Population Stability Index (PSI) measure in model monitoring?

- A The percentage of the population covered by the model
- B The accuracy of model predictions over time
- C **Whether the distribution of model inputs or outputs has shifted compared to the development sample**
- D The computational stability of the model under load

## Question 12 (Analyze)

A model validator finds that a credit risk model's Gini coefficient has dropped from 0.65 to 0.52 over the past year. What type of drift does this indicate and what action is required?

- A Parameter drift; recalibrate the model and continue
- B Data drift; no action needed until the next scheduled review
- C **Performance drift exceeding the 10% threshold; escalation to Model Risk Committee is required**
- D Concept drift; the model should be immediately retired

## Question 13 (Understand)

Why is non-determinism a fundamental challenge for GenAI/LLM governance?

- A It makes models too slow for real-time applications
- B It prevents models from being deployed in cloud environments
- C It increases the computational cost of model execution
- D **It means the same input can produce different outputs, breaking traditional validation approaches that assume reproducibility**

## Question 14 (Apply)

A bank wants to use an LLM to generate summaries of credit committee meeting notes. Under current best practices, how should this be classified?

- A Tier 1 (high risk by default for GenAI, requiring full governance including human-in-the-loop review)**
- B Not a model (no governance required)
- C Tier 2 (medium risk, standard governance)
- D Tier 3 (low risk, minimal governance needed)

## Question 15 (Understand)

What is prompt injection in the context of LLM governance?

- A A standard validation technique for testing LLM robustness
- B A method for calibrating LLM temperature parameters
- C A technique for improving model accuracy by providing better prompts
- D **An attack where adversarial instructions are embedded in data to manipulate LLM behavior**

## Question 16 (Apply)

An audit trail for a model must be retained for a minimum of how many years, and in what type of storage?

- A 3 years, standard database
- B 1 year, any storage with backup
- C **7 years (10 in some jurisdictions), immutable write-once-read-many (WORM) storage**
- D 5 years, encrypted cloud storage

## Question 17 (Analyze)

A sensitivity analysis reveals that a 0.5% change in a single input parameter causes a 40% change in model output. What does this indicate?

- A The model is well-calibrated and responsive to market conditions
- B The model is performing within expected parameters
- C **The model has a cliff effect and may be fragile — this should be flagged as a validation finding**
- D The model needs more training data to stabilize

## Question 18 (Understand)

Which UK regulation, effective from 2024, established comprehensive model risk management principles for PRA-regulated firms?

- A UK Online Safety Act
- B **PRA SS1/23**
- C Bank of England Monetary Policy Framework
- D FCA Handbook SYSC 7

## Question 19 (Evaluate)

A bank is deciding whether to use a complex ensemble ML model or a simpler logistic regression for credit scoring. The ML model has a Gini of 0.74 and the logistic regression has a Gini of 0.71. Which is the better choice from a model risk governance perspective?

- A The ML model, because it has higher predictive power
- B **The logistic regression is likely preferable, as the marginal accuracy gain does not justify the added complexity, explainability challenges, and governance costs**
- C Neither model is acceptable; a Gini of at least 0.80 is required for regulatory models
- D Either model is acceptable since both exceed a 0.70 Gini threshold

## Question 20 (Evaluate)

Under GDPR Article 22 and the EU AI Act, what specific audit trail capability is required for AI-driven credit decisions?

- A Recording the model name and version number
- B Logging the final credit score only
- C Storing a copy of the entire training dataset
- D **Providing a meaningful explanation of the decision logic, including the key factors that influenced the outcome, retrievable for the affected individual**