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# Risk Management in Monetary Policy: A Review with Asset Pricing Implications\*

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## Abstract

We review recent research on how the Fed’s risk-management approach shapes the overall policy stance and how it affects financial market conditions. The evidence shows that the policy stance contains a forward-looking, conditional component that has long been an integral part of the Fed’s policymaking toolkit. Asymmetric forward-looking policy tilts—motivated by risk-management considerations and revealed via the Fed’s communication—complement and extend beyond the effects of direct policy actions. Drawing on the transcripts of FOMC meetings between 1976 and 2019, we provide an institutional history of the tilt and its connection to how the Committee’s thinking about risk evolved over decades. Going back at least to the early 1990s, the Fed has relied on tilts not only to steer market expectations but, equally importantly, to stabilize risk premia and maintain easy financial conditions. We discuss successes and challenges associated with communication via tilts and draw lessons for the renewed debate over the form and extent of central bank forward-looking guidance.

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**Keywords:** risk management, uncertainty, monetary policy, asset prices, large language models, text as data

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## I. Introduction

The question of how much central banks should say about their future policy is once again driving a monetary policy debate today. As this chapter is being written in the summer of 2026, the Federal Reserve has stepped away from forward guidance, amid an open debate over whether stated rate paths cost more in flexibility than they buy in clarity.<sup>1</sup> The European Central Bank, in its 2025 strategy assessment, moved in the opposite direction, emphasizing scenario analysis in its communication and a clearer articulation of its reaction function ([European Central Bank, 2025](#)). The debate is often framed as a choice between guidance and discretion. The history since the 1970s reviewed in this chapter suggests a different framing. For decades, the Federal Reserve has communicated a forward-looking policy stance in one form or another. For most of that time the form was less committal than the guidance of the 2010s and early 2020s, signaling the direction in which risks were leaning, and the readiness to act if needed, short of a promise. That kind of policy tilt and the risk-management reasoning behind it are the subject of this review.

[Bernanke \(2015\)](#) famously estimated that monetary policy is “98 percent talk and only two percent action.” For much of the past three and a half decades, the Fed has been credited with maintaining remarkably stable inflation while decisively supporting the economy during downturns. Although that streak was disrupted by the post-Covid inflation surge, the Fed navigated the recent period without runaway long-term interest rates. Given Bernanke’s estimate, it is natural to ask what role the Fed’s “talk” plays in achieving such outcomes.

An answer is far from straightforward. Communication is subject to a plethora of interpretations that blur the boundaries between the Fed’s objectives, instruments, signals, and the financial market’s reactions. What, then, are the key aspects of policymaking that communication can mediate? Views from the inside suggest that understanding the role of communication requires recognizing its inherent connection to the Fed’s risk-management approach to policymaking ([Greenspan, 2004](#); [Blinder and Reis, 2005](#)).

This chapter pursues two objectives. The first is to synthesize a research program that links risk management, communication, and financial markets. The program is developed in three underlying papers, whose results we summarize. [Cieslak, Hansen, McMahon, and Xiao \(2026a\)](#) measure the FOMC’s own perceptions of risk and uncertainty and show that they drive the policy stance, both through actions and through

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<sup>1</sup>“We’ve dropped forward guidance” (Chairman Warsh, press conference, June 17, 2026). Warsh described some policymakers as viewing the choice as right “at this moment in time” and others as holding that “as a general proposition forward guidance isn’t the business we should be in.”

forward-looking policy tilts. [Cieslak and McMahon \(2024\)](#) trace how the communicated policy tilts transmit to risk premia in real time. [Cieslak, McMahon, and Pang \(2026b\)](#) use the 2020 shift in the Fed’s framework away from managing upside inflation risks to study how clearly markets can infer the Fed’s reaction function, and the financial market consequences when they cannot.

The second objective is to present historical evidence based on policymakers’ narratives. From the transcripts of 365 FOMC meetings between 1976 and 2019, we construct the institutional history of how the policy tilt evolved and its connection to the Committee’s thinking about risk. The history offers an account of the Fed’s forward-looking stance built from the deliberations themselves.

The notion that policy stance encompasses more than the current action should by now be relatively uncontroversial. The research we draw upon establishes that the stance revealed in the FOMC’s language is in large part forward-looking and conditional. Forward-looking considerations occupy the FOMC at least as much as the decision about the current action. That component—the policy tilt—functions as a policy tool in its own right, over and above the actions the Committee takes. The tilt captures the distribution of future policy paths that policymakers entertain, indicating asymmetric leanings toward tightening or easing, or an otherwise symmetric stance. Its most direct interpretation comes from the period before 2000, when the tilt resided in the FOMC’s operational policy directive: in ad hoc asymmetric instructions from as early as 1976, and as a standard sentence of the directive from 1983. We discuss its different forms from early years through the modern era. Tilts expressed in the FOMC’s language are not subsumed by the Fed’s forecasts of macroeconomic conditions, help explain the Fed’s deviations from simple policy rules, and independently predict the future policy path ([Cieslak and McMahon, 2024](#); [Cieslak et al., 2026a](#)). The tilt is also not isomorphic to the forward guidance that gained prominence after 2008, being less committal and, as we document, persistent through history.

We organize the discussion in two steps. First, we review where policy tilts come from and what considerations enter the Fed’s objective function to give rise to an asymmetric forward-looking stance. Second, we ask what policy tilts achieve. What is the financial-market impact of communication via tilts, and does it help the Fed attain its objectives?

In short, policy tilts emerge from the Fed’s assessments of the balance of risks. The forward-looking stance is tightly linked to the perceptions of tail risks and uncertainty that policymakers express, and those perceptions shape the stance independently of, rather than via, expected economic conditions. Conceptually, the tilt indicates how the Fed breaks away from the certainty-equivalent policy rule that is standard in many

classic macro-monetary models. Policymakers respond to uncertainty and to the tails of economic distributions in the belief that policy can affect those moments and, by doing so, avoid costly outcomes. The motive often voiced is preemption. While preemption is sometimes understood as taking an early action, an important component of the Fed’s preemptive stance is revealed via communication of conditional promises, signaling the readiness to act if the need arises, but without acting now. Inflation disanchoring and the associated credibility loss is one risk held at bay this way ([Goodfriend, 1993](#)); hitting the zero-lower-bound constraint is another ([Evans et al., 2015](#)).

Turning to what tilts achieve, the Fed is clearly attuned to the importance of communication for its economic objectives. The connection between objectives, effective communication, long-term interest rates, and uncertainty sits at the center of the Fed’s stated strategy:

The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from Congress of promoting maximum employment, stable prices, and *moderate long-term interest rates*. The Committee seeks to explain its monetary policy decisions to the public *as clearly as possible*. Such clarity facilitates well-informed decisionmaking by households and businesses, *reduces economic and financial uncertainty*, increases the effectiveness of monetary policy [...].

— 2025 Statement on Longer-Run Goals and Monetary Policy Strategy (emphasis added).<sup>2</sup>

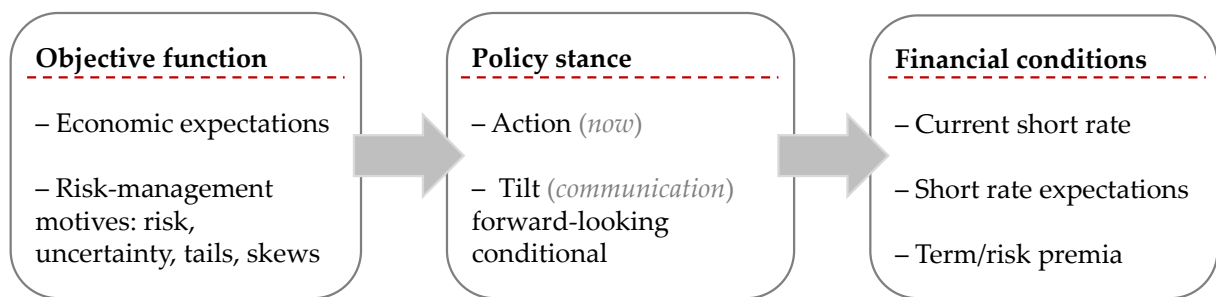
Central to the transmission of policy, long-term interest rates reflect not only expectations about future policy and the economy but also the market’s pricing of risks around those paths. Communication can thus matter beyond anchoring expectations, by affecting risk premia. An extensive literature documents the market’s response to the Fed’s announcements.<sup>3</sup> Much less is known about the channels and the communication content behind these observed market outcomes. The evidence we review points to a primary role of communication via risk-management-motivated tilts. We update the evidence of [Cieslak and Pang \(2021\)](#), who decompose asset price movements into distinct types of news, to show Fed-driven risk premium changes around the FOMC announcements. The effects of tilts on risk premia in stocks and bonds are quantitatively large, operate independently of the market’s policy-path expectations, and also accrue over the intermeeting period through the more granular communication of FOMC officials via speeches and minutes ([Cieslak and McMahon, 2024](#)).

However, risk management via “talk” is not without its own risks. As [Bernanke \(2015\)](#) warned, sending the wrong message can be costly. We close the review with two

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<sup>2</sup>While we quote the 2025 revision, this language has appeared essentially unchanged since the Statement’s original adoption in January 2012.

<sup>3</sup>See [Bauer et al. \(2023\)](#) and [Knox and Vissing-Jorgensen \(2025\)](#) for excellent recent reviews.



**Figure 1. The chapter’s organizing chain.** The FOMC’s economic expectations and risk-management motives enter its objectives. The stance they produce is expressed in the current action and in the forward-looking, conditional tilt. The stance then transmits to the economy through financial conditions: the current short rate, expectations of its path, and term and risk premia.

contrasting episodes. In the productivity-miracle period of the late 1990s, tilts successfully steered financial conditions toward the Fed’s goals. In the post-Covid period, communication of “lower for longer” under the 2020 framework temporarily turned risk prices against the Fed’s intentions of keeping conditions easy as inflation deviated from the target (Cieslak et al., 2026b). The lessons remain pertinent. The Fed stabilized term premia in 2021–2022 by first shifting its communication and then taking action. Ultimately, the 2025 framework revision restored the preemptive orientation. In his 2025 Jackson Hole speech, Chair Powell embraced the risk-management idea, noting that “[o]f course, preemptive action would likely be warranted if tightness in the labor market or other factors pose risks to price stability.” Seen against this history, the retreat from guidance happening today is unlikely to be an endpoint. Devices for communicating the forward-looking stance, once withdrawn, have a way of coming back.

Figure 1 summarizes the resulting chain, which organizes this chapter. The Committee’s economic expectations and risk-management motives enter its objectives. The stance they produce is expressed partly in the current action and partly in a forward-looking, conditional policy tilt. The stance transmits to the economy through financial conditions, from the current short rate to expectations of its path and the associated risk premia. By adjusting the stance to risks via the tilt, the Committee communicates its readiness to act if needed. The credibility of that message improves the management of expectations, which in turn supports the stability of financial conditions and progress toward the Committee’s objectives.

The remainder of the chapter summarizes existing evidence and brings in our own narrative documentation that this is how the FOMC has in fact behaved. Section II lays out the conceptual framework and the related literature. Section III characterizes the policy stance beyond the current action. Section IV presents the institutional history

of the tilt from the deliberations, and Section V discusses research connecting tilts to risk management as their driver. Section VI reviews the asset-pricing evidence. Section VII examines the two episodes of communication in action. Finally, Section VIII draws the lessons and directions.

## II. Risk management in monetary policy: Concepts and literature

As early as [Blinder and Reis \(2005\)](#), the literature has observed that risk management is an important part of policymakers' reasoning but also a concept without a uniformly agreed-upon definition. More recently, [Evans \(2019\)](#) offers a working definition:

What does risk management actually mean? It entails thinking about what could go wrong with the forecast and then judging if policy should be adjusted from the baseline one way or the other in light of the alternative scenarios. This evaluation considers whether the costs from missing our dual mandate objectives are balanced across these alternatives. If not, we may want to adjust policy as insurance against bad outcomes. — [Evans \(2019\)](#)

To distinguish between possible interpretations of this idea, [Cieslak et al. \(2026a\)](#) introduce a conceptual framework, which we draw upon here. The framework starts from a policymaker who chooses the policy stance  $r_t$  to minimize expected losses over the dual mandate, with the standard quadratic loss  $L(\pi_t, y_t) = (\pi_t(r_t) - \pi^*)^2 + \lambda (y_t(r_t) - y^*)^2$ , where  $\pi^*$  is the inflation target and  $y^*$  is potential output. Expected losses decompose into components driven by the expected paths of the target variables and by the risks around them:

$$E[L(\pi_t, y_t)] = (\bar{\Pi}_t(r_t) - \pi^*)^2 + V_{\pi,t}(r_t) + \lambda (\bar{Y}_t(r_t) - y^*)^2 + \lambda V_{y,t}(r_t), \quad (1)$$

where  $\bar{\Pi}_t(r_t)$  and  $\bar{Y}_t(r_t)$  denote expected inflation and output given the stance, and  $V_{\pi,t}(r_t)$  and  $V_{y,t}(r_t)$  are the variances of outcomes around those expectations. The policy stance  $r_t$  is meant broadly. A tighter stance can mean a higher policy rate, quantitative tightening, or a change in the communicated interest-rate outlook. As the research shows, risk-management considerations operate to a large degree through the forward-looking stance, not captured by the current rate.

When the variance terms do not respond to policy,  $V'_{\pi,t}(r_t) = V'_{y,t}(r_t) = 0$ , they drop out of the optimality condition, and the optimal stance reduces to a familiar Taylor-style rule that responds to the expected inflation and output gaps. With the additional assumption that expected inflation and output are linear in the stance, the rule is exact. Under this certainty-equivalent benchmark, only the central forecast matters, while the risks around it are irrelevant to the choice of the stance.

The decomposition in (1) organizes the possible interpretations of risk management. The first works through the expectation terms. If a small-probability adverse event may materialize (e.g., an upside inflation surprise), its probability and size raise expected inflation  $\bar{\pi}_t$  above the modal forecast, and policy moves with the risk-adjusted forecast (De Polis et al., 2025). A second class of explanations locates risk management in preferences. With a non-quadratic loss, higher-order moments of the outcome distribution matter for optimal policy (Kilian and Manganelli, 2008).<sup>4</sup> Relatedly, the robust-control literature shows that policymakers concerned about model misspecification react strongly to the possible realization of bad shocks (Hansen and Sargent, 2001; Onatski and Stock, 2002; Levin and Williams, 2003; Giannoni, 2007). In these explanations, policy responds to the risks it faces but does not alter the true distribution of outcomes. This holds also in the robust-control case, where the worst-case scenario the policymaker guards against shifts with the policy choice, but the underlying set of possible models is taken as given.

The Fed’s own account suggests a stronger notion. In policymakers’ descriptions, risk management involves taking out “insurance” against low-probability but costly future outcomes (Greenspan, 2004; Blinder and Reis, 2005; Evans, 2019). Cieslak et al. (2026a) interpret the insurance motive to mean that the Fed’s decisions *change* the probability of high-cost outcomes, not just react to them. FOMC members have been explicit on this point. Mishkin (2008) argues that by cutting rates in the face of financial turmoil, “monetary policy can *reduce the likelihood* that a financial disruption might set off an adverse feedback loop” (italics ours), and that policy “should aim at *reducing macroeconomic risk*.” The deliberations we examine later echo this logic in both directions, with the Committee tightening to keep inflation expectations from unanchoring and easing to forestall downturns and becoming constrained by the zero lower bound (ZLB) (Sections IV and V).

In terms of equation (1), the risk-management view means the variance terms become functions of the stance,  $V'_{\pi,t}(r_t) \neq 0$  or  $V'_{y,t}(r_t) \neq 0$ . The stance then responds to risks over and above any effect of risk on the expected paths. The Committee departs from certainty equivalence even under a fully symmetric objective, because adjusting the stance changes the risks themselves. Two cases summarize the main predictions. Under upside inflation risk, a more aggressive stance anchors inflation expectations and lowers the probability of the high-inflation state (Goodfriend, 1993), so optimal policy is tighter

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<sup>4</sup>Dolado et al. (2004) and Surico (2007) provide evidence that empirical monetary policy rules are asymmetric, which exists in tension with the Fed’s mandate to treat upside and downside target misses symmetrically. The Fed formalized an asymmetry in its 2020 strategic framework review, emphasizing employment shortfalls. The implication of the asymmetric framework is a policy bias that increases with the Fed’s uncertainty about the economy, as discussed by Eggertsson and Kohn (2023).

than certainty equivalence dictates. Under downside output risk, accommodation lowers the probability of reaching the ZLB, where policy can no longer effectively counteract downside shocks ([Evans et al., 2015](#)), so optimal policy is looser.

This framework provides a simple rationale for risk management as preemption, in which the policy stance is adjusted today to change the distribution of tail outcomes tomorrow. Importantly, preemption does not operate solely through current policy actions. To the extent that the distribution of future outcomes shifts with market beliefs, part of the preemptive response comes from communicating a forward-looking stance that shapes those beliefs.

Parameter uncertainty offers a counterargument to such activism. When the effect of policy on the economy is itself uncertain, stronger action adds noise to outcomes. The classic prediction of [Brainard \(1967\)](#) implies that the optimal response is then dampened relative to certainty equivalence. This result, however, depends on the specific source of parameter uncertainty. For one, uncertainty about the economy's dynamics can also push toward more aggressive behavior ([Söderström, 2002](#)). The evidence in [Cieslak et al. \(2026a\)](#) shows that the FOMC's response to uncertainty is more complicated than Brainard-style conservatism predicts. Heightened inflation uncertainty amplifies rather than dampens the response to inflation, and uncertain policymakers may choose to issue a tilt instead of acting today, deferring the action while still making a policy choice.

The scope of this review is risk management over the business cycle, the adjustment of the stance to risks around the forecasts of inflation and real activity. A related but distinct literature asks whether monetary policy should also manage financial-stability risk, using the policy rate to lean against credit booms and the endogenous buildup of crisis risk. Positions range from extending the inflation-targeting criterion to include a financial-stability objective ([Woodford, 2012](#)), to cost-benefit assessments concluding that leaning against the wind costs more than it buys ([Svensson, 2017](#)), to structural models in which crisis risk is endogenous to the stance ([Boissay et al., 2025](#)). While the financial-stability debate focuses on a specific source of tail risk, this literature also shares aspects of the insurance logic, with policy today changing the probability of a bad state tomorrow.

### **III. Policy stance beyond the current action**

The risk-management approach can reveal itself in the policy stance beyond direct action on the policy rate. Over the past several decades, policymaking on the FOMC has evolved with numerous instruments adopted, modified, or phased out. In keeping

with Bernanke’s 98-percent-talk characterization of monetary policy, we use the FOMC’s language to describe the dimensions of policy stance. The FOMC transcripts contain a nearly verbatim record of policymakers’ statements and are available in a consistent form over more than four decades.<sup>5</sup> They thus capture a union of policy views that then form the basis for the signals the Committee sends to the public. While some portion of the deliberations remains private, the substantial policy views from the meeting find their way into the public domain through formal communication in announcements and, during the intermeeting period, via speeches, minutes, and testimonies (Cieslak and McMahon, 2024; Swanson and Jayawickrema, 2024), as well as informal channels (Belongia and Kliesen, 1994; Cieslak et al., 2019; Vissing-Jorgensen, 2021). This section first characterizes the dimensions of the stance in deliberations, and then illustrates its key properties as measured from language.

The deliberations make clear the multifaceted nature of policy stance. Our reading of the transcripts (365 regular meetings, 1976–2019) identifies at least eight recurring dimensions along which policymakers debate their views, as listed in Table I.<sup>6</sup> Beyond the funds-rate decision, the remaining seven concern where policy is heading, under what conditions, with what risks in mind, and how the choice will be communicated and read by the markets. In the early decades the discussion concentrates on the current setting and the direction of the next move, but the palette grows over time and, by the 2010s, all eight dimensions appear routinely in every meeting.

Cieslak et al. (2026a) construct a summary measure of the directional stance expressed in the policymakers’ language, the HD (hawk–dove) score. Focusing on statements made by FOMC members in the policy round of each meeting from August 1987 (the beginning of Greenspan’s tenure) through December 2019, the measure counts phrases associated with hawkish (tightening) and dovish (easing) views within policy-related sentences, and normalizes the balance of the two by the length of the policy round. The HD score thus estimates the intensity with which policymakers express their leanings at each meeting. Figure 2 plots the meeting-level HD score against the federal funds rate (FFR) target, with the Wu and Xia (2016) shadow rate covering the ZLB period. The

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<sup>5</sup>Quotations from FOMC meetings in this and the following sections come from our systematic analysis of the meeting transcripts (365 regular meetings, 1976:03–2019:12). The extraction of quotations was assisted by a large language model (LLM), and each quotation is cross-verified verbatim against the source transcript. Dates in parentheses identify the meeting as year:month. The sample begins in March 1976, when the Committee discontinued the staff-prepared Memorandum of Discussion and the verbatim transcript became the primary record of its deliberations (Lindsey, 2003; Danker and Luecke, 2005). Earlier deliberations survive only in summarized form.

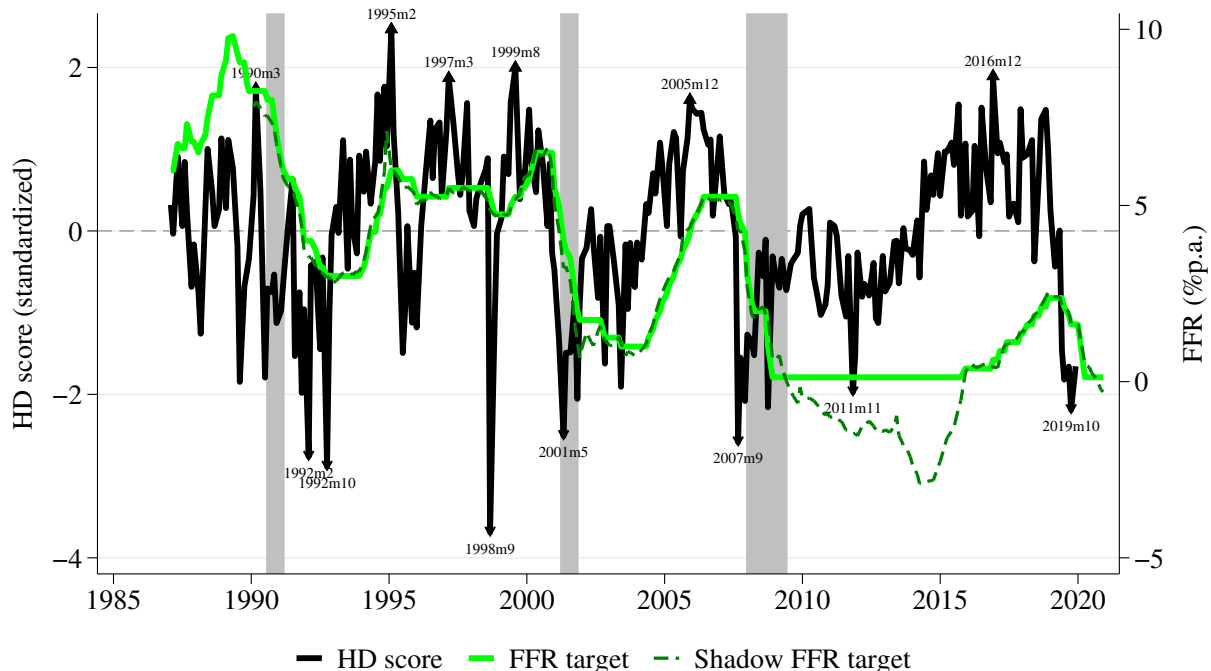
<sup>6</sup>The eight-dimension classification was distilled by the authors from structured, LLM-assisted summaries of each meeting’s policy discussion, combined with our own reading of the transcripts. The example fragments and the dating of when each dimension emerges come from the same analysis.

|                                | What policymakers deliberate                                               | Example wording                                                                     | Becomes common                                            |
|--------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Current policy setting         | Action decided at the current meeting (policy rate, later asset purchases) | “a 0.5 point move. . . would be a decisive move” (1994:02)                          | Throughout                                                |
| Forward-looking preference     | Preferred direction of future policy moves                                 | “the next move that we have to make is on the upside” (1988:05)                     | Throughout; formalized in the directive from 1983         |
| Conditionality                 | Data or scenarios on which future moves are made contingent                | “we have cocked the gun but hope that we don’t have to use it” (1999:05)            | Throughout; increasingly explicit from 1990s              |
| Risk-management logic          | Insurance, preemption, and asymmetric-cost reasoning behind stance         | “the costs of being wrong are not balanced” (1997:12)                               | From mid-1980s; becomes pervasive starting from Greenspan |
| Uncertainty acknowledgment     | Explicit recognition of uncertainty about outlook or transmission          | “The arrow is nice and straight; we just don’t know which way it’s going” (1983:07) | From 1990s                                                |
| Exit and sequencing plans      | Order and timing of future policy steps                                    | “cleaning out the balance sheet before raising rates” (2011:04)                     | Episodic earlier; central from 2009                       |
| Strategic communication intent | What decision and its wording intend to signal                             | “the public thinking that we are more worried than we actually are” (2019:01)       | From 1994 disclosure debates                              |
| Market sensitivity             | Attention to how markets will read and price the decision                  | “knowledge of that decision does move markets” (1994:03)                            | From late 1980s                                           |

**Table I. Dimensions of the policy stance in FOMC deliberations.** The table lists the eight recurring dimensions of the policy stance in the FOMC’s meeting-level policy discussion, from our analysis of the meeting transcripts, 1976–2019. Example wording reports verbatim fragments from the transcripts, with the meeting in parentheses as year:month. The last column indicates when each dimension becomes a common part of the discussion.

measure has intuitive business-cycle dynamics, becoming elevated in expansions and declining rapidly in recessions and during periods of financial turmoil, and its variation visibly anticipates subsequent changes in the policy rate. The fluctuations in policy views beyond the short rate are displayed most clearly during the ZLB years, when the stance adjusts continuously against a fixed rate, but the content of the deliberations was broader than the current decision long before the constraint bound.

Three facts summarize what the stance in language contains, as established in the companion papers (Cieslak et al., 2026a; Cieslak and McMahon, 2024). First, the HD score explains the Fed’s contemporaneous deviations from a standard policy rule. It co-moves strongly with the Romer and Romer (2004) monetary policy shocks, which are by construction orthogonal to the Greenbook macroeconomic forecasts (Cieslak and McMahon, 2024). Second, the stance predicts changes in the policy rate up to a year ahead, beyond the Fed’s macroeconomic forecasts and the well-known inertia in the rate itself (Cieslak and McMahon, 2024). Third, the FOMC’s perceptions of risk and uncertainty are substantial drivers of the stance (Cieslak et al., 2026a), the fact at the center of this review, which Section V develops further. Together, these facts support a

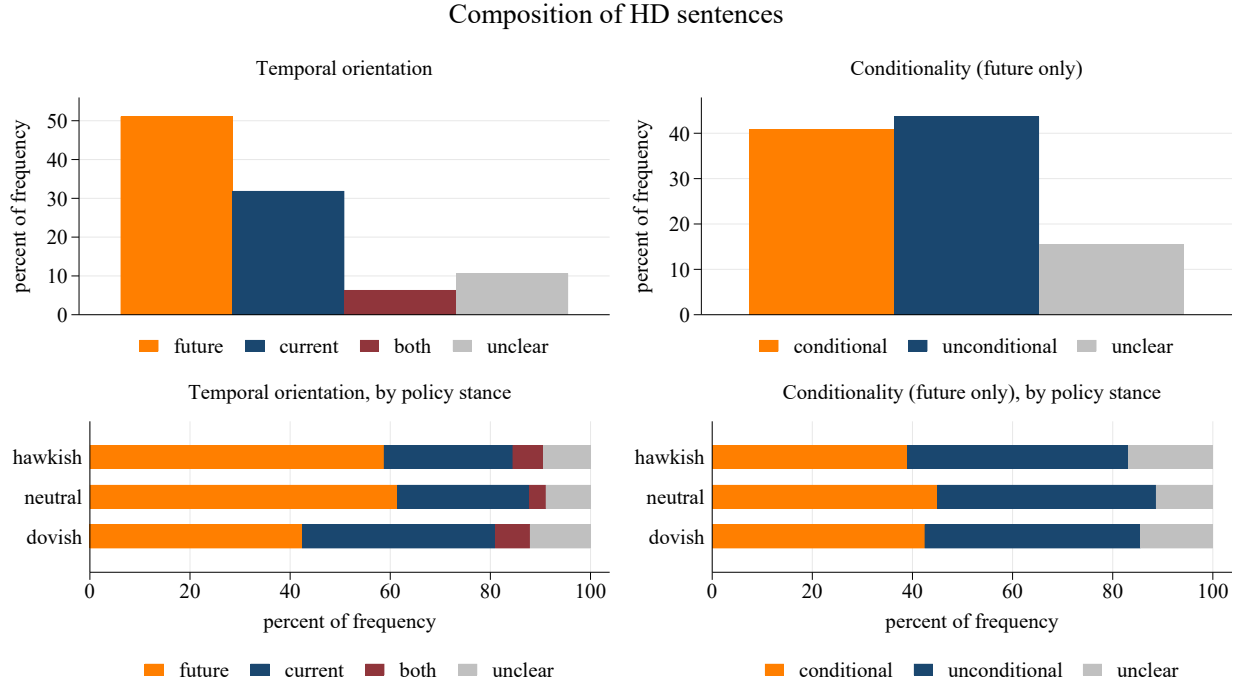


**Figure 2. Policy stance in FOMC meetings vs. the policy rate.** The figure, adapted from [Cieslak and McMahon \(2024\)](#), shows the policy stance measured from the FOMC’s language in the policy round of each meeting (the HD score) against the FFR target and the shadow rate of [Wu and Xia \(2016\)](#). Markers indicate peaks and turning points of the HD score.

broad interpretation of the policy stance as describing the entire distribution of policy paths that policymakers entertain, beyond the current action and beyond first moments.<sup>7</sup>

How much of the expressed stance is about the future? To dissect its forward-looking content, we classify policy sentences that contribute to the HD score in each meeting by their temporal orientation, distinguishing statements that are future-oriented, focused on current actions, or both. The sample starts with Greenspan’s tenure and covers the 1987:08–2019:12 period. Future-oriented statements account for over half (51%) of all policy sentences, while 31% focus on current actions and 6% span both time frames. Within the future-oriented set, 41% of statements involve explicit conditionalities, 44% are unconditional forecasts, and 16% are undetermined. Figure 3 summarizes the decomposition. These estimates quantify the forward-looking nature of policymaking in the meetings, corroborating the accounts of Fed insiders that such considerations are integral to the FOMC’s policy process (e.g., [Meyer, 2004](#)). They also underscore what the traditional estimates of policy rules, focused on the current action, leave out.

<sup>7</sup> [Aruoba and Drechsel \(2025\)](#) show that language reflecting economic conditions predicts the policy rate. The HD measure is instead based on language explicitly linked to policy preferences, given conditions.



**Figure 3. Policy stance in FOMC meetings: Temporal orientation and conditionality.** Drawing on the textual analysis in [Cieslak et al. \(2026a\)](#), the figure classifies policy sentences from the policy round of FOMC meetings, 1987:08–2019:12, by temporal orientation (future-oriented, focused on current actions, or both) and, within future-oriented statements, by whether the statement involves an explicit conditionality, is an unconditional forecast, or is undetermined.

The forward-looking, conditional component of the stance is where this review concentrates. The next section traces the history of that device, the tilt.

#### IV. The tilt: A short history of a policy instrument

For most of the period we study, the FOMC’s forward-looking stance had a concrete institutional expression in the Committee’s directive to the Open Market Trading Desk at the Federal Reserve Bank of New York. The directive indicated whether future adjustments in policy were more likely in one direction than the other, a feature known internally as the symmetry, tilt, or bias of the directive ([Thornton and Wheelock, 2000](#)). The “tilt” is a focal point for this review as a policy instrument that operated through communication rather than action. Its institutional history revolves around questions that later dominated the forward-guidance debates.

In this section, we analyze that history through the FOMC deliberations, drawing on verbatim transcripts of FOMC meetings between 1976 and 2019. This evolution can be organized in four phases: (i) early years during which forward-leaning asymmetric policy intentions were embedded in the operating specifications of an unpublished

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|         |                                                                                                        |
|---------|--------------------------------------------------------------------------------------------------------|
| 1976    | Asymmetric operating ranges appear in the directive's funds-rate specifications                        |
| 1983    | The tilt formalized as a standard sentence of the directive ("would"/"might" language)                 |
| 1989–93 | Directive contents, including the tilt, occasionally leak to the press                                 |
| 1994:02 | First post-meeting statement announcing a policy action                                                |
| 1998:12 | Decision to issue statements for major shifts in the Committee's views                                 |
| 1999:05 | The tilt publicly announced for the first time                                                         |
| 2000:01 | Balance-of-risks assessment replaces the tilt in the statement (first used after the February meeting) |
| 2003:08 | "Considerable period": the statement begins characterizing the policy path                             |
| 2004    | "Patient"; "measured pace"                                                                             |
| 2008:12 | ZLB reached; qualitative path guidance ("for some time")                                               |
| 2011:08 | Calendar-date guidance ("at least through mid-2013")                                                   |
| 2012:12 | Numerical thresholds tied to unemployment and inflation                                                |
| 2014–15 | Staged removal of "considerable time" and "patient"                                                    |
| 2017–19 | Residual guidance retired; "patient" returns in 2019; balance-of-risks-style language proposed anew    |

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**Table II. The forward-looking stance in FOMC communication: Institutional milestones.** The table summarizes the main changes in how the FOMC formulated and disclosed the forward-looking component of its policy stance. Sources: [Thornton and Wheelock \(2000\)](#), [Kohn and Sack \(2003\)](#), [Lindsey \(2003\)](#), [Dankers and Luecke \(2005\)](#), [Middeldorp \(2011\)](#), and FOMC meeting transcripts.

directive; (ii) a transitional period in which the tilt became a formalized would/might construction whose eventual publication (with a lag) itself became a policy consideration; (iii) the 1998–99 decisions to announce the tilt and then replace it by a balance-of-risks statement; and (iv) the post-2003 era of explicit forward guidance, calendar and threshold commitments, and their staged dismantling thereafter. Table II summarizes the institutional milestones.

The pattern that emerges from the internal deliberations is a stable set of questions asked about an evolving instrument. Across more than four decades the Committee wrestles with similar tensions. What changes is the form of the tilt, its communication with the outside world, and the Committee's growing recognition that the market's reading of its words is itself a force it must manage.

#### *IV.A. An internal device, 1976–1994*

The tilt appears in the record already in September 1976, when the Committee, reluctant to move but wanting insurance against a downside surprise, instructed the Desk to operate on an "asymmetrical principle" within the funds-rate range. The device solved

several problems at once, allowing the Committee to act minimally while positioning for a move and economizing on intermeeting consultations. From 1983 the tilt became a standard sentence of the directive ([Thornton and Wheelock, 2000](#)), and was frequently used. [Lapp and Pearce \(2000\)](#) count 72 directives between 1987 and 1998 that left policy unchanged, of which 27 carried a bias toward tightening and 17 a bias toward easing, and show that a bias raised the probability that the funds rate would subsequently move in the indicated direction.

What exactly the tilt meant was never settled inside the Committee, and the ambiguity was acknowledged. Chairman Greenspan admitted that “we are trying to reflect differing opinions as to how we should view the question of asymmetry. That is an issue we never have been able to resolve among ourselves” (1997:08), having earlier framed the ambiguity as “constructive” (1997:07). Three interpretations circulated, as [Thornton and Wheelock \(2000\)](#) document from the public record and as the transcripts confirm from within. The tilt could describe the Committee’s response to incoming data over the intermeeting period, its assessment of the balance of risks, or the probable direction of the next move. As a fourth function, the tilt also facilitated internal governance, as a way to build consensus by allowing members to express a different policy preference without explicit dissent. [Thornton and Wheelock \(2000\)](#) argue for this consensus-building role, and the deliberations agree. As President Boehne later put it around disclosure debates, the tilt was “a consensus-building tool that has benefited our decisionmaking process and has helped avoid the hardening of positions” (1998:07).

Two features of this internal era deserve emphasis. First, the Committee understood the tilt as an expression of asymmetric risks rather than a forecast. In Greenspan’s formulation, “the symmetry/asymmetry question is really more appropriately a loss function issue. In other words, it does not involve our best guess as to what we think the appropriate policy is, but rather what the consequences are of our taking a position on this matter” (1995:03). The connection between the tilt and risk management, which Section [V](#) develops, was thus present in the instrument’s very design. Second, although the directive was published only after the subsequent meeting, markets treated its contents as valuable policy information. [Belongia and Kliesen \(1994\)](#) document that on eleven occasions between 1989 and 1993 the essence of the directive, including the tilt, was leaked to the *Wall Street Journal* within a week of an FOMC meeting.<sup>8</sup> That the leaks centered on the tilt indicates how much markets valued precisely the forward-looking component of the Committee’s stance.

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<sup>8</sup>The most famous articles were two stories by David Wessel in May 1992 and May 1993 on the FOMC’s decisions to switch to a symmetric directive in 1992 and to an asymmetric tilt toward tightening in 1993. Greenspan was suggested as the likely source of the 1989–1993 leaks ([Cieslak et al., 2019](#)).

The practice of tilting had internal critics within the FOMC. Some warned that unexercised tilts devalue the signal, a concern the staff shared: “frequent shifts to asymmetry without follow-up action could be seen as reducing the value of asymmetry...as a signal, when it is published, of the concerns of the Committee” (Kohn, staff briefing, 1993:11). Others objected on grounds of institutional honesty and, ultimately, credibility. President Syron argued that if markets read the tilt as near-term intent, “it’s plain that it’s intentionally disingenuous and damaging to the institution to be out there saying that we’re leaning toward doing something that we’re not likely to do in the next four, six, or eight weeks” (1993:08).

#### *IV.B. Disclosure, 1994–1999*

The move toward disclosure began in February 1994, when the Committee announced a policy action in a post-meeting statement for the first time. The implications of disclosure for the tilt were discussed from the start. Releasing the directive at once “would involve releasing the symmetries and asymmetries right away and whatever is left of that symmetry/asymmetry flexibility would certainly go away because knowledge of that decision does move markets” (Kohn, staff briefing, 1994:03). The July 1998 discussion explicitly recognized the trade-off. President Broadbent argued that markets “work better when they are not surprised”; Governor Kelley countered that an announced tilt is itself a policy action of uncontrollable size, moving markets “possibly the equivalent of about one-half a policy move or maybe more, but sometimes the market would not react at all. We would never know” (1998:07). In December 1998, the Committee adopted a compromise that set the stage for subsequent disclosure: statements would be issued when the Committee’s *views* shifted significantly, even without an action (Kohn and Sack, 2003).

May 1999 is the pivotal meeting for publicly communicating the tilt. Adopting a tightening tilt under the new disclosure policy, Greenspan concluded that “if we do go to a tilt in this particular environment, I can’t see how we can avoid announcing it.” Kohn’s staff briefing laid out the general point. Once decisions are announced, there is no neutral option; the Committee “cannot leave markets unaffected by its decision today, even if it...makes no change in the stance of policy. Announcing the Committee’s heightened concern about inflation is likely to raise rates; omitting such an announcement is likely to lower them” (1999:05). Members split over whether disclosure enhanced or destroyed flexibility. Vice Chairman McDonough argued, paradoxically, that “by publishing a tilt toward tightening, I think we actually will have more flexibility”; Governor Gramlich noted that in more than half of recent cases an upward tilt had not been followed by a

rate rise; President Jordan objected to the entire construction of conditional signaling, “I am bothered by the idea of saying we have cocked the gun but hope that we don’t have to use it” (all 1999:05).

The announced tilt proved problematic soon after as policymakers worried about markets reading each disclosed tilt mechanically as the next move. By August 1999, participants were openly rejecting the instrument. President Poole’s summary captures the challenge: “I firmly believe that the market is quite unclear about what the symmetry/asymmetry clause means. . . I think we ourselves around this table are unclear about what that clause means” (1999:08). The diagnosis came in December 1999 in Kohn’s staff briefing: “there is a disconnect between the language the Committee votes on in its directive, which specifically references the intermeeting period only, and the meaning that has come to be attached to that language. . . In that sense transparency about your choice of bias might mislead markets about your very near-term intentions” (1999:12). As such, while the tilt was an instrument initially built for internal use, the attempt at transparency had modified its role and impact.

#### *IV.C. The balance of risks, 2000–2003*

In January 2000, the Committee retired the announced tilt and adopted in its place a new sentence of the statement, the balance-of-risks assessment, which described whether the risks were weighted mainly toward heightened inflation pressures, weighted mainly toward economic weakness, or balanced. The new language was designed to shift the object of communication from policy intentions to economic risks and to lengthen the horizon from the intermeeting period to the “foreseeable future” (Kohn and Sack, 2003; Middelcorp, 2011). The reform was judged a partial success. As Vice Chairman McDonough observed, the Committee had convinced markets “that we are in fact looking over the longer run and not from meeting to meeting” (2000:08). While the link between announced risks and expected action was weakened, it was not severed, and the Committee soon identified another problem stemming from the new language. The risk assessment is endogenous to its own announcement. In Greenspan’s words, “we are required to evaluate not only the balance of risks but also what our statement about the risks will do to the outlook, which feeds back on our assessment of what the balance of risks is” (2002:01). The staff drew the practical implication that statements partially substitute for actions; announcing risks toward weakness “would realize a portion of the effects from an easing, without making the immediate commitment” (Kohn, staff briefing, 2000:12). By 2003 the framework’s requirement to summarize offsetting inflation and growth risks in a single assessment was judged unworkable,

and the Committee unbundled the two. From May 2003, the statement assessed the risks to growth and the risks to inflation in two separate sentences.

#### *IV.D. From risk assessment to policy-path guidance, 2003–2019*

The August 2003 sentence that “policy accommodation can be maintained for a considerable period” moved the statement from characterizing risks to characterizing the path itself, a step taken in awareness of its power. “We’ve seen in the last two meetings that our words have been far more powerful than our policy decision in terms of changing markets” (Governor Bernanke, 2003:08). The subsequent history and empirical effects of guidance, through “patient” and “measured pace,” the calendar dates and numerical thresholds of the ZLB years after the global financial crisis, and their staged dismantling in 2014–15 are studied in an extensive literature.<sup>9</sup> What the deliberations add is how consistently the guidance era replayed the prior internal debates of the tilt years. Repetition “hardened” words into commitments; as Governor Gramlich observed of “measured pace,” “the more we move up 25 points per meeting, the more we define what measured is...we are coding that sentence” (2004:11). The vague “substantial improvement” criterion of the 2013 asset-purchase guidance produced an “expectational trap” in which the market’s inferred bar could not be moved (Governor Stein, 2013:05). Removing a formulation was itself a policy action, so that words accumulated in statements across time; in President Mester’s phrasing, “our statements are a little bit like Hotel California—words check in, but it’s hard to get them to check out” (2014:07). In later debates over the statement’s language, the staff drew the historical parallel explicitly, warning that the Committee was “repeating its frustration back in 1999,” when the announced tilt “was read as more predictive of your future action than many of you wanted. That is, markets moved to one of the corners and did not view it as a probability statement” (Reinhart, staff briefing, 2006:03).

The history came full circle by late 2019, when directional guidance was removed from the statement and the case for a forward-looking device returned. At the September 2019 meeting alone, three participants proposed variants of the old solutions. President Barkin recalled that “in the ’90s, we used to communicate two messages: rates and tilt,” in effect describing the tilt as a second policy instrument alongside the rate. President Rosengren preferred “to express a bias toward easing and then to react strongly” if risks materialized. President Mester wanted the statement to “do some of the work—perhaps

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<sup>9</sup>Lunsford (2020) shows that the two kinds of forward-looking language the Committee used in this era moved markets in opposite ways, with guidance about outlook risks generating information effects that guidance about policy inclinations did not. Thus, the distinction between risk assessment and policy intention that runs through the tilt’s history can be measured in asset prices.

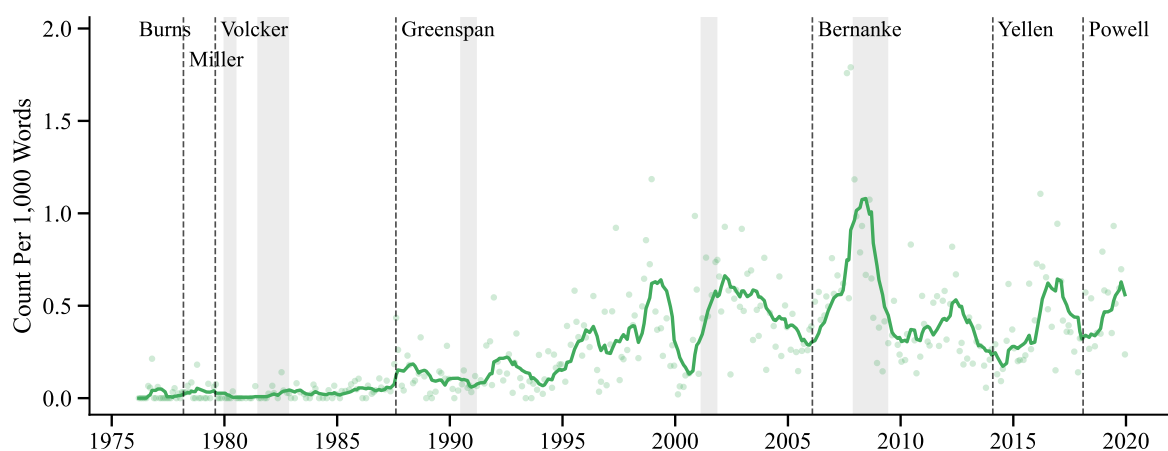
by articulating the risks to our forecast and bringing back a version of the ‘balance of risks’ language” (all 2019:09). As such, the forward-looking stance reappears with the Committee continually looking for an improved formulation. Its measured effects on policy outcomes and on asset prices are the subject of the companion papers to this review (Cieslak et al., 2026a; Cieslak and McMahon, 2024). Here, the historical record establishes the instrument’s function as the Committee itself understood it: a communication device for expressing asymmetric risks, valued for preserving optionality, in an ongoing tension with the market’s desire to read it as commitment.

## **V. Risk management as the driver of the policy stance**

The previous section characterizes the history of the tilt as a policy instrument; this section asks why policymakers use it. As the deliberations reveal and the companion research establishes systematically, the forward-looking stance is the vehicle through which the FOMC manages risks to its outlook. We first trace how the Committee’s thinking about uncertainty and risk evolved over more than four decades, then connect risk perceptions to the tilt. We then return to the 2000 reform, which replaced the tilt with the balance-of-risks statement and thereby made risk management into a public message.

### *V.A. The evolution of the Committee’s risk thinking*

Before any balance-of-risks language existed, policy asymmetry was encoded in the operating ranges for the federal funds rate specified in the directive. The Committee adopted an asymmetric funds-rate band in September 1976, with Volcker, then president of the New York Fed, remarking that “I really don’t look at moving down in the same way I would look at moving up at this stage of the game” (1976:09), and Chairman Burns declaring himself “more concerned about a decline in interest rates than about a rise” (1977:12). The reasoning behind these statements from the late 1970s remains valid in modern times. Members argued about the asymmetric cost of delay, in President Black’s formulation a choice between “a risk of a relatively mild recession in the near future versus a more serious recession down the road” (1978:06), and about which risks policy could and could not remedy. Governor Wallich’s comparative-advantage argument, that “we have more chances of doing something about inflation than doing something about a recession” (1979:03), anticipates by decades the modern view that the stance should lean against the error the Fed can control.



**Figure 4. Counts of risk-related language in FOMC transcripts, 1976–2019.** For each FOMC meeting, we count sentences that contain both an instance of the string *risk\** and the word “upside” or “downside,” normalized per 1,000 words of the meeting transcript. Individual meetings are displayed as dots; the line is the eight-meeting backward moving average. Shaded areas mark NBER recessions; vertical dashed lines mark the start of each Chairman’s tenure. Source: Cieslak et al. (2026a).

What changed over time is the formalization of this reasoning in the risk context and its prevalence in policy deliberations. Figure 4 depicts the intensity of risk-related language in the transcripts. While minimal in the early years, it trends upward from the start of Greenspan’s tenure. By the 1980s, participants separated the probability of an outcome from the cost of the associated policy error. President Corrigan saw upside risks as more probable but noted that if a downside event materialized, “while the probabilities of that may be smaller, the implications are much larger” (1983:02). Which side carries the larger cost varies with circumstances; the durable change is that the cost–probability distinction itself became a routine part of the discussion. Under Greenspan the separation developed into an explicit loss-function logic. The canonical statement came in July 1994, in the middle of the tightening cycle that we revisit below:

If we were to move higher in the next few months and we were wrong because our tightening was more than the economy could take, I think we could adjust and move back down. There would be costs, but I think they would be containable and reversible. . . Merely dealing with that loss function and knowing nothing about the outlook, I think we have to be biased toward restraint.  
— Chairman Greenspan (1994:07)

President Minehan’s later formulation compresses the idea into an essence of the risk-management approach, “these risks seem fairly balanced right now, but I think the costs of being wrong are not balanced” (1997:12). The 1998 easings, undertaken as the Russian default and the near-collapse of Long-Term Capital Management strained financial markets, translated the logic into explicit insurance purchases against “a bad draw from the unpleasantly fat tail of the probability distribution of outcomes” (Governor

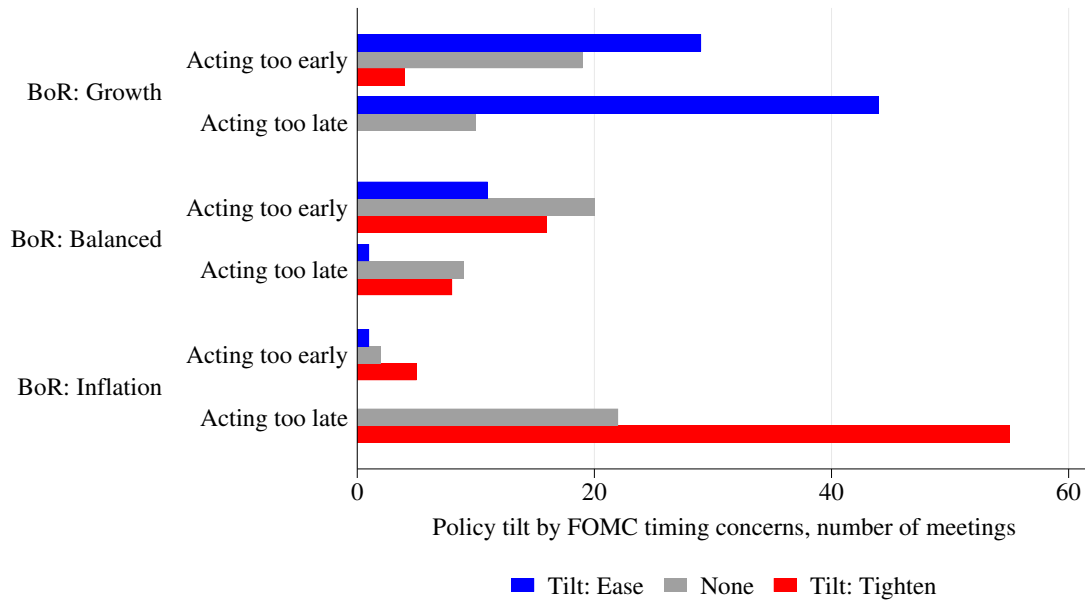
Meyer, 1998:09), episodes that [Evans et al. \(2015\)](#) later documented as evidence that risk management was “old hat” for the FOMC.

The low interest rate regime, and the ZLB in particular, reweighted the importance of inflation and growth tails. While the Volcker- and Greenspan-era loss function leaned against inflation as the harder-to-reverse error, downside misses gained importance as the Committee approached the constraint on easing. Governor Bernanke argued that a one-percentage-point undershoot of the inflation forecast “would be much more costly than a 1 percentage point overshoot” (2003:05), and Vice Chairman Dudley gave the ZLB-era standard: “If we tighten prematurely and push the economy into a ditch. . . that would be far worse than a stronger economy than we expect. . . I know how to respond to that” (2012:04). However, the management of upside inflation risk remained active as well ([Cieslak et al., 2026a](#)). The 2015 liftoff debate ran the two asymmetries against each other. Chair Yellen weighed them explicitly, in September judging the risks of an inflation overshoot “less severe than the risks of moving too soon” (2015:09). In December, the balance tipped the other way, and she argued for a preemptive liftoff, noting that “monetary policy operates with a substantial lag, and waiting to act until we’re closer to achieving our dual objectives risks disrupting the economy in the future because we might be forced to tighten abruptly” (2015:12). By 2019, the logic supported easing as insurance against risks that had not materialized, in an economy near full employment.

Throughout these shifts, the underlying reasoning remains steady. The Committee asks which mistake would be especially costly and what it can do about it, and expresses the resulting asymmetry through the forward-looking stance extending beyond the current action.

#### *V.B. Risk perceptions and the tilt*

The connection between risk perceptions and the forward-looking stance is systematic and measurable. [Cieslak et al. \(2026a\)](#) construct language-based measures of the FOMC’s own uncertainty and tail-risk perceptions from the economy round of the meetings and show that these perceptions, rather than the Fed’s point forecasts, are the primary drivers of the tilt. While risk considerations shape the policy action itself, the tilt is the additional tool through which the Committee manages risks over and above the rate decision. An increase in the FOMC’s perceived inflation uncertainty significantly raises the probability of a tightening tilt. The effect is comparable in size to the response of the tilt to the Greenbook macroeconomic forecasts, and holds after controlling for those forecasts as



**Figure 5. FOMC policy timing concerns.** The figure counts FOMC meetings in which policymakers adopt an asymmetric tilt, conditional on their balance-of-risk assessment (upside inflation and downside growth) and on whether they voice concerns about acting too late or too early. Meeting-level classifications are obtained from the FOMC transcripts, 1987–2019.

well as the current action. Perceptions of downside risk to the real economy operate symmetrically on the easing side. These results establish the tilt as the margin along which the Committee departs from certainty-equivalent policy.

The motive most often voiced for these departures is the avoidance of costly mistakes, and in particular mistakes of timing. Avoiding such mistakes is the essence of preemptive policy—acting before risks fully materialize because waiting makes the error costlier to correct. To illustrate this, in Figure 5, we classify meetings by the balance-of-risk assessment and by whether participants voice concerns about acting too late or too early. The sample starts with Greenspan’s tenure, when the risk discussions become more regular. Asymmetric tilts concentrate in meetings where the Committee worries about being too late in the face of emergent risks, to high inflation on the tightening side and to weak growth on the easing side. The Committee almost never worries about tightening too early when it perceives upside inflation risk, but it does worry about withdrawing accommodation too early when growth prospects are weak, an asymmetry that mirrors the correctability logic of the previous subsection.

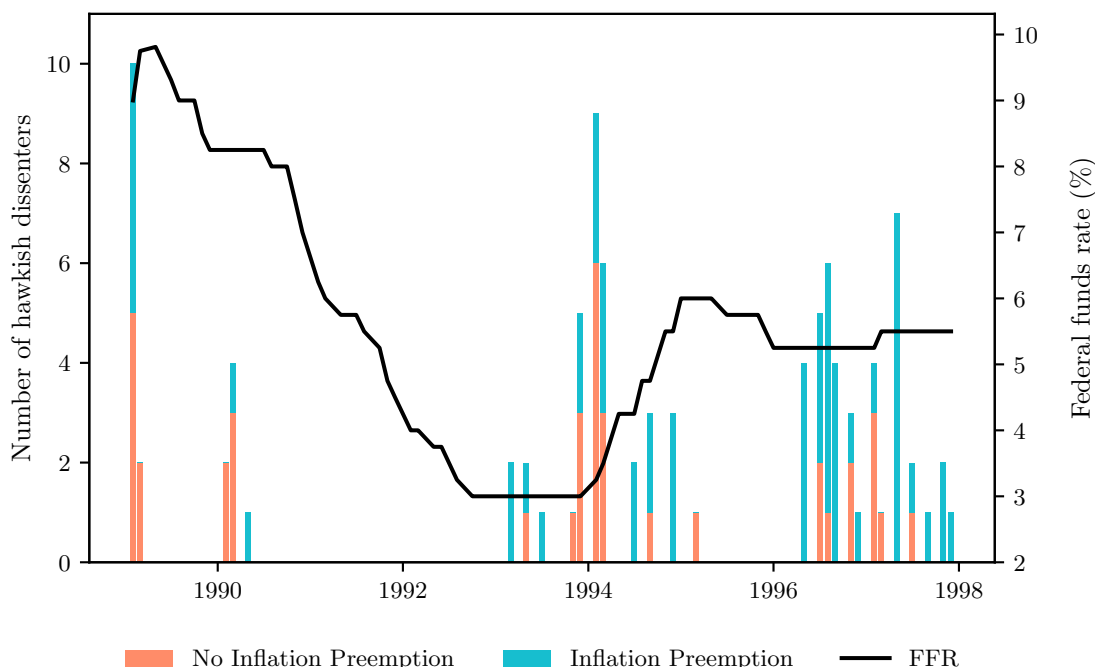
### *V.C. From tilt to balance of risks: Risk management becomes the message*

Viewed against this background, the communication reform of 2000 matters beyond the institutional mechanics of Section IV. When the announced tilt failed in 1999, the Committee did not retreat, but instead chose to replace a statement about its own likely actions with a statement about its assessment of risks to the economy. Kohn's staff briefing framed the replacement as focusing on "what many members of the Committee already saw as the important information it had to impart to markets" (1999:10). The reform thus elevated the risk-management driver of policy into a public message. Governor Ferguson's description of the new statement's purpose is explicit about the insurance logic: "we are warning them—or in some sense maybe comforting them [the public]—that we are awake and alive and if things work out in a certain way, we're prepared to respond" (2000:12).

The published risk assessment thereby became a policy tool, with consequences the Committee debated for the next two decades. Members recognized that announcing a risk assessment partially substitutes for action, that it feeds back on the assessment itself (Section IV), and that markets may read it, despite the intention, as a signal of the next move. As Kohn and Sack (2003) document, statements conveyed information about both the economic outlook and the Committee's policy inclinations, and markets read the balance-of-risks assessment largely as a signal of the latter. The subsequent record shows how seriously the Committee treated the publication of a risk assessment as a decision in its own right. Greenspan declined in November 2002 to publish a downside tilt he conceded might be substantively accurate, in March 2003 the Committee judged the uncertainty too great to publish any assessment at all, and in January 2019 the Committee, rather than tilting the assessment toward the downside, deleted the balance-of-risks sentence altogether. As President Harker observed, stating the increased downside risks explicitly "may generate an overreaction, with the public thinking that we are more worried than we actually are" (2019:01). Risk management, while a consistent factor in policy stance for decades, had over time become inseparable from its communication.

### *V.D. Individual reasoning: Evidence from voiced dissents*

The transcripts allow us to connect the risk-management approach to the reasoning of individual policymakers. Meade (2005) documents that while formal dissents in FOMC votes are rare, members voice substantial disagreement in the meetings. In her 1989–1997 sample, roughly 30% of members express a policy preference at odds with the Chairman's proposal. These voiced dissents are useful precisely because, by



**Figure 6. Preemption arguments for voiced hawkish dissents, 1989–1997.** The figure presents justifications for hawkish dissents by individual FOMC members in the meetings where the Chairman supported no change or an increase in the FFR target rate. Arguments are classified according to whether they contain a preemption-against-inflation argument, i.e., acting to hedge against uncertain future risks even if they are not the most likely scenario. The sample comprises 95 hawkish dissents in voice across 29 meetings, of which 57 contain a preemption argument.

construction, they are not revealed in the current action. There are 163 total dissents in the sample, and dissents for more hawkish policy are much more common than dissents for more dovish policy (130 vs. 33).

What arguments do dissenters bring? We classify the arguments provided in the 95 hawkish dissents voiced at meetings where the Chairman proposed no change or an increase in the target rate. Specifically, we distinguish reasoning based on forecasts of economic conditions from reasoning based on preemption against inflation, i.e., acting to hedge against uncertain future risks even if they are not the most likely scenario. Of the 95 dissents in voice, 57 (60%) contain such a preemption argument. Individual disagreement on the FOMC, in this sample, is disagreement about how to manage risks more than disagreement about the forecast.

The 1994 tightening cycle provides concrete examples of the arguments we identify. This episode is only the second deliberate preemptive tightening in postwar FOMC history (Goodfriend, 2010). In the February 1994 meeting, the FOMC embarked on the cycle by raising the federal funds rate 25 basis points. The meeting features nine dissents in voice, all hawkish. In justifying his argument for a 50 basis point rise, President Broadus

emphasizes price pressures by highlighting “the signs of strength in the economy and the evidence of some nascent upward price pressures,” which is classified as an expectations argument. But his risk-management arguments carry the case for the larger move: “If we don’t move, we would put our credibility seriously at risk because there’s no question really that we need to move,” and “If we don’t, I think we will fall way behind the curve. . . A 0.5 point move, in contrast, would be a decisive move. It would help us get out in front of this thing as it develops.” Governor LaWare similarly wanted 50 basis points to “send an unmistakable message that will damp this enthusiasm in the stock market without causing it to crash.” In the March 1994 meeting, when the FOMC again raised rates by 25 basis points over six hawkish dissents, President Boehne offers the following logic:

We did press hard on the monetary accelerator to get the economy moving, and now as the economy approaches cruising speed we have to ease off the accelerator to avoid having to slam on the brakes down the road.  
— President Boehne (1994:03)

Table III summarizes the policy stance during 1994. While hawkish dissents largely disappear after May, the FOMC adopts a tightening tilt in July and September, keeping rates steady. In November it moves by a full 75 basis points without a tilt, and reverses to the tightening tilt in December while leaving the rate unchanged. The risks are weighted toward inflation throughout. The episode shows the Fed practicing the risk-management approach, with the tilt and the action operating as complements within a single strategy, long before Greenspan (2004) articulated its principles in “Risk and uncertainty in monetary policy.”

| Date   | $\Delta FFR_t$<br>(bps) | Policy Action | Tilt<br>(Directive) | Balance of Risk | # Hawkish<br>Dissenters | # Dovish<br>Dissenters |
|--------|-------------------------|---------------|---------------------|-----------------|-------------------------|------------------------|
| 04 Feb | 25                      | Tightening    | Neutral             | Inflation       | 9                       | 0                      |
| 22 Mar | 25                      | Tightening    | Neutral             | Inflation       | 6                       | 0                      |
| 17 May | 50                      | Tightening    | Neutral             | Inflation       | 0                       | 0                      |
| 06 Jul | 0                       | Unchanged     | Tightening          | Inflation       | 2                       | 0                      |
| 16 Aug | 50                      | Tightening    | Neutral             | Inflation       | 0                       | 0                      |
| 27 Sep | 0                       | Unchanged     | Tightening          | Inflation       | 3                       | 0                      |
| 15 Nov | 75                      | Tightening    | Neutral             | Inflation       | 0                       | 3                      |
| 20 Dec | 0                       | Unchanged     | Tightening          | Inflation       | 3                       | 0                      |

**Table III. Fed policy stance in 1994.** The table summarizes the policy action, the tilt of the directive, and the balance-of-risk assessment at the regular meetings during 1994. An additional 25 basis point increase occurred intermeeting on April 18, 1994. The tilt outcomes are from Thornton and Wheelock (2000); the balance-of-risk assessment reflects the risk discussion in the meeting transcripts. The last two columns report the number of dissents in voice from Meade (2005).

## VI. Asset pricing implications

The evidence reviewed so far indicates that the policy stance extends beyond the current policy rate to include a forward-looking, conditional component. Further, this component reflects the FOMC's balance-of-risk assessments and concerns about errors in policy timing. How do these policy dimensions matter for policy transmission? A natural place to start is with their effect on financial markets, the first stage of the policy transmission (Figure 1). Communication is the primary mode through which these additional policy dimensions transmit to financial conditions and the economy. In this section, we review evidence that the policy tilts significantly affect financial markets. The main idea, developed in [Cieslak and McMahon \(2024\)](#) and [Cieslak et al. \(2026b\)](#), is that the Fed's communication of its stance can both create and reduce uncertainty and thus move risk premia directly.

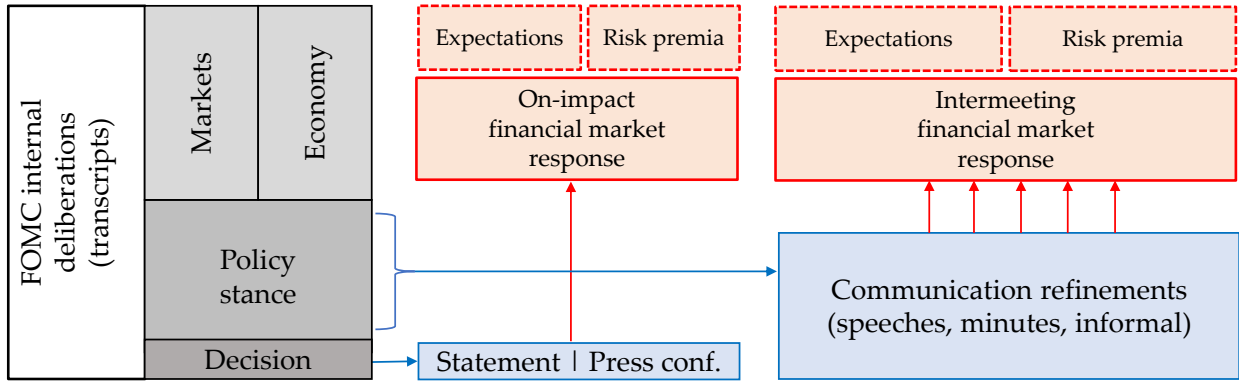
A large literature studies asset-price reactions to the FOMC announcements. The usual approach is to measure monetary policy surprises from movements at the short end of the yield curve in narrow windows around the announcements. This approach reveals unexpected policy rate changes or investors' updates of the expected policy path. [Bernanke and Kuttner \(2005\)](#) and [Hanson and Stein \(2015\)](#) document that short-rate surprises can move risk premia on stocks and bonds on impact.<sup>10</sup> Our discussion departs from that mainstream view in two ways. First, Fed-driven news is not fully captured by realized or expected short-rate surprises and can cause investors to update risk perceptions and risk pricing independently of traditional monetary news ([Cieslak and Pang, 2021](#)).<sup>11</sup> Second, important news from the Fed can and does come out over the intermeeting period, outside of the scheduled announcements ([Cieslak et al., 2019](#); [Cieslak and Pang, 2021](#); [Swanson and Jayawickrema, 2024](#); [Cieslak and McMahon, 2024](#)).

Figure 7 illustrates this broader view of the Fed's transmission onto financial conditions, where the on-impact effect of short-rate surprises is only one of the channels. The deliberations produce a decision, announced in the statement and press conference, but also a broader stance, disseminated through communications between meetings. Both the announcement (on-impact) and follow-on communication (intermeeting) move expectations and risk premia.

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<sup>10</sup>See also [Bekaert et al. \(2013\)](#), [Bianchi et al. \(2022\)](#), [Pflueger and Rinaldi \(2022\)](#), [Kekre and Lenel \(2022\)](#), and [Nagel and Xu \(2024\)](#) for analyses of how short-rate surprises affect risk premia, and [Bauer et al. \(2023\)](#) for a review of this literature.

<sup>11</sup>See also [Cieslak and Schrimpf \(2019\)](#), [Hansen et al. \(2019\)](#), [Kroencke et al. \(2021\)](#), [Bundick et al. \(2024\)](#), [Cieslak and Khorrami \(2025\)](#), [Knox et al. \(2024\)](#), [Boehm and Kroner \(2025\)](#), and [Bianchi et al. \(2026\)](#), as well as [Knox and Vissing-Jorgensen \(2025\)](#) for a recent review.



**Figure 7. The Fed’s stance from deliberations to effects on financial markets.** Communication events generate the news that moves financial markets. The FOMC’s internal deliberations about markets, the economy, and the policy stance produce a decision, announced in the statement and press conference, and a broader forward-looking stance, disseminated through communication refinements between the meetings. Both move expectations and risk premia, the announcement on impact and the stance over the intermeeting period.

To interpret how the stance can move premia, it is useful to broadly distinguish between two types of risk that are priced in financial markets. The first is economic uncertainty that is exogenous to the Fed. The second is *Fed-induced uncertainty*, arising from possible deviations of policy from what markets expect and deem appropriate. Such deviations may stem from Fed–market disagreement about the economy (Caballero and Simsek, 2022; Sastry, 2026) or from the market’s belief that the Fed can err in its response (Cieslak and McMahon, 2024; Cieslak et al., 2026b). The distinction matters because the second source is under the Fed’s control, in the spirit of what Cecchetti and Schoenholtz (2021) describe as “in conducting policy, there is one uncertainty that policymakers can and should reduce: the uncertainty they themselves create.” The Committee can reduce uncertainty, but its communication can equally create it.

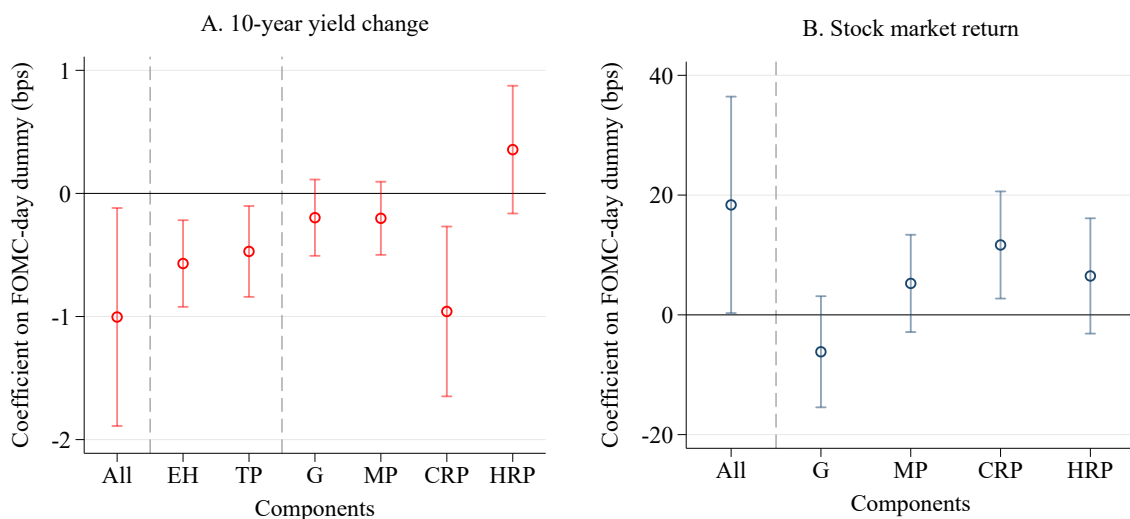
While both economic uncertainty and Fed-driven uncertainty enter the compensation investors require, their asset pricing implications differ. The difference makes them separately measurable from asset prices such as stocks and Treasury bonds. Economic uncertainty produces flight to safety: the premium on stocks rises while the premium on long-term bonds falls, as bonds hedge equity cash-flow risk. Fed-induced uncertainty instead moves the premia on stocks and bonds in the same direction, as a common discount-rate effect. Cieslak and Pang (2021) use this difference to decompose asset-price news with sign restrictions on the comovement of stock returns and yields. The  $n$ -year yield splits into short-rate expectations (the expectations hypothesis component) and the term premium,  $y^{(n)} = EH^{(n)} + TP^{(n)}$ . Within expectations, the decomposition separates monetary news ( $MP$ ) from growth news ( $G$ , absorbing Fed information effects), and

within the term premium, *common-premium* news (CRP) from *hedging-premium* news (HRP). The common premium is the empirical reflection of Fed-induced uncertainty, while the hedging premium captures the pricing of economic uncertainty.

The effects of the Fed on risk premia are multifaceted and economically meaningful. We begin with the on-impact responses at the announcement. Figure 8 updates the announcement-day evidence of Cieslak and Pang (2021) through 2024:12, covering 248 scheduled announcements from 1994, when the Fed began announcing its decisions. On average, long-term yields decline and the stock market rises on FOMC days. The decomposition attributes a part of these moves to the Fed easing slightly more than expected. However, the largest contribution comes through the common risk premium, with the ten-year bond returning about ten basis points and the stock market about twelve basis points on average. The hedging premium is insignificant at about half the common-premium magnitude, while average growth news is close to zero, i.e., there is no systematic information effect in one direction.

The Fed's impact on the risk premium carries over to the forward-looking policy stance, beyond immediate action. Paralleling the facts summarized in Section III, Cieslak and McMahon (2024) establish that a shift toward a tightening tilt predicts a significant reduction in the term premium over the intermeeting period. Importantly, the effect is again concentrated in the common-premium component. The result is robust across tilt measures, from the language-based stance to the tilt of the directive, and holds controlling for the Fed's economic forecasts and the current and lagged policy rate. The magnitude of the common-premium reduction is significant, on the order of 20% of the intermeeting volatility of the ten-year yield. Two additional features underscore that the effect works through communication. First, consistent with dissemination through speeches, minutes, and informal channels, the effect accrues over roughly three weeks following the meeting rather than at the announcement. Second, the effect is asymmetric across tightening and easing. Tightening tilts, adopted when risks point toward inflation and the Committee worries about falling behind the curve (Figure 5), carry credibility news that reduces policy uncertainty and compresses the premium. Easing tilts carry little credibility news; they operate mainly through the expected path of rates, which is the margin an easing Fed intends to move.

Together, the two sets of results map onto the on-impact and intermeeting pathways of Figure 7. They demonstrate that the Fed's forward-looking stance has a measurable footprint in the asset prices that the Fed ultimately aims to affect. The announcement resolves part of the stance uncertainty on impact, whereas learning about the reaction function from the forward-looking tilt takes multiple rounds of communication, moving



**Figure 8. Average ten-year yield changes and stock returns on scheduled FOMC days.** The figure plots the average change on scheduled FOMC days relative to all other days, along with 95% robust confidence intervals, over 1994:01–2024:12 (248 scheduled announcements, 8087 days), updating [Cieslak and Pang \(2021\)](#). Estimates are in basis points. Panel A shows the ten-year yield change: overall (All), attributed to short-rate expectations (EH) and term premium (TP) using the [Kim and Wright \(2005\)](#) decomposition, and further attributed to growth (G), monetary (MP), common-premium (CRP), and hedging-premium (HRP) news using the [Cieslak and Pang \(2021\)](#) decomposition. Panel B shows the overall stock return and its decomposition.

term premia between the meetings.<sup>12</sup> Whether this influence has always been used successfully is a historical question, to which we turn next.

## VII. Communication in action: Successes and challenges

In light of the Fed’s goal to keep long-term interest rates moderate and stable, the results of the previous section read as evidence of success. By using tilts to communicate its willingness to tighten if needed, the Fed stabilized long-term rates and was able to ease policy without runaway term premia. However, communication of a forward-looking, conditional stance is not without its challenges. As [Bernanke \(2015\)](#) warned, “the cost of sending the wrong message can be high.” We now turn to specific episodes in which the Fed used communication to manage the public’s risk perceptions, one where it succeeded and one where prices turned against its intentions.

<sup>12</sup>The hedging-premium effect suggests the Fed could also affect the market’s pricing of economic uncertainty. [Cieslak and Khorrami \(2025\)](#) interpret such effects as violations of long-run monetary neutrality in asset prices and show they are frequent, especially under unconventional policy.

### *VII.A. Greenspan's productivity miracle*

The second half of the 1990s, the period of the “productivity miracle,” illustrates how the Fed can successfully manage risk perceptions with tilts. Faced with a booming economy, Greenspan’s Fed resisted tightening, on the belief that the economy’s productive capacity had expanded, while reassuring the public that it would correct any potential errors (see also [Gorodnichenko and Shapiro \(2007\)](#) for an analysis of this period). The policy rate stayed nearly flat,<sup>13</sup> but the Committee tilted toward tightening at most meetings between 1996 and 1999.<sup>14</sup>

Figure 9 zooms in on the term premium over this period, plotting the cumulative ten-year term premium against the tilts in the directive.<sup>15</sup> The sequence of hawkish tilts coincided with a progressive term-premium decline of about 90 basis points between July 1996 and September 1998. The decline was interrupted when the Committee issued its sole easing tilt of the period to manage the risks around the turbulence in global markets and the near-collapse of LTCM (the insurance easing of 1998 described in Section V). Term premia began to rise shortly after, until the Fed reversed back to the tightening tilt in 1999. The episode suggests that holding rates steady through 1997–1998, absent the tilts, would have resulted in higher term premia and tighter financial conditions.

### *VII.B. The post-2020 period and the 2020 framework*

While the late 1990s are a positive example, the post-2020 period provides a cautionary tale of how managing risks can also turn asset prices against the Fed’s intentions.<sup>16</sup>

In August 2020, during the Covid-19 pandemic, the Fed announced a significant revision of its monetary policy framework, introducing two key elements: flexible average inflation targeting and an asymmetric focus on employment shortfalls. In contrast to the earlier policy conduct, the framework was focused primarily on managing downside risks in the face of negative demand shocks. The intention was to create a policy buffer

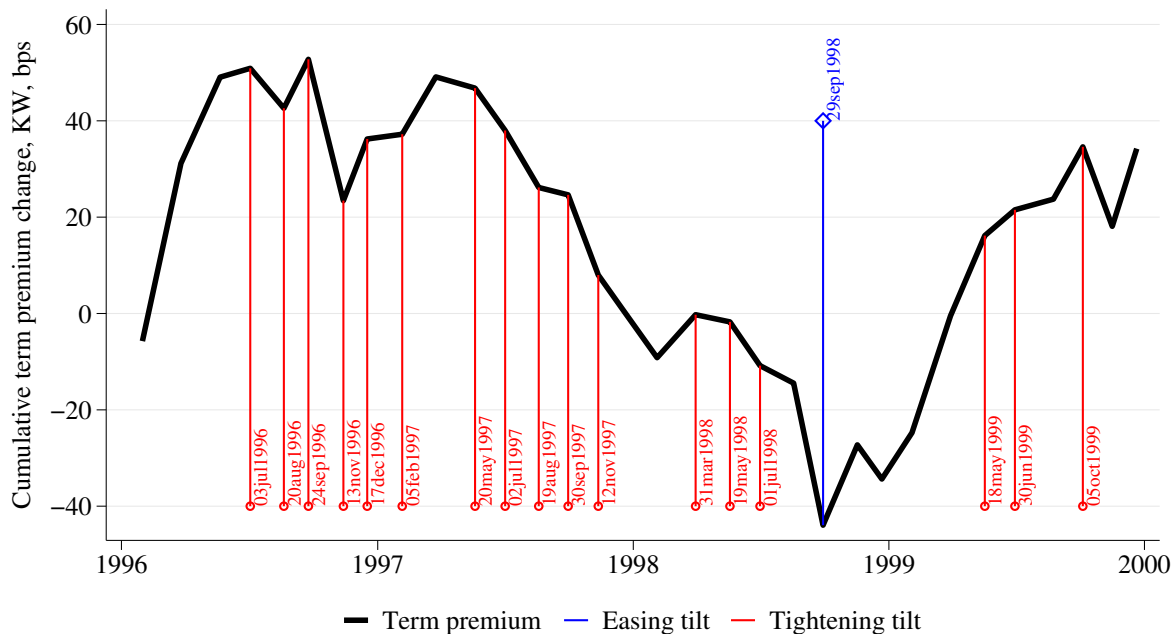
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<sup>13</sup>Between 1997 and September 1998, the policy rate increased only once, by 25 basis points to 5.5% in March 1997.

<sup>14</sup>At the same time, the Fed was actively debating the formal disclosure (Section IV.B). The tilt of this period was not yet announced, but it was not secret. The directive and its symmetry language became public with a lag in the minutes released after the subsequent meeting (Section IV), and the Chairman’s testimony and speeches revealed the stance in the meantime. The gradual, intermeeting accrual of the tilt’s premium effect discussed in Section VI mirrors this mode of dissemination.

<sup>15</sup>The common-premium component of the [Cieslak and Pang \(2021\)](#) decomposition shows a similar pattern.

<sup>16</sup>See, e.g., [Cieslak et al. \(2026b\)](#), [Bocola et al. \(2024\)](#), and [Bauer et al. \(2024b\)](#) for analyses of this period.



**Figure 9. Term premium and the tilt in the productivity-miracle period, 1996–1999.** The figure, based on Cieslak and McMahon (2024), plots the cumulative ten-year term premium from 1996:01 to 1999:12 using the Kim and Wright (2005) decomposition. The term premium is normalized to zero at the end of 1995. The vertical lines mark meetings with a tightening or easing tilt in the FOMC’s directive.

for times when the Fed is constrained by the ZLB. As part of the new strategy, the Fed would abandon the preemptive approach it had relied on in the past, the hallmark of its historical risk management documented in Section V. It would instead let inflation run above target, aiming for an average rate of 2% over time. Forceful forward guidance added in late 2020 successfully communicated the intention of lower-for-longer at a time when the recovery warranted such a policy, but it reinforced the framework’s one-sided focus and made its escape clauses harder to invoke when they became necessary (Eggertsson and Kohn, 2023; Meade, 2023). Ultimately, the framework was tested on a scenario different from the one it was designed for.

Figure 10, adapted from Cieslak et al. (2026b), traces the aftermath in the yield curve data. Short-rate expectations remained anchored at the ZLB through most of 2021, in line with the Fed’s intentions. Still, financial conditions began to tighten through the term premium, which rose markedly from late 2020 and, by the time of the first large hikes in mid-2022, had cumulated its largest increase since the 1994 tightening cycle.

Cieslak et al. (2026b) interpret the episode through the lens of Fed-induced uncertainty. The 2020 framework introduced uncertainty about how the Fed maps the economy into policy—the reaction function—while also suspending the management of upside inflation risk. Market concerns about policy mistakes amid adverse inflation news drove



**Figure 10. Short-rate expectations and term premia, 2020–2023.** The figure, adapted from [Cieslak et al. \(2026b\)](#), reports the ten-year term premium and the two- and ten-year short-rate expectations components of the nominal yield curve, based on the [Kim and Wright \(2005\)](#) decomposition. Vertical lines mark selected events (JH denotes the Jackson Hole Economic Symposium). Cumulative changes are normalized to zero on August 27, 2020, the day of the framework announcement.

term premia up, undermining the easy financial conditions the Fed initially sought. Importantly, the effects of reaction-function uncertainty that [Cieslak et al. \(2026b\)](#) document are state-dependent, becoming especially large when inflation deviates from the target, which is precisely what happened after 2020. The subsequent shift toward consistently more hawkish communication from the second half of 2021, followed by the policy tightening in 2022, reestablished the Fed’s commitment to fighting inflation, helping stabilize term premia and mitigate the impact of adverse macroeconomic news on long-term yields. The reversal was completed in the 2025 framework review. Recognizing the uncertainty it created, the Fed removed the makeup strategy and the shortfalls asymmetry, effectively returning to the preemptive risk management of the past.

More broadly, prolonged periods of low interest rates can raise investors’ concerns that the Fed is overstimulating the economy, increasing perceived risks around the future policy path and, with them, risk premia. The evidence reviewed here suggests that the Fed can manage this uncertainty by expressing its readiness to stabilize inflation and the output gap should the need arise. This reassurance is what the tilt carries, signaling that the Fed is monitoring for signs of errors and that any policy mistakes are unlikely to persist.

## VIII. Lessons and directions

More than four decades of FOMC deliberations tell a consistent story. The policy stance that emerges from the transcripts is forward-looking, conditional, risk-sensitive, and increasingly aware of its external audience in financial markets. While formalized during the Greenspan era, risk management appears as the Committee's constant mode of reasoning. Its incipient logic is seen in the "asymmetrical principle" as early as 1976, and later in leaning against the error the Fed can control, taking out insurance, and loss-function rationalization. The first lesson, then, is that the Committee has managed risks throughout the period we study. What changed is how explicitly it reasoned about them and how much of that reasoning it communicated to the public.

The second lesson is that although policy tools have evolved, the tensions surrounding risk management have remained steady as the Committee wrestled with recurring questions. Does stating a tilt commit the Committee or preserve its flexibility? Does the public hear a risk assessment and conditionality or a policy promise? Does openness about risks stabilize expectations or unsettle them? The concerns about the market's mechanical reading of the announced tilt in 1999, the expectational trap of the 2013 asset-purchase guidance, and the post-2020 tension between forward guidance and escape clauses reveal the same difficulties in communicating a forward-looking, conditional policy stance.

For the design of policy frameworks, the history carries three insights. First, a device for expressing asymmetric risks short of action tends to re-emerge even after being retired, as the 2019 proposals to revive tilt-like language illustrate. If such a device is bound to return, deliberate design is preferable to letting it develop ad hoc. Second, the recurring issue of such devices is the conflation of risk assessment with policy intention. The balance of risks, introduced to solve this problem, faced its own challenges. A future formulation needs to address whether and how to separate what the Committee merely fears from what it plans to do in a given scenario. Third, asymmetric frameworks interact with uncertainty about the reaction function. The 2020 framework's one-sided focus, adopted to manage downside risk, itself became a source of the uncertainty that risk management seeks to reduce. The 2025 return to preemption suggests the lesson has been internalized.

The research agenda that this evidence opens is broader than the papers underlying this review. The transcripts make policymakers' subjective risk perceptions measurable, extending a line of work that uses the deliberations to study how policy committees decide ([Hansen et al., 2018](#); [Cieslak et al., 2026a](#)). How the stance transmits from the

meeting to the market is a second front, with speeches and testimony increasingly recognized as first-order policy events (Swanson and Jayawickrema, 2024; Cieslak and McMahon, 2024). How clearly the public can infer the reaction function, and when that clarity matters most, is a third important aspect (Bauer et al., 2024a; Cieslak et al., 2026b). Beyond these, two directions are especially pertinent. A natural one is tracing the effects of the communicated stance past financial conditions to macroeconomic outcomes. The other is comparative analysis. The tensions documented here are not specific to the Federal Reserve. Using the deliberations of other central banks as laboratories, including those with a long history of inflation targeting like the Central Bank of Chile, will lead to valuable insights.

Between the “asymmetrical principle” of the early years and the proposals to revive the tilt in 2019, the language of the forward-looking stance changed substantially, but the reasoning behind much less. That stability is the key fact the transcripts reveal. Whatever the next device is called, the Committee will use it to buy insurance with words, which the market will be tempted to read as a promise.

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