Systemic Risk Monitoring at the OFR

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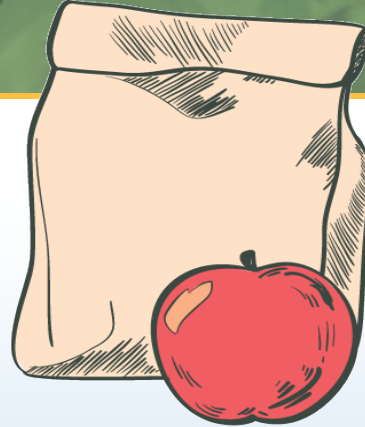AMERICAN ACADEMY *of* ACTUARIES

SYSTEMIC RISK MONITORING AT THE OFR

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- Role and mandate of the Office of Financial Research

- Framework for monitoring threats to financial stability

  - Motivation

  - Methodology

  - Takeaways

  - Near-term plans

What is the Financial Stability Oversight Council?

A collaborative body established by the Dodd-Frank Act to identify risks to financial stability, respond to emerging threats, and promote market discipline.

- Chaired by the Secretary of the Treasury, the Council contains eight federal financial regulators, an insurance expert appointed by the President, and state regulators and other nonvoting members.

- The Council has the authority to designate nonbank financial companies, Financial Market Utilities (FMU), and payment, clearing, or settlement activities for heightened prudential supervision.

- The Council facilitates regulatory coordination, information sharing, and information collection.

- The Council reports annually to Congress.

- Council Committee structure: Deputies; Systemic Risk (subcommittees on Markets and Institutions); Nonbank Designation; FMU Designation; Heightened Prudential Standards; Orderly Liquidation Authority and Resolution Plans; and Data.

What is the Office of Financial Research?

The OFR supports the needs of the Council by :

- **Analyzing threats to financial stability** – The OFR is developing metrics to assess threats to financial stability, and tools for measuring and monitoring risk.

- **Conducting research on financial stability** – The OFR is conducting research to evaluate stress tests and to propose other potential stability-related assessments of financial entities, reporting on market disruptions, and providing analyses of policy tools and responses.

- **Addressing gaps in financial data and helping to fill them** – The OFR is promoting data integrity, accuracy, and transparency for the benefit of market participants, regulators, and research communities.

- **Promoting data standards** – The OFR is collaborating with policymakers, regulators, multilateral organizations, and industry to establish global data standards, e.g., for a global legal entity identifier, or LEI.

OFR Research Implementation and Products

Implementation

The OFR takes the following approaches to implementing its research strategies:

- Working through cross-functional teams

- Bringing researchers into the OFR

    - IPAs and consultants
    - Fellowship program

- Facilitating researchers

    - Joint research initiatives
    - Grants

- Providing thought leadership and opportunities for dialogue

    - Publishing staff work products
    - Workshops and conferences

Products

- OFR Annual Report

- Current analysis and policy research

- Support the Council on its Annual Report and other research projects

- Working Papers and other research

    - Common Ground: The Need for a Universal Mortgage Loan Identifier (McCormick and Calahan)

    - How Likely is Contagion in Financial Networks? (Glasserman and Young)

    - Stress Scenario Selection by Empirical Likelihood (Glasserman and others)

    - "A Survey of Systemic Risk Analytics" (Bisias and others)

    - "Forging Best Practices in Risk Management" (Flannery and others)

    - "Using Agent-Based Models for Analyzing Threats to Financial Stability" (Bookstaber)

– Promote data standards; e.g., the global Legal Entity Identifier (LEI), necessary for system-wide aggregation, linking different data sets and analytical comparisons; helps collect more and better data while reducing the reporting burden.

– Collaborate with Council member organizations to collect data and fill data gaps, e.g., for DvP repo, securities lending, etc.

– Target low-cost, high-quality data collection points (SDRs, CCPs) for certain types of data, e.g., OTC derivatives, swaps, GC repo.

– Four partnerships critical for success: (1) The global policy/regulatory community; (2) financial institutions; (3) market data vendors and solutions providers; and (4) exchanges, CCPs and other data repositories.

HOW CAN THE OFR IMPROVE FINANCIAL STABILITY RESEARCH?

Understand the Financial System	Assess Risk and Vulnerabilities	Evaluate Mitigants
• How is the financial system performing its six basic tasks? • How is the financial system changing – particularly with respect to new products and markets?	• Where are risks accumulating? • What are the forces driving risk-taking activities and what is the interplay among them? • What are the gaps in analytics and data?	• How can risk management, policy, and supervision address these risks? • Do policymakers and companies have sufficient data and information?

The OFR has a Mandate to Assess Risks to Financial Stability

- Monitoring risks to financial stability has gained importance due to:
    - Increased complexity of factors contributing to instability
    - The severity of potential instability on the real economy
    - Current gaps in monitoring devices

- Building on the existing toolkit, the OFR has developed a framework that seeks to operationalize systemic risk monitoring

- The objective of the financial stability monitor is to provide policymakers with a periodic assessment of potential fragilities

Approaches to Financial Stability Monitoring

- *Institutional/supervisory segments*
  - Highly detailed, but tends to focus narrowly on only one part of the financial system or on a single risk; data are either lagged or not publically available

- *Composite systemic or financial stress indices*
  - Useful summary tool, but aggregated approach makes it difficult to disentangle sources of stress

- *Thematic*
  - Incorporates market intelligence, but lacks rigor and approach is not systematic

- *Risk-based assessment*
  - Captures diverse range of potential sources of instability, but measurement challenges exist

Existing Toolkit

- *Financial soundness indicators* (e.g., balance sheet analysis), but tend to be dated and do not take into account spillovers

- *Macro-financial models* (e.g., VAR shocks, stress tests, scenario analyses), but do not account for structural breaks and calibration may be subjective

- *Market-based measures* (e.g., CoVAR, joint-distress, fair value models, EDFs), but may not have much predictive value or are only coincident, and information content of market pricing may be unreliable

- *Tools to assess interdependencies* (e.g., network analysis, cross-border exposures), but difficult to string together a time series and significant data gaps

Key Risks and Examples of Indicators

Risk	Definition	Examples of indicators*
Macroeconomic	Evaluates macro risks that have the potential to affect stability through various channels - e.g., growth, external balances, policy buffers, fiscal vulnerabilities	Financial conditions, sovereign financing needs/cost of funding, consumer/business confidence, inflation volatility/expectations
Market	Assesses the risk of destabilizing losses across key asset classes and investment strategies.	Duration, positioning, risk premia valuations, FX/ALM mismatches, volatility
Credit	Measures the propensity of a counterparty to meet its financial obligations	Corporate credit spreads, lending conditions, asset quality of households, corporates, banks, and non-bank financial institutions
Funding/liquidity	Seeks to capture market liquidity and assess stress in funding markets	Broker-dealer inventories, cash balances, dependence on wholesale funding, short-term funding rates/spreads
Contagion	Seeks to measure the vulnerability of the financial system to sudden shocks that may spill over or spread as a result of interconnectedness.	CCA, JPoD, CoVaR, SES, DIP, network analysis, cross-border exposures, sovereign-bank exposures, correlation risk
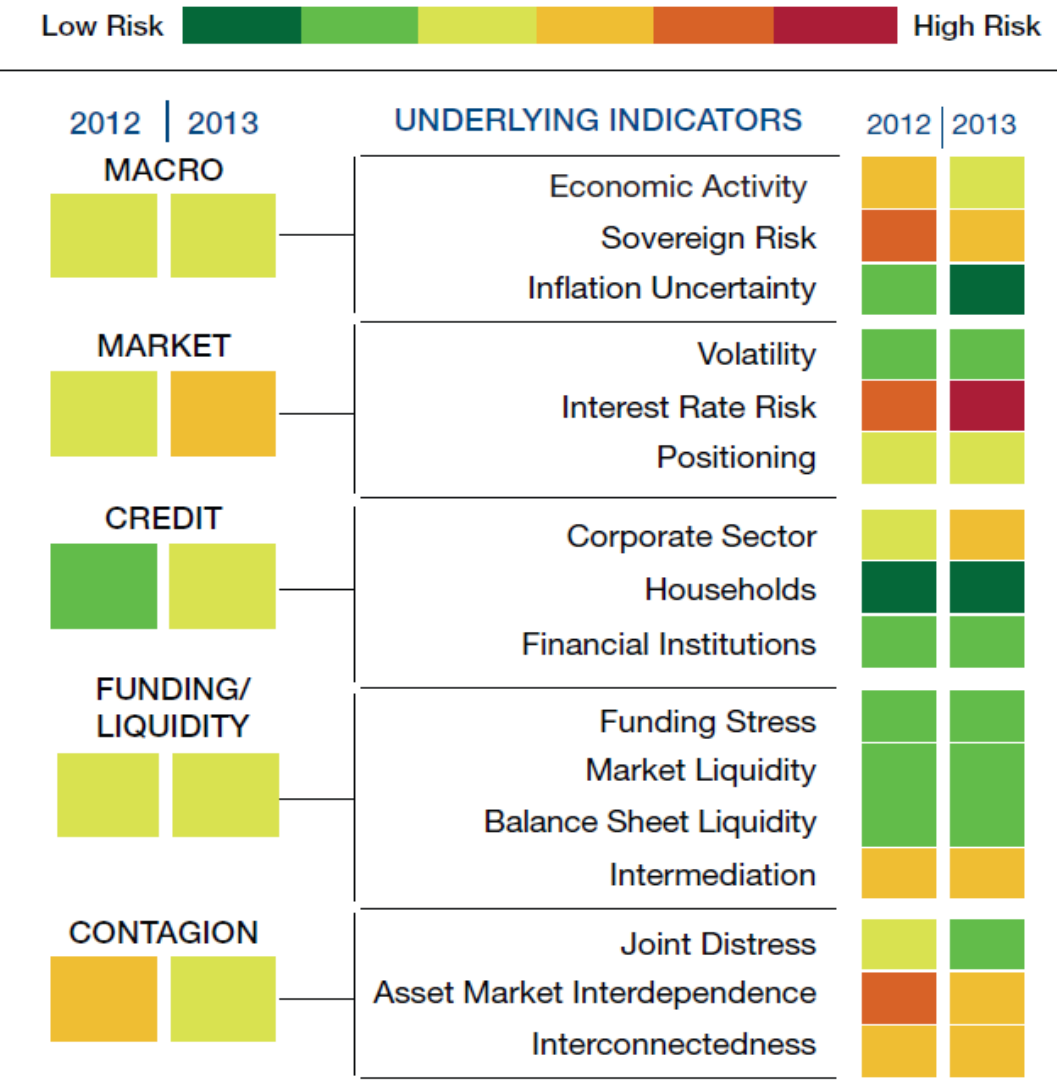
- We identified **five measures of risk**: macro, market, credit, funding/liquidity, and contagion.

- Positioning is determined by deviation from historical norm, and represented as a heat map. **Red reflects higher risks and green lower risks.**

- Each risk measure is comprised of a set of roughly 10 **model-, market-, survey-based standardized indicators.**

- Indicators are grouped together into '**underlying indicators**' and '**risk measures**' using simple averages.
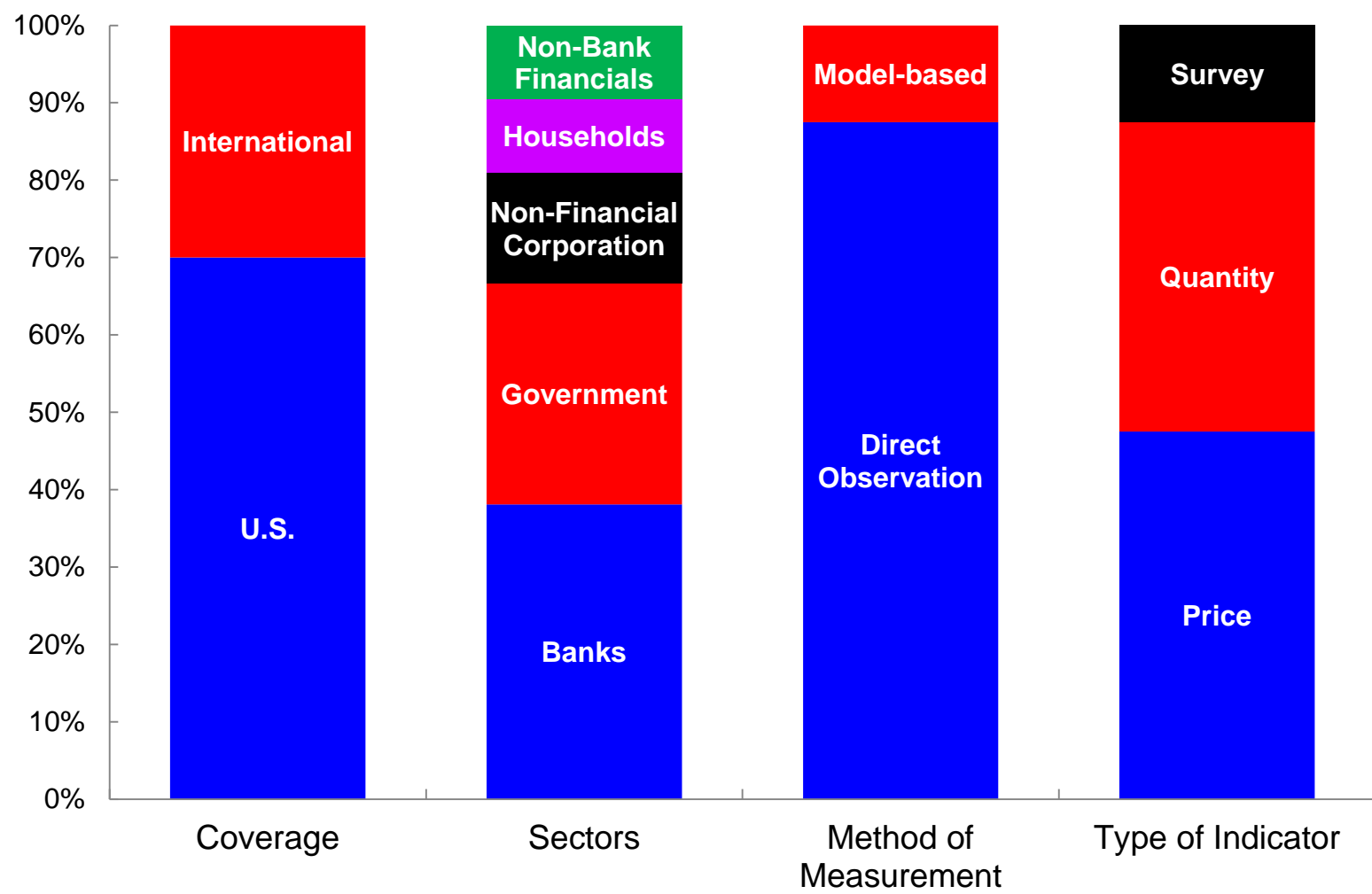
Near-term Plan

- Draft methodology paper by September 2014
    - Proceed with back-testing, reassess weights and selection criteria
    - Incorporate additional measures and populate

- Consider how to incorporate other sources of risk that are less quantifiable – e.g., operation, infrastructure, policy risk

- Develop complementary monitoring metrics and surveillance tools
    - Counterparty credit risk
    - Trading liquidity metrics

Questions?