BANK & FINANCE
CONSULTING GROUP

IV. Stress Testing Without Illusion:
Exploring Systemic Fragility After Design, Governance, and Diagnosis

Bank & Finance
Consulting Group

December 2025

Contents

Preface

Stress testing occupies an ambiguous place in modern financial stability practice. It is widely used, increasingly sophisticated, and often highly visible. Yet its purpose is frequently overstretched. Stress tests are asked to predict crises, to measure resilience with precision, or to provide assurance in systems that are inherently uncertain and adaptive.

This volume begins from a different premise.

Within the **Financial Ecosystem Series** developed by Bank & Finance Consulting Group, stress testing is not treated as a standalone technique, nor as a substitute for judgment or governance. It is positioned deliberately **after** design, governance, and diagnostics—once the structure of the system is understood, stewardship arrangements are clarified, and systemic vulnerabilities have been made legible.

The objective is modest but demanding: to explore how a financial ecosystem with known fragilities may behave when those fragilities are placed under strain.

This reframing reflects both experience and evolution in financial stability thinking. Over time, authorities and international institutions have increasingly recognized that systemic risk arises from interaction, propagation, and non-linearity rather than from isolated shocks. They have also recognized that stress testing, when treated as a predictive or certifying device, risks creating false confidence rather than preparedness.

This volume therefore treats stress testing as a **governance craft**—a structured form of collective reasoning under uncertainty. Its value lies not in numerical outputs, thresholds, or scores, but in its ability to discipline interpretation, surface assumptions, and clarify where governance capacity may be tested under pressure.

Stress testing, as presented here, does not discover vulnerabilities. That work belongs to diagnostics. It does not determine decisions. That responsibility belongs to governance. It does not eliminate uncertainty. That is neither possible nor desirable. Instead, it translates legibility into exploration, and exploration into preparedness.

The analysis proceeds with strict scope discipline. It does not offer supervisory templates, capital frameworks, or policy prescriptions. It does not seek to optimize responses or to validate resilience. It focuses instead on propagation, amplification, regime shifts, and the performance of governance arrangements under strain.

In doing so, this volume completes a critical step in the ecosystemic sequence. Design established what the system is and the trade-offs it embodies. Governance clarified how stewardship is exercised under fragmented authority. Diagnostics identified where fragility resides and why it matters. Stress testing explores how that fragility behaves once strained.

What remains is continuity over time.

How the insights generated through design, governance, diagnostics, and stress testing can be embedded into enduring institutional capability—without ritualization or technocratic illusion—is the subject of the final volume of the series, **Institutionalizing Financial Ecosystem Stewardship**.

Bank & Finance Consulting Group
December 2025

Executive Summary

Stress testing has become a central feature of contemporary financial stability practice. Over the past decade, authorities have increasingly relied on stress tests to move beyond static assessments and to examine how financial systems might perform under adverse conditions. Yet experience has also revealed persistent limitations: stress tests are often asked to predict what cannot be predicted, to measure what is deeply uncertain, or to certify resilience in systems that are inherently adaptive.

This volume reframes stress testing within the **Financial Ecosystem Framework** developed by Bank & Finance Consulting Group. It situates stress testing explicitly **after design, governance, and diagnostics**, and clarifies its legitimate role as a **governance-relevant exploration of system behavior under strain**, rather than a predictive or measurement technology.

Stress Testing as Governed Exploration

Within the ecosystemic sequence, stress testing serves a precise and bounded function. Design defines the architecture and trade-offs of the financial system. Governance defines how stewardship is exercised under fragmented authority. Diagnostics make systemic vulnerabilities legible. Stress testing then explores **how those diagnosed vulnerabilities behave once they are strained**.

Properly positioned, stress testing does not discover vulnerabilities, estimate losses, or assign probabilities. It examines **propagation, amplification, and non-linear behavior** across institutions, markets, infrastructures, and governance arrangements. Its object is not the shock itself, but the system's response.

This reframing aligns with an emerging recognition in mainstream financial stability practice that stress testing is most informative when it illuminates mechanisms and interactions, rather than delivering point estimates or apparent precision.

From Vulnerabilities to Stress Dimensions

A central contribution of this volume is the shift from scenario-first stress testing to **vulnerability-driven exploration**. Rather than beginning with narratives or events, stress testing starts from diagnosed fragilities and translates them into **stress dimensions**—structured forms of strain such as funding liquidity tightening, margin pressure, market illiquidity, loss of confidence, infrastructural disruption, or coordination delays.

By focusing on stress dimensions rather than scenarios, stress testing avoids narrative dependence and remains robust across changing external conditions. Diverse triggers may initiate stress, but systemic outcomes are shaped by common structural channels through which fragility propagates.

Propagation and Amplification Under Strain

The core analytical object of stress testing is **propagation**. Stress becomes systemic not because an event is severe, but because interactions transmit and amplify strain across the ecosystem. Hidden coupling, feedback loops, delayed effects, and regime shifts define behavior under stress.

This volume emphasizes that amplification and absorption are not fixed properties. Mechanisms that dampen stress in normal times may intensify it once thresholds are crossed. Stress testing explores these dynamics conceptually, without collapsing them into spurious precision.

Stress Testing as a Test of Governance Capacity

Stress testing reveals not only financial dynamics, but **governance capacity under strain**. Coordination failures, delayed escalation, fragmented mandates, and shifting institutional reaction functions often shape outcomes as much as balance-sheet conditions.

By placing governance inside the analytical frame, stress testing becomes a collective interpretive exercise. It surfaces disagreement, clarifies assumptions, and reveals where judgment will be required under pressure. In many cases, governance capacity emerges as the binding constraint on systemic resilience.

What Stress Testing Can—and Cannot—Inform

Stress testing legitimately informs preparedness, contingency thinking without pre-commitment, institutional learning, narrative discipline, and prioritization of attention. It does not predict crises, prescribe actions, or certify resilience.

Explicit acknowledgment of these limits is essential. Stress testing cannot eliminate uncertainty, anticipate novel sources of instability, or substitute for judgment exercised under responsibility and accountability. Its credibility rests on humility, not comprehensiveness.

Stress Testing Without Illusion

Stress testing strengthens financial ecosystem stewardship only when it is used with discipline and restraint. Treated as exploration rather than prediction, it clarifies exposure without claiming foresight. It informs governance judgment without replacing it.

In the Financial Ecosystem Series, this volume completes the transition from **legibility to exploration**. What follows is the challenge of continuity: embedding these insights into enduring institutional capability without ritualization or technocratic drift.

That task is taken up in the final volume, **Institutionalizing Financial Ecosystem Stewardship**.

1. Why Stress Testing Follows Diagnosis

Stress testing has become a central instrument of financial stability practice over the past decade. Following the global financial crisis, authorities increasingly turned to stress tests to move beyond static assessments of solvency and to evaluate how financial systems might perform under adverse conditions (BIS, 2014b; Federal Reserve, 2025). In Europe, successive EU-wide and ECB-led exercises expanded the scope of stress testing from firm-level resilience toward macro-prudential and, more recently, system-wide perspectives (ECB, 2024).

This evolution reflects a shared recognition: **financial stability cannot be assessed solely in tranquil conditions**. Balance sheets, market liquidity, and institutional behavior change under strain, often in ways that are not visible ex ante. Stress testing emerged as a way to interrogate that behavior.

Yet experience has also revealed a limitation. **Stress testing is only as meaningful as the understanding of vulnerability that precedes it**. When stress tests are constructed without a prior diagnosis of where fragility resides, they risk becoming exercises in scenario selection and model execution rather than disciplined inquiry into systemic behavior.

This volume starts from that premise.

1.1 Diagnostics Make Stress Meaningful

The preceding volume, *Diagnosing Financial Ecosystems*, established that systemic risk is not a property of individual institutions in isolation, but of **structures, interconnections, and governance arrangements**. Vulnerabilities arise from concentration, leverage, liquidity mismatches, information asymmetries, technological dependencies, and institutional misalignment—often across layers of the financial ecosystem.

Stress testing, in this context, does not identify vulnerabilities. **Diagnostics do**.

What stress testing contributes is different: it explores **how already-identified vulnerabilities behave when subjected to strain**. Without that diagnostic foundation, stress testing becomes untethered. Scenarios may be severe, but they are not necessarily relevant; models may be sophisticated, but they may illuminate little about the system's true points of fragility.

This insight is increasingly reflected—implicitly—within mainstream practice. Recent work by the ECB, for example, places growing emphasis on vulnerability analysis and on understanding amplification mechanisms across banks, non-banks, and markets before quantifying outcomes (ECB, 2024). Similarly, BIS reflections have repeatedly cautioned against over-interpreting stress-test outputs without a clear conceptual map of underlying risks (BIS, 2023).

Box 1 situates this sequencing within contemporary financial stability practice building on BIS, ECB and Federal reserve approaches.

Box 1. Stress Testing in Contemporary Financial Stability Practice

Over the past decade, stress testing has become a central element of financial stability frameworks. Across jurisdictions and institutional settings, its role has evolved in response to a shared recognition: systemic risk emerges from interaction, amplification, and feedback rather than from isolated shocks.

Supervisory stress tests conducted by the Federal Reserve focus on assessing institutional resilience under standardized adverse conditions, supporting capital planning and supervisory dialogue. While these exercises rely on quantitative outcomes, they are explicitly framed as conditional and hypothetical, not as forecasts of future losses (Federal Reserve, 2025).

In Europe, EU-wide stress tests coordinated by the EBA emphasize comparability and transparency across institutions. Complementing these exercises, the ECB has progressively expanded its system-wide stress-testing work to examine feedback loops, contagion, and cross-sectoral interactions—particularly across banks, non-banks, and markets (ECB, 2024).

Across these approaches, a common lesson has emerged. Stress testing is most informative when it is anchored in a prior understanding of vulnerabilities and transmission channels, and when its outputs are interpreted as insights into system behavior under strain rather than as predictive assessments. BIS reflections have repeatedly cautioned against over-interpreting stress-test results without a clear conceptual map of underlying risks and amplification mechanisms (BIS, 2014b; BIS, 2023).

***Source**: BIS (2014b); BIS (2023); ECB (2024); Federal Reserve (2025).*

1.2 From Legibility to Preparedness

Diagnostics make systemic fragility **legible**. They identify where the system is exposed, tightly coupled, or dependent on fragile assumptions. But legibility alone is insufficient for governance.

Governance requires an understanding of **behavior under strain**:

- How do liquidity pressures propagate across institutions and markets?
- When do risk-management actions amplify rather than absorb shocks?
- Where do governance arrangements delay response or misallocate authority?

Stress testing provides a structured way to explore these questions. It acts as a **bridge from diagnosis to preparedness**, translating static insights about vulnerability into dynamic reasoning about system behavior.

Importantly, this translation does not require prediction. It requires disciplined exploration.

1.3 Why Scenario-First Stress Testing Falls Short

Much conventional stress testing remains **scenario-first**: a macro-financial narrative is constructed, variables are shocked, and outcomes are computed. This approach has clear operational advantages and has supported comparability, transparency, and supervisory dialogue (BIS, 2014a; Federal Reserve, 2025).

However, from an ecosystem perspective, scenario-first design carries a risk. It implicitly treats the **event** as the object of interest, rather than the **system's response**. Two different scenarios may produce similar stress outcomes if they activate the same vulnerabilities; conversely, a single scenario may appear benign if it fails to strain the system where it is actually fragile.

This does not invalidate scenario-based stress testing. It clarifies its limits.

An ecosystemic approach reverses the logic: **vulnerabilities come first; stress follows**. Stress is applied along dimensions that are known to matter—leverage, liquidity, concentration, technological dependence, coordination—rather than derived from stylized narratives alone.

1.4 Stress Testing as Governed Exploration

Positioned after diagnostics, stress testing becomes neither a measurement technology nor a forecasting device. It becomes a form of **governed exploration**.

Its purpose is to:

- trace propagation paths,
- reveal amplification mechanisms,
- surface non-linear responses,
- and test governance capacity under strain.

This role is increasingly acknowledged, even within institutions that continue to rely on quantitative stress tests for supervisory purposes. ECB system-wide work, for instance, explicitly highlights contagion, feedback, and regime shifts as core analytical objects—recognizing that point estimates alone cannot capture systemic dynamics (ECB, 2024) .

The Financial Ecosystem Framework builds on this insight and makes it explicit: **stress testing begins only once vulnerabilities are understood**.

Figure 1. Stress Testing in the Financial Ecosystem Sequence

Source: *Bank & Finance Consulting Group.*

1.5 Positioning Within the Series

Within the Financial Ecosystem Series, this volume therefore plays a precise role:

- **Design** defined what the system is and the trade-offs it embodies.
- **Governance** clarified who stewards the system under fragmented authority.
- **Diagnostics** identified where fragility resides and why it matters.
- **Stress Testing** explores how that fragility behaves once strained.

Stress testing does not replace diagnostics. It depends on them. Stress testing without diagnosis is simulation without meaning.

1.6 Section 1 Takeaway

Stress testing derives its meaning from diagnosis. Without a prior understanding of where systemic vulnerabilities reside, stress testing risks becoming an exercise in scenario construction rather than a disciplined exploration of fragility.

Positioned after diagnostics, stress testing serves a distinct and bounded function: it translates legibility into preparedness by examining how known vulnerabilities behave under strain. It does not discover weaknesses, forecast crises, or certify resilience. It explores conditional system behavior.

This sequencing is not merely conceptual. It reflects an emerging recognition in financial stability practice that stress testing is most informative when anchored in structural understanding of vulnerabilities and transmission channels, rather than driven by narrative severity or model complexity.

Within the Financial Ecosystem Framework, stress testing therefore begins only once fragility is understood. Stress testing without diagnosis is simulation without meaning; stress testing after diagnosis becomes a governance-relevant exploration of systemic behavior.

If stress testing follows diagnosis, the next question is unavoidable: **what, exactly, does stress testing do once it is properly positioned?**

2. What Stress Testing Actually Does

Once positioned downstream of diagnosis, stress testing acquires a clearer and more disciplined role. It is no longer expected to discover vulnerabilities, predict crises, or certify resilience. Instead, it performs a narrower—but governance-critical—function: **it explores how a financial ecosystem behaves when known fragilities are placed under strain**.

This section clarifies that function.

2.1 Stress Testing as Conditional Exploration

Stress testing is best understood as **conditional exploration**.

It asks how the system behaves **if** specific vulnerabilities are strained—*not* whether such strain is likely, nor what precise losses would result. The conditional nature of the exercise is central. It focuses attention on **behavioral responses**, interaction effects, and institutional reactions that are difficult to infer from diagnostics alone.

This framing aligns with the evolution of stress testing in practice. While supervisory exercises often culminate in quantitative outputs, leading institutions increasingly emphasize the exploratory value of stress tests for understanding feedback loops, contagion, and second-round effects (BIS, 2023; ECB, 2024). What matters is not the numerical endpoint, but the **path the system takes under pressure**.

Stress testing, in this sense, is not an attempt to compress uncertainty into a forecast. It is a way to reason coherently about uncertainty.

2.2 Exploring Behavior, Not Estimating Outcomes

The distinctive contribution of stress testing lies in its focus on **system behavior**, rather than on outcome estimation.

Under strain, financial systems do not respond proportionally. Liquidity evaporates, correlations spike, margins are tightened, and institutions adjust behavior defensively—often in ways that amplify stress rather than absorb it. These dynamics are qualitative before they are quantitative.

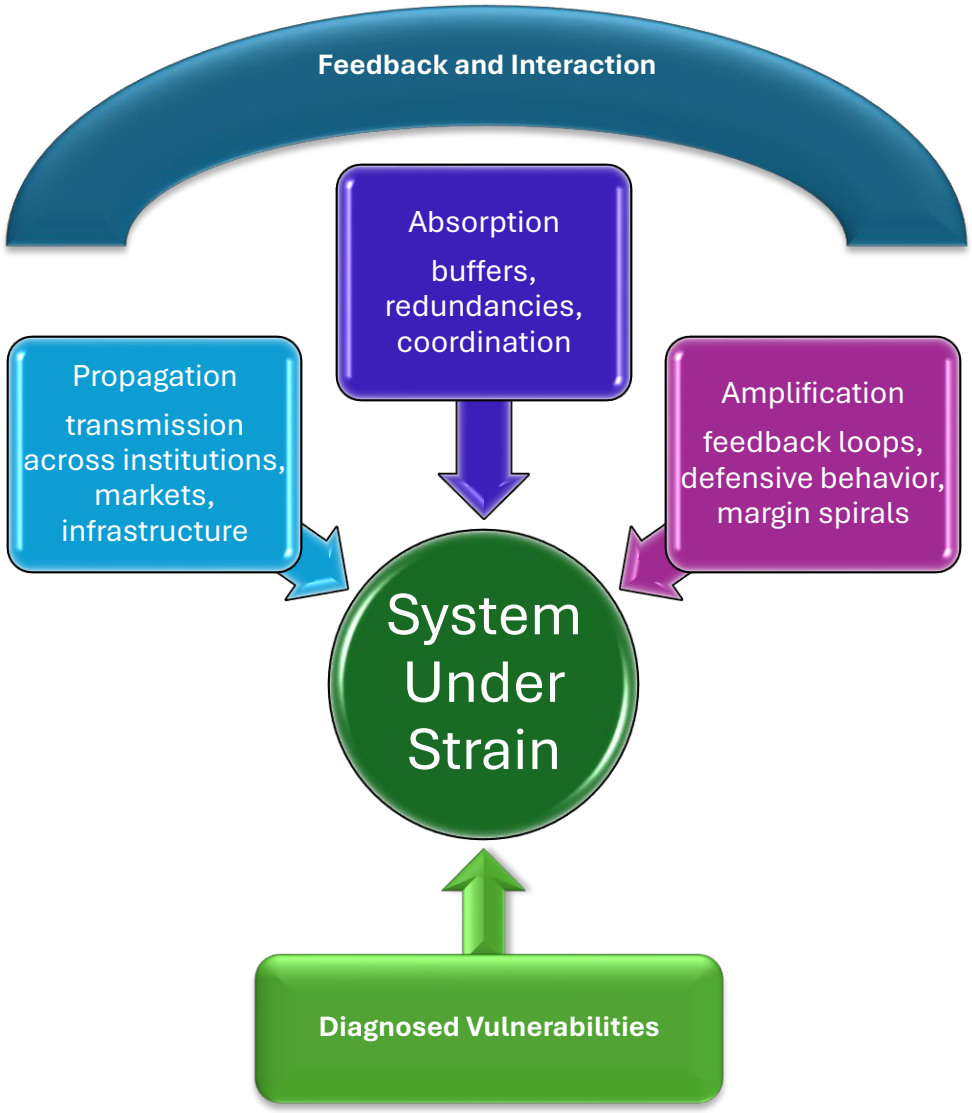
Stress testing brings these dynamics into view by examining:

- how balance-sheet adjustments interact across institutions,
- how market liquidity responds to simultaneous actions,
- how expectations and confidence feed back into prices and funding,
- and how operational or infrastructural constraints become binding.

ECB system-wide work explicitly highlights these behavioral channels, particularly through analyses of price-mediated contagion and macro-financial feedback loops (ECB, 2024). Similarly, BIS reflections underscore that stress tests are most informative when used to illuminate **mechanisms**, not to deliver point estimates (BIS, 2014b; BIS, 2023).

This emphasis on system behavior and feedback is consistent with Financial Stability Board analyses highlighting that stress tests are most informative when used to understand system-wide vulnerabilities and amplification mechanisms rather than to predict outcomes (FSB, 2020).

Figure 2. Stress Testing as Behavioral Exploration



***Souce**: Bank & Finance Consulting Group.*

2.3 Stress Testing Is Not Prediction

A recurring source of confusion is the expectation that stress testing should predict crises.

In practice, even the most sophisticated supervisory stress tests make no claim to forecasting. The Federal Reserve, for example, is explicit that its supervisory stress tests are not intended to predict losses or economic outcomes, but to assess resilience under a standardized hypothetical environment (Federal Reserve, 2025). The same is true of EU-wide exercises coordinated by the EBA.

From an ecosystem perspective, this restraint is not a limitation—it is a necessary boundary.

Prediction requires stable relationships, reliable probabilities, and well-defined distributions. Financial ecosystems under stress exhibit none of these. Structural change, endogenous behavior, and regime shifts undermine the conditions under which prediction is meaningful.

Stress testing therefore contributes not by forecasting what will happen, but by clarifying **what could plausibly happen given the system's structure and vulnerabilities**. Box 2 illustrates that this distinction holds regardless of whether stress testing is implemented through bottom-up or top-down approaches.

Box 2. Bottom-Up and Top-Down Stress Testing: Perspectives, Not Paradigms

Stress testing practice is commonly organized around a distinction between **bottom-up** and **top-down** approaches.

- **Bottom-up stress testing** aggregates institution-level assessments, relying on firm-specific data and internal models to estimate the impact of stress.
- **Top-down stress testing** applies common assumptions or system-wide models to assess outcomes across institutions or sectors in a more centralized manner.

Both approaches are widely used in supervisory and macroprudential contexts, serving operational purposes such as comparability, consistency, and capital planning.

From a financial ecosystem perspective, however, this distinction is **secondary**.

Bottom-up and top-down approaches differ primarily in **how stress is implemented**, not in **what is being explored**. In practice, both are typically used to assess outcomes—such as losses, capital ratios, or solvency metrics—rather than to examine how stress propagates, amplifies, or transforms system behavior under strain.

Ecosystemic stress testing operates at a different level. Its object is **system behavior under strain**: how diagnosed vulnerabilities propagate, amplify, or shift regimes across institutions,

markets, infrastructures, and governance arrangements. This exploration may draw on insights from both bottom-up and top-down analyses, but it is not defined by either.

Within the Financial Ecosystem Framework, bottom-up and top-down stress tests are best understood as **inputs that may inform exploration**, rather than as paradigms that define it. The governing question is not how stress is computed, but how fragility behaves once strained—and how governance capacity responds.

***Source**: BIS (2014b); ECB (2021); Federal Reserve (2020).*

2.4 Why Precision Can Be Misleading

The appeal of stress testing often lies in its apparent precision, irrespective of whether stress is assessed from the bottom-up or the top-down. Numerical outputs create an impression of control and comparability. Yet under deep uncertainty, precision can mislead.

Quantitative stress tests necessarily embed assumptions about behavior, transmission, and policy response. When these assumptions are not well understood—or when they change under stress—the resulting figures risk obscuring more than they reveal.

This concern is widely recognized. BIS analyses have repeatedly cautioned against over-interpreting stress-test results, emphasizing that model risk and assumption sensitivity increase precisely when systems are most stressed (BIS, 2023). ECB work similarly stresses the importance of interpretation and judgment alongside quantitative analysis (ECB, 2024).

An ecosystemic approach therefore treats precision as **secondary**. The objective is not to eliminate uncertainty through numbers, but to make uncertainty **visible and governable**. **Table 1** examines what stress testing explores and what it does not determine.

Table 1. The Scope and Limits of Stress Testing

Stress Testing Explores	Stress Testing Does Not Determine
Propagation pathways	Probabilities of crises
Amplification mechanisms	Exact loss magnitudes
Behavioral responses under strain	Timing or sequencing of events
Governance constraints and coordination frictions	Optimal policy actions
Conditions for potential regime shifts	Certainty about outcomes

***Note:** This table is conceptual and descriptive. It does not imply measurement, calibration, or prediction.*
***Source**: Bank & Finance Consulting Group.*

2.5 Stress Testing as an Input to Governance Judgment

When framed as exploration rather than prediction, stress testing becomes a **governance input**.

It informs decision-makers about:

- where fragility concentrates under strain,
- which interactions are most destabilizing,
- where coordination is likely to break down,
- and which assumptions about system functioning are least robust.

It does not, and cannot, dictate decisions. Choices under stress involve trade-offs—between stability and moral hazard, speed and legitimacy, domestic and cross-border considerations—that cannot be resolved analytically.

Stress testing contributes by **disciplining judgment**, not by substituting for it.

Box 3 discusses interpretation and judgment in stress testing by drawing insights from BIS and ECB practice.

Box 3. Interpretation and Judgment in Stress Testing

Recent financial stability practice increasingly recognizes that stress-test results do not speak for themselves. Leading central banks emphasize that stress testing produces conditional insights into system behavior under strain, which require interpretation rather than mechanical application.

BIS and ECB publications emphasize that such outputs must be interpreted in conjunction with supervisory experience, institutional context, and policy judgment—particularly in the presence of non-linear dynamics, feedback effects, and uncertainty (BIS, 2023; ECB, 2024).

This perspective aligns closely with an ecosystemic view of stress testing. Stress tests inform governance by structuring understanding and clarifying trade-offs, but they cannot substitute for responsibility, discretion, and judgment exercised under uncertainty.

Source: *BIS (2023); ECB (2024).*

2.6 Section 2 Takeaway

Stress testing is best understood as conditional exploration rather than prediction. Its purpose is not to estimate losses, assign probabilities, or validate resilience, but to examine how a financial ecosystem behaves when known vulnerabilities are placed under strain.

By focusing on behavior rather than outcomes, stress testing illuminates propagation, amplification, and governance constraints that remain invisible in static analysis. It clarifies how interactions evolve under pressure and where assumptions about system functioning may fail. Precision is not the objective. Under deep uncertainty, apparent accuracy can mislead. Stress testing contributes to governance by making uncertainty visible and interpretable, not by compressing it into metrics.

Properly framed, stress testing informs judgment without substituting for it. It disciplines reasoning under uncertainty while preserving the sovereignty of decision-making—a necessary condition for credible system stewardship.

If stress testing is about exploring behavior under strain, the next step is to clarify **how strain is introduced in a disciplined way**.

3. From Vulnerabilities to Stress Dimensions

Stress testing begins where diagnostics end. Once systemic vulnerabilities have been identified and made legible, the central task is to determine **how those vulnerabilities should be strained** in order to explore system behavior. This translation—from vulnerability to strain—is the defining move of ecosystemic stress testing.

It requires shifting attention away from events and narratives, and toward **dimensions of stress** that act directly on the structures where fragility resides.

3.1 Why Vulnerabilities, Not Scenarios, Are the Point of Departure

Traditional stress tests often begin with scenarios: macroeconomic downturns, market corrections, or geopolitical disruptions. While such narratives can be operationally convenient, they risk misalignment with the system's actual sources of fragility.

From an ecosystem perspective, **events do not cause systemic stress; vulnerabilities do**.

Two different scenarios may activate the same vulnerability, producing similar propagation dynamics. Conversely, a severe scenario may appear manageable if it fails to strain the system where it is structurally weak. Scenario-first design therefore risks conflating plausibility of events with relevance to systemic fragility.

This insight is increasingly acknowledged in mainstream work. ECB system-wide analyses emphasize that understanding **where the system is vulnerable** is a prerequisite for meaningful stress analysis, particularly when assessing feedback loops and contagion (ECB, 2024). BIS reflections similarly note that stress testing is most informative when it targets known fault lines rather than stylized shocks (BIS, 2023).

An ecosystemic approach therefore reverses the logic: **diagnosed vulnerabilities determine how stress is applied**.

3.2 Defining Stress Dimensions

Stress dimensions are **axes of strain** that act directly on identified vulnerabilities. They are not scenarios, narratives, or forecasts. They are structured ways of placing pressure on specific aspects of the system to observe behavioral response and propagation.

Examples of stress dimensions include:

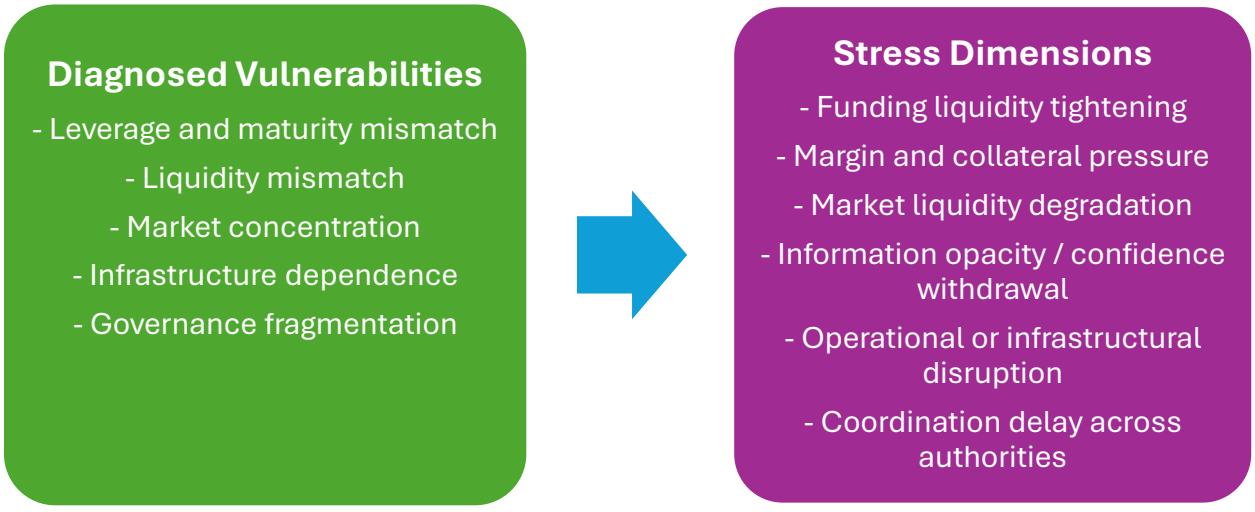
- tightening of funding liquidity,
- sudden increases in margin or collateral requirements,
- degradation of market liquidity,
- withdrawal of confidence or information opacity,
- operational or infrastructural disruption,
- coordination delays across institutions or jurisdictions.

Each dimension corresponds to a vulnerability identified through diagnostics—such as leverage, maturity mismatch, concentration, technological dependence, or governance misalignment.

Triggers—such as natural disasters, pandemics or panics— remain relevant only insofar as they activate dimensions.

The objective is not to simulate reality in detail, but to **probe the system where it is known to be fragile**.

Figure 3. From Diagnosed Vulnerabilities to Stress Dimensions



***Souce**: Bank & Finance Consulting Group*

3.3 Stress Along Layers and Interfaces

Financial ecosystems are layered and interconnected. Vulnerabilities often arise not within a single component, but **at interfaces**—between institutions and markets, between finance and infrastructure, or between national and cross-border governance arrangements.

Stress dimensions therefore operate:

- **within layers** (e.g., balance-sheet liquidity within institutions), and
- **across layers** (e.g., how market illiquidity interacts with margining practices and payment infrastructure).

This layered perspective aligns with developments in system-wide stress testing. ECB frameworks explicitly focus on cross-sectoral and cross-market transmission, recognizing that amplification frequently occurs outside traditional institutional boundaries (ECB, 2024). BIS work similarly emphasizes the importance of market-based finance and non-bank channels in stress propagation (BIS, 2023).

An ecosystemic stress test does not attempt to exhaustively enumerate all channels. It focuses on those **interfaces where diagnostics indicate fragility is most likely to propagate**.

Box 4 situates stress dimensions and interfaces within contemporary system-wide analysis, drawing on ECB and BIS insights.

Box 4. Stress Dimensions and Interfaces in System-Wide Analysis

Recent ECB and BIS analyses emphasize that stress amplification frequently emerges at **interfaces**—between banks and non-banks, markets and infrastructure, or across jurisdictions—rather than within isolated balance sheets. These interfaces are where interactions, feedback effects, and coordination constraints tend to become binding under strain.

Framing stress tests around **dimensions of strain** allows such interfaces to be explored directly. Rather than relying on event-based scenarios or calibrated shocks, this approach focuses attention on how stress propagates across layers of the financial ecosystem, activating channels that are often invisible in institution-centric analysis.

From an ecosystem perspective, this shift is critical. Stress dimensions provide a stable analytical lens for examining propagation and amplification across changing contexts, while interfaces indicate where fragility is most likely to transmit and transform under pressure.

***Source**: BIS (2023); ECB (2024).*

3.4 Why Dimensions Matter More Than Events

Events are contingent and often unpredictable. Stress dimensions, by contrast, are **structural**. They reflect how the system is organized and where it is exposed.

By focusing on dimensions rather than events, stress testing:

- remains robust to changing narratives,
- avoids false realism,
- and centers attention on mechanisms rather than stories.

This approach also avoids a common pitfall of stress testing: the temptation to continuously update scenarios in response to recent events, while leaving underlying assumptions about system behavior unexamined.

Stress dimensions discipline inquiry by anchoring it in **diagnosed fragility**, not in the news cycle.

3.5 Stress Dimensions as the Bridge to Propagation Analysis

Stress dimensions are not an end in themselves. Their purpose is to enable systematic exploration of **propagation**.

Once strain is applied along relevant dimensions, attention can shift to:

- how stress is transmitted,
- where it is amplified or absorbed,
- and when non-linear responses or regime shifts emerge.

This transition—from strain to propagation—is where stress testing delivers its greatest governance value.

Table 2 links diagnosed vulnerabilities to illustrative stress dimensions, clarifying how diagnostic insights are translated into forms of strain for stress testing.

Table 2. Diagnosed Vulnerabilities and Corresponding Stress Dimension

Diagnosed Vulnerability	Illustrative Stress Dimension
Elevated leverage	Margin tightening and deleveraging pressure
Liquidity mismatch	Funding withdrawal and rollover stress
Market concentration	Progressive reduction in market depth
Infrastructure dependence	Degradation or disruption of critical services
Governance fragmentation	Coordination delay and escalation frictions under strain

Note: *Stress dimensions describe forms of strain, not events or scenarios. They may be activated by different triggers and explored across varying intensities.*
Source: *Bank & Finance Consulting Group.*

3.6 Section 3 Takeaway

Meaningful stress testing begins with vulnerabilities, not scenarios. Events and narratives are contingent; structural fragilities are enduring. Stress dimensions translate diagnosed vulnerabilities into structured forms of strain that act directly on the system where it is known to be fragile.

By distinguishing stress dimensions from triggers, stress testing avoids scenario theater while retaining real-world relevance. Diverse events may initiate stress, but systemic outcomes are shaped by common dimensions—liquidity, leverage, margins, confidence, infrastructure, and coordination—through which fragility propagates.

Focusing on stress dimensions disciplines inquiry. It anchors exploration in diagnostic insight, preserves robustness across changing narratives, and creates a clear bridge from legibility to propagation analysis. Within the Financial Ecosystem Framework, stress dimensions are the hinge between diagnosis and the exploration of systemic behavior under strain.

Once stress dimensions are defined, the central analytical object becomes unavoidable: **how stress propagates through the ecosystem**.

4. Propagation and Amplification Under Strain

Stress testing reveals its greatest value not at the point where strain is introduced, but in how that strain **propagates** through the financial ecosystem. Propagation is the process through which localized stress becomes systemic—traveling across institutions, markets, infrastructures, and governance arrangements, sometimes dissipating, sometimes amplifying, and sometimes transforming the system's behavior altogether.

Understanding propagation is therefore the central analytical task of stress testing.

4.1 Propagation as the Core Object of Stress Testing

In complex financial ecosystems, stress is rarely contained. Funding pressures in one segment affect liquidity elsewhere; margin calls force asset sales that depress prices; information opacity alters expectations and behavior across markets.

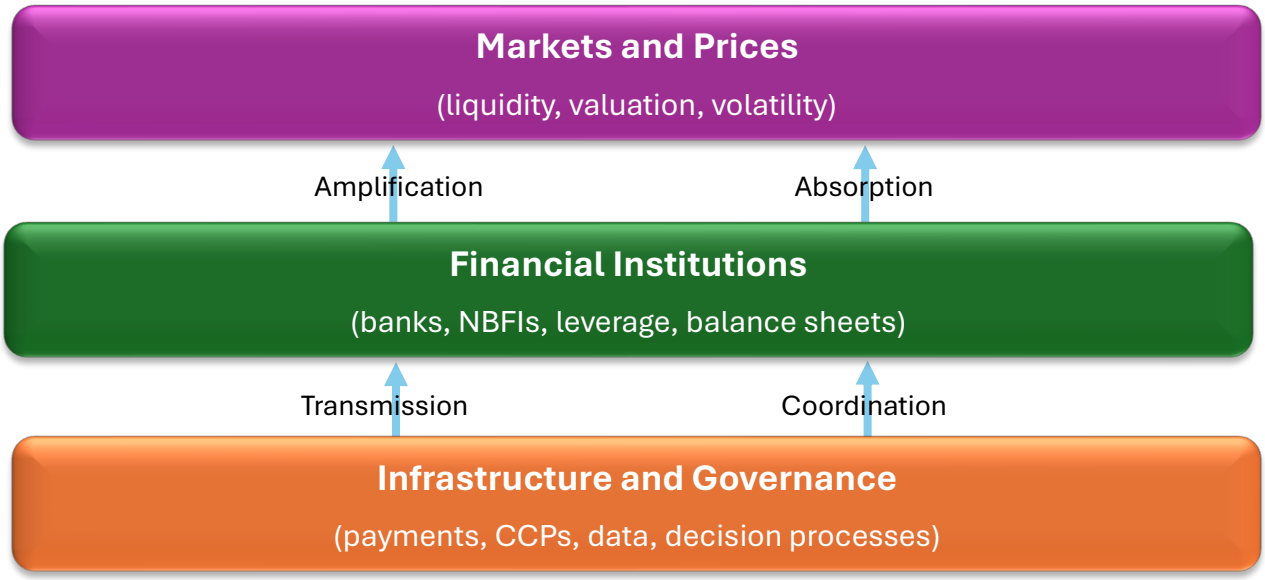
Stress testing, properly framed, does not ask whether a shock is severe. It asks **how stress moves**.

This emphasis aligns with the evolution of system-wide stress testing in mainstream practice. ECB work on macro–micro feedback loops and price-mediated contagion explicitly treats propagation as the object of analysis, rather than individual balance-sheet outcomes (ECB,

2024). BIS reflections similarly emphasize that systemic risk emerges from transmission channels and interactions, not from isolated exposures (BIS, 2023).

An ecosystemic stress test therefore traces **paths**, not points.

Figure 4. Stylized Propagation Paths Under Strain



***Souce**: Bank & Finance Consulting Group.*

4.2 Transmission Channels and Hidden Coupling

Propagation often occurs through channels that appear benign in normal times.

Hidden coupling arises when institutions or markets seem loosely connected under stable conditions, but become tightly linked under stress. Examples include:

- shared reliance on short-term funding,
- common use of collateral or clearing infrastructure,
- overlapping asset holdings,
- or synchronized risk-management practices.

Stress testing surfaces these couplings by examining how strain along a given dimension—such as funding liquidity or margin requirements—affects behavior across the ecosystem.

ECB system-wide analyses highlight that such couplings frequently become visible only under stress, particularly in market-based finance and non-bank sectors (ECB, 2024). BIS work echoes this point, noting that diversification in calm periods can mask correlation under strain (BIS, 2014b; BIS, 2023). Financial Stability Board work on non-bank financial intermediation and market-based finance underscores how liquidity stress and price-mediated contagion can

transmit shocks across institutions and markets in ways that are difficult to capture through institution-level stress tests alone (FSB, 2020; FSB, 2023).

4.3 Amplification Versus Absorption

Not all propagation is destabilizing. Some system features **absorb** stress; others **amplify** it.

Absorptive mechanisms may include:

- capital and liquidity buffers,
- diversification,
- redundancy in infrastructure,
- credible backstops,
- and effective coordination among authorities.

Amplification mechanisms often include:

- procyclical margining and collateral practices,
- fire sales driven by leverage constraints,
- liquidity hoarding,
- information asymmetries and loss of confidence,
- and delayed or fragmented governance responses.

Stress testing explores which mechanisms dominate as strain intensifies. Crucially, the same structure may absorb stress at low intensity and amplify it once thresholds are crossed.

This non-linearity is a defining feature of systemic risk and a central focus of ecosystemic stress testing.

Box 5 highlights amplification mechanisms in system-wide stress, drawing on BIS and ECB analyses.

Box 5. Amplification Mechanisms in System-Wide Stress

BIS and ECB analyses highlight that systemic stress is often shaped less by the initial disturbance than by **amplification mechanisms** activated within the financial system. Practices such as procyclical margining, leverage-induced fire sales, liquidity hoarding, and shifts in confidence can transform localized strain into broader disruption through feedback effects and interaction across markets and institutions.

From a stress-testing perspective, these mechanisms are critical because they are **state-dependent**. Structures that absorb stress under normal conditions may amplify it once

constraints become binding or coordination weakens. The transition from absorption to amplification is therefore a central object of inquiry.

Stress testing is most informative when it illuminates how and where such mechanisms emerge and interact under strain, rather than when it focuses on end-state outcomes alone. Understanding amplification clarifies why system behavior can change abruptly and why resilience cannot be inferred from tranquil-period performance.

Source: BIS (2014b); ECB (2024).

4.4 Cross-Layer and Cross-Sector Propagation

Propagation rarely respects institutional or sectoral boundaries.

Stress originating in one layer of the financial ecosystem—such as funding markets—can quickly transmit to others, including asset markets, payment systems, and governance processes. Similarly, stress in non-bank financial intermediation can feed back into banks through market prices, liquidity conditions, and confidence effects.

This cross-layer perspective is increasingly reflected in mainstream stress-testing practice. ECB analyses explicitly integrate banks, non-banks, markets, and infrastructures to capture feedback loops that would be invisible in siloed assessments (ECB, 2024). BIS work similarly emphasizes the systemic relevance of market-based finance and its interaction with the banking system (BIS, 2023).

An ecosystemic stress test treats these interactions as central, not peripheral.

4.5 Delayed Effects and Accumulation of Stress

Propagation is not always immediate.

Stress may accumulate quietly—through deteriorating market liquidity, rising haircuts, or growing uncertainty—before manifesting abruptly elsewhere in the system. Such delayed effects challenge linear intuition and explain why crises often appear sudden despite gradual deterioration.

Stress testing, by conceptually intensifying strain along diagnosed dimensions, allows governance to explore **where delays may occur and how accumulated stress is eventually released**.

This perspective reinforces a key lesson from past crises: systemic instability often reflects the interaction of slow-moving vulnerabilities with fast-moving triggers.

4.6 Stress Testing as a Detector of Regime Shifts

Perhaps the most valuable contribution of stress testing is its ability to reveal **regime shifts**.

Under sufficient strain, relationships that hold in normal times break down:

- liquidity dries up where it was assumed to be available,
- correlations converge,
- market-making capacity evaporates,
- and governance processes designed for stability are overwhelmed.

Stress testing does not predict when such shifts will occur. It clarifies that they **can occur**, and under what structural conditions they become plausible.

ECB and BIS analyses increasingly acknowledge that such regime changes lie at the heart of systemic crises and cannot be captured through linear extrapolation alone (BIS, 2023; ECB, 2024).

Table 3 summarizes how stress testing explores different phases of system behavior under strain, culminating in potential regime shifts.

Table 3. Stress Testing Focus Across Phases of System Behavior

Analytical Dimension	What Stress Testing Explores	Why It Matters for Regime Shifts
Transmission	How strain moves across institutions, markets, and infrastructures	Reveals pathways through which localized stress becomes system-wide
Amplification	When feedback loops intensify stress through behavior and interaction	Explains why impacts can grow non-linearly and exceed initial shocks
Absorption	Which buffers, redundancies, and coordination mechanisms dampen strain	Indicates conditions under which stress remains contained
Delay and Accumulation	Where stress builds up silently before becoming visible	Helps explain sudden discontinuities and abrupt transitions
Threshold Effects	When constraints become binding and behavior changes qualitatively	Marks the transition from absorption to amplification
Regime Shift	How system behavior changes once thresholds are crossed	Identifies structural conditions under which normal-time assumptions fail

Note: *This table is descriptive and conceptual. It does not imply measurement, calibration, or prediction.*
Source: *Bank & Finance Consulting Group (2025), building on BIS (2014b, 2023) and ECB (2024).*

Rather than treating regime shifts as exceptional events, this framing highlights them as the cumulative outcome of transmission, amplification, and threshold effects that stress testing seeks to explore.

Box 6 notes that formal models can help discipline thinking about regime-dependent propagation, provided their role is understood as representational rather than predictive.

Box 6. DSGE Models as Representations of Non-Linear Transmission Under Stress

Dynamic stochastic general equilibrium (DSGE) models are widely used in central banking to formalize macro-financial transmission channels and to examine interactions between real and financial variables. Recent advances incorporating financial frictions and non-linear dynamics have improved their capacity to represent state-dependent behavior and asymmetric responses under stress (e.g. Brunnermeier and Oehmke, 2013; Guerrieri and Iacoviello, 2017; Ortiz and Cadavid, 2023).

From a financial ecosystem perspective, such models can play a **supporting role** in stress testing by disciplining thinking about transmission mechanisms, feedback loops, and regime-dependent propagation. In this sense, DSGE frameworks may help clarify how stress can spread and intensify once structural thresholds are crossed.

However, DSGE models do not resolve the core challenges of stress testing. Their insights remain conditional on structural assumptions, calibration choices, and the stability of relationships that are often most fragile under stress. They cannot predict crises, assign reliable probabilities, or substitute for governance judgment.

Within the Financial Ecosystem Framework, DSGE models are therefore best understood as **one of several representations of propagation**, not as stress-testing devices in their own right. Stress testing remains a governance exercise in exploring system behavior under strain—**informed by models, but not governed by them**.

Source: *Brunnermeier and Oehmke (2013); Guerrieri and Iacoviello (2017); Ortiz and Cadavid (2023).*

4.7 Section 4 Takeaway

Systemic stress is defined by propagation, not by the initial source of strain. Stress testing derives its value from tracing how pressure moves through the financial ecosystem—across institutions, markets, infrastructures, and governance arrangements—and how interactions transform localized stress into system-wide disruption.

Propagation reveals hidden coupling, delayed effects, and non-linear responses that are invisible in normal times. Under strain, mechanisms that absorb stress can quickly become

sources of amplification, and relationships that appear stable can shift abruptly into new regimes.

By centering propagation, stress testing shifts attention away from isolated outcomes toward dynamic behavior. It clarifies where fragility concentrates, how feedback loops intensify, and why systemic instability often emerges suddenly after periods of apparent calm. Within the Financial Ecosystem Framework, propagation is the core analytical object that links diagnosed vulnerabilities to governance-relevant insight.

Propagation under strain reveals more than financial dynamics. It exposes **how governance arrangements perform when pressure mounts**.

5. Stress Testing as a Test of Governance Capacity

Systemic crises are rarely the result of a lack of analytical sophistication. More often, they reflect limits in **governance capacity**: delayed recognition, fragmented authority, misaligned incentives, and breakdowns in coordination under pressure.

From an ecosystem perspective, stress testing is therefore not primarily a test of balance sheets or buffers. It is a test of **how governance arrangements perform when strain propagates across the system**.

5.1 Governance as an Endogenous Component of Stress

Governance is not external to the financial ecosystem. It is embedded within it.

Decision rules, mandates, coordination mechanisms, and institutional cultures shape how stress is interpreted and acted upon. Under strain, these governance features can either absorb stress—through timely coordination and credible action—or amplify it through delay, inconsistency, or contestation.

Stress testing brings governance into the analytical frame by asking not only *how financial variables respond*, but **how institutions respond to those responses**.

This perspective is increasingly implicit in mainstream practice. BIS and ECB work repeatedly emphasize that policy reactions, supervisory decisions, and communication strategies are integral to stress dynamics, not exogenous stabilizers (BIS, 2023; ECB, 2024).

5.2 Coordination Under Strain

Coordination is most difficult precisely when it is most needed.

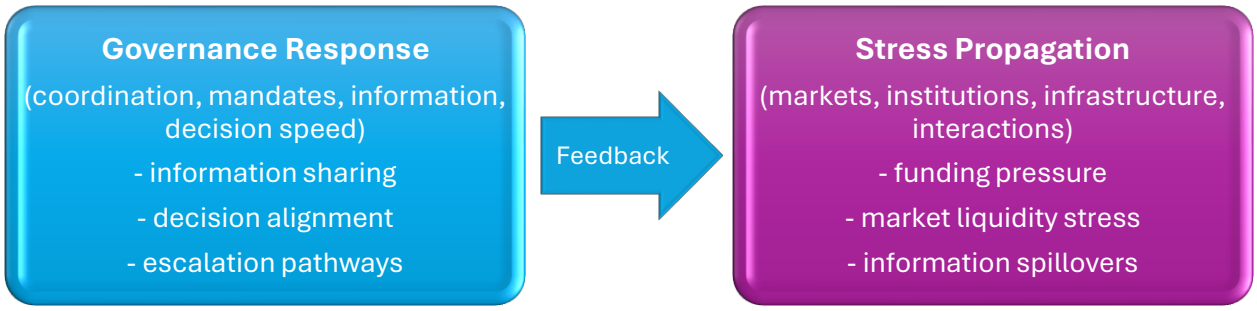
Under stress, authorities face:

- incomplete and rapidly changing information,
- overlapping or unclear mandates,
- political and legal constraints,
- and pressure to act quickly without consensus.

Stress testing explores how these coordination challenges unfold **before they are tested in real time**. It highlights where coordination mechanisms are robust, where they are slow, and where they may fail entirely.

This is not an abstract concern. ECB analyses of system-wide stress explicitly recognize that fragmented responses across sectors or jurisdictions can magnify stress, particularly in cross-border and market-based finance (ECB, 2024). BIS reflections similarly stress the importance of coordination in preventing amplification through policy inconsistency (BIS, 2023).

Figure 5. Stress Propagation and Governance Response



Souce: Bank & Finance Consulting Group

5.3 Institutional Reaction Functions Under Stress

Every authority operates with an implicit **reaction function**—a set of expectations about when to intervene, how to interpret signals, and how to balance competing objectives.

Under stress, these reaction functions often shift:

- risk tolerance narrows,
- mandates are interpreted conservatively,
- and discretion is constrained by fear of error or overreach.

Stress testing surfaces these shifts by placing institutions in conditional situations where assumptions are tested. It reveals not only how authorities *intend* to respond, but how they are likely to respond given their constraints.

This insight is particularly valuable because reaction functions are rarely explicit, yet they shape outcomes decisively under stress.

5.4 Escalation, Delay, and Misalignment

One of the most important governance questions stress testing can illuminate is **when escalation occurs**.

Stress may intensify without triggering action because:

- thresholds are ambiguous,
- responsibilities are diffused,
- signals are contested,
- or escalation requires political or cross-institutional agreement.

Stress testing explores these dynamics by examining how strain propagates relative to governance processes. Where stress travels faster than decision-making, amplification is likely. Recognizing such misalignment ex ante is a critical component of preparedness—even when no specific actions are prescribed.

Box 7 examines governance delay as an amplification mechanism, drawing on financial stability practice.

Box 7. Governance Delay as an Amplification Mechanism

BIS and ECB analyses emphasize that delayed, fragmented, or inconsistent governance responses can materially amplify financial stress, even when underlying vulnerabilities are well understood. When escalation thresholds are unclear or decision authority is dispersed, stress may propagate faster than collective action can be mobilized.

From a stress-testing perspective, delay is not a secondary consideration but a **structural amplification mechanism**. The timing of recognition, escalation, and coordination shapes whether strain is absorbed or intensified. Stress testing that explicitly considers decision latency and governance sequencing helps surface these risks before they are encountered under crisis conditions.

***Source**: BIS (2023); ECB (2024).*

5.5 Governance at Interfaces

Governance failures often occur **at interfaces**:

- between central banks and supervisors,

- between financial authorities and fiscal institutions,
- between domestic and international bodies,
- or between public authorities and market infrastructures.

These interfaces are structurally fragile because authority is shared, sequencing matters, and accountability can be blurred.

Ecosystemic stress testing pays particular attention to these interfaces, exploring how strain affects coordination and responsibility across boundaries. It is often at these points—not within individual institutions—that systemic governance breaks down.

5.6 Stress Testing as a Collective Interpretive Exercise

Stress testing is not about producing agreement. It is about structuring **collective interpretation**. By convening institutions around a disciplined exploration of diagnosed vulnerabilities under strain, stress testing:

- makes assumptions explicit,
- surfaces disagreement,
- and reveals blind spots in shared understanding.

Disagreement, in this context, is not a failure. It is information.

Stress testing strengthens governance precisely by clarifying where interpretations diverge and where judgment will be required under pressure.

5.7 Governance Capacity as the Binding Constraint

Ultimately, stress testing reveals a central reality of systemic risk management: **governance capacity is often the binding constraint**.

Analytical tools may be sophisticated, and vulnerabilities may be well understood, yet outcomes hinge on whether institutions can:

- recognize stress in time,
- coordinate effectively,
- and act coherently under uncertainty.

Stress testing earns its place in the Financial Ecosystem Framework by making these constraints visible—without claiming to resolve them.

5.8 Section 5 Takeaway

Stress testing exposes not only financial fragility, but governance capacity under strain. Systemic crises are shaped as much by how institutions interpret, coordinate, and act as by balance-sheet conditions or market dynamics.

By exploring propagation under stress, stress testing reveals where coordination may fail, where escalation may be delayed, and where institutional reaction functions become binding constraints. Governance arrangements—mandates, interfaces, and decision processes—are themselves stress-tested as endogenous components of the ecosystem.

Stress testing strengthens stewardship by making these constraints visible before they are tested in real time. Its contribution lies in structuring collective interpretation, surfacing disagreement, and clarifying where judgment will be required under pressure. Within the Financial Ecosystem Framework, governance capacity often emerges as the decisive factor shaping systemic outcomes under strain.

If stress testing primarily informs governance understanding, the next step is to clarify **what it can legitimately inform—and what it cannot justify**.

6. What Stress Testing Can Legitimately Inform

Once stress testing is understood as exploration rather than prediction, its legitimate contributions become clearer—and more defensible. Stress testing does not generate decisions, optimize responses, or certify resilience. It **informs governance judgment** by clarifying how the system may behave under strain and where preparedness matters most.

This section delineates what stress testing can **legitimately inform**, and why these contributions are valuable precisely because they are bounded.

6.1 Preparedness, Not Prediction

The primary contribution of stress testing is **preparedness**.

By exploring how diagnosed vulnerabilities behave when strained, stress testing reduces surprise to understanding. It clarifies:

- where pressure is likely to concentrate,
- which interactions are most destabilizing,
- and where governance responses may be delayed or contested.

Preparedness does not require knowing what will happen. It requires knowing **what could plausibly fail** and why.

This framing is consistent with reflections in mainstream practice. BIS and IMF publications increasingly emphasize that stress tests should be interpreted as conditional exercises that enhance preparedness, not as forecasts of future losses or crises (BIS, 2023; IMF, 2023).

6.2 Contingency Thinking Without Pre-Commitment

Stress testing supports **contingency thinking** without binding authorities to pre-defined actions.

It helps institutions consider:

- how sequences of events might unfold once stress propagates,
- which trade-offs would become acute,
- and where discretion would be constrained.

Importantly, this does not imply pre-commitment to specific interventions. In complex and politically sensitive environments, rigid playbooks can be counterproductive. Stress testing improves agility by clarifying **decision spaces**, not by narrowing them prematurely.

ECB work on system-wide stress explicitly highlights the need for judgment and flexibility in interpreting stress outcomes, rather than mechanical policy responses (ECB, 2024).

6.3 Institutional Learning and Capability Building

Stress testing is also a mechanism for **institutional learning**.

Repeated exploration of stress dynamics allows authorities to learn about:

- their own reaction functions,
- the robustness of coordination mechanisms,
- the limits of mandates under strain,
- and the assumptions embedded in their reasoning.

This learning is cumulative. Even when no crisis materializes, the process strengthens institutional capability by improving how uncertainty is understood and managed.

Such learning effects are increasingly recognized in financial stability practice, where stress testing is valued not only for its outputs, but for the dialogue and reflection it generates within and across institutions (BIS, 2014b; BIS, 2023).

6.4 Narrative Discipline Under Stress

In periods of strain, narratives matter.

Stress testing disciplines the narratives that institutions tell themselves—and others—about stability, resilience, and control. By forcing explicit reasoning about vulnerabilities and propagation, it challenges overly linear or complacent stories.

This narrative discipline is particularly important for:

- internal communication among authorities,
- external communication to markets and the public,
- and coordination across jurisdictions.

Stress testing helps ensure that narratives under stress are **anchored in structural understanding**, rather than in reassurance or improvisation.

Box 8 examines the role of stress testing in disciplining narratives under stress, drawing on BIS and IMF insights.

Box 8. Stress Testing and Narrative Discipline

Bank for International Settlements and International Monetary Fund publications emphasize that stress testing can discipline the narratives institutions use to interpret and communicate conditions of uncertainty. By clarifying mechanisms of propagation and acknowledging limits, stress testing helps anchor narratives in structural understanding rather than in reassurance, improvisation, or false precision.

This narrative discipline matters for governance. Internally, it supports coherent discussion across authorities facing contested signals and incomplete information. Externally, it underpins credible communication with markets and the public by aligning messages with what is known, what is uncertain, and what cannot be predicted.

In this sense, stress testing contributes to stability not by promising control, but by fostering narratives that are consistent with uncertainty and grounded in system behavior under strain.

***Source**: BIS (2023); IMF (2023).*

6.5 Prioritization of Attention, Not Resources

Stress testing helps prioritize **attention**, not resources.

It does not determine where capital should be allocated, which tools should be deployed, or which policies should be chosen. Instead, it highlights:

- which vulnerabilities are most consequential under strain,
- which interfaces deserve closer monitoring,
- and where governance capacity is most likely to be tested.

Attention is a scarce governance resource. Stress testing helps deploy it more effectively without crossing into optimization or prescription.

6.6 Informing Judgment—Without Replacing It

Ultimately, stress testing informs **judgment**.

Decisions under stress involve trade-offs that cannot be resolved analytically: stability versus moral hazard, speed versus legitimacy, domestic versus international considerations. These choices remain irreducibly political in the broad sense of public authority.

Stress testing contributes by clarifying the **context** in which judgment must be exercised—not by substituting for it.

Table 4. What Stress Testing Can Inform—and What It Cannot Legitimately Justify

Stress Testing Can Inform	Stress Testing Cannot Legitimately Justify
Preparedness under uncertainty	Crisis prediction
Contingency thinking without pre-commitment	Pre-committed actions
Institutional learning over time	Policy optimization
Narrative discipline under strain	Claims of certainty
Prioritization of attention	Certification of resilience

Note: *This table is descriptive and conceptual. It does not imply decision rules, triggers, or policy prescriptions.*
Source: *Bank & Finance Consulting Group.*

6.7 Section 6 Takeaway

Stress testing informs governance by enhancing preparedness, not by delivering predictions or prescriptions. Its legitimate contribution lies in clarifying how known vulnerabilities may behave under strain and where governance attention is most likely to be tested.

By supporting contingency thinking without pre-commitment, stress testing expands decision space rather than constraining it. It fosters institutional learning, disciplines narratives under uncertainty, and helps prioritize attention across vulnerabilities and interfaces.

Crucially, stress testing informs judgment without replacing it. Decisions under stress remain irreducibly contextual and political in the broad sense of public authority. Within the Financial

Ecosystem Framework, stress testing earns its value by sharpening understanding and preparedness while respecting the limits of analysis and the sovereignty of governance judgment.

If stress testing informs governance judgment, it must also be explicit about its limits. Recognizing these limits is essential to preserving credibility.

7. The Limits of Stress Testing

Stress testing strengthens governance only when its limits are clearly understood. When treated as a predictive or certifying instrument, it risks creating false confidence and institutional complacency. When treated as an exploratory governance input, its limits are not weaknesses but **structural features of complex systems**.

This section makes those limits explicit.

7.1 Why the Next Crisis Will Always Be Missed

Stress tests are necessarily grounded in current understanding.

They explore vulnerabilities that have been diagnosed, interactions that are visible, and governance arrangements that exist at the time of analysis. The next crisis, by contrast, often emerges from **novel configurations**—new instruments, new behaviors, new institutional arrangements, or new combinations of familiar elements.

This gap is unavoidable. It reflects the adaptive nature of financial ecosystems.

BIS and IMF analyses repeatedly emphasize that stress tests cannot anticipate all sources of instability, particularly when innovation, regulatory arbitrage, or structural change alters system behavior (BIS, 2023; IMF, 2023). Stress testing improves preparedness for *known* fragilities; it cannot pre-empt the unknown.

Recognizing this limitation is essential to preserving credibility.

7.2 Model Risk Without Models

Even when stress testing avoids formal models, it remains exposed to **conceptual model risk**.

Assumptions about behavior, coordination, market functioning, and policy response are embedded in any exploration of stress—even when they are qualitative. These assumptions may be incomplete, outdated, or wrong, particularly under conditions of strain.

The risk is not eliminated by avoiding equations. It is mitigated only by:

- making assumptions explicit,
- subjecting them to scrutiny,
- and revisiting them as diagnostics evolve.

BIS reflections on stress testing explicitly acknowledge that model risk increases when systems move away from normal operating regimes, regardless of the sophistication of the analytical framework (BIS, 2014b; BIS, 2023).

Box 9 highlights why humility remains essential even in the absence of formal models.

Box 9. Conceptual Model Risk in Stress Testing

Even in the absence of formal models, stress testing inevitably embeds assumptions about behavior, transmission, and institutional response. These assumptions form a **conceptual model** of how the system is expected to behave under strain.

Work by the Bank for International Settlements and the International Monetary Fund emphasizes that such assumptions are most fragile precisely under stress, when historical regularities break down and relationships shift. Model risk therefore does not disappear when equations are set aside; it changes form.

Within an ecosystemic approach, acknowledging conceptual model risk is not a weakness. It is a prerequisite for responsible interpretation. Making assumptions explicit, subjecting them to challenge, and revisiting them as diagnostics evolve are central to preserving humility and avoiding false confidence in stress-testing exercises.

***Source**: BIS (2023); IMF (2023).*

7.3 The Illusion of Control

One of the most persistent dangers in stress testing is the **illusion of control**.

Structured exercises, particularly those with numerical outputs, can create the impression that risk has been "covered" simply because it has been analyzed. This illusion is not limited to quantitative stress tests; it can also arise in qualitative exercises if exploration is mistaken for assurance.

Stress testing must resist becoming a ritual that substitutes for vigilance. Its purpose is to **unsettle certainty**, not to provide comfort.

BIS and ECB publications explicitly caution against interpreting stress-test results as guarantees of resilience, emphasizing that governance must remain alert to evolving conditions even when stress tests appear reassuring (BIS, 2023; ECB, 2024).

Reflecting on recent episodes of market stress, the Financial Stability Board has emphasized that stress-testing exercises cannot substitute for judgment, coordination, and timely intervention under uncertainty, particularly when stress emerges outside the core banking system (FSB, 2023).

7.4 Overconfidence and the Risk of Ritualization

Repeated stress testing can paradoxically weaken resilience if it becomes ritualized.

When exercises follow familiar patterns, focus on familiar vulnerabilities, or are conducted primarily for signaling purposes, they risk narrowing attention rather than broadening it. Over time, this can produce institutional overconfidence and reduce sensitivity to emerging risks.

An ecosystemic approach counters this risk by insisting on:

- continual revision of diagnostics,
- periodic redefinition of stress dimensions,
- and openness to revisiting core assumptions.

Stress testing must remain **provisional**, not routinized.

7.5 Why Judgment Must Remain Sovereign

No stress test can determine what should be done in real time.

Decisions under stress involve trade-offs that cannot be resolved analytically: between stability and moral hazard, speed and legitimacy, domestic and cross-border considerations. These choices require judgment exercised under uncertainty and political accountability.

Stress testing informs this judgment by clarifying context and consequences. It cannot—and should not—replace it.

This principle is increasingly recognized in mainstream financial stability discourse, where authorities emphasize that stress-test outputs must be interpreted through experience and responsibility rather than applied mechanically (BIS, 2023; ECB, 2024).

Table 5. Structural Limits of Stress Testing

Structural Limit	Why It Cannot Be Eliminated
Incomplete foresight	Financial systems evolve, adapt, and generate novel forms of stress
Conceptual model risk	Behavioral responses and relationships change under strain
Illusion of control	Exploration cannot provide assurance or certainty
Risk of ritualization	Repeated exercises can narrow attention rather than expand it
Irreducible judgment	Decisions under stress are contextual, contested, and political

Note: *These limits are inherent to stress testing and cannot be resolved through greater data, model sophistication, or calibration.*
Source: *Bank & Finance Consulting Group.*

7.6 Preserving Credibility Through Explicit Limits

Stress testing gains credibility not by claiming completeness, but by **acknowledging incompleteness**.

When its limits are explicit, stress testing:

- supports honest communication,
- avoids technocratic overreach,
- and reinforces the legitimacy of governance under uncertainty.

In this sense, humility is not a concession. It is a condition of effective system stewardship.

If stress testing is valuable precisely because it is limited, its ultimate contribution lies in how it fits into a broader stewardship process over time.

7.7 Section 7 Takeaway

Stress testing strengthens governance only when its limits are explicitly acknowledged. It cannot anticipate novel sources of instability, eliminate uncertainty, or substitute for judgment exercised under responsibility and accountability.

Even without formal models, stress testing remains exposed to conceptual model risk. Assumptions about behavior, transmission, and response are most fragile precisely under strain, when historical regularities break down and regime shifts occur.

The central danger is the illusion of control. When exploration is mistaken for assurance, stress testing risks fostering overconfidence and ritualization. Within the Financial Ecosystem Framework, credibility is preserved not by claims of completeness, but by humility—recognizing that stress testing clarifies exposure, not destiny, and informs governance judgment without replacing it.

8. Conclusion — Stress Testing Without Illusion

Stress testing occupies a narrow but essential place in the stewardship of financial ecosystems. It neither predicts crises nor certifies resilience. It does not replace diagnostics, substitute for governance, or resolve uncertainty. Its value lies elsewhere: in disciplined exploration of how a system with known vulnerabilities may behave once strain propagates.

Positioned correctly—after design, governance, and diagnostics—stress testing becomes a governance craft rather than a technical exercise. It helps authorities reason about propagation, amplification, and regime shifts without collapsing complexity into spurious precision. It clarifies exposure, not destiny.

This volume has argued for a reframing of stress testing consistent with both emerging practice and hard-earned experience. Stress testing is most informative when it focuses on behavior rather than outcomes, mechanisms rather than metrics, and plausibility rather than probability. Its outputs are not answers, but questions sharpened by structure and context.

Crucially, stress testing reveals that fragility is rarely confined to balance sheets alone. It is embedded in interactions—between institutions, markets, infrastructures, and governance arrangements. Under strain, these interactions determine whether stress is absorbed, amplified, or transformed into systemic disruption. Stress testing brings these dynamics into view, allowing governance to confront them before they materialize.

At the same time, the limits of stress testing must remain explicit. The next crisis will differ from the last. Assumptions will fail under pressure. Judgment cannot be delegated to exploration, however disciplined. Recognizing these limits is not a weakness; it is a condition for credibility and legitimacy.

In this sense, stress testing completes a sequence rather than standing alone. Design defined what the system is and the trade-offs it embodies. Governance clarified how stewardship is exercised under fragmented authority. Diagnostics made systemic vulnerabilities legible. Stress testing explored how those vulnerabilities behave under strain.

What remains is continuity.

If stress testing is to strengthen resilience over time, it cannot remain episodic, ad hoc, or peripheral. Its insights must be retained, revisited, and embedded in institutional practice without becoming ritualized or mechanistic. This requires moving beyond exploration toward **enduring capability**.

That task belongs to the final volume of the series.

Institutionalizing Financial Ecosystem Stewardship examines how the insights generated by design, governance, diagnostics, and stress testing can be sustained over time—through institutions, processes, and cultures capable of learning under uncertainty.

Stress testing without illusion prepares the ground.

Institutionalization determines whether that ground holds.

9. References

Bank & Finance Consulting Group (2025). Financial ecosystem stewardship: A conceptual synthesis. Mexico City: Bank & Finance Consulting Group.

Bank & Finance Consulting Group (2025). Designing financial ecosystems: A five-layer architecture for resilience, performance, and public value. Mexico City: Bank & Finance Consulting Group.

Bank & Finance Consulting Group (2025). Governing financial ecosystems: An institutional architecture for coordination, resilience, and systemic stability. Mexico City: Bank & Finance Consulting Group.

Bank & Finance Consulting Group (2025). Diagnosing financial ecosystems: Making systemic risk legible to governance. Mexico City: Bank & Finance Consulting Group.

Bank for International Settlements (2014a). Stress testing: A survey of practices. Basel: Bank for International Settlements.

Bank for International Settlements (2014b). 84th annual economic report. Basel: Bank for International Settlements.

Bank for International Settlements (2021). 91st annual economic report. Basel: Bank for International Settlements.

Bank for International Settlements (2023). 93rd annual economic report. Basel: Bank for International Settlements.

Board of Governors of the Federal Reserve System (2020). Supervisory stress tests: Background and methodology. Washington, DC: Federal Reserve.

Board of Governors of the Federal Reserve System (2025). Supervisory stress test methodology. Washington, DC: Federal Reserve.

Brunnermeier, M.K. and Oehmke, M. (2013). 'The maturity rat race'. Journal of Finance, 68(2), pp. 483–521.

European Central Bank (2021). Top-down stress testing methodologies: Principles and practices. Frankfurt am Main: European Central Bank.

European Central Bank (2024). System-wide stress testing: Analytical frameworks and applications. Frankfurt am Main: European Central Bank.

Financial Stability Board (2017). Principles for financial stability assessment and stress testing. Basel: Financial Stability Board.

Financial Stability Board (2020). Holistic review of the March 2020 market turmoil. Basel: Financial Stability Board.

Financial Stability Board (2023). Global monitoring report on non-bank financial intermediation. Basel: Financial Stability Board.

Guerrieri, L. and Iacoviello, M. (2017). 'Collateral constraints and macroeconomic asymmetries'. Journal of Monetary Economics, 90, pp. 28–49.

International Monetary Fund (2018). Financial stress testing: Principles and frameworks. Washington, DC: International Monetary Fund.

International Monetary Fund (2023). Global financial stability report. Washington, DC: International Monetary Fund.

Knight, F.H. (1921). Risk, uncertainty and profit. Boston: Houghton Mifflin.

Minsky, H.P. (1986). Stabilizing an unstable economy. New Haven: Yale University Press.

Ortiz, A. and Cadavid, A. (2023). Financial conditions, monetary policy, and the importance of non-linear effects. Working paper.

Taleb, N.N. (2007). The black swan: The impact of the highly improbable. New York: Random House.

Taleb, N.N. (2010). The black swan (2nd ed.). New York: Random House.