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VI. Practicing Stewardship

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Contents

Preface

Financial systems are not stewarded through analysis alone.

Design can clarify structure and trade-offs.

Governance can assign authority and coordination responsibility.

Diagnostics can make fragility legible.

Stress testing can explore how that fragility behaves under strain.

Institutionalization can preserve judgment across time.

Yet none of these elements, on their own, explain how decisions are actually taken when uncertainty is high, information is incomplete, consensus is absent, and delay itself carries risk.

This volume addresses that gap.

Within the Financial Ecosystem Stewardship series developed by Bank & Finance Consulting Group, *Practicing Stewardship* makes explicit what is often left implicit: stewardship ultimately manifests as action. Not action driven by prediction or optimization, but action grounded in judgment, exercised through structured process, and taken under responsibility.

Experience across financial crises and periods of systemic stress reveals a recurring pattern. Failures of stewardship rarely arise because vulnerabilities were entirely unknown, models were unavailable, or rules were absent. More often, they arise because institutions struggle to translate interpretation into timely, accountable action—particularly when uncertainty cannot be resolved and disagreement persists.

This volume therefore begins from a simple but demanding premise: uncertainty is irreducible, and judgment is unavoidable.

The objective is not to improve forecasting accuracy, to refine decision rules, or to prescribe optimal interventions. Instead, the aim is to discipline decision-making practice under uncertainty—to clarify how institutions can act responsibly without claiming certainty, and how legitimacy can be preserved even when outcomes disappoint.

Practicing Stewardship is positioned deliberately after Stress Testing and Institutionalization within the series. Stress testing explores how fragility behaves under strain. Institutionalization embeds norms, routines, and memory to prevent drift over time. This volume connects those insights to the moment of decision itself: when signals must be interpreted, escalation considered, authority exercised, and action taken—often under time pressure and without consensus.

The analysis treats stewardship as a repeated practice rather than an episodic response. Decisions taken under uncertainty unfold over time, reshape incentives and expectations, and become inputs into future system conditions. Action, in this sense, is itself a systemic intervention. Delay and inaction are also decisions, with consequences that must be acknowledged explicitly.

Throughout the volume, emphasis is placed on process coherence rather than outcome certainty. Decision cycles, escalation thresholds, heuristics for action, mechanisms for managing dissent, and disciplines of communication and review are examined not as technical procedures, but as foundations of legitimate authority under uncertainty.

The scope of the volume is intentionally general. It does not offer country-specific prescriptions, supervisory templates, or crisis playbooks. Its concern is not with what decisions should be taken in particular circumstances, but with how stewardship can be practiced responsibly across institutional contexts when conditions are ambiguous and contested.

In doing so, *Practicing Stewardship* completes a critical step in the universal core of the framework. Design establishes the structural terrain. Governance clarifies responsibility under fragmentation. Diagnostics make fragility legible. Stress testing explores behavior under strain. Institutionalization preserves judgment over time. This volume explains how these elements are brought together in action.

What follows in the subsequent volumes is validation and extension: applying the framework across contexts, confronting political economy constraints, and governing system evolution itself. But none of those layers can function without disciplined decision practice at their core.

Stewardship does not succeed by eliminating uncertainty.

It succeeds by acting responsibly within it.

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Executive Summary

Financial stability is ultimately a problem of decision-making under uncertainty.

Across financial systems, crises rarely emerge because risks were entirely unforeseen or because analytical tools were unavailable. More often, fragility accumulates in plain sight while institutions struggle to translate interpretation into timely, accountable action. Information is incomplete, models diverge, mandates overlap, and consensus proves elusive—yet decisions must still be taken.

This volume addresses that moment.

Practicing Stewardship develops a general framework for how stewardship is exercised in real time, when uncertainty cannot be resolved and delay itself carries risk. It reframes financial stability not as an optimization problem, but as a practice of disciplined judgment, exercised through structured process and sustained through legitimacy and accountability.

Stewardship as Practice, Not Prediction

The core premise of this volume is that uncertainty in financial ecosystems is irreducible. Complex adaptive systems generate endogenous fragility through interaction, feedback, and behavior. Under such conditions, prediction is necessarily limited, and decision-making cannot be delegated to models, rules, or forecasts.

Stewardship therefore does not aim to eliminate uncertainty. It aims to act responsibly within it.

This requires shifting attention from outcomes to process—from whether decisions were "correct" ex post to whether judgment was exercised coherently, transparently, and under responsibility at the time decisions were taken.

Decision-Making Under Deep Uncertainty

The volume distinguishes among interacting forms of uncertainty—epistemic, structural, strategic, and temporal—and shows why attempts to collapse them into a single metric or probability framework are misleading. Each form of uncertainty shapes decision practice differently, and suppressing one often amplifies others.

Effective stewardship does not seek false precision. It seeks to recognize which form of uncertainty dominates at a given moment and to adapt decision practice accordingly.

The Stewardship Decision Cycle

At the center of the volume is a canonical stewardship decision cycle:

Sense → Interpret → Escalate → Decide → Act → Explain → Review

This cycle is not a mechanical pipeline. It is a shared orientation for disciplined judgment under uncertainty. Breakdowns in stewardship typically occur not because analysis is absent, but because one or more stages of this cycle fail—most often escalation, decision, explanation, or review.

By making these stages explicit, the framework allows institutions to diagnose weaknesses in practice rather than attributing failure to unforeseeable shocks.

Escalation as Shared Responsibility

A central contribution of the volume is the reframing of escalation. Escalation is not a call to act. It is a request for collective judgment.

Under deep uncertainty, effective escalation:

- surfaces ambiguity rather than concealing it,
- invites contestation rather than forcing agreement,
- and preserves optionality rather than pre-committing outcomes.

The volume introduces the concept of ambiguity-based escalation, recognizing loss of interpretive confidence—not just threshold breaches—as a legitimate trigger for shared responsibility.

Acting Without Consensus

Stewardship often requires action before consensus is achieved.

Rather than optimizing expected outcomes, the volume emphasizes decision heuristics suited to deep uncertainty, including:

- minimum-regret reasoning,
- no-regret and low-regret moves,
- option preservation,
- and reversibility.

These heuristics do not replace analysis. They structure commitment when analysis cannot close the decision space, enabling action that is proportionate, adaptable, and accountable.

Disagreement, Legitimacy, and Accountability

Disagreement is treated not as a failure of governance, but as an essential input to judgment. The volume distinguishes productive dissent, which strengthens stewardship, from institutional paralysis, which converts disagreement into a veto on action.

Legitimacy under uncertainty is shown to rest not on confidence or predictive success, but on process coherence. Transparent explanation—acknowledging uncertainty, explaining trade-offs, and clarifying responsibility—is central to sustaining authority over time.

Accountability, in this framework, is grounded in responsibility for judgment rather than outcome certainty. Institutions remain accountable by owning their reasoning, not by claiming foresight.

Learning Without Illusion

Finally, the volume redefines learning as a continuous stewardship function. Learning arises not only from failure, but from near-misses and non-events that reveal resilience, absorptive capacity, and the validity of assumptions.

Review is framed as reopening judgment without hindsight bias—updating thresholds and heuristics deliberately, without chasing noise or drifting into false certainty.

Position Within the Series

Practicing Stewardship completes the transition from framework to action within the Financial Ecosystem Stewardship series.

Design defines the structural terrain.

Governance assigns responsibility.

Diagnostics make fragility legible.

Stress testing explores propagation under strain.

Institutionalization preserves judgment over time.

This volume explains how these elements are brought together in decision and action.

The volumes that follow—on application, political economy, and adaptive stewardship—will test, constrain, and extend this practice across contexts and through change. But none of those layers is intelligible without a clear account of how stewardship is practiced under uncertainty.

That account is the contribution of this volume.

1. Stewardship as a Practice

Stewardship begins where analysis ends.

The preceding volumes of this series established a coherent framework for understanding financial ecosystems: how they are designed, how authority is coordinated, how fragility is diagnosed, how stress propagates, and how judgment is preserved institutionally over time. What remains unresolved—by design—is how decisions are actually taken when these elements confront real-time uncertainty.

This volume defines stewardship as a practice of decision and action, not as an analytical framework or institutional form. It clarifies what it means to *exercise judgment responsibly* when information is incomplete, interpretations diverge, and delay itself carries risk.

The central claim is simple but demanding: Stewardship is disciplined judgment exercised through structured process under irreducible uncertainty.

This definition is not philosophical. It is operational. It frames stewardship as something institutions *do repeatedly*, rather than something they merely *possess*.

1.1 Stewardship Beyond Rules, Models, and Discretion

Modern financial institutions operate within dense architectures of rules, models, and procedures. These are indispensable. But they do not decide.

Rules specify constraints. Models structure interpretation. Procedures organize action. None resolves the fundamental problem that stewardship addresses: how to act responsibly when outcomes cannot be known ex ante.

This is not a failure of technique. It is a structural condition of complex adaptive systems (Simon, 1962; Arthur, 2015). Financial ecosystems evolve through interaction, feedback, and adaptation. Causality is non-linear, expectations are reflexive, and shocks propagate through channels that cannot be exhaustively specified in advance (Minsky, 1986; Borio, 2014).

In such environments, decision-making cannot be reduced to optimization. Probabilistic reasoning helps organize uncertainty, but it cannot eliminate it (Knight, 1921; Kay and King, 2020). Formal rules can constrain behavior, but they cannot anticipate every contingency. Discretion is unavoidable—but undisciplined discretion undermines legitimacy and coherence.

Stewardship occupies the space between these extremes. It does not replace rules, models, or procedures. It orients their use toward system-level responsibility.

What distinguishes stewardship is not the absence of structure, but the presence of structured judgment.

1.2 Practice as Disciplined Judgment

Practice, as used in this volume, should be understood in its classical sense: a learned, repeatable form of judgment exercised under conditions that cannot be fully specified ex ante (Aristotle; Flyvbjerg, 2001). It is neither mechanical nor improvised.

Stewardship practice has three defining features:

1. **Judgment is explicit, not implicit**

   Decisions are recognized as judgments taken under uncertainty, not as technical necessities dictated by models or rules.

2. **Judgment is structured, not arbitrary**

   Interpretation, escalation, and action follow disciplined processes that can be explained, contested, and reviewed.

3. **Judgment is collective, not personal**

   Responsibility is exercised through institutional processes rather than concentrated in individuals, even when authority is asymmetric.

This conception aligns with long-standing critiques of technocratic decision-making in environments of deep uncertainty. Attempts to substitute formalism for judgment tend to displace responsibility rather than eliminate discretion (Power, 2007; Strathern, 2000). Over time, this substitution erodes both effectiveness and legitimacy.

Stewardship practice preserves discretion—but disciplines it.

1.3 Why Crises Fail: Breakdown of Practice, Not Absence of Insight

A recurring lesson of financial crises is that failure rarely stems from total ignorance.

Historical inquiries repeatedly show that:
- vulnerabilities were often visible,
- warning signals were present,
- diagnostics existed,
- stress tests had been performed.

Yet action was delayed, fragmented, or misdirected (Kindleberger and Aliber, 2011; Gorton and Metrick, 2012; BIS, 2023).

The failure lies in the translation of judgment into action.

This translation fails when:

- signals are observed but not escalated,
- escalation occurs without shared interpretation,
- disagreement is suppressed rather than structured,
- authority hesitates under ambiguity,
- or action is deferred in search of unattainable certainty.

These are failures of practice, not of analysis.

Figure 1 illustrates this distinction by contrasting analytical capability with decision practice under uncertainty.

Figure 1. Analytical Insight vs Stewardship Practice

Source: *Bank & Finance conceptual elaboration based on Kindleberger and Aliber (2011); Gorton and Metrick (2012); BIS (2023).*

This figure illustrates a recurring pattern in financial crises: high analytical capability can coexist with weak stewardship practice. Diagnostics, stress tests, and models may generate insight, yet action fails when interpretation is fragmented, escalation is delayed, authority hesitates under ambiguity, or decisions are deferred in search of unattainable certainty. The resulting failures are not failures of analysis, but breakdowns in the practice that translates judgment into responsibility.

Stewardship practice exists precisely to address this gap. It provides the connective tissue that translates analytical understanding into collective responsibility and action under uncertainty.

1.4 Stewardship as Repeated Action, Not Episodic Response

Another defining feature of stewardship as practice is repetition.

Decisions taken under uncertainty are rarely final. They unfold over time, interact with behavior, and reshape the system they seek to stabilize. Action itself becomes an input into future conditions (George Soros, 1987; Borio, 2014).

Stewardship therefore cannot be episodic. It must be exercised through recurrent decision cycles that allow institutions to:

- act without waiting for certainty,
- observe consequences,
- revise interpretation,
- and adjust subsequent action.

This logic distinguishes stewardship from crisis management. Crisis response is episodic and reactive. Stewardship is continuous and anticipatory, even when no immediate crisis is visible. **Box 1** illustrates why delay and inaction must be treated as decisions within stewardship practice.

Box 1. When Inaction Is a Decision

In financial ecosystem stewardship, inaction is not a neutral state.

When uncertainty is acknowledged and concerns are visible, choosing not to act—or not to escalate—is itself a decision with systemic consequences.

Delayed action shapes outcomes in at least three ways.

First, time alters system dynamics. Financial fragility is rarely static. Balance sheets evolve, leverage accumulates, confidence shifts, and coordination problems intensify as conditions persist. Waiting does not preserve the status quo; it allows endogenous processes to continue operating unchecked (Minsky, 1986; Borio, 2014).

Second, inaction sends signals. Market participants, institutions, and political actors interpret silence as information. Lack of escalation may be read as reassurance, tolerance, or unwillingness to intervene—thereby influencing behavior in ways that amplify future stress (Soros, 1987; Gorton, 1988).

Third, delay reallocates risk across time and actors. Postponing decisions often shifts adjustment burdens onto future authorities, weaker institutions, or less resilient segments of the system. In this sense, inaction constitutes a distributional choice, even when it is framed as prudence.

From a stewardship perspective, the relevant question is therefore not whether to act or wait, but what risks are created by waiting relative to those created by acting. Treating delay as neutral suppresses this comparison and obscures responsibility.

Stewardship practice corrects this bias by:

- recognizing delay as an explicit option within the decision set,

- evaluating its systemic consequences alongside active interventions,

- and documenting the reasoning behind choosing to wait.

By making inaction visible as a decision, stewardship restores accountability under uncertainty. It ensures that responsibility is not displaced onto time, ambiguity, or hindsight, but remains anchored in judgment exercised when it mattered.

Source: Bank & Finance elaboration based on Minsky (1986); Soros (1987); Gorton (1988); Borio (2014).

Recognizing inaction as a decision reframes responsibility. It forces institutions to assess the risks of waiting alongside the risks of acting—rather than treating delay as neutral.

1.5 From Framework to Practice

The Financial Ecosystem Stewardship framework is analytically complete. What remains is its exercise.

Stewardship as practice does not promise correct outcomes. It does not eliminate error. It does not guarantee stability. What it offers is something more fundamental:

- coherence of reasoning under uncertainty,

- transparency of judgment,

- accountability for action and inaction,

- and continuity of responsibility over time.

These qualities are not delivered by models or rules alone. They emerge only when institutions treat decision-making itself as a disciplined practice—one that can be learned, exercised, reviewed, and renewed.

This volume builds on that premise.

1.6 Section 1 Takeaway

Stewardship is not a framework, a mandate, or a tool.

It is a practice of disciplined judgment, exercised through structured processes that translate understanding into action under irreducible uncertainty.

Where prior volumes established how to understand financial ecosystems, this volume begins where stewardship becomes real: in the act of deciding.

2. Decision Under Deep Uncertainty

Stewardship is exercised where uncertainty cannot be reduced to risk.

Financial ecosystem decisions are rarely taken under conditions where probabilities are known, outcomes are enumerable, or causal pathways are stable. Even the most sophisticated diagnostics and stress tests—developed in earlier volumes—illuminate fragility without resolving indeterminacy. They inform judgment; they do not substitute for it.

This section clarifies what *deep uncertainty* means in the context of financial ecosystem stewardship and why it requires a distinct approach to decision-making—one oriented toward robustness, adaptability, and responsibility rather than optimization.

2.1 From Risk to Uncertainty

A foundational distinction for stewardship is the difference between risk and uncertainty.

Risk refers to situations where outcomes are known and probabilities can be meaningfully assigned. Uncertainty refers to situations where either outcomes, probabilities, or both are fundamentally indeterminate (Knight, 1921). Financial ecosystems, as complex adaptive systems, routinely operate in the latter domain.

Several features of modern finance ensure that uncertainty is structural rather than episodic:

- Endogenous risk creation through leverage, maturity transformation, and interconnected balance sheets (Minsky, 1986; Borio, 2014).

- Reflexivity, whereby expectations and actions reshape the system being observed (Soros, 1987).

- Institutional and political feedback, which alter behavior in response to anticipated policy action (Gorton, 1988; BIS, 2023).

- Innovation and adaptation, which continuously modify propagation channels faster than models can stabilize (Arthur, 2015).

Under these conditions, uncertainty cannot be "resolved" by better data or more refined models. It must be managed through judgment.

Figure 2 situates financial decision-making along a spectrum from calculable risk to deep uncertainty, highlighting the domain in which stewardship judgment becomes indispensable.

Figure 2. Risk, Uncertainty, and the Domain of Stewardship

False precision risk: treating uncertainty as risk

Calculable Risk	Model-Based Uncertainty	Deep Uncertainty
•Outcomes enumerable •Probabilities assignable •Stable causal links •Optimization feasible	•Partial observability •Model disagreement •Parameter instability •Scenario dependence	•Outcomes not enumerable •Probabilities unreliable •Reflexivity and feedback •Non-linear propagation
Associated tools - Statistical models - Expected-value optimization - Risk-weighted metrics	**Associated tools** - Stress testing - Scenario analysis - Sensitivity analysis	**Associated challenges** - Time pressure - Strategic interaction - Political and institutional feedback

Models inform judgment but do not close the decision space.

Domain of Stewardship Judgment

Where responsibility cannot be delegated to models or probabilities

Source: Bank & Finance conceptual elaboration based on Knight (1921); Minsky (1986); Soros (1987); Borio (2014); Arthur (2015); Power (2007); Kay and King (2020); BIS (2023).

This figure situates financial decision-making along a spectrum from calculable risk—where outcomes are enumerable and probabilities can be meaningfully assigned—to deep uncertainty, where system behavior is shaped by endogenous dynamics, reflexive expectations, and non-linear propagation. While models and stress tests inform judgment across this spectrum, stewardship judgment becomes indispensable as uncertainty deepens and optimization loses meaning.

This distinction is not semantic. Treating uncertainty as if it were risk invites false precision, delayed action, and misplaced confidence—pathologies repeatedly observed prior to major crises (Power, 2007; Kay and King, 2020).

2.2 Forms of Uncertainty Relevant to Stewardship

For stewardship practice, it is useful to distinguish among several interacting forms of uncertainty. These distinctions do not resolve uncertainty, but they help discipline how it is acknowledged and managed.

Epistemic uncertainty: Limits to knowledge arising from incomplete information, noisy signals, and imperfect measurement. Diagnostics reduce epistemic uncertainty, but never eliminate it.

Structural uncertainty: Uncertainty about the system itself: evolving interconnections, non-linear feedbacks, and regime shifts. Stress testing explores structural uncertainty but cannot exhaust it.

Strategic uncertainty: Uncertainty arising from the reactions of other actors—markets, institutions, political authorities—whose behavior depends on expectations of policy and each other (Gorton, 1988; Soros, 1987).

Temporal uncertainty: Uncertainty about timing: when vulnerabilities will bind, how fast propagation will occur, and how quickly confidence may shift.

These forms of uncertainty interact. Attempts to suppress one often amplify others. For example, waiting for epistemic certainty can exacerbate temporal risk; suppressing strategic uncertainty through rigid commitments can increase structural fragility.

Table 1 summarizes these forms and their implications for decision-making.

Table 1. Forms of Uncertainty in Financial Ecosystem Stewardship

Form of Uncertainty	What Is Uncertain	Typical Manifestations	Implications for Judgment	Implications for Escalation and Action
Epistemic uncertainty	Knowledge about the current state of the system	Incomplete data, noisy indicators, measurement error, delayed reporting	Judgment must remain provisional; confidence should be explicitly bounded	Escalation justified when informational gaps persist or signals conflict; avoid waiting for false precision
Structural uncertainty	How the system is organized and	Changing interconnections, non-linear	Emphasis on system-level reasoning rather	Early escalation warranted to test propagation

	how stress propagates	feedbacks, regime shifts, new instruments or infrastructures	than indicator-based inference	channels; favor robust and reversible actions
Strategic uncertainty	How other actors will behave in response to conditions or policy	Reflexive market reactions, coordination failures, political responses, expectation shifts	Judgment must account for second- and third-order effects	Escalation needed to align expectations and coordination; communication becomes integral to action
Temporal uncertainty	When vulnerabilities will bind and how fast stress will unfold	Sudden liquidity freezes, confidence cliffs, rapid contagion, delayed realization of risk	Judgment must weigh speed against understanding	Acting early may reduce regret; delay treated as an explicit decision with systemic consequences

Source: *Bank & Finance elaboration based on Knight (1921); Simon (1962); Gorton (1988); Soros (1987); Borio (2014); Kay and King (2020).*

These forms of uncertainty are not mutually exclusive. They interact and often reinforce one another. For example, unresolved epistemic uncertainty can intensify temporal risk, while rigid responses to strategic uncertainty can exacerbate structural fragility. Effective stewardship therefore does not attempt to eliminate uncertainty, but to identify which form dominates at a given moment and adapt decision practice accordingly.

2.3 Why Optimization Fails Under Deep Uncertainty

In environments of deep uncertainty, optimization is not merely difficult—it is misleading.

Optimization presumes:
- stable objectives,
- known constraints,
- enumerable outcomes,
- and meaningful probabilities.

None of these conditions reliably holds in financial ecosystems under strain (Simon, 1962; Kay and King, 2020).

When optimization is nonetheless attempted, several pathologies emerge:
- **False precision**, where numerical outputs obscure underlying judgment.

- **Delayed action**, as decision-makers wait for convergence that never arrives.
- **Responsibility displacement**, where models appear to "decide," shielding institutions from accountability.

This does not imply abandoning analysis. It implies repositioning analysis as input to judgment, not as a decision rule.

Stewardship therefore replaces optimization with a different orientation: robustness over optimality.

2.4 Robust, Adaptive, and Reversible Decisions

Under deep uncertainty, the quality of a decision cannot be judged solely by its outcome. It must be evaluated by its structure.

Three properties are central to stewardship decisions:

Robustness: Decisions should perform tolerably well across a wide range of plausible futures, rather than optimally under a narrow set of assumptions (Lempert et al., 2006).

Adaptability: Decisions should allow for adjustment as information evolves and as system responses become observable.

Reversibility: Where possible, actions should preserve the ability to reverse or recalibrate course without triggering disproportionate systemic costs.

These properties do not eliminate risk. They shape exposure to regret under uncertainty.

Box 2 illustrates how minimum-regret reasoning differs from expected-value optimization in stewardship contexts.

Box 2. Minimum Regret vs Expected Value

Under deep uncertainty, decisions cannot be evaluated solely by their expected outcomes. When probabilities are unreliable or unknowable, optimizing expected value offers a false sense of precision and can expose the system to large, irreversible losses.

Expected-value reasoning assumes that:
- future states can be enumerated,
- probabilities can be meaningfully assigned,
- and losses are commensurable across outcomes.

These assumptions rarely hold in financial ecosystems under stress. Structural change, reflexive behavior, and non-linear propagation undermine probabilistic calibration precisely when decisions matter most (Knight, 1921; Simon, 1962).

Minimum-regret reasoning adopts a different orientation. Rather than asking *"Which action maximizes expected payoff?"*, it asks:

"Which action would we most regret, ex post, if uncertainty resolves against us?"

The objective is not optimality, but damage control across plausible futures.

In stewardship practice, minimum-regret reasoning:

- prioritizes actions that limit irreversible downside,

- favors robustness over precision,

- and preserves optionality when learning is still possible.

This logic supports decisions that may appear conservative in the short term, but that protect system coherence under adverse realizations. It is particularly relevant when:

- downside risks are asymmetric,

- confidence can shift abruptly,

- or delayed response can trigger amplification.

Minimum-regret reasoning does not eliminate the need for judgment. It disciplines judgment by forcing explicit consideration of worst-case consequences without relying on fragile probability estimates.

By structuring commitment around robustness, adaptability, and reversibility, minimum-regret heuristics enable responsible action under uncertainty—without the illusion of control promised by expected-value optimization.

Source: Bank & Finance elaboration based on Knight (1921); Simon (1962); Lempert et al. (2006); Kay and King (2020).

This orientation aligns with a growing body of work emphasizing robustness and resilience over precision in complex systems (Simon, 1962; Lempert et al., 2006; Kay and King, 2020).

2.5 Decision Timing Under Uncertainty

One of the most difficult dimensions of stewardship is timing.

Uncertainty creates a persistent tension:

- acting too early risks overreaction,

- acting too late risks amplification and loss of control.

There is no analytical solution to this tension. What stewardship provides is a structured way to confront it explicitly.

Key principles include:
- treating delay as an active choice with consequences,
- separating escalation from commitment to act,
- and recognizing that learning often occurs *after* action, not before.

This temporal logic underpins the decision cycle developed in the next section.

2.6 From Understanding to Commitment

Deep uncertainty does not paralyze stewardship. It defines its domain.

By recognizing uncertainty explicitly, institutions can:
- act without pretending to know more than they do,
- preserve legitimacy by explaining trade-offs honestly,
- and maintain accountability even when outcomes disappoint.

Decision under deep uncertainty is therefore not a weakness of stewardship. It is its defining condition.

2.7 Section 2 Takeaway

Financial ecosystem stewardship operates under deep uncertainty that cannot be reduced to calculable risk. In this domain, optimization fails and delay becomes dangerous.

Responsible decision-making therefore prioritizes:
- robustness over optimality,
- adaptability over commitment to fixed paths,
- and reversibility over false confidence.

These principles discipline judgment without displacing it. They prepare institutions not to predict the future, but to act responsibly within it.

3. The Stewardship Decision Cycle

Stewardship does not consist of isolated decisions. It is exercised through recurrent decision cycles that translate interpretation into action under uncertainty, while preserving accountability and learning over time.

This section introduces a canonical Stewardship Decision Cycle. The cycle is not a workflow, checklist, or bureaucratic sequence. It is a disciplining orientation—a shared structure that ensures judgment is exercised coherently when uncertainty, time pressure, and disagreement collide.

The core claim is: Stewardship succeeds when institutions structure how decisions are taken, not when they predetermine what decisions must be.

3.1 Why a Decision Cycle Is Necessary

Under deep uncertainty, decisions rarely fail because institutions lack information. They fail because interpretation fragments, escalation stalls, authority hesitates, or learning is lost.

Empirical studies of crises repeatedly show similar breakdowns:

- signals are observed but not connected,
- concerns are raised but not escalated,
- escalation occurs but without shared interpretation,
- action is delayed while uncertainty is debated,
- explanations follow outcomes rather than accompany decisions (Borio, 2020; BIS, 2023).

These failures are not analytical. They are process failures.

A decision cycle addresses this vulnerability by:

- structuring attention,
- sequencing judgment,
- clarifying responsibility at each stage,
- and preserving continuity across time.

Importantly, the cycle does not reduce uncertainty. It makes uncertainty governable.

3.2 The Canonical Stewardship Decision Cycle

Stewardship is exercised through decision, not through analysis alone.

To make this practice explicit, Figure 3 introduces a canonical decision cycle that structures how judgment is exercised under uncertainty. This is a continuous and recursive process, emphasizing that stewardship is not episodic but ongoing.

Figure 3. The Stewardship Decision Cycle
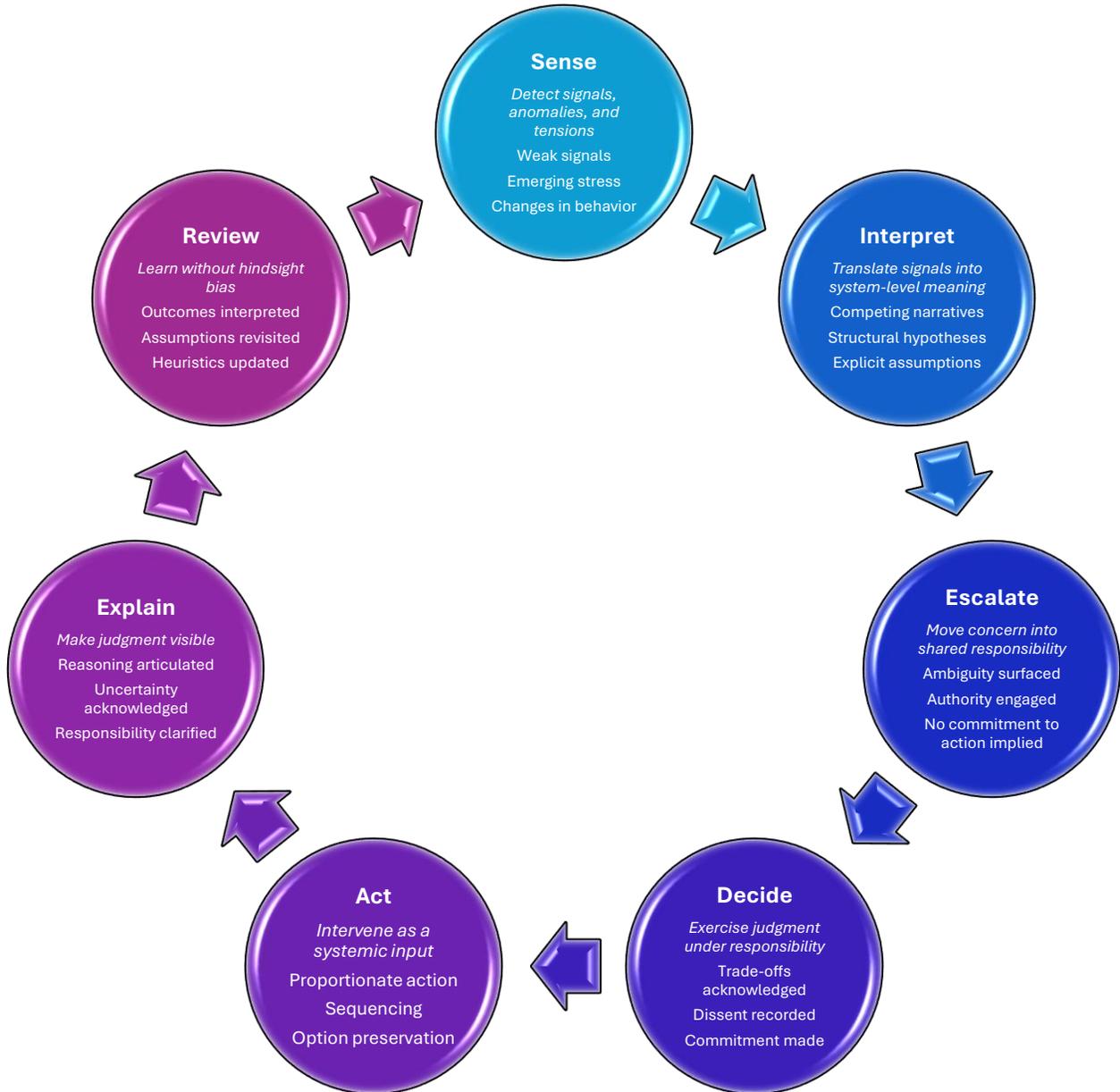
Source: Bank & Finance Consulting Group (2026). Conceptual elaboration informed by Simon (1962); Minsky (1986); Borio (2014); Kay and King (2020); BIS (2023).

The cycle does not describe a procedural checklist or an operational workflow. It provides a shared orientation for disciplined judgment when information is incomplete, interpretations diverge, authority is fragmented, and time pressure is present. Its purpose is to preserve coherence of responsibility when no single model, indicator, or rule can close the decision space.

The value of the cycle lies in making visible where stewardship succeeds or fails. Historical experience shows that breakdowns rarely occur because institutions lack analytical tools. They occur because specific elements of decision practice fail—most often escalation, decision, explanation, or review—interrupting the translation of understanding into accountable action.

Two clarifications are essential for interpreting the figure correctly.

First, the stages overlap in practice.

Under conditions of stress, interpretation may continue during escalation; explanation often begins before outcomes are known; review may reshape interpretation in real time. The cycle therefore compresses, stretches, and folds back on itself as conditions evolve. Its purpose is not to impose sequence, but to preserve coherence under pressure.

Second, the cycle structures judgment; it does not automate it.

No stage produces a mechanically "correct" output. The cycle disciplines attention and responsibility, but it does not replace judgment or diffuse accountability. At each point, decisions remain contingent, contested, and taken under uncertainty.

Seen in this light, the stewardship decision cycle functions as a diagnostic lens for practice rather than a decision rule. It allows institutions to ask not only *what decision was taken*, but *how judgment was exercised*, *where uncertainty was acknowledged or suppressed*, and *where responsibility was assumed or deferred*.

The sections that follow examine each element of the cycle in turn, identifying common failure modes and the institutional disciplines required to sustain stewardship under deep uncertainty.

3.3 Sense: Attending to Signals Without Overreaction

The sensing stage concerns **attention**, not conclusion.

It involves:

- monitoring signals from diagnostics, markets, institutions, and infrastructures,
- recognizing anomalies, tensions, and emerging patterns,
- resisting premature interpretation.

Sensing fails in two symmetric ways:

- attentional blindness, where weak or unfamiliar signals are ignored;

- salience bias, where recent or vivid events dominate interpretation (Gennaioli et al., 2018).

Stewardship disciplines sensing by embedding:

- system-wide attention (as defined in the **Design volume**),

- continuity of diagnostic perspective (as established in **Diagnostics**),

- and humility about what signals do and do not imply.

3.4 Interpret: From Signals to Systemic Meaning

Interpretation connects signals to system-level understanding.

This stage asks:

- What could these signals mean for systemic fragility?

- Which propagation channels might be involved?

- How do current observations interact with known design and governance features?

Interpretation is inherently judgment-based. Competing narratives often coexist. The objective is not consensus, but coherent framing.

Interpretive failure arises when:

- signals are treated in isolation,

- institutional silos dominate meaning,

- or uncertainty is suppressed rather than articulated.

Structured interpretation—often through cross-institutional forums—is therefore central to stewardship (Kay and King, 2020).

3.5 Escalate: Moving From Interpretation to Responsibility

Escalation is the hinge of the decision cycle.

It moves concern from observation into the domain of collective responsibility. Crucially, escalation does not imply commitment to action. It implies commitment to *shared judgment*.

Effective escalation:

- surfaces uncertainty rather than concealing it,

- invites contestation rather than forcing agreement,

- preserves optionality rather than pre-committing outcomes.

Escalation fails when it is delayed until certainty is achieved—a condition that rarely materializes under deep uncertainty (BIS, 2023).

Box 3 illustrates why escalation should be decoupled from intervention.

Box 3. Escalation as Request for Judgment, Not Call to Act

In stewardship practice, escalation is frequently misunderstood as a demand for immediate intervention. This misunderstanding creates a powerful disincentive to escalate early, encouraging institutions to delay raising concerns until uncertainty appears resolved.

This logic is inverted.

Under deep uncertainty, escalation does not commit the system to act. It commits the system to judge collectively.

When escalation is decoupled from intervention, it performs three essential functions.

First, it expands interpretive capacity. Escalation brings multiple mandates, perspectives, and analytical lenses into the assessment of emerging fragility, reducing the risk that local interpretations dominate system-level judgment.

Second, it legitimizes uncertainty. By elevating issues while ambiguity remains, escalation allows uncertainty to be articulated and contested openly rather than suppressed in pursuit of false clarity.

Third, it preserves optionality. Early escalation increases the range of possible responses—informational, preparatory, or operational—without forcing commitment to a specific course of action.

Conversely, when escalation is postponed until certainty is achieved, options narrow. Time pressure increases, coordination costs rise, and interventions become more abrupt and less reversible. What appears as prudence in delaying escalation often results in more intrusive action later.

Effective stewardship therefore treats escalation as a threshold of responsibility, not as a trigger for intervention. It is a mechanism for aligning interpretation, authority, and preparedness under uncertainty—before action becomes unavoidable.

By reframing escalation in this way, stewardship transforms early concern from a reputational risk into a core institutional competence.

Source: Bank & Finance elaboration based on Gorton (1988); Borio (2014); Kay and King (2020); BIS (2023).

3.6 Decide: Committing Under Uncertainty

Decision is the moment where stewardship becomes visible.

At this stage, uncertainty remains. Disagreement may persist. What changes is responsibility.

A stewardship decision:

- acknowledges uncertainty explicitly,
- articulates the reasoning behind action or inaction,
- selects a course consistent with robustness, adaptability, and reversibility,
- assigns responsibility clearly.

Decisions are not validated by outcomes alone. They are validated by the quality of judgment exercised under the conditions that prevailed at the time (Kay and King, 2020).

3.7 Act: Intervention as Systemic Input

Action is not the end of the cycle. It is a new input into the system.

Interventions:

- reshape incentives,
- alter expectations,
- modify propagation channels,
- and influence future diagnostics.

Stewardship therefore treats action as hypothesis testing, not execution of a predetermined plan. This orientation preserves learning and avoids false finality (Borio, 2014).

3.8 Explain: Legitimacy Through Reasoned Transparency

Explanation is not ex post justification.

It is the contemporaneous articulation of:

- what was known,
- what was uncertain,
- what trade-offs were considered,
- and why a particular course was chosen.

Explanation sustains legitimacy by making judgment visible rather than hiding it behind technical language or retrospective rationalization (Power, 2007).

This stage links directly to the principles developed in the Institutionalization volume: legitimacy derives from process coherence, not outcome certainty.

3.9 Review: Learning Without Hindsight Bias

Review closes—and reopens—the cycle.

It examines:

- how the system responded,

- which assumptions held,

- which propagation channels activated,

- and where judgment should be updated.

Review is not audit in the narrow sense. It is learning under humility. Outcomes are interpreted without rewriting history or erasing uncertainty that existed at the time of decision.

Table 2 summarizes the purpose, risks, and capabilities associated with each stage of the cycle.

Table 2. The Stewardship Decision Cycle: Stages, Purpose, and Failure Modes

Stage of the Cycle	Primary Purpose	Common Failure Modes	Required Stewardship Capabilities
Sense	Detect emerging signals, anomalies, and tensions without premature interpretation	Attentional blindness; overreaction to salient but unrepresentative signals; siloed monitoring	System-wide situational awareness; continuity of diagnostics; tolerance for weak signals
Interpret	Translate signals into system-level meaning and hypotheses about fragility	Fragmented narratives; premature closure; suppression of uncertainty	Cross-institutional interpretive forums; explicit articulation of assumptions; allowance for multiple narratives
Escalate	Move concern into the domain of collective responsibility	Delay until certainty; escalation only after breach; reputational avoidance	Escalation protocols decoupled from intervention; ambiguity-based escalation; protected channels for raising concern

Decide	Commit to a course of action or inaction under uncertainty	Decision paralysis; false consensus; displacement of responsibility onto models	Clear decision authority; minimum-regret heuristics; explicit acknowledgment of uncertainty and dissent
Act	Implement intervention as a systemic input, not a terminal solution	Overreach; bundled actions; loss of reversibility	Sequenced and proportionate interventions; option-preserving design; coordination across mandates
Explain	Make judgment visible to sustain legitimacy and accountability	Ex post justification; technical obfuscation; silence	Transparent communication of reasoning and trade-offs; contemporaneous explanation; clarity of responsibility
Review	Learn from outcomes without hindsight bias and reopen judgment	Outcome-based blame; retrospective certainty; forgetting dissent	Structured post-decision review; preservation of decision records; explicit updating of assumptions and heuristics

Source: *Bank & Finance elaboration based on Simon (1962); Minsky (1986); Borio (2014); Kay and King (2020); BIS (2023).*

The stewardship decision cycle is not linear and not mechanistic. Stages overlap, recurse, and compress under stress. The value of the cycle lies not in procedural compliance, but in providing a shared orientation for disciplined judgment across time, institutions, and levels of authority.

Failures of stewardship typically arise not from the absence of analysis, but from breakdowns at specific stages of the cycle—most often escalation, decision, explanation, or review. Making these stages explicit allows institutions to diagnose weaknesses in practice rather than attributing failure to unforeseeable shocks.

3.10 The Decision Cycle as Institutional Memory

Repeated over time, the stewardship decision cycle becomes a carrier of institutional memory.

It preserves:

- how signals were interpreted,
- why escalation occurred,
- how decisions were framed,
- and what was learned.

In this sense, the cycle operationalizes the institutionalization of judgment discussed in Volume V. It transforms stewardship from episodic response into durable practice.

3.11 Section 3 Takeaway

The stewardship decision cycle disciplines how institutions move from observation to action under deep uncertainty.

It does not eliminate judgment. It structures it.

It does not guarantee correct outcomes. It preserves responsibility.

It does not resolve uncertainty. It makes action possible within it.

The following sections examine how this cycle operates under strain—when escalation is contested, consensus is absent, and legitimacy is fragile.

4. Escalation, Thresholds, and Authority

Escalation is the fulcrum of stewardship.

It is the point at which concern moves from interpretation into the domain of collective responsibility. When escalation fails, stewardship fails—not because risks were invisible, but because judgment was never activated at the level where action could be taken.

This section explains why escalation is central to decision practice under uncertainty, how thresholds should be designed to support judgment rather than suppress it, and how authority must be exercised without over-centralization or false certainty.

4.1 Why Escalation Is the Binding Constraint

In financial ecosystems, escalation is difficult precisely when it is most needed.

Periods of mounting fragility are characterized by:
- ambiguous signals,
- competing interpretations,
- unclear attribution of responsibility,
- political and reputational risk attached to acting "too early."

Empirical studies of crises repeatedly show a common pattern:

- information existed,

- vulnerabilities were discussed,

- but concerns were not escalated in time—or were escalated too late to matter (Gorton, 1988; Borio, 2020; BIS, 2023).

This is not a failure of vigilance. It is a failure of institutional permission to escalate under uncertainty.

Escalation often stalls because it is implicitly treated as a call to act. When escalation is equated with intervention, institutions rationally delay raising concern until uncertainty resolves. In complex systems, it rarely does.

Effective stewardship breaks this linkage.

4.2 Escalation as a Request for Judgment

In this framework, escalation is not a demand for action. It is a request for collective judgment.

Escalation serves three purposes:

1. **It expands the decision set**

   By moving issues upward or across institutional boundaries, escalation brings additional perspectives, mandates, and interpretive capacity into play.

2. **It surfaces uncertainty explicitly**

   Escalation legitimizes ambiguity rather than forcing premature closure.

3. **It reallocates responsibility**

   Concerns that exceed local mandates or expertise are acknowledged as system-level issues.

This conception aligns with post-crisis reflections emphasizing that governance failure often arises not from rule-breaking, but from absence of responsibility for system-level outcomes (Borio, 2014; Kay and King, 2020).

Figure 4 illustrates escalation as a transition from localized interpretation to shared judgment and responsibility, without predetermining intervention.

This figure illustrates escalation as a transition from localized interpretation to shared judgment and responsibility. Escalation expands the interpretive and decision space by bringing additional mandates, perspectives, and authority into play, without predetermining action.

Under deep uncertainty, early escalation legitimizes ambiguity and preserves optionality, whereas delayed escalation compresses choices and increases the risk of abrupt intervention.

Figure 4. Escalation as Transition From Interpretation to Collective Responsibility

Localized Interpretation
- Unit-level signals
- Domain-specific diagnostics
- Partial mandates
- Bounded expertise

Concern remains within local responsibility

Escalation
- Ambiguity acknowledged
- Interpretive limits recognized
- Responsibility shifted

Escalation ≠ action

Shared Judgment and Responsibility
- Multiple mandates
- Cross-institutional perspectives
- System-level interpretation
- Expanded option set

Authority clarified, not centralized

Escalation expands the decision space before any decision is taken

Source: Bank & Finance conceptual elaboration based on Borio (2014); Kay and King (2020); BIS (2023).

4.3 Thresholds: Enabling Judgment, Not Triggering Automatism

Thresholds are often misunderstood as triggers for action. In stewardship practice, their primary role is different.

Thresholds exist to:

- signal when issues merit broader attention,
- prompt escalation and review,
- and discipline attentional drift.

They should not be designed to mechanically trigger intervention.

Two broad classes of thresholds are relevant:

Quantitative thresholds

Indicators, metrics, or stress test outputs that cross predefined values. These provide discipline and comparability, but are vulnerable to gaming and false precision (Goodhart, 1975; Power, 2007).

Qualitative thresholds

Narrative-based judgments, pattern recognition, and expert concern that reflect structural or behavioral shifts not captured in metrics.

Effective stewardship uses both, and treats neither as dispositive.

Table 3 summarizes how different threshold types support escalation under uncertainty.

Table 3. Quantitative and Qualitative Thresholds in Stewardship Practice

Threshold Type	What It Is	Primary Value	Key Limitations	Appropriate Role in Escalation
Quantitative thresholds	Predefined numerical values linked to indicators, metrics, or stress test outputs	Discipline, comparability, continuity over time; anchors attention and monitoring	False precision; gaming; model dependence; slow adaptation to structural change	Signal when issues merit broader review; support escalation *to judgment*, not automatic action
Qualitative thresholds	Narrative assessments, pattern recognition, expert concern, loss of interpretive confidence	Sensitivity to structural shifts, behavioral change, and emerging fragility	Perceived subjectivity; harder to codify; vulnerable to politicization if informal	Legitimize escalation under ambiguity; surface issues before breach occurs
Combined use	Deliberate integration of quantitative signals and qualitative judgment	Balances discipline with flexibility; reduces blind spots	Requires institutional trust and documentation	Most effective basis for early escalation and shared interpretation

Source: Bank & Finance elaboration based on Goodhart (1975); Power (2007); Borio (2014); Kay and King (2020).

Thresholds fail in two symmetric ways. Rigidity occurs when numerical thresholds are treated as sufficient conditions for action, displacing judgment and amplifying false certainty. Evasion occurs when thresholds—especially qualitative ones—are ignored, reinterpreted, or suppressed to avoid escalation.

Effective stewardship avoids both by designing thresholds that invite judgment rather than replace it. Quantitative thresholds discipline attention; qualitative thresholds preserve

sensitivity to change. Escalation is triggered not by breach alone, but by the recognition that existing interpretations may no longer be sufficient.

4.4 Ambiguity-Based Escalation

A defining feature of stewardship is the recognition that ambiguity itself can justify escalation.

Traditional escalation logic relies on breach: something exceeds a limit. Under deep uncertainty, the more relevant signal is often *loss of interpretive confidence*.

Ambiguity-based escalation occurs when:

- signals conflict,
- diagnostics diverge,
- stress tests produce incompatible narratives,
- or confidence in existing interpretations weakens.

This form of escalation is frequently under-institutionalized because it resists codification. Yet it is central to effective stewardship in non-linear systems (Kay and King, 2020; BIS, 2023).

Box 4 illustrates why ambiguity should be treated as a trigger for collective judgment rather than suppressed.

Box 4. Escalating Ambiguity, Not Just Breaches

Conventional escalation frameworks are designed around breach. Thresholds are crossed, indicators flash red, or stress scenarios fail. Escalation follows.

In complex financial ecosystems, this logic is often insufficient.

Under deep uncertainty, the most informative signal is frequently not breach, but ambiguity—the erosion of confidence in existing interpretations before any formal limit is exceeded.

Ambiguity arises when:

- indicators move in opposing directions,
- diagnostics suggest different sources of fragility,
- stress tests produce incompatible propagation narratives,
- or previously stable relationships begin to weaken.

These conditions do not imply imminent failure. They imply that the system is becoming harder to interpret.

Suppressing ambiguity in pursuit of clarity creates a dangerous asymmetry. Institutions delay escalation while waiting for decisive signals, even as interpretive confidence erodes and coordination becomes harder. When breach finally occurs, options are fewer, responses are more abrupt, and learning is compressed under stress.

Ambiguity-based escalation corrects this bias by treating loss of interpretive coherence as a legitimate trigger for collective judgment. It allows institutions to:

- broaden the interpretive frame,
- surface competing narratives,
- test assumptions before they harden,
- and prepare contingent responses without committing to action.

Importantly, ambiguity-based escalation does not require that something has gone wrong. It requires only that existing explanations are no longer sufficient.

By legitimizing escalation in response to ambiguity, stewardship reframes uncertainty from a reason to wait into a reason to engage.

Source: *Bank & Finance elaboration based on Knight (1921); Kay and King (2020); Borio (2014); BIS (2023).*

By legitimizing escalation based on ambiguity, institutions reduce the incentive to wait for clarity that may arrive only after fragility has intensified.

4.5 Authority Without Centralization

Escalation inevitably raises the question of authority.

Who decides once an issue is escalated?

The temptation is to centralize: to assign final authority to a single committee or institution. Experience suggests this approach is fragile. Financial ecosystems are too complex, mandates too fragmented, and legitimacy too contested for centralized control to be effective (FSB, 2011; BIS, 2015).

Stewardship therefore relies on authority without centralization.

This means:

- authority is exercised through framing, coordination, and decision responsibility,
- not through command over all instruments or mandates;
- escalation creates shared obligation to judge, not hierarchical obedience.

Authority, in this sense, is relational rather than hierarchical.

4.6 Exercising Authority Under Uncertainty

Authority under stewardship has three defining characteristics:

1. **Orientation, not instruction**

   Authority shapes how issues are framed and deliberated; it does not dictate outcomes mechanically.

2. **Responsibility without false certainty**

   Decisions are taken with explicit acknowledgment of uncertainty, rather than justified through spurious precision.

3. **Accountability over time**

   Authority includes responsibility for explaining decisions, revisiting them, and learning from their consequences.

This conception of authority aligns with broader critiques of technocratic overreach and with calls for institutional humility in environments of deep uncertainty (Power, 2007; Kay and King, 2020).

4.7 Escalation Failure as Stewardship Failure

From a stewardship perspective, failure to escalate is not prudence. It is abdication.

When uncertainty is acknowledged but escalation is avoided, institutions implicitly choose:

- narrow mandates over system coherence,
- short-term comfort over long-term responsibility,
- procedural safety over substantive judgment.

Failure to escalate under acknowledged uncertainty constitutes a stewardship failure, not a prudential success.

This principle reframes escalation as an ethical as well as operational obligation.

4.8 Section 4 Takeaway

Escalation is the hinge that connects interpretation to action in financial ecosystem stewardship.

Effective stewardship:

- decouples escalation from intervention,
- designs thresholds to invite judgment rather than trigger automatism,
- legitimizes ambiguity as a basis for collective deliberation,
- and exercises authority without centralization or false certainty.

When escalation functions well, uncertainty becomes governable. When it fails, even the best diagnostics and stress tests remain inert.

5. Acting Without Consensus

Consensus is valuable. It is not a precondition for stewardship.

In financial ecosystems operating under deep uncertainty, decisions are often required before consensus can form—if it can form at all. Interpretations diverge, mandates overlap, and time pressure compresses deliberation. Waiting for unanimity in such conditions does not preserve prudence; it frequently amplifies fragility through delay.

This section explains why stewardship must accommodate action without consensus, how such action can remain disciplined and legitimate, and which heuristics support responsible decision-making when agreement is absent.

5.1 Why Consensus Is Rare Under Uncertainty

Consensus presumes shared interpretation, aligned incentives, and sufficient time for deliberation. Under deep uncertainty, these conditions rarely coexist.

Fragmentation is structural:

- institutions observe different signals,
- mandates prioritize different risks,
- time horizons diverge,
- political and legal constraints differ.

Uncertainty intensifies this fragmentation. When causal narratives are incomplete and outcomes are indeterminate, reasonable actors can disagree without error (Knight, 1921; Kay and King, 2020).

Empirical studies of crises show that:

- disagreement is the norm, not the exception,

- consensus often emerges only *after* decisive action—or after failure (Kindleberger and Aliber, 2011; Gennaioli et al., 2018).

Stewardship therefore cannot be contingent on consensus. It must be able to act responsibly in its absence.

5.2 Responsibility Is Not Symmetric

While disagreement may be distributed, responsibility for action is not.

In any governance arrangement, some authorities retain decision rights—even when consensus is incomplete. Stewardship does not eliminate this asymmetry; it disciplines how it is exercised.

Acting without consensus requires explicit acknowledgment that:

- alternative views exist,

- trade-offs are contested,

- and the chosen course is a judgment, not a logical necessity.

This acknowledgment preserves accountability. It prevents the retroactive construction of false consensus and makes space for learning rather than blame (Power, 2007).

Figure 5 illustrates the asymmetry between dispersed disagreement and concentrated responsibility, which lies at the core of acting without consensus.

Figure 5. Disagreement Is Distributed; Responsibility Is Not

Distributed Disagreement

• Alternative interpretations
• Competing diagnostics
• Divergent risk assessments
• Conflicting priorities

Plurality of views persists under uncertainty

Decision Authority

• Judgment exercised
• Trade-offs owned
• Action authorized

Responsibility is non-delegable

Acting without consensus requires owning judgment, not erasing disagreement
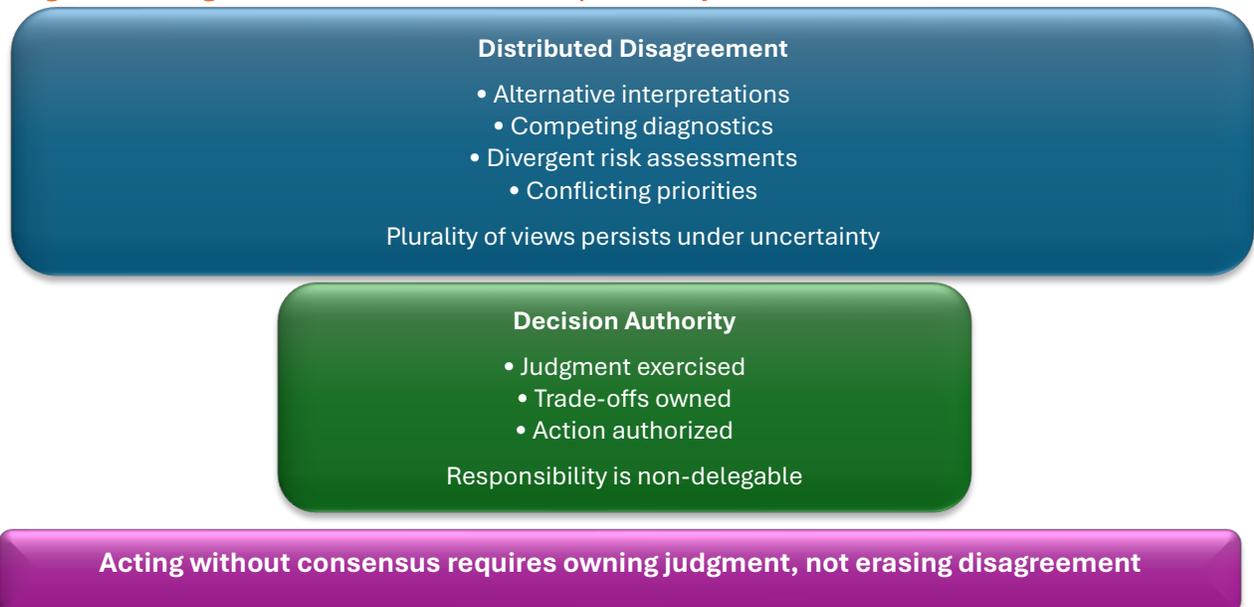
Source: *Bank & Finance conceptual elaboration based on Simon (1962); Power (2007); Borio (2014); Kay and King (2020).*

This figure illustrates a core asymmetry of stewardship under uncertainty. While interpretations, assessments, and preferences may remain distributed and contested, responsibility for decision and action is necessarily concentrated. Acting without consensus does not require suppressing disagreement, but it does require explicit ownership of judgment. By acknowledging alternative views while exercising authority, stewardship preserves accountability and enables learning rather than retroactive blame.

5.3 Heuristics for Action Under Ambiguity

When consensus is absent and uncertainty is deep, stewardship relies on decision heuristics rather than optimization.

These heuristics do not guarantee correctness. They discipline judgment by shaping how trade-offs are evaluated.

Four heuristics are particularly relevant:

i) Minimum-regret reasoning

Rather than maximizing expected value, stewardship evaluates which course minimizes irreversible regret across plausible futures (Lempert et al., 2006; Kay and King, 2020).

ii) No-regret and low-regret moves

Actions that yield benefits or preserve options across many scenarios—even if the feared outcome does not materialize.

iii) Option preservation

Interventions that keep future choices open, avoiding lock-in when uncertainty is high.

iv) Reversibility

Preference for actions that can be recalibrated or withdrawn without triggering disproportionate systemic costs.

These heuristics do not replace analysis. They structure commitment when analysis cannot close the decision space.

Table 4 summarizes these heuristics and their role in stewardship decisions.

Table 4. Decision Heuristics for Acting Without Consensus

Heuristic	Core Question It Addresses	What It Disciplines	When It Is Most Appropriate	Implications for Legitimacy and Learning
Minimum-regret reasoning	*Which action would we most regret if uncertainty resolves against us?*	Exposure to irreversible downside; overreliance on expected values	When probabilities are unreliable and downside risks are asymmetric	Supports legitimacy by showing responsibility for worst-case outcomes; focuses review on judgment quality rather than luck
No-regret / low-regret moves	*Which actions are beneficial or acceptable across many plausible futures?*	Overcommitment to narrow scenarios; paralysis under disagreement	Early stages of stress; high uncertainty with low cost of preparatory action	Enhances credibility by acting without overclaiming foresight; preserves learning even if risks do not materialize
Option preservation	*How can we act without foreclosing future choices?*	Lock-in effects; premature commitment	When system dynamics are evolving and information is still unfolding	Maintains adaptability; enables revision without reputational or systemic rupture
Reversibility	*Can this action be recalibrated or withdrawn if assumptions change?*	Escalation to all-or-nothing interventions	When time pressure exists but confidence in interpretation remains limited	Strengthens accountability by aligning action with humility; facilitates learning without defensive rationalization

Source: Bank & Finance elaboration based on Simon (1962); Lempert et al. (2006); Borio (2014); Kay and King (2020).

These heuristics do not determine *what* decision must be taken. They discipline *how commitment is structured* when consensus is absent and uncertainty is irreducible. Used together, they allow stewardship to act without unanimity while preserving legitimacy, accountability, and the capacity to learn over time.

5.4 Acting Under Time Pressure

Time pressure is not an external complication. It is intrinsic to stewardship.

Financial fragility often unfolds non-linearly. Confidence can shift faster than institutions can deliberate. Under such conditions, deferring action until disagreement resolves may be riskier than acting with imperfect agreement (Minsky, 1986; Borio, 2014).

Stewardship therefore treats time as a decision variable, not a constraint to be ignored.

Key disciplines include:

- clarifying what must be decided now versus what can wait,

- sequencing actions rather than bundling them,

- and explicitly weighing the risks of delay against the risks of premature action.

Box 5 illustrates how time pressure reshapes the trade-offs of acting without consensus.

Box 5. Acting Before Agreement Under Time Pressure

In financial ecosystems, time pressure is rarely exogenous.

It emerges endogenously as fragility accumulates and confidence becomes unstable.

Non-linear dynamics imply that systems often appear resilient until they are not. Liquidity conditions, market sentiment, and coordination can deteriorate abruptly, compressing decision windows just as disagreement peaks (Minsky, 1986; Borio, 2014).

In such conditions, insisting on full agreement before acting can amplify risk rather than contain it.

Delayed consensus affects stewardship outcomes in three ways.

First, time compression magnifies coordination costs. As stress intensifies, the number of actors involved increases, mandates overlap more sharply, and informational noise rises. What might have been a manageable disagreement earlier becomes paralysis under pressure.

Second, delay alters incentives and expectations. Market participants and institutions infer meaning from hesitation. Waiting for agreement may be interpreted as uncertainty, unwillingness, or lack of capacity, triggering defensive behavior that accelerates stress.

Third, bundled decisions become unavoidable. When action is postponed, institutions often face the need to implement multiple measures simultaneously under crisis conditions, reducing reversibility and increasing the risk of unintended consequences.

Stewardship practice addresses these dynamics by treating time as a decision variable, not as a neutral backdrop. This involves:

- distinguishing decisions that must be taken immediately from those that can remain contingent,

- sequencing actions to preserve learning and optionality,

- and explicitly comparing the systemic risks of delay with those of acting under imperfect agreement.

Acting before consensus does not imply haste or disregard for dissent. It reflects recognition that waiting is itself an intervention, one that reshapes the system's trajectory.

By structuring early, proportionate action under time pressure, stewardship preserves stability and learning—while retaining the ability to adapt as conditions evolve.

Source: Bank & Finance elaboration based on Minsky (1986); Borio (2014); Gennaioli et al. (2018); Kay and King (2020).

5.5 Acting Without Consensus Is Not Acting Alone

Acting without consensus does not mean acting unilaterally or ignoring dissent.

Effective stewardship:

- records minority views,

- explains why they did not prevail at that moment,

- and preserves the ability to revisit decisions as conditions evolve.

This practice distinguishes stewardship from technocratic fiat. It recognizes disagreement as informative, even when it does not determine action.

Acting without consensus, when done transparently, strengthens rather than weakens institutional credibility. It demonstrates responsibility under uncertainty rather than paralysis in search of unanimity.

5.6 From Action to Explanation

Because action without consensus is vulnerable to misinterpretation, explanation becomes inseparable from decision.

Explanation must:

- clarify why consensus was not required,

- articulate the reasoning behind the chosen course,

- and acknowledge the risks and uncertainties that remain.

This linkage prepares the ground for the next section, which examines how disagreement itself should be managed and institutionalized within stewardship practice.

5.7 Section 5 Takeaway

In financial ecosystem stewardship, consensus is a virtue—but not a prerequisite for action.

Under deep uncertainty:

- disagreement is normal,

- time pressure is binding,

- and responsibility cannot be deferred indefinitely.

Stewardship therefore relies on disciplined heuristics—minimum regret, option preservation, reversibility—to act responsibly without unanimity. When such action is transparent, reasoned, and accountable, it preserves legitimacy even when outcomes remain uncertain.

6. Managing Disagreement and Dissent

Disagreement is not a failure of stewardship.

It is one of its essential inputs.

In complex financial ecosystems operating under deep uncertainty, reasonable actors can reach different conclusions even when they share information, competence, and intent. Stewardship does not aim to eliminate this divergence. It aims to structure disagreement so that it improves judgment rather than paralyzes action or undermines legitimacy.

This section explains how disagreement and dissent should be managed as part of stewardship practice: how to distinguish productive dissent from dysfunction, how to institutionalize contestation without gridlock, and how to preserve responsibility when views diverge.

6.1 Why Disagreement Is Inevitable—and Valuable

Disagreement arises naturally in financial ecosystem stewardship for structural reasons:

- **Partial perspectives**: no institution observes the entire system.

- **Divergent mandates**: stability, growth, market integrity, fiscal sustainability, and political feasibility are not perfectly aligned.

- **Different time horizons**: short-term containment and long-term resilience may point in different directions.

- **Irreducible uncertainty**: when probabilities are unknown, interpretation cannot converge mechanically (Knight, 1921; Kay and King, 2020).

Attempts to suppress disagreement often backfire. When dissent is silenced, uncertainty does not disappear—it becomes implicit, unarticulated, and harder to manage (Janis, 1982; Power, 2007).

Stewardship therefore treats disagreement as diagnostic information:

- it reveals where assumptions diverge,

- highlights contested propagation channels,

- and exposes blind spots in prevailing narratives.

Figure 6 illustrates why disagreement weakens stewardship when it is suppressed, but strengthens judgment when it is structured and integrated into decision practice.

Figure 6. Disagreement as Input to Stewardship Judgment

Suppressed or Informal Dissent

- Divergent views muted
- Reservations kept informal
- Apparent consensus dominates

Outcome:

Brittle judgment
- Hidden assumptions
- False consensus
- High surprise risk

Uncertainty remains implicit

Treatment of Disagreement

Structured and Legitimate Dissent

- Alternative interpretations explicit
- Dissent formally articulated
- Linked to escalation and decision

Outcome:

Resilient judgment
- Blind spots reduced
- Trade-offs explicit
- Surprise mitigated

Uncertainty acknowledged and managed

Disagreement strengthens stewardship when it is structured, recorded, and connected to responsibility

Source: *Bank & Finance conceptual elaboration based on Knight (1921); Janis (1982); Power (2007); Kay and King (2020).*

This figure contrasts two approaches to disagreement under deep uncertainty. When disagreement is suppressed or informal, uncertainty becomes implicit, producing false consensus and brittle decisions vulnerable to surprise. When disagreement is structured, legitimate, and connected to escalation and decision processes, it improves interpretation, clarifies trade-offs, and strengthens stewardship judgment without undermining authority.

6.2 Productive Dissent vs Institutional Paralysis

Not all disagreement improves stewardship. The distinction lies not in *whether* disagreement exists, but in how it is handled.

Productive dissent

- is articulated clearly and early,
- is grounded in alternative interpretations or assumptions,
- engages with system-level consequences,
- and remains connected to decision responsibility.

Institutional paralysis

- postpones commitment indefinitely,
- treats disagreement as justification for inaction,
- diffuses responsibility rather than clarifying it,
- and ultimately increases systemic risk through delay.

Stewardship requires the discipline to harvest insight from dissent without allowing it to veto action by default.

Table 5 summarizes key differences between productive dissent and dysfunctional disagreement.

Table 5. Productive Dissent vs Institutional Paralysis

Dimension	Productive Dissent	Institutional Paralysis
Timing of disagreement	Raised early, while options remain open	Deferred or prolonged until options narrow
Basis of argument	Grounded in alternative assumptions, interpretations, or system-level concerns	Framed as general uncertainty or lack of confidence without clear analytical content
Relation to uncertainty	Explicitly acknowledges uncertainty and uses it to refine judgment	Uses uncertainty as justification for deferring commitment

Effect on escalation	Supports timely escalation and broader collective judgment	Blocks escalation by insisting on premature certainty
Impact on authority	Clarifies decision responsibility despite disagreement	Diffuses responsibility across actors and processes
Decision outcome	Enables action informed by contestation	Prevents action by default, regardless of risk
Systemic consequences	Reduces surprise by surfacing blind spots	Increases systemic risk through delay and inaction

Source: Bank & Finance elaboration based on Janis (1982); Power (2007); Kay and King (2020); Gennaioli et al. (2018).

The critical distinction is not the presence of disagreement, but its orientation toward responsibility. Productive dissent engages with the decision problem and accepts that judgment must ultimately be exercised. Institutional paralysis converts disagreement into a veto, allowing uncertainty to substitute for decision.

Effective stewardship cultivates the former while actively preventing the latter. Failure to make this distinction risks mistaking indecision for prudence and conflict avoidance for responsibility.

6.3 Institutionalizing Disagreement

For disagreement to be constructive, it must be institutionalized rather than improvised.

Institutionalization does not mean formalizing dissent into rigid procedures. It means ensuring that space for contestation is:

- expected,
- legitimate,
- and protected within decision processes.

Common mechanisms include:

- Red teams or challenge functions, tasked explicitly with testing prevailing interpretations.
- Structured alternative scenarios, linked to diagnostics and stress testing.
- Minority opinions on record, preserved alongside majority judgments.
- Conditional decisions, where action is taken while acknowledging specific points of disagreement.

These mechanisms prevent false consensus while preserving the capacity to act.

Box 6 illustrates how institutionalized dissent improves escalation and decision quality under uncertainty.

Box 6. Institutionalized Dissent as a Stewardship Capability

In financial ecosystem stewardship, disagreement is unavoidable. Whether it becomes a liability or an asset depends on whether it is institutionalized.

When dissent is improvised—raised informally, episodically, or personally—it tends to be either ignored or politicized. Voices perceived as disruptive are discounted; concerns raised outside formal processes are easily sidelined. The result is often false consensus followed by surprise.

Institutionalized dissent changes this dynamic by making contestation an expected part of judgment, rather than an exception to it.

Formal mechanisms such as red teams, challenge functions, structured alternative scenarios, minority opinions on record, and conditional decisions serve a common purpose. They:

- legitimize disagreement without personalizing it,
- surface alternative interpretations early,
- protect minority views from being erased by convergence pressure,
- and preserve decision authority while improving judgment quality.

Crucially, institutionalized dissent does not undermine authority. It clarifies it.

By separating *who challenges* from *who decides*, stewardship ensures that disagreement informs judgment without diffusing responsibility. Decisions remain attributable, but they are better informed and more resilient to surprise.

Over time, these mechanisms also strengthen learning. Recorded dissent provides a benchmark against which future developments can be assessed, reducing hindsight bias and enriching institutional memory.

In this sense, institutionalized dissent is not a procedural add-on. It is a core capability for governing under uncertainty, enabling escalation, decision, and review to function without illusion of unanimity.

Source: Bank & Finance elaboration based on Janis (1982); Power (2007); Kay and King (2020); Gennaioli et al. (2018).

6.4 Dissent and Authority

A central tension in stewardship is the relationship between dissent and authority.

Authority does not require unanimity. It requires responsibility for decision.

When disagreement persists, stewardship authority must:

- acknowledge dissent explicitly,
- explain why a particular course was chosen despite it,
- and accept accountability for that judgment.

This asymmetry is essential. If dissent were allowed to override authority automatically, stewardship would collapse into veto-based paralysis. If authority ignored dissent systematically, judgment would become brittle and legitimacy would erode.

Effective stewardship holds both together.

6.5 Disagreement Over Time: Preserving Learning

Disagreement should not disappear once a decision is taken.

Recording dissent:

- preserves institutional memory,
- supports post-decision review,
- and allows institutions to revisit assumptions as conditions evolve.

This temporal dimension is critical. Many crises are followed by retrospective claims that "the warning signs were known." Often, they were known—but dismissed or forgotten because dissent was not preserved as part of the decision record (Gennaioli et al., 2018).

Stewardship therefore treats disagreement as part of learning infrastructure, not as noise to be filtered out.

6.6 When Disagreement Signals Escalation Failure

Persistent or unresolved disagreement can itself be a signal.

When:

- interpretive divergence widens rather than narrows,
- institutional narratives fragment,
- or confidence in prevailing judgments erodes,

the issue may warrant further escalation, not forced resolution.

Recognizing disagreement as a signal rather than a nuisance strengthens stewardship's capacity to adapt before fragility materializes.

6.7 Section 6 Takeaway

Disagreement and dissent are not obstacles to stewardship. They are resources.

Effective stewardship:

- distinguishes productive dissent from paralysis,
- institutionalizes contestation without surrendering authority,
- records minority views to preserve learning,
- and treats disagreement as information rather than insubordination.

By structuring disagreement rather than suppressing it, stewardship strengthens judgment, legitimacy, and adaptability under irreducible uncertainty.

7. Communication, Legitimacy, and Accountability

Stewardship does not end with action.

It is completed through explanation.

In environments of deep uncertainty, decisions cannot be validated solely by outcomes. Financial ecosystems evolve, shocks propagate non-linearly, and even well-judged actions may produce adverse results. Under such conditions, legitimacy depends less on what happens than on how decisions are taken, explained, and owned.

This section explains why communication is a core element of stewardship practice, how legitimacy is sustained without claims of certainty, and how accountability must be understood when outcomes cannot be guaranteed.

7.1 Communication as Part of Decision Practice

In stewardship, communication is not an external activity that follows decision-making. It is an integral stage of the decision cycle.

Explanation performs three essential functions:

1. **It makes judgment visible**

By articulating reasoning, assumptions, and trade-offs, communication prevents decisions from appearing arbitrary or technocratic.

2. **It anchors legitimacy under uncertainty**

   When uncertainty is acknowledged rather than concealed, expectations are calibrated more realistically.

3. **It preserves accountability over time**

   Clear explanation creates a record against which future learning and review can occur.

When communication is deferred or treated as messaging, institutions invite misinterpretation. Silence is filled by speculation; complexity is simplified into blame narratives. Stewardship therefore requires contemporaneous explanation, not retrospective justification (Power, 2007; Kay and King, 2020).

7.2 Legitimacy in the Presence of Uncertainty

A central misconception in public and institutional discourse is that legitimacy requires confidence and certainty.

Historical experience suggests the opposite.

Legitimacy erodes most sharply not when institutions admit uncertainty, but when they project confidence they cannot sustain. Overstatement of foresight or control creates expectations that reality eventually violates (Minsky, 1986; Kindleberger and Aliber, 2011).

By contrast, institutions that:

- acknowledge uncertainty explicitly,
- explain trade-offs transparently,
- and frame decisions as judgments taken under responsibility,

tend to preserve legitimacy even when outcomes are adverse (Kay and King, 2020).

Figure 7 illustrates how legitimacy under uncertainty is grounded in process coherence rather than in claims of predictive certainty.

This figure contrasts two sources of institutional legitimacy under uncertainty. When legitimacy is anchored in claims of certainty and predictive control, it may rise quickly but erodes sharply when outcomes diverge from expectations. By contrast, legitimacy grounded in transparent process—acknowledging uncertainty, explaining trade-offs, and owning judgment—proves more resilient over time, even when outcomes are adverse.

Figure 7. Legitimacy Through Process, Not Prediction

Prediction-Centered Legitimacy

Claims of certainty and control

• Strong initial confidence

• Expectations anchored to forecasts

Outcome divergence

→ Abrupt legitimacy erosion

Expectation violation

Legitimacy depends on

how decisions are made,

not on predictive accuracy

Process-Centered Legitimacy

Transparent reasoning under uncertainty

• Uncertainty acknowledged

• Trade-offs explained

• Responsibility owned

Legitimacy remains resilient across outcomes

Legitimacy under uncertainty is an emergent property of disciplined process

Source: *Bank & Finance conceptual elaboration based on Minsky (1986); Kindleberger and Aliber (2011); Kay and King (2020); Borio (2014).*

7.3 What Responsible Explanation Requires

Responsible stewardship communication has distinctive characteristics.

It must:

- Acknowledge uncertainty explicitly: Uncertainty is named, not euphemized.

- Explain trade-offs honestly: What was prioritized, what was deferred, and why.

- Clarify responsibility clearly: Who decided, under what authority, and on what basis.

- Differentiate explanation from justification: Explanation articulates reasoning under uncertainty; justification attempts to validate decisions through outcomes.

These elements are demanding. They expose institutions to criticism. But they also anchor credibility. Attempts to shield authority through opacity or technical obfuscation tend to backfire when conditions evolve.

Table 6 contrasts communication strategies and their implications for legitimacy and trust.

Table 6. Communication Strategies Under Uncertainty and Their Implications

Communication Strategy	How Uncertainty Is Treated	How Decisions Are Explained	Short-Term Effects	Long-Term Implications for Legitimacy and Trust
Opaque communication	Minimized or concealed	Decisions presented as faits accomplis or procedural necessities	Reduces immediate scrutiny; limits short-term controversy	Erodes trust over time; fuels suspicion, speculation, and blame when outcomes diverge
Technocratic communication	Acknowledged implicitly but obscured by technical language	Decisions framed as model-driven or expert-determined	Signals competence; narrows debate	Undermines accountability by displacing judgment onto models; legitimacy weakens when models fail
Transparent stewardship communication	Acknowledged explicitly and honestly	Reasoning, trade-offs, uncertainty, and responsibility articulated contemporaneously	Invites debate and criticism; raises short-term exposure	Sustains legitimacy and trust over time; supports learning and accountability even when outcomes disappoint

Source: Bank & Finance elaboration based on Minsky (1986); Power (2007); Kay and King (2020); Borio (2014).

Communication strategies shape expectations as much as they convey information. Opaque and technocratic approaches may reduce immediate friction, but they do so by suppressing uncertainty rather than governing it. When conditions evolve, suppressed uncertainty re-emerges as loss of credibility.

Transparent stewardship communication accepts exposure as the cost of legitimacy. By making judgment visible—rather than hiding behind certainty or technique—it aligns authority with responsibility and preserves trust under irreducible uncertainty.

7.4 Accountability Without False Precision

Traditional notions of accountability often presume that decisions can be evaluated against clear benchmarks and expected outcomes. Under deep uncertainty, this presumption fails.

Stewardship therefore requires a different conception of accountability—one grounded in responsibility for judgment, not in prediction accuracy.

Accountability under uncertainty focuses on:

- whether uncertainty was acknowledged,

- whether relevant information was considered,

- whether dissent was heard and recorded,

- whether escalation occurred appropriately,

- and whether reasoning was articulated contemporaneously.

This conception aligns with the institutionalization principle developed in Volume V: legitimacy is sustained not by outcome certainty, but by coherent process and responsibility over time.

Box 7 illustrates how accountability can be preserved even when outcomes disappoint.

Box 7. Accountability Under Deep Uncertainty

Under deep uncertainty, outcomes alone cannot serve as a reliable basis for accountability.

Financial ecosystems evolve through non-linear dynamics, reflexive behavior, and endogenous feedback. Even well-judged decisions may lead to adverse outcomes, while poorly judged decisions may appear successful by chance. Evaluating stewardship solely through results therefore risks rewarding luck and penalizing responsibility (Knight, 1921; Kay and King, 2020).

Stewardship addresses this problem by anchoring accountability in judgment and process, rather than in predictive accuracy.

Accountability under deep uncertainty asks whether decision-makers:

- acknowledged uncertainty explicitly rather than concealing it,

- considered relevant information and alternative interpretations,

- allowed dissent to be expressed and recorded,

- escalated concerns appropriately as ambiguity increased,

- and articulated their reasoning at the time decisions were taken.

These criteria do not immunize institutions from criticism. They redirect scrutiny toward what could reasonably be known and decided at the time, rather than what became visible in hindsight.

This conception of accountability also preserves learning. When decisions are evaluated through process rather than outcome alone, institutions can revise assumptions without rewriting history, and responsibility can be sustained without discouraging action.

By owning judgment rather than claiming foresight, stewardship maintains legitimacy even when outcomes disappoint. Accountability, in this sense, is not weakened by uncertainty—it is made meaningful by it.

Source: *Bank & Finance elaboration based on Knight (1921); Power (2007); Kay and King (2020); Borio (2014).*

7.5 Trust as an Emergent Property of Stewardship

Trust cannot be commanded or engineered. It emerges from repeated interaction between institutions and the system they steward.

Stewardship builds trust when:
- explanations are consistent across time,
- uncertainty is treated honestly,
- decisions are revisited and learned from,
- and responsibility is not displaced onto models, markets, or hindsight.

Conversely, trust erodes when institutions:
- alternate between overconfidence and silence,
- reinterpret past decisions opportunistically,
- or attribute failure exclusively to unforeseeable shocks.

Trust, like legitimacy, is therefore not an input to stewardship. It is an output of disciplined practice (Ostrom, 1990; Kay and King, 2020).

7.6 Communication as Bridge to Learning

Explanation does more than sustain legitimacy. It enables learning.

When reasoning is articulated clearly:
- assumptions can be revisited,
- disagreement can be reassessed,

- and institutional memory can accumulate.

Communication thus links decision and review. It transforms action from a terminal event into a learning episode—a theme developed fully in the next section.

7.7 Section 7 Takeaway

Under irreducible uncertainty, stewardship cannot promise correct outcomes. What it can promise is responsible judgment.

Communication is the mechanism through which that responsibility becomes visible.

Legitimacy is sustained when institutions:

- acknowledge uncertainty,
- explain trade-offs,
- clarify responsibility,
- and remain accountable for their reasoning over time.

In this sense, communication is not ancillary to stewardship.

It is how stewardship earns and preserves its authority.

8. Learning, Adaptation, and Review

Stewardship is not completed by a decision.

It is completed by what institutions learn from deciding.

Under irreducible uncertainty, no decision can be final, and no outcome can fully validate or invalidate prior judgment. Financial ecosystems adapt to intervention; behavior responds to expectations; fragility migrates. Stewardship therefore depends on the capacity to learn without illusion, adapt without drift, and review without rewriting history.

This section explains how learning must be embedded in stewardship practice, how adaptation can occur without eroding continuity, and how review should discipline future judgment rather than assign retrospective blame.

8.1 Learning as a Core Stewardship Function

Learning in financial stability practice is often treated as episodic—triggered by crisis, failure, or external review. This approach is insufficient.
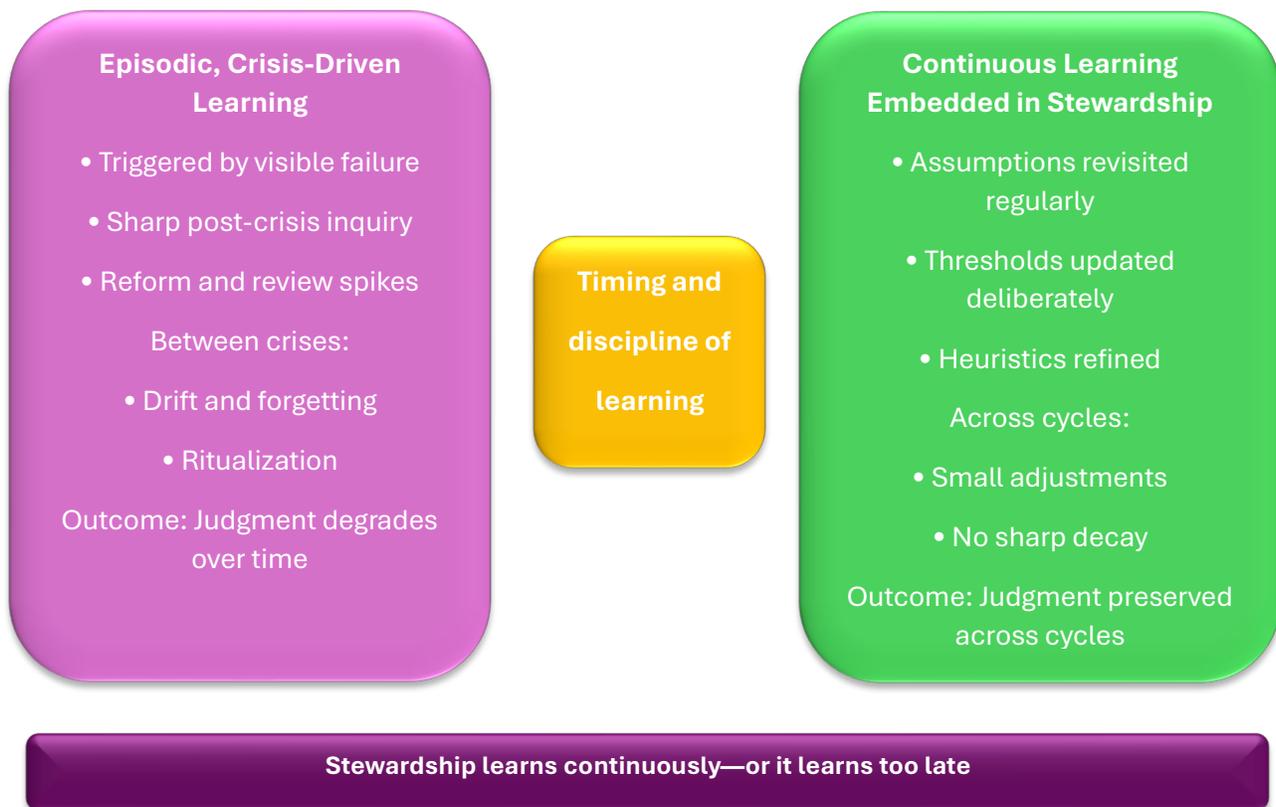
Financial ecosystems evolve continuously. Incentives shift, technologies change, governance arrangements adapt, and new propagation channels emerge. If learning is activated only after visible failure, stewardship systematically lags system evolution (Minsky, 1986; Gennaioli et al., 2018).

Stewardship therefore treats learning as a continuous function, embedded in normal-time decision practice rather than reserved for post-crisis moments.

Learning, in this sense, is not the accumulation of information. It is the periodic reassessment of assumptions that underpin judgment.

Figure 8 contrasts episodic, crisis-driven learning with continuous learning embedded in stewardship practice, highlighting why judgment decays in the absence of disciplined review.

Figure 8. Continuous Learning Versus Episodic Learning in Stewardship

Episodic, Crisis-Driven Learning	**Timing and discipline of learning**	**Continuous Learning Embedded in Stewardship**
• Triggered by visible failure • Sharp post-crisis inquiry • Reform and review spikes Between crises: • Drift and forgetting • Ritualization Outcome: Judgment degrades over time		• Assumptions revisited regularly • Thresholds updated deliberately • Heuristics refined Across cycles: • Small adjustments • No sharp decay Outcome: Judgment preserved across cycles

Stewardship learns continuously—or it learns too late

Source: *Bank & Finance conceptual elaboration based on Minsky (1986); Borio (2014); Gennaioli, Shleifer, and Vishny (2018); BIS (2023).*

This figure contrasts two approaches to learning under uncertainty. Episodic, crisis-driven learning produces bursts of insight that decay during periods of stability, allowing assumptions to drift and judgment to erode. By contrast, continuous learning embedded in stewardship

practice sustains interpretive capacity across decision cycles by regularly reassessing assumptions, updating heuristics, and reviewing outcomes without rewriting history.

8.2 Review as Reopening Judgment, Not Auditing Outcomes

Review is often conflated with evaluation. In stewardship, the distinction matters.

Evaluation asks whether outcomes matched expectations.

Review asks whether judgment was exercised responsibly given the uncertainty at the time.

A stewardship review examines:

- what was known and what was uncertain,
- which assumptions guided interpretation,
- how escalation and disagreement were handled,
- why action or inaction was chosen,
- and how the system responded.

This orientation avoids two common pathologies:

- hindsight bias, which retroactively imposes clarity that did not exist;
- ex post rationalization, which rewrites reasoning to fit outcomes.

Review, properly conducted, preserves humility while sharpening future judgment (Kay and King, 2020; Power, 2007).

8.3 Learning From Failure, Near-Misses, and Non-Events

Crises are not the only—or even the best—source of learning.

From a stewardship perspective, three classes of experience are equally informative:

- Failures, where fragility materializes visibly.
- Near-misses, where stress is absorbed without systemic breakdown.
- Non-events, where anticipated risks do not materialize.

Institutions tend to privilege failure because outcomes are unambiguous. This bias distorts learning. Near-misses reveal absorptive capacity; non-events test assumptions and narratives (Borio, 2014; BIS, 2023).

Table 7 summarizes the distinct learning contributions of each class.

Table 7. Sources of Learning Under Uncertainty

Class of Experience	What Occurs	What It Reveals	Typical Institutional Bias	Stewardship Learning Value
Failures	Fragility materializes visibly; systemic stress or crisis occurs	Breakdown points, amplification channels, coordination failures	Over-weighted: treated as the primary or exclusive source of learning	Clarifies limits of resilience; exposes false assumptions and missing escalation
Near-misses	Stress emerges but is absorbed without systemic breakdown	Absorptive capacity, buffers, informal coordination, robustness of design	Under-weighted: success attributed to luck or ignored	Reveals what worked under pressure; identifies effective judgment and timely action
Non-events	Anticipated risks do not materialize	Validity of assumptions, role of expectations, effectiveness of preparatory action	Misinterpreted: seen as false alarms or proof of overreaction	Tests diagnostic narratives; helps distinguish precaution from misjudgment

Source: Bank & Finance elaboration based on Borio (2014); Minsky (1986); Kay and King (2020); BIS (2023).

Institutions tend to privilege failures because outcomes are unambiguous and politically salient. This creates a distorted learning process that overfits judgment to crisis narratives while neglecting the informational value of resilience and anticipation.

Effective stewardship treats failures, near-misses, and non-events as complementary sources of insight. Learning emerges not from outcomes alone, but from comparing expectations, actions, and system responses across all three classes.

Ignoring any one category weakens judgment: focusing only on failure breeds overreaction; focusing only on non-events breeds complacency. Stewardship requires disciplined attention to all three.

8.4 Adaptation Without Drift

Learning must lead to adaptation. But adaptation without discipline produces drift.

Drift occurs when:

- assumptions are revised opportunistically,

- frameworks are reinterpreted informally,
- or attention shifts without explicit reasoning.

This risk was central to the Institutionalization volume: over time, even well-designed practices erode if adaptation is not anchored to continuity of judgment.

Stewardship therefore distinguishes:

- adaptive revision, which updates assumptions explicitly and transparently,
- from interpretive drift, which weakens coherence silently.

Adaptation must be reasoned, documented, and connected to prior decisions. This preserves learning without sacrificing institutional memory.

8.5 Updating Thresholds and Heuristics

Thresholds and heuristics introduced earlier in this volume are not static.

Learning may reveal that:

- thresholds were too rigid or too permissive,
- heuristics favored caution when speed was required,
- or reversibility was over- or under-weighted.

Updating these elements is a core stewardship task. But updates should be:

- deliberate rather than reactive,
- justified rather than implicit,
- and reversible rather than locked in.

This discipline prevents learning from hardening into false certainty.

Box 8 illustrates how threshold and heuristic updates can strengthen stewardship without inducing instability.

Box 8. Updating Decision Heuristics Without Chasing Noise

Learning under uncertainty creates a paradox.

Institutions must adapt their thresholds and heuristics as experience accumulates, yet excessive responsiveness risks destabilizing judgment rather than improving it.

Thresholds and heuristics are designed to discipline attention and action when certainty is unavailable. Over time, however, learning may reveal that:

- thresholds were calibrated too tightly, triggering escalation too late,
- or too loosely, generating frequent but unproductive alarms;
- heuristics privileged caution when speed was critical,
- or speed when reversibility should have been preserved.

Updating these elements is therefore a core stewardship responsibility. But the manner of updating matters as much as the update itself.

Effective stewardship avoids "chasing noise" by anchoring revisions to explicit reasoning rather than recent outcomes. Changes are:

- deliberate, grounded in structured review rather than reactive response to events;
- justified, with assumptions and trade-offs articulated transparently;
- reversible, preserving the ability to recalibrate as conditions evolve.

This discipline distinguishes adaptive learning from interpretive drift. It ensures that experience sharpens judgment without converting provisional insights into new dogma.

By treating thresholds and heuristics as *living instruments*—subject to review but resistant to opportunistic revision—stewardship maintains continuity while remaining responsive to change.

Source: *Bank & Finance elaboration based on Simon (1962); Borio (2014); Lempert et al. (2006); Kay and King (2020).*

8.6 Institutional Memory as a Decision Asset

Learning becomes stewardship only when it is preserved.

Institutional memory does not reside primarily in documents. It resides in:

- decision records,
- articulated reasoning,
- recorded dissent,
- and review narratives that preserve context.

When such memory erodes, institutions are condemned to relearn familiar lessons under stress—often at high cost (Minsky, 1986; Kindleberger and Aliber, 2011).

The stewardship decision cycle introduced in Section 3 functions as a carrier of institutional memory. Repeated over time, it embeds learning into how institutions decide, not just into what they conclude.

8.7 Learning Without Illusion

The greatest threat to learning is the illusion of mastery.

As experience accumulates, institutions may mistake familiarity for understanding and adaptation for control. Models improve, processes mature, and uncertainty is reinterpreted as risk that has been "managed."

This illusion undermines stewardship.

Effective learning deepens humility. It clarifies where uncertainty remains and why judgment will continue to be required (Kay and King, 2020; BIS, 2023).

Stewardship does not converge toward certainty. It converges toward better questions, sharper judgment, and more responsible action.

8.8 Section 8 Takeaway

Learning, adaptation, and review are not downstream tasks. They are core components of stewardship practice.

Effective stewardship:

- embeds learning continuously,
- reviews judgment rather than auditing outcomes,
- adapts without drifting,
- updates heuristics deliberately,
- and preserves institutional memory over time.

In this sense, learning is not the end of stewardship.

It is how stewardship remains alive under changing conditions.

9. Conclusion: From Framework to Practice—and Beyond

This volume completes a necessary transition in the Financial Ecosystem Stewardship framework: the transition from understanding fragility to acting responsibly within it.

The preceding volumes established the intellectual architecture of stewardship. They showed how financial ecosystems are designed, how authority is fragmented, how fragility becomes legible, how stress propagates, and how judgment can be institutionalized over time. Yet none of these elements, on their own, explains how decisions are actually taken when uncertainty persists and action cannot be deferred.

Volume VI addressed that gap.

It reframed stewardship as a practice of disciplined judgment, exercised through structured decision cycles, escalation mechanisms, heuristics for action without consensus, institutionalized disagreement, transparent communication, and embedded learning. In doing so, it made explicit a core premise that runs through the entire series:

Stewardship succeeds not by eliminating uncertainty, but by acting responsibly within it.

This is not a claim about optimality or control. It is a claim about responsibility.

What This Volume Resolves—and What It Does Not

Volume VI resolves a central operational question: how collective judgment is translated into timely, accountable action under irreducible uncertainty.

It does so by:
- clarifying how uncertainty should be acknowledged rather than suppressed,
- showing how escalation enables judgment without forcing premature intervention,
- demonstrating how action can proceed without consensus,
- and anchoring legitimacy in transparent process rather than predictive success.

At the same time, this volume is explicit about its limits.

It does not claim that disciplined practice guarantees correct outcomes. It does not deny the role of power, politics, or distributional conflict. It does not assume stable system boundaries or stationary environments.

These unresolved dimensions are not omissions. They define the agenda of the next volumes.

From Practice to Validation: Volume VII

Volume VII, **Stewardship in Action — Validation Through Application**, subjects the framework itself to stress.

The question is no longer whether the logic of stewardship is coherent, but whether it improves understanding and decision quality across contexts. Historical and contemporary cases will be used not to derive principles, but to test their transportability, limits, and failure modes.

Volume VI provides the evaluative lens for this exercise. Without a clear conception of decision practice, case analysis risks degenerating into narrative or hindsight. With it, cases become a means of validating judgment under uncertainty rather than celebrating or condemning outcomes.

From Judgment to Constraint: Volume VIII

Volume VIII, **Political Economy of Stewardship — Power, Constraints, and Conflict**, addresses a deeper challenge: why stewardship often fails even when fragility is understood and decision practice is available.

Here, the framework confronts binding constraints:

- legal limits,
- distributional conflict,
- political incentives,
- and asymmetries of power.

Volume VI established how stewardship *should* operate under uncertainty. Volume VIII examines when and why it cannot, not because of analytical error, but because judgment collides with interests and authority structures.

Together, these volumes distinguish failures of practice from failures of feasibility.

From Stability to Change: Volume IX

Volume IX, **Adaptive Stewardship — Governing Change Itself**, extends the logic of practice into a non-stationary world.

Technological transformation, climate non-stationarity, demographic shifts, and geopolitical fragmentation challenge the assumption that stewardship operates on a stable structural foundation. In such environments, the object of stewardship is no longer just risk or fragility, but system evolution.

The decision practices developed in this volume—robustness, reversibility, structured dissent, and learning—become preconditions for governing change itself. Volume IX formalizes this extension.

The Enduring Claim of Volume VI

Across these extensions, the contribution of the present **Volume VI** remains distinct.

It asserts that stewardship is neither a philosophy nor a model, but a repeated institutional practice. It shows that legitimacy does not rest on prediction, consensus, or control, but on the disciplined exercise of judgment under uncertainty.

In doing so, it anchors the entire framework in action.

Design without practice remains abstract.

Governance without practice remains procedural.

Diagnostics without practice remain inert.

Stress testing without practice remains exploratory.

Institutionalization without practice remains formal.

Practice is where stewardship becomes real.

Looking Forward

The volumes that follow will test, constrain, and extend the framework introduced here. They will expose its limits, confront its political economy, and adapt it to a world in flux.

But none of those extensions is intelligible without a clear understanding of how stewardship is practiced.

That understanding is the contribution of this volume.

The next volume turns from prescription to evidence:

Does disciplined decision practice, as defined here, improve stewardship across different systems, histories, and crises?

That question marks the beginning of **Volume VII: Stewardship in Action — Validation Through Application**.

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