LESSONS FROM HISTORY FOR SUCCESSFUL DISINFLATION

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ABSTRACT

Why are some attempts at disinflation very successful and others failures? We investigate this question in the context of the Federal Reserve's attempts at disinflation since World War II. Our central finding is that a fundamental determinant of success was the strength of the Federal Reserve's commitment at the start of each attempt. In episodes where its commitment was high, there were significant declines in inflation that were often very long-lasting, while in ones where its commitment was low, falls in inflation were at most small and short-lived. We find that although the extent of the Federal Reserve's commitment was often evident to the public, there is no evidence that stronger commitment directly affected expected inflation. Rather, the central channel through which weak commitment led to unsuccessful disinflation was premature abandonment of the disinflationary policy. We conclude by discussing the implications for the Federal Reserve's current effort at disinflation.

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As in the current episode in the United States, over history, central bankers have periodically wished to reduce the rate of inflation. But the record of those attempts in the United States since World War II is very mixed. Most famously, the Federal Reserve's efforts to reduce inflation that began in October 1979 eventually led to a large and persistent fall in inflation, but those efforts were preceded by repeated attempts over the previous decade that were highly unsuccessful. This paper investigates what accounts for this variation: Why are some attempted disinflations much more successful than others?

Monetary policy affects inflation through two primary channels: the Phillips curve and expected inflation. As a result, it may seem natural to place blame for the variation in success on shocks to the Phillips curve or differences in the response of expected inflation to the disinflationary policies. But this line of analysis misses the key fact that decisions to disinflate are dynamic. Monetary policymakers have the ability to strengthen policy if they are not achieving the desired fall in inflation. Thus, a fundamental determinant of whether disinflations are successful must lie with the motivation and decisions of policymakers.

For this reason, in our analysis we focus on the thinking and behavior of policymakers in disinflationary episodes. In the United States, the narrative record identifies nine times since World War II when Federal Reserve policymakers decided that the current inflation rate was unacceptable, and took contractionary actions to reduce it (Romer and Romer, 2023). In all of these disinflationary episodes, monetary policy met certain key criteria for seriousness: in each one, policymakers sought to reduce the current rate of inflation (not merely prevent inflation from rising further), and were willing to accept output consequences to bring the reduction about. But in analyzing the narrative record of policy discussions, we discover important differences in policymakers' commitment to disinflation at the times the policies were embarked upon.

We categorize this variation in commitment using what policymakers said both in the policy records and in public speeches and testimony about several issues. For example, how much output

loss were they willing to accept to bring inflation down? Did they convey a willingness to do whatever it takes, or did they put clear limits on the costs they were willing to inflict on the economy? Similarly, did they believe that inflation was their problem to solve, or did they feel they were just one piece of the solution? Based on these and other criteria, we conclude that monetary policymakers were very committed to disinflation in the 1958, 1979, and 1981 episodes; moderately committed in the 1947, 1955, and 1988 episodes; and only weakly committed in the 1968, 1974, and 1978 episodes.

We show using graphs and simple regressions that monetary policymakers' commitment to disinflation correlates very well with the success of the disinflation. In both 1958 and 1979/1981, when policymakers were highly committed to disinflation, inflation not only came down, but stayed down for an extended period. In contrast, when policymakers were only weakly committed, such as in 1968 and 1978, inflation fell little and soon rebounded. As a simple way of summarizing the variation in commitment, we create a dummy variable for monetary shocks that is scaled by the degree of commitment to disinflation. A local projection regression of inflation on the scaled dummy shows a noticeably tighter relationship between monetary shocks and disinflation than the same regression using the unscaled dummy.

Having identified this correlation between policymakers' ex ante commitment to disinflation and their ultimate success, an obvious question is what the mechanism is through which commitment matters. We identify two potential channels by which higher commitment to disinflation fosters success: by lowering expected inflation and by avoiding premature easing.

To investigate the expectations channel, we look at the speeches and testimony of the Federal Reserve Chair during disinflationary episodes and newspaper reports concerning monetary policy. The goal is to see if the differences in commitment that we see in the confidential policy discussions were likely known to market participants and ordinary citizens at the time. We find that, to a substantial extent, they were. For example, in 1958, the *New York Times* had a series of articles reporting clearly that the Federal Reserve was determined to eliminate not just

inflation but the belief that any inflation was normal, and to do so regardless of costs. Similarly, in 1981, numerous reports described the Federal Reserve's redoubled commitment to conquer inflation following its considerable backing off from anti-inflationary policy over the course of 1980. In contrast, in 1978, Federal Reserve Chairman G. William Miller repeatedly said in speeches and testimony that monetary policy could not reduce inflation on its own. And the *New York Times*, which had described Miller as an ardent inflation fighter early in his tenure, increasingly emphasized the weakness of the Fed's disinflation program as 1978 and 1979 wore on.

Given that substantial variation in the Federal Reserve's degree of commitment was evident to the public during disinflation episodes, we look to see if this variation is reflected in the behavior of the available data on expected inflation. We find that regardless of the degree of commitment conveyed by coverage of monetary policy during disinflationary attempts, there is essentially no change in professional inflation forecasts around the time of the coverage. And in the current episode, where we can use high-frequency data, we find no tendency for market-based measures of expected inflation to fall on the days with the strongest reports of new evidence of Federal Reserve commitment to reducing inflation.

To investigate the effect of premature easing, we follow the discussion in policy meetings from the decision to disinflate through to the decision to ease or greatly weaken the disinflation program. We find wide variation in how quickly policymakers reversed course. While in some cases the disinflationary policy was ended because it had been reduced to the desired level, in many others the policy was abandoned despite concern that inflation was still too high. We find that low ex ante commitment to disinflation is strongly correlated with the premature end of contractionary policy.

We also analyze the reasons that policymakers gave for moving away from disinflationary policy before inflation was reduced. Among the common motivations we find are that the output costs were perceived as too high, and that monetary policy had done its part and it was time for

non-monetary approaches. Crucially, the reasons policymakers gave for premature easing map closely to the degree of initial commitment. For example, less committed policymakers tended to limit the output losses they felt were acceptable, and to abandon disinflationary policy as soon as output losses reached relatively low levels.

Our analysis of the lessons from history for successful disinflation is organized as follows. Section I discusses why it is important to focus on deliberate attempted disinflations. In particular, we argue that episodic analyses based on large observed movements in inflation provide an unreliable guide to successful policy. Section II discusses the narrative evidence on monetary policymakers' commitment to disinflation in the nine shifts to anti-inflationary policy in the United States since 1946. Section III looks in detail at the behavior of inflation in the nine deliberate disinflations, with a special emphasis on the correlation between successful disinflation and policymakers' commitment. Sections IV and V look at two possible channels through which commitment may have influenced disinflationary success. Section IV provides evidence that policymakers' commitment to disinflation was revealed to the public through the speeches and testimonies of Federal Reserve Chairs and through newspaper accounts of policy, but finds no evidence of any clear impact on expected inflation. Section V provides narrative evidence that weaker commitment tends to lead to premature policy reversal.

Finally, Section VI discusses the implications of our study for the recent episode. In the summer of 2022, monetary policymakers again decided that the prevailing rate of inflation was unacceptable, and they were willing to accept output consequences to reduce it. Does history suggest that the policy is likely to be successful? Given our finding that policymaker commitment has been crucial in the past, we examine the narrative record to assess policymaker commitment in the current period. We find that the language used both in the policy discussion and in the public testimonies and speeches mimics that of the most committed disinflations of the past. Based on this, we would expect policymakers to stick with the disinflation program until inflation is reduced. Thus, we anticipate that the policy will ultimately be successful.

I. Why Focus on Deliberate Attempted Disinflations?

In this paper, we focus on what makes some deliberate attempted disinflations more successful than others. A tempting alternative would be to look instead at large actual disinflations, and search for connections among them.[1] This section discusses why we eschew this approach. It also discusses our identification of attempted disinflations.

A. Problems with Focusing on Ex Post Disinflations

Figure 1 presents a graph of inflation measured using the price index for personal consumption expenditures excluding food and energy.[2] As can be seen in the graph, some of the most spectacular disinflations occurred in 1947–48, 1951, 1975–76, and the early 1980s.

Overemphasis on Episodes Involving Price Controls. One thing this list of disinflations points to is the important role that price controls and their discontinuation played in some of the biggest disinflations. Price controls and rationing were used extensively for consumer goods during World War II. The controls were temporarily abolished in June 1946; reinstated in a weakened form in July 1946; and then permanently ended in November 1946 (Rockoff, 1984). Though many factors, including supply disruptions and pent-up consumer demand, played a role in the immediate postwar inflation, the abolition of price controls unquestionably played a large role.[3] Evans (1982) estimates that controls held prices roughly 30 percent below their equilibrium level during the war—implying that their removal almost certainly led to a temporary surge in inflation. As a result, much of the spectacular disinflation observed in the data in late 1946 and early 1947 reflects the end of this rapid readjustment to market equilibrium prices.

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[1] This alternative approach is used in a widely cited blog post by Rouse, Zhang, and Tedeschi (2021) put out by the Council of Economic Advisers.

[2] The sources for the price data, particularly for our continuations of the official series to before 1947Q1 for the GDP and PCE price indexes and before 1959Q1 for the PCE price index less food and energy, are given in Online Appendix A.

[3] See Caplan (1956) for a discussion of inflation in this period.

The large disinflation in 1951 was also both indirectly and directly related to price controls. When the Korean War broke out in June 1950, consumers reacted with panic buying. Fearing a return to rationing, they attempted to stockpile goods that had been hard to get during World War II (Ginsburg, 1952). Not surprisingly, prices jumped—implying a surge in inflation. Price controls were introduced in January 1951. In addition, a large tax increase passed in 1950Q4 and a decline in the sense of panic helped quell the surge in consumer spending. Likewise, enactment of the Federal Reserve-Treasury Accord in March 1951 led to expectations that the Federal Reserve would be able to counter rather than exacerbate wartime increases in aggregate demand. The result was a rapid drop in inflation in the second quarter of 1951.[4]

The less dramatic, but still striking, drops in inflation in 1971 and 1975 were related to the Nixon wage and price controls. The Economic Stabilization Act of 1970 enacted in August 1970 gave the President the authority to control wages and prices. Phase I was a 90-day freeze on wages and prices that commenced in August 1971. It was followed by Phase II, which lasted until January 1973 and held wage and price increases to firm guidelines set by the Cost of Living Council. Whiteman (1978) estimates that the controls lowered CPI inflation by 3 to 6 percentage points in late 1971 and 1972. Inflation then jumped rapidly when controls were weakened in early 1973 and removed in April 1974. As in 1947, some of the rapid disinflation in late 1974 can be understood as the result of the end of the one-time jump in prices needed to return prices to their equilibrium levels.

That four of the most striking actual disinflations involve imposition and/or removal of price controls suggests that such episodes provide little guidance for modern policymakers, who show little interest in such measures. Moreover, the lesson from these episodes is hardly an encouraging one. Price controls lead to disinflations only through the intermediate step of causing a one-time jump in inflation when market forces are once again allowed to operate, which then

[4] Interestingly, there was no surge in inflation when price controls were removed in early 1953. The likely explanation is that the anticipatory jump in prices in 1950 had led to controlled prices that were not substantially out of line with market forces.

dissipates.

Underemphasis on Smaller, More Persistent Disinflations. Another limitation of focusing on actual disinflations is that it tends to miss smaller, but actually very successful disinflations. As can be seen in Figure 1, there were disinflations in both late 1950s and the late 1980s that were relatively modest in size, but very persistent. The 1958–59 disinflation brought inflation down from roughly 3 percent to 1 percent, and it remained there until the end of 1966. Likewise, the 1989–96 disinflation brought inflation down gradually from 4 percent to 2 percent, where it remained until 2005. Such modest but persistent disinflations can be quite impactful on the price level and overall welfare. Thus, in thinking about the lessons for successful disinflation, such episodes should be included.

Poor Guide to Policy. The most important downside of focusing on actual disinflations is that any such analysis provides a poor guide to policy. Focusing on times when inflation actually fell would effectively by selecting based on outcomes, and thus could bias any analysis of the effects of disinflationary efforts. That approach would include episodes where inflation fell without any active efforts by policymakers to bring it down (which are uninformative about the effects of attempts to reduce inflation), and exclude ones where policymakers set out to reduce inflation and failed (which may be very informative).

B. Deliberate Attempted Disinflations

Because of the problems inherent in focusing on ex post disinflations, we instead focus on deliberate attempted disinflations by monetary policymakers. This is obviously only a subset of policy actions taken to try to deal with inflation. There have been fiscal and regulatory actions proposed and enacted to try to lower inflation at various times in the post-World War II period.

Why Focus on Monetary Disinflations? We focus on monetary disinflations for a number of reasons. One is simply the practical one that we have already identified deliberate monetary policy attempts at disinflation. Though it is conceivably possible to identify deliberate

fiscal disinflations, it would be difficult. Spending decisions, in particular, inherently have multiple purposes, and so classifying their motivation is hard.

A related practical consideration is that most anti-inflationary legislative actions that we have come across are relatively small or related to price controls. For example, President Jimmy Carter, in a major address on inflation in October 1978, proposed only delaying a tax cut, capping federal pay increases, and voluntary wage and price standards. Thus, we suspect that anti-inflationary legislative actions are unlikely to have played much role in determining disinflations.

Finally, as is widely understood, inflation is a monetary phenomenon. Or, to put it more moderately, inflation cannot persist without adequate money growth. Thus, it is natural to think that deliberate attempts at disinflation through monetary policy are central.

Identification of Deliberate Attempted Disinflations. In Romer and Romer (2023), we use the most detailed records of policy deliberations available to identify deliberate attempted disinflations. In the period after 1976, these records are the verbatim transcripts of FOMC meetings. For the period before 1976, they are the historical minutes, which contain detailed paraphrases of individual comments, each attributed to their speaker.

We identify a deliberate attempt at disinflation by three criteria. First, policymakers must express the view that the current level of inflation is unacceptable and a desire to reduce it. A desire merely to prevent inflation from rising does not, in our classification, count as an attempted disinflation. Second, policymakers must take concrete actions—typically a rise in interest rates—to try to bring about the desired reduction in inflation. And third, policymakers must convey a willingness to accept output consequences from their actions. This requirement can be thought of as a check on whether they are actually trying to reduce inflation; if so, they must be willing to accept some fall (or at least the risk of a fall) in real output to bring it about.

We find nine times between 1946 and 2016 when Federal Reserve policymakers met our criteria for an attempted disinflation. These dates are shown in Table 1. The date given is when we find the narrative record clearly meets our criteria. But of course, such actions rarely arise

without a gradual evolution of concern about inflation and a willingness to take action despite the possible real consequences. Likewise, deliberate attempted disinflations inherently last for more than a given month. One contribution of Section V of this paper is a new chronology of when the disinflationary policy was abandoned in each episode.

Figure 2 repeats the graph of core PCE inflation from Figure 1, with the dates of deliberate attempted disinflations indicated by red vertical lines. As can be seen, some episodes of extreme disinflation, such as that around the Korean War, have no disinflationary monetary policy actions associated with them. But in general, most successful disinflations have at least one shift to disinflationary policy (and occasionally multiple shifts) in close proximity. It also appears that some attempted monetary policy disinflations, such as those in 1968 and 1978, failed to reduce inflation. The rest of the paper tries to understand this variation in the inflation response.

II. How Committed Were Monetary Policymakers in Disinflationary Episodes?

The explanation for the variation in the success of attempted monetary policy disinflations that we investigate involves variation in policymakers' commitment to the policy. In particular, can differences in monetary policymakers' commitment as they embarked on the shifts to anti-inflationary policy account for much of the variation in ultimate success that we observe?

A. How We Measure Commitment

A crucial step in this analysis is to judge how committed monetary policymakers appeared to be to disinflation in the nine episodes.

Sources. To do this, we again read what monetary policymakers said during policy deliberations. Our main sources are thus the transcripts and historical minutes of FOMC meetings.[5] We supplement these records with the public speeches and testimony of the Federal

[5] In 1967, the historical *Minutes* were replaced by a document called the *Memorandum of Discussion*, which contained virtually the same type of records of policy discussions. In what follows, the in-text references to both the historical *Minutes* and the *Memorandum of Discussion* are identified simply as the *Minutes*. The transcripts of FOMC meetings are identified as *Transcripts*.

Reserve Chairs.[6] Chair speeches and testimony differ from the records of policy deliberations because they are typically prepared in advance and because they are clearly public documents. The records of policy discussions we use were either never intended to be made public, or were understood to be confidential for five years. As a result, the speeches may be less forthright than the policy records. On the other hand, speeches and testimony are sometimes more detailed and coherent than the unprepared remarks at policy meetings. As a result, we find them a useful adjunct to the policy record.

What We Look for in the Narrative Record. We consider various aspects of policymakers' views that fall under the general heading of commitment. The first is the magnitude of the output costs they were aiming for or willing to tolerate. In some cases of a decision to disinflate, policymakers clearly suggested limits on how far they were willing to go to achieve their goal. They may have said, for example, that zero real growth was fine, but a recession wasn't; or that a recession was tolerable as long as it is not severe. In other cases, policymakers conveyed a much clearer sense that they were willing to take whatever actions were necessary to get inflation down. A willingness to do whatever it takes regardless of costs conveys a greater commitment than actions that were clearly circumscribed.

Second, and related, is whether policymakers thought monetary policy could achieve disinflation essentially on its own. That is, did they think it was up to the Federal Reserve to bring inflation down regardless of others' actions, or did they view the Federal Reserve's responsibility as only to do a part and to rely on others for the rest? A firm belief that monetary policy could and should reduce inflation, regardless of what other policy actions were being pursued by Congress and the President, suggests more commitment to disinflation than a belief that monetary policy cannot do it on its own.

Third, did they have a clear goal for what they wanted to bring the inflation rate down to, or

[6] Specifically, we use the speeches and testimonies collected on FRASER (Federal Reserve Bank of St. Louis, 1947–2022). The materials are found by searching under the title: "Statements and Speeches of [Federal Reserve Chair name]".

just a general desire to reduce it from its current level? A firm goal shows more commitment than a fuzzy goal.

Finally, we consider whether the effort was a "second try" following closely on an earlier effort. Almost inherently, if policymakers launch a new disinflationary effort in the wake of a previous one, they believe they are more serious than they had been in the earlier attempt.

B. Examples of the Narrative Evidence on Commitment

We now turn to a discussion of what the narrative record reveals about policymakers' commitment to disinflation in different episodes. Online Appendix B provides a detailed episode-by-episode description of the narrative evidence. In this section of the paper, we present condensed versions of three of these descriptions to illustrate how we classify commitment.

High Commitment Episodes. An example of an episode where we find a very high level of commitment to disinflationary policy is May 1981. After allowing interest rates to fall substantially in the summer and early fall of 1980, monetary policymakers agreed to take a second serious run at disinflation. A common theme of the policy discussion was that policymakers did not want to repeat the error they felt they had made in loosening substantially in the late spring of 1980. For example, in December 1980, one Federal Reserve Governor said: "I think we should make every effort to avoid a replay of 1980, with a sharp drop in interest rates which misleads everybody as to what our policy is, and then probably a replay of what happened this fall" (*Transcript*, 12/18–19/1980, p. 43). In July 1981, a Reserve Bank President echoed the same sentiment, saying: "Through the course of recent history at least, we've backed off and we've made a mistake each time. I think we have an opportunity this time to carry forward what we should have done before" (*Transcript*, 7/6 –7/1981, p. 55). We believe that policymakers' expressions of remorse about not sticking with the previous policy and deciding to try again convey tremendous commitment.

Another sign of strong commitment comes from the clear willingness of policymakers to

accept substantial output losses to get inflation down. One Reserve Bank President said: "Are we willing to tolerate—and in fact contribute to—a certain amount of further economic distress in the months and the year ahead if that is necessary to break the back of inflation? And I would say yes" (*Transcript*, 12/18–19/1980, p. 36). At the same meeting, Chairman Volcker said: "We have been put in a position or have taken the position … that we are going to do something about inflation maybe not regardless of the state of economic activity but certainly more than we did before in looking at it in the form of avoiding excess demand" (p. 61). Likewise, FOMC Vice Chairman Anthony Solomon said: "I think it's more likely that after a protracted period of these high real interest rate levels we will see a significant recession both here and abroad" (p. 22). These comments are about as close to a "whatever it takes" sentiment toward the acceptable costs of disinflation as we see in the historical *Minutes* and *Transcripts*.

Though Volcker mentioned a wide range of other policies that he felt would be useful in lowering the costs of disinflation, his public statements in this episode ultimately put the burden of disinflation squarely on monetary policy. In March 1981, he said: "The Federal Reserve has an indispensable role to play in dealing with inflation. To be effective, we must demonstrate that our own commitment is strong, visible, and sustained. That is our intention" (Volcker testimony, 3/27/1981, p. 10). And in his Humphrey-Hawkins testimony in July 1981, he said: "These considerations help point to the wide range of policies necessary to support a sustained and effective effort against inflation. … But there can be no escaping the fact that monetary policy has a particularly crucial role to play and, in current circumstances, has a particularly heavy burden" (Volcker testimony, 7/22/1981, p. 3).

The one aspect of this episode that does not clearly scream commitment is the lack of a clear goal for inflation. Indeed, one striking feature of the policy discussion is the degree to which inflation was barely mentioned. It is possible that the goal was so obvious to people in the room that they didn't feel the need to express it. Even admitting this one aspect of weakness, we feel comfortable scoring this episode at our highest level of commitment. The willingness to inflict

significant output losses to get inflation down, combined with the inherent forcefulness of monetary policymakers undertaking a second monetary contraction because they felt they had erred in ending the previous one too soon, are sufficient evidence of very high commitment.

The two other episodes where we find very high commitment to disinflation are September 1958 and October 1979. The 1958 episode shares with 1981 the characteristic that policymakers were taking a second try at disinflation because they felt they had erred in loosening too soon following the previous attempt. They also expressed the clear goal of not just getting inflation down, but to get it down to zero and to dispel the idea that a positive inflation rate was normal, and a willingness to bear substantial costs for achieving that goal. In 1979, policymakers were very forceful in their desire to reduce inflation and their willingness to accept substantial output costs. They also often spoke directly in policy discussions of their commitment to the new operating procedure that they felt would lead to disinflation. However, two characteristics of the discussion lead us to believe their commitment did not rise to quite the highest level: their disinflation goal was quite vague, and they continued to invoke the need for a wide range of non-monetary policies to achieve disinflation.

Low Commitment Episodes. An example of an episode where we find a very low level of commitment to disinflationary policy is August 1978. Most important to this classification is the fact that policymakers put strict limits on how much output loss they were willing to risk to bring disinflation about. Federal Reserve Chairman G. William Miller said at the September 1978 FOMC meeting: "I would be very cautious to restrain the system more in the face of the pessimistic comments we already have and [precipitate] a recession …. You know, we are already down to growing at or below the trend line. Really, is there more that we can do short term?" (*Transcript*, 9/19/1978, p. 18, brackets in the original). Similarly, one of the more hawkish Reserve Bank Presidents said: "It seems to me that there is at least a majority consensus within this group that inflation is a problem and that it would be desirable, if possible, to attempt to slow growth in the aggregates without causing a recession. I think even the most maverick of us would be resistant

to anything that would lead to recession" (*Transcript*, 9/19/1978, p. 31). That policymakers were only willing to bring output growth to slightly below trend and were highly averse to a full-blown recession suggests that they were about as far from having a "whatever-it-takes" attitude as they could have and still be classified as effecting a contractionary monetary policy shock.

A second indication that policymakers' commitment to disinflation was weak is that they were very vague about what inflation rate they were aiming for, and they were clearly not in a hurry to get inflation down. At the October 1978 FOMC meeting, Miller emphasized that: "What we need is a steadiness of purpose. Inflation built up over twelve years; we are going to have to wring it out over five to seven years" (*Transcript*, 10/17/1978, p. 23).

A third indication of a low commitment to disinflation is Miller's view that monetary policy could not lower inflation on its own without extreme costs. In a speech in December 1978, he gave long list of other policies that he felt were needed to reduce inflation: "first, fiscal policy; second, incomes policy; third, reduction in regulatory burden; fourth, revitalization of productivity; fifth, a balance in our international accounts; and sixth, a monetary policy which complements and supports the other elements" (Miller speech, 12/12/1978, p. 3). Though putting monetary policy sixth on the list may have been merely a rhetorical flourish, when combined with the other signs of low commitment, it can't help but feel like an omen.

The two other episodes where we find low commitment (though slightly more than in 1978) are December 1968 and April 1974. The key characteristic that these episodes share with 1978 is that policymakers placed clear limits on the output losses they were willing to tolerate to bring inflation down. In both cases, monetary policymakers were willing to accept a slowdown of growth to below trend, but they strongly wished to avoid a clear downturn or a full-blown recession. Also as in 1978, policymakers in these episodes felt that other policies, particularly contractionary fiscal policy, were a crucial complement to monetary contraction. At the same time, in both 1968 and 1974, policymakers voiced more passion for disinflation than in 1978, and had a slightly clearer and more timely goal for inflation.

Medium Commitment Episodes. An example of an episode where we find a medium or moderate level of commitment to disinflationary policy is that in August 1955. The most informative statements in the *Minutes* during this episode about willingness to accept or risk output costs are strong but well short of extreme: "the System could never take action that would be effective without taking some risks" (*Minutes*, 8/2/1955, p. 38); "continuing the present policy of tightness without allowing the tightness to become so severe as to be a cause, or to be cited as a cause, of a down turn in the economy, if such a down turn developed" (*Minutes*, 10/4/1955, p. 6); and "a firmer monetary policy—one firm enough to curtail spending and thus dampen price pressures" (*Minutes*, 11/16/1955, p. 20).

Federal Reserve policymakers in this episode viewed all inflation as harmful, and so their goal was to eliminate it. In August 1955, for example, Martin identified the mere fact of "upward price movements" as one of the "danger signals" that "are now flashing red" (*Minutes*, 8/2/1955, p. 13). Indeed, discussions of prices were typically framed in terms of the behavior of the price level, not inflation. In a typical statement, New York Federal Reserve President and FOMC Vice Chairman Allan Sproul said in July 1955, "prices which have been stable, in the aggregate, for two years may be about to get a push on the up-side" (*Minutes*, 7/12/1955, pp. 25–26). But the statements do not extend beyond that—in contrast to the 1958 and 1981 episodes, there was no indication of a desire to decisively address inflation.

Importantly, monetary policymakers had some, though not overwhelming, doubts about their ability to address inflation on their own. Most notably, they viewed "responsible" behavior by private actors—essentially, civic-minded moderation in demands for price and wage increases—as necessary for the economy to reach "potential" output without inflation. In the speech where he gave the famous "punch bowl" analogy, Martin immediately pivoted to the essential role of private behavior: "The Federal Reserve … is in the position of the chaperone who has ordered the punch bowl removed just when the party was really warming up. But unless the business community, leaders in all walks, exhibit moderation, prudence, and understanding, then

we will fail" (Martin speech, 10/19/1955, p. 12). The FOMC discussed the limitations of monetary policy at some length in March 1956. The discussion concluded with Martin saying the issue was serious but they should proceed: "the Committee could not expect monetary policy to achieve all of the task. However, the threat of a wage-price spiral was so strong today that the System would be derelict in its duty and obligation if it did not do all that it could do" (p. 35). Thus, it appears that monetary policymakers had some qualms about their ability to address inflation and how far they would go, though not enough to stop them from taking serious action.

The two other episodes where we identify a medium level of commitment are October 1947 and December 1988. 1947 is a complicated case because policymakers were willing to accept substantial output costs and had the clear goal of reducing inflation to zero, but were unsure if they had the tools to actually bring about the needed contractionary policy in the era before the Federal Reserve-Treasury Accord. Thus, the medium commitment designation reflects an average of strong commitment on two dimensions, and substantial doubt about their capability on the other. In 1988, Federal Reserve Chairman Alan Greenspan expressed the very clear goal of reducing inflation to the level where it did not enter into agents' economic decision-making. But policymakers in this episode put clear limits on the output losses they were willing to accept, and felt other policies were important to their ultimate success.

C. A Scaled Dummy Variable

As we hope these brief narrative descriptions (and the more detailed material in Online Appendix B) make clear, there were clear differences in the degree of commitment monetary policymakers brought to disinflation in different episodes. As a crude summary of the narrative analysis, we suggest a rough scaling of commitment in the nine disinflationary episodes we identify. We use a scale of 1 to 5, where 1 is weak commitment and 5 is very strong commitment. We focus on getting the relative level of commitment correct, and so scaling similar episodes

similarly. We are less confident that the change in commitment from one level to another is the same across the whole range of commitment. Table 1 shows the value we assign to each episode.

III. The Behavior of Inflation in Disinflationary Episodes

Armed with the narrative evidence of differences in commitment in disinflationary episodes, the natural next step is to see if the behavior of inflation shows a correlation with policymakers' commitment. That is the topic of this section.

A. Basic Facts

Figure 3 shows three quarterly measures of inflation in each disinflationary episode. The three price indexes are the PCE price index less food and energy (the core PCE price index), the PCE price index, and the GDP price index. We focus on quarterly data because they allow us to look at the change in a given quarter (as opposed to the change from a year ago), without facing the volatility evident in one-month changes. We measure inflation as the change in logarithms (times four hundred to express at an annual percentage rate).

High Commitment Episodes. The three episodes where we identify high commitment to disinflation are 1958, 1979, and 1981. Panel (c) of Figure 1 shows that inflation fell relatively little following the 1958 disinflationary shock. At some level, this was inevitable because inflation was quite low even before the monetary actions were taken. However, policymakers were clear that they wanted to get inflation from a low positive number to effectively zero—and they clearly succeeded. The other striking feature is that inflation remained very low through 1965. Thus, this episode is consistent with the view that high commitment may be correlated with a more durable disinflation.

The behavior of inflation in the two Volcker episodes is somewhat hard to disentangle because the two shocks are so close in time. However, the overarching picture of this period (shown in panels (g) and (h)) is that this highly committed disinflationary policy was followed by

a substantial and highly durable fall in inflation. Inflation measured using the core PCE price index fell from 9.7% in 1980Q1 to less than 3% in 1984Q4. And, though individual series bounced around somewhat, inflation was generally below 4% through the late 1980s. The timing of the decline in inflation suggests that both shifts to disinflationary policy played a role. Inflation was generally flat over the year following 1979Q4, but then dipped noticeably just before the second try at disinflation in 1981Q2. But then after the 1981 shock, inflation fell rapidly and continuously. Thus, the behavior of inflation in these episodes is again consistent with the view that highly committed disinflationary policy is associated with strong and durable disinflation.

Low Commitment Episodes. The 1968 shock is one where we find low commitment to disinflation. As can be seen in panel (d) of Figure 3, inflation was remarkably steady at over 4% for almost all of the three years following the shock. Not until wage and price controls were imposed in August 1971 did inflation show a noticeable drop. Thus, in this case, a low commitment monetary contraction was associated with little or no actual disinflation.

The 1974 shock (panel e) is another characterized by low commitment. The trend in prices following this episode is complicated by the oil embargo that began in October 1973 and ended in March 1974. Oil prices surged during the embargo and then leveled out after the embargo at the final higher price. As oil price inflation went from positive to roughly zero, we would expect rising overall inflation followed by falling inflation—which is exactly what we see in the data. Thus, it is likely that the rapid drop in inflation immediately after the monetary shock in 1974Q2 is due to geopolitical developments surrounding oil, not to monetary policy. Perhaps a better indication of the impact of the monetary shock is to compare inflation before October 1973 and after early 1975 (when the transition to stable oil prices had had time to be reflected in overall inflation). Core PCE inflation was roughly identical pre-1973Q4 and post-1975Q2—suggesting little progress on inflation. Inflation measured using the GDP and PCE price indexes shows slightly more progress, but it was short-lived. Thus, with some admitted twists and turns, this episode too is consistent with the notion that low commitment to disinflation is associated with little actual disinflation.

The 1978Q3 shock is the one we rate lowest in policymaker commitment to disinflation. Clearly, the inflation series shown in panel (f) do not show much success. However, oil price movements again complicate the analysis. A second oil price shock led to rising oil prices between mid-1979 and mid-1980. Thus, at least some of the dismal performance of inflation in this episode is surely due to factors outside monetary policymakers' control. The most one can say from a simple graph of the inflation data is that there is no evidence that this low commitment monetary contraction was successful in reducing inflation.

Medium Commitment Episodes. In the 1947 disinflationary shock, monetary policymakers very much wanted to get inflation down and had a clear inflation goal, but they were somewhat unsure about whether they possessed the tools needed to actually bring disinflation about. As a result, we scale it as a medium level of commitment overall. Nevertheless, the inflation data shown in panel (a) suggest that inflation fell quite strongly in this episode—from roughly 8% in late 1947 to below zero in 1949. Some of this fall in inflation could be the result of the rapid reconversion of production to meet the surge in consumer demand in the early postwar period (see Caplan, 1956). But it is also consistent with the notion that moderate commitment to disinflationary policy is associated with at least moderate disinflation.

The 1955Q3 episode is another where we identify a moderate commitment to disinflation. The data in panel (b) of Figure 3 show that inflation initially rose noticeably after the contractionary shock—presumably for reasons in train before the policy shift. Then, starting roughly a year and a half after the shock, inflation began to fall irregularly. After three years, inflation had declined by about 2 percentage points. This episode suggests that moderate commitment may be associated with a moderate and somewhat noisy decline in inflation.

The behavior of inflation following 1988Q4, the third episode where we identify a moderate commitment to disinflation, follows a remarkably similar pattern. As seen in panel (i), inflation bounced around substantially for close to two years following the shock, before starting to fall

consistently. Inflation fell roughly 1½ percentage points by three years after the shock, and 2 percentage points by four years after.

Taken together, this review of the behavior of inflation following episodes of deliberate disinflationary policy is broadly consistent with the view that the degree of commitment policymakers had to disinflation is correlated with the success of the disinflation. High commitment to disinflation was followed by sometimes strong and always durable disinflation; low commitment was followed by flat or rising inflation; and moderate commitment was followed by irregular but at least moderate disinflation. At the same time, the correlation is far from perfect. Additional factors such as fluctuations in oil price inflation and variation in the starting rate of inflation clearly also influence the behavior in inflation during periods of deliberate disinflationary policy.

B. Regression Analysis

In Romer and Romer (2023), we use a local projection approach to estimate the response of inflation to disinflationary monetary policy shocks. In that analysis, the key explanatory variable is a simple dummy variable for the dates of the policy shocks.[7] Given the variation we identify in policymakers' commitment, it is natural to see how the results change if we replace the simply dummy with one scaled using our measure of commitment given in Table 1.

Panel (a) of Figure 4 shows the results for inflation measured using the GDP price index. The solid blue line replicates our previous results using the unscaled shock variable; the dashed blue lines show the two-standard-error bands.[8] The red lines show the point estimate and error bands for the specification using the shock series scaled by commitment. To ease comparison of the two estimates, we multiply the point estimate and standard errors from the regression using

[7] The specification for the regression is that inflation *h* quarters after time *t* is regressed on a constant, four lags (relative to time t) of both inflation and the monetary shock indicator variable, and the shock indicator at time *t*. The coefficient on the shock variable for values of *h* from 0 to 20 quarters after the shock is an estimate of the impulse response function.

[8] The results are not literally identical to our earlier ones because we use recently revised inflation data.

the scaled series by the average of the commitment rankings. The estimated impact of a disinflationary shock is more consistently negative and more precisely estimated using the scaled dummy in place of the unscaled dummy. There is also much less evidence of a price puzzle at short horizons using the scaled dummy. This is suggestive evidence that taking into account policymaker commitment to disinflation helps improve the explanatory power of the regression.[9]

Panel (b) of Figure 4 provides a visualization of how the impact of a disinflationary shock depends on the degree of commitment. The pale blue line shows the impulse response function for a disinflationary shock with our lowest level of commitment (a 1 on our scale); the dark blue line shows the impulse response function for a disinflationary shock with our highest level of commitment (a 5 on our scale). As can be seen, a contractionary monetary policy backed with very weak commitment results in a fall in inflation of roughly ½ percentage point after five years. A contractionary shock backed by high commitment results in a fall in inflation of roughly 3 percentage points after five years.

IV. Transmission of Commitment Through Expected Inflation

Our finding that disinflationary efforts are more successful in episodes where the Federal Reserve's commitment to disinflation was stronger raises the question of what mechanism brings this about. One possibility is that stronger commitment to bringing inflation down in an episode lowers expected inflation among price- and wage-setters, thereby reducing the output costs of disinflation, and so leading to greater success.

If this mechanism is at work, one would expect that expected inflation would fall following public reports of strong monetary policymaker commitment to disinflation. This section examines some evidence about whether this occurs. Our main focus is on whether news about monetary

[9] Using the scaled dummy has only a minor impact on the regression for real GDP. The estimated maximum negative impact of a monetary shock with average commitment is about 10 percent smaller using the scaled dummy in place of the unscaled dummy. The estimated statistical significance of the effect is largely unchanged.

policymakers' commitment to lower inflation leads forecasts of inflation to fall. But we also look at evidence from the Federal Reserve's current efforts at disinflation, where there are high-frequency indicators of expected inflation from financial markets, to investigate the immediate impact of news about commitment in one episode.

A. Public Reports of Commitment in Different Episodes

What is relevant to the expectational mechanism is public perceptions of the Federal Reserve's commitment to disinflation, not what the later release of information about its internal deliberations shows about its commitment. We therefore start by investigating the evidence from contemporaneous news reports about commitment in each episode. In order to have a consistent source across episodes, we conduct a search of the *New York Times* for relevant articles around the time of each shift to disinflationary policy. We then examine those articles to see what information, if any, they provide about the Federal Reserve's commitment to disinflation.

Online Appendix C provides an episode-by-episode description of the evidence from each episode. Similar to what we do in Section II, here we present condensed versions of three of those descriptions.

High Commitment Episodes. As discussed in Section II, May 1981 is an example of an episode where policymakers were highly committed to disinflationary policy. The public evidence of commitment in this episode was quite strong, but it appeared gradually rather than in a short, clearly defined period.

The first wave of reports of redoubled commitment came in late 1980 and early 1981. The *Times* reported that monetary policymakers "said that the lack of improvement in the prospects for curbing inflation had renewed their conviction that the Federal Reserve should maintain a tight monetary policy" (1/5/1980, p. A1). It also said, "The Federal Reserve's ever-tightening grip on the nation's monetary valves is a signal that the central bank is determined to squeeze the worst of inflation out of the economy—even if it produces a hair-curling recession next year"

(12/14/1980, p. E5).

The second wave came in May and June 1981. A front-page story in early May cited one reason for an increase in the discount rate as being "to signal to the financial community that it will redouble its efforts to hold down growth of the money supply" (5/5/1981, p. A1). A week later, the *Times* reported, "the Federal Reserve Board is making a most aggressive effort to throttle growth of the money supply," and, "the Fed has indicated that it will now act more quickly and forcefully to control the money supply (5/13/1981, p. D1). A later article quoted an analyst: "'Forget about October '79. This is much tighter'" (6/28/1981, p. F1).

The other two episodes with high commitment to disinflation are September 1958 and October 1979. The Federal Reserve's commitment to eliminate inflation in the 1958 episode received considerable attention and was described in strong terms. The reports in the 1979 episode were similar but not as strong, and so in that case readers of the *New York Times* would have had substantial but not overwhelming grounds for believing that monetary policymakers would pursue anti-inflationary policy in the face of obstacles.

Low Commitment Episodes. An episode where policymakers showed low commitment to disinflation is August 1978. The public evidence also suggested little perceived commitment in this episode. In the months before the policy shift, there were reports that the Federal Reserve might take strong steps to reduce inflation. But such discussions largely disappeared once policy actually shifted. One article early on seemed to suggest significant commitment to disinflation, reporting, "The Federal Reserve System apparently has adopted a 'get-tough' attitude to combat excessive money growth and inflation, a sharp change" from its previous "cautious, gradualistic approach," (9/25/1978, p. 36).[10] But much more typical were an article about Miller discussing various measures to deal with inflation with almost no mention of monetary policy (8/25/1978, p. 3); and an article reporting that "Miller was emphatic in rebutting suggestions that the

[10] As described in Online Appendix C, the *New York Times* is not available from August 10, 1978 to November 5, 1978, and so our source for those dates is the *Wall Street Journal*.

American economy was headed for a deep depression or even a mild recession because of the present high level of interest rates," and that he said that "Government would be wise to try to keep real economic growth in the range of 3 to 4 percent a year for the next 6 years" (11/21/1978, p. D13).

The two other episodes where policymakers showed low commitment to disinflation were December 1968 and April 1974. In the 1968 episode, the *Times* gave mixed messages about whether monetary policymakers' focus was on reducing inflation or preventing it from rising; and although the FOMC was described as willing to accept output costs, there was considerable emphasis on its desire to avoid a recession. And in the 1974 episode, price- and wage-setters would have seen some, but noticeably limited, evidence of commitment—indeed, somewhat less than in the 1968 one.

Medium Commitment Episodes. An example of an episode where policymakers had a medium commitment to disinflation is August 1955. Readers of the *New York Times* would have seen only mild evidence of Federal Reserve commitment to reduce inflation in this period. Monetary policy was regularly described using such terms as "mild restraint" (8/7/1955, p. 1), "relatively 'tight' money" (10/15/1955, p. 1), intended "to guard against inflationary pressures" (8/25/1955, p. 31), and "aimed against possible development of inflation" (9/10/1955, p. 23). Perhaps the strongest reports in the months following the monetary policy shift were: a headline stating, "Federal Reserve Lifts Loan Rate to Curb Inflation," with the accompanying article saying the purpose of the shift was to "diminish" one "source of inflationary pressure" (8/4/1955, p. 1); "The Federal Reserve has every intention of supplying enough reserves to keep the economy moving upward—gently. … The key question confronting authorities is … whether the money supply can be kept in hand … without creating too severe a pinch and perhaps setting off a dip in the economy" (9/26/1955, p. 13); and in an article about a discount rate increase, a subheadline saying, "Advance … Aimed at Curbing Credit to Halt Inflation," with the article explaining that the change was "part of the Reserve Board's effort to tighten credit to keep the boom in the economy

from 'running away' into inflation" (11/18/1955, p. 1). With the exception of the reference to the effort "to halt inflation," none of these clearly referred to reducing inflation rather than preventing it from rising. An article in November mentioned that Federal Reserve Chairman Martin "has been conspicuous for his absence from the speaker's platform of late" (11/23/1955, p. 31), suggesting the monetary policymakers were not actively trying to communicate strong commitment.

The other two episodes characterized by moderate commitment are October 1947 and December 1988. Monetary policymakers' public statements in the October 1947 episode about their ability to reduce inflation using their existing tools were quite pessimistic, perhaps because they were lobbying for additional powers. As a result, the public would have seen very little evidence of commitment to reduce inflation. In the 1988 episode, the reports of commitment were similar to those in the 1968 episode, though perhaps slightly weaker. As in that episode, the *Times* gave mixed messages about whether the goal was reducing inflation or preventing it from rising. And monetary policymakers were generally portrayed as wanting to steer well clear of recession and to bring inflation down quite slowly.

B. Some Evidence on the Expectational Mechanism

Evidence from Professional Forecasts. We now turn to the question of whether reports of Federal Reserve commitment to disinflation are associated with falls in expected inflation. The data on expected inflation that go back furthest are from surveys of forecasters, and so we focus on those. Since price- and wage-setters surely pay less attention than forecasters to monetary policy, using professional forecasts is more likely to work in the direction of overstating the strength of the expectational channel than understating it.

The only survey of forecasts available early in our sample period is the Livingston Survey, so we use that for the first three episodes. Thereafter, we use the Survey of Professional Forecasters (SPF). The inflation measure available from the Livingston Survey is the Consumer

Price Index. The only price index consistently covered by the SPF is a price index for GDP (or GNP).[11]

One drawback of the surveys is that the horizons are generally fairly short relative to the time frame over which the forecasters likely thought monetary policy could have a noticeable impact on inflation. We therefore focus on forecasters' expectation of inflation in the last time period covered by the survey. For the Livingston Survey, this is inflation over the 6 months starting 6 months after the date of the survey. For the SPF, it is inflation in the quarter 5 or 6 quarters after the date of the survey. Throughout, we look at the mean forecast among the survey participants.

For each episode, we look at the behavior of the resulting measure of expected inflation around the time of the main news of Federal Reserve commitment to reduce inflation. Ordered from the episode where we see the strongest to the weakest public evidence, and dated using the times of the greatest news, these times are August–October 1958, January–May 1981, October 1979, December 1968, January–March 1989, April 1974, August–October 1955, September 1978, and October 1947.

Figure 5 presents the results. The month labeled zero on the horizontal axis of each panel corresponds either to the main month of public news (in episodes where the major reports came in a single month, such as October 1979) or to the midpoint of the period with the main news (in the episodes where the major reports were dispersed, such as the 1981 episode). When the news came mainly in one month, the panel includes a solid vertical line at month zero; when it was dispersed, the panel includes dashed vertical lines at the months of the start and end of the main news. Since our interest is in the immediate impact of the reports, the horizontal axis of each panel extends from the last observation before the start of the main news to the first observation after the end of the main news.

[11] The sources of the forecast data and other data used in this section are given in Online Appendix A.

The results provide no evidence that prominent news of Federal Reserve commitment to reduce inflation lowers expected inflation. In the three episodes with the strongest public news of commitment—panels (c), (g), and (h)—inflation forecasts were essentially flat around the times of the reports. For the episodes with the weakest news about commitment—panels (a), (b), (e), and (g)—on average expected inflation rose slightly.[12] In the remaining two cases—panels (d) and (i)—there was little change.

High-Frequency Evidence from the Recent Episode. As mentioned in the introduction and described in more detail in Section VI, the Federal Reserve embarked on a tenth episode of attempted deliberate disinflation in 2022. For this episode, the presence of markets for inflation-indexed securities allows us to use a high-frequency approach to examine the link between reports of monetary policymakers' commitment and expectations of inflation. The basic idea is to look for the days with the strongest reports of new evidence of monetary policymakers' commitment to reducing inflation, and then examine the behavior of expected inflation as measured by financial markets on those days. Because these data are available only for this episode, we cannot use them to make comparisons across episodes. Instead, ask whether in one episode, new evidence of monetary policymakers' commitment to reduce inflation had an immediate impact on expected inflation.

We proceed in three steps. The first is to identify days when there was substantial new information about the path of monetary policy. Specifically, we consider days when the nominal 2-year Treasury rate rose by at least 8 basis points (on the grounds that moves in the 2-year rate are often used in the financial press and in studies of monetary policy as a summary measure of changes in expectations about monetary policy). We look for such days over the period when monetary policymakers transitioned from thinking there was little need to raise interest rates to address inflation to displaying public commitment to reducing inflation. Our exact sample period

[12] Note that because the change in forecasted inflation was so large in the 1947 episode, the vertical scale of panel (a) of the figure differs from the others.

is June 16, 2021 (the date when the 2-year rate first rose above 0.2 percent) to November 7, 2022 (when the 2-year rate reached a local peak, by which time—as we describe in Section VI—the Federal Reserve had made its commitment clear). There are 44 days in this period when the 2-year rate rose by 8 or more basis points.

The second step is to isolate the subset of those days when the main reason for the increase was new information about the Federal Reserve's commitment to reduce inflation. To do this, we rely on contemporaneous accounts of the reasons for the increases. We look for days when the descriptions satisfy three criteria: the increase was attributed primarily to Federal Reserve commitment (rather than, for example, unfavorable news about inflation); no significant other reason for the increase was given; and ideally, the description reported actual new information about that commitment (for example, relevant statements by Federal Reserve officials). We first look at the *New York Times*; then, except in cases where that clearly rules out a day, we look at the *Wall Street Journal*.

This approach leads us to identify seven days that unambiguously meet our criteria: two days of FOMC meetings, two with other statements by Federal Reserve Chair Powell, one with a release of FOMC minutes, one with a speech by another Federal Reserve Governor, and the day when it was announced that Powell would be renominated. Five additional days largely meet them but are less clear-cut. These are days where the increase was attributed to market participants reassessing the FOMC's commitment, but without a precise source of new information being described; most often, the developments are characterized as reassessments of recent news concerning monetary policy. Given the small number of days that meet our criteria, we consider both a narrow sample of seven days and a broader sample that includes the five additional days. Summing over these days, the 2-year rate rose by 80 basis points in the narrow sample, and by 150 basis points if the marginal days are included. For comparison, the total increase in the 2-year rate from June 15, 2021 to November 7, 2022 was 456 basis points. Online Appendix D describes the evidence that leads us to identify these twelve days, as well as examples of the evidence that

leads us to exclude the other days with large rises in the 2-year rate.

The third step is to examine the behavior of expected inflation on those days. We use two standard market-based measures of inflation expectations implied by the spread between the rates on nominal and inflation-protected securities: the 5-year breakeven inflation rate and the 5-year, 5-year forward inflation expectation rate.

Table 2 shows the results. They suggest no consistent pattern. In response to new information about the Federal Reserve's commitment, market-based measures of expected inflation sometimes rose and sometimes fell, medium-term and long-term measures of expected inflation often behaved very differently, and the responses were sometimes large and sometimes small.[13]

As a simple summary, we regress the change in expected inflation on the change in the 2-year rate on these days. Because one would expect the change in expected inflation to be proportional to the news about monetary policy (and relatedly, because one would not expect expected inflation to move systematically in either direction if the 2-year rate did not change), we do not include a constant term. We consider both measures of expected inflation and both the 7-day and 12-day samples. Thus, we estimate four simple regressions.

For the narrow sample, the coefficient on the change in the 2-year rate is −0.10 (with a standard error of 0.14) for expected inflation over the next 5 years, and 0.20 (0.26) for expected inflation over the 5 years starting 5 years ahead. For the broader sample, the estimates are −0.14 (0.11) for medium-term expected inflation, and 0.02 (0.15) for longer-term expected inflation.

Discussion. Our results provide little support for the hypothesis that perceived policymaker commitment to disinflation in an episode helps to bring about disinflation by directly reducing expected inflation. Professional forecasts show no tendency to fall around the times of the strongest reports of Federal Reserve commitment in the episodes we study. In addition, for

[13] The articles in the *Times* and the *Journal* do not provide any explanations of the observations in Table 2 that seem most surprising, such as the large rise in 5-year, 5-year forward expected inflation on April 21, 2022.

the one episode where we can examine high-frequency data, the hypothesis of no relationship between the change in expected inflation and new information about commitment is not remotely close to being rejected; and when we consider only the days with the clearest news, the point estimate is wrong-signed and substantial for one of the two measures of expected inflation.

Of course, this is not definitive proof that beliefs about Federal Reserve commitment are not important to expected inflation. One issue is that our tests are not strong. As noted above, the horizons of the professional forecasts are relatively short, and forecasters may have reasonably believed that current and future monetary policy changes would have essentially no impact on inflation over those horizons. And because there are so few days that meet our criteria for the high-frequency test, the estimates using those data are imprecise. Although the hypothesis of no effect cannot be rejected in any of our specifications, neither can the hypothesis that the coefficient is −0.25, which would imply that a 100-basis point move in nominal interest rates in response to new information about commitment lowers expected inflation by 25 basis points at all horizons.

The second issue is that the near-term and long-term effects of commitment may differ. Forecasters and market participants may view expressions of commitment by monetary policymakers as conveying information about more than just their objectives, along the lines of work on the "Federal Reserve information effect" by Romer and Romer (2000), Nakamura and Steinsson (2018), and others. They could interpret them in part as suggesting policy is having a smaller impact than had previously been thought, and so needs to be tightened to achieve a given inflation objective; or as suggesting the inflation outlook is worse than had been thought. As a result, expressions of commitment to disinflation could leave expectations of inflation unchanged, or even cause them to rise. But even if this mechanism leads to an absence of short-term relationship, a general belief that the Federal Reserve is committed could cause expected inflation to remain anchored in the face of shocks.

In this scenario, expressions of commitment to disinflation during an episode would have little benefit—consistent with our evidence here. But a general reputation for commitment to low

inflation going into an episode could mute any rise in expected inflation in response to shocks or policy errors that pushed inflation up, and so lower the costs of reducing it—consistent with the evidence from other work of the importance of anchored expectations (for example, Gürkaynak, Levin, and Swanson, 2010). Since commitment going into an episode is likely the result of a track record of keeping inflation low and acting forcefully to reduce it when it rose, in this view it would be not monetary policymakers' current commitment to disinflation, but their past commitment to low inflation, that reduced the costs of disinflation. And the fact that actual price- and wage-setters likely pay little attention to monetary policymakers' declarations of commitment, but are at least broadly aware of past inflation performance, would reinforce the importance of past relative to current commitment in determining the behavior of inflation.

V. Transmission of Commitment through Policy Actions

The previous section finds no support for the hypothesis that greater commitment in an episode leads to more successful disinflations by reducing expected inflation. This section considers a different potential mechanism: that greater commitment leads to more successful disinflations by causing monetary policymakers to persevere in their anti-inflationary policies until they have more fully achieved their objectives.

A. The Ends of Disinflationary Efforts

The first step in investigating this mechanism is to determine when and why policymakers stopped pursuing disinflationary policies in each episode. To do this, we again use the records of FOMC meetings (the detailed historical *Minutes* for the early episodes and the *Transcripts* for the later ones), as well as the speeches and testimony of the Federal Reserve Chair.

One small complication in determining when the efforts ended is that whenever inflation was above the FOMC's most preferred level—which has been true over most of the postwar period—monetary policymakers generally expressed some desire that it be lower. As a result, it

would not be fruitful to require that policymakers expressed no concern about the current inflation rate for us to say their strong anti-inflationary efforts had ended. We therefore use several other criteria to identify the ends of their efforts. The most straightforward is whether they explicitly said that some development—either another concern, such as a sharply contracting economy or severe strains in the financial system, or success in achieving their objective with regard to inflation—made it appropriate to deemphasize inflation reduction. Another possibility is that policymakers described inflation as rising or failing to fall, but did not respond. More broadly, we look for the discussion of policy no longer being framed mainly in terms of how to lower inflation.

We also look at the behavior of the Federal funds rate (or, in the initial episodes, the 3-month Treasury bill rate) as a supplement to the narrative evidence. For example, a constant or rising funds rate in the face of a weakening economy would suggest continuing strong pursuit of disinflation; a sharp shift from a rising to a falling funds rate would be consistent with the end of the policy.

In determining *why* policymakers ended their disinflationary efforts, the first question is whether they believed they had achieved their inflation objective. If the answer is yes, the motivation for stopping is clear. If the answer is no, we examine the record to see what arguments were put forward for not continuing to try strongly to reduce inflation, or what considerations other than a desire to reduce inflation appeared to be driving policy. For example, policymakers might have said that it was not the role of monetary policy to do more, or that preserving financial stability should take priority over achieving disinflation.

Online Appendix E presents episode-by-episode analyses of when the disinflationary episodes ended and the reasons policymakers ended them.

B. Commitment and the Ends of Disinflationary Efforts

As described in Online Appendix E, although the shifts away from strong disinflationary

policies often did not occur all at once, they all took place over relatively short periods. For simplicity, we therefore date the shifts to specific months; in cases where the exact month is not obvious, we select the first month where it is clear the policy has changed. The resulting dates are presented in Table 3.

Table 3 shows a clear correlation between the strength of monetary policymakers' commitment at the start of attempts at disinflation and the length of time they strongly pursued disinflation. Most notably, the two episodes with the strongest starting commitment (1958 and 1981) are two of the three episodes where policymakers remained focused on disinflation the longest.

More importantly, we show in Online Appendix E that in the 1947 and 1958 episodes, and to a large extent in the 1981 and 1988 ones, the reason monetary policymakers stopped pursuing strongly disinflationary policies is that they felt they had largely achieved the inflation outcome they desired. At the FOMC meeting of February 28 and March 1, 1949, when the FOMC decided to move away from the anti-inflationary policy it had embarked on in October 1947, the Committee's Chief Economist "referred especially to recent declines in prices" (*Minutes*, 2/28/1949, p. 4); and Committee Vice Chairman Allan Sproul saw the most likely path for the economy as intermediate between "a temporary hesitation with inflationary pressures being resumed later in the spring" and "the beginning of a downward spiral of deflation," implying that inflation was no more likely than deflation (*Minutes*, 3/1/1949, p. 11). Similarly, when the FOMC moved away from the 1958 disinflationary policy, Vice Chairman Alfred Hayes stated: "Price developments … have been rather satisfactory. The decline in the stock market may to some extent reflect the emergence of some less fatalistic views with respect to creeping inflation. Consumer and wholesale price indices have been generally stable, and sensitive prices have tended to decline" (*Minutes*, 3/1/1960, p. 31).

The 1981 and 1988 episodes are in the same category, but less clear-cut. At the FOMC meeting in October 1982, when the Committee decided to pivot away from its overwhelming focus

on disinflation that had begun in May 1981, one of the most hawkish members of the committee commented regarding the staff's view of the outlook, "You have an impressively low inflation prediction" (*Transcript*, 10/5/1982, p. 7). In a speech the next month, Federal Reserve Chairman Volcker said: "We are still some distance from price stability. But I do believe we can now fairly claim the insidious upward momentum of inflation has been broken. … [C]ommon indices of inflation this year have been running at a third to a half of their earlier peak levels. I believe we also see signs that the hardened skepticism of financial markets and the public at large about our ability to deal with inflation … is beginning to yield. … And there are hard analytic reasons to believe that progress toward stability can be maintained during a period of business recovery" (Volcker speech, 11/16/1982, p. 4). Finally, at the time of the shift away from strongly anti-inflationary policy in July 1989, many FOMC members were skeptical; but Federal Reserve Chairman Greenspan, who was the driving force behind the policy shift, believed there had been considerable progress in addressing inflation. This was clearest in the two conference calls that preceded the July meeting. In late May, he referred to "a degree of softness, especially on the price side" (*Transcript*, 5/31/1989, p. 1). And in early June, he described "what was beginning to emerge very clearly as a significant defusing of inflationary pressures. Increasingly, as I look at commodity prices, and especially wages, I would be inclined to request [some easing]" (*Transcript*, 6/5/1989, p. 2). He also said, "All the discussions that I have been able to have … confirm that the inflationary processes are easing, not accelerating" (p. 3).

Online Appendix E shows that in the remaining episodes—1955, 1968, 1974, 1978, and 1979—policymakers stopped prematurely. In April 1956, as the FOMC began to back off from its policy of trying to eliminate inflation, the Associate Economist reporting on the business situation said, "At mid-April, the average [of industrial prices] was 5 per cent above the average for the first half of last year" (*Minutes*, 4/17/1956, p. 4). FOMC Vice Chairman Alfred Hayes said in August, "The sizeable increases in steel workers' wages and steel prices are likely to start a chain reaction in other industries. Already there is some evidence that this is taking place. … Prices in many areas

seem to confirm a tendency for effective demand to outrun available resources." (*Minutes*, 8/7/1956, p. 4). In January 1970, which is when we date the move away from the strong disinflationary policy that began in December 1968, the Committee's Chief Economist reported, "Pressures on costs and prices remain intense" (*Minutes*, 1/15/1970, p. 34). Likewise, the Open Market Manager reported: "with unemployment continuing at a low level and prices continuing to rise, there were few in the market who seemed to feel that the anti-inflationary program was really beginning to bite" (p. 24). In October 1974, when monetary policymakers were ending the disinflationary policy they had begun just 6 months earlier, Federal Reserve Chairman Arthur Burns said that "inflation was continuing at a two-digit rate. It remained a serious worldwide problem that threatened not only the economic system but social and political institutions as well" (*Minutes*, 10/15/1974, p. 61). And the Committee's Senior Economist said, "the outlook for inflation also remains distressingly poor" (p. 28).

The final two episodes where we find premature easing are the 1978 and 1979 attempts at disinflation, though in both cases monetary policymakers returned to a focus on disinflation relatively quickly. In April 1979, when the FOMC moved away from the disinflationary path it had embarked on the previous August, there was widespread agreement that the Committee had made little (or perhaps negative) progress toward its inflation goals. Sample comments included "this horrible inflation problem" (*Transcript*, 4/17/1979, p. 12); "The inflation situation is still very bad" (p. 12); and "inflation and inflation expectations are clearly mounting" (p. 16). And in May 1980, when the FOMC pivoted away from the disinflationary policy it had embarked on in October 1979, one Governor commented, "I don't think we can seriously say that we're out of the woods on inflation" (*Transcript*, 5/20/1980, p. 24); another said, "I'm still very much worried about inflation" (p. 25); and a third participant remarked, "inflation certainly is still a problem" (p. 25). FOMC Vice Chairman Anthony Solomon said, "There is nobody who assumes that the rate of inflation is going to be below 10 percent even by the end of the year" (p. 26).

This division demonstrates a strong, but not perfect, correlation between the strength of

commitment at the outset of disinflationary episodes and avoiding premature stopping. In the two episodes with the strongest initial commitment (1958 and 1981), monetary policymakers saw their efforts through to completion (or near completion). And in the three with the weakest commitment (1968, 1974, and 1978), they eased prematurely. The four remaining cases present a more complicated picture. The 1947, 1955, and 1968 episodes all exhibited moderate commitment, but one saw premature easing and two did not. And despite somewhat stronger commitment in 1979, policymakers stopped prematurely in that episode—although they renewed their commitment soon afterward.[14]

Thus, there appears to be an important link between monetary policymakers' initial commitment and their perseverance. The final step in investigating this mechanism is to see what led to premature easing in the episodes where it occurred.

C. Motivation for Premature Stopping and the Link to Commitment

The narrative record provides important insight into why monetary policymakers often abandoned disinflationary policy before they had achieved their inflation goals. These motivations for the premature end to strong disinflationary policy are discussed in each episode in Online Appendix E. In this section, we summarize those motivations and discuss their links to the initial commitment to disinflation monetary policymakers displayed.

Monetary Policy Had Done Its Part. One reason policymakers sometimes gave for easing before inflation had been reduced was that monetary policy had done all it could, or at least had done its part, and now it was time for other policies and actors to step up. This was clearly the

[14] The 1947 episode, in addition to being one that did not feature premature easing, is the episode other than 1958 and 1981 where policymakers remained focused on disinflation the longest. However, as described in Online Appendixes B and D, the 1947 episode is the least comparable to the other disinflationary episodes, and is better described as having mixed rather than moderate commitment. On most dimensions, policymakers' commitment was strong, but because of the institutional arrangements of the time, they had significant doubts about whether their tools would be enough to accomplish their objective. Given their strong desire to reduce inflation, it is not surprising that they pursued disinflation for a long time and did not stop until their objective had been achieved. But the unique features of this episode suggest it is not very useful for providing evidence about the general link between commitment and perseverance.

case in the 1955 disinflationary episode, where we identify the end of strong disinflationary policy in April 1956. In June 1956, one Federal Reserve Governor "felt that the System had accomplished to a large extent what it set out to accomplish: it had awakened the economy to the dangers of inflation. Now the System could afford to coast along and not make conditions any tighter" (*Minutes*, 6/5/1956, pp. 17–18). Likewise, Chairman Martin said that "against the Juggernaut of Government spending, and against the Juggernaut of inflationary prices, it [the FOMC] should not persuade itself that monetary and credit policy will be successful in halting what is occurring" (*Minutes*, 9/11/1956, p. 35).

The same view was clearly expressed by the staff in the 1968 episode. The FOMC's Economist told the Committee in early 1970: "we now have additional evidence that economic activity has ceased to rise in recent months," and "Pressures on costs and prices remain intense, but there is not much more that monetary policy can reasonably do about this once the excessive demand conditions aggravating the problem have been curtailed" (*Minutes*, 1/15/1970, pp. 31 and 34). Though we do not see FOMC members clearly expressing this view, they did agree to move toward ease at this meeting.

A third case where the view that monetary policy had done its part played a role was the 1978 Miller disinflation. The FOMC ended strong disinflationary policy around April 1979—despite the fact that inflation was rising. At the April FOMC meeting, one Reserve Bank President said: "I doubt if an increase in the funds rate would really give us any quick fix. Certainly it wouldn't do anything that I can see in the foreseeable future to affect the things that have been especially important in [causing] the recent increase in prices" (*Transcript*, 4/17/1979, p. 17). Likewise, at the same meeting, one Governor said: "I think we really ought to be easing. It's past time. … And I agree that there isn't much we can do to restrain the kind of inflation we have now other than to encourage moderate demand over the long pull" (pp. 29–30).

There is a strong link between our measure of commitment to disinflation and this motivation for premature stopping. One way that we identify low commitment is by whether

monetary policymakers thought that inflation was their problem to solve, and whether they thought they could deal with inflation on their own. In all three of these episodes, policymakers had indicated at the beginning of the disinflationary policy that they thought monetary policy was inherently limited. Thus, it is not surprising that we find low commitment, as revealed by this measure, is correlated with stopping disinflationary policy before inflation had actually been reduced.

Acceptable Output Costs Had Been Surpassed. By far the most frequent motivation we find for why policymakers abandoned disinflationary policy before inflation had been reduced involved the output costs of disinflation surpassing tolerable levels. This motivation again maps closely to our measure of commitment. A key criterion we use for identifying high commitment is that policymakers were willing to do whatever it took (and accept whatever output losses were required) to achieve disinflation. Lower commitment was often revealed by policymakers putting limits on the amount of output loss they were willing to accept. Thus, a natural way for low commitment to lead to failed disinflation is by causing policymakers to ease as soon as relatively small output costs were reached.

This motivation and linkage to commitment were particularly important in the three low commitment episodes we identify. The 1968 disinflationary policy was weakened greatly in January 1970. At the FOMC meeting that month, one Reserve Bank President explained that: "Thus far, the figures suggested that the correction would be modest in amplitude—not of true recession proportions. Nonetheless, he thought it was important that the change in the economic climate be reflected promptly in at least a modest change in policy orientation" (*Minutes*, 1/15/1970, p. 50). Another said that continuing with disinflationary policy would "be too risky" (p. 66). Chairman Martin, in his often somewhat inscrutable way, may have been agreeing with this motivation when he said that "he thought the time had clearly come for some adjustment in monetary policy. … On the theory that steel which bends is better than iron which breaks, he favored backing off slightly from the present posture" (p. 101). That policymakers stopped before

output fell noticeably is consistent with the fact that they had expressed tolerance for only small output losses as the start of the disinflation.

A similar pattern played out in both 1974 and 1978. We classify policymakers' commitment as quite low in these episodes in part because they were willing to risk only small output losses. And in both episodes, the narrative record indicates that mild output losses were a reason disinflationary policy was abandoned prematurely. In 1974, one quite hawkish Reserve Bank President said the FOMC had been aiming to dampen demand, but "the problem in the period ahead was to halt the decline in activity before it became too deep" (*Minutes*, 10/15/1974, p. 43). Similarly, in 1978, another Bank President said: "If it's our objective to avoid a recession, I think we have to move today; I don't think we can wait for another month" (*Transcript*, 3/20/1979, p. 25). Thus, in all of these low commitment disinflations, strong disinflationary policy was stopped because output losses had passed the low levels that had been deemed acceptable at the start of the disinflation.

We categorize policymakers' commitment to disinflation as only moderate in the 1988 episode in part because they again put clear limits on the acceptable output losses. Strong disinflationary policy was ended in roughly July 1989 because the output losses threatened to be larger than the FOMC felt were acceptable. One Governor said at the July FOMC meeting: "I've been sitting here thinking that I need a new hearing aid because I can't believe the change in the comments today versus the FOMC meeting in May or, for sure, the one in March. … Anyway, as you know, I've been somewhat concerned about the slowing economy for a fair while. So, it is nice to have some other people who are on board with the same concerns" (*Transcript*, 6/5–6/1989, p. 30). In his Humphrey-Hawkins testimony around the same time, Chairman Greenspan said: "But now signs of softness in the economy have shown up. Accordingly, it is prudent for the Federal Reserve to recognize the risk that such softness conceivably could cumulate and deepen, resulting in a substantial downturn in activity. … [W]hat we seek to avoid is an unnecessary and destructive recession" (testimony, 7/20/1989, pp. 15–16). Thus, this episode, too, shows a link

between limited commitment and early easing, working through output losses reaching an unacceptable level.

Output loss going above the initially-described tolerable level also explains why even some more committed disinflations were stopped. The difference between these cases and the ones just described is that the size of the output losses that led policymakers to stop were much larger. This is most obvious in the two Volcker-era disinflations. Though we classify policymakers' commitment as quite high in the October 1979 switch to disinflationary policy, the Federal Reserve nevertheless at least temporarily moved away from strong disinflationary policy in May 1980. The narrative record suggests that very high interest rates, along with the Carter-Administration-mandated credit controls, caused a sharp enough decline in output that it may have passed policymakers' very high threshold for backing away from disinflationary policy. For example, one Governor said: "And if that's the situation, that is a classic depression situation developing in the economy. The worst possible thing that could happen would be to continue to see credit and money contract because that would perpetuate and deepen the decline" (*Transcript*, 5/20/1980, p. 16). Chairman Volcker said: "The obvious risk is the presence of recession, and when that [occurs] one always has the feeling of being in a bottomless period" (p. 28).

The same situation occurred to a lesser extent in the 1981 disinflation. We score commitment as very high in this episode because policymakers demonstrated something akin to a "whatever it takes" attitude toward disinflation. Nevertheless, in October 1982 they backed away from strong disinflationary policy at a time when inflation had fallen substantially, but was not all the way to their goal. The reason they stopped appears to have been concern about the world economy and potentially catastrophic output losses. In describing the situation, Volcker said: "I'd say all of this leads to a considerable feeling in financial markets and elsewhere of developing disarray, a certain floundering. And that in itself contributes to uncertainty, which feeds upon itself. And it is dangerous in and of itself" (*Transcript*, 10/5/1982, p. 18). Even more ominously,

he said: "We haven't had a parallel to this situation historically except to the extent 1929 was a parallel" (p.19). This view was seconded by others. For example, one Reserve Bank President said: "I certainly am in the camp that thinks that we simply must bring rates down. I think we are at a point where we cannot go much longer in the way the economy is currently performing or we're going to see some very serious results emerging" (p. 44). When policymakers were highly committed to disinflation, it took the risk of another Great Depression to get them to loosen.

Fiscal Policy Would Fill the Gap. A related motive sometimes given for loosening monetary policy before inflation was reduced was concern that if monetary policymakers did not relax monetary restraint in the face of economic weakness, fiscal policymakers would move to fill the gap. Federal Reserve policymakers feared that this alternative would worsen inflation prospects and cause long-run fiscal imbalances.

The episode where this view held the most sway was the 1974 Burns disinflation. The clearest statement of the "fear of fiscal" motivation came from the FOMC's Senior Economist, who said: "It does seem clear, however, that the additional weakness that appears now to be developing in the economy is counter-productive. It will create strong demands for remedial action but will serve little purpose in further dampening inflationary forces" (*Minutes*, 10/15/1974, p. 28). The same motivation was also clearly implicit in the statement of one Reserve Bank President who said: "he questioned whether more slack in the economy would be generated in 1975—even in the staff projections—than the American people would be willing to accept for any length of time in the interest of dampening inflation" (p. 31). It may also have been the reasoning behind the statement of another Bank President, who "commented that in his view the main question was whether additional slack in the economy would be counter-productive. The issue, therefore, was whether the Committee should attempt to lessen the slack in prospect" (p. 39).

This motivation for premature easing also arose in both 1968 and 1978. In 1968, one of the Reserve Bank Presidents said that: "If the System did not moderate its course soon, … the likelihood was great that it would be following a course of gyrating policies from one extreme to

another—a type of course which had been followed in the past and for which the System had criticized itself and had been criticized" (*Minutes*, 10/28/1969, p. 55). In 1978, the view was expressed clearly by a Bank President, who said: "And as a matter of political reality, if the recession is more serious than it otherwise might be, I think the political system is such that we're likely to have the kind of fiscal policy fallout that will aggravate inflation rather than help" (*Transcript*, 4/17/1979, p. 13). This motivation for stepping back from disinflationary policy was also cited by Chairman Miller in a speech in May 1979. He said: "Finally, in monetary policy, we've been endeavoring to accomplish this [damping of inflationary forces] without throwing the economy into a serious tail spin, into a serious recession. Such a recession would automatically result in increased Federal deficits, would automatically result in pressures for additional Federal spending and would automatically result in increased bias toward inflation. which would start us off on a new treadmill and a new cycle the next time around" (speech, 5/1/1979, p. 7).

One cannot help but notice that the three episodes in which we see the fear of expansionary fiscal policy cited as a motivation for curtailing disinflationary policy were the three with the lowest commitment to disinflation. It could be that monetary policymakers in these episodes were simply looking for a reason not to carry through with their disinflationary policy, and the political argument was convenient. More likely, the strong limits that monetary policymakers put on the acceptable output losses in these episodes led them to assume that fiscal policymakers would behave in the same way. In either case, low commitment to disinflation caused monetary policymakers to move away from disinflationary policies before inflation was reduced.

In sum, this analysis of why monetary policymakers sometimes weakened or ended disinflationary policy before inflation was successfully reduced suggests a key role for the level of commitment. The same views that indicate low commitment ex ante are also the views that policymakers used to justify stopping contractionary policy prematurely. Thus, a key mechanism by which commitment affects ultimate success is through the willingness of policymakers to stick with contractionary policy until disinflation is achieved.

VI. Concluding Comments and Implications for Today

On multiple occasions in the decades since World War II, the Federal Reserve has made major attempts to reduce inflation. The inflation outcomes have varied widely, with the declines ranging from small and short-lived to substantial and persistent. In this paper, we show that the variation in monetary policymakers' commitment to reduce inflation—as indicated by the extent of their willingness to incur output costs, the clarity of their objective, the strength of their belief that monetary policy has the power and responsibility to control inflation on its own, the degree of their willingness to embrace a "whatever it takes" approach, and the extent to which they viewed themselves as going beyond earlier efforts—has been a critical source of the variation in outcomes. When the Federal Reserve was strongly committed to lowering inflation, it generally succeeded; when it was weakly committed, it generally failed.

We find no support for the hypothesis that stronger commitment in an episode reduces inflation by directly lowering expected inflation, and so reducing the output costs of bringing inflation down. Rather, stronger commitment leads to success through its impact on the strength and persistence of the Federal Reserve's disinflationary policy. When commitment is strong, monetary policymakers generally persist in their efforts until they have achieved their objectives. When it is weak, a mix of concern about the output costs, overreliance on models suggesting they had done all that was needed, and a belief that they had done their part and the rest was the responsibility of others, led them to ease too soon to achieve their objectives.

In 2022, the Federal Reserve embarked on another disinflationary attempt. The transcripts of the 2022 FOMC meetings, which we believe are the single best source for determining monetary policymakers' intent and commitment, will not be available until 2028. Thus, it is too soon for a definitive assessment. But there is enough evidence from other sources to permit some tentative judgments.

To start with, as described in Romer and Romer (2023), it appears that by roughly July 2022, monetary policymakers were willing to accept substantial output costs to bring inflation

down and were taking actions to bring that about—as opposed to, for example, vaguely expressing hope that inflation would fall or that policy actions could bring it down almost painlessly. Thus, this period appears to qualify as the tenth postwar disinflationary attempt by the Federal Reserve.

As of this writing (May 2024), inflation has fallen substantially but remains above the Federal Reserve's target. The evidence in this paper implies that whether inflation falls the rest of the way depends crucially on how committed monetary policymakers were when they embarked on their disinflationary efforts. This immediately raises the question of how strong that commitment was.

The bulk of the evidence points to strong commitment. First, there was a very clear and concrete objective. In the "Minutes" of FOMC meetings, speeches by Federal Reserve Chair Powell, and his post-meeting press conferences and Congressional testimony, the phrases "2 percent objective," "2 percent target," and "2 percent goal" came up over and over. Moreover, the Federal Reserve specified exactly what inflation measure it would use to judge whether it had achieved this objective.

Second, monetary policymakers clearly viewed achieving that objective as their responsibility and within their control. For example, in a speech in March 2022, Powell said simply, "The ultimate responsibility for price stability rests with the Federal Reserve" ("Minutes," 3/21/2022, p. 9). He began multiple press conferences with statements along the lines of, "We have both the tools we need and the resolve it will take to restore price stability" ("Minutes," 7/27/2022, p. 1). When he was asked at a Congressional hearing in June whether the Federal Reserve's commitment to tackle inflation would be limited by the high level of the Federal debt, he replied simply, "No, absolutely not" (U.S. House of Representatives Committee on Financial Services, 2022, p. 17). In a speech in August that was intended as a forceful overview of the Federal Reserve's disinflationary policy, after noting that "the current high inflation is a global phenomenon" and that "the current high inflation in the United States is the product of strong demand and constrained supply, and … the Fed's tools work principally on aggregate demand,"

he continued: “None of this diminishes the Federal Reserve’s responsibility to carry out our assigned task of achieving price stability” (Powell speech, 8/26/2022, p. 3).

Third, monetary policymakers said repeatedly that they were determined to persevere regardless of obstacles. In his August speech, Powell said, “Our responsibility to deliver price stability is unconditional” (Powell speech, 8/26/2022, p. 3). The “Minutes” of the September FOMC meeting reported: “Participants reaffirmed their strong commitment to returning inflation to the Committee’s 2 percent objective, with many stressing the importance of staying on this course even as the labor market slowed” (“Minutes,” 9/20–21/2022, pp. 9). The “Minutes” also referred to “a couple of … participants stressing that historical experience demonstrated the danger of prematurely ending periods of tight monetary policy designed to bring down inflation” (p. 10). And in his August speech, Powell said, “Restoring price stability will likely require maintaining a restrictive policy stance for some time. The historical record cautions strongly against prematurely loosening policy” (Powell speech, 8/26/2022, p. 2). He ended the speech by saying, “We will keep at it until we are confident the job is done” (p. 5).

Two aspects of the Federal Reserve’s commitment in 2022 appear somewhat less strong. Most obviously, since more than three decades had passed since the previous disinflationary episode, the effort was in no sense a second try. More importantly, monetary policymakers’ statements about the extent of the output costs they expect to bear, though significant, were somewhat moderate. There were only a few indications of a willingness to accept or risk a recession. The “Minutes” of the November 2022 meeting reported, “The staff … viewed the possibility that the economy would enter a recession sometime over the next year as almost as likely as the baseline” (“Minutes,” 11/1–2/2022, p. 6). And at the press conference following the December meeting, Powell said, “I don’t think anyone knows whether we’re going to have a recession or not and, if we do, whether it’s going to be a deep one or not” (press conference, 12/14/2022, p. 17). But such statements were unusual. The path policymakers described as the modal outcome was far short of a recession, particularly with regard to the labor market. For

example, in July 2022 Powell said merely that returning inflation to 2 percent was "likely to involve a period of below-trend economic growth," and, "We think that there's a path for us to be able to bring inflation down while sustaining a strong labor market, … along with—in all likelihood—some, some softening in labor market conditions" (press conference, 7/27/2022, pp. 3 and 11). Similarly, in September, he described the FOMC participants' projections as involving "a relatively modest increase in the unemployment rate from a historical perspective, given the expected decline in inflation" (press conference, 9/21/2022, p. 7).

Nonetheless, the overall weight of the currently available evidence points to the Federal Reserve being strongly committed to reducing inflation—similar to its commitment in the 1958, 1979, and 1981 episodes. We cannot rule out the possibility of a major financial, fiscal, or geopolitical crisis or political or institutional upheaval that will make history a poor guide to the current episode. But based on history, the most likely outcome of today's attempt at disinflation is that monetary policymakers will persevere in their disinflationary efforts until they have brought inflation down to, or very close to, their long-run target.

REFERENCES

Caplan, Benjamin. 1956. "A Case Study: the 1948–1949 Recession." In *Policies to Combat Depression* prepared by the Universities-National Bureau Committee for Economic Research, 27–58. New York: National Bureau of Economic Research.

Evans, Paul. 1982. "The Effects of General Price Controls in the United States during World War II." *Journal of Political Economy*: 90 (October): 944–966.

Federal Reserve Bank of St. Louis. 1947–2022. Federal Reserve Archival System for Economic Research (FRASER).

Ginsburg, David. 1952. "Price Stabilization, 1950–1952: Retrospect and Prospect." *University of Pennsylvania Law Review* 100(4): 514–543.

Gürkaynak, Refet S., Andrew Levin, Eric Swanson. 2010. "Does Inflation Targeting Anchor Long-Run Inflation Expectations? Evidence from the U.S., UK, and Sweden." *Journal of the European Economic Association* 8 (6): 1208–1242.

Nakamura, Emi, and Jón Steinsson. 2018. "High-Frequency Identification of Monetary Non-Neutrality: The Information Effect." *Quarterly Journal of Economics* 133 (3): 1283–1330.

New York Times. Various issues.

Rockoff, Hugh. 1984. *Drastic Measures: A History of Wage and Price Controls in the United States*. Cambridge: Cambridge University Press.

Romer, Christina D., and David H. Romer. 2000. "Federal Reserve Information and the Behavior of Interest Rates." *American Economic Review* 90 (3): 429–457.

Romer, Christina D., and David H. Romer. 2023. "Presidential Address: Does Monetary Policy Matter? The Narrative Approach after 35 Years." *American Economic Review* 113 (June): 1395–1423.

Rouse, Cecilia, Jeffrey Zhang, and Ernie Tedeschi. 2021. "Historical Parallels to Today's Inflationary Episode." Council of Economic Advisers Blog Post, July 6.

U.S. Board of Governors of the Federal Reserve System. 1946–1967. *Minutes of Federal Open Market Committee*.

U.S. Board of Governors of the Federal Reserve System. 1967–1976. *Memoranda of Discussion of the Federal Open Market Committee*.

U.S. Board of Governors of the Federal Reserve System. 1976–2016. *Transcripts of the Federal Open Market Committee*.

U.S. Board of Governors of the Federal Reserve System. 2022a. "Minutes of the Federal Open Market Committee."

U.S. Board of Governors of the Federal Reserve System. 2022b. "Press Conference Transcripts."

U.S. House of Representatives Committee on Financial Services. 2022. "Monetary Policy and the State of the Economy." June 23.

Whiteman, Charles H. 1978. "A New Investigation of the Impact of Wage and Price Controls." *Federal Reserve Bank of Minneapolis Quarterly Review* 2 (Spring): 2–8.

Wall Street Journal. Various issues.

TABLE 1

Romer and Romer Dummy, Scaled by Commitment

Date	Commitment (1 to 5)
October 1947	3
August 1955	3
September 1958	5
December 1968	2
April 1974	2
August 1978	1
October 1979	4
May 1981	5
December 1988	3

TABLE 2

Response of Expected Inflation to News about Commitment

Date	Change in 2-year rate (basis points)	Change in 5-year breakeven π (basis points)	Change in forward breakeven π (basis points)	News
		Core observations		
3/21/2022	17	4	4	Powell speech
7/6/2022	15	−3	1	Release of Minutes
11/22/2021	11	−4	−4	Powell renomination
1/26/2022	11	−3	−3	FOMC decision, press conf.
3/16/2022	10	−8	0	FOMC decision, press conf.
4/21/2022	8	1	19	Powell speech
4/5/2022	8	3	5	Brainard speech
		Marginal observations		
6/13/2022	34	−2	−2	
11/3/2022	10	−14	−12	
9/22/2022	9	−2	8	
9/15/2022	9	−5	−1	
10/6/2022	8	3	−3	

TABLE 3

Effective End Date for Disinflationary Shocks

Shock Date	Effective End Date	Duration
October 1947	March 1949	17 months
August 1955	April 1956	8 months
September 1958	January 1960	16 months
December 1968	January 1970	13 months
April 1974	September 1974	5 months
August 1978	April 1979	8 months
October 1979	May 1980	7 months
May 1981	October 1982	17 months
December 1988	July 1989	7 months

FIGURE 1

Core PCE Inflation, 1946Q4–2023Q4

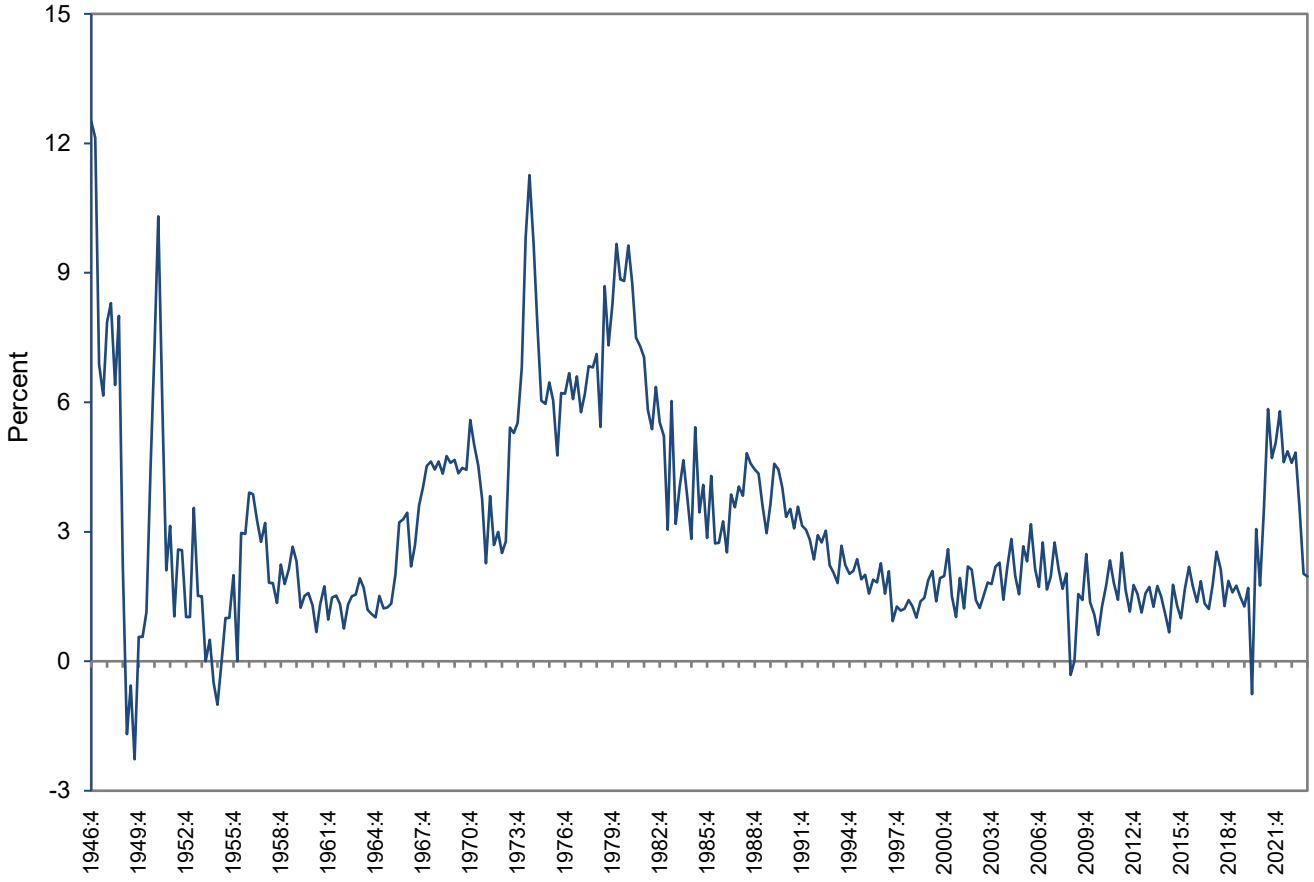


FIGURE 2

Core PCE Inflation with Dates of Disinflationary Shocks, 1946Q4–2023Q4

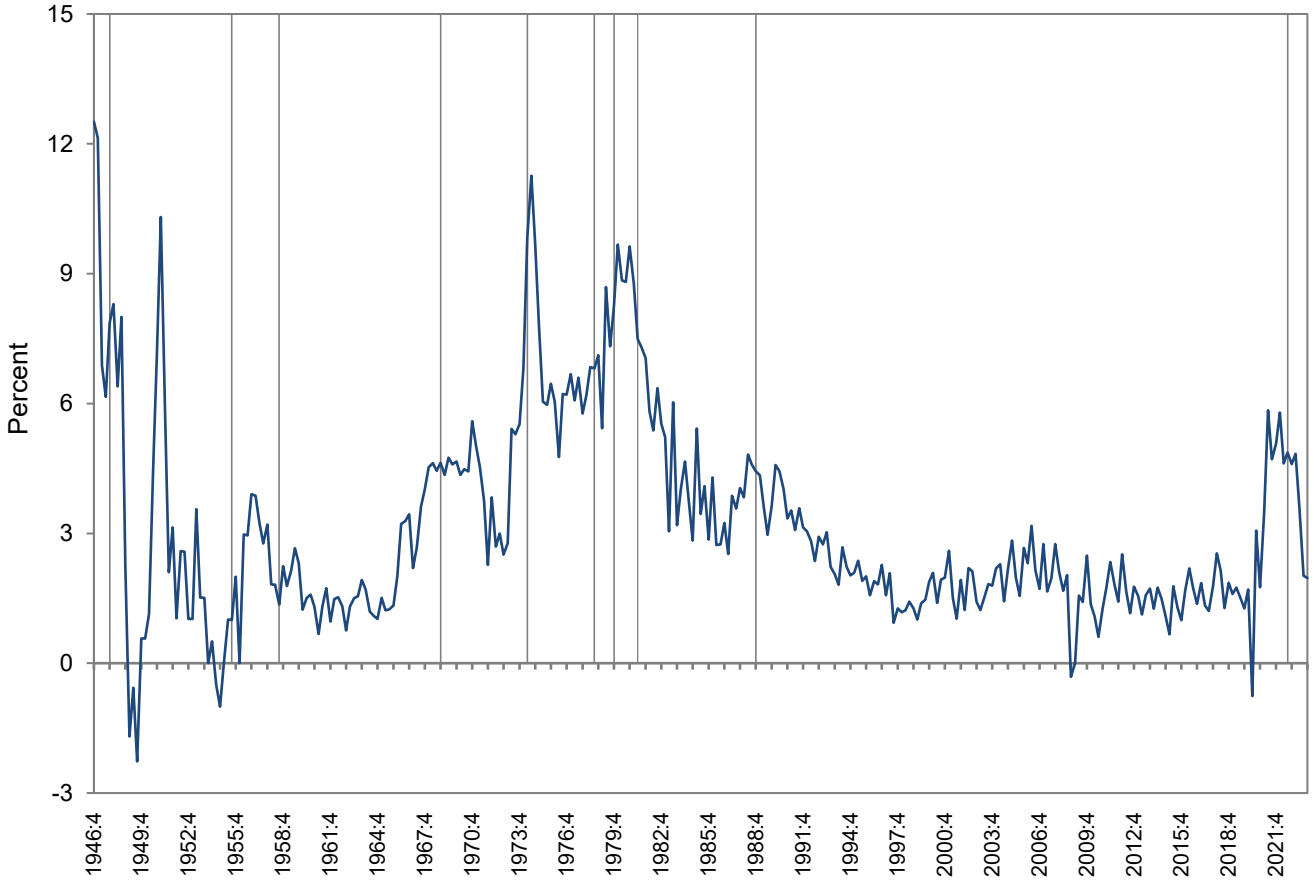


FIGURE 3

Behavior of Inflation following Disinflationary Monetary Shocks

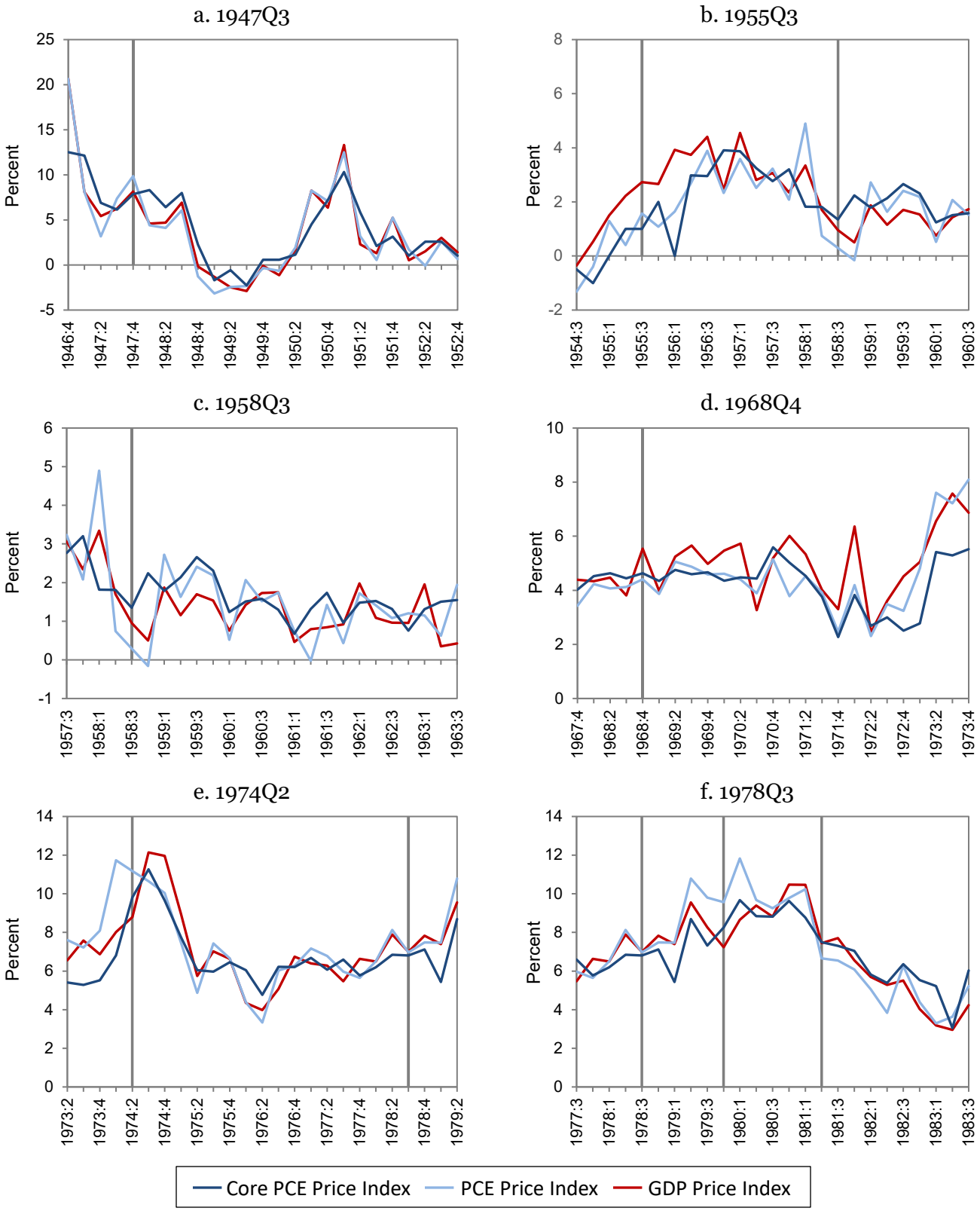


Figure 3 (continued)

Behavior of Inflation following Disinflationary Monetary Shocks

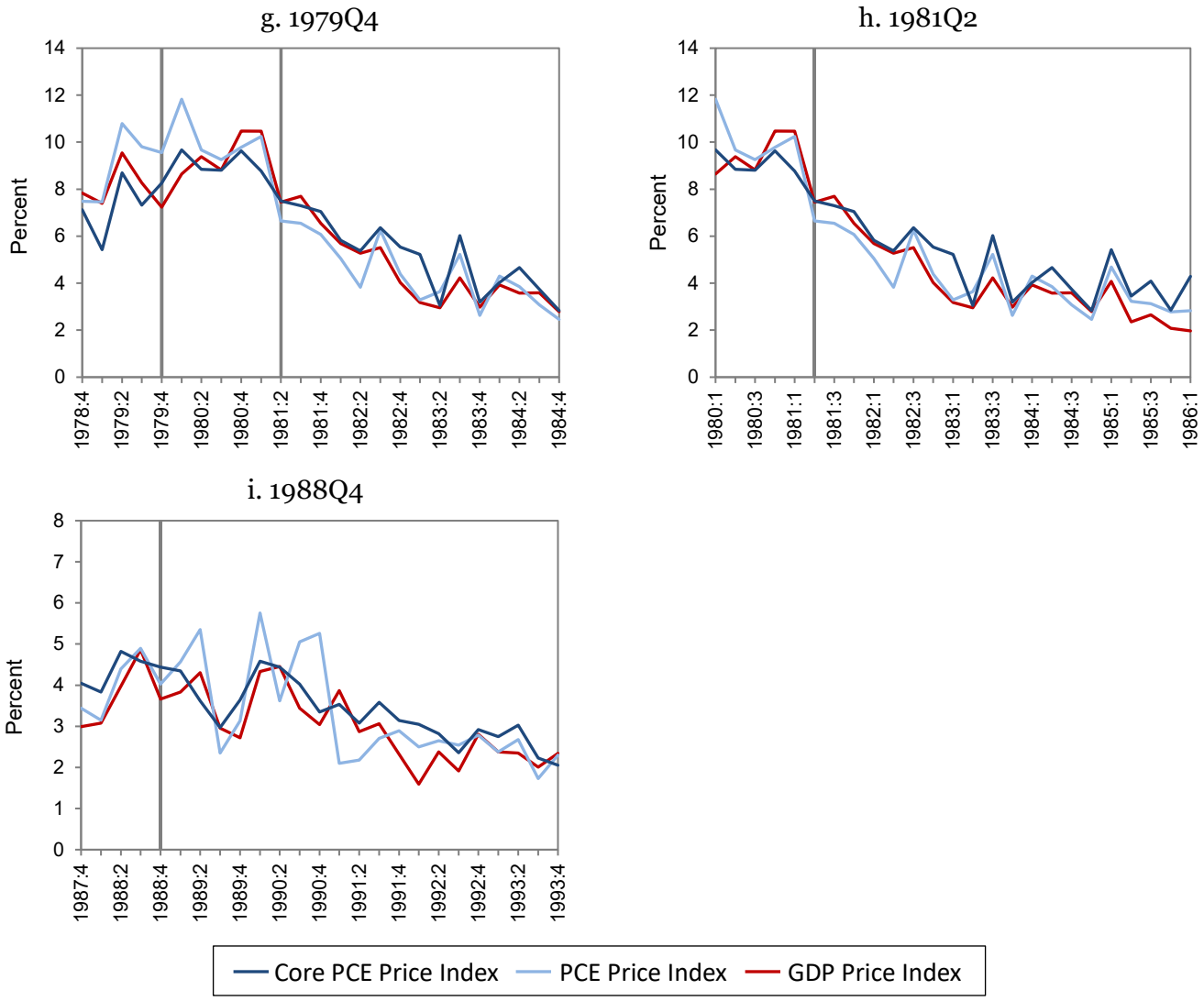
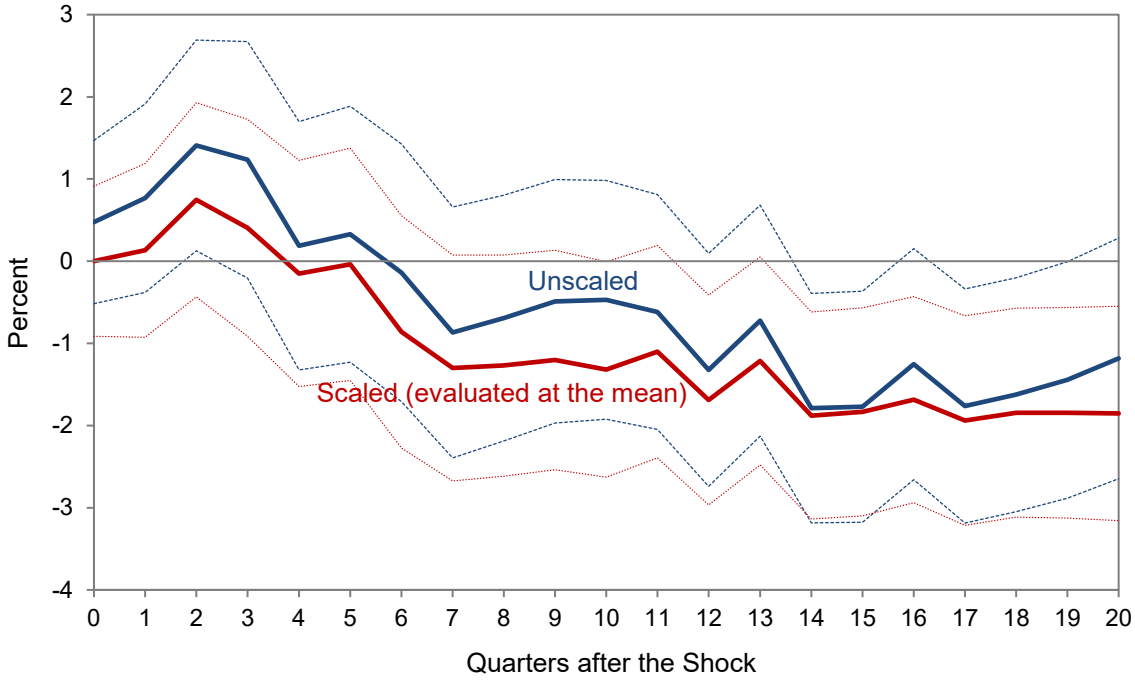


Figure 4

Response of GDP Price Index Inflation to a Disinflationary Shock

a. Using both Unscaled and Scaled Dummies



b. Scaled (evaluated at commitment levels of 1 and 5)

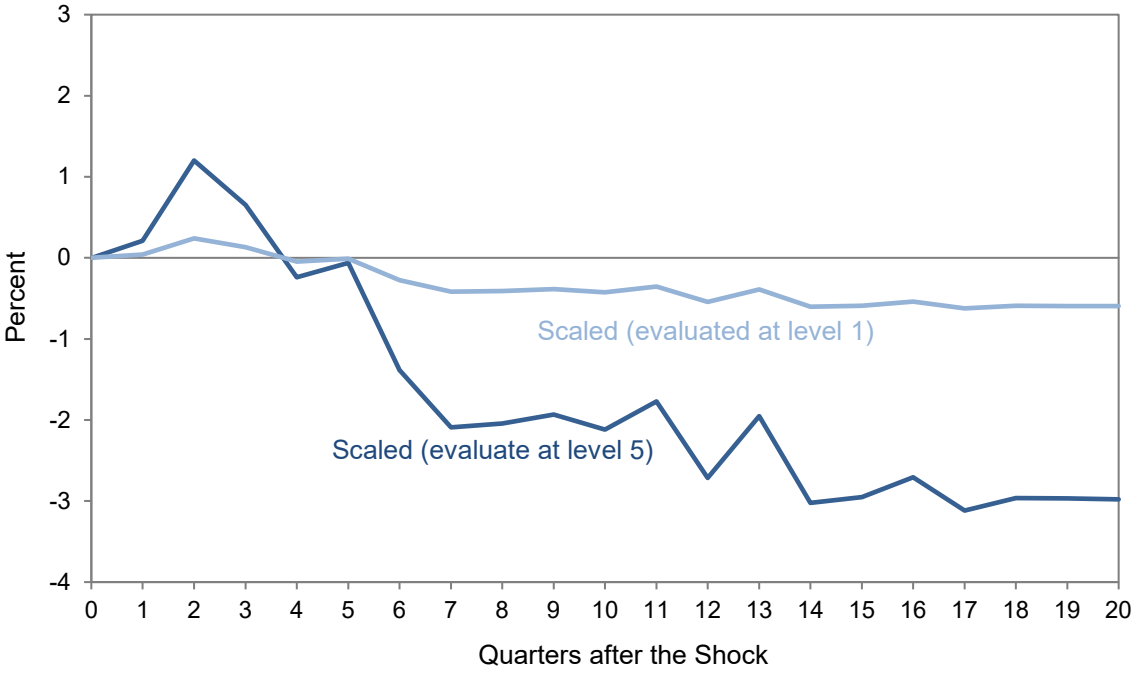


FIGURE 5

Behavior of Inflation following Disinflationary Monetary Shocks

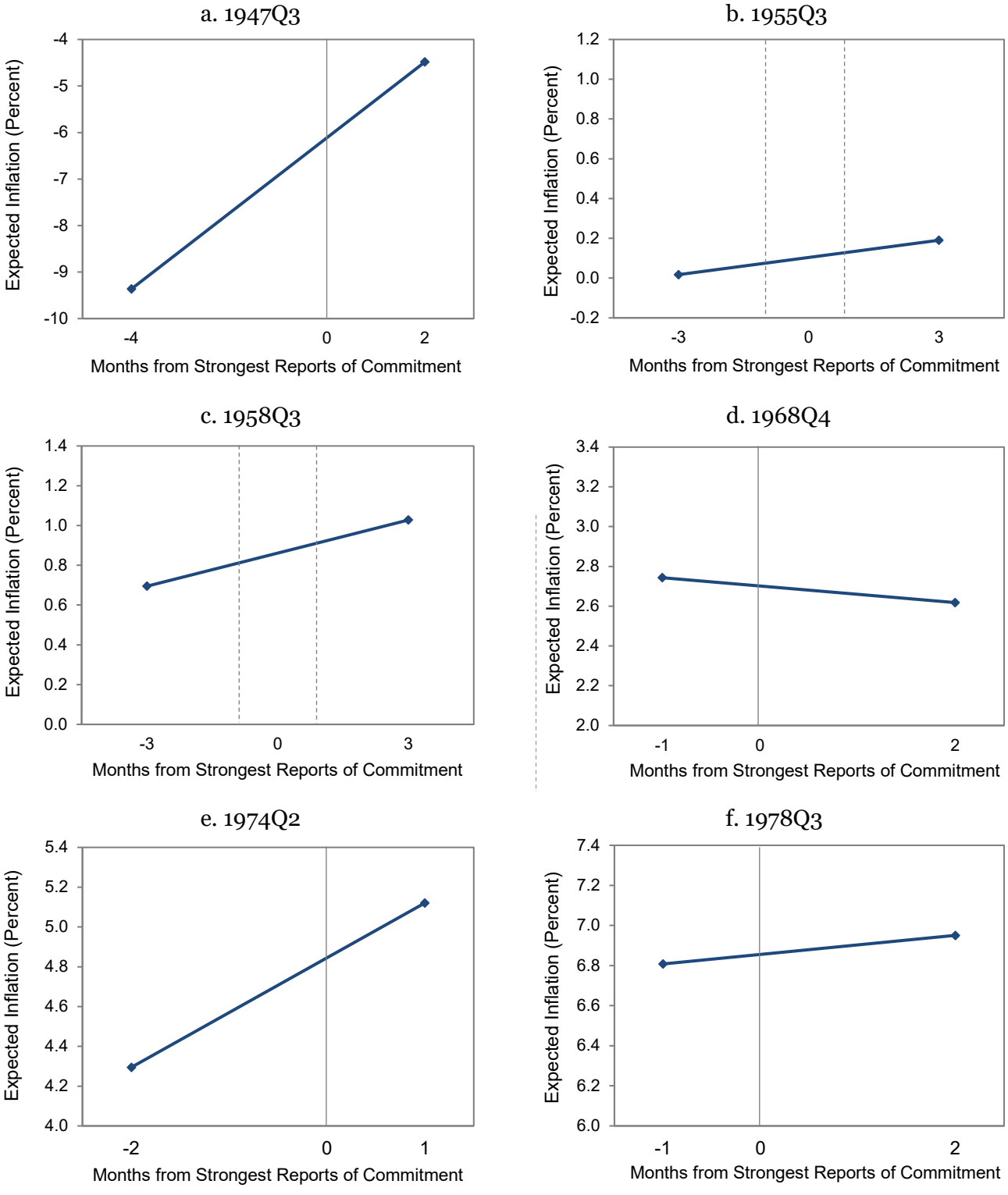
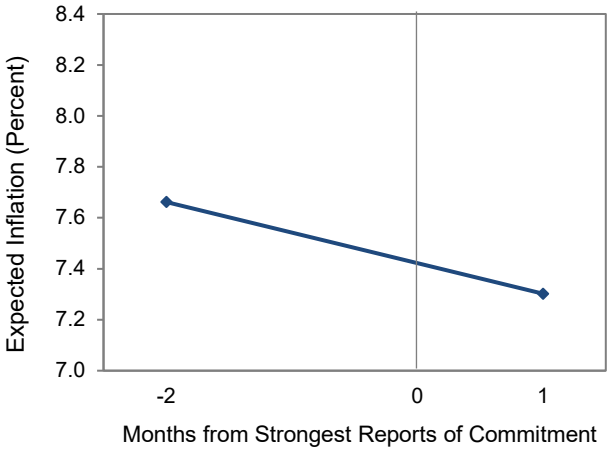


FIGURE 5 (continued)

Behavior of Inflation following Disinflationary Monetary Shocks

g. 1979Q4



h. 1981Q2



i. 1988Q4

