Dear Member,

**Really, what is a model?**

The term model refers to a quantitative method, system, or approach that applies statistical, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates.

Good definition?
Let’s read more.

**Today we will start from something very important:**
Some guidance for **model risk management**

**Board of Governors of the Federal Reserve System**
**Office of the Comptroller of the Currency**
**SUPERVISORY GUIDANCE ON MODEL RISK MANAGEMENT**

Banks rely heavily on **quantitative analysis and models** in most aspects of financial decision making.

They routinely use models for a **broad range of activities**, including underwriting credits; valuing exposures, instruments, and positions;
measuring risk; managing and safeguarding client assets; determining capital and reserve adequacy; and many other activities.

In recent years, banks have applied models to more complex products and with more ambitious scope, such as enterprise-wide risk measurement, while the markets in which they are used have also broadened and changed.

Changes in regulation have spurred some of the recent developments, particularly the U.S. regulatory capital rules for market, credit, and operational risk based on the framework developed by the Basel Committee on Banking Supervision.

Even apart from these regulatory considerations, however, banks have been increasing the use of data-driven, quantitative decision-making tools for a number of years.

The expanding use of models in all aspects of banking reflects the extent to which models can improve business decisions, but models also come with costs.

There is the direct cost of devoting resources to develop and implement models properly.

There are also the potential indirect costs of relying on models, such as the possible adverse consequences (including financial loss) of decisions based on models that are incorrect or misused.

Those consequences should be addressed by active management of model risk.
II. PURPOSE AND SCOPE

The purpose of this document is to provide comprehensive guidance for banks on effective model risk management.

Rigorous model validation plays a critical role in model risk management; however, sound development, implementation, and use of models are also vital elements.

Furthermore, model risk management encompasses governance and control mechanisms such as board and senior management oversight, policies and procedures, controls and compliance, and an appropriate incentive and organizational structure.

Previous guidance and other publications issued by the OCC and the Federal Reserve on the use of models pay particular attention to model validation.

Based on supervisory and industry experience over the past several years, this document expands on existing guidance—most importantly by broadening the scope to include all aspects of model risk management.

Many banks may already have in place a large portion of these practices, but all banks should ensure that internal policies and procedures are consistent with the risk management principles and supervisory expectations contained in this guidance.

Details may vary from bank to bank, as practical application of this guidance should be customized to be commensurate with a bank’s risk exposures, its business activities, and the complexity and extent of its model use.

For example, steps taken to apply this guidance at a community bank using relatively few models of only moderate complexity might be
significantly less involved than those at a larger bank where use of models is more extensive or complex.

III. OVERVIEW OF MODEL RISK MANAGEMENT

For the purposes of this document, the term model refers to a quantitative method, system, or approach that applies statistical, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates.

A model consists of three components:

1. An information input component, which delivers assumptions and data to the model;
2. A processing component, which transforms inputs into estimates;
3. A reporting component, which translates the estimates into useful business information.

Models meeting this definition might be used for analyzing business strategies, informing business decisions, identifying and measuring risks, valuing exposures, instruments or positions, conducting stress testing, assessing adequacy of capital, managing client assets, measuring compliance with internal limits, maintaining the formal control apparatus of the bank, or meeting financial or regulatory reporting requirements and issuing public disclosures.

The definition of model also covers quantitative approaches whose inputs are partially or wholly qualitative or based on expert judgment, provided that the output is quantitative in nature.

Models are simplified representations of real-world relationships among observed characteristics, values, and events.
Simplification is inevitable, due to the inherent complexity of those relationships, but also intentional, to focus attention on particular aspects considered to be most important for a given model application.

Model quality can be measured in many ways: precision, accuracy, discriminatory power, robustness, stability, and reliability, to name a few.

Models are never perfect, and the appropriate metrics of quality, and the effort that should be put into improving quality, depend on the situation.

For example, precision and accuracy are relevant for models that forecast future values, while discriminatory power applies to models that rank order risks.

In all situations, it is important to understand a model's capabilities and limitations given its simplifications and assumptions.

The use of models invariably presents model risk, which is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.

Model risk can lead to financial loss, poor business and strategic decision making, or damage to a bank’s reputation.

Model risk occurs primarily for two reasons:

1. The model may have fundamental errors and may produce inaccurate outputs when viewed against the design objective and intended business uses.

   The mathematical calculation and quantification exercise underlying any model generally involves application of theory, choice of sample design and numerical routines, selection of inputs and estimation, and implementation in information systems.

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Errors can occur at any point from design through implementation.

In addition, shortcuts, simplifications, or approximations used to manage complicated problems could compromise the integrity and reliability of outputs from those calculations.

Finally, the quality of model outputs depends on the quality of input data and assumptions, and errors in inputs or incorrect assumptions will lead to inaccurate outputs.

2. The model may be used **incorrectly or inappropriately**.

Even a fundamentally sound model producing accurate outputs consistent with the design objective of the model may exhibit high model risk if it is misapplied or misused.

Models by their nature are simplifications of reality, and real-world events may prove those simplifications inappropriate.

This is even more of a concern if a model is used outside the environment for which it was designed.

**Banks may do this intentionally** as they apply existing models to new products or markets, or inadvertently as market conditions or customer behavior changes.

Decision makers need to understand the limitations of a model to avoid using it in ways that are not consistent with the original intent.

**Limitations** come in part from weaknesses in the model due to its various shortcomings, approximations, and uncertainties. **Limitations** are also a consequence of assumptions underlying a model that may restrict the scope to a limited set of specific circumstances and situations.
Model risk should be managed like other types of risk.

Banks should identify the sources of risk and assess the magnitude.

**Model risk increases with greater model complexity**, higher uncertainty about inputs and assumptions, broader use, and larger potential impact.

Banks should consider risk from individual models and in the aggregate.

**Aggregate model risk** is affected by interaction and dependencies among models; reliance on common assumptions, data, or methodologies; and any other factors that could adversely affect several models and their outputs at the same time.

With an understanding of the source and magnitude of model risk in place, the next step is to manage it properly.

A guiding principle for managing model risk is "effective challenge" of models, that is, critical analysis by objective, informed parties who can identify model limitations and assumptions and produce appropriate changes.

Effective challenge depends on a combination of incentives, competence, and influence.

Incentives to provide effective challenge to models are stronger when there is greater separation of that challenge from the model development process and when challenge is supported by well-designed compensation practices and corporate culture.

Competence is a key to effectiveness since technical knowledge and modeling skills are necessary to conduct appropriate analysis and critique.
Finally, challenge may fail to be effective without the influence to ensure that actions are taken to address model issues.

Such influence comes from a combination of explicit authority, stature within the organization, and commitment and support from higher levels of management.

Even with skilled modeling and robust validation, model risk cannot be eliminated, so other tools should be used to manage model risk effectively.

Among these are establishing limits on model use, monitoring model performance, adjusting or revising models over time, and supplementing model results with other analysis and information.

*Informed conservatism*, in either the inputs or the design of a model or through explicit adjustments to outputs, can be an effective tool, though not an excuse to avoid improving models.

As is generally the case with other risks, materiality is an important consideration in model risk management.

If at some banks the use of models is less pervasive and has less impact on their financial condition, then those banks may not need as complex an approach to model risk management in order to meet supervisory expectations.

However, where models and model output have a material impact on business decisions, including decisions related to risk management and capital and liquidity planning, and where model failure would have a particularly harmful impact on a bank’s financial condition, a bank’s model risk management framework should be more extensive and rigorous.
Model risk management begins with robust model development, implementation, and use.

Another essential element is a sound model validation process.

A third element is governance, which sets an effective framework with defined roles and responsibilities for clear communication of model limitations and assumptions, as well as the authority to restrict model usage.

The following sections of this document cover each of these elements.

IV. MODEL DEVELOPMENT, IMPLEMENTATION, AND USE

Model risk management should include disciplined and knowledgeable development and implementation processes that are consistent with the situation and goals of the model user and with bank policy.

Model development is not a straightforward or routine technical process.

The experience and judgment of developers, as much as their technical knowledge, greatly influence the appropriate selection of inputs and processing components.

The training and experience of developers exercising such judgment affects the extent of model risk.

Moreover, the modeling exercise is often a multidisciplinary activity drawing on economics, finance, statistics, mathematics, and other fields.

Models are employed in real-world markets and events and therefore should be tailored for specific applications and informed by business uses.
In addition, a considerable amount of subjective judgment is exercised at various stages of model development, implementation, use, and validation.

It is important for decision makers to recognize that this subjectivity elevates the importance of sound and comprehensive model risk management processes.

**Model Development and Implementation**

An effective development process begins with a clear statement of purpose to ensure that model development is aligned with the intended use.

The design, theory, and logic underlying the model should be well documented and generally supported by published research and sound industry practice.

The model methodologies and processing components that implement the theory, including the mathematical specification and the numerical techniques and approximations, should be explained in detail with particular attention to merits and limitations.

Developers should ensure that the components work as intended, are appropriate for the intended business purpose, and are conceptually sound and mathematically and statistically correct.

Comparison with alternative theories and approaches is a fundamental component of a sound modeling process.

The data and other information used to develop a model are of critical importance; there should be rigorous assessment of data quality and relevance, and appropriate documentation.
Developers should be able to demonstrate that such data and information are suitable for the model and that they are consistent with the theory behind the approach and with the chosen methodology.

If data proxies are used, they should be carefully identified, justified, and documented.

If data and information are not representative of the bank’s portfolio or other characteristics, or if assumptions are made to adjust the data and information, these factors should be properly tracked and analyzed so that users are aware of potential limitations.

This is particularly important for external data and information (from a vendor or outside party), especially as they relate to new products, instruments, or activities.

An integral part of model development is testing, in which the various components of a model and its overall functioning are evaluated to determine whether the model is performing as intended.

Model testing includes checking the model’s accuracy, demonstrating that the model is robust and stable, assessing potential limitations, and evaluating the model’s behavior over a range of input values.

It should also assess the impact of assumptions and identify situations where the model performs poorly or becomes unreliable.

Testing should be applied to actual circumstances under a variety of market conditions, including scenarios that are outside the range of ordinary expectations, and should encompass the variety of products or applications for which the model is intended.

Extreme values for inputs should be evaluated to identify any boundaries of model effectiveness.
The impact of model results on other models that rely on those results as inputs should also be evaluated.

Included in testing activities should be the purpose, design, and execution of test plans, summary results with commentary and evaluation, and detailed analysis of informative samples.

Testing activities should be appropriately documented.

The nature of testing and analysis will depend on the type of model and will be judged by different criteria depending on the context.

For example, the appropriate statistical tests depend on specific distributional assumptions and the purpose of the model.

Furthermore, in many cases statistical tests cannot unambiguously reject false hypotheses or accept true ones based on sample information.

Different tests have different strengths and weaknesses under different conditions.

Any single test is rarely sufficient, so banks should apply a variety of tests to develop a sound model.

Banks should ensure that the development of the more judgmental and qualitative aspects of their models is also sound.

In some cases, banks may take statistical output from a model and modify it with judgmental or qualitative adjustments as part of model development.

While such practices may be appropriate, banks should ensure that any such adjustments made as part of the development process are conducted in an appropriate and systematic manner, and are well documented.
Models typically are embedded in larger information systems that manage the flow of data from various sources into the model and handle the aggregation and reporting of model outcomes.

Model calculations should be properly coordinated with the capabilities and requirements of information systems.

Sound model risk management depends on substantial investment in supporting systems to ensure data and reporting integrity, together with controls and testing to ensure proper implementation of models, effective systems integration, and appropriate use.

**Model Use**

Model use provides additional opportunity to test whether a model is functioning effectively and to assess its performance over time as conditions and model applications change.

It can serve as a source of productive feedback and insights from a knowledgeable internal constituency with strong interest in having models that function well and reflect economic and business realities.

Model users can provide valuable business insight during the development process.

In addition, business managers affected by model outcomes may question the methods or assumptions underlying the models, particularly if the managers are significantly affected by and do not agree with the outcome.

Such questioning can be healthy if it is constructive and causes model developers to explain and justify the assumptions and design of the models.
However, challenge from model users may be weak if the model does not materially affect their results, if the resulting changes in models are perceived to have adverse effects on the business line, or if change in general is regarded as expensive or difficult.

**User challenges** also tend not to be comprehensive because they focus on aspects of models that have the most direct impact on the user's measured business performance or compensation, and thus may ignore other elements and applications of the models.

Finally, such challenges tend to be **asymmetric**, because users are less likely to challenge an outcome that results in an advantage for them.

Indeed, users may incorrectly believe that model risk is low simply because outcomes from model-based decisions appear favorable to the institution.

Thus, the nature and motivation behind model users’ input should be evaluated carefully, and banks should also solicit constructive suggestions and criticism from sources independent of the line of business using the model.

Reports used for business decision making play a critical role in model risk management.

Such reports should be **clear and comprehensible** and take into account the fact that decision makers and modelers often come from quite different backgrounds and may interpret the contents in different ways.

Reports that provide a range of estimates for different input-value scenarios and assumption values can give decision makers important indications of the model's accuracy, robustness, and stability as well as information on model limitations.
An understanding of model uncertainty and inaccuracy and a demonstration that the bank is accounting for them appropriately are important outcomes of effective model development, implementation, and use.

Because they are by definition imperfect representations of reality, all models have some degree of uncertainty and inaccuracy.

These can sometimes be quantified, for example, by an assessment of the potential impact of factors that are unobservable or not fully incorporated in the model, or by the confidence interval around a statistical model’s point estimate.

Indeed, using a range of outputs, rather than a simple point estimate, can be a useful way to signal model uncertainty and avoid spurious precision. At other times, only a qualitative assessment of model uncertainty and inaccuracy is possible.

In either case, it can be prudent for banks to account for model uncertainty by explicitly adjusting model inputs or calculations to produce more severe or adverse model output in the interest of conservatism.

Accounting for model uncertainty can also include judgmental conservative adjustments to model output, placing less emphasis on that model’s output, or ensuring that the model is only used when supplemented by other models or approaches.

While conservative use of models is prudent in general, banks should be careful in applying conservatism broadly or claiming to make conservative adjustments or add-ons to address model risk, because the impact of such conservatism in complex models may not be obvious or intuitive.
Model aspects that appear conservative in one model may not be truly conservative compared with alternative methods.

For example, simply picking an extreme point on a given modeled distribution may not be conservative if the distribution was misestimated or misspecified in the first place.

Furthermore, initially conservative assumptions may not remain conservative over time.

Therefore, banks should justify and substantiate claims that model outputs are conservative with a definition and measurement of that conservatism that is communicated to model users.

In some cases, sensitivity analysis or other types of stress testing can be used to demonstrate that a model is indeed conservative.

Another way in which banks may choose to be conservative is to hold an additional cushion of capital to protect against potential losses associated with model risk.

However, conservatism can become an impediment to proper model development and application if it is seen as a solution that dissuades the bank from making the effort to improve the model; in addition, excessive conservatism can lead model users to discount the model outputs.

As this section has explained, robust model development, implementation, and use is important to model risk management. But it is not enough for model developers and users to understand and accept the model.

Because model risk is ultimately borne by the bank as a whole, the bank should objectively assess model risk and the associated costs and benefits using a sound model-validation process.
V. MODEL VALIDATION

Model validation is the set of processes and activities intended to verify that models are performing as expected, in line with their design objectives and business uses.

Effective validation helps ensure that models are sound.

It also identifies potential limitations and assumptions, and assesses their possible impact.

As with other aspects of effective challenge, model validation should be performed by staff with appropriate incentives, competence, and influence.

All model components, including input, processing, and reporting, should be subject to validation; this applies equally to models developed in-house and to those purchased from or developed by vendors or consultants.

The rigor and sophistication of validation should be commensurate with the bank’s overall use of models, the complexity and materiality of its models, and the size and complexity of the bank’s operations.

Validation involves a degree of independence from model development and use.

Generally, validation should be done by people who are not responsible for development or use and do not have a stake in whether a model is determined to be valid.

Independence is not an end in itself but rather helps ensure that incentives are aligned with the goals of model validation.
While independence may be supported by separation of reporting lines, it should be judged by actions and outcomes, since there may be additional ways to ensure objectivity and prevent bias.

As a practical matter, some validation work may be most effectively done by model developers and users; it is essential, however, that such validation work be subject to critical review by an independent party, who should conduct additional activities to ensure proper validation.

Overall, the quality of the process is judged by the manner in which models are subject to critical review.

This could be determined by evaluating the extent and clarity of documentation, the issues identified by objective parties, and the actions taken by management to address model issues.

In addition to independence, banks can support appropriate incentives in validation through compensation practices and performance evaluation standards that are tied directly to the quality of model validations and the degree of critical, unbiased review.

In addition, corporate culture plays a role if it establishes support for objective thinking and encourages questioning and challenging of decisions.

Staff doing validation should have the requisite knowledge, skills, and expertise.

A high level of technical expertise may be needed because of the complexity of many models, both in structure and in application.

These staff also should have a significant degree of familiarity with the line of business using the model and the model’s intended use.
A model’s developer is an important source of information but cannot be relied on as an objective or sole source on which to base an assessment of model quality.

Staff conducting validation work should have explicit authority to challenge developers and users and to elevate their findings, including issues and deficiencies.

The individual or unit to whom those staff report should have sufficient influence or stature within the bank to ensure that any issues and deficiencies are appropriately addressed in a timely and substantive manner.

Such influence can be reflected in reporting lines, title, rank, or designated responsibilities.

Influence may be demonstrated by a pattern of actual instances in which models, or the use of models, have been appropriately changed as a result of validation.

The range and rigor of validation activities conducted prior to first use of a model should be in line with the potential risk presented by use of the model.

If significant deficiencies are noted as a result of the validation process, use of the model should not be allowed or should be permitted only under very tight constraints until those issues are resolved.

If the deficiencies are too severe to be addressed within the model’s framework, the model should be rejected.

If it is not feasible to conduct necessary validation activities prior to model use because of data paucity or other limitations, that fact should be documented and communicated in reports to users, senior management, and other relevant parties.
In such cases, the uncertainty about the results that the model produces should be mitigated by other compensating controls.

This is particularly applicable to new models and to the use of existing models in new applications.

Validation activities should continue on an ongoing basis after a model goes into use, to track known model limitations and to identify any new ones.

Validation is an important check on model use during periods of benign economic and financial conditions, when estimates of risk and potential loss can become overly optimistic, and when the data at hand may not fully reflect more stressed conditions.

Ongoing validation activities help to ensure that changes in markets, products, exposures, activities, clients, or business practices do not create new model limitations.

For example, if credit risk models do not incorporate underwriting changes in a timely manner, flawed and costly business decisions could be made before deterioration in model performance becomes apparent.

Banks should conduct a periodic review—at least annually but more frequently if warranted—of each model to determine whether it is working as intended and if the existing validation activities are sufficient.

Such a determination could simply affirm previous validation work, suggest updates to previous validation activities, or call for additional validation activities.

Material changes to models should also be subject to validation. It is generally good practice for banks to ensure that all models undergo the full validation process, as described in the following section, at some fixed interval, including updated documentation of all activities.
Effective model validation helps reduce model risk by identifying model errors, corrective actions, and appropriate use.

It also provides an assessment of the reliability of a given model, based on its underlying assumptions, theory, and methods.

In this way, it provides information about the source and extent of model risk.

Validation also can reveal deterioration in model performance over time and can set thresholds for acceptable levels of error, through analysis of the distribution of outcomes around expected or predicted values.

If outcomes fall consistently outside this acceptable range, then the models should be redeveloped.

**Key Elements of Comprehensive Validation**

An effective validation framework should include three core elements:

- Evaluation of conceptual soundness, including developmental evidence
- Ongoing monitoring, including process verification and benchmarking
- Outcomes analysis, including back-testing

**1. Evaluation of Conceptual Soundness**

This element involves assessing the quality of the model design and construction.

It entails review of documentation and empirical evidence supporting the methods used and variables selected for the model.
Documentation and testing should convey an understanding of model limitations and assumptions.

Validation should ensure that judgment exercised in model design and construction is well informed, carefully considered, and consistent with published research and with sound industry practice.

Developmental evidence should be reviewed before a model goes into use and also as part of the ongoing validation process, in particular whenever there is a material change in the model.

A sound development process will produce documented evidence in support of all model choices, including the overall theoretical construction, key assumptions, data, and specific mathematical calculations, as mentioned in Section IV.

As part of model validation, those model aspects should be subjected to critical analysis by both evaluating the quality and extent of developmental evidence and conducting additional analysis and testing as necessary.

Comparison to alternative theories and approaches should be included.

Key assumptions and the choice of variables should be assessed, with analysis of their impact on model outputs and particular focus on any potential limitations.

The relevance of the data used to build the model should be evaluated to ensure that it is reasonably representative of the bank’s portfolio or market conditions, depending on the type of model.

This is an especially important exercise when a bank uses external data or the model is used for new products or activities.
Where appropriate to the particular model, banks should employ sensitivity analysis in model development and validation to check the impact of small changes in inputs and parameter values on model outputs to make sure they fall within an expected range.

Unexpectedly large changes in outputs in response to small changes in inputs can indicate an unstable model.

Varying several inputs simultaneously as part of sensitivity analysis can provide evidence of unexpected interactions, particularly if the interactions are complex and not intuitively clear.

Banks benefit from conducting model stress testing to check performance over a wide range of inputs and parameter values, including extreme values, to verify that the model is robust.

Such testing helps establish the boundaries of model performance by identifying the acceptable range of inputs as well as conditions under which the model may become unstable or inaccurate.

Management should have a clear plan for using the results of sensitivity analysis and other quantitative testing.

If testing indicates that the model may be inaccurate or unstable in some circumstances, management should consider modifying certain model properties, putting less reliance on its outputs, placing limits on model use, or developing a new approach.

Qualitative information and judgment used in model development should be evaluated, including the logic, judgment, and types of information used, to establish the conceptual soundness of the model and set appropriate conditions for its use.
The validation process should ensure that qualitative, judgmental assessments are conducted in an appropriate and systematic manner, are well supported, and are documented.

2. Ongoing Monitoring

The second core element of the validation process is ongoing monitoring.

Such monitoring confirms that the model is appropriately implemented and is being used and is performing as intended.

Ongoing monitoring is essential to evaluate whether changes in products, exposures, activities, clients, or market conditions necessitate adjustment, redevelopment, or replacement of the model and to verify that any extension of the model beyond its original scope is valid.

Any model limitations identified in the development stage should be regularly assessed over time, as part of ongoing monitoring.

Monitoring begins when a model is first implemented in production systems for actual business use.

This monitoring should continue periodically over time, with a frequency appropriate to the nature of the model, the availability of new data or modeling approaches, and the magnitude of the risk involved.

Banks should design a program of ongoing testing and evaluation of model performance along with procedures for responding to any problems that appear.

This program should include process verification and benchmarking.

Process verification checks that all model components are functioning as designed.
It includes verifying that internal and external data inputs continue to be accurate, complete, consistent with model purpose and design, and of the highest quality available.

Computer code implementing the model should be subject to rigorous quality and change control procedures to ensure that the code is correct, that it cannot be altered except by approved parties, and that all changes are logged and can be audited.

System integration can be a challenge and deserves special attention because the model processing component often draws from various sources of data, processes large amounts of data, and then feeds into multiple data repositories and reporting systems.

User-developed applications, such as spreadsheets or ad hoc database applications used to generate quantitative estimates, are particularly prone to model risk.

As the content or composition of information changes over time, systems may need to be updated to reflect any changes in the data or its use.

Reports derived from model outputs should be reviewed as part of validation to verify that they are accurate, complete, and informative, and that they contain appropriate indicators of model performance and limitations.

Many of the tests employed as part of model development should be included in ongoing monitoring and be conducted on a regular basis to incorporate additional information as it becomes available.

New empirical evidence or theoretical research may suggest the need to modify or even replace original methods.
Analysis of the integrity and applicability of internal and external information sources, including information provided by third-party vendors, should be performed regularly.

*Sensitivity analysis and other checks for robustness and stability should likewise be repeated periodically.*

They can be as useful during ongoing monitoring as they are during model development.

If models only work well for certain ranges of input values, market conditions, or other factors, they should be monitored to identify situations where these constraints are approached or exceeded.

Ongoing monitoring should include the analysis of overrides with appropriate documentation.

In the use of virtually any model, there will be cases where model output is ignored, altered, or reversed based on the expert judgment of model users.

Such overrides are an indication that, in some respect, the model is not performing as intended or has limitations.

Banks should evaluate the reasons for overrides and track and analyze override performance.

If the rate of overrides is high, or if the override process consistently improves model performance, it is often a sign that the underlying model needs revision or redevelopment.

Benchmarking is the comparison of a given model’s inputs and outputs to estimates from alternative internal or external data or models.
It can be incorporated in model development as well as in ongoing monitoring.

For credit risk models, examples of benchmarks include models from vendor firms or industry consortia and data from retail credit bureaus.

Pricing models for securities and derivatives often can be compared with alternative models that are more accurate or comprehensive but also too time consuming to run on a daily basis.

Whatever the source, benchmark models should be rigorous and benchmark data should be accurate and complete to ensure a reasonable comparison.

Discrepancies between the model output and benchmarks should trigger investigation into the sources and degree of the differences, and examination of whether they are within an expected or appropriate range given the nature of the comparison.

The results of that analysis may suggest revisions to the model.

However, differences do not necessarily indicate that the model is in error. The benchmark itself is an alternative prediction, and the differences may be due to the different data or methods used.

If the model and the benchmark match well, that is evidence in favor of the model, but it should be interpreted with caution so the bank does not get a false degree of comfort.

3. Outcomes Analysis

The third core element of the validation process is outcomes analysis, a comparison of model outputs to corresponding actual outcomes.
The precise nature of the comparison depends on the objectives of a model, and might include an assessment of the accuracy of estimates or forecasts, an evaluation of rank-ordering ability, or other appropriate tests.

In all cases, such comparisons help to evaluate model performance, by establishing expected ranges for those actual outcomes in relation to the intended objectives and assessing the reasons for observed variation between the two.

If outcomes analysis produces evidence of poor performance, the bank should take action to address those issues.

Outcomes analysis typically relies on statistical tests or other quantitative measures.

It can also include expert judgment to check the intuition behind the outcomes and confirm that the results make sense.

When a model itself relies on expert judgment, quantitative outcomes analysis helps to evaluate the quality of that judgment.

Outcomes analysis should be conducted on an ongoing basis to test whether the model continues to perform in line with design objectives and business uses.

A variety of quantitative and qualitative testing and analytical techniques can be used in outcomes analysis.

The choice of technique should be based on the model’s methodology, its complexity, data availability, and the magnitude of potential model risk to the bank.

Outcomes analysis should involve a range of tests because any individual test will have weaknesses.
For example, some tests are better at checking a model’s ability to rank-order or segment observations on a relative basis, whereas others are better at checking absolute forecast accuracy.

Tests should be designed for each situation, as not all will be effective or feasible in every circumstance, and attention should be paid to choosing the appropriate type of outcomes analysis for a particular model.

Models are regularly adjusted to take into account new data or techniques, or because of deterioration in performance.

Parallel outcomes analysis, under which both the original and adjusted models’ forecasts are tested against realized outcomes, provides an important test of such model adjustments.

If the adjusted model does not outperform the original model, developers, users, and reviewers should realize that additional changes—or even a wholesale redesign—are likely necessary before the adjusted model replaces the original one.

Back-testing is one form of outcomes analysis; specifically, it involves the comparison of actual outcomes with model forecasts during a sample time period not used in model development and at an observation frequency that matches the forecast horizon or performance window of the model.

The comparison is generally done using expected ranges or statistical confidence intervals around the model forecasts.

When outcomes fall outside those intervals, the bank should analyze the discrepancies and investigate the causes that are significant in terms of magnitude or frequency.

The objective of the analysis is to determine whether differences stem from the omission of material factors from the model, whether they arise
from errors with regard to other aspects of model specification such as interaction terms or assumptions of linearity, or whether they are purely random and thus consistent with acceptable model performance.

Analysis of in-sample fit and of model performance in holdout samples (data set aside and not used to estimate the original model) are important parts of model development but are not substitutes for back-testing.

A well-known example of back-testing is the evaluation of value-at-risk (VaR), in which actual profit and loss is compared with a model forecast loss distribution.

Significant deviation in expected versus actual performance and unexplained volatility in the profits and losses of trading activities may indicate that hedging and pricing relationships are not adequately measured by a given approach.

Along with measuring the frequency of losses in excess of a single VaR percentile estimator, banks should use other tests, such as assessing any clustering of exceptions and checking the distribution of losses against other estimated percentiles.

Analysis of the results of even high-quality and well-designed back-testing can pose challenges, since it is not a straightforward, mechanical process that always produces unambiguous results.

The purpose is to test the model, not individual forecast values. Back-testing may entail analysis of a large number of forecasts over different conditions at a point in time or over multiple time periods.

Statistical testing is essential in such cases, yet such testing can pose challenges in both the choice of appropriate tests and the interpretation of results; banks should support and document both the choice of tests and the interpretation of results.
Models with long forecast horizons should be back-tested, but given the amount of time it would take to accumulate the necessary data, that testing should be supplemented by evaluation over shorter periods.

Banks should employ outcomes analysis consisting of “early warning” metrics designed to measure performance beginning very shortly after model introduction and trend analysis of performance over time.

These outcomes analysis tools are not substitutes for back-testing, which should still be performed over the longer time period, but rather very important complements.

Outcomes analysis and the other elements of the validation process may reveal significant errors or inaccuracies in model development or outcomes that consistently fall outside the bank’s predetermined thresholds of acceptability.

In such cases, model adjustment, recalibration, or redevelopment is warranted.

Adjustments and recalibration should be governed by the principle of conservatism and should undergo independent review.

Material changes in model structure or technique, and all model redevelopment, should be subject to validation activities of appropriate range and rigor before implementation.

At times banks may have a limited ability to use key model validation tools like back-testing or sensitivity analysis for various reasons, such as lack of data or of price observability.

In those cases, even more attention should be paid to the model’s limitations when considering the appropriateness of model usage, and senior management should be fully informed of those limitations when using the models for decision making.
Such scrutiny should be applied to individual models and models in the aggregate.

**Validation of Vendor and Other Third-Party Products**

The widespread use of vendor and other third-party products—including data, parameter values, and complete models—poses unique challenges for validation and other model risk management activities because the modeling expertise is external to the user and because some components are considered proprietary.

*Vendor products should nevertheless be incorporated into a bank’s broader model risk management framework following the same principles as applied to in-house models, although the process may be somewhat modified.*

As a first step, banks should ensure that there are appropriate processes in place for selecting vendor models.

Banks should require the vendor to provide developmental evidence explaining the product components, design, and intended use, to determine whether the model is appropriate for the bank’s products, exposures, and risks.

Vendors should provide appropriate testing results that show their product works as expected.

They should also clearly indicate the model’s limitations and assumptions and where the product’s use may be problematic.

Banks should expect vendors to conduct ongoing performance monitoring and outcomes analysis, with disclosure to their clients, and to make appropriate modifications and updates over time.

Banks are expected to validate their own use of vendor products.
External models may not allow full access to computer coding and implementation details, so the bank may have to rely more on sensitivity analysis and benchmarking.

Vendor models are often designed to provide a range of capabilities and so may need to be customized by a bank for its particular circumstances.

A bank’s customization choices should be documented and justified as part of validation.

If vendors provide input data or assumptions, or use them to build models, their relevance for the bank’s situation should be investigated.

Banks should obtain information regarding the data used to develop the model and assess the extent to which that data is representative of the bank’s situation.

The bank also should conduct ongoing monitoring and outcomes analysis of vendor model performance using the bank’s own outcomes.

Systematic procedures for validation help the bank to understand the vendor product and its capabilities, applicability, and limitations.

Such detailed knowledge is necessary for basic controls of bank operations.

It is also very important for the bank to have as much knowledge in-house as possible, in case the vendor or the bank terminates the contract for any reason, or if the vendor is no longer in business.

Banks should have contingency plans for instances when the vendor model is no longer available or cannot be supported by the vendor.
VI. GOVERNANCE, POLICIES, AND CONTROLS

Developing and maintaining strong governance, policies, and controls over the model risk management framework is fundamentally important to its effectiveness.

Even if model development, implementation, use, and validation are satisfactory, a weak governance function will reduce the effectiveness of overall model risk management.

A strong governance framework provides explicit support and structure to risk management functions through policies defining relevant risk management activities, procedures that implement those policies, allocation of resources, and mechanisms for evaluating whether policies and procedures are being carried out as specified.

Notably, the extent and sophistication of a bank’s governance function is expected to align with the extent and sophistication of model usage.

Board of Directors and Senior Management

Model risk governance is provided at the highest level by the board of directors and senior management when they establish a bank-wide approach to model risk management.

As part of their overall responsibilities, a bank’s board and senior management should establish a strong model risk management framework that fits into the broader risk management of the organization.

That framework should be grounded in an understanding of model risk—not just for individual models but also in the aggregate.

The framework should include standards for model development, implementation, use, and validation.

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While the board is ultimately responsible, it generally delegates to senior management the responsibility for executing and maintaining an effective model risk management framework.

Duties of senior management include establishing adequate policies and procedures and ensuring compliance, assigning competent staff, overseeing model development and implementation, evaluating model results, ensuring effective challenge, reviewing validation and internal audit findings, and taking prompt remedial action when necessary.

In the same manner as for other major areas of risk, senior management, directly and through relevant committees, is responsible for regularly reporting to the board on significant model risk, from individual models and in the aggregate, and on compliance with policy.

Board members should ensure that the level of model risk is within their tolerance and direct changes where appropriate.

These actions will set the tone for the whole organization about the importance of model risk and the need for active model risk management.

**Policies and Procedures**

Consistent with good business practices and existing supervisory expectations, banks should formalize model risk management activities with policies and the procedures to implement them.

Model risk management policies should be consistent with this guidance and also be commensurate with the bank’s relative complexity, business activities, corporate culture, and overall organizational structure.

The board or its delegates should approve model risk management policies and review them annually to ensure consistent and rigorous practices across the organization.
Those policies should be updated as necessary to ensure that model risk management practices remain appropriate and keep current with changes in market conditions, bank products and strategies, bank exposures and activities, and practices in the industry.

All aspects of model risk management should be covered by suitable policies, including model and model risk definitions; assessment of model risk; acceptable practices for model development, implementation, and use; appropriate model validation activities; and governance and controls over the model risk management process.

Policies should emphasize testing and analysis, and promote the development of targets for model accuracy, standards for acceptable levels of discrepancies, and procedures for review of and response to unacceptable discrepancies.

They should include a description of the processes used to select and retain vendor models, including the people who should be involved in such decisions.

The prioritization, scope, and frequency of validation activities should be addressed in these policies.

They should establish standards for the extent of validation that should be performed before models are put into production and the scope of ongoing validation.

The policies should also detail the requirements for validation of vendor models and third-party products.

Finally, they should require maintenance of detailed documentation of all aspects of the model risk management framework, including an inventory of models in use, results of the modeling and validation processes, and model issues and their resolution.
Policies should identify the roles and assign responsibilities within the model risk management framework with clear detail on staff expertise, authority, reporting lines, and continuity.

They should also outline controls on the use of external resources for validation and compliance and specify how that work will be integrated into the model risk management framework.

**Roles and Responsibilities**

Conceptually, the roles in model risk management can be divided among ownership, controls, and compliance.

While there are several ways in which banks can assign the responsibilities associated with these roles, it is important that reporting lines and incentives be clear, with potential conflicts of interest identified and addressed.

Business units are generally responsible for the model risk associated with their business strategies.

The role of model owner involves ultimate accountability for model use and performance within the framework set by bank policies and procedures.

Model owners should be responsible for ensuring that models are properly developed, implemented, and used.

The model owner should also ensure that models in use have undergone appropriate validation and approval processes, promptly identify new or changed models, and provide all necessary information for validation activities.

Model risk taken by business units should be controlled.
The responsibilities for risk controls may be assigned to individuals, committees, or a combination of the two, and include risk measurement, limits, and monitoring.

Other responsibilities include managing the independent validation and review process to ensure that effective challenge takes place.

Appropriate resources should be assigned for model validation and for guiding the scope and prioritization of work.

Issues and problems identified through validation and other forms of oversight should be communicated by risk-control staff to relevant individuals and business users throughout the organization, including senior management, with a plan for corrective action.

Control staff should have the authority to restrict the use of models and monitor any limits on model usage.

While they may grant exceptions to typical procedures of model validation on a temporary basis, that authority should be subject to other control mechanisms, such as timelines for completing validation work and limits on model use.

Compliance with policies is an obligation of model owners and risk-control staff, and there should be specific processes in place to ensure that these roles are being carried out effectively and in line with policy.

Documentation and tracking of activities surrounding model development, implementation, use, and validation are needed to provide a record that makes compliance with policy transparent.
Internal Audit

A bank’s internal audit function should assess the overall effectiveness of the model risk management framework, including the framework’s ability to address both types of model risk described in Section III, for individual models and in the aggregate.

Findings from internal audit related to models should be documented and reported to the board or its appropriately delegated agent.

Banks should ensure that internal audit operates with the proper incentives, has appropriate skills, and has adequate stature in the organization to assist in model risk management.

Internal audit's role is not to duplicate model risk management activities. Instead, its role is to evaluate whether model risk management is comprehensive, rigorous, and effective.

To accomplish this evaluation, internal audit staff should possess sufficient expertise in relevant modeling concepts as well as their use in particular business lines.

If some internal audit staff perform certain validation activities, then they should not be involved in the assessment of the overall model risk management framework.

Internal audit should verify that acceptable policies are in place and that model owners and control groups comply with those policies.

Internal audit should also verify records of model use and validation to test whether validations are performed in a timely manner and whether models are subject to controls that appropriately account for any weaknesses in validation activities.

Accuracy and completeness of the model inventory should be assessed.
In addition, processes for establishing and monitoring limits on model usage should be evaluated.

Internal audit should determine whether procedures for updating models are clearly documented, and test whether those procedures are being carried out as specified.

Internal audit should check that model owners and control groups are meeting documentation standards, including risk reporting.

Additionally, internal audit should perform assessments of supporting operational systems and evaluate the reliability of data used by models.

Internal audit also has an important role in ensuring that validation work is conducted properly and that appropriate effective challenge is being carried out.

It should evaluate the objectivity, competence, and organizational standing of the key validation participants, with the ultimate goal of ascertaining whether those participants have the right incentives to discover and report deficiencies.

Internal audit should review validation activities conducted by internal and external parties with the same rigor to see if those activities are being conducted in accordance with this guidance.

**External Resources**

Although model risk management is an internal process, a bank may decide to engage external resources to help execute certain activities related to the model risk management framework.

These activities could include model validation and review, compliance functions, or other activities in support of internal audit.
These resources may provide added knowledge and another level of critical and effective challenge, which may improve the internal model development and risk management processes.

However, this potential benefit should be weighed against the added costs for such resources and the added time that external parties require to understand internal data, systems, and other relevant bank-specific circumstances.

Whenever external resources are used, the bank should specify the activities to be conducted in a clearly written and agreed-upon scope of work.

A designated internal party from the bank should be able to understand and evaluate the results of validation and risk-control activities conducted by external resources.

The internal party is responsible for: verifying that the agreed upon scope of work has been completed; evaluating and tracking identified issues and ensuring they are addressed; and making sure that completed work is incorporated into the bank’s overall model risk management framework.

If the external resources are only utilized to do a portion of validation or compliance work, the bank should coordinate internal resources to complete the full range of work needed.

The bank should have a contingency plan in case an external resource is no longer available or is unsatisfactory.

**Model Inventory**

Banks should maintain a comprehensive set of information for models implemented for use, under development for implementation, or recently retired.
While each line of business may maintain its own inventory, a specific party should also be charged with maintaining a firm-wide inventory of all models, which should assist a bank in evaluating its model risk in the aggregate.

Any variation of a model that warrants a separate validation should be included as a separate model and cross-referenced with other variations.

While the inventory may contain varying levels of information, given different model complexity and the bank’s overall level of model usage, the following are some general guidelines.

The inventory should describe the purpose and products for which the model is designed, actual or expected usage, and any restrictions on use.

It is useful for the inventory to list the type and source of inputs used by a given model and underlying components (which may include other models), as well as model outputs and their intended use.

It should also indicate whether models are functioning properly, provide a description of when they were last updated, and list any exceptions to policy.

Other items include the names of individuals responsible for various aspects of the model development and validation; the dates of completed and planned validation activities; and the time frame during which the model is expected to remain valid.

**Documentation**

Without adequate documentation, model risk assessment and management will be ineffective.

Documentation of model development and validation should be sufficiently detailed so that parties unfamiliar with a model can

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understand how the model operates, its limitations, and its key assumptions.

Documentation provides for continuity of operations, makes compliance with policy transparent, and helps track recommendations, responses, and exceptions.

Developers, users, control and compliance units, and supervisors are all served by effective documentation.

Banks can benefit from advances in information and knowledge management systems and electronic documentation to improve the organization, timeliness, and accessibility of the various records and reports produced in the model risk management process.

Documentation takes time and effort, and model developers and users who know the models well may not appreciate its value. Banks should therefore provide incentives to produce effective and complete model documentation.

Model developers should have responsibility during model development for thorough documentation, which should be kept up-to-date as the model and application environment changes.

In addition, the bank should ensure that other participants in model risk management activities document their work, including ongoing monitoring, process verification, benchmarking, and outcomes analysis.

Also, line of business or other decision makers should document information leading to selection of a given model and its subsequent validation.

For cases in which a bank uses models from a vendor or other third party, it should ensure that appropriate documentation of the third-party approach is available so that the model can be appropriately validated.

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Validation reports should articulate model aspects that were reviewed, highlighting potential deficiencies over a range of financial and economic conditions, and determining whether adjustments or other compensating controls are warranted.

Effective validation reports include clear executive summaries, with a statement of model purpose and an accessible synopsis of model and validation results, including major limitations and key assumptions.

**VII. CONCLUSION**

This document has provided comprehensive guidance on effective model risk management.

Many of the activities described in this document are common industry practice.

**But all banks should confirm that their practices conform to the principles in this guidance for model development, implementation, and use, as well as model validation.**

Banks should also ensure that they maintain strong governance and controls to help manage model risk, including internal policies and procedures that appropriately reflect the risk management principles described in this guidance.

Details of model risk management practices may vary from bank to bank, as practical application of this guidance should be commensurate with a bank’s risk exposures, its business activities, and the extent and complexity of its model use.
Sarbanes Oxley News


Appendix A: Whistleblower Tips by Allegation Type

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*The 79 TCRs that whistleblowers identified as “Other,” relate to those instances where the whistleblower chose not to use one of the predefined complaint categories in the online questionnaire.

**Section 922 of the Dodd-Frank** Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”), amended the Securities Exchange Act of 1934 (the “Exchange Act”) by, among other things, **adding Section 21F**, entitled “Securities Whistleblower Incentives and Protections.”

Section 21F directs the Commission to make monetary awards to eligible individuals who voluntarily provide original information that leads to successful Commission enforcement actions resulting in the imposition
of monetary sanctions over $1,000,000, and certain related successful actions.

Awards are required to be made in the amount of 10% to 30% of the monetary sanctions collected.

Awards will be paid from the Commission’s Investor Protection Fund (the “Fund”).

In addition, Dodd-Frank Act § 924(d) directs the Commission to establish a separate office within the Commission to administer the whistleblower program.

Section 924(d) of the Dodd-Frank Act requires the Commission’s Office of the Whistleblower to report annually to Congress on its activities, whistleblower complaints, and the response of the Commission to such complaints.

In addition, Exchange Act § 21F(g)(5) requires the Commission to submit an annual report to Congress that addresses the following subjects:

• The whistleblower award program, including a description of the number of awards granted and the types of cases in which awards were granted during the preceding fiscal year;

• The balance of the Fund at the beginning of the preceding fiscal year;

• The amounts deposited into or credited to the Fund during the preceding fiscal year;

• The amount of earnings on investments made under Section 21F(g)(4) during the preceding fiscal year;

• The amount paid from the Fund during the preceding fiscal year to whistleblowers pursuant to Section 21F(b);
• The balance of the Fund at the end of the preceding fiscal year; and

• A complete set of audited financial statements, including a balance sheet, income statement and cash flow analysis.

This report has been prepared by the Commission’s Office of the Whistleblower to satisfy the reporting obligations of Dodd Frank Act § 924(d) and Exchange Act § 21F(g).

Implementation of the Whistleblower Award Program

Adoption of Implementing Regulations

Exchange Act § 21F(b) provides that whistleblower awards shall be paid under regulations prescribed by the Commission.

Shortly after the enactment of the Dodd-Frank Act, the Commission formed a cross-disciplinary working group to draft proposed rules to implement the Act’s whistleblower provisions.

In addition, before publishing proposed rules and commencing formal notice-and-comment rulemaking, the Commission provided an e-mail link on its website to facilitate public input about the whistleblower award program.
On November 3, 2010, the Commission proposed Regulation 21F to implement Exchange Act § 21F.

The Commission received more than 240 comment letters and approximately 1,300 form letters on the proposal.

In response to the comments, the Commission made a number of revisions and refinements to the proposed rules in order to better achieve the goals of the statutory whistleblower program and to advance effective enforcement of the federal securities laws.
On May 25, 2011, the Commission adopted final Regulation 21F, which became effective on August 12, 2011 (the “Final Rules”).

Among other things, the Final Rules define certain terms essential to the operation of the whistleblower program; establish procedures for submitting tips and applying for awards, including appeals of Commission determinations whether or to whom to make an award; describe the criteria the Commission will consider in making award decisions; and implement the Dodd-Frank Act’s prohibition against retaliation for whistleblowing.

Establishment and Activities of the Office of the Whistleblower

Section 924(d) of the Dodd-Frank Act directs the Commission to establish a separate office within the Commission to administer and to enforce the provisions of Exchange Act § 21F.

On February 18, 2011, the Commission announced the appointment of Sean X. McKessy to head the newly-created Office of the Whistleblower in the Division of Enforcement.

In addition to Mr. McKessy, the Office is currently staffed by five attorneys and one senior paralegal on detail from various Commission Divisions and Offices, each serving a 12-month detail in the Office of the Whistleblower. These details started in May 2011.

The Office of the Whistleblower is in the process of recruiting and hiring a Deputy Chief.

Since its establishment, the Office of the Whistleblower has focused primarily on establishing the office and implementing the whistleblower program.

During fiscal year 2011, the Office’s activities included the following:
• Providing extensive **training** on the Dodd-Frank statute and Final Rules to the Commission’s staff;

• Establishing and implementing internal policies, procedures, and protocols;

• Establishing a **publicly-available Whistleblower hotline** for members of the public to call with questions about the program. Office of the Whistleblower attorneys return calls within 24 business hours.

Since the hotline was established in May 2011, the Office has returned over 900 phone calls from members of the public;

• Redesigning and launching an Office of the Whistleblower website dedicated to the whistleblower program ([www.sec.gov/whistleblower](http://www.sec.gov/whistleblower)).

The website includes detailed information about the program, copies of the forms required to submit a tip or claim an award, notices of covered actions, links to helpful resources, and frequently asked questions;

• Meeting with whistleblowers, potential whistleblowers and their counsel, and consulting with the relevant subject matter experts in the Division of Enforcement to provide guidance to whistleblowers and their counsel concerning expectations and follow up;

• Conferring with regulators from **other agencies’ whistleblower offices**, including the Internal Revenue Service, Commodity Futures Trading Commission, Department of Justice, and Department of Labor (OSHA), to discuss best practices and experiences;

• Publicizing the program actively through participation in webinars, presentations, speeches, press releases, and other public communications;
• Assisting in updating the Commission’s web-based system for submitting tips, complaints, and referrals (https://denebleo.sec.gov/TCRExternal/index.xhtml) to conform to the Final Rules;

• Providing ongoing guidance to staff throughout the Commission regarding various aspects of the program, including the development of internal policies for the handling of confidential whistleblower identifying information; and

• Working with Enforcement staff to identify and track all enforcement cases involving a whistleblower to assist in the documentation of the whistleblower’s participation in anticipation of an eventual claim for award.
**Whistleblower Tips Received During Fiscal Year 2011**

The Final Rules specify that individuals who would like to be considered for a whistleblower award must submit their tip to the Office of the Whistleblower on Form-TCR either via facsimile or mail or via the Commission’s online TCR questionnaire portal.

Concurrently with the effectiveness of the Final Rules on August 12, 2011, the Commission updated its Tips, Complaints and Referrals System (the “TCR System”) to conform the online questionnaire to the substantive requirements in the Final Rules and to provide enhanced whistleblower functionality.

The updated online TCR questionnaire allows whistleblowers to make online submissions that satisfy Regulation 21F, including making the required declarations.
In addition, the TCR System allows the Commission to comprehensively and centrally track all whistleblower tips submitted to the Commission online or via hard copy by mail or facsimile.

Because the Final Rules became effective August 12, 2011, only 7 weeks of whistleblower tip data is available for fiscal year 2011.

Appendix A lists, by subject matter and month, the 334 whistleblower tips received from August 12, 2011 through September 30, 2011.

The most common complaint categories were market manipulation (16.2%), corporate disclosures and financial statements (15.3%), and offering fraud (15.6%).

The Commission received whistleblower submissions from individuals in 37 states, as well as from several foreign countries, including China (10) and the United Kingdom (9).

Appendices B and C set forth tabular presentations of the sources of domestic and international whistleblower tips.

As a result of the relatively recent launch of the program and the small sample size, it is too early to identify any specific trends or conclusions from the data collected to date.

We expect that the Annual Report for 2012 – with the benefit of a full year’s worth of data – will yield such trends and conclusions.

Processing of Whistleblower Tips During Fiscal Year 2011

The Office of the Whistleblower leverages the resources and expertise of the Commission’s Office of Market Intelligence to triage incoming whistleblower TCRs and to assign specific, timely and credible TCRs to appropriate members of the Enforcement staff.
During the triage process, several layers of staff in the Office of Market Intelligence examine each submitted tip to identify those that are sufficiently specific, timely and credible to warrant the further allocation of Commission resources, or a referral to another law enforcement or regulatory agency.

Complaints that relate to an existing investigation are generally forwarded to the staff assigned to the existing matter.

Complaints that involve the specific expertise of another Division or Office within the Commission are generally forwarded to staff in that particular Division or Office for further analysis.

When appropriate, complaints that fall within the jurisdiction of another federal or state agency are forwarded to the Commission contact at that agency, provided this can be done without violating the confidentiality of whistleblower-identifying information contained in the complaint.

Complaints that relate to the private financial affairs of an investor or a discrete investor group are usually forwarded to the Office of Investor Education and Advocacy (“OIEA”).

Comments or questions about agency practice or the federal securities laws are also forwarded to OIEA.

The Office of the Whistleblower participates in the tip allocation and investigative processes in several ways. When callers to the Office of the Whistleblower’s voicemail provide information of any allegation or statement of concern about possible violations of the federal securities laws or conduct that poses a possible risk of harm to investors (either as a message or during a return call), members of the Office of the Whistleblower staff enter that information in the TCR System so it can be triaged.
During triage, the Office of the Whistleblower may contact the whistleblower to glean additional information or may participate in the qualitative assessment of the best course of action to take in response to a whistleblower tip. During an investigation, the Office of the Whistleblower is available as needed to serve as a liaison between the whistleblower (and his or her counsel) and investigative staff.

On occasion, the Office of the Whistleblower arranges meetings between whistleblowers and subject matter experts on the Enforcement staff to assist in better understanding the whistleblowers’ submissions and developing the specific facts of a case.

Staff in the Office of the Whistleblower also communicates frequently with Enforcement staff with respect to the timely documentation of information regarding the staff's interactions with whistleblowers, the value of the information provided by whistleblowers, and the assistance provided by whistleblowers as the potential securities law violation is being investigated.

**Whistleblower Incentive Awards Made During Fiscal Year 2011**

The Final Rules set out the procedures for applying for a whistleblower award.

The award process begins following the entry of a final judgment or order for monetary sanctions that, alone or jointly with judgments or orders previously entered in the same action or an action based on the same nucleus of operative facts, exceeds $1 million.

Following the entry of such a judgment or order, the Office of the Whistleblower publishes a Notice of Covered Action on the Commission's website.

Once a Notice of Covered Action is posted, individuals have 90 calendar days to apply for an award by submitting a completed whistleblower award application.
award application, which is known as Form WB-APP, to the Office of the Whistleblower.

On August 12, 2011, the Office of the Whistleblower posted Notices of Covered Actions for the 170 applicable enforcement judgments and orders issued from July 21, 2010 through July 31, 2011 that included the imposition of sanctions exceeding the statutory threshold of $1 million.

It is anticipated that as the program evolves, the Office of the Whistleblower's standard practice will be to provide individualized notice to whistleblowers who may have contributed to the success of a Commission action resulting in monetary sanctions exceeding $1 million.

Analysis of claims submitted in connection with any of these Covered Actions requires, as a preliminary matter, identifying all claimants who submit an application for an award in connection with the Covered Action before the deadline.

Securities and Exchange Commission Investor Protection Fund

Section 922 of the Dodd-Frank Act established the Securities and Exchange Commission Investor Protection Fund ("Fund") to provide funding for the Commission's whistleblower award program, including the payment of awards in related actions. In addition, the Fund is used to finance the operations of the SEC Office of the Inspector General’s suggestion program.

The suggestion program is intended for the receipt of suggestions from Commission employees for improvements in the work efficiency, effectiveness, and productivity, and use of resources at the Commission, as well as allegations by Commission employees of waste, abuse, misconduct, or mismanagement within the Commission.

As of September 30, 2011, the Fund was fully funded, with an ending balance of $452,788,043.74.
<table>
<thead>
<tr>
<th>Description</th>
<th>FY 2011</th>
<th>FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance of Fund at beginning of preceding fiscal year</td>
<td>$451,909,854.07</td>
<td>$0.00</td>
</tr>
<tr>
<td>Amounts deposited into or credited to Fund during preceding fiscal year</td>
<td>$0.00</td>
<td>$451,909,854.07</td>
</tr>
<tr>
<td>Amount of earnings on investments during preceding fiscal year</td>
<td>$990,562.11</td>
<td>$0.00</td>
</tr>
<tr>
<td>Amount paid from Fund during preceding fiscal year to whistleblowers</td>
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<td>$0.00</td>
</tr>
<tr>
<td>Amount disbursed to Office of the Inspector General during preceding fiscal year</td>
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<td>$0.00</td>
</tr>
<tr>
<td>Balance of Fund at end of the preceding fiscal year</td>
<td>$452,788,043.74</td>
<td>$451,909,854.07</td>
</tr>
</tbody>
</table>

Note: This is a Report of the Staff of the U.S. Securities and Exchange Commission. The Commission has expressed no view regarding the analysis, findings, or conclusions contained herein.
Appendix B: Whistleblower Tips Received by Geographic Location – Domestic 8/12/2011 – 9/30/2011

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Appendix C: Whistleblower Tips Received by Geographic Location – Overseas 8/12/2011 - 9/30/2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Tips</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>3</td>
<td>9.4%</td>
</tr>
<tr>
<td>Canada</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td>China</td>
<td>10</td>
<td>31.3%</td>
</tr>
<tr>
<td>Italy</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td>Norway</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td>Serbia</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td>Spain</td>
<td>2</td>
<td>6.3%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2</td>
<td>6.3%</td>
</tr>
<tr>
<td>Turkey</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td>UK</td>
<td>9</td>
<td>28.1%</td>
</tr>
<tr>
<td>Uruguay</td>
<td>1</td>
<td>3.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

![Image of SEC Office of the Whistleblower](image)

**Welcome to the Office of the Whistleblower**

Assistance and information from a whistleblower who knows of possible securities law violations can be among the most powerful weapons in the law enforcement arsenal of the Securities and Exchange Commission. Through their knowledge of the circumstances and individuals involved, whistleblowers can help the Commission identify possible fraud and other violations much earlier than might otherwise have been possible. That allows the Commission to minimize the harm to investors, better preserve the integrity of the United States’ capital markets, and more effectively hold accountable those responsible for unlawful conduct.

The Commission is authorized by Congress to provide monetary awards to eligible individuals.

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Frequently Asked Questions

What is the SEC Whistleblower Program?

The Whistleblower Program was created by Congress to provide monetary incentives for individuals to come forward and report possible violations of the federal securities laws to the SEC.

Under the program eligible whistleblowers (defined below) are entitled to an award of between 10% and 30% of the monetary sanctions collected in actions brought by the SEC and related actions brought by other regulatory and law enforcement authorities.

The Program also prohibits retaliation by employers against employees who provide us with information about possible securities violations.

Who is an eligible whistleblower?

An “eligible whistleblower” is a person who voluntarily provides us with original information about a possible violation of the federal securities laws that has occurred, is ongoing, or is about to occur.

The information provided must lead to a successful SEC action resulting in an order of monetary sanctions exceeding $1 million.

One or more people are allowed to act as a whistleblower, but companies or organizations cannot qualify as whistleblowers.

You are not required to be an employee of the company to submit information about that company. See Rule 21F-2.

What does it mean to “voluntarily” provide information?

Your information is provided “voluntarily” if you provide it to us or another regulatory or law enforcement authority before
(i) **We request** it from you or your lawyer or
(ii) **Congress**, another regulatory or enforcement agency or self-regulatory organization (such as FINRA) asks you to provide the information in connection with an investigation or certain examinations or inspections. See Rule 21F-4(a).

**What is “original information?”**

“Original information” is information derived from your independent knowledge (facts known to you that are not derived from publicly available sources) or independent analysis (evaluation of information that may be publicly available but which reveals information that is not generally known) that is not already known by us.

So if we received your information previously from another person, that information will not be original information unless you were the original source of the information that the other person submitted. See Rule 21F-4(b)(1).

**How might my information “lead to” a successful SEC action?**

Your information satisfies the “led to” criterion if your information causes us to open a new investigation, re-open a previously closed investigation or pursue a new line of inquiry in connection with an ongoing investigation, and we bring a successful enforcement action based at least in part on the information you provided.

Additionally, you may still be eligible if your information relates to an ongoing examination or investigation, if the information you provide significantly contributes to the success of our resulting enforcement action.

You may also be eligible if you report your information internally first to your company, and the company later reports your information to us, or reports the results of an internal investigation that was prompted by your
information, as long as you also report directly to us within 120 days.

I work at a company with an internal compliance process. Can I report internally and still be eligible for a whistleblower award?

Although internal reporting is not required to be considered for an award, you may be eligible for an award for information you reported internally if you also report the information to us within 120 days of reporting it internally.

Under these circumstances, we will consider your place in line for determining whether your information is “original information” to be the date you reported it internally.

In addition, if the company to which you reported conducts an investigation and reports the results to us, you will benefit from all the information the Company’s investigation turns up when we are considering whether you should receive an award and if so where the award should fall in the 10% to 30% range.

I provided information to the SEC before the enactment of Dodd-Frank on July 21, 2010. Am I eligible for an award?

No. The statute makes awards available only in connection with information submitted to the SEC after July 21, 2010. See Rule 21F-4(b)(1).

How do I submit information under the SEC whistleblower program?

In order to qualify for an award under the whistleblower program, you must submit your information either through our online Tips, Complaints and Referrals questionnaire or by completing our hardcopy Form-TCR and mailing or faxing it to the SEC Office of the Whistleblower, 100 F Street NE, Mail Stop 5971, Washington, DC 20549, Fax (703) 813-9322.

Can I submit my information anonymously?
Yes, you may submit anonymously.

To do so, you must have an attorney represent you in connection with your submission.

You must also provide the attorney with a completed Form TCR signed under penalty of perjury at the time you make your anonymous submission.

Will the SEC keep my identity confidential?

Whether or not you seek anonymity, the SEC is committed to protecting your identity to the fullest extent possible.

For example, we will not disclose your identity in response to requests under the Freedom of Information Act.

However, there are limits on our ability to shield your identity and in certain circumstances we must disclose it to outside entities.

For example, in an administrative or court proceeding, we may be required to produce documents or other information which would reveal your identity.

In addition, as part of our ongoing investigatory responsibilities, we may use information you have provided during the course of our investigation.

In appropriate circumstances, we may also provide information, subject to confidentiality requirements, to other governmental or regulatory entities.

How will I learn about the opportunity to apply for an award?

We will post on this website notices of actions exceeding $1 million in sanctions so that anyone who believes they may be eligible will have an opportunity to apply for an award.
opportunity to apply for a whistleblower award.

In addition, if we have been working with you and believe you may be eligible, we will contact you or your attorney directly to alert you to the opportunity to apply for an award.

**How do I apply for an award?**

Once the case you believe your information led to is posted, you must complete and return Form WB-APP within 90 calendar days to the Office of the Whistleblower via mail to 100 F Street, NE, Mail Stop 5971, Washington DC 20549, or by fax (703) 813-9322.

**What factors does the SEC consider in determining the amount of the award?**

The Rules require that we consider many factors in determining the amount of an award based on the unique facts and circumstances of each case.

We may increase the award percentage based on the existence of these factors:

- The significance of the information you provided us to the success of any proceeding brought against wrongdoers.
- The extent of the assistance you provide us in our investigation and any successful proceeding.
- Our law enforcement interest in deterring violations of the securities laws by making awards to whistleblowers who provide information that leads to the successful enforcement of these laws.
- Whether, and the extent to which, you participated in your company's internal compliance systems, such as, for example, reporting the possible securities violations through internal whistleblower, legal or compliance procedures before, or at the same time, you reported them to us.
We may reduce the amount of an award based on these factors:

- If you were a participant in, or culpable for the securities law violation(s) you reported.
- If you unreasonably delayed reporting the violation(s) to us.
- If you interfered with your company's internal compliance and reporting systems, such as, for example, making false statements to your compliance department that hindered its efforts to investigate possible wrongdoing.

Can I appeal the SEC's award decision?

It depends. If the Commission follows the factors described above, authorizes an award, and the amount awarded is between 10% and 30% of the monetary sanctions collected in the Commission or related action, then the Commission’s determination of the amount of the award is not appealable.

If the Commission denies your application for an award, you may file an appeal in an appropriate United States Court of Appeals within 30 days of the decision being issued.

What rights do I have if my employer retaliates against me for submitting information to the SEC?

Employers may not discharge, demote, suspend, harass, or in any way discriminate against you because of any lawful act done by you in providing information to us under the whistleblower program or assisting us in any investigation or proceeding based on the information submitted.

If you believe that your employer has wrongfully retaliated against you, you may bring a private action in federal court against your employer.

If you prevail, you may be entitled to reinstatement, double back pay,
litigation costs, expert witness fees, and attorneys fees.

The Commission can also take legal action in an enforcement proceeding against any employer who retaliates against a whistleblower for reporting information to us.

Also, under the Sarbanes-Oxley Act, you may be entitled to file a complaint with the Department of Labor if you are retaliated against for reporting possible securities law violations, including making internal reports to your company.

For more details, please see the OSHA Fact Sheet on filing whistleblower complaints under the Sarbanes-Oxley Act.
Employees who work for publicly traded companies or companies that are required to file certain reports with the Securities and Exchange Commission (SEC) are protected from retaliation for reporting alleged mail, wire, bank, or securities fraud; violation(s) of SEC rules and regulations; or violation(s) of Federal law relating to fraud against shareholders.

Covered Companies

A company is covered by section 806 of the Sarbanes-Oxley Act of 2002 (SOX) if it has a class of securities registered under Section 12 of the Securities Exchange Act or is required to file reports under Section 15(d) of that Act.

Its subsidiaries, contractors, subcontractors, or agents may also be covered.

On July 21, 2010, the Sarbanes-Oxley Act was amended by the Dodd-Frank Wall Street Reform and Consumer Protection Act (Public Law 111-203) to extend coverage to “nationally recognized statistical rating organizations,…as defined in Section 3(a) of the Securities Exchange Act, and their contractors, subcontractors and agents.”

Protected Activity

An employer covered under SOX may not discharge or in any manner retaliate against an employee because he or she:

• provided information

• caused information to be provided, or

• assisted in an investigation by

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a federal regulatory or law enforcement agency
a Member or committee of Congress, or
an internal investigation by the company relating to alleged mail fraud, wire fraud, bank fraud, securities fraud, violation(s) of SEC rules and regulations, or violation(s) of Federal law relating to fraud against shareholders.

In addition, an employer may not discharge or in any manner retaliate against an employee because he or she filed, caused to be filed, participated in or assisted in a proceeding relating to alleged mail fraud, wire fraud, bank fraud, securities fraud, violation(s) of SEC rules and regulations, or violation(s) of Federal law relating to fraud against shareholders.

If an employer takes retaliatory action against an employee because he or she engaged in any of these protected activities, the employee can file a complaint with OSHA.

**Unfavorable Employment Actions**

An employer may be found to have violated SOX if the employee’s protected activity was a contributing factor in the employer’s decision to take unfavorable employment action against the employee.

Such actions may include:

- Firing or laying off
- Blacklisting
- Demoting
- Denying overtime or promotion
- Disciplining
- Denying benefits
- Failing to hire or rehire
- Intimidation
- Making threats
• Reassignment affecting prospects for promotion
• Reducing pay or hours

**Deadline for Filing Complaints**

Complaints must be filed **within 180 days** after an alleged violation of SOX or after the date on which the employee became aware of the violation.

An employee, or representative of an employee, who believes that he or she has been retaliated against in violation of SOX may file a complaint with OSHA.

**How to File a SOX Complaint**

An employee can file a SOX complaint with OSHA by visiting or calling their local OSHA office at 1-800-321-OSHA (6742), or sending a written complaint to their closest OSHA regional or area office.

Written complaints may be filed by facsimile, hand delivery during business hours, U.S. mail (confirmation services recommended), or other third-party commercial carrier.

**For written complaints**, the date the complaint is sent via facsimile, hand delivered, postmarked, or delivered to a third-party commercial carrier is considered the date filed.

**No particular form is required** and complaints may be submitted in **any language**.

For OSHA area office contact information, please call 1-800-321-OSHA (6742) or visit www.osha.gov/html/RAmap.html

Complaints must be filed within 180 days of the alleged discrimination or of when the employee learned of the alleged discrimination.
Upon receipt of a complaint, OSHA will first review it to determine whether it is a valid complaint allegation (e.g., timeliness or jurisdiction).

**Results of the Investigation**

If the evidence supports an employee’s claim of retaliation and a settlement cannot be reached, OSHA will issue an order requiring the employer to reinstate the employee, pay back wages, restore benefits, and other possible relief to make the employee whole, including:

- Reinstatement with the same seniority status.
- Payment of back pay with interest.
- Compensation for special damages, attorney’s fees, expert witness fees, and litigation costs.

OSHA’s findings and order become the final order of the Secretary of Labor, unless they are appealed within 30 days.

After OSHA issues its findings and order, either party may request a full hearing before an administrative law judge of the Department of Labor.

The administrative law judge’s decision and order may be appealed to the Department’s Administrative Review Board.

If a final agency order is not issued within 180 days from the date the employee’s complaint is filed, then the employee may file the complaint in the appropriate United States district court.
Basel III News

Dear Member,

Most of the major banks try hard to understand and implement the new Basel iii framework. The same time, banks and financial conglomerates try hard to influence politicians and change some of the strict rules.

Are these banks right or wrong? It is hard to say. All regulatory frameworks have unintended consequences…

Fitch Ratings, the credit ratings agency, has released a statement which explains that the US Federal Reserve’s adoption of the Basel III capital requirements can harm the credit markets by restricting the activities of banks that make loans.

Mr Dimon, the chief executive and chairman of JPMorgan Chase (and definitely not a fan of the new Basel iii framework) has said that banks all around the world were concentrating on increasing their exposures to assets that have advantageous risk weighting, while limiting exposure to assets that have disadvantageous risk weighting.

Where is the problem? A huge one… regulators are causing the banking system to amass enormous concentrations of assets that have advantageous risk weighting

An important concentration risk that has a simple cause: Basel ii/iii.

The current crisis in Europe is an example of wrong Basel 2 principles and capital regulations. According to Basel 2, sovereign risk is not that an important risk… so many times, banks did not have to set aside any capital at all for the government bonds they held.

Banks in Europe also try to avoid some of the most challenging Basel iii implementation rules. France and Germany are also pushing for a delay.
But the last week of January, Michel Barnier, the European Commissioner in charge of financial regulation, said that he would stick strictly to a timetable already agreed for implementing stricter Basel III bank capital requirements.

Basel III is a good framework. Good but not great.

Basel III liquidity standard and strategy for assessing implementation of standards
Endorsed by Group of Governors and Heads of Supervision
8 January 2012

The Group of Governors and Heads of Supervision (GHOS), the oversight body of the Basel Committee on Banking Supervision, met on 8 January 2012.

The main items of discussion were the Basel Committee's proposals on the Liquidity Coverage Ratio (LCR) and its strategy for assessing implementation of the Basel regulatory framework more broadly.

The GHOS endorsed the Committee's comprehensive approach to monitoring and reviewing implementation of the Basel regulatory framework.

GHOS Chairman and Governor of the Bank of England Mervyn King noted that "the focus on implementation represents a significant new direction for the Basel Committee.

The level of scrutiny and transparency applied to the manner in which countries implement the rules the Committee has developed and agreed will help ensure full, timely and consistent implementation of the international minimum requirements".

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The Committee will monitor, on an ongoing basis, the status of members' adoption of the globally-agreed Basel rules.

It will review the compliance of members' domestic rules or regulations with the international minimum standards in order to identify differences that could raise prudential or level playing field concerns.

The Committee will also review the measurement of risk-weighted assets to ensure consistency in practice across banks and jurisdictions.

Against this background, each Basel Committee member country has committed to undergo a detailed peer review of its implementation of all components of the Basel regulatory framework.

In addition to Basel III, the Committee will assess implementation of Basel II and Basel II.5 (ie the July 2009 enhancements on market risk and resecuritisations).

The GHOS also endorsed the Committee's agreement to publish the results of the assessments.

The Basel Committee will discuss and define the protocol governing the publication of the results.

The GHOS also agreed that the initial peer reviews should assess implementation in the European Union, Japan and the United States.

These reviews will commence in the first quarter of 2012.

Mr Stefan Ingves, Chairman of the Basel Committee and Governor of the Swedish Riksbank, noted that "the Committee's rigorous peer review process is a clear signal that effective implementation of the Basel standards is a top priority."
Raising the resilience of the global banking system, restoring and maintaining market confidence in regulatory ratios, and providing a level playing field will only be achieved through full, timely and consistent implementation”.

With respect to the Liquidity Coverage Ratio, GHOS members reiterated the central principle that a bank is expected to have a stable funding structure and a stock of high-quality liquid assets that should be available to meet its liquidity needs in times of stress.

Once the LCR has been implemented, its 100% threshold will be a minimum requirement in normal times.

But during a period of stress, banks would be expected to use their pool of liquid assets, thereby temporarily falling below the minimum requirement.

The Basel Committee has been asked to provide further elaboration on this principle by clarifying the LCR rules text to state explicitly that liquid assets accumulated in normal times are intended to be used in times of stress.

It will also provide additional guidance on the circumstances that would justify the use of the pool.

The Basel Committee will also examine how central banks interact with banks during periods of stress, with a view to ensuring that the workings of the LCR do not hinder or conflict with central bank policies.

The GHOS also reaffirmed its commitment to introduce the LCR as a minimum standard in 2015.

Members fully supported the Committee's proposed focus, course of action and timeline to finalise key aspects of the LCR by addressing
specific concerns regarding the pool of high-quality liquid assets as well as some adjustments to the calibration of net cash outflows.

The modifications currently under investigation apply only to a few key aspects and will not materially change the framework’s underlying approach.

The GHOS directed the Committee to finalise and subsequently publish its recommendations in these three areas by the end of 2012.

**Governor King said,** "The aim of the Liquidity Coverage Ratio is to ensure that banks, in normal times, have a sound funding structure and hold sufficient liquid assets such that central banks are asked to perform only as lenders of last resort and not as lenders of first resort.

While the Liquidity Coverage Ratio may represent a significant challenge for some banks, the benefits of a strong liquidity regime outweigh the associated implementation costs."
SIFIs: is there a need for a specific regulation on systematically important financial institutions?


Good morning and thank you for inviting me to share some thoughts with you on the question of whether a specific treatment is warranted for systemically important financial institutions, or "SIFIs".

In the few minutes I have to introduce this topic, I will set out the basis for the Basel Committee's response to this question, which is an unqualified "yes".

I will say a few words about the Committee's view and the actions we have taken on SIFIs that have been strongly influenced by recent experience.

I will then review how our response will help to address the too-big-to-fail issue.

Our work on this issue is ongoing and I will then say a few words about the Committee's current efforts.

I will conclude by sharing with you my thoughts on the direction of future work related to global systemically important banks - or G-SIBs.

Experiences from the banking system - focus on G-SIBs

The Basel Committee's motivation for policy measures for G-SIBs that supplement the Basel III framework is based on the "negative
"externalities" that these firms create and which current regulatory policies do not fully address.

These adverse side effects can become amplified by the global reach of these firms - a problem in any one G-SIB could trigger problems for other financial institutions around the world and even disrupt the global economy (eg Lehman Brothers).

The impact caused by the failure of large, complex, interconnected, global financial institutions can send shocks through the financial system which, in turn, can harm the real economy.

This scenario played out in the recent crisis during which authorities had limited options other than the provision of public support as a means for avoiding the transmission of such shocks.

Such rescues have had obvious implications for fiscal budgets and taxpayers. In addition, the moral hazard arising from public sector interventions and implicit government guarantees can also have longer term adverse consequences.

These include inappropriate risk-taking, reduced market discipline, competitive distortions, and increased probability of distress in the future.

The Basel Committee's response

What has the Committee done in response to the G-SIB issue?

As a starting point, we recognised that there is no single solution for dealing with the negative externalities posed by G-SIBs.

Basel III will help improve the resilience of banks and banking systems in a number of ways.
These include better quality and higher levels of capital; improving risk coverage; introducing a leverage ratio to serve as a backstop to the risk-based framework; introducing capital buffers as well as a global standard for liquidity risk.

These measures are significant but are not sufficient to address the negative externalities posed by G-SIBs nor are they adequate to protect the system from the wider spillover risks of G-SIBs.

To specifically address the G-SIBs issue, the Committee's approach is to reduce the probability of a G-SIB's failure and the impact of a potential failure by increasing its loss absorbency in the form of a common equity capital surcharge.

Based on a methodology for assessing systemic importance of G-SIBs, this additional loss absorbency will complement the measures adopted by the Financial Stability Board (FSB) to establish robust national resolution and recovery regimes and to improve cross-border harmonisation and coordination.

But even with improved resolution capacity, the failure of the largest and most complex international banks will continue to pose disproportionate risks to the global economy.

Our empirical analysis indicates that the costs of requiring additional loss absorbency for G-SIBs are outweighed by the associated benefits of reducing the probability of a systemic financial crisis.

We have also introduced transitional arrangements to implement the capital surcharge that help ensure that the banking sector can meet the higher capital standards through reasonable earnings retention and capital raising, while still supporting lending to the economy.

The Committee's analysis points to additional loss absorbency generally in the range of around 1% to 8% of risk-weighted assets. Our agreed

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calibration from 1% to 2.5% is in the lower half of this estimated range. As a means to discourage banks from becoming even more systemically important, there is a potential surcharge of 3.5%.

Looking ahead

The Committee's approach to dealing with G-SIBs was endorsed by the G20 Leaders at their November 2011 summit.

At that time, an initial list of 29 banks that were deemed globally systemically important was published.

This is not a fixed list and it will be updated annually and published each November.

Transparency is a very high priority and we expect market discipline to play an important role.

As such, the methodology and the data used to assess systemic importance will be publicly available so that markets and institutions can replicate the Committee's determination.

The requirements will be phased in starting January 2016 with full implementation by January 2019.

The basis for adopting specific requirements to address externalities posed by G-SIBs is not exclusive for the global banking system.

Measures should be developed for all institutions whose disorderly distress or failure, because of their size, complexity and systemic interconnectedness would cause significant disruption to the wider financial system and economic activity.
These could include financial market infrastructures, insurance companies, other non-bank financial institutions and domestic systemically important banks.

The Committee is now in the process of determining whether there are elements of the G-SIBs assessment methodology that could be applied to domestic SIBs.

A number of countries, notably Switzerland, the United Kingdom and Sweden have already taken action to implement higher capital requirements for banks that are deemed systemically important at the national level.

The Swiss too-big-to-fail package, which was approved by the Swiss Parliament in September 2011, is due to come into force on 1 March 2012.

The package, which is particularly demanding with respect to capital requirements, consists of the following:

A capital buffer of 8.5% of risk-weighted assets. This is in addition to the Basel III minimum requirement of 10.5%.

Of this 8.5%, at least 5.5% must be in the form of common equity while up to 3% may be held in the form of convertible capital (CoCos).

The CoCos would convert when a bank's common equity falls below 7%.

The two big Swiss banks, Credit Swiss and UBS will have to hold a total of 10% common equity tier 1 capital.

This exceeds both Basel III and the internationally agreed capital surcharge for G-SIBs.

The package also includes a so-called "progressive component" equal to 6% of RWA consisting entirely of CoCos.
Unlike the CoCos under the buffer, the Cocos under the progressive component will convert when capital levels falls below 5% common equity.

In the **United Kingdom**, Sir John Vickers, chair of the Independent Commission on Banking, recommended in September 2011 that systemically important retail banks defined as retail banks with RWA exceeding 3% of GDP should have primary loss-absorbing capacity of at least 17-20% of RWA.

At least 10% must be covered by equity capital while the remaining 7-10% may consist of long-term unsecured debt that regulators could require to bear losses in resolution. These are the so called bail-in bonds.

The proposed changes related to loss absorbency are intended to be fully completed by the **beginning of 2019**.

In **Sweden**, authorities (the Swedish Financial Supervisory Authority, the Ministry of Finance and the Riksbank) announced in November 2011 that capital ratios for the four major banks will be advocated to at least 10% common equity to RWA from 1 January 2013, and 12% from 1 January 2015.

The requirements follow the Basel III definitions and include, like Basel III, a capital conservation buffer of 2.5%, but no countercyclical buffer.

The Swedish proposal goes further than Basel III, both with regard to the levels and in terms of timing

**Conclusion**

Basel III will **improve the resilience** of banks and banking systems but by itself is not sufficient to fully address the negative externalities arising from global systemically important banks.

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These adverse side effects, which include an increased risk of contagion and moral hazard, have serious implications for fiscal budgets and taxpayers.

In response, the Basel Committee has developed assessment methodology to identify G-SIBs and has adopted an additional loss absorbency requirement for such banks that must be met through higher common equity.

This is meant to reduce the probability of a G-SIB's failure by increasing its loss absorbency in the form of a common equity capital
FSB - G20 MONITORING PROGRESS
The United States of America
Interesting parts

The Basel III framework agreement and other Basel III proposals, must be fully implemented through US regulations by the end of 2012.

The United States is committed to meeting these deadlines.

U.S. agencies expect to release a final rule in 2012, in order to meet the implementation timeline of January 1, 2013.

Stress testing forms one part of enhanced supervision under the Dodd-Frank Act (DFA).

The DFA requires one supervisory stress test per year to be conducted by the Federal Reserve on banks with more than $50 billion in consolidated assets and/or banks designated for heightened supervision and two stress tests per year by large firms.

The DFA requires both banks and supervisors to disclose results, although the exact nature of that disclosure is still subject to rule making.

On March 22, 2010, U.S. supervisors issued the final interagency guidance on funding and liquidity risk management.

The policy statement emphasizes the importance of cash flow projections, diversified funding sources, stress testing, a cushion of liquid assets, and a formal, well developed contingency funding plan as primary tools for measuring and managing liquidity risk.

In the spring of 2011, Federal Reserve completed a Comprehensive Capital Analysis and Review (CCAR), a cross-institution study of the capital plans of the 19 largest U.S. bank holding companies.
The CCAR involved a forward-looking, detailed evaluation of capital planning and stress scenario analysis at the 19 large bank holding companies.

As part of the CCAR, the Federal Reserve assessed the firm's ability, after taking into account the proposed capital actions, to maintain sufficient capital levels to continue lending in stressed economic environments, including under an adverse scenario specified by the Federal Reserve.

The Dodd-Frank Act requires the Federal Reserve to conduct annual stress tests for all systemically important companies and publish a summary of the results.

Additionally, the Act requires that these systemically important companies and all other financial companies with $10 billion or more in assets that are regulated by a primary Federal financial regulatory agency conduct semi-annual or annual (respectively) internal stress tests and publish a summary of the results.

Supervisory reviews are ongoing, with a focus on requiring bank organizations to have sound capital planning policies and processes for determinations regarding dividend, as well as the redemption and repurchase of common stock and other tier 1 capital instruments.

Regulators are writing rules governing stress tests under the DFA.

The deadline for implementation of rules governing stress tests is January 17, 2012.

U.S. agencies are incorporating the guidance into the supervisory process. U.S. supervisors continue to monitor the liquidity risk profiles of all banks via the field examination staff.

They also collect liquidity data at large and regional banks on a daily or monthly basis.

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On June 15, 2011, U.S. banking supervisors published proposed guidance on stress testing applicable to all banking organizations with more $10 billion in consolidated assets

Addressing systemically important financial institutions (SIFIs)

The Dodd-Frank Act modifies U.S. regulatory framework by creating the Financial Stability Oversight Council (FSOC), chaired by the Secretary of the Treasury, with the authority to determine that a nonbank financial company shall be supervised by the Board of Governors and subject to prudential standards if the Council determines that material financial distress at the nonbank financial company, or the nature, scope, size, scale, concentration, interconnectedness, or mix of the activities of the nonbank financial company, could pose a threat to the financial stability of the United States.

The FSOC issued a second notice of proposed rulemaking and proposed guidance on October 11, 2011.

The banking agencies have actively participated in drafting and commenting on the documents included in the Key Attributes of Effective Resolution Regimes for Financial Institutions that was approved by the FSB Plenary in Oct. 2011.

CMG meetings have been held with major U.S. banking firms and their significant host regulators.

The U.S. firms submitted initial recovery plans to U.S. regulators on August 16, 2010. U.S. regulators reviewed the plans and are working with the firms to further refine them.

Information from the recovery plans will help to inform the U.S. regulators in developing and maintaining firm-specific resolution plans.
The Dodd-Frank Act created new authority to resolve nonbank financial institutions, similar to that which the FDIC has with regard to insured banks, whose failure could have serious systemic effects.

Additionally, legislation requires resolution plans for all large bank holding companies and non-bank financial companies subject to heightened supervision by the Federal Reserve.

Title II of the Dodd-Frank Act allows the FDIC to be appointed as receiver for nonbank financial firms, the failure of which could cause systemic risk to the U.S. economy.

Under the Dodd-Frank Act framework, the FDIC can create a bridge firm in order to maximize value in an orderly liquidation process for a financial group.

While Title II became effective upon signing, the FDIC drafted regulations for the implementation of its authority under Title II to provide clarity on how the FDIC would implement a resolution under the Dodd-Frank Act.

A first set of interim final rules was adopted in January 2011. A second set of rules was proposed in March 2011, and a final rule was approved in July 2011.

The FRB and FDIC are finalizing issuance of a rule implementing the resolution plan provision in the legislation which is due 18 months from enactment.

On September 21, 2011, the FDIC adopted an interim rule requiring an insured depository institution with $50 billion or more in total assets to submit to the FDIC a contingency plan for the resolution of such institution in the event of its failure. Comments are due by November 21, 2011.
Extending the regulatory perimeter to entities/activities that pose risks to the financial system

The FSOC has authority to expand the U.S. regulatory perimeter by designating the largest, most interconnected nonbank firms for heightened prudential standards and supervision by the Federal Reserve.

The FSOC has proposed a rule regarding the criteria and process for designating nonbank financial firms.

FSOC issued a second more detailed proposal on this framework, with interpretive guidance on October 11, 2011 for public comment.

Hedge funds

Operators and managers of commodity pools are required to register with the CFTC as Commodity Pool Operators, and those who make trading decisions on a pool’s behalf must register with the CFTC as Commodity Trading Advisors.

Certain exemptions from registration apply, however, including for operators of pools that accept no more than 15 participants or are “otherwise regulated” as an SECregistered investment company, as well as operators of pools that have limited futures activity or that restrict participation to sophisticated persons.

Pursuant to legislation passed by Congress, CFTC and SEC staff have jointly proposed regulations for public comment that establish the form and content of the reports that dual-registered investment advisers to private funds are required to file.

The regulations will require investment advisers to maintain records and may require them to file information related to: use of leverage; counterparty credit risk exposure; trading and investment positions;
valuation policies and practices of the advised fund(s); types of assets held; side arrangements or side letters; trading practices; and any other information deemed necessary.

Reports of dual registrants are expected to be filed SEC and made available to the CFTC.

**On January 26, 2011, the CFTC and SEC jointly proposed rules** that would require certain private fund advisers to maintain records and certain private fund advisers to file non-public information designed to assist the Financial Stability Oversight Council in its assessment of systemic risk in the U.S. financial system.

Under the proposal, **each private fund adviser** would file certain basic information annually, and certain large private advisers (i.e. those advisers managing hedge funds that collectively have at least $1 billion in assets as of the close of business on any day during the reporting period for the required report) would file basic information each quarter along with additional systemic risk related information concerning certain of their private funds.

The comment period closed on April 12, 2011, and the CFTC and SEC plan to finalize the rules this fall.

**Recordkeeping and reporting requirements will include disclosure of:**

(i) assets under management;
(ii) use of leverage;
(iii) counterparty credit risk exposure;
(iv) trading and investment positions; and
(v) trading practices, as well as other specified information.

The Dodd-Frank Act provides for a one-year transition period from the date of enactment before the private fund adviser registration and recordkeeping/disclosure obligations go into effect.
The SEC will engage in rulemaking to implement certain provisions.

The Dodd-Frank Act generally requires all advisers to hedge funds (and other private pools of capital, including private equity funds) whose assets under management exceed $100 million to register with the SEC.

The Act authorizes the SEC to impose recordkeeping and reporting requirements on not only those advisers required to register, but also certain other private fund advisers (i.e. advisers to venture capital funds).

The recordkeeping and reporting requirements are designed to require private fund advisers to report information on the funds they manage that is sufficient to assess whether any fund poses a threat to financial stability.

Securitisation

In April 2010, the SEC proposed revisions to its rules relating to ABS shelf eligibility.

In July 2010, US Congress passed the Dodd-Frank Act, which requires rulemaking to implement further changes related to the offering of securitized products in the United States.

Section 943 of the Dodd-Frank Act requires issuers of ABS to disclose the history of the requests they received and repurchases they made related to their outstanding ABS.

The SEC approved final rules to implement Section 943 on January 20, 2011.

The final rules require ABS issuers to file with the SEC, in tabular format; the history of the requests they received and repurchases they made relating to their outstanding ABS.
The table will provide comparable disclosures so that investors may identify originators with clear underwriting deficiencies.

The SEC also adopted final rules to implement Section 945 of the Dodd-Frank Act, which requires ABS issuers to review assets underlying the ABS and to disclose the nature of the review.

In July 2011, the SEC issued a follow up re-proposal to the April 2010 proposal on ABS shelf eligibility.

As part of this re-proposal, the SEC solicited comments on provisions requiring issuers of private ABS to represent that they will make the same information available to investors that would be provided if the securities were publicly registered.

The July 2011 re-proposal also solicited comments on whether the April 2010 proposal appropriately implemented Section 942(b) of the Dodd-Frank Act with regard to the disclosure of asset-level or loan-level data for ABS, if such data are necessary for investors to independently perform due diligence.

In August 2011 the SEC adopted final rules to implement Section 942 of the Dodd Frank Act to eliminate the automatic suspension of Exchange Act reporting obligations for ABS issuers as long as securities are held by non-affiliates of the issuer.

Also pursuant to Section 942, the SEC adopted rules to allow for the suspension of reporting obligations for ABS issuers for a semi annual period if there are no longer any ABS of the class sold in a registered transaction held by non-affiliates of the issuer.

The SEC adopted new rules related to ABS in January and August 2011. Implementation is ongoing.

Section 941(b) of the Dodd-Frank Act requires federal banking agencies and the SEC to jointly prescribe regulations that require securitizers of ABS, by default, to maintain 5% of the credit risk in assets transferred, sold or conveyed through the issuance of ABS.

To implement this, the SEC and other Federal agencies proposed rules in March 2011 relating to credit risk retention requirements.

The proposed rules would permit a sponsor to retain an economic interest equal to at least 5% of the credit risk of the assets collateralizing an ABS issuance.

The proposed rules would also permit a sponsor to choose from a menu of retention options, with disclosure requirements specifically tailored to each form of risk retention.

The New York Department of Insurance considered legislation to revise oversight of financial guaranty insurers, which would have served as the basis for additional state activity in this area.

This legislative response was in addition to increased monitoring and supervision of financial guaranty insurers that is ongoing.

The New York Department of Insurance has taken proactive steps to ensure that other relevant state insurance department regulators remain current and up-to-date on the solvency of financial guaranty insurers through quarterly updates and interstate regulatory communication.

However, the market has contracted such that there is only one active writer of financial guaranty insurance focusing primarily on municipal bond insurance coverage (and not structured products) and consequently there has not been a need for legislative revisions at this time.
State insurance regulators are closely monitoring, and collaborating on supervision of financial guaranty insurers.

Given the current scrutiny and the significant market contraction into more traditional bond insurance coverage, there is no additional legislative or regulatory changes anticipated at this time.

Credit rating agencies

The Credit Rating Agency Reform Act of 2006 (Rating Agency Act) provided the SEC with exclusive authority to implement a registration and oversight program for Nationally Recognized Statistical Rating Organizations (NRSROs).

In June 2007, the SEC approved rules implementing a registration and oversight program for NRSROs, which became effective that same month.

The rules established registration, recordkeeping, financial reporting and oversight rules for credit rating agencies that apply to be registered with the SEC.

These rules are consistent with the principles set forth in the IOSCO Statement of Principles Regarding the Activities of Credit Rating Agencies and the IOSCO Code of Conduct Fundamentals for Credit Rating Agencies.

Since adopting the implementing rules in 2007, the SEC has adopted additional amendments to its NRSRO rules.

The Dodd-Frank Act contains a number of provisions designed to strengthen the SEC's regulatory oversight of NRSROs.
On May 18, 2011, the SEC voted to propose new rules and amendments that would implement certain provisions of the Dodd-Frank Act and enhance the SEC’s existing rules governing credit ratings and NRSROs.

The Rating Agency Act was enacted in order “to improve ratings quality for the protection of investors and in the public interest by fostering accountability, transparency, and competition in the credit rating industry.”

To that end, the Rating Agency Act and the SEC’s implementing regulations prohibit certain conflicts of interest for NRSROs and require NRSROs to disclose and manage certain others.

NRSROs are also required to disclose their methodologies and underlying assumptions related to credit ratings they issue in addition to certain performance statistics.

Under the new rules and rule amendments proposed by the SEC on May 18, 2011 to implement certain provisions of the Dodd-Frank Act, NRSROs would be required to, among other things:

- Report on internal controls.
- Protect against certain additional conflicts of interest.
- Establish professional standards for credit analysts.
- Publicly provide – along with the publication of the credit rating – disclosure about the credit rating and the methodology used to determine it.
- Enhance their public disclosures about the performance of their credit ratings.
Risk management

The Dodd-Frank Act requires the Federal Reserve to conduct annual stress tests for all systemically important companies and publish a summary of the results.

Additionally, the Act requires that these systemically important companies and all other financial companies with $10 billion or more in assets that are regulated by a primary Federal financial regulatory agency conduct semi-annual or annual (respectively) internal stress tests and publish a summary of the results.

The Federal Reserve has created an enhanced quantitative surveillance program that will use supervisory information, firm specific data analysis, and market based indicators to identify developing strains and imbalances that may affect the largest and most complex firms.

Periodic scenario analysis across large firms will enhance understanding of the potential impact of adverse changes in the operating environment on individual firms and on the system as a whole.

This work will be performed by a multi-disciplinary group comprised of economic and market researchers, supervisors, market operations specialists, and accounting and legal experts.

The Federal Reserve is currently developing rules to implement the provision in coordination and consultation with the other relevant agencies.
Solvency II News

Dear member,

There is an interesting development. For years, the United Kingdom was leading the Solvency II framework in many aspects. After the veto of David Cameron some weeks ago, UK looks isolated and unable to influence the EU rules, putting its insurance industry at a competitive disadvantage.

Britain really wants to relax the capital treatment under Solvency II of long-term life insurance contracts such as annuities that are mostly sold in the UK than in any other EU country. This has become really difficult now, as there is a “tit for tat” (equivalent retaliation) approach in the EU. From the game theory, we know the rules: Unless provoked, always cooperate. If provoked, retaliate.

Politicians…

EIOPA - the European Insurance and Occupational Pensions Authority has a hard time to decide what to do with the more than 3,000 comments that make clear the pension industry’s response to the challenge that a Solvency II type regime should be applied to funded defined benefit pensions.

Pensions professionals try hard to avoid a regime designed for insurance companies.

There is another problem… there would not be enough actuaries in Europe to deal with the workload.

The same time, Fitch Ratings believes that Solvency II may significantly increase the capital and compliance burden of the European captive market.
Captives in the EU need better risk management and governance functions, better quality and / or additional etc.

The same time, we are expecting the report (ordered by the Dodd-Frank Act ) from the US Federal Insurance Office (FIO) within the U.S. Department of Treasury, that will explain how the United States will modernize and improve insurance regulation.

The US insurance and reinsurance industry is concerned that the regulatory systems in other countries will put firms in the States at a disadvantage.

Dear member,

Today we must also remember the changes after the Omnibus 2 draft Directive. It is time to understand better some important parts.

The Omnibus II draft Directive amends important parts of the Solvency II Directive:

1. The Omnibus II draft Directive changes the implementation date from the 31st of October 2012 to the 1st of January 2013.
2. The Omnibus II draft Directive replaces the “implementing measures” with the “delegated acts” and the “implementing technical standards”. Some months before, we were expecting Level 2 implementing measures that would take the form of either a Directive or a Regulation. After the Omnibus II draft Directive we are expecting delegated acts and implementing technical standards.
3. The Omnibus II draft Directive replaces all references to CEIOPS with references to EIOPA
4. The Omnibus II draft Directive introduces new powers for EIOPA
5. The Omnibus II draft Directive gives to the European Commission the (discretionary) powers to defer the implementation of significant features of Solvency II.

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Experience of the financial crisis has exposed important failures in financial supervision. President Barroso therefore requested a group of high level experts, chaired by Mr Jacques de Larosière, to make proposals to strengthen European supervisory arrangements.


Building on its recommendations, the Commission set out proposals for a new European financial supervisory architecture in its Communication to the Spring European Council of March 2009.

The Commission presented its ideas in more detail in its Communication of May 2009 which proposed:

- Establishing a European System of Financial Supervisors (ESFS), consisting of a network of national financial supervisors working in tandem with new European Supervisory Authorities (ESAs), created by transforming the existing European supervisory committees into a European Banking Authority (EBA), a European Insurance and Occupational Pensions Authority (EIOPA), and a European Securities and Markets Authority (ESMA), thereby combining the advantages of an overarching European framework for financial supervision with the expertise of local micro-prudential supervisory bodies that are closest to the institutions operating in their jurisdictions; and

- Establishing a European Systemic Risk Board (ESRB), to monitor and assess potential threats to financial stability that arise from macro-economic developments and from developments within the financial system as a whole.

To this end, the ESRB would provide an early warning of system-wide risks that may be building up and, where necessary, issue recommendations for action to deal with these risks.
The Communication also concluded that in order for the ESFS to work effectively, changes to the financial services legislation would be necessary, in particular to provide an appropriate scope to the more general powers provided for in the individual regulations establishing the authorities, ensuring a more harmonised set of financial rules through the possibility to develop draft technical standards and facilitate the sharing, where necessary, of micro-prudential information.

**Consultation of the interested parties**

Two open consultations were conducted in the development of these proposals.

Firstly, following the report of the high-level group chaired by Jacques de Larosière and the publication of the 4 March 2009 Commission Communication, the Commission organised a first consultation from 10 March to 10 April 2009 as input to its Communication on Financial Supervision in Europe published on 27 May 2009.

A summary of the public submissions received can be found at:


Secondly, from 27 May to 15 July 2009, the Commission organised another consultation, inviting all interested parties to comment on the more detailed reforms presented in the Communication on Financial Supervision in Europe of 27 May 2009.

The responses received were for the greater part supportive of the suggested reforms, with comments on detailed aspects of the proposed ESRB and ESFS.

A summary of the public submissions received can be found at:
Additionally, a Commission Services Staff Working Paper was published on 23 September 2009 to preview the possible areas where amendments to sectoral legislation may be necessary. The working paper can be found at:

http://ec.europa.eu/internal_market/finances/docs/committees/supervision/2009
0923/sec2009_1233_en.pdf

IMPACT ASSESSMENT

The May Commission Communication on Financial Supervision in Europe was accompanied by an impact assessment analysing the main policy options for establishing the ESFS and ESRB.

A second impact assessment accompanied the legislative proposals, examining the options in more detail.

The second impact assessment analysed the options for the appropriate powers for the authorities to work towards achieving a single set of harmonised rules and concluded that this capacity would be rightly limited to those areas to be defined in forthcoming sectoral legislation, and identified such potential areas.

Additionally, in developing the draft technical standards themselves, the authorities should undertake appropriate analysis of potential related costs and benefits and consult stakeholders before submitting them to the Commission.

The second impact assessment report is available at:

http://ec.europa.eu/internal_market/finances/committees/index_en.htm#package
LEGAL ELEMENTS OF THE PROPOSAL

Given that changes need to be introduced into existing Directives to ensure the development of a single rule book, an amending Directive is the most appropriate instrument. This amending Directive should have the same legal basis as the Directives it amends.

Transposition

Member States shall adopt and publish the laws, regulations and administrative provisions by 31 December 2012 at the latest.

They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

They shall apply those provisions from 1 January 2013.

When Member States adopt those provisions, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.
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The bill establishes new risk management and corporate governance principles, sets up an early warning system to protect the economy from future threats, and brings more transparency and accountability. It also amends important sections of the Sarbanes Oxley Act. For example, it significantly expands whistleblower protections under the Sarbanes Oxley Act and creates additional anti-retaliation requirements.
THE DODD FRANK ACT PRESENTATION IS NOT PART OF THE EXAM - THERE ARE NO QUESTIONS BASED ON THESE 976 SLIDES

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