# John Taylor and Taylor Rules in Policy

# Introduction

Volker Wieland

I traveled in from Europe yesterday. There is a lot of good news. In Germany, we have a new chancellor. The world has a new pope, who hails from America. And here we all have John Taylor.

I am very grateful to the organizers that I can participate in the celebration in honor of John Taylor. And I feel very honored to moderate this morning's first panel on John Taylor and Taylor rules in policy at the Hoover Monetary Policy Conference on Finishing the Job and New Challenges.

In a way, this panel is part of both events: yesterday's event to honor John's path-breaking and highly influential contributions to economics as a science and to economic policy as a science and an art, and today's event that dives into current challenges for central banks around the world.

It was an amazing conference day yesterday, which gave justice to the wide range of fundamental scientific contributions by John Taylor to monetary economics: the modeling of the macroeconomy, price and wage rigidities, methodological advances to solve and estimate macro models with rational expectations (and with learning, I may add), finance and asset pricing, international monetary and fiscal policy interaction, and prominently for us today, rules for monetary policy (and I may add, fiscal policy). So those of us who are on the annual mailing of the Swedish committee [the Royal Swedish Academy of Sciences], let's make sure to get that message across to them, too.

But there was more, as the many students and friends of John gathered and shared their views on his work and their experiences with him as a human being. In my humble view, no matter how important or unimportant we are in the eyes of society at large, what really matters is how we live our lives and deal with all the human beings around us. Right on the first panel yesterday, Andrew Levin spoke about these aspects of John Taylor, and he spoke about stewardship and how to be a good steward. It was moving to hear throughout the day what everyone shared about John in this regard. And I could also testify to that.

So today, we start with Taylor rules and their use in policy. We have an amazing list of six speakers, which leaves us little time, about ten minutes each. We start off with John Williams, a student of John's and one of the world's most influential central bankers today, as a Federal Open Market Committee [FOMC] member and head of the New York Federal Reserve Bank, implementing US monetary policy. Then, Agustín Carstens, general manager of the Bank for International Settlements. Both sent videos. Then, here with us in person, are Christopher Waller, currently a governor at the Federal Reserve Board; Loretta Mester and Charles Plosser, who previously served as Federal Reserve Bank presidents and on the FOMC; and last but not least, Kevin Warsh, formerly also a governor on the Federal Reserve Board.

Personally, I was also a student and research assistant to John Taylor at Stanford University from 1992 to 1995, together with John Williams. When I moved to the Board of Governors in Washington, DC, as a young economist, Taylor rules were a hot topic. I immediately got involved in preparing material for the policy meetings of the governors using Taylor rules. Other people involved in this at the time included John Williams, Andrew Levin, Athanasios Orphanides, David Small, and David Wilcox. We were working under the early leadership of Donald Kohn, Peter Tinsley, Dale Henderson, Richard Porter, Dave Lindsey, and others. And once the Fed started actual communication following its decisions in the 2000s, the first verbal framework already followed the format of the Taylor rule.

I could tell some anecdotes about Alan Greenspan and the staff working on policy rules, but there is no time. We are moving from the history of economic thought and economic policy to today's challenges. And to briefly set up this discussion, let me show you one slide [see figures A and B] with Taylor rules and Fed and European Central Bank [ECB] policies since 2018.

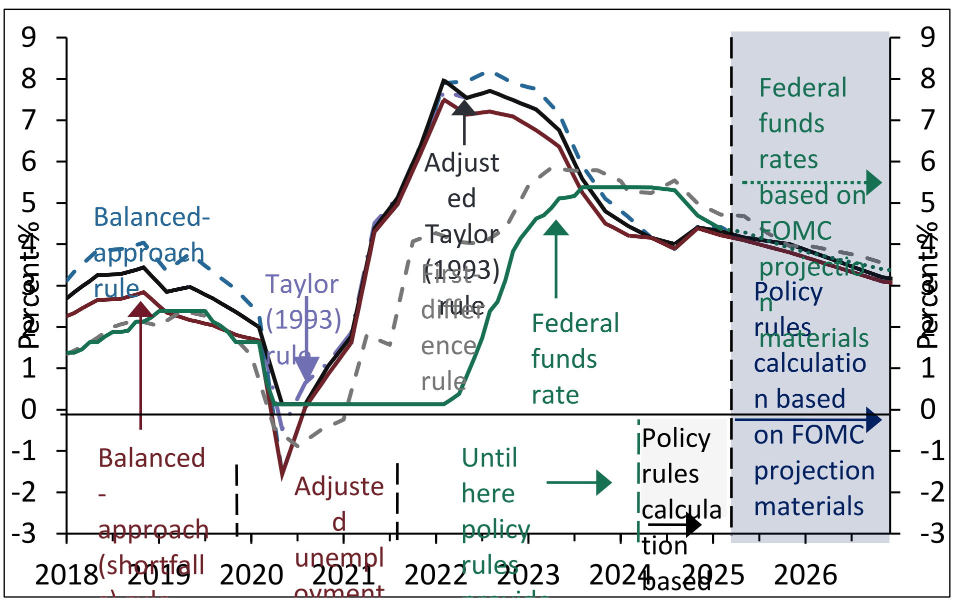


Figure A: Taylor rules and Fed policy (US).
Source: Balint Tatar and Volker Wieland, "Taylor Rules and the Inflation Surge: The Case of the Fed," CEPR Discussion Paper No. 18910, March 2024.

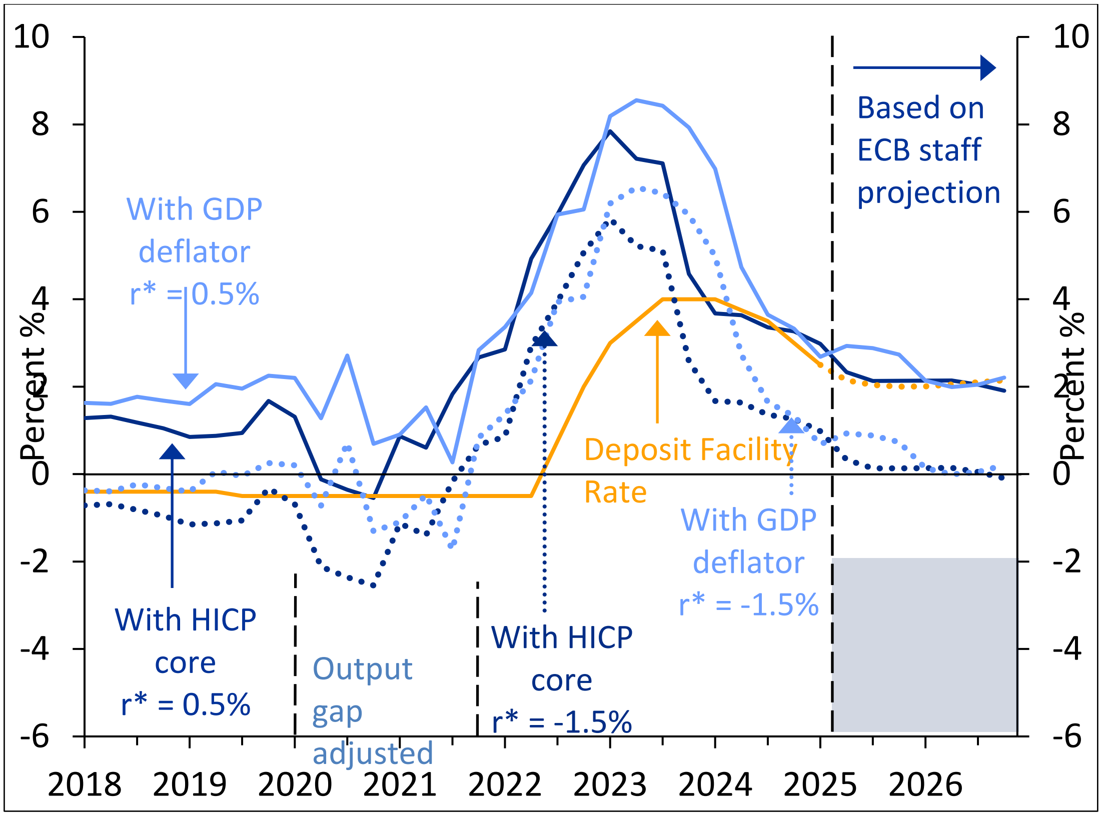


Figure B: Taylor rules and ECB policy (euro area).
Source: Balint Tatar and Volker Wieland, "Policy Rules and the Inflation Surge: The Case of the ECB," *Economics Letters* 252 (June 2025).

You can see in figure A for the United States and in figure B for the euro area that a range of Taylor rules gave clear signals for the need for policy tightening from 2021 onwards, and signals for policy easing from mid-2023 onwards. Recently, policies were quite in line with those prescriptions, and we hope to find out more about the likely steps ahead and the guidance from Taylor rules for practical policymaking and institution building with this first panel and today's event.

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# Celebrating John Taylor

John C. Williams

Hello, everyone. I wish I were back on the Stanford campus with you for this wonderful occasion, celebrating my mentor, advisor, and dear friend John Taylor.

I am so glad to have the opportunity to share my experience learning from one of the great economic thinkers and scholars of our time. Now, it's worth noting that John has had not one, not two, but three fundamental concepts in monetary economics named after him: the Taylor principle, the Taylor curve, and, of course, the Taylor rule.

In addition, John has consistently emphasized the need for approaches to monetary policy that are robust to the myriad uncertainties we face. Indeed, this quest for robustness was the frame by which John identified what became known as the Taylor rule.

Now, I arrived at Stanford University in 1989 as a budding economist. John became my advisor and hired me as his research assistant. And it was an extraordinary privilege to have those two most-wanted positions. It was a critical and exciting time to be thinking about economic policy. Of course, that's a line that I've had occasion to repeat many times since.

During that period, with the advent of inflation targeting, the practice of monetary policy was on the cusp of a revolution. At the same time, John and others were reexamining the theory and evidence behind the ways that policymakers could consistently deliver low and stable inflation in the post–Bretton Woods era.

My role in all of this was running multicountry model simulations for John's book *Macroeconomic Policy in a World Economy*, which led the way for John's great work "Discretion Versus Policy Rules in Practice." This article brilliantly synthesized theory and experience to yield clear prescriptions for good policy, and it informed my career in so many ways.

What I learned then, and something I've carried with me for over three decades, is the importance of connecting theory and practice. The theories that shape good policy are derived from the experiences of the past, and they create the lessons for the future. It's a principle that I return to constantly, and it's something I impart to others.

The power of great mentorship—in our world of economics, especially—is an equally important lesson from my time with John. This conference is a testament to how his thinking and teaching have led to pivotal transformations in central bank policymaking and to informing generations of economists. So, John, congratulations on a truly revolutionary career, and thank you.

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# John Taylor: A Reflection

Agustín G. Carstens

It is a true pleasure to be part of this special occasion honoring my good friend and esteemed colleague John Taylor. John's academic contributions to central banking and international finance are monumental. But what stands out just as much to me is his valuable career in public service and his dedication to upholding sound principles in policymaking.

His impact extends far beyond academia. He has been a guiding force in shaping policy frameworks that have stood the test of time. Today, I want to share some personal stories that highlight just how impactful John has been in all these areas.

I have had the privilege of knowing John for many years, and our paths have crossed at some of the most important moments in global economic policy. We first worked closely together when we were both undersecretaries at our respective finance ministries—John in the United States and I in Mexico—in the early 2000s. That period was marked by critical challenges in global finance. I was fortunate to witness firsthand John's ability to navigate these challenges with clarity and conviction.

One of the first major issues we worked on was sovereign debt restructuring for emerging markets. At this time, emerging markets had faced two decades of recurring debt challenges, typically resulting from macroeconomic imbalances. The first was in Mexico in 1982. This was followed by a wave of crises across Latin America. In the late 1990s, the East Asian financial crisis underscored the vulnerability of even seemingly high-performing emerging markets to sudden capital flow reversals. In 2001, Argentina experienced a dramatic default.

The need for a formal framework for sovereign debt restructuring was widely acknowledged. But identifying the right mechanism had proved to be a challenge. The International Monetary Fund (IMF) had a proposal, known as the sovereign debt restructuring mechanism (SDRM). This proposal had merit and could have provided a more orderly and predictable process for managing sovereign defaults than what existed before. But both the United States and Mexico had concerns about its rigidity and its implications for national sovereignty.

Rather than simply opposing the idea, John played an instrumental role in advocating for a better alternative: enhancing collective action clauses in sovereign bond contracts. Unlike the SDRM, which centralized decision making under an international mechanism, collective action clauses allowed bondholders and sovereigns to negotiate restructuring terms directly. As a result, they fostered market-based solutions while preserving discipline. Mexico was one of the first countries to implement collective action clauses in its sovereign bonds, setting an important precedent that has since been widely adopted.

Beyond his work at the US Treasury Department, John's academic contributions have also had a profound real-world influence on the conduct of monetary policy, including in emerging markets. His Taylor rule became a cornerstone of modern monetary economics, giving central banks a clear, rule-based framework for responding to inflation and output fluctuations. Although best known for its application to the analysis of US monetary policy, the Taylor rule, in my view, may have been even more influential and valuable in emerging markets, where it was a powerful tool for central banks seeking to build credibility and enhance the effectiveness of their monetary policies.

The Taylor rule and inflation targeting both emerged in the early 1990s. Before then, many emerging market central banks faced macroeconomic imbalances and often operated under policy frameworks that frequently lacked consistency. The traditional nominal anchor for many of these economies at the time was a fixed, or highly managed, nominal exchange rate. But this anchor was proving increasingly unviable in a world of globalized trade and finance. Inflation targeting held the promise of delivering something better. It sought to establish a firm nominal anchor for the economy, creating the necessary conditions to enable greater exchange rate flexibility and providing a convincing rationale for central bank autonomy.

However, central banks that adopted inflation targeting, particularly in countries with a history of high inflation, still faced the challenge of establishing their credibility. Why should businesses, households, and financial markets believe the banks' commitment to keeping inflation low?

In this context, the Taylor rule was a powerful tool. The Taylor rule provided a systematic approach to assess the appropriateness of interest rate setting based on inflation and economic activity. This helped central banks enhance transparency, reduce uncertainty, and strengthen market confidence. All these benefits contributed to the successful implementation of inflation-targeting regimes and helped reduce inflation from high levels by anchoring inflation expectations.

Nevertheless, at times, central banks in emerging markets, including Banco de México, had to adapt their monetary policy frameworks to overcome challenges posed by volatile capital flows and currency fluctuations. Most central banks in these jurisdictions adopted flexible exchange rate regimes. But the depth and functioning of foreign exchange markets could not always be assured, particularly during crises. Many of these central banks, therefore, established frameworks that allowed the exchange rate to act as a “shock absorber” and source of market discipline most of the time.

However, we still retained the option to intervene when markets were particularly thin, especially when sharp exchange rate depreciation threatened our inflation target and the anchoring of inflation expectations.

The Great Financial Crisis, the zero lower bound, and unconventional monetary policy in advanced economies were further game changers. The effects of US monetary policy became even more pronounced. This enhanced the role of exchange rates and capital flows for monetary policymaking in emerging market economies. For many emerging markets, including Mexico, this meant facing a flood of capital inflows when rates were low and capital outflows when tightening cycles began. In this context, these jurisdictions had to balance the need for domestic policy autonomy with the reality of global financial integration. The Banco de México adapted its Taylor rule benchmark to account for these global dynamics by introducing the US shadow rate, which better reflects the monetary policy reaction function.

John’s work gave us a strong foundation, and we built upon it in ways that reflect the realities of emerging markets. That’s a testament to the strength and flexibility of his ideas.

The Taylor rule was also a valuable addition to the analytical toolkit of international institutions, like the Bank for International Settlements (BIS). There, it provided us with a convenient metric to assess and summarize the conduct and stance of monetary policy across our sixty-three members.

Even today, more than thirty years after John first proposed it, the Taylor rule remains the starting point for much of our analysis of real-world monetary policy at the BIS. For example, in our most recent edition of the *Quarterly Review*, published just a few months ago, my colleagues Boris Hofmann, Cristina Manea, and Benoit Mojon (2024) used modified Taylor rules to show that central banks in advanced economies typically respond much more strongly to inflationary pressures driven by changes in aggregate demand, than they do when inflation results from changes in aggregate supply. Needless to say, this topic is particularly relevant in the aftermath of the pandemic-induced inflation surge.

The work was innovative and featured some cutting-edge econometrics. And yet, because it was couched in terms of a Taylor rule, its conclusions were easily understood and absorbed by policymakers. In a sense, the Taylor rule provided a common language to make technical vocabulary understandable for those in the trenches of day-to-day policymaking.

John, I want to personally thank you not only for your intellectual contributions but for your friendship and your unwavering commitment to fostering cooperation. Your impact on monetary policy and international finance is immeasurable, and I, along with many others, have benefited greatly from your wisdom. You have made a difference that will endure for generations.

It’s an honor to celebrate you today, and I look forward to many more conversations and collaborations in the years to come.

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# 3

# Thank You, John

Christopher J. Waller

Thank you, Volker [Wieland], and thank you for the opportunity to speak to you today.

John Taylor is deservedly well known for his work on monetary policy rules, the best known of which bear his name. But in the early 1980s, John was part of a broader discussion about rules versus discretion in the setting of monetary policy.

The traditional argument for discretionary monetary policy was that any policy choice that a rule would recommend could be replicated by discretion, especially when policymakers are aware of the rule, but not vice versa. Discretion allowed more flexibility than a rule and thus was the dominant strategy for setting monetary policy.

Then, in 1977, Finn Kydland and Ed Prescott published their paper "Rules Rather than Discretion: The Inconsistency of Optimal Plans," which argued that policy promises made today may not be carried out in the future if there are advantages to reneging on those promises (Kydland and Prescott 1977). Reneging on promises made by discretionary policymakers, they argued, is much easier than reneging on a policy rule, which is a way to commit to future actions.

Kydland and Prescott provided a simple and appealing model at the end of their paper. The model had an incentive for the central bank to renege on its promise to keep inflation low, since doing so would expand the economy and lower unemployment. If rational agents knew of this incentive, they would not find the promise of low inflation credible and would therefore raise their expectations for future inflation. The central bank would then have to validate those expectations with higher inflation to avoid a recession. In the end, the economy ends up in a high-inflation equilibrium with no gains from higher output or lower unemployment.

Kydland and Prescott then showed that if, on the other hand, the central bank could commit to following a rule to set policy, then it could not renege on its promises. As a result, inflation would stay low while yielding the same outcomes for output and employment. In this case, rules beat discretion. This was pathbreaking research, and it came to influence both the theory and practice of central banking. It was also part of the basis for Kydland and Prescott's Nobel Prize in Economics in 2004.

But commitment to most things in life is easier said than done. Even rules can be abandoned if it is optimal to do so. In the absence of commitment, can the central bank do anything to enhance the credibility of its promise to keep inflation low?

In 1983, Robert Barro and David Gordon used the Kydland–Prescott example to study reputation building by the central bank (Barro and Gordon 1983). The basic idea is to establish a reputation for fulfilling promises. But what promises can be made in a discretionary world that the public would find credible? They showed that promising the low-inflation outcome wasn't credible. However, the central bank could promise an inflation rate that was between the low-inflation equilibrium and the high-inflation equilibrium. If private individuals expected this intermediate inflation rate, then the gains from reneging would be reduced just enough to dissuade the central bank from breaking its promise. Consequently, promises to deliver this intermediate inflation rate were credible, and society was better off than it would be in the high-inflation world, showing that credibility really mattered in a world where commitment was not feasible.

I now introduce John Taylor and his work into the story, which coincided with the beginning of my own research career.

In 1983, having read the Barro and Gordon paper, I started working on reputation-building strategies as part of my PhD dissertation research. In the process, I was struck by the thought that the building of credibility and reputation hinges on the person setting monetary policy at the time: If that person leaves, does the central bank have to start over to rebuild its credibility? At the time, I had in mind [former Federal Reserve Chair] Paul Volcker, whose personal credibility seemed so crucial in the Federal Reserve's campaign to vanquish high inflation. Relying on the credibility of individual policymakers seemed like a weak foundation for sustaining the credibility of policy promises.

That is when I went back and read John Taylor's discussion of the Barro and Gordon paper in the *Journal of Monetary Economics* (Taylor 1983). John applauded the analytical contribution that Barro and Gordon—as well as Kydland and Prescott—had made, but he was skeptical about the practical applicability of their story. In his critique, John said, "In other well-recognized time inconsistency situations, society seems to have found ways to institute the optimal (cooperative) policy."

As I read that sentence, I thought, "How does society build credibility into the institution instead of relying on the credibility of an individual?" That one sentence that John wrote in 1983 set me off on a twenty-year journey studying central bank design.

So where did it lead me?

Around that time, Ken Rogoff published his paper on what he referred to as "conservative" central bankers (Rogoff 1985). In his terminology, a conservative central banker was someone who disliked inflation more than the rest of society did. Rogoff showed that a conservative central banker would choose a lower rate of inflation than the average citizen but at the cost of greater instability of output and employment. This trade-off improved social well-being, but there was one catch to this solution—there had to be safeguards to guarantee that the conservative central banker could not be fired for this policy decision, ensuring that these promises to control inflation were credible. In short, the central bank had to be independent and protected from threats to its independence.

This type of institutional design issue was one that I was interested in researching. Up until Rogoff's work, the underlying assumption had been that the central bank was trying to maximize social welfare and that its preferences were aligned with those of society. Think of it as a "representative agent" economy. But as I read Rogoff's work, it suggested that society consisted of people who had a variety of views about inflation, meaning that they would also have different views on the trade-off between inflation and output stability. Consequently, members of society may have different views on how conservative the central banker should be. But where are these views coming from?

So I tried to endogenize the heterogeneity in preferences. I had the idea that individuals all had the same fundamental preferences for inflation and output stability, but that they varied if they worked in different sectors of the economy. In one sector, wages and employment were determined in a standard competitive fashion. In the other sector, wages were determined by wage contracts and employment was determined by demand. Thus, when a negative shock hit the economy, the wage contract workers suffered a bigger reduction in employment because wages couldn't adjust, whereas in the competitive sector, wages would adjust to soften the blow to employment—implying that if the wage contract sector got to choose a conservative central banker, they would want a more dovish central banker who would accept higher inflation in return for greater employment stability. The flexible wage workers wanted the opposite: They were more hawkish on inflation because they didn't bear the same employment volatility. The punch line was that if political parties formed around workers from different sectors, then they would install central bankers with different policy preferences if they won the election.

It was around that time that I read Alberto Alesina's paper (1987) on "partisan business cycles." In that paper, he assumed there were different political parties, each having different preferences about inflation and unemployment. One party was more concerned with price stability and less concerned about output stability than the other. Monetary policy and inflation outcomes were determined by the party that won a national election. As power changed hands after an election, monetary policy would differ from expected policy depending on who won the election. These election surprises would create volatility in monetary policy and thus inflation and output. In other words, elections would lead to partisan business cycles. In Alesina's model, monetary policy was fully accountable to the electorate, which is desirable, but it came at the cost of causing greater economic instability.

This was a brilliant paper, but, again, it raised a serious question for me: Why would society choose full electoral accountability and maximum volatility in monetary policy? Economists usually think there are trade-offs on the margin such that "corner solutions" like these aren't optimal. It seemed to me that there could be a welfare-improving institutional design for the central bank. I looked at the Federal Reserve's Board of Governors structure, and I felt that electoral accountability could be achieved through the appointment process, but economic instability would be reduced by having a monetary policy board composed of current and past appointees who set policy according to majority rule. This thinking led me to take a variant of Alesina's model and study how a policy board would change his results.

I assumed that board members were appointed by the winning party of an election to serve for multiple periods. This appointment process provided accountability to the electorate via the nomination and confirmation process. To ensure that economic stability would be improved, I assumed these members served staggered and long (relative to the election cycle) terms in office (Waller 1989, 1992, 2000). Furthermore, as in Rogoff's model, board members could not be removed from office. This feature of the model captured the idea that the central bank board would be independent.

My research showed that by having an independent policy board set monetary policy, social well-being was improved relative to Alesina's results. Accountability to the electorate could be achieved through the nomination and confirmation process, and economic stability was enhanced by having a group of individuals set policy who could not be removed from office. This structure is the one that we have in place today at the Federal Reserve. I would argue that it has stood the test of time, and I hope that it continues to be in place for years to come.

To conclude, I have come full circle in my professional life—from first reading that sentence that John wrote in 1983 to researching central bank independence and central bank boards for twenty years, to then becoming a central bank board member, which led me here today. So I can finally thank John for sending me on a wonderful journey that he had no idea he launched me on.

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This chapter reproducing a speech given by Christopher J. Waller at the Hoover Institution's Monetary Policy Conference on May 9, 2025, has been minimally edited for publication in this volume without alteration of the substance of his remarks. The official Federal Reserve transcript of his speech can be found at https://www.federalreserve.gov/newsevents/speech/waller20250509a.htm. The views expressed here are the author's own and are not necessarily those of colleagues on the Federal Reserve Board or the Federal Open Market Committee.

# 4

# Disciplined Judgment in Monetary Policymaking

Loretta J. Mester

I never had the opportunity to take a course from John Taylor. Still, I consider myself one of his students because I learned so much about monetary policymaking from his papers, presentations, and discussions. I am honored to be here to thank John for his many significant contributions to macroeconomics and the practice of monetary policy.

Every macroeconomic model incorporates some type of Taylor rule relating the central bank's policy rate to a set of economic conditions. The Taylor principle, which holds that the nominal policy rate should increase more than one-for-one in response to a sustained rise in inflation, is now accepted as appropriate monetary policy. The economics profession has not determined that there is a single policy rule that is optimal across various economic models and in a variety of economic circumstances. Different rules can imply different paths for the monetary policy interest rate. I would not argue that a central bank should set policy simply by following the prescriptions from a single rule. But that is a strawman. A more general and significant idea I take from John Taylor's body of work is that a consistent, systematic approach to setting monetary policy can make the policy more effective at achieving its economic goals. While judgment must be brought to bear in policymaking, I believe it should be *disciplined judgment*, informed by rules and models, rather than discretionary opinion that is not necessarily consistent with the underlying structure of the economy.[1]

Policy rules are useful in internal policy deliberations as a way to discipline judgment. Rules can also help policymakers explain their decisions to the public. Doing a better job at conveying the policy reaction function improves transparency, accountability, and credibility, all of which support monetary policy independence. The conference organizers have limited our time for prepared remarks, so I will focus mine first on internal deliberations and then on external communications.

## Policy Rules and Internal Deliberations

Policy rules are used at the Fed, both internally and externally. The Board of Governors' semiannual *Monetary Policy Report* began including prescriptions from a set of monetary policy rules in July 2017. Except for the June 2020 and February 2022 reports, rules have been included in each report since then (Board of Governors 2025). The Board staff's baseline forecast is in the Tealbook Part A, which helps coordinate Federal Open Market Committee (FOMC) policy deliberations and incorporates a policy rule. The Tealbook's section on monetary policy strategies shows the policy prescriptions from several rules (Board of Governors 2019). Various policymakers have used rules to help explain their own policy views.[2] Yet, rules could be used more consistently in materials provided to the FOMC prior to meetings to help guide internal deliberations.

When I was a policymaker at the Federal Reserve Bank of Cleveland (2025), I found that looking at the prescriptions from a set of simple, robust policy rules across different economic forecasts helped me formulate my policy views. In 2016, the Cleveland Fed began publishing current readings from a set of policy rules, along with a tool that allows users to customize the rules to generate alternative policy paths.[3]

Intuition can lead you astray. The economy encompasses a vast array of interactions and general equilibrium dynamics between various actors and sectors. Economic models and policy rules discipline one's thinking about the relationship between incoming data, forecasts, risks, and policy decisions. They help to ensure that judgment is consistent with how the economy really works. When the Fed's policy stance was different from what the rules suggested, I had to carefully consider whether there were factors or alternative model assumptions that could support that deviation. Seeing the types of variation in prescriptions from different rules also helped me assess what the salient risks were to the outlook.

I used simple rules to help me construct my submission to the Summary of Economic Projections (SEP).[4] And I also found rules helpful in understanding the SEP results across participants. During the September 2018 meeting (this transcript is now public), I discussed the type of policy rule that could fit the SEP projections and compared that rule to the policy rule in the staff's Tealbook forecast (FOMC 2018). The derived FOMC participants' rule was a little less inertial than the Tealbook baseline rule, but the main difference was that the SEP rule put little weight on the unemployment gap and a high weight on the inflation gap. Given that the Tealbook's baseline rule provided a fairly good description of the past behavior of the FOMC, I found this to be a cautionary tale. It meant that the committee was planning to react differently to incoming data than it had in the past. In particular, it was reacting much less to tightness in the labor market, as summarized by the undershoot of unemployment from its estimate of the natural rate of unemployment, *U**, than it had in the past.

I believe that framing an internal policy discussion like this at the four SEP meetings would help participants have a better understanding of what their SEP submissions imply about the committee's reaction function. The committee could go a step further and ask FOMC participants to submit two sets of projections, one based on their current view of appropriate policy, as is currently done, and one based on a benchmark policy rule. In this exercise, it is less important which particular rule is chosen than the fact that it would force some consistency across the forecasts. Committee participants would gain a better sense of the assumptions each colleague was making about the underlying economic dynamics in constructing their forecast.

In addition, if the prescriptions from a set of rules applied to different forecasts were given more emphasis in internal deliberations, it would help illuminate for participants the type of variation one could expect in the policy path if the economy were to evolve differently than the modal forecast. Putting too much weight on a particular forecast can lead to policy mistakes. Looking at various scenarios and the variation in policy prescriptions across these scenarios helps mitigate this risk, and the Tealbook includes alternative scenarios. It is particularly useful to analyze these alternatives when the level of uncertainty is high and several plausible scenarios are nearly equally likely to occur. Arguably, during the pandemic, the FOMC put too much weight on the scenario in which inflation driven by supply-side shocks would prove to be transitory rather than the alternative scenario in which demand-side accommodation was also an important contributor to persistent high inflation.[5]

Had FOMC meeting deliberations routinely included a discussion comparing proposed policy paths with prescriptions from rules, the discussion would have highlighted that policy was increasingly deviating from the Taylor principle. While it is not clear that having this insight would have changed Fed policy decisions, we cannot rule out that it might have resulted in the FOMC's moving rates up sooner. Policy tightening may have been able to be more gradual, which would have posed less risk of financial instability of the kind we saw in March 2023.

## Rules and Monetary Policy Communications

Let me turn now to external communications. The benefits of clear communication and systematic policymaking derive from the fact that households, businesses, and investors make economic and financial decisions based on their expectations of the future, including the future course of monetary policy (Lacker and Plosser 2024). When monetary policymakers set policy in a systematic way and clearly communicate this, their actions are more predictable. This predictability enhances the transmission of monetary policy to longer-term interest rates. Lower policy uncertainty reduces term premia and better aligns longer-term interest rates to the expected path of short-term rates. The public gets a better sense of how monetary policy is likely to change as economic conditions evolve, and with such knowledge, households and firms can plan better and make more informed saving, borrowing, investment, and employment decisions.

In addition, when the public understands the usual strategy for setting policy, it will also understand the policymaker's reasons for deviating from that approach in extreme circumstances, such as the Global Financial Crisis or pandemic, and those deviations will be more successful. Instead of limiting options, being consistent and communicating the rationale for decisions can expand policy options.

Of course, the communications challenge for monetary policymakers is to give the public a good sense of the usual reaction function: how policy is likely to respond, *conditional* on how the economy evolves, without implying that policy is precommitted to a particular policy path, *regardless* of how the economy evolves. It would not be a large leap to start using the prescriptions from the policy rules published in the Fed's monetary policy report as a reference point in policy communications. They would provide a good illustration of conditionality and better link changes in economic conditions to changes in policy. When actual policy differs from the prescribed rules, policymakers would explain why.

In an uncertain environment, more communication is better than less. But it often seems that in uncertain times, policymakers want to explain less, because the uncertainty around the outlook and the risks makes them fear being locked in or being perceived as making promises they may not want to keep. At the Fed, the trend has been toward shorter communications. At my first meeting as Cleveland Fed president in June 2014, the FOMC statement was 759 words long. At my last meeting in June 2024, there were only 295 words in the statement. Research by McMahon and Naylor (2023) indicates that shorter does not necessarily mean more easily understood by regular people. Others, including the media and Fed commentators, will fill the void in communications with their own interpretations, which may differ from what policymakers intended (Mester 2024). I think it is better for policymakers to take control of the narrative.

If policy communications routinely included a discussion of a consistent set of data that informs the outlook, the policymaker's outlook and risks around the outlook, some alternative ways the economy might evolve, and how the policymaker plans to balance the risks to its dual mandate goals, the public would have a better sense of what "data dependent" means. These communications should not be technical. Instead, they should strive to convey complex ideas in an accessible manner, without jargon, as the recent research by McMahon and Naylor (2023) suggests can be done.

Finally, we live in a time of rising public skepticism about "experts" and declining public trust in institutions. Probably the number one way an institution can build trust is to excel at what it does; that is, to reach the goals it has been charged to achieve. That means having a very well-qualified staff and making decisions informed by the best information and analysis available. But regardless of how good the policymaking foundation is, we have to recognize that a high degree of economic uncertainty often clouds the outlook and increases the number of plausible scenarios that could play out, raising the risk that even the best-formulated decisions may not produce the intended results.

A central bank needs to constantly build its credibility with the public. It can do so by explaining its policy goals and taking a consistent approach to policy decisions rather than a discretionary one. It should also communicate transparently so that the general public understands the rationale for its decisions, hold itself accountable, take ownership of any deficiencies, and make improvements to its policy strategy—in other words, practice disciplined judgment when setting monetary policy. In an uncertain world, economic conditions can evolve in an unexpected way that requires a change in policy. If the public understands the reason for the change, it will be less likely to interpret the change as evidence that the past policy stance was in error or that the institution is succumbing to outside influences. Instead, the public would understand that if there is a material change in the economy, it is appropriate for monetary policy to evolve as well. This is a simple concept but one that is worth explaining to the public, because as much as one may wish it to be true, merely saying "trust me" is not good monetary policy communication.

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[1] In a provocative recent paper, Hoenig (2024) discusses the costs of discretion and presents a proposal to significantly limit discretion in the Fed's monetary policymaking by restricting the fed funds rate to remain withing a predetermined range around an estimate of $r^*$, and restricting changes in the quantity of reserves available to banks to be less than 1percentage point of the average 5- or 10-year growth rate of real GDP. Actions beyond these limits would need congressional approval.

[2] In some cases, the policymaker points out the challenges in using rules. See, e.g., Yellen (2017). In other cases, the policymaker is more positive about the guidance provided by rules. See, e.g., Bullard (2022).

[3] The Cleveland Fed website includes current outcomes of the federal funds rate paths from a set of seven simple policy rules across three different publicly available forecasts, which are from the Cleveland Fed's BVAR model, the Congressional Budget Office, and the Survey of Professional Forecasters.

[4] Four times a year, the FOMC releases the SEP, which provides information on the range of projections of real output growth, the unemployment rate, and inflation across FOMC participants, as well as the policy paths that individual participants view as appropriate in achieving those projections. (FOMC 2025).

[5] Wieland and Hegemann (2025) have shown that as inflation surged in 2021, both the Fed and the European Central Bank deviated from the Taylor principle, which had characterized their past behavior. Additionally, analysis in a report published by the Group of 30 (2025) indicates that four benchmark policy rules called for the Fed to move rates up about a year before the FOMC acted in 2022.

# 5

# Discretion Continues to Thwart Fed Efforts to Make Credible Commitments

Charles I. Plosser

I am delighted to be here today to participate in this conference and in the celebration of John Taylor's contributions to economics. John's academic contributions run deep, as we have heard from many people over the last two days. Yet perhaps the most visible role, outside the confines of academia, has been his contribution to and discussion of monetary policy in practice. We all owe a great deal of appreciation and respect to John for his thoughtfulness and willingness to engage in the theory and practice of making policy. As one of many, I want to thank you, John, for your contributions, your wisdom, and your friendship.

In my brief time today, I would like to reflect on what one might describe as a schizophrenic approach to monetary policy that has contributed to confusion and probably less desirable outcomes than might otherwise have been achieved. The source of this behavior is the familiar tension between rules and discretion. Since the work of Lucas (1973) and Kydland and Prescott (1977), economists have come to recognize the importance expectations play in the setting of policy and thus the value of credible commitments to a systematic policy. As a result, most macroeconometric models, including those used by central banks, assume that monetary policy is conducted by rule-like policies that are known and understood by the public. Such models are then used to assess policy choices under the same assumptions. This rules versus discretion debate is not a new one, but it has become more important as policymakers adopt policies that explicitly seek to manage expectations more directly.

To be sure, central banks, and the Federal Reserve in particular, understand these issues and many have worked hard to improve transparency and to signal commitments to specific goals. Notably, after almost two decades of discussion, the Fed adopted an explicit inflation target in 2012.[1]

Articulating an achievable goal is an important step, but it is only the first step. The important follow-up is making the commitment to that goal credible. Such commitment is difficult even to state, and its credibility harder to achieve. But without credibility, the outcomes suggested by our models may be unachievable and may even prove counterproductive. Thus, an important role for central bankers and associated governments is to promote ways to make monetary policymakers more credible.

There are various approaches to enhance credibility. One way is to build a reputation for delivering price stability over long periods that span episodes of turmoil, changes in administrations, and various shocks. The Bundesbank and the Swiss National Bank are classic examples of central banks that earned credibility through such a process. Such reputation building takes time, luck, and perseverance, but it also can be fragile, and policymakers can easily damage their reputation through discretionary actions. The inflation spike in 2021–24 was a step backward for the Fed's reputation-building efforts.

Other ways to increase credibility can come from institutional factors that constrain or limit the discretionary capabilities of the monetary authorities. The independence of the monetary authority is critical. But independence simply cannot be sustained in a democracy without clearly achievable goals and constraints on the central bank's powers, all of which make the monetary authority less discretionary and more accountable.

For example, narrow and achievable mandates can help focus monetary policy and reduce the temptation to venture into other, more politically sensitive areas. I have argued for some time that mission creep and the expanding expectations for monetary policy can drag the Fed into highly political areas that can undermine its independence and weaken its ability to deliver on its price stability mandate.

In addition, restricting the Fed to holding an all-Treasuries portfolio can help limit the Fed's ability to engage in credit allocation through the purchase or sale of private-sector securities. The Treasury-Fed Accord of 1951 was intended to relieve the pressure on the Fed to expand or contract its balance sheet to accommodate the Treasury's debt management objectives.

Unfortunately, the Fed's new "ample reserves" regime and interest on reserves made an end-run around the latter protection by allowing the Fed to expand or contract its balance sheet without altering its interest rate policy. This regime has opened the door to fiscal pressures to manipulate the size and composition of the Fed's balance sheet for political objectives. The subsequent breakdown in the barriers between monetary and fiscal policy drags the Fed more deeply into political issues and thus is a threat to its independence. As important as independence is, the sorts of constraints I suggest here would also contribute to the Fed's credibility and commitment to its stated goals and objectives, in part by reducing discretion.

Another way to increase the credibility of the central bank is the adoption of systematic rules that describe how policy will be conducted in specific circumstances. Such systematic rules are generally thought of as Taylor-type rules. These rules can be best described as a reaction function that describes policy settings based on the actual or forecasted values of the data. Adopting such a reaction function helps strengthen the commitment and transparency of policy and provides a form of "data-dependent forward guidance."

Federal Open Market Committee (FOMC) transcripts clearly demonstrate that many members, if not most, understand the importance of credibility and commitment. But, in another sense, the Fed and many other central banks still take a discretionary approach to policy. Policy is often described, for example, as being "data dependent." This is almost tautologically true, but without more information about *how* policy will respond to the data, which data it will respond to, and the nature of the reaction function, it is mostly a vacuous statement involving no commitment.

It is noteworthy that despite the policy discussions found in the FOMC transcripts and speeches, it is hard to find any references to rules or systematic policies that might bolster credibility in the actual policy statements issued after each meeting. Nor do you find such a reference in the quarterly Summary of Economic Projection (SEP). There is usually a reference in the Semi-Annual Monetary Policy Report to the policy implications of some basic rule-like guideposts, but it appears more as an afterthought than as an integral part of the policy determination process.

As I mentioned, the Fed seems to acknowledge the benefits of commitment and credible policies conducted in a systematic manner. The challenge the Fed confronts is that it retains a desire to be discretionary in the moment, just as Kydland and Prescott describe. Such messaging undermines its own policies, which rely so heavily on the Fed's credibility to follow through on commitments.

An example is instructive. The Fed's use of forward guidance has evolved over time. Prior to the early 2000s, the Fed would sometimes speak to the balance of risks as an indicator of the committee's leanings looking forward, but those statements implied no policy commitment. During the Great Financial Crisis, as the policy rate approached its effective lower bound, the Fed took the view that forward guidance could be used as a distinct and independent policy to shape expectations without concrete action. The idea was that by promising to keep rates significantly lower than might otherwise occur, monetary policy could potentially provide a form of stimulus. This approach critically depended on the credibility and commitment of the Fed's promise, as well as the public's understanding of what the promised policy actually entails.

This strategy, however, is undermined and can prove counterproductive if the Fed's promise is not credible or not well understood. Indeed, the Fed's announcement in August 2011 that "conditions . . . are likely to warrant exceptionally" low rates through mid-2013 was found confusing and not widely interpreted as the positive signal the Fed intended, but as a signal that the economy would be in dire straits for at least two more years. This had the opposite effect of what the Fed had intended. Moreover, the discretionary language frequently used by the Fed undermined the credibility of the commitment that was necessary for the policy to succeed.

Contemporary monetary theory tells us that effective policy is enhanced in important ways by the credibility and commitment of policymakers to behave in a transparent and systematic manner. There are a number of ways for the Fed, or any central bank, to enhance its credibility, including institutional arrangements that impose limits on objectives and powers and the adoption of operating regimes that incorporate more discipline and systematic decisions. The Fed has come a long way in some dimensions on the road toward transparency and credibility, but there is still an opportunity for improvement. Reducing the Fed's reliance on discretion can only enhance its position. The lesson might be for the Fed to spend less time and effort seeking or justifying the expansion of its powers and more time arguing for limitations that might support independence and strengthen its ability to make credible commitments.

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[1] As shown by Bordo et al. (2025), the language used by FOMC members during policy discussions that stress ideas associated with rules, credibility, commitment, systematic policy, predictability, and other phrases rose significantly during the mid-1990s only to wane noticeably later in the decade, and it remained lower until about 2006–7. At that point, such discussions increased and remained significant into 2015, which was the extent of their sample.

# 6

# Lessons Learned and the Path Ahead

Kevin M. Warsh

Thank you very much. It is an honor to be here and to share this panel with public servants, past and present—strong, committed, dutiful servants, as has been the practice for many years.

I used to bat cleanup after Charlie [Charles Plosser] and Loretta [Mester] at Federal Open Market Committee meetings, and they would go on and on, so I had to speak briefly. They would come to Fed meetings very well prepared—with their articulate remarks—and I would come with a note card. So I suppose we're keeping that tradition going.

It's also an honor to be here and moderated, if not by a public servant, then by someone whose parents named him after a great one. So thank you, Volker [Wieland].

Let me follow up on a few things my colleagues said. I'll first take a trip down memory lane in honor of John Taylor, then share three learnings from the Taylor rule that I think have broad applicability. Then I'll talk for a moment about what's missing from the Taylor rule due to policy innovations—some for the better and some for the worse—and about policy in the years since the Taylor rule was written.

I was first exposed to the Taylor rule on these grounds, if not in this building, more than thirty years ago. We are all, in some sense, John's intellectual heirs. I see other former professors of mine, like John Cogan, here, and I am grateful. It brings me back to when I was about nineteen.

I gave a fresh look at the Taylor rule itself on the flight out to California last night. It has a simplicity, an elegance, almost a clinical quality to it that is in stark contrast to the voluminous commentary we receive from modern central banks. And that's certainly appealing.

Notably, when I first read the Taylor rule thirty-five or so years ago, it was during the quiescent period known as the "Great Moderation." It was then understandable why some would believe our knowledge could be reduced to the Taylor rule. And it would be wonderful to have a simple and robust rule.

I think the tradition in which John envisioned the rule arose from a period around this [Hoover] institution when Milton Friedman was still with us. And through his influence, I grew somewhat skeptical of big black-box models, of complicated multivariate regressions. And so simplicity has a huge appeal. I remember debating, or rather listening to a debate—I was an undergraduate—about whether the rule was descriptive of what policymakers actually do, or whether it was normative; that is, what policymakers should do.

You might also recall that some thirty-plus years ago, debates on these grounds centered on what the right coefficients were, the shape of the Phillips curve—how flat it was, or whether it should be discarded altogether. So it was a formative time for me at Hoover, learning from the great minds in the profession, like John Taylor and so many others.

Second, what are the legacy and learnings that John imparted through the rule that have application to the conduct of monetary policy? Like Chris Waller, I will avoid the current policy conjuncture.

We have learned, I think quite assuredly in the last generation or so, that there is no cruel choice that needs to be made between the two objectives embedded in the Taylor rule. That is, low inflation and low unemployment are not at war with each other. They aren't enemies, they're friends, good ones. And so the idea that we should push up one variable (unemployment) to move the other variable down (inflation) has hopefully been written out of the current practice of policy. Current policymakers can judge that better than I.

We should also understand that the Taylor rule is aspirational. That is, we in the economics profession wish to reduce our knowledge of the economy to a rule. And so the Taylor rule is important because that is who we want to be. Many of us came to economics because we were studying physics or math, and we found it was a little too hard, so we ended up in economics.

And so while the rule is powerful, I think even John would acknowledge it's not scientifically precise. It's not exactly Albert Einstein's "E equals MC squared." The difficulty with economics, unlike, say, physics, is that the "atoms" in our chosen field are individuals who change their minds. The economy acts fundamentally differently today than it did even a decade before. But the aspiration of the Taylor rule is an important one. Still, policymakers have to recognize that the actual economic results are often overdetermined.

We have to resist this idea of scientism, this exaggerated sense of confidence as to how everything works in the economy, as if economists know how to readily reduce all factors into a rule. But the aspiration of the Taylor rule is the right one, and it's the subject of inquiry to which we should adhere: How can we make the rule, any rule, better?

It strikes me that it's important to aspire to a rule. The economy cannot thrive consistently with its objectives when it has a fully discretionary central bank, with central bankers acting as overlords. What monetary policy is, at least as of now, is less than a perfected science. It's more of a craft.

We need to take our science seriously and ask what economists can do to improve the conduct of policy. We central bankers, especially those in the arena like Chris, must understand that central bankers are thinkers, not prophets. That's the second learning.

What is the third and final learning? I think it is too easily forgotten: Inflation is a choice. The world's central bankers get to choose the inflation rate. When you look at the Taylor rule, there's no victimhood embedded in the rule. The central bank establishes the policy rate and steers in the direction of an inflation objective.

Central banks, in the Taylor rule, are not victims. There's no anguish to central banking, a reference to the failures of central banks in the 1970s. Those days are behind us, or at least should be.

Inflation is not caused by pandemics or autocrats around the world. The inflation level is set by the world's central bankers. And without going too far afield, in my view, it is principally determined by government spending and printing.

The other thing of note is what is absent from the Taylor rule. And understandably so. There is no relevant central bank balance sheet in the Taylor rule. There's no mention of quantitative easing (QE). Of course, QE was introduced some years after the rule found its way into our textbooks.

In a broad sense, we should acknowledge now what was acknowledged at QE's creation in 2008: The Federal Reserve established a second monetary policy instrument, a supplementary instrument that has an important effect on inflation. If the central bank were to quiet its printing press, then we could at least ponder what the Taylor rule tells us about the appropriate interest rate.

But with a very active, large, and often growing balance sheet, we have two policy instruments that are imperfect substitutes for each other, sometimes working at cross-purposes and at other times working together. But if the printing press could be quieted, we could have lower policy rates, because a $7 trillion balance sheet is affecting inflation. There are many benefits of a small balance sheet, including lower rates. However, a better economic outcome is probably the most important.

What is the final thing that I believe is implicit in the Taylor rule? Each of my colleagues on the panel referenced it. I call it trust. Chris called it "reputation." Loretta called it "credibility," and so did Charlie [Plosser]. The Taylor rule requires the central bank to be credible. In other words, the Taylor rule works if the central bank has demonstrated its ability to achieve its outcomes. To the extent the central bank has made errors in the conduct of policy, the rule doesn't really work as well.

It would be nice if one could say bygones are bygones. It would be nice if households and businesses believed that past errors had no bearing. But the precondition for stable prices is confidence on the part of households and businesses that central banks will deliver stable prices. And the best way to give them that confidence is to have achieved it. It is up to the central bank to ensure that whatever shocks occur outside are one-off effects. The inflation rate, that is, the second- and third-order consequence of changes in prices, not the first-order change in the price level, is up to the world's central banks.

If central banks assert that outsize changes in the price level affect inflation and then drive a set of inflation outcomes, the banks are, in a way, admitting something against their own interest. They're saying, in a sense, that their credibility has been impaired and that inflation will occur because they don't have the credibility to stop it.

This is why the implicit term—what I would say is the most important term in the Taylor rule—is credibility. When John authored this formula, the central bank was somewhere near the height of its credibility.

Bygones aren't bygones, but they should be lessons learned. As we turn to questions and answers, this is an appropriate moment to thank John for his contributions, as much as it is a time to call on our profession to think anew. This is a time of inquiry. This is a time of choosing, and hopefully, that is what we will discuss over the course of the day. Thank you.

# General Discussion

**Harald Uhlig**: Kevin [Warsh], I heard you say that you don't like the ample reserves regime. You advocate for much lower reserves. You said something to the effect that the reserves that we have out there are inflationary and that economic outcomes would be better with much lower reserves.

I wonder what mechanism you're thinking of. If you think back to the zero lower bound phase, where the Fed had a lot of reserves on its balance sheet, it wished for a little bit more inflation. It didn't come. There is also the perspective that ample reserves get us closer to the Friedman rule. Banks need liquidity, and the central bank can generate liquidity for free.

So why shouldn't the central bank issue reserves if it pays interest on them? This is an ongoing debate, and I rarely hear somebody speaking up for having much lower reserves, so your position is interesting. I'm wondering whether you could explain the position and just what problems you see with ample interest-paying reserves.

**Robert J. Barro**: I want to react to some of Chris Waller's remarks. I think a principal contribution of my papers with David B. Gordon was to explain to the profession what was in the brilliantly innovative Kydland and Prescott paper (1977). We worked out a simple example with the costs of inflation and unemployment. And it was completely transparent in that model why there was a benefit from commitment and credibility.

I think until we did that, people basically didn't understand what was in Kydland and Prescott, and that, in fact, included us. And having worked that out, I think that made the Kydland and Prescott paper much more important. And of course, since that time, as is justified by its innovative nature, it has become a major paper in economics.

**Jason Furman:** Thank you. I'm Jason Furman. This is more for Loretta Mester, but anyone is welcome to answer. The FOMC statements have gotten shorter, but there is research that suggests that volatility around the press conference, including reversals from the way the market moved on the statement at the press conference, has gone up.

Is that a problem? And if so, does it mean that maybe the statement needs to go back to being longer, the press conference shorter, or some other solution?

**Robert G. King:** A remark that I didn't deliver yesterday about John Taylor's research program is that he's been fascinated with issues of transition, beginning with really his first major publication in the *Journal of Political Economy* on monetary policy during transition episodes.

Periodic policy reviews are a recent phenomenon for central banks around the world. I think that the periodic policy review process sets up an environment in which we're going to have to think about transitions every five years, and that people in the economy are going to have to think about transitions every five years. That has some bearing on monetary policy choice.

**Pablo Villanueva:** In this period of very high uncertainty, should we put more or less weight on monetary policy rules? What are the policy implications for the next few quarters?

**Kevin M. Warsh**: Let me respond first to the question on the size of the Fed balance sheet, quantitative easing (QE), and reserves.

First, a surge in the balance sheet is understandable in periods of great shocks. The Fed was created after a panic early in the 20th century. So nothing I say should be taken as any direct criticism of what happened to the balance sheet in 2008, or what happened in the darkest days of 2020. One should give the benefit of the doubt, I think, to central bankers in harm's way.

Second, I think it's strange to say in 2008 and 2020 that the balance sheet expansion was monetary policy by other means, but not in more benign times. It's odd not to have any rhetorical or real symmetry. In my view, the balance sheet can't be construed as monetary policy in crisis times, but the balance sheet has nothing to do with monetary policy in any other circumstance.

That kind of asymmetry goes against the very spirit of policy rules and moves us to a policy of full discretion.

Finally, when I joined the central bank in 2006, we had about an $800 billion balance sheet. If you were to try to scale that to the growth of the economy, or to the growth of financial markets, one might end up with a $2.5 trillion or $3 trillion balance sheet today. As we sit here, the balance sheet is about $7 trillion. The right question was raised earlier about transitions between policy regimes. The transition from a scarce reserve system—in which banks were relying predominantly on each other for liquidity, with the central bank entering the market more rarely in periods of extreme illiquidity—to an excess reserves regime was not sudden. Going back to some status quo ante, or adopting a new, third-way model, will take time. The transition is not something that could or should happen overnight.

But banks will grow accustomed to the liquidity regime around them. And if the central bank has a permanently larger role, not just in crises but in normal times, and is in some sense providing liquidity to the banks during all seasons and for all reasons, then one has fundamentally changed the role and responsibility of the central bank.

The transition to what I think is a more prudent system will take time, deliberation, and an excess of communication with the public and the institutions in the banking system itself.

**Christopher J. Waller**: I'm going to just make a point that the concepts of ample reserves and QE get mixed together. Having ample reserves is about finding the right level of reserves and trying to keep them there. QE is about changing the growth rate of reserves, and with them the money supply.

Say money growth is 3% a year. Great, but what's the size of the initial money stock? We haven't said anything. That's the difference between thinking about the growth rate and the level.

You want to think about getting the level of reserves right. That's about making sure there's sufficient liquidity in the banking system. From there, making it go up or down for policy is a separate statement. And we can argue about whether we should or shouldn't do that. But it's key to getting the right level of ample reserves so that we don't have to have banks scrambling around every night trying to find reserves, or the New York Fed stepping in every day and manipulating how much is in there. Having reserves too low is inefficient and wasteful, as far as I'm concerned.

I also want to respond to Robert [Barro]. Your paper is the one that got me started on this whole research area. I remember going back to read Kydland and Prescott, and thinking it's impenetrable. In fact, Finn Kydland told me that when they submitted the paper, the referees said, "We don't understand this. Can you give us an example of what you're talking about?" That was the example at the end of the paper. What you did brought brilliant insight into that paper and made it accessible to the public. I'm one of those people. So thank you.

**Loretta J. Mester**: So, Jason, my own personal belief is that the statement suffers from kind of a "Hotel California" problem—words can check in, but they can't check out.

Because the statement is so short, each word in the statement gets a lot of attention, and if there's a change in the word, it gets even more attention. And I think that isn't really healthy. The statement is a communication about the committee's views. The press conference expresses the chair's views. Now, Jay Powell does a very good job of trying to represent the committee discussion, but you can imagine that another chair might not do that.

So I think it is important that the post-meeting statement actually says more about what the committee's outlook is and what the risks around the outlook are. I think that would be more productive, and I've argued that for a long time. I personally would find it better if the statement, which is the communication from the committee, were a little more transparent.

**Charles I. Plosser**: I'm going to go back to the question about the balance sheet. My concern about the balance sheet is partly about monetary policy, and partly about the fact that the Fed has never been able to articulate an integrated approach to how QE and the growth of its balance sheet relate to monetary policy.

My problem is really more of a political economy problem. The ample reserves regime exposes the Fed to abuse of its balance sheet by the fiscal authorities. I would prefer an operating regime less open to that abuse. I would prefer going back to a corridor system, for example. I would prefer an operating regime in which the balance sheet is limited or constrained in some way, and not a free parameter to be used for all sorts of other purposes.

Loretta gave me an example. Just last fall, she mentioned there was movement in some circles for the Fed to establish an emergency hurricane fund, to act as FEMA's funding source, and to use the Fed's balance sheet to do that. That's just a terrible idea. You invite the political process into determining the size and composition of the balance sheet.

That, in my view, is the real danger, and that's what I worry about.