

*Remarks of Richard Berner, Director, Office of Financial Research,
at the Conference on the New Pedagogy of Financial Regulation
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The Interdisciplinary Approach to Financial Stability Analysis

Thank you for that kind introduction, Kate. Thanks also to Jeff, Chuck, and Howell for organizing this conference and to Columbia, Cornell, and Harvard for sponsoring today's event.

It is my honor to speak to such a distinguished group of legal scholars and economists, as well as distinguished policymakers and practitioners. If any group has the ability to determine the best approach for teaching the theory and practice of financial regulation to future lawyers, economists, and policymakers, this is it.

Beyond Jurisdictional Lines and Regulatory Silos

We all recognize the benefits of an interdisciplinary approach to the practice and pedagogy of law, economics, and finance. Such an approach requires us to move beyond jurisdictional lines, regulatory silos, and traditional fields of study. Threats to financial stability do not respect such boundaries. They migrate from one regulated space to another and especially from regulated spaces to unregulated ones.

Nor do threats respect national borders; they are global. We live in a world where no single regulator, profession, or discipline can effectively predict, diagnose, or respond to threats in isolation. As the financial crisis made clear, we remain isolated at our peril. Collaboration, information sharing, and collective responsibility are our best antidotes to instability.

In enacting the Dodd-Frank Wall Street Reform and Consumer Protection Act, Congress addressed some of the institutional barriers to collaboration across our regulatory infrastructure by creating two complimentary institutions to identify and respond to threats to U.S. financial stability, regardless of where such threats emerge: the Financial Stability Oversight Council — or FSOC — and the Office of Financial Research.

The Council is charged with three primary purposes: (1) assessing and monitoring threats to financial stability, (2) promoting market discipline by eliminating expectations that some companies will be treated as too big to fail, and (3) responding to emerging threats to financial stability. FSOC creates collective accountability among our financial regulators for the stability of the U.S. financial system.

We at the OFR help to promote financial stability by improving the scope, accessibility, and quality of financial data; assessing and monitoring threats to financial stability; developing tools to do so; performing and sponsoring financial stability research; and evaluating policies designed to mitigate threats to financial stability.

We support FSOC and its member agencies by providing objective research, analysis, and findings across jurisdictional lines.

The OFR does not make policy. Our findings are not subject to review by any FSOC member agency. This objective perspective and this independence are essential for the integrity and credibility of our work.

To help us pursue this work, we'd love for you to send us your best students. No doubt, however, many of your students will specialize by joining the financial institutions practice of a law firm or working for a federal or state regulator.

In doing so, they may miss our perspective. By focusing on a particular slice of the financial system, those graduates might lack a broad perspective and run the risk of missing the forest for the trees, or perhaps more aptly for this audience, missing the forest unless the forest has a direct, predictable, and substantial effect on their trees.

Some of your other graduates may remain generalists, for example, by serving as in-house counsels. Those generalists could run a different sort of risk — the risk of seeing the forest as a collection of separate tree species.

In taking these viewpoints, either set of graduates may miss an impending forest fire.

We must teach students about financial regulation in a way that trains them to notice smoke, whether it's coming from elms, maples, birches, or cedars — or just kindling of unknown origin. That's best way to prevent a fire from reducing the forest to ash.

Limitations of Current Regulatory Regime in Promoting Financial Stability

The Dodd-Frank Act created the OFR and FSOC to look across the financial system, but debate continues about whether the current regulatory regime is sufficient to promote financial stability in the new financial world order.

In establishing FSOC, the law constructed a framework for FSOC member agencies to promote financial stability. FSOC and the OFR have made positive strides in developing the so-called macroprudential toolkit to address risks to financial stability. But promoting financial stability is not part of every agency's mandate.

Donald Kohn, former vice chair of the Federal Reserve, said in a speech in May 2014, "Macroprudential regulation will require cooperation and coordination across many agencies in the context of shared goals for the system. FSOC has made progress but isn't yet as effective as it needs to be in the balkanized U.S. regulatory system."

In December 2014, Securities and Exchange Commission (SEC) Chair Mary Jo White noted that regulatory measures related to asset management activities under consideration to meet the SEC's statutory mission of protecting investors, securities markets, and fostering the formation of capital would also bolster financial stability. She's right.

But there are obstacles. For example, the Dodd-Frank Act clearly required the SEC to collect Form Private Fund data and share those data with FSOC. However, a rule aimed squarely at protecting the broader financial system may not be within the SEC's mandate. This ambiguity raises the question of whether the law is adequately framed to support modern financial policy objectives.

The answer to this question has substantial ramifications — for example, on the OFR's ability to promote the Legal Entity Identifier, or LEI. Widespread use of the LEI is a key policy objective for the OFR and an important infrastructure improvement for financial stability.

But this issue is not about the OFR. Promoting improvements in financial data should be a key policy objective for all financial regulators. Here's why:

When Lehman Brothers failed in 2008, its counterparties struggled to assess their total exposures to Lehman. Financial regulators were also unclear about the consequences of a Lehman failure — in part because no industry-wide standards existed for identifying and linking financial data representing entities or instruments.

Standards are needed to produce high-quality data and high-quality data are essential for effective risk management of financial companies, especially in assessing their connections and exposures to other firms and regulatory oversight.

The LEI is a data standard — like a bar code for precisely identifying parties to financial transactions. The OFR has led the global LEI initiative as it has progressed from conception to a full-fledged operational system in just a few years.

The LEI can help the financial industry, regulators, and policymakers trace exposures and connections across the financial system. Although the LEI has numerous benefits, its most prominent benefit is the promotion of financial stability.

Although the worldwide LEI system reached significant milestones in 2014 when the final components of the governance framework of the LEI system were introduced, only some aspects of financial reporting in the United States require use of the LEI and these substantially rely on voluntary implementation.

U.S. regulators have not mandated the use of the LEI in much of their regulatory reporting. In part, that's because of the open question of whether regulators can consider the clear benefit the LEI poses to financial stability in their cost-benefit analysis. In my view, they could if financial stability — or more specifically, promoting financial stability through required use of the LEI — was part of their mandate.

I would argue that we are now all charged with achieving financial stability. Many of the lawyers I work with agree.

So what's the lesson here? A unified approach to teaching financial regulation is the best way to prepare future policymakers, and their counselors and analysts, to answer such questions about the law's ability to achieve policy goals aimed at financial stability.

Interdisciplinary Approach in Action

The interdisciplinary approach — that requires us to look across jurisdictional lines to promote financial stability — must be more than a catchphrase. We must also be able to put this approach into action.

Many professions and fields can contribute to monitoring to detect the next financial crisis, combatting one that occurs, and developing techniques for crisis monitoring and fighting. The stability of the financial system is best promoted through a collaborative, interdisciplinary approach. In this room are renowned economists, lawyers, and academics.

That's a great start, but I challenge you to look even further.

At the OFR, we use an interdisciplinary “programmatic approach” to organize our work on key financial stability activities. These activities in many respects are drawn from work in other disciplines and from the OFR's unique position within the financial regulatory framework.

Programmatic Approach

Last year, the OFR developed an OFR-wide initiative that identifies core areas of concentration, or programs, that align our priorities to our mission. Each program is staffed with an interdisciplinary team of data scientists, researchers, lawyers, IT professionals, and others.

This programmatic approach initially encompasses eight programs for coordinating our work on data, research, and analysis. We expect that number to increase over time. Three of those programs aim at improving the quality, scope, and accessibility of financial data.

A fourth program is identifying, assessing, measuring, and monitoring risks in central counterparties, or CCPs. A fifth focuses on developing and improving our monitoring tools.

A sixth is evaluating and assessing how to improve stress tests for banks, nonbanks, and system-wide. A seventh is assessing and measuring risks arising from changes in market structure, including from the spread of algorithmic and high-frequency trading, and how those changes affect market function and liquidity.

Last, we have a program focused on risks in financial institutions. We are evaluating and assessing bank capital and liquidity regulation, including unintended consequences, conflicts, and complementarities.

These programs hold great promise for helping policymakers enhance the resilience of the financial system. Their success hinges on an interdisciplinary approach within the OFR and with our collaborators throughout the global financial system as we continue to develop, implement, and refine these programs.

Within the programs, a few activities help to demonstrate the value of an interdisciplinary approach: our monitors program, stress testing, and an upcoming data collection of repurchase agreement data.

Monitors

Let's start with monitors, which rely on data visualization, a discipline with deep roots in map-making, statistics, medicine, and science. Picturing patterns in large datasets — now popularly known as “big data” — can be worth a thousand words, or more.

Our work often focuses on tail risk in periods of stress, rather than means or modes in normal times, so large, granular, and diverse datasets are intrinsic to it. Visual tools are especially important for spotting and communicating tail risks in a sea of data.

Using these tools is similar to the work of a trial lawyer taking difficult, technical concepts to a lay jury in search of a favorable verdict. Data can convey information only if they can be understood.

Like most tools, visualizations work best when they are carefully adapted to the specific tasks to be performed.

An OFR working paper, for example, emphasized that visual techniques ideal for one task would be inappropriate for another. For example, the accountability requirements of financial rulemaking imply that fixed visuals are preferable, as is the case with engineering blueprints submitted for approval for compliance with building codes. On the other hand, the exploratory nature of an analyst's discovery process during a financial stress event favors interactive visualizations, like a medical sonogram, or real-time functional magnetic resonance imaging.

At the OFR, the heat map in our Financial Stability Monitor is a key visualization tool. It depicts a framework that looks across the financial system at five categories of risk: macroeconomic, market, credit, funding and liquidity, and contagion. The monitor enables us to measure and track risks in each category wherever in the financial system they occur — in banks, shadow banks, other nonbanks, and markets.

Stress testing

Another OFR program — stress testing — has well-known roots in engineering and medicine, where it is used to assess the resilience of bridges and infrastructure, and to test cardiovascular functioning under stress.

In my view, regular financial stress testing is one of the best tools available both for assessing potential sources of vulnerabilities and for calibrating microprudential requirements, such as for capital based on financial firms' idiosyncratic risks.

I think stress tests might also be used to calibrate macroprudential tools, including tools aimed at building resilience across the financial system. In addition, they are an important tool for risk management at financial firms.

At the OFR, we are required by statute to evaluate stress tests and similar tools. We are engaged in extensive dialogue to obtain access to the data used to conduct stress tests, and to suggest ways to improve them, including for nonbank institutions and system-wide risk assessment.

Some key areas of our research related to stress testing include better ways to consider risk propagation or contagion in stress testing. In this regard, network approaches and

agent-based modeling can be helpful interdisciplinary methods to move stress tests toward a system-wide framework.

In our work, we are already borrowing from other disciplines. We've published several research papers on stress testing, including on selecting stress test scenarios. These papers use variants of Monte Carlo methods, which simulate uncertain scenarios to determine the distributions — including the tails — of outcomes.

Another OFR paper published extended techniques from engineering to quantify fundamental economic uncertainty and applied the method to an example of portfolio stress testing.

One of the more interesting legal questions that arises from stress testing is the extent to which the different regulatory regimes of the different types of firms to be tested can result in apples-to-apples comparisons, particularly for systemic risk considerations.

Repo Collections

The last activity I want to talk about is an impending data collection related to repurchase agreement, or repo, markets. As you probably know, a repo is a collateralized agreement to sell a security to another party in exchange for cash with an agreement to repurchase it later at an agreed price. In other words, it is a secured funding agreement.

It's similar to a securities lending transaction, in which a securities owner lends stocks or bonds to another party, often in exchange for cash. This type of loan is secured by collateral, which can be cash, other securities, or other financial assets.

Bank regulators have significant visibility into repo markets because they regulate major repo clearing banks. Securities regulators have access to some securities lending information through fund disclosure rules. But a comprehensive view of these markets, their major participants, and the interplay between them does not exist.

In recent years, FSOC has come to recognize that these repo markets are not sufficiently well understood or measured, despite their critical importance to the functioning of the financial system. As a result, the OFR has worked in coordination with the SEC and the Federal Reserve System to first complete a pilot collection of data describing these markets. We will soon propose a rule to collect repo market data.

The OFR is well positioned to collect these data because we can write rules requiring any U.S. "financial company" to provide information to the OFR for the benefit of FSOC and its work. This authority bridges the regulatory gap between banking and securities regulators, which each oversee some, but none oversee all, market participants.

Best practices dictate that we do far more than simply write a rule and start a data collection. An OFR team of lawyers, economists, financial analysts, technologists, and data scientists are undertaking this work. Our team has counterparts the Federal Reserve Board and the Federal Reserve Bank of New York.

To me, this repo collection reflects a clear acknowledgement that the era after the financial crisis requires new legal and regulatory authorities, and collaboration among our regulators. Under this interdisciplinary approach to problem solving, lawyers must

understand basic economics and see the regulatory forest and not just the trees. The same is expected of economists regarding the law, and so on.

We have a new financial world order, and the next generation of lawyers and economists must be trained to meet the challenges ahead.

Thank you for your time. I'd be happy to answer a few questions.