# FRIEDMAN AND THE BERNANKE-TAYLOR DEBATE ON RULES VERSUS CONSTRAINED DISCRETION

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The debate about rules versus discretion in monetary policy is an old one. It goes back at least to the 1930s, when a group of University of Chicago economists, led by Henry Simons, proposed that the monetary authorities should be bound by a rule that aims to achieve price-level stability. Although for many years that debate was confined to the academic community, it spilled over to the public arena in 1958, when Milton Friedman proposed a money-supply growth rule to the Congressional Joint Economic Committee. 2

Recently, the issue of rules versus discretion in monetary policy has been at the heart of a debate between the former Fed chairman,

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<sup>&</sup>lt;sup>1</sup>See Tavlas (2015) and Dellas and Tavlas (2016).

<sup>&</sup>lt;sup>2</sup>Friedman (1958) proposed a rule under which a measure of the money supply—comprising currency, commercial banks' reserves, and demand deposits and time deposits of commercial banks—would be increased by 3 to 5 percent a year in order to maintain price-level stability.

Ben Bernanke, who favors what he calls "constrained discretion" in the conduct of monetary policy, and John Taylor, who favors a "rulesbased" monetary policy.

In what follows, we address the following question: What would Milton Friedman have thought about the present debate on constrained discretion versus rules-based monetary policy? To shed light on this question, we begin by briefly reviewing the positions of Taylor and Bernanke, respectively, on rules versus discretion. Next, we consider the factors that led Friedman to favor a money-supply growth rule. During the late 1940s and early 1950s, Friedman favored using fiscal policy to effectuate changes in the money supply in order to stabilize output at the full-employment level. However, during the 1950s, his growing realization that the Federal Reserve System was culpable in both initiating the Great Depression with its policy tightening in 1928 and 1929 and deepening the Depression with its policies after 1929, led him to favor a rule that limited discretion. We show that a key factor underlying the rules of both Friedman and Taylor is their common view that monetary policy should aim to reduce uncertainty.

# Taylor Rule versus Constrained Discretion

The most popular description of contemporary monetary policy is the Taylor rule (see Taylor 1993). It involves the manipulation of a short-term nominal interest rate—the policy instrument—to achieve a target real interest rate. The rule aims to achieve a predictable and systematic strategy for the policy instrument; it prescribes that the policy rate should be raised when inflation is above a target level or when the output gap is positive (and that the rate should be lowered in the opposite situations). According to Taylor's original specification of the rule, the nominal interest rate should respond to divergences of observed inflation rates from *target* inflation rates, and of deviations of actual gross domestic product (GDP) from *potential* GDP (that is, the output gap):

(1) 
$$i_t = \pi_t + r_t^* + \alpha_1(\pi_t - \pi_t^*) + \alpha_2(y_t - \bar{y}_t).$$

In this equation,  $i_t$  is the short-term nominal interest rate (e.g., the federal funds rate in the United States; the Bank of England's base rate in the United Kingdom),  $\pi_t$  is the rate of inflation as measured by the GDP deflator,  $\pi_t^*$  is the desired rate of inflation,  $r_t^*$  is the

assumed equilibrium real interest rate,  $y_t$  is the logarithm of real GDP, and  $\bar{y}_t$  is the logarithm of potential output. If the rule dictates that interest-rate movements are needed to achieve the two policy objectives, the rule's parameters provide guidance on balancing the two objectives and determine the sign and size of the change in the policy instrument. In Taylor's (1993) original presentation of the rule, the real interest rate was set at 2.0, and both  $\alpha_1$  and  $\alpha_2$  were set at 0.5.

As we will explain, a key factor that differentiates Taylor's monetary-policy framework from that of Friedman is Taylor's use of the output gap in his rule. The inclusion of the output gap in the Taylor rule serves two purposes. First, it helps provide information about present and future inflationary pressures, in addition to the information provided by the variable representing the divergence of observed inflation from targeted inflation. Second, it provides a short-run stabilization role for monetary policy. Taylor (1982: 351) believes that, in the long run, "the economy tends to revert to the natural rate of unemployment," which is the rate that corresponds to potential output. He also believes that in the long run there is no relationship between inflation and deviations of output from potential output (Taylor 1994: 38). An aim of including the output gap in the Taylor rule is to stabilize output in the short run around the level that corresponds to the natural rate of unemployment (Hall and Taylor 1997: 478).

Taylor (2015a) argues that the major advantage of following a rule such as that described in the above equation is that it makes monetary policy transparent and predictable. The better that people are able to predict the way the monetary authority will act, the better they can plan their consumption and investment decisions, and the more likely they will act the way the monetary authority desires them to act. Taylor also argues that during the late-1960s and the 1970s,

<sup>3</sup>While it is likely that no central bank explicitly follows such a rule, empirical work on the U.S. economy indicates that a Taylor rule captured movements in the policy rate well after the mid-1980s. See Clarida, Galí, and Gertler (2000). Meltzer (2011) argues that the Fed approximately followed a Taylor rule during the period from 1985 to 2002.

<sup>4</sup>Taylor (2015b) states that "I [do not] want to chain the Fed to an algebraic formula. . . . Having a rules-based policy for your instruments does not mean you mechanically follow a formula. It means you have an explicit strategy for setting the instruments."

a period during which Federal Reserve authorities pursued discretionary policies, the performance of the U.S. economy was characterized by high unemployment and inflation rates. When the Fed moved to a "rule-like" policy, focused on price stability, during the period from 1985 to 2002, economic performance improved greatly. Compared with the 1970s, inflation and nominal interest rates—and their volatilities—fell, the volatility of GDP was cut in half, and the rate of unemployment declined. Cyclical expansions became longer and stronger than during the period from the late-1960s to the mid-1980s, and recessions became shorter and shallower (Taylor 2012: 1023). However, when the Fed reverted to a more-discretionary monetary policy around 2003, it held the interest rate well below the level implied by a rules-based policy and, thus, sowed the seeds of the subsequent housing-market bubble and financial-market excesses, the financial crisis of 2007–08, and the Great Recession, beginning in 2007 (Taylor 2012).

Bernanke (2015) argues that, while the Taylor rule may provide an apt description of the way monetary policy was made in the past, it should not serve as a guide for the way monetary policy should be made. Bernanke raises several problems with the Taylor rule. First, the rule assumes that the relevant measure of inflation— $\pi_t^*$  in Equation 1—is the change in the GDP deflator. However, the GDP deflator excludes the prices of imports, including imported consumer goods. Federal Reserve authorities, according to Bernanke, have considered that core inflation (which excludes volatile fuel and energy prices) based on the deflator for personal consumption expenditures is the appropriate measure of medium-term inflation. Second, the rule relies on numerical values of coefficients (that is,  $\alpha_1$ and  $\alpha_2$ ) that may not be reflective of the monetary authorities' behavior. For example, Bernanke points out that Federal Reserve authorities have, in practice, allowed a greater response of the federal funds rate to the output gap than assumed under the Taylor rule—a coefficient closer to 1.0 rather than to 0.5 as specified under the Taylor rule. Third, both the output gap, which depends on the level of

<sup>&</sup>lt;sup>5</sup>Taylor (2012: 1020) characterizes the period from 1980 to 1984, when the Fed had shifted to price stability as the key goal, a "transition" period.

<sup>&</sup>lt;sup>6</sup>Bernanke (2015: 8) points out that there exist different judgments among policymakers about the numerical value of the coefficient on the term representing the difference between the actual inflation rate and the desired inflation rate.

potential output in addition to the level of output, and the equilibrium real interest rate are unobserved variables and, thus, there is no consensus about their true values. Consequently, they are concepts that are difficult to quantify and, as such, introduce arbitrariness into the conduct of monetary policy. Fourth, measures such as the output gap are often subject to substantial revisions (see Orphanides 2003). The use of such measures in policymaking, therefore, involves considerable judgment on the part of the monetary authorities.

Bernanke's view is that a rules-based policy for instruments is not needed if the monetary authorities set goals for the inflation rate and/or other variables, such as the unemployment rate. In his view, policymaking should consist of doing whatever is needed with the policy instruments to attain the goals. So long as the particular level of the policy instrument—for example, the federal funds rate—can be justified in terms of the policy goals, the monetary authorities need not articulate a specific strategy, a decision rule, or a contingency plan for the instruments. In contrast to a Taylor rule, however, which allows the monetary authorities to smooth out the effects of certain shocks on the economy, under constrained discretion the full response must be undertaken at once. Consequently, attaining any inflationary objective is more costly under constrained discretion (in terms of output sacrificed) than under a Taylor rule (see Rivot 2015: 607).

# Friedman: The Path to a Money Supply Rule

Friedman began teaching at the University of Chicago in 1946. At that time, his thinking on monetary policy had been heavily shaped by Henry Simons, who had been Friedman's teacher at Chicago during the early 1930s. Simons believed that the Fed's discretionary policies of the late 1920s and the 1930s had increased uncertainty and exacerbated the business cycle (see Dellas and Tavlas 2016). To reduce the uncertainty produced by discretionary policy, he argued that

 $<sup>^{7}</sup>$ Taylor (2015a: 5) argues that "simply having a specific numerical goal or objective is not a rule for the instruments of policy; it is not a strategy; it ends up being all tactics."

<sup>&</sup>lt;sup>8</sup>Simons did not believe, however, that the Fed had initiated the Great Depression. He attributed the Great Depression to a fall of confidence, triggered by the October 1929 stock-market crash.

monetary policy should follow a rule aimed at stabilizing the whole-sale price index (Simons 1936). Simons also perceived that open-market operations and changes in the discount rate are ineffective stabilization tools. How then should the price-level stabilization rule be implemented? Simons's answer was that fiscal policy should be used to implement desired changes in the money supply. Specifically, budget deficits would be used to increase the supply of money and budget surpluses would be used to decrease the money supply as needed with the aim of keeping the price level stable in the short term. Such a rule, Simons believed, would be simple and easily understood, and it would reduce policy uncertainty. Over the course of the business cycle, he also believed, the budget should be balanced (Simons 1942: 196).

Friedman's policy views as of the late 1940s were similar to those of Simons. Like Simons, Friedman believed that open-market operations are an ineffective stabilization tool. He also believed that fiscal policy should be conducted so as to change the supply of money as appropriate in order to stabilize aggregate demand and balance the budget at full employment (Friedman 1948). Thus, the quantity of money would vary counter-cyclically, increasing during recessions and falling during cyclical expansions. On average, the budget would be balanced over the cycle (Friedman 1948).

The basis of Friedman's conversion from a Simons-type rule, under which fiscal measures would be used to generate changes in the money supply with the aim of attaining full employment, to a rule under which the Fed would use open-market operations to target a constant growth rate of the money supply was his ability and proclivity to apply statistical analysis to economic data. The turning point in Friedman's conversion came in 1948, the year in which he began his collaboration with Anna Schwartz. The statistical approach that Friedman used to underpin his work with

 $<sup>^9\</sup>mathrm{In}$  fact, during the late 1940s Friedman believed that open-market operations should be abolished.

 $<sup>^{10}</sup>$ In a 2001 interview, Friedman stated: "Then [in 1948] I got involved in the statistical analysis of the role of money, and the relation between money and money income. I came to the conclusion that this [fiscal] policy rule was more complicated than necessary and that you really didn't need to worry too much about what was happening on the fiscal end, that you should concentrate on just keeping the money supply rising at a constant rate. That conclusion was, I'm sure, the result of the empirical evidence" (Taylor 2001: 119).

Schwartz was the application of correlation analysis to a wide array of data to develop quantitative and qualitative evidence. This evidence led to the formulation of broad hypotheses and informal testing based on data other than those used to derive the hypotheses. By the late 1950s, Friedman and Schwartz had drawn the following conclusions.

- In the long run, there is a strong empirical relationship between changes in money and changes in prices, with changes in the former typically preceding changes in the latter. While this relationship, in and of itself, need not tell us anything about direction of influence, the variety of monetary arrangements—for example, the gold standard, flexible exchange rates, regimes with and without a central bank—over which this relationship holds suggests that changes in money are a necessary and sufficient condition for substantial changes in prices.
- There is no clear-cut relationship between changes in prices and changes in output. Economic growth depends on such factors as the growth of knowledge and technical skills, the growth rate of the population, and the growth of capital. On average, during the period from 1867 to 1960, the annual growth of output averaged a little more than 3 percent.
- The relationship among money, output, and prices is much more complicated within the cycle than over the long run. Within the cycle, this relationship is subject to long and variable lags. Historically, discretionary monetary policy that aimed to smooth the cycle served instead to amplify the cycle.
- The Federal Reserve's monetary stance contributed to the Great Depression in two ways. First, the Fed precipitated the Great Depression in 1929 by pursuing a tight monetary policy from early 1928. Second, from the end of 1930, the Fed permitted the Depression to deepen when a series of bank failures led to a liquidity crisis and the Fed failed to provide sufficient liquidity to enable the banks to meet the demands of their customers. By allowing the money supply to fall by over a third between 1929 and 1933, the Fed bore the major responsibility for both the onset and the depth of the Depression.

Friedman's recognition of the Fed's culpability in both precipitating and deepening the Great Depression played a central role in his

conversion to a money-supply rule, which, since it ties the monetary authorities to an instrument (the money supply), provides less discretion than a Simons-type price-level rule, which ties the authorities to the policy goal (the price level). Friedman's conversion, however, took several years to develop. A key influence contributing to that process was Friedman's correspondence during the early 1950s with Clark Warburton. <sup>11</sup>

During the course of 1951, Warburton and Friedman carried out a correspondence about the Fed's role in deepening the Great Depression because of the central bank's failure to provide sufficient liquidity to the banking system and, thus, its failure to prevent four major banking panics during the period from 1930 to 1933. In a letter dated August 6, 1951, Warburton wrote to Friedman that the reason underlying the Fed's inept policies was the "incompetence" of Fed officials:

It is apparent that you do not realize the background of my charge that the difficulties of the 1930s were due to incompetence on the part of central bank officials rather than to a defect in the banking and monetary structure. That charge is based on the simple but obvious fact that in the early 1930s the Federal Reserve authorities acted as though they knew nothing about the principles of currency management. . . . [The] failure to handle the Federal Reserve System in conformity with [the principles of currency management] in the 1930s fully warrants a charge of sheer incompetence, based presumably on ignorance [Warburton 1951].

Friedman, in his reply to Warburton, dated September 3, 1951, wrote that he agreed with Warburton's evaluation of the Fed's performance during the early 1930s. However, Friedman also made it clear that he disagreed with Warburton's assessment that the underlying factor of the Fed's performance was the incompetence of Fed officials. Specifically, Friedman argued that, regardless of the

<sup>&</sup>lt;sup>11</sup>Warburton (1896–1976) was an empirical economist who spent his career at the Federal Deposit Insurance Corporation. His empirical work led him to believe that money-supply instability was a major source of business fluctuations, including the Great Depression. For an assessment of Warburton's contributions, see Bordo and Schwartz (1979).

competence of the officials, in the absence of monetary policy rules, the officials would have been subjected to political pressures:

Our difference of opinion is on the conclusions we draw from this period. You interpret it as a product of ignorance and incompetence and, in effect, say "throw the rascals out" and put in competent and wise people. For the moment let me grant first, that the failure is attributable solely to ignorance and incompetence, and the competent and wise people in charge would run the system so that it would avoid past failures and no longer contribute to instability. What is the likelihood that competent and wise people will be chosen, or that if chosen, they will be allowed to continue in charge? Is it a pure accident that the system was in the hands of incompetent and ignorant people for 40 years? Wisdom and competence involves readiness to do the opposite of what everyone else is doing, which is hardly the way to win friends and influence people [Friedman 1951a].

In that same letter, Friedman introduced the idea of a monetary rule based on a constant growth rate for the money supply:

But let me beg these questions and assume for the moment that wise and competent people are put in charge and that they behave according to the "correct" rules. The system would not be harmful as in the past. But what positive merits would the system have as compared with making the "correct" rule mandatory, by which I mean keeping the present general structure but legislatively instructing the managers to keep the total quantity of money (or of member bank reserves) constant (or growing at x per cent a year) [Friedman 1951a].

In an unpublished 1951 memorandum, "The Role of the Monetary and Banking System in the Business Cycle," Friedman argued that there was evidence to support the "exceedingly tentative" hypothesis that the Fed had caused the Great Depression to deepen during the early 1930s. That hypothesis, he believed, "requires expansion and testing" (Friedman 1951b: 3). At that time, Friedman did *not* consider the hypothesis that the Fed had initiated the Depression with its policies in 1928 and 1929. He continued to advocate a rule under which fiscal policy would be used to effectuate changes in the money supply in order to stabilize output at full employment.

By 1956, Friedman's views had undergone further change. In an unpublished 1956 memorandum, "Monetary Policy, Domestic and International," the evidence that he had accumulated in his work with Schwartz led Friedman to believe "that there can be little question that the [economic] decline from 1931 to 1933 was produced entirely by the Federal Reserve's reaction in the fall of 1931 to England's going off the gold standard" (Friedman 1956: 3). He also put forward the hypothesis that the Fed may have *initiated* the Great Depression. In light of his growing awareness of the consequences of discretionary monetary policy, in that same document, he considered, for the first time, a *specific* money supply rule under which the money supply should be increased by 4 percent a year.

By the late 1950s and early 1960s, empirical evidence had convinced Friedman that a policy rule would have avoided the "excessive" mistakes made by the monetary authorities in the past, including the collapse of money from 1929 to 1933 (Friedman 1960: 92). 12 A policy rule, under which the money supply increased by between 3 to 5 percent annually, he argued, would eliminate "the danger of instability and uncertainty of policy" (Friedman 1960: 85). In contrast, discretion had in the past led to "continual and unpredictable shifts in . . . policy as the persons and attitudes dominating the authorities had changed" (Friedman 1960: 93), while exempting the authorities of any criteria from which to judge their performance and leaving them vulnerable to political pressures (Friedman 1960: 85). Also, in marked contrast to both Simons's proposal and his own earlier proposal, Friedman (1960: 90) argued that the implementation of his money supply proposal has a further advantage; "it would largely separate the monetary problem from the fiscal [problem]."

# Friedman and the Bernanke-Taylor Debate

We now turn to the central question addressed in this article: What would Friedman have thought about the Bernanke-Taylor debate? We believe that the following factors are important to consider.

• First, Friedman, and Simons before him, was fully aware of the limitations of simple rules. Nevertheless, both economists

<sup>&</sup>lt;sup>12</sup>As mentioned above, Friedman first publicly presented his money supply rule at a congressional committee in 1958 (see Friedman 1958).

- wanted to minimize the damage that had been historically inflicted by discretion.
- Second, Friedman did not believe that a policy rule would be a magic bullet. A rule would not eliminate mild economic fluctuations, but it "would almost certainly rule out . . . rapid and sizeable fluctuations" (Friedman 1960: 92).
- Third, Friedman thought that, in the long run, monetary policy can control the inflation rate but not the unemployment rate.
   The latter variable, he believed, is determined by real forces, the long-run level of which cannot be altered by monetary policy.
- Fourth, Friedman, like Taylor, believed that the goals of monetary policy should be "a reasonably stable economy in the short run and a reasonably stable price level in the long run" (Friedman 1959: 136). Moreover, Friedman was not, in principle, opposed to the use of a measure of the output-gap variable in monetary-policy formation. He also believed that monetary policy should take account of the present state of the economy. In this connection, he was critical of monetary policy during the high-inflation 1980s because he believed that it brought down inflation too quickly and, thus, produced a larger-thannecessary increase in the unemployment rate (Nelson 2008: 97).
- Fifth, Friedman (1960: 91) stated that he was "open to other rules" that could become more suitable than a money supply rule should the understanding of the economy be improved. In the 1990s, he acknowledged that the understanding of the economy had indeed improved since the 1960s and said that he had been surprised by the success with which that knowledge had been used by the monetary authorities since the mid-1980s (see Nelson 2008: 103). 13
- Sixth, Friedman (1960: 84) recognized that there is a fairly fine line between what we now call constrained discretion—assigning a general goal in advance to the monetary authorities and allowing them to achieve that goal—and a policy based on rules: "The general goal alone limits somewhat the discretion of the authorities and the powers assigned to them to do so to an

<sup>&</sup>lt;sup>13</sup>As noted above, the Taylor rule accurately captured movements in the U.S. economy during the period from the mid-1980s until the early 2000s.

even greater extent; and reasonable rules are hardly capable of being written that do not leave some measure of discretion." Yet, for the reasons explained above, the contrast between rules and discretion, he believed, was both marked and important.<sup>14</sup>

Friedman would have had two concerns with a Taylor rule. First, that rule assumes that we possess knowledge about the structure and functioning of the economy—that we may not, in fact, possess. Like Bernanke, Friedman would likely have been skeptical about a rule that relies on concepts such as the equilibrium real rate of interest and potential output, and the structural parameters linking those variables to the economy. Since measures of those variables involve judgment, feedback rules based on those measures introduce an element of discretion into policymaking. Second, the lack of knowledge about the effects of fine-tuning could lead to the possibility of policy being destabilizing in practice. In other words, the long and variable lags associated with monetary policy mean that counter-cyclical monetary policy can be a source of shocks since, for example, the effects of a policy tightening aimed at restraining aggregate demand and reducing inflation might not kick in until the contradictionary phase of the business cycle, amplifying the downturn.

Nevertheless, both Friedman's money supply rule and the Taylor rule share a number of important characteristics.

- 1. Both rules are simple and easy to understand. Therefore, they aim to make monetary policy transparent and predictable.
- 2. Both rules target a policy instrument—a monetary aggregate in the case of the Friedman rule and the policy interest rate in the case of the Taylor rule—limiting discretion.
- 3. In marked contrast to constrained discretion, both rules exclude reliance on perceptions and interpretations about future economic variables to shape the conduct of monetary policy. By excluding such perceptions and interpretations about future variables from policy formation, both rules further limit discretion.
- 4. By limiting the amount of discretion, both rules also contain the potential political influence that can be exerted on the

 $<sup>^{14}\</sup>mbox{Similarly, Taylor}$  (2012: 1018) stated that "the distinction between rules and discretion is more a matter of degree."

- monetary authorities;<sup>15</sup> it is easier to influence policy formation if the monetary authorities exercise judgment than it is if they are bound by a rule.
- 5. Both rules limit the possibility that monetary policy may fall prey to Warburton's "incompetent" monetary authorities or to the influence of fads in economic thinking.
- 6. Both rules draw a clear separation of monetary policy from fiscal policy, thus further insulating the monetary authorities from political pressures.
- 7. Both rules clearly place price stability at the heart of monetary policy. Friedman (1960: 91) specifically proposed his rule for the following reason: "a rate of increase [of the money supply] of 3 to 5 percent per year might be expected to correspond with a roughly stable price level." The Taylor rule explicitly targets a low and stable inflation rate.

The underlying element common to each of these characteristics is the recognition of the need to reduce both policy uncertainty and the effects of negative policy shocks. For example, simple and easy-to-understand rules reduce uncertainty about the implementation and the goals of monetary policy. Similarly, excluding reliance on perceptions and/or interpretations of future economic variables reduces uncertainty since it reduces the importance of the issue whether the judgments of economic agents about the course of future variables correspond to the judgments of the monetary authorities. Insulating monetary policymaking from political pressures likewise reduces uncertainty about that policy. The specific goal of price-level stability reduces the informational uncertainty produced by price volatility. Taylor (1993: 6) argues that, "economic theory shows that things would be better if there is more certainty about the conduct of monetary policy." Friedman (1960: 86) wrote that

 $<sup>^{15}\</sup>mathrm{Friedman}$  (1960: 85) argued that reliance on discretion leads to "continual exposure of the authorities to political and economic pressures." Taylor (2012: 1024) argued that "[rules] help policymakers avoid pressures from special interest groups and instead take actions consistent with long-run goals."

 $<sup>^{16}\!\</sup>text{As}$  Orphanides (2015: 10) put it: "In the presence of uncertainty, it may be virtually impossible for an outside observer to distinguish when a discretionary decision represents a deviation from good practice . . . and when it reflects sound judgment, incorporating efficiently information the policymaker may possess that may not be available to the outside observer."

"experience suggests that eliminating the . . . uncertainty of policy is far more urgent than preserving flexibility."

What, then, would Friedman have thought about a Taylor rule? We believe that a strong case can be made that Friedman would have become supportive of such a rule for the following reasons. First, for the reasons enumerated above, Friedman's primary objective in advocating a money growth rule was to reduce uncertainty in policymaking and the possibility of negative policy shocks. The Taylor rule has the same objective. Second, during the 1980s and 1990s, Friedman became increasingly aware of the difficulties of targeting a single monetary aggregate; he recognized that financial changes had blurred the differences among different kinds of monetary aggregates and, thus, increased the tendency for alternative aggregates to give mixed signals (Nelson 2008: 103). In a 2003 interview, he stated: "The use of [the] quantity of money has not been a success. I am not sure I would as of today push it as hard as I once did" (Friedman 2003). Third, as Nelson (2008: 103) points out, during the 1990s, Friedman acknowledged that, since the mid-1980s, the monetary authorities had been successful in stabilizing the economy. As mentioned above, during the period from the mid-1980s until 2003, the Fed's policy was captured by the Taylor rule.

If our interpretation—that Friedman would have become supportive of a Taylor rule—is correct, we do not believe that he would have abandoned reliance on monetary aggregates. The Taylor rule would serve to limit discretion in the short term. Nevertheless, over the medium and long terms, the quantity of money continues to provide crucial information about inflation. Therefore, he may have advocated a two-pillar strategy consisting of a Taylor rule supplemented with a medium-term objective price stability in which monetary aggregates play a key role.

What would Friedman have thought about constrained discretion? He might have been favorably impressed with the recent performance of the monetary authorities in their implementation of monetary policy.<sup>17</sup> He would also have recognized, however,

<sup>&</sup>lt;sup>17</sup>We would not exclude the possibility that in recent years monetary authorities have benefited from the policy credibility gained during the 1980s and 1990s. That credibility gain may have helped keep inflation expectations well anchored subsequently.

that the historical record indicates that the favorable performance of one group of monetary authorities, exercising judgment, does not ensure that future authorities will be as capable in their ability and judgment and/or as unconstrained by political pressures in exercising that judgment. In his assessment of "constrained discretion," we believe that he would likely have called a spade a spade and would have questioned the use of the qualifier "constrained."

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