Milton Friedman and the Federal Reserve Chairs, 1951–1979

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Preliminary
October 23, 2013

Abstract

This paper studies the interactions between Milton Friedman and the three Federal Reserve Chairmen from 1951 to 1979: William McChesney Martin, Arthur Burns, and G. William Miller. Friedman had much praise for monetary policy in the first half of Chairman Martin's tenure, which covered the immediate post-Accord years of 1951–1960, and singled out the achievement of price stability. Friedman felt, however, that an overemphasis on interest-rate stabilization during the 1950s had led to a money growth pattern that magnified cyclical fluctuations. Friedman had considerable misgivings about the monetary policy of the 1960s, especially once a period of monetary restraint was abandoned in 1967. In the 1970s, both Chairmen Burns and Miller were at odds with Friedman on the issue of the extent to which monetary policy could restore price stability.

* Email: Edward.Nelson@frb.gov. This paper is based on portions of Chapters 10 through 16 of the author's forthcoming book, *Milton Friedman and Economic Policy*. The author is indebted to Will Gamber for research assistance. The views expressed in this paper are those of the author alone and do not necessarily reflect the views of the Board of Governors of the Federal Reserve System or its staff.

1. Introduction

In 1963, Friedman and Schwartz published a landmark study of the history of monetary developments in the United States; fifty years later, a study by Rotemberg (2013) of the Federal Reserve's century of monetary policy found that Friedman himself was entwined in much of that history—to such an extent that the final paragraph of Rotemberg's paper states that "Milton Friedman has an outsize role" in shaping the development of monetary policy. Further light on Friedman's role is shed by juxtaposing two observations: Alan Greenspan's (2010, p. 237) statement that Milton Friedman was "historically the Federal Reserve's severest critic," and the assessment of Ben Bernanke (2004, p. 214) that "one can hardly overstate the influence of Friedman's monetary framework on contemporary monetary theory and practice." Friedman's role in Federal Reserve history thus took two major dimensions: as a critical commentator on monetary policy, and as an advocate of a particular framework for analyzing and executing monetary policy.

The aim of the present paper is to analyze these two dimensions of Friedman's activities for a subset of postwar Federal Reserve history. The period considered spans from the advent of the Federal Reserve/Treasury Accord of 1951 (which allowed the Federal Reserve to pursue a monetary policy that was separate from debt-management considerations) to the appointment in 1979 of Federal Reserve Chairman Paul Volcker (who, soon after assuming office, instituted major changes in monetary policy operation and strategy). The way this period is studied is by considering Friedman's interactions with three successive Federal Reserve Chairs: William McChesney Martin (Chairman from 1951 to 1970), Arthur Burns (Chairman from 1970 to 1978), and G. William Miller (Chairman from 1978 to 1979).

Because Friedman participated so heavily in monetary policy debates, often in the context of discussions of central bank doctrine and strategy, the subject matter of the present paper is related not only to accounts such as Rotemberg (2013) in which Friedman figures very prominently but also to other retrospectives on the evolving conceptual framework of postwar U.S. monetary policy, such as Romer and Romer (2002a, 2002b, 2004, 2013) and Meltzer (2009a, 2009b) as well as prior work on both Friedman and U.S. monetary policy developments by the present author.[1] In particular, in the course of considering the positions that Friedman

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[1] In particular, DiCecio and Nelson (2013), Nelson (2005, 2007), and Nelson and Schwartz (2008). With respect to the literature on Milton Friedman, it is worth recording that there is a great volume of books and articles about Friedman, but a vast amount of them are by authors who work outside the field of monetary economics, with the result that issues connected to monetary history and monetary analysis receive only light and oversimplified treatment. On top of this, some of the material that has been offered as authoritative in this literature is open to

took on monetary policy developments from 1951 to 1979, the present paper considers such issues as the merits of the 1950s monetary policy framework (Romer and Romer, 2002a), the reasons for the apparently excessive policy tightening of 1959 (Romer and Romer, 2002a; Rotemberg, 2013), the credit crunch of the mid-1960s (Romer and Romer, 1994; Meltzer, 2009a, Chapter 4), and the Great Inflation of the 1970s.[2] The coverage in this paper of developments in the 1970s aims to provide, via analysis of extensive source materials and a contrast between Friedman's framework and that of Arthur Burns, considerable insight into the course of monetary policy during the Burns incumbency. It should be stressed that the existing literature on the Burns period concentrates very heavily on the years 1970 to 1972 and on the monetary ease produced over that period (for example, DeLong, 1997, and Abrams, 2006), even though the period from 1976 to 1978—the final two years of Burns' tenure—arguably witnessed even greater monetary policy ease and was followed by a higher peak of inflation. The present paper covers the whole Burns period in detail. Friedman's interactions with Burns and his commentary on Federal Reserve policy provide a convenient means to do so, because the issue that most divided Burns and Friedman—whether inflation is or is not a monetary phenomenon—is crucial to understanding Federal Reserve policy from 1970 to 1978. Finally, in covering the often-neglected or summarily-treated William Miller Chairmanship of 1978−1979, and Friedman's observations on it, the paper complements the material available on the Miller interregnum in Romer and Romer (2002b, 2004) and Meltzer (2009b, Chapter 7). In particular, the paper provides information on Miller's views on Friedman's framework, and Friedman's estimation of Miller as Chairman, that does not appear in previous studies.

The paper proceeds as follows. Section 2 discusses the sources for the paper and some data issues. Then Sections 3 through 5 discuss Friedman's interaction with the three Federal Reserve Chairmen from 1951 to 1979. Section 6 concludes.

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question. For example, Ebenstein (2007, p. 250) refers readers to Frazer (1988) for an account of the disagreements during the 1970s between Friedman and Arthur Burns. An indication of Frazer's reliability as a source on this matter is provided by the fact that, when discussing Friedman's (1974) reply to Burns (1973), Frazer (1988, p. 243) misquotes Friedman's observation "this sentence is unexceptionable" as "this sentence is unacceptable."

[2] Because of its focus on Friedman and the Federal Reserve Chairs, this paper does not consider all elements of Friedman's relationship with the Federal Reserve; in particular, his interaction with the Federal Reserve Bank of St. Louis is not considered. Likewise, the activities of other monetarist critics of the Federal Reserve, such as the Federal Reserve Bank of St. Louis and the Shadow Open Market Committee, are not covered here. Hafer and Wheelock (2001) and Poole, Rasche, and Wheelock (2013) provide accounts of the activities of these bodies, with which Friedman was not formally affiliated. In addition, the coverage in this paper of Friedman's discussion of Federal Reserve policy is restricted to monetary policy; accordingly, it does not cover his discussions of bank supervision and regulation or his observations on financial emergencies such as the Penn Central crisis of 1970 and the Franklin National Bank closure in 1974.

2. Sources

This section outlines the materials drawn upon in this paper to bring out Friedman's positions (Sections 2.1) as well as those of the Federal Reserve Chairs (Section 2.2). Some issues related to the study of monetary data in the pre-1979 period are also highlighted (Section 2.3).

2.1 Sources for Friedman's views on the Federal Reserve

A first important piece of source material for ascertaining Friedman's views on monetary policy consists of his research articles and books, both solo-authored and those with Anna Schwartz. These research publications are used extensively in this paper's analysis, as will become clear in later sections. However, for analyzing Friedman's views on monetary policy developments from the 1950s to the 1970s, more material is needed, as many of Friedman's observations did not appear in journals or other research outlets. Monetary policy in the 1950s was analyzed in two of Friedman's books, *A Program for Monetary Stability* (1960) and the Friedman-Schwartz *Monetary History*;[3] but a number of Friedman's important remarks on 1950s policy occurred in the 1970s and did not appear in journal articles or books that Friedman wrote. The same goes for monetary policy in the 1960s and 1970s: with important exceptions like Friedman (1972a, 1982, 1983, 1984), Friedman did not use research articles to record his assessment of monetary policy in these years, nor was there a Friedman-Schwartz monetary history of the 1960s and 1970s.[4]

It is far from the case, however, that there is a shortage of information about Friedman's views on post-1960 monetary policy; this is not an area in which determining Friedman's positions requires much speculation or extrapolation. The exercise of drawing out Friedman's positions does, however, require considerable long-after-the-fact reconstruction. Because Friedman did not consolidate these positions into an elegant and essentially self-contained monograph in the way he and Schwartz had done for the pre-1960 period with their *Monetary History*, his views need to be distilled from the various commentaries—in research outlets, internal memoranda, and in the public square—in which Friedman provided his reflections on monetary policy developments. From this material, one can obtain a composite picture of Friedman's perspective on post-1960 Federal Reserve policy.

[3] The historical analysis in *A Program for Monetary Stability* was, in content, largely a preview of the *Monetary History*; however, in *A Program for Monetary Stability* Friedman was able to use the analysis to make policy recommendations, something he was not permitted to do in NBER publications such as the *Monetary History*.
[4] In particular, Friedman and Schwartz (1982) was not an update of the historical analysis in the *Monetary History*.

It is in this context that Friedman's *Newsweek* columns (which began in 1966) become an important source. As is clear from the extensive quotations from Friedman's *Newsweek* contributions in Dornbusch and Fischer (1978), Nelson (2007), and Rotemberg (2013), these columns contain a wealth of information on Friedman's views on monetary policy developments in the 1970s. Indeed, in light of the fact that Friedman largely moved away from publishing journal articles after the mid-1970s, his *Newsweek* writings, together with his commentary in other news media during the 1970s, were the main basis on which Friedman maintained and consolidated his reputation as a tireless critic of the Federal Reserve. It is a reasonable inference that, when Fischer (1979, p. 174) observed that "we are probably all better off for having Milton Friedman and Bob Lucas remain free to state their views [about policy] without having to engage in any polite compromises," the Friedman statements that Fischer had in mind corresponded to the remarks Friedman had given in the news media during the 1970s.

One objection to using Friedman's *Newsweek* columns should be noted. It has occasionally been suggested—for example, by Tobin (1970)—that the monetary analysis in Friedman's academic work differed in substance from that underlying his popular writings. But Gordon (1976) and Nelson and Schwartz (2008) argue that the two bodies of work arise from the same analytical framework—a position reinforced by Friedman's own tendency to cite and quote his *Newsweek* columns in his research publications (such as Friedman, 1983) and, in the context of research articles, to defend analysis that had appeared in his columns (for example, Friedman, 1970a, 1972b, 1976). The *Newsweek* columns related to monetary policy are accordingly drawn upon heavily in thus study.

So too are Friedman's commentaries (roughly twice a month) on the taped series "Instructional Dynamics Economics Cassette," a subscription-only forum that lasted from 1968 to 1978 and that is today available, almost in its entirety, on the Hoover Institution's website. A further source used in the present study is an archive of press reports from various newspapers relaying Friedman's commentary at various events. The press reports were obtained from electronically available archives of newspapers (for example, of the *New York Times* and the *Wall Street Journal*), from the clippings collections of the Hoover Institution and numerous libraries, and from the author's search of microfilmed back issues of a large number of U.S. newspapers that are not electronically archived.

Friedman's statements in government publications are also employed in this study. In particular, U.S. Government Printing Office volumes that record the proceedings of Congressional

committees contain testimony that Friedman gave to these committees in the 1950s, the 1960s, and the 1970s.

Friedman occasionally met with the Federal Reserve Chairman and other Board Governors in his capacity as one of the Board's Academic Consultants from 1965 to 1978. His submissions to the Consultants' meetings in 1965 and 1966 are reproduced in Friedman (1968a, Chapters 4 and 5). Friedman did not publish any of the memoranda that he wrote for his post-1966 appearances at the Consultants' meetings, and for some meetings he did not provide memoranda at all. Information about Friedman's contributions to later meetings is described in the text using Federal Reserve Board records and other sources.[5]

2.2 Sources for Federal Reserve Chairmen's statements about Friedman

When it comes to obtaining the other side of the picture—policymakers' views on Friedman or his framework—this study has not attempted to make to obtain an exhaustive compilation. Much useful material, however, is provided via the electronically-stored archive of Federal Reserve Chairmen's public statements on the Federal Reserve Bank of St. Louis's FRASER website. In addition, a number of the statements of successive Chairmen used in this paper are drawn from materials that are not in FRASER, such as the question-and-answer portions (both spoken and written) of Congressional testimony, published in U.S. Government Printing Office volumes.[6] Other sources, such as FOMC Minutes, are indicated in the text as they are used. In addition, it deserves underscoring that prior, more systematic, studies of FOMC records, such as Romer and Romer (2002a, 2002b) and Meltzer (2009a, 2009b), provide useful sources of quotations and information concerning both the monetary policy strategy of the Federal Reserve and the Federal Reserve's response to the challenge to its policies in the 1960s and 1970s coming from Friedman and other monetarists.

2.3 Economic data series

Much of Friedman's commentary on monetary policy over the period considered in this paper was cast in terms of growth in the money stock, and in particular in terms of a definition of

[5] The book from which the present paper draws will include material from interviews with a large number of individuals who interacted with Friedman, including at the Consultants' meetings. However, for the present paper no attempt has been made to integrate this interview material into the analysis.
[6] This source was earlier used, alongside FRASER documents, by DiCecio and Nelson (2013) to draw out Arthur Burns' views on inflation, especially during the less-extensively-studied 1973–1978 portion of Burns' tenure.

money that encompassed demand and time deposits issued by commercial banks as well as currency. Friedman denoted this series by the label M2, and the Federal Reserve followed this terminology in defining official monetary aggregates at the beginning of the 1970s.[7] In 1979−1980, however, the Federal Reserve redefined M2 to include deposits with thrift institutions (see Simpson, 1980). While this definitional change met, in general, with Friedman's approval—indeed, the redefinition largely conformed to the recommendations of an official committee, on which Friedman served, on monetary data (Bach et al., 1976)—it is also true that the old and new M2 definitions did not behave similarly during important episodes in the 1960s. Indeed, as will be seen, the fact that Friedman's M2 and (what became) the later M2 definition behaved differently in the mid-1960s was an important source of divergence in the assessments of Friedman and Chairman Martin. Old and new M2 also behaved differently over much of the 1970s; thus, it does considerable violence to an account of the 1970s if (as in Abrams and Butkiewicz, 2010, for example), no account is taken of the M2 redefinition, and historical analysis is conducted on the implicit assumption that modern M2 data can be used to stand in for the M2 series that Friedman's analysis centered on during the 1970s.

Accordingly, in the analysis below, four different monetary series are used:

"Old" M1—currency plus demand deposits. This was a widely-used definition of money among academic and Federal Reserve economists in the 1960s and 1970s, but it was a definition of money that Friedman and Schwartz (1963, 1970) rejected in favor of a broader definition.

"New" M1—the modern definition of M1, which expanded the definition of M1 to include checkable and other demand-deposit-like instruments issued by nonbanks. This modern definition exhibits similar behavior to that of old M1 until the mid-1970s.

"Old" M2—M1 plus retail time deposits. This was Friedman's favored definition for much of the period from the 1950s through the 1970s, and was what Friedman and Schwartz (1963) called the "quantity of money."

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[7] The term "M2" appeared in Friedman and Meiselman (1963). Friedman and Schwartz (1970) actually call this series "M2-CDs," to make clear that they are excluding large certificates of deposit, which became an important element of time deposits starting in the early 1960s, from their time-deposit series in the aggregate. The Federal Reserve's official definitions of M2 beginning in the early 1970s have consistently excluded large CDs; thus, the "minus CDs" part of Friedman and Schwartz's label became unnecessary, and Friedman's references to M2 for most of the 1970s were to what Friedman and Schwartz (1970) called M2-CDs.

“New” M2—the modern definition of M2, encompassing old M2, thrift accounts, and some other deposit-like items. Although this was not the official definition of M2 in the 1970s, its approximate behavior was known to policymakers in the 1960s and 1970s and it roughly corresponded to what in the 1960s was unofficially called M3 (which became the official name for the aggregate in the 1970s). As noted, this modern definition of M2 exhibits divergent behavior from that of old M2 in key episodes of the 1960s and 1970s, owing principally to sharp contractions and expansions of the deposit business of thrift institutions.

Keeping track of the four definitions does not overcome all problems associated with a retrospective analysis of monetary data over the 1951−1979 period. In particular, data revisions are not considered systematically here. This is not a trivial omission: not only were the old definitions of M1 and M2 different from the modern definitions, but data on money in the late 1960s and in the early 1970s underwent substantial revisions, so real-time and revised monetary growth differed substantially. The old-M1 and old-M2 data used here are from Lothian, Cassese, and Nowak (1983) and pertain to the vintage of data available in the late 1970s; thus, they comprise revised data.[8]

For other variables discussed in this paper—the federal funds rate, the CPI inflation rate, and real and nominal GDP growth rates—the modern data are used. In the case of the federal funds rate and CPI inflation, the justification for this choice is that the numbers for these series typically are only lightly corrected or revised in retrospect. In the case of the national accounts series, the justification for using modern data is that the focus here for the most part is on growth rates of the series. Orphanides (2003) stresses that initial data on key real output series (which in the 1960s and 1970s consisted of real GNP data) differed substantially from the revised series, and that estimates of output in relation to potential are even more markedly different from their “final” data counterparts. However, Orphanides also shows that real output growth is subject to far less revision, in percentage terms, than are the levels of real output and the output gap.

3. William McChesney Martin

William McChesney Martin was Chairman of the Federal Reserve from April 1951 to January 1970. For a discussion of Friedman’s views on Martin’s record, it is useful to break Martin’s tenure into the subperiods 1951−1960 and 1961−1969. This division is convenient not only

[8] These data are quarterly. For cases below in which monthly behavior of monetary series during the 1960s is considered, Friedman and Schwartz’s (1970) monthly data on M2 are used, as are data on the Federal Reserve Bank of St. Louis’ adjusted monetary base.

because it breaks Martin's incumbency into the periods covered, and not covered, by the *Monetary History*, but also because many accounts, including Friedman's and those of Romer and Romer (2002a, 2002b), distinguish sharply between monetary policy in the 1950s and monetary policy in the 1960s. Before considering developments from 1951 to 1960, however, some background on the situation in 1951 is useful.

3.1 The background in 1951

The year 1951 marks an important turning point for the Federal Reserve not only because Chairman Martin began his tenure but because, essentially concurrently with Martin assuming office, the Federal Reserve and the Treasury established the Accord, under which the Federal Reserve would no longer be required to provide a cap on yields on longer-term government securities. This change in arrangements left the central bank in a position, in principle, to use its tools more flexibly in pursuit of economic stabilization.

For Milton Friedman, it happens also that 1951 is a key date. It would be fair to say that by that point Friedman had developed the monetary, indeed "monetarist," analysis with which he became associated; in Friedman's own estimation, his writings starting in 1951 "embody a single view of monetary theory" (Friedman, 1969, p. v). His positions emphasizing the monetary analysis of inflation, rejecting cost-push views of inflation, and denying an important independent role for fiscal policy in influencing aggregate demand, had all emerged by this point.[9] They were partly a reaction to early findings that had emerged from his and Schwartz's work on the *Monetary History*, some of which Friedman relayed in late 1951 (Friedman, 1952). Many of Friedman's enduring views concerning appropriate monetary policy had also surfaced in the early 1950s. He came out in favor of a fiat money regime (Friedman, 1951a) and floating exchange rates (Friedman, 1953). In other respects, Friedman's approach to monetary policy rules was still under development; in the early 1950s he was still advocating the deficit-monetization rule outlined in Friedman (1948), a rule that had been largely derived from Keynesian economic analysis. Friedman came out in support of a constant money growth rule in 1956 (Friedman, 1957) and advocated it in Congressional submissions starting in 1958 (Friedman, 1958). But even in the early 1950s Friedman was laying stress on control of the money stock with price stability in mind. This perspective was evident in a manifesto that Friedman and University of Chicago colleagues wrote in early 1951 calling for the end of the bond price peg (Friedman et al., 1951).

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[9] See Nelson (2009, 2014) and Tavlas (1977) for documentation of these observations.

3.2 Monetary policy in the 1950s

Romer and Romer (2002, p. 121) suggest that Milton Friedman did not judge favorably the monetary policy of the 1950s. This characterization has some validity; as discussed below, there are several counts on which Friedman found fault with monetary policy from 1951 to 1960. Yet it also is a characterization that does not convey the considerable amount of praise that Friedman advanced for monetary policy in the 1950s, both in his commentary during the 1950s and in his retrospectives on the decade.

A major concern of Friedman's in the early 1950s was the danger of a peacetime secular inflation. Friedman perceived a public mood amenable to higher levels of public spending in the nondefense area; this, he believed, would imply higher budget deficits and lead, via monetization of deficits, to inflation. Thus Friedman said on radio in April 1950 (before the outbreak of the Korean War) that "the strong pressure on the part of many groups for government expenditures" meant "that my own expectation is that the next twenty years see in this country a substantial inflation."[10] When the United States was back on a peacetime footing a few years later, the Federal Reserve was better placed to forestall such a secular inflation because it had regained effective monetary policy independence. Friedman nonetheless saw acquiescence by the monetary authorities to inflationary policies as the most likely outcome, and he reaffirmed his prediction of a secular inflation (Friedman, 1954). One major fear he had was that activist stabilization policy would itself contribute to that secular inflation. The scenario that Friedman (1951b, 1954) painted was that policymakers would overreact (i.e., loosen monetary policy too much) in response to mild recessions and then, when inflation emerged in response to the monetary excess, they would be inclined to attribute the price rises to nonmonetary sources. The result would be that an activist stabilization policy would, on balance, lead to a permanent bias upward in the trend of the price level.

In time, Friedman would view these factors promoting peacetime inflation as having made themselves felt in U.S. policy decisions (M. Friedman, 1980, p. 82). But for the moment—for the rest of the 1950s—he felt that his fears had not been realized in the United States. Friedman did not regard the post-Korean War years of the 1950s as inflationary years, nor did he view the seeds of the 1960s inflation as having been laid by the policy framework of the 1950s. On the contrary, he regarded the price environment of those years—of close to 2 percent inflation, on average—as corresponding to reasonable price stability, and he viewed monetary policy as

[10] In NBC (1950, p. 8).

having been commendably restrained. He would not have concurred with Ohanian's (1998, p. 191) assessment that the World War II inflation "ushered in the postwar U.S. policy of persistent inflation that has continued over the past 50 years." Rather, Friedman came to view policymakers in the 1950s as having resisted the tendencies he had warned about. His assessment that it was "clearly 1960" when activist policies gained ascendancy in the United States, with the election of John F. Kennedy (M. Friedman, 1980, p. 82; see also Taylor, 2001, p. 106).

For the avoidance of inflation in the 1950s, Friedman gave an enormous amount of praise not to William Martin but to Dwight D. Eisenhower (U.S. President, 1953−1961), with whom he associated "full prosperity without war and without inflation" (*Newsweek*, July 16, 1973). Friedman's close association of 1950s economic outcomes, including inflation outcomes, with Eisenhower may seem jarring in view of Friedman's dictum that inflation is a monetary phenomenon and the fact that Federal Reserve independence had been formally reestablished nearly two years before Eisenhower took office. But Friedman traced the anti-inflationary monetary policy of the 1950s to the Eisenhower Administration. In his view, pressure from the Eisenhower Administration had helped move the Federal Reserve away from the stance it had taken in the period from 1951 to 1953, when it had continued aspects of the bond price peg.[11] Thereafter, the Administration had shown solidarity with the Federal Reserve and resisted the "temper of the time" that favored aggressive stimulation of aggregate demand (*Newsweek*, December 6, 1976).

With respect to the Federal Reserve's performance on stabilization of output, Friedman drew a sharp distinction between comparison *with historical performance* and comparison with the outcomes that he believed were obtainable from a simple benchmark policy, specifically the constant-money-growth rule that he advocated from 1956 onward. When comparing the performance of the 1950s with that of historical Federal Reserve policy, Friedman acknowledged a distinct improvement. Thus, in a paper for a conference in October 1956, Friedman noted the great increase in economic stability of recent years, argued that monetary policy had magnified cyclical fluctuations less than it had in previous decades, and referred to the stability of the money stock and the economy in the five years after 1951.[12]

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[11] See Friedman (1982, p. 105) and Friedman's remarks in Friedman and Modigliani (1977, p. 16).
[12] See Friedman (1957, pp. 75−76, 99−100).

Not only did the scale of the output declines in the 1950s recessions contrast favorably with those in the interwar period; so too did the brevity of the recessions. The longest of the three recessions of the 1950s, that in 1953−1954, lasted about a year, shorter than most of the downturns in 1919−1938.[13] Furthermore, the recoveries from the 1953−1954 and 1957−1958 recessions took the V-shape that Friedman would come to see as typical of expansions after pronounced downturns. The corollary, however, of the presence of these V's in the data was that real GNP variability during the 1950s was high by comparison with later postwar patterns. Thus, Fuhrer, Olivei, and Tootell (2012, p. 86) characterize the decade starting in 1954:Q1 as one of relatively large cyclical fluctuations, and Friedman himself stated in 1977 that the period from 1953 to 1957 featured "highly unstable economic activity."[14]

The constant money growth rule could, Friedman felt, have delivered a more stable economic performance over the 1950s than what actually occurred. While applauding the price stability that the monetary policy of the 1950s had instilled, Friedman felt that a steadier policy, involving fewer ups and downs in monetary growth, could have generated the same result (Friedman, 1960, p. 94). The FOMC, he believed, had worsened business cycle fluctuations by excessive stabilization of interest rates. In addition, as discussed below, Friedman felt that by 1960 the Federal Reserve had overshot the goal of achieving conditions consistent with long-run price stability and had shifted to a policy setting that, if sustained, would produce deflation—a characterization in line with Romer and Romer's (2002a) appraisal, under which the FOMC veered in the late 1950s from its prior pattern of behavior.

Notwithstanding his criticisms, Friedman did regard the Federal Reserve's framework for monetary analysis as better in the 1950s than previously. The *Monetary History* praised the "near-revolutionary change" in official statements in 1952−1954 toward acknowledging the importance of the money supply.[15] Moreover, the recognition of the money stock as a criterion of policy had, Friedman contended, materially improved policy. And while Friedman was critical of the Federal Reserve for allowing the 1960 downturn to occur in the first place, he also suggested (in a 1965 memorandum to the Federal Reserve Board) that the Federal Reserve's attention to money supply data during 1959−1960 helped stop the recession of 1960−1961 from being worse.[16]

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[13] See B.M. Friedman (1980, Table 1.2, p. 12).
[14] Friedman in Friedman and Modigliani (1977, p. 14).
[15] Friedman and Schwartz (1963, p. 628). See also Friedman's testimony of October 30, 1959 (in Joint Economic Committee, p. 3041) in which Friedman dates the Federal Reserve's interest in the money supply somewhat earlier (to 1950 to 1953).
[16] See Friedman (1968a, p. 146).

On other occasions during the 1950s, however, the Federal Reserve had not apparently acted in such a stabilizing manner. M2 growth displays considerable swings during the 1950s (see Figure 1). Moreover, it is hard to make the case that these fluctuations simply amounted to Federal Reserve accommodation of money demand shocks, because the variability in money growth largely has a counterpart in fluctuations in nominal income and real output growth: see Figures 2 and 3, respectively.   The main thrust of Friedman's critique of monetary policy in the 1950s was that much of this movement was unnecessary; a monetary policy that delivered monetary growth of the same mean but with less variability in money growth would have secured similar benefits in terms of low inflation but would have given more stable output performance. While interest-rate policy was far more flexible after 1951 than previously, it was still not, in Friedman's view, flexible enough, and it permitted undesirable fluctuations in monetary growth. The possibility that monetary policy magnified cyclical fluctuations in the 1950s by inducing too much interest-rate stability is also raised by Gordon (1976, p. 62). In Wicksellian terms, this diagnosis suggests that fluctuations in the natural real rate of interest were high in relation to those of actual nominal and real short-term interest rates, and that procyclical fluctuations in monetary growth were thereby encouraged.

Figure 1. M2 growth (four-quarter), 1951:Q1−1960:Q4

Source: Lothian, Cassese, and Nowak (1983). Series corresponds to Federal Reserve's old M2.

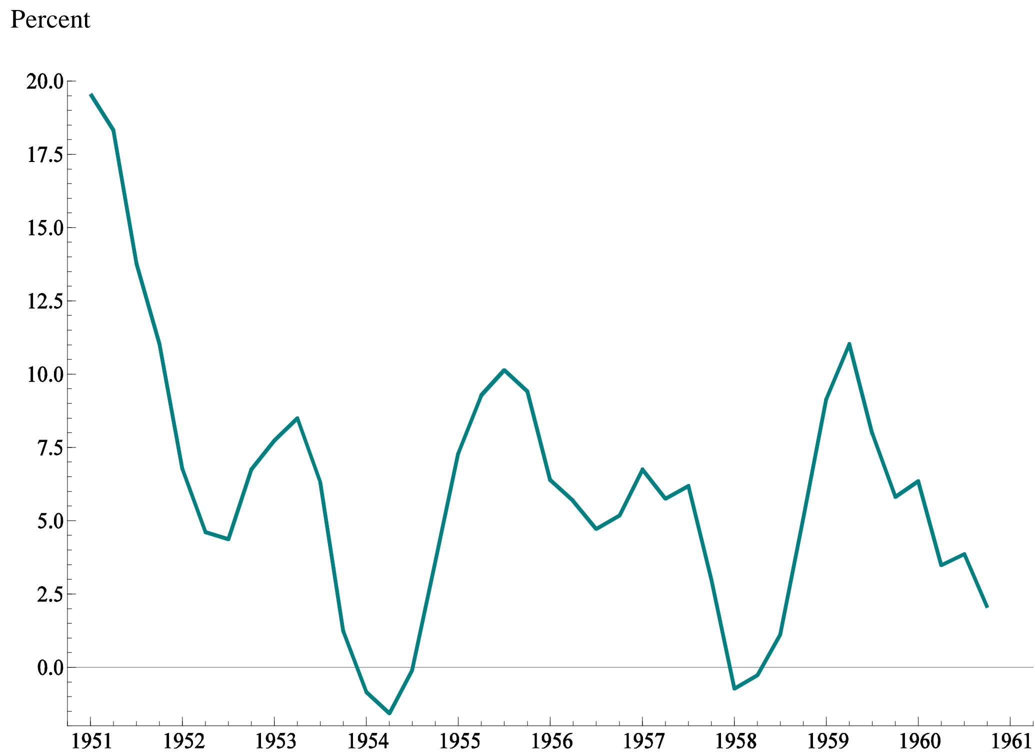

Figure 2. Nominal GDP growth (four-quarter), 1951:Q1–1960:Q4
Source: Federal Reserve Bank of St. Louis' FRED portal.

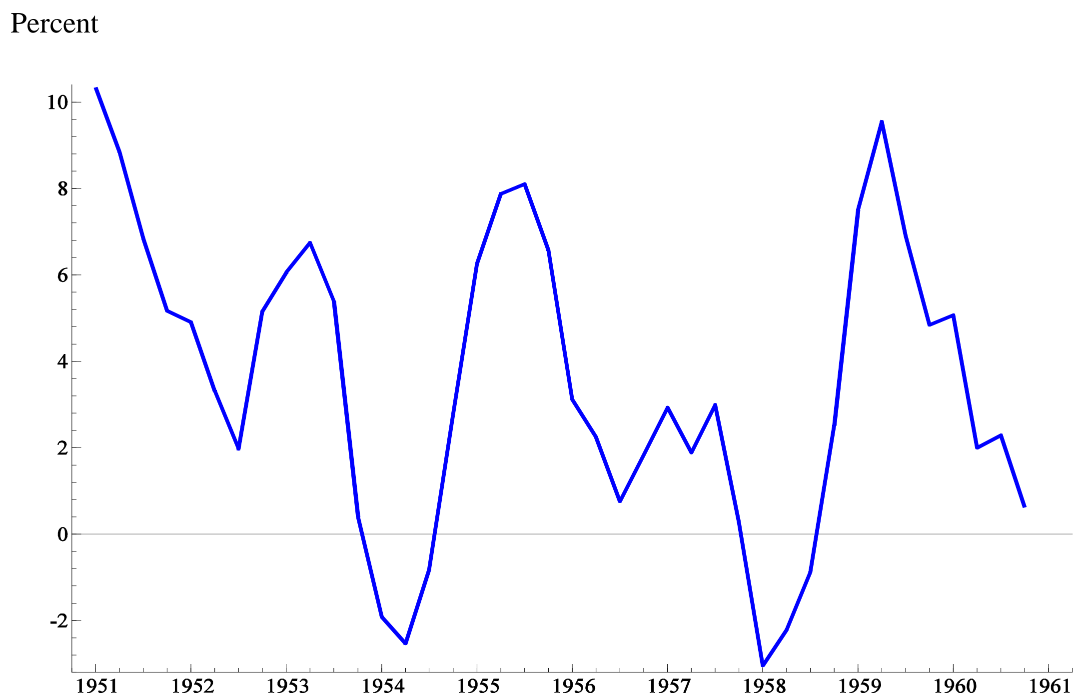

Figure 3. Real GDP growth (four-quarter), 1951:Q1–1960:Q4
Source: Federal Reserve Bank of St. Louis' FRED portal.

How does one square Friedman's notion that the policy regime of the 1950s gave rise to considerable economic fluctuations with Romer and Romer's (2002a) evidence that the implied behavior of the federal funds rate in 1952:Q1−1958:Q4 resembled those in the Volcker-Greenspan era, which covered much of the Great Moderation period? There are several reasons for believing that the Friedman and Romer-Romer positions may not be in conflict.

First, Friedman did grant that 1950s monetary policy was firmly oriented toward low inflation, something that is evident in Romer and Romer's estimate of a federal funds rate response of 1.18 to inflation and the low inflation target implicit in their estimate.

Second, some of the procyclical monetary growth of which Friedman complained may be implied by Romer and Romer's estimates. Romer and Romer find little evidence of any direct response of the federal funds rate to respond to real activity. Friedman emphasized that interest rates have a natural procyclical tendency. Consequently, the failure of the federal funds rate to register a response to a real variable—such as Romer and Romer's real activity variable (output in relation to trend) or output growth (the variable Friedman tended to stress when referring to the procyclicality of interest rates)—may be seen as a feature of the estimated rule that made for swings in output in the 1950s. This characteristic of the estimated reaction function may seem at odds with Friedman's position that monetary policy was characterized by overreaction and by ill-timed fine-tuning. But it must be recalled that Friedman was thinking in terms of the *money supply behavior* implied by monetary policy decisions; and what Friedman considered insufficient and delayed reactions of the federal funds rate to business-cycle variations had their counterpart in sizable and procyclical swings in monetary growth.

Third, there are considerable deviations of the actual funds rate from the Romer-Romer estimated rule: these include not only the in-sample residuals of their rule but also the out-of-sample observations for 1959, when the rise in the federal funds rate is well in excess of what the estimated rule predicts.

And the tightening in 1959 was one of Friedman's examples of a firming whose severity could have been avoided if monetary growth had been central to policymakers' evaluation of the stance of monetary policy. It is this episode that brought Friedman face to face with Martin.

The Federal Reserve's use, under Chairman Martin, of a short-term interest rate instrument led it, Friedman believed, to misjudge monetary policy stance in 1958−1960, and to neglect the more-dependable metric of M2 growth. The federal funds rate rose in total by about 300 basis points,

from well below 1 percent in July 1958 to 4 percent in December 1959, before leveling off in the first quarter of 1960. Yet this 300-basis point rise was associated with a sequence of different patterns of M2 growth: twelve-month (old) M2 growth continued to increase until December 1958, by which time about half the 300-basis-point funds rate increase had been completed, then experienced its roughly 7½ percentage point decline to mid-1960, continuing to decline after the federal funds rate had peaked.[17]

On Friedman's interpretation, the decline in money growth in 1959 that continued in 1960 reflected a sharp tightening in monetary conditions, in excess of the tightening the Federal Reserve had intended.[18] In November-December 1959, according to Friedman's recollection in 1970, he was writing letters to friends "in high places" about the matter, including Arthur Burns, who had been out of government since 1956 but kept in close touch with the Administration.[19] In March or April 1960, Friedman came to Washington, DC at the arrangement of Burns to discuss the monetary situation in separate meetings with Treasury Secretary Robert Anderson and Chairman Martin.[20]

What Friedman recalled as "a long and very friendly talk with Bill Martin" concentrated on the fact that the money stock was falling. Martin told Friedman that the authorities did not intend for the quantity of money to decline, but he contended that the Federal Reserve's instruments gave them little scope to boost the money stock. To Friedman's dismay, Martin invoked the familiar aphorism about being able to lead a horse to water but not to make it drink. Martin challenged Friedman: "What do you want us to do—lower the discount rate?"[21] These were fighting words to Friedman: a section of his recent lectures at Fordham University had been titled "The Sufficiency of Open Market Operations" (Friedman, 1960, pp. 30–35). Friedman recognized the reality that in practice central banks used both the discount window and open market operations as means of supplying reserves to banks, so that the two were tools operated in tandem—like two blades of scissors.[22] Martin saw that state of affairs as the natural one; in June 1956, Martin had

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[17] Here Friedman and Schwartz's (1970) monthly data on the money series are used. Friedman cited the Federal Reserve's reliance on an interest-rate instrument as the source of the 1959 decline in the money stock in Instructional Dynamics Economics Cassette Tape 52, June 10, 1970.
[18] Romer and Romer (2002a) suggest the steep tightening may have been motivated by high forecasts of inflation. This would help explain why short-term nominal interest rates were allowed to become so high in relation to *actual* inflation in 1959.
[19] Instructional Dynamics Economics Cassette Tape 42, January 15, 1970.
[20] Friedman referred to this visit in Instructional Dynamics Economics Cassette Tape 42, January 15, 1970, and he gave further details in Instructional Dynamics Economics Cassette Tape 89, December 26, 1971.
[21] Instructional Dynamics Economics Cassette Tape 89, December 26, 1971.
[22] Friedman and Schwartz (1963, pp. 511–512); Friedman (1970b, p. 4).

testified that "discount policy is closely interwoven with open market policy."[23] But Friedman wanted to institute arrangements under which discounting's status as a way of routinely supplying reserves was greatly scaled back.

Thus Martin's question provoked a sharp reaction from Friedman, which the latter remembered as, "Oh, no, Mr. Martin, why don't you raise the discount rate to 10 percent, and get it out of the way so that we can get rid of the disturbances that discounting brings into the system? What you should do is to go out and buy [securities] in the open market, if you just buy enough in the open market, you don't have to worry, the horses will drink."[24] The value of 10 percent that Friedman cited in his reply was probably facetious, but he certainly did believe that, in a regime that had a discount-window function for the central bank, the discount rate should ordinarily be a penalty rate when judged against market rates (see, for example, Friedman, 1982, p. 117).

The Federal Open Market Committee at its April 1960 meeting discussed the money supply at length, and Martin expressed views at the meeting like those he had given to Friedman: agreeing that a higher money stock was desirable but expressing doubt that monetary policy tools could achieve this.[25] The Committee nevertheless resolved to take action to stimulate the money stock; in particular, open market purchases, whose commencement Friedman and Schwartz (1963, p. 619) date to March 1960, proceeded over much of the rest of the year. Thus, while Friedman would cite the early 1960 period as one in which Federal Reserve actions intensified the decline in the money stock,[26] Friedman and Schwartz (1963, p. 638) would take "the sharp reversal of monetary policy in March 1960" as an event that eventually arrested the decline in money. Indeed, while the St. Louis adjusted monetary base series (seasonally adjusted) declined in February and March 1960 and its twelve-month growth rate troughed in May 1960, a slow pickup occurred thereafter, while the federal funds rate underwent a major further decline. As indicated above, M2 growth also turned around during 1960.

The recession that Friedman had predicted did occur, and is dated by the NBER as taking place as being associated with an April 1960 peak and a January 1961 trough. Although described by Friedman and Schwartz (1963, p. 638) as "extremely brief and mild" and amounting, on modern real GDP data, to a decline in output of only about 1 percent, the recession was in Friedman's

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[23] Quoted in McKinley (1960, p. 99).

[24] Instructional Dynamics Economics Cassette Tape 89, December 26, 1971. Friedman made a similar remark, to the effect that a super-penal discount rate would remove discounting as an important source of variations in the monetary base, in Friedman (1962, p. 29).

[25] FOMC Minutes, April 12, 1960, p. 40.

[26] March 3, 1964, testimony, in Committee on Banking and Currency, House of Representatives (1964, p. 1155).

evaluation an unnecessary one. The late 1950s recovery had been "choked to death early" because "money was tightened up unduly early," Friedman later judged.[27] On this score Friedman's judgment is in line with recent retrospectives on late-1950s policy by Romer and Romer (2002a) and Rotemberg (2013). These authors suggest that the FOMC tightened in 1959 because Committee members perceived inflation expectations as having risen. The main wrinkle that Friedman's analysis adds to this judgment is the suggestion that policymakers were too willing to take movements in short-term interest rates as the metric for the direction in which monetary conditions were moving, even when that movement was not confirmed by money stock behavior; thus, what policymakers may have perceived as a gradual tightening (especially when viewed against inflation expectations) was not gradual in terms of monetary growth.

3.3 1961 to 1969

In 1961, no doubt conscious that his warning of a secular major peacetime inflation had not materialized, Friedman (1961, p. 465) noted that the postwar period in the United States had not featured large-scale active countercyclical monetary measures. He added that he saw actual economic outcomes as confirming the desirability of that restrained approach. The Kennedy Administration's economic proposals signaled a break with this tradition, and Friedman's accounts of monetary policy in the 1960s have many similarities with those of Romer and Romer (2002b).

Just as the Kennedy Administration was entering office in January 1961 with its aim to get the economy moving again, Friedman's published output was itself poised to move into high gear in a way that would vastly raise his profile in the discourse of both policymakers and economists. There was little inkling of this in 1961. Notwithstanding his late 1950s Congressional testimony, his meeting with Chairman Martin in 1960, and the release the same year of *A Program for Monetary Stability*, Friedman had not been particularly successful in holding the attention of policymakers. When Senator William Proxmire in June 1961 asked Alfred Hayes, Federal Reserve Bank of New York and Vice Chair of the Federal Open Market Committee, if he was "familiar with Dr. Milton Friedman of the University of Chicago," Hayes replied, "In a very general way. I do not know him."[28] And Friedman himself did not make a great amount of contemporaneous commentary on current U.S. monetary policy during the Kennedy years: he

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[27] Friedman (1962, p. 24). Likewise, in February 1, 1968, testimony (in Committee on Banking and Currency, U.S. Senate, 1968, p. 155), Friedman said that the expansion was "cut short in mid-passage" by the Federal Reserve's tightening. He again expressed this view in Instructional Dynamics Economics Cassette Tape 85, November 3, 1971.

[28] June 2, 1961, testimony, in Joint Economic Committee (1961, p. 78).

was busy with the completion of the *Monetary History* with Schwartz (as well as Friedman and Meiselman, 1963), and he was out of the country for the 1962−1963 academic year.

Friedman's retrospective accounts contain considerable praise for monetary policy up to the mid-1960s. Friedman, in Friedman and Modigliani (1977, pp. 16, 20), identified the interval from 1963:Q3 to 1966:Q4 as one of the episodes of most stable monetary growth, using old M2, in the postwar period. This echoed praise Friedman had given in late 1965 when he noted that in the prior three years "monetary growth has been relatively stable by past standards," an "excellent" monetary policy performance.[29]

But Friedman believed that the rate of monetary growth from 1963, while stable, was too high (March 3, 1964, testimony, in Committee on Banking and Currency, House of Representatives, 1964, p. 1139), and it was followed by still-higher rates in 1967−1968. There was thus some ambivalence in Friedman's evaluation of monetary policy up to the mid-1960s: that period witnessed a stretch of stable monetary growth but, as well as being too high, this steady monetary growth was part of a *regime* that was not conducive to stable monetary growth. Friedman may have had the first half of the 1960s in mind when in 1972 he conceded that there were scenarios in which discretionary policy "happened to produce roughly steady monetary growth" but warned that such cases did not provide "a firm basis for confidence in monetary stability" in the way that could be provided by a rule (*Newsweek*, February 7, 1972). Indeed, Friedman would later divide the Martin chairmanship of Federal Reserve into two separate regimes: 1954−1962 and 1962−1969.[30] He ultimately judged (Friedman, 1992, p. viii) that by 1971 United States had had a decade of monetary mismanagement; the monetary stability that had occurred during part of that decade, while contributing to a "long-sustained expansion from 1961 to 1966" (Friedman, 1983, p. 7), had proved an ephemeral and accidental feature of the post-1961 regime, and the Kennedy and Johnson Administrations, said Friedman, "threw away" the noninflationary environment that had been obtained by the restrained policies and periods of high unemployment of the 1950s (Instructional Dynamics Economics Cassette Tape 64, January 6, 1971).

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[29] See Friedman (1968a, p. 147).

[30] Instructional Dynamics Economics Cassette Tape 215, 1977/1978. Friedman made a similar comment—to Martin himself!—in 1980 in *Free to Choose*, Episode 9 (p. 6 of transcript). Romer and Romer (2002a, 2002b), using narrative evidence and evidence from interest-rate rules rather than Friedman's money growth criterion, also demarcate the Martin regime into a relatively enlightened and restrained 1950s regime and an overreactive and inflationary 1960s regime.

In 1965, the Federal Reserve Board inaugurated a regular program of visits by a panel of academic consultants. Friedman's memorandum for the October 1965 meeting largely recapitulated the *Monetary History*, although he supplemented his review by laying out policy implications. He reiterated his concern that peacetime inflation, although not a danger suggested by the U.S. historical experience, might well be the main problem for the future. Friedman highlighted emerging signs that price stability was under threat: inflation had stopped falling and might be increasing, while there was "a real danger of accelerated price rise if the present rate of monetary expansion continues."[31]

A much-publicized increase in the discount rate by the Federal Reserve Board in December 1965 seemed to take heed of the need to restrict monetary expansion. But monetarists—as they were just beginning to be called—argued that had not been a *bona fide* tightening of monetary policy, claiming that monetary aggregates did not slow or even sped up.[32] For the June 15, 1966 meeting of the Federal Reserve Board's Academic Consultants, Friedman presented a memorandum (published in Friedman, 1968a, Chapter 5) that essentially made this claim, stating that "the rate of growth of the money stock has sharply accelerated since August, 1965." Friedman presented a table of annualized growth rates:

	August, 1962 to August, 1965	August, 1965 to April, 1966
M1 (currency plus demand deposits adjusted)	3.6	7.6
M2 (M1 plus time deposits in commercial banks)	7.9	9.5

Beneath the copy of Friedman's memorandum held in the Federal Reserve Board's records, however, is a handwritten line:

M3 ([M2 plus] mutual savings banks and S&L shares)	7.2	7.3

indicating that there was no sharp acceleration in the case of M3. The handwritten annotation is not by Friedman; rather, the initials "McC" written alongside it suggest that it was added by Chairman Martin himself.

[31] Friedman (1968a, p. 55).
[32] For example, Brunner (1969, p. 250) and Meltzer (2009a, p. 494).

Consideration of the behavior of the broader M3 definition importantly modifies the analysis of this period; M3, as defined above, became one of the official Federal Reserve money stock measures in the 1970s, and later still the official definition of M2 was redefined so that it essentially became what Martin in 1966 was calling M3 (Rasche, 1990, p. 159). Moreover, as noted in Section 2, Friedman used the new M2 definition in his later work. The modern M2 series corroborates Martin's suggestion that monetary growth did not accelerate materially in late 1965 and early 1966. The high monetary growth that Friedman perceived in 1966 (using old M2) was largely a flow back into commercial banks of funds held in thrift institutions, and this movement cancels within an aggregate (such as modern M2) that includes thrift accounts.

From April 1966 to the end of the year, the evidence of monetary policy tightening started appearing uniformly across monetary aggregates; the "credit crunch" of 1966 is also evident in other financial indicators and is widely recognized as a period of monetary tightness (Romer and Romer, 1993, pp. 76–78). The Federal Reserve would shift to ease in 1967, and that easing marked a dividing point for Friedman. He would classify 1967 as the beginning of an extended departure from price stability, one in which monetary policy fitted the pattern he had laid out in 1954: an inflation roller-coaster around a rising trend, with the occasional deviations below that trend reflecting shifts to monetary restraint that were abandoned once recessions developed (M. Friedman, 1980, p. 82; Friedman, 1984, p. 26).

The FOMC did not, however, appreciate the scale of its easing during 1967. By explicitly associating high nominal interest rates with tight policy, Committee members and other Federal Reserve officials neglected the distinction between real and nominal interest rates. Friedman, in contrast, was pressing this distinction on policymakers. Chairman Martin could not ignore the criticism, not least because Friedman had attracted the interest of Martin's Congressional interlocutors. Friedman's revival of the Fisher effect was referred to when Martin appeared at a February 14, 1968, hearing of the Joint Economic Committee (1968, p. 1980):

> Senator SYMINGTON. A famous economist has developed the theory that easy money creates higher interest rates. If you have not examined that concept, would you have someone on your staff do so? It is an interesting theory. I discussed it with the economist in question only last week. Would you have somebody look into it?
>
> Mr. MARTIN. I will be very glad to.

The "famous economist" was, of course, Friedman. As it happened, the issue of whether high nominal interest rates necessarily connoted tight monetary policy was one on which Martin was probably more open to persuasion than his fellow policymakers; while acknowledgment of the nominal rate/real rate distinction had faded from FOMC discussions during the 1960s, Martin had recognized the importance of the distinction in the 1950s (Nelson, 2012, pp. 248–249). In 1969, Martin would reaffirm the importance of the Fisher distinction, observing in testimony,

> I do not mean to argue that the interest rate developments in recent years had no relation to monetary policy. We know that, in the short run, expansive monetary policies tend to reduce interest rates and restrictive monetary policy to raise them. But in the long run, in a full employment economy, expansive monetary policies foster greater inflation and encourage borrowers to make even greater demands on the credit markets. Over the long run, therefore, expansive monetary policies may not lower interest rates; in fact, they may raise them appreciably. This is the clear lesson of history that has been reconfirmed by the experience of the past several years. (March 25, 1969, testimony, in Committee on Banking and Currency, U.S. Senate, 1969, pp. 9–10.)

Martin's statement amounted to a capitulation to the monetarist position that monetary policy since 1967 had been loose, not tight, and that nominal interest rates, taken in isolation, were a misleading indicator of monetary policy. Friedman's prediction that this message was "bound to sink in" with policymakers eventually (*Wall Street Journal*, November 17, 1967) had been borne out by Martin's reassessment. Understandably, therefore, the Martin quotation became something of a celebrated passage for monetarists (see, for example, Meltzer, 1969, p. 29, and Meltzer, 2009a, p. 565). The congruence between Friedman and policymakers on this issue meant that they were in accord in late 1968 and early 1969 on the need for a tightening of aggregate demand to remove inflation, which had risen further after a temporary respite during the 1967 economic slowdown.

In early 1969, Friedman called for Martin to step down. Although Martin was scheduled, in any event, to leave office at the end of January 1970, Friedman told *Time* magazine (January 10, 1969), "It would be a very good thing if he went early." Friedman had put himself in an awkward position with these remarks, as he was due to attend the Federal Reserve Board's Academic Consultants meeting on January 23 and he would see Martin there.[33] The two got on well at the meeting, however, and Friedman wrote to Martin in a letter dated January 29, offering to set up a task force, composed of personnel from the University of Chicago's Money and

[33] Friedman attended the January 23, 1969, Consultants' meeting as discussant of a paper by James Duesenberry.

Banking Workshop, Federal Reserve Board, and the Federal Reserve Bank of New York, to investigate operating procedures, specifically those that would control total reserves, that might improve control of monetary aggregates. In his reply, Martin poured cold water on the suggestion. Friedman would take consolation in the letter's acknowledgement that it was "quite true" that more precise control of monetary aggregates was feasible. Martin, however, went on to express doubt that enhanced control of monetary growth was actually desirable.[34] Moreover, discussions of the FOMC later in 1969 suggest that Martin was not very familiar with Friedman's case for a monetary growth rule. At the July meeting, Martin characterized Friedman's emphasis on the money stock as arising from the belief that money was an effective fine-tuning lever.[35] In contrast, Friedman (1960, 1968b) had stressed uncertainty about the structure of the economy and urged a rule for money that eschewed fine-tuning.

Martin and Friedman would again cross paths ten years after Martin left office, when Martin was a guest panelist in an episode of Friedman's television program *Free to Choose*. Martin recalled that Friedman "came down and gave us advice from time to time." "You've never taken it," Friedman replied. Martin shot back, "And I'm rather glad we didn't take it all the time."[36]

3.4 International economic policy

Milton Friedman was, of course, a fervent critic of fixed-exchange-rate arrangements and of their potential to interfere with achievement of domestic economic-stabilization goals (Friedman, 1953). But it happens that two of the most familiar points that appear in Friedman's case for floating exchange rates—that floating rates are necessary for monetary policy autonomy, and that avoiding intervention in the foreign exchange market would deliver balance of payments equilibrium—were not arguments Friedman applied very much to the United States in the 1950s and 1960s. He believed that in practice the United States, going back to the 1920s, had been able, by sterilizing international payments flows, to set its money stock largely independently of its international obligations (Friedman, 1960, pp. 78−83; Friedman and Schwartz, 1963, p. 396). Notwithstanding its central role in the Bretton Woods arrangements, the United States, as Friedman saw it, had been able to choose its own monetary policy course. This was partly because of the United States' dominant position (with so much of the burden of adjustment borne

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[34] Letter from William McChesney Martin to Friedman of April 7, 1969, quoted in Friedman (1982, p. 106). Friedman also discussed this 1969 correspondence with Martin in Instructional Dynamics Economics Cassette Tape 179, October 1975, and in his *Newsweek* column of July 14, 1980.

[35] Memorandum of Discussion for FOMC meeting of July 15, 1969, pp. 80–81.

[36] *Free to Choose*, television series, U.S. version, Episode 9, p. 6 of online transcript.

by other countries) but partly also because of a number of nonmonetary devices (including restrictions by U.S. residents on gold holding and various barriers to movement of capital and goods) that disconnected U.S. monetary policy from the country's international monetary obligations.

Moreover, Friedman did not see achievement of balance of payments equilibrium, in the sense of the capital and current account imbalances summing to zero, as achievable on a sustained basis for the United States. He believed that other countries would always want to fix their exchange rates with the U.S. dollar, as a means of acquiring dollar assets, and reflecting the United States' role, even if Bretton Woods faded away, as a reserve currency (*New York Times*, May 21, 1969; Friedman, 1971).[37] He regarded attempts by the United States to improve its balance of payments as futile and he spoke out strongly when, in the early 1960s, he believed that monetary policy had been made tighter than otherwise in response to balance of payments considerations (November 14, 1963, testimony, in Joint Economic Committee, 1963). That period was, in Friedman's estimation, a rare occasion on which the U.S. authorities let external considerations influence monetary policy.[38] The linking of monetary policy decisions to the balance of payments proved ephemeral, for in the late 1960s the authorities turned to enhanced foreign exchange controls as the means of improving the balance of payments.

Thus, while Friedman was opposed to the Bretton Woods system, he regarded the United States as having monetary autonomy under Bretton Woods and he did not see domestic monetary policy developments under Martin as reflecting the United States' need to conform with the prevailing exchange-rate system.

4. Arthur Burns

Although Arthur Burns served two four-year terms as Federal Reserve Chairman, a more useful division, for the purposes of an analysis of Friedman's interactions with Burns, is between the years from 1970 to 1972—the period in which the intended policy of gradual aggregate demand restriction was dismantled—and from 1973 to 1978—the period in which inflation reached rates far worse than those observed in the 1960s. Accordingly, the discussion in this section uses this division of Burns' tenure as Chairman.

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[37] Friedman did not anticipate the modern era in which the United States would have sizable current account deficits. Those deficits enabled other countries to acquire U.S.-denominated assets even while floating against the dollar.

[38] For an interpretation that instead sees U.S. monetary policy in the 1960s as substantially shaped by Bretton Woods obligations, see Bordo and Eichengreen (2013).

4.1 1970 to 1972

Arthur Burns was involved in economic policy in the year before he took office as Federal Reserve Chairman, as he served in the White House as a Counselor to President Richard Nixon. In that capacity, he was one of the designers and articulators of the Administration's policy to cool down the economy gradually to achieve a disinflation. Although both Nixon and Burns would turn away after 1970 from this policy, the core criticisms Friedman made of each policymaker differed. In the case of Nixon, a politician, Friedman attributed the institution of the New Economic Policy (which included wage and price controls) in August 1971 to lack of patience: Nixon had succumbed to what Friedman called a "false sense of urgency" (*Sarasota Journal*, January 5, 1972) in yielding to political pressure to speed up the economy and to the fashionable view that wage-price controls offered a solution to inflation. The shift in Burns' position, however, was one that Friedman was inclined to explain in terms of a change in Burns' analytical framework—from a framework that emphasized monetary control of inflation to one that pointed in the direction of wage-price controls.

This change in Burns' position came as a surprise to Friedman and formed the basis for a rift between himself and his former teacher. It is doubtful whether Burns' views ever lined up with Friedman's quite as much as Friedman thought they did. That said, in the post-1963 period Burns *does* appear to have accepted some of the major and most controversial messages of the *Monetary History*. Indeed, Burns may have been the first Federal Reserve Chairman to accept publicly the Friedman-Schwartz critique of the Great Contraction period, when in 1975 he referred to the "tragic mistake that it [the Federal Reserve] made in shrinking the money supply during the years 1929 to 1933."[39]

In addition, on many economic issues Burns and Friedman still seemed to be largely in sync at the start of 1970. Burns had marked himself out during the 1940s as a critic of Keynesian economics; in that respect he led the way for Friedman, albeit more by setting a tone rather than by offering criticisms of the kind Friedman later articulated.[40] There were some differences between the perspectives of Burns and Friedman that had already emerged by 1970. On fiscal policy, Burns (1968, p. 8) favored, and Friedman opposed, the 1968 tax increase, a difference that reflected disagreement about the scope of fiscal policy to influence aggregate demand and

[39] From Burns' March 13, 1975, testimony, in Committee on the Budget, U.S. Senate (1975, p. 830).
[40] Friedman makes this point in Taylor (2001, p. 107). Rotemberg (2013) also emphasizes the similarities between Burns' views and Friedman's views as of 1970, while Romer and Romer (2004, p. 154) note Burns' opposition during the 1960s to incomes policy, discussed presently.

about what position a "fiscal conservative" should take on tax increases. On monetary policy, as discussed in Hetzel (1998), Friedman was critical of the narrow, "Keynesian" view of monetary policy transmission outlined in Burns (1957). Thus there were undoubtedly differences of opinion between Burns and Friedman about the transmission of monetary policy, and about the strength of nonmonetary influences on the business cycle. But these differences did not put Friedman and Burns on opposite sides for many of the major policy debates in the 1960s and they did not provide the fundamental reason for their schism in the 1970s.[41]

Indeed, Burns' interventions in public policy debates during the 1960s provided critiques of the Kennedy and Johnson Administrations that Friedman had reason to applaud, including Burns' analysis of the expansionary strategy of the early 1960s and Burns' opposition to guideposts. In August 1966, Burns had said of guidelines, "These require private groups to act counter to their economic interests, create illusions and lead to a postponement of corrective policies." (*Cleveland Press*, August 2, 1966.) He elaborated on these points in what Friedman called "extraordinarily effective and perceptive writings" (Instructional Dynamics Economics Cassette Tape 86, November 20, 1971) that included the published version of a public debate with Paul Samuelson (Burns and Samuelson, 1967). One particular speech, in June 1968, shows Burns' analysis of inflation to be closely aligned to Friedman's (although the speech did not mention Friedman). In that talk, Burns (1968, p. 7) observed, as Friedman so often did, "Whenever a nation experiences inflation, there is a tendency for the government in power to blame greedy businessmen or irresponsible labor leaders." Like Friedman, Burns criticized such explanations, and he pointed instead to aggregate demand policy since at least 1964 as the reason for inflationary pressure. Burns' critique covered fiscal policy and also the "recent record of monetary policy," with particular reference to the increasingly expansionary policy of the preceding few years, culminating in money growth in 1967 that was "faster than in any year since the end of World War II." (Burns, 1968, pp. 7−8.)[42]

In July 1969, serving as President Nixon's counsel, Burns had said, "There is no support for direct control of wages of prices within the executive establishment—none whatever." (*U.S. News and World Report*, July 14, 1969, quoted in Sobel, 1974, p. 18). When asked in a television interview three months later whether there was much advocacy of wage/price guidelines, Burns replied, "Some businessmen and some journalists are, some professors are, but this is still a small minority, I believe." As for the Administration, "we're moving definitely the

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[41] A single-interest-rate view of monetary transmission, which Friedman saw as a flaw of Burns' (1957) analysis, still allows for aggregate demand and inflation to be controllable by monetary policy.
[42] A similar observation appears in another Burns speech of this period (Burns, 1968b, p. 291).

other way."[43] Likewise in his confirmation hearings of December 18, 1969, Burns stated that the "world has had a great deal of experience with wage and price controls" and that the experience had been unfavorable, leading to grey and black markets rather than genuine control of inflation. (In Committee on Banking and Currency, U.S. Senate, 1970a, p. 11.)

Furthermore, Burns' positions about the structural behavior of price setting seemed to be in line with Friedman's. As between cost-push and demand-based perspectives on inflation, Burns seemed clearly to be a subscriber to the latter, as evidenced by his remarks on guideposts and controls and his 1968 speech quoted above. And among different views of the inflation/unemployment link, Burns seemed to have settled in favor of the Friedman-Phelps version, in which the Phillips curve was nonvertical in the short run but vertical in the long run. Burns had chaired the American Economic Association session in which Friedman (1968b) gave his Presidential address and his main outline of the natural rate hypothesis, in December 1967. In 1968, Burns indicated recognition of the natural rate hypothesis by criticizing "some influential New Economists" for being "willing to risk substantial increases in the price level in the interest of gaining a small short-term reduction of the unemployment rate."[44] Burns' actions in government over 1969 likewise indicated an acceptance of the hypothesis. The Nixon Administration absorbed Friedman's address into its analysis of inflation and its gradualist approach to disinflation. Burns himself seemed to have adopted Friedman's analysis—in which the Phillips curve was nonvertical in the short run but vertical in the long run. In his confirmation hearings, Burns stated, "I think the Phillips curve is a generalization, a very rough generalization, for short-run movements, and I think even for the short run the Phillips curve can be changed." (December 18, 1969, testimony, in Committee on Banking and Currency, U.S. Senate, 1970a, p. 24.)

Little wonder that Friedman came out of the 1960s believing that Burns subscribed to much of monetarist theory (Instructional Dynamics Economics Cassette Tape 36 October 1969; Friedman, 1970c p. 24). It is therefore not surprising that Friedman wrote in glowing terms about the nomination of Burns for the position of Federal Reserve Chairman in late 1969 and Burns' accession to that post on January 31, 1970. In a *Newsweek* column published in the week of Burns' swearing-in, Friedman stated, "My close friend and former teacher Arthur Burns is not

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[43] WNET, October 22 1969; pp. 4–5 and p. 5 of transcript.

[44] Burns (1968, p. 8). This was a somewhat muddled characterization of the New Economists' (Keynesians') position, not least because it took for granted that *they* recognized that the decline in unemployment would be "short-term," whereas Keynesians' negative reactions in the late 1960s and very early 1970s to the natural rate hypothesis indicated that they believed in a long-lasting nonvertical Phillips curve.

just another Chairman. He is the right man in the right place at the right time." (*Newsweek*, February 2, 1970). He added that Burns was the first Chairman ever to have "the right qualifications for that post." Friedman elaborated on this thesis in a talk at Florida Presbyterian College on February 21. Burns, said Friedman, "is the first Chairman of the Board whose background is not in individual banking and individual business. (And I don't intend to be making any nasty comments about anyone—I am talking about background and qualification.) The Chairmen since the beginning have all been admirable people, able people who were trying to do their best—I am not questioning their motives or their intent—but they have all had a background in an individual business or the individual bank. Arthur Burns has a background in the economy as a whole. He is one of the world's authorities on business cycles, was Chairman of the Council of Economic Advisers under Eisenhower, and a very great expert on general economic matters." (Friedman, 1970c, pp. 23–24.)

In the very short term, Friedman's confidence that Burns would shift the Federal Reserve in a direction that Friedman favored was proved correct. In his confirmation hearings, Burns had had quoted to him Friedman's prediction that recession was very likely; Burns' reaction was, "I would not say that. There is, however, a danger of recession." (In Committee on Banking and Currency, U.S. Senate, 1970a, p. 8.) Friedman expressed the hope that upon becoming Chairman Burns would deliver money growth "high enough to encourage recovery… but low enough to avoid renewed inflation" (*Newsweek*, February 2, 1970). Monetary policy developments initially did not disappoint Friedman; the Federal Reserve moved in early 1970 to an easier posture and to an apparently greater emphasis on monetary aggregates. The conviviality between Friedman and the new Federal Reserve leadership was underscored by a lighthearted speech Burns gave at the NBER on February 27, 1970, to commemorate the Bureau's fiftieth anniversary. Noting a recent newspaper item, Burns (1970, p. 29) observed, "There is one sentence in the *Wall Street Journal* that suggests that the newest member of the Federal Reserve Board [i.e., Burns] stresses the importance to the economy of such monetary aggregates as bank reserves and the money supply. Now, to the extent that such an emphasis exists, then it can surely be traced, at least in some degree, to the basic writings of Milton Friedman—whom I don't see here tonight—and Anna Schwartz—who is here with us tonight."

Yet, in the longer term, the connection between Burns' actions and Friedman's recommendations would evaporate. Friedman recognized that Burns would not adopt his 3 to 5 percent M2 growth rule but said that Burns "unquestionably" would adhere "closer to a rule than that which the Fed has in fact followed." (Instructional Dynamics Economics Cassette Tape 36, October 1969.) The Federal Reserve under Burns permitted very rapid monetary growth: so rapid, in fact, that

double-digit inflation emerged during the decade—twice. Why did Burns end up following a policy so different from what Friedman wanted?

Much of the explanation is found in the sharp change that Burns' theory of inflation underwent after he became Chairman.[45] This change proceeded in two stages (Nelson, 2005). In the first stage, starting with a speech in May 1970, Burns called for wage/price guidelines as a way of speeding up the response of inflation to demand restraint. Notably, at this stage Burns was continuing to see inflation as susceptible to control via aggregate demand policies; indeed, the same month that saw Burns advocate guidelines was also one in which Burns made a statement about the inflation/monetary growth link that Friedman continued to applaud three years later (*Newsweek*, August 27, 1973). The appeal to guidelines, however, did constitute a break from the demand-restraint/market-forces combination which Friedman and the Nixon Administration had advocated for dealing with inflation.

The disagreement led Friedman in May 1970 to send Burns a lengthy handwritten letter critical of Burns' statements on incomes policy. The *Philadelphia Inquirer* (May 29, 1970) reported that Burns was shaken by the letter, and it suggested that relations between Burns and Friedman had deteriorated. The text of the letter (actually, letters, as Friedman wrote multiple times), available in both Friedman's and Burns' archives,[46] confirms Anna Schwartz's characterization that "Milton wrote Arthur a scathing letter saying he never would have believed that Arthur would do something that was so contrary to what he believed were Arthur's principles."[47]

Burns went truly off the reservation, as far as Friedman was concerned, with the further development of his views on inflation in the months after May 1970. The position that Burns took in May 1970 looks moderate compared with the pure cost-push views he would embrace

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[45] In addition to the discussion that follows, see Poole (1979), Hetzel (1998), Romer and Romer (2002b, 2004), and Nelson (2005).

[46] In a 2003 interview with the present author (Nelson, 2004), Anna Schwartz relayed that Friedman had told her that he could not recover a copy of his letter, and she also stated that the holdings of the correspondence in Burns' papers were not available to the public. The latter statement, although accurate as a description of the prior state of affairs, had not been correct for over a dozen years. The May 18 and 29, 1970, Friedman letters to Burns were indeed initially withheld from public view at Burns' request when his papers were deposited with the Ford Presidential Library, but subsequently became available; the relevant correspondence is also now available in Friedman's papers.

[47] Anna Schwartz in Nelson (2004, p. 404). To the best of this author's knowledge, other than the press accounts at the time, the earliest public references to these exchanges were in Wells (1994, pp. 57, 280). The exchanges were also discussed in Nelson (2005, 2007), which drew on the press accounts. The 1970 letters from Friedman to Burns are quoted in Wells (1994, p. 57) and, more recently, Leeson (2009, pp. 182–183). Read in isolation, however, Leeson's discussion would not convey the fact that the existence and essence of the Friedman-Burns 1970 correspondence on incomes policy were already public knowledge during Friedman's lifetime.

later in the year. In this further evolution of his position, Burns shifted to viewing inflation as a nonmonetary phenomenon, not susceptible to influence from the level of economic slack. To Friedman, such an analysis, along with the corresponding policy recommendation of direct government intervention in price and wage formation, was outdated and discredited by empirical evidence.

In March 1971 Congressional testimony, Burns gave a particularly clear statement of the limited role for monetary policy that he now saw in the control of inflation:

> Senator, I want to make this perfectly clear. I don't think that our fiscal policy and our monetary policy are sufficient to control inflation. Experience indicates that pretty clearly in our own country and even more dramatically in other countries, particularly in Canada and Great Britain. Therefore, I urge on the administration and on the Congress an incomes policy. (In Committee on Banking, Housing, and Urban Affairs, U.S. Senate, 1971, p. 19.)

From summer 1970 to summer 1971, a period over which Burns pushed for incomes policy and repeatedly espoused his cost-push view of inflation, Friedman took the opposite line. A tone of weariness had entered Friedman's discussion of the issue. "I don't believe, as I have emphasized over and over again, that there are two different kinds of inflation," Friedman observed in June 1971. "I don't believe we are experiencing cost-push inflation." (Instructional Dynamics Economics Cassette Tape 76, June 15, 1971.)   People, he said, were misdiagnosing the delayed reaction of prices and costs to excess demand as cost-push inflation. Thus, in early August 1971, Friedman insisted, "The trade unions have no responsibility for inflation; rather, they react to it." (Quoted in Hoffmann, 1971, p. 12.)

The tension between Burns and Friedman on this issue was made especially acute because of the intersection between cost-push views of inflation and views concerning the case for intervention in the market mechanism. Burns' shift toward it meant that he was departing from his inclination, stated as recently as March 1970, to be "strongly in favor of free markets." (In Committee on Banking and Currency, U.S. Senate, 1970b, p. 14.) Naturally enough, Friedman would later characterize the imposition of wage-price controls in August 1971 as a sharp move away from free markets (*Newsweek*, April 1, 1974). Thus, Burns' shift on the issue of incomes policy and inflation created considerable distance between himself and Friedman not only on monetary policy but on the merits of government intervention in goods and labor markets—a matter on which they had formerly had a great amount of common ground.

In fact, while Burns' statements on incomes policy did amount to a break from Friedman's positions, the behavior of monetary aggregates on the whole during 1970 did not meet great objections from Friedman. As Friedman saw things, policymakers had ridden out pressure for a U-turn on fiscal and monetary policy. Speaking at the end of 1970, Friedman gave praise to Nixon for sticking to a disinflation policy since taking office and to Burns for showing maturity and courage as Federal Reserve Chairman (Instructional Dynamics Tape 64, December 31, 1970).

Percent

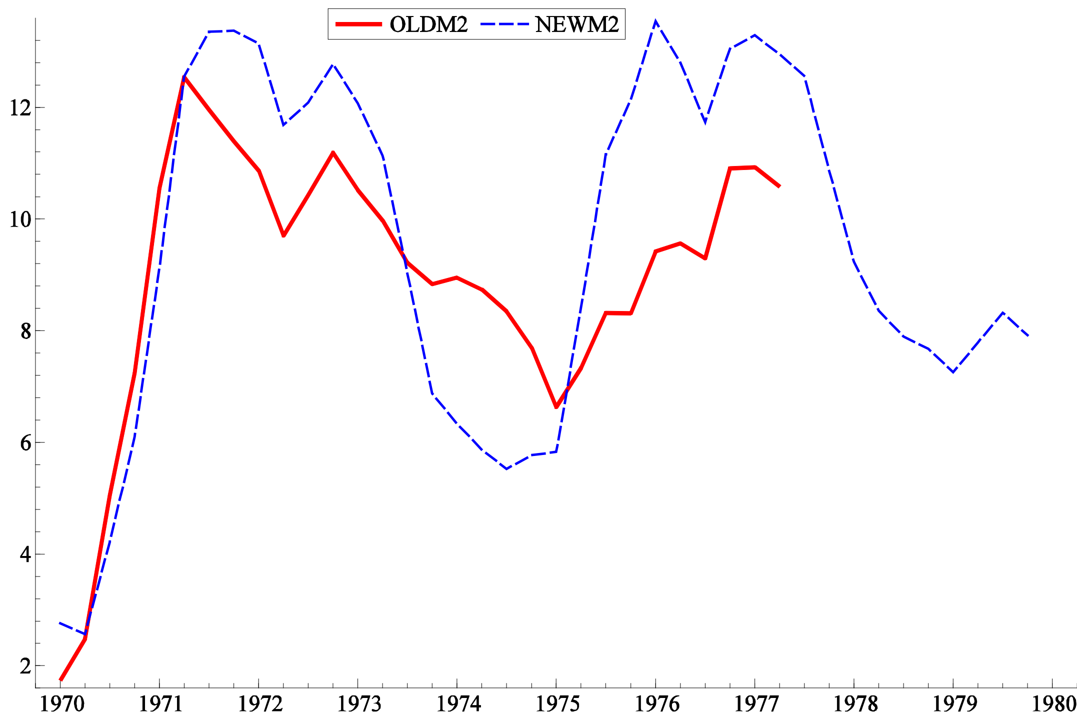

Figure 4. M2 growth in the 1970s (four-quarter rates)
Source: Lothian, Cassese, and Nowak (1983); Federal Reserve Bank of St. Louis FRED portal.

Matters unraveled during 1971, first with very high money growth in the first half of the year, clear in the M2 data in Figure 4. On this money surge, Friedman made a comment that Burns must have found galling: "I'm persuaded that the Federal Reserve is as concerned as I am about this—and wants to slow it down. I honor their intent, but candor compels me to say the money supply is being managed ineptly." (*The Sunday Bulletin*, April 25, 1971.) The reference to ineptitude echoed a section of Friedman and Schwartz's (1963, Chapter 7) account of the Great Contraction, which had been titled "Why Was Monetary Policy So Inept?"

Then came the imposition of wage/price controls in August 1971. Friedman was dismayed both at the way Burns had pushed public opinion and the Administration in the direction of controls and at the change in Burns' mindset that had led Burns to see controls as a legitimate weapon against inflation. At the end of 1971, Friedman renewed his attack both on Burns' diagnosis of cost-push inflation and Nixon's attempted cure of controls, contending that he had been imposed "not because 'economic laws are not working the way they used to,'"—here he was alluding to a phrase Burns had used—"not because the classical medicine cannot, if properly applied, halt inflation, but because the public at large has been led to expect standards of performance that as economists we do not know how to achieve."[48] Friedman said that Burns' shift toward cost-push views of inflation had revived old economic fallacies and that it reflected "the propensity of economists to appeal to a change in our economic structure whenever they are puzzled."[49]

The August 1971 shift by the Administration to wage/price controls was a move Burns applauded and one that he had advocated. Likewise, monetary policy over 1971 and 1972 took a shape that Burns favored. Accounts of economic policy in 1971 to 1972 that characterize Burns as capitulating to pressure from the Nixon Administration to stimulate the economy ahead of the 1972 election do not square with the sequence of events. The record is not consistent with a conscious overstimulation of Burns' part. Burns himself had stated in March 1971 that "[w]e could make no greater mistake now than to throw caution to the winds in the conduct of our monetary and fiscal affairs… Caution in the monetary sphere is required, lest a fresh wave of inflationary forces be released." (Committee on Banking Housing and Urban Affairs, U.S. Senate, 1971, p. 7.)

A coherent and factually accurate account of Burns' behavior does not lie in narratives that suggest a willfully excessive monetary expansion; it lies instead in the policy framework that sprung from Burns' cost-push interpretation of inflation. That interpretation made Burns liable to follow a policy that turned out to constitute excessive ease because it: discouraged him from using monetary policy instruments against inflation (since it suggested that such instruments were ineffective); encouraged him to take measures of economic slack, which apparently justified his policy settings, at face value (whereas a monetary view of inflation would have led

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[48] Friedman (1972a, p. 17).

[49] Friedman (1972a, p. 11). The crucial connection between Burns' cost-push views and his favorable perspective on wage/price guidelines and wage/price controls is the lacuna in the analysis of the Nixon White House tapes in Abrams and Butkiewicz (2010). These authors nowhere refer to cost-push views of inflation; they thereby overlook Burns' view that controls removed cost-push pressures and are consequently driven to the invalid conclusion that Burns *must* have known that rapid money growth in 1971 and 1972 was incompatible with removal of inflationary pressure.

slack estimates to be reduced as inflation remained high); and gave him false assurance that he had restored positive real interest rates (since, as discussed above, controls reduced measured inflation for given nominal interest rates).[50] The notion that the provision of an inflationary amount of monetary ease was an unwitting move on Burns' part—constituting a misjudgment of the setting of policy—is underlined by Burns' February 19, 1972, testimony, in which he stated that "an unduly expansive monetary policy would be most unfortunate" and Fed determined to prevent a "renewed inflationary spiral." (Quoted in Sobel, 1975, p. 19.)

Friedman, for his part, rejected outright the notion that Burns would stimulate the economy just to promote Nixon's reelection (*Baltimore Sun*, February 19, 1971) and after the election affirmed this judgment, declaring that the Federal Reserve did *not* conduct monetary policy in 1971 and 1972 with the aim of getting Nixon reelected (Instructional Dynamics Economics Cassette Tape 152, August 21, 1974; also Tape 190, May 1976); Burns, he said, was immune to such pressures (*New York Times*, September 1, 1974).[51] In his final cassette commentary for 1972, Friedman said he did not have even the slightest concern that Burns' FOMC would "depart from what they seriously thought to be the right policy in order to be nice to Mr. Nixon." (Instructional Dynamics Economics Cassette Tape 112, November 29, 1972.)[52]

The critique of Burns suggested by Friedman's analysis, and also supported by other evidence, does not involve Burns' acquiescence to outside pressure to inflate, nor does it involve conscious pursuit on Burns' part of an inflationary policy. Rather, it lies in Burns' embrace of a nonmonetary view of inflation. Burns' conviction that he was pursuing an appropriate policy was likely bolstered by the fact that while Friedman considered policy too easy, others, including

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[50] The fact that real interest rates rose over this period (see Figure 5 below), and rose in nominal terms during 1972, casts doubt on accounts that suggest that Burns knew in 1972 that interest rates were too low. One prominent line of argument (see Wonnacott and Wonnacott, 1979, p. 317, and Wells, 1994) is that Burns' position as head of the interest and dividends committee (a board created to monitor, but not control, non-wage incomes) constrained Burns' scope to raise market rates in 1972. A related argument is that Burns may have held interest rates down because he feared not doing so would lead to a broadening of the Nixon mandatory controls to include interest rates (Dornbusch and Fischer, 1981, p. 568). Neither of these positions seems convincing to the present author, when set against the factors, just mentioned in the text, which likely led Burns to be satisfied that monetary ease had been avoided.

[51] Meltzer (2009b, p. 797) also rejects the notion that Burns' behavior reflected the approach of the 1972 Presidential election. Abrams (2006), in a narrative of the Burns-Nixon White House conversations, is ostensibly concerned with Nixon's pressure on Burns but ultimately comes out largely in favor of the notion that Burns' policies lined up with Burns' own conception of the behavior of inflation. Abrams' account is therefore reconcilable with the prior literature on the Great Inflation that does not point to political pressure as the basis for Burns' policy decisions.

[52] In Taylor (2001, p. 106), Friedman says that "politics played a great role in what happened" in the 1970–1972 period, but immediately applies this statement to Nixon rather than Burns. As noted earlier, Friedman believed that impatience made Nixon more amenable to a U-turn in economic policy of the kind that occurred in August 1971.

some Administration members and Keynesian economists like Paul Samuelson and Walter Heller, were convinced that the danger was that monetary and fiscal policies were too *tight*, even after the August 1971 policy changes.[53]

The dispute between Friedman and Burns on incomes policy was a source of fissures between them that lasted, in varying degrees, for most of the 1970s. The schism commenced with the acrimonious May 1970 correspondence. When the existence of that correspondence quickly became publicly known, Friedman affirmed that Burns was "one of my closest personal friends" but he refused to answer when questioned whether the incomes policy dispute had damaged their personal relationship (*Philadelphia Inquirer*, May 29, 1970). They did not break off communications with one other: they continued to correspond,[54] and Friedman saw Burns at Federal Reserve Board Consultants' meetings in June 1970, November 1970, June 1971, December 1972, and one each year in the 1973−1976 period. They also continued to be summertime neighbors, both having second homes in Vermont (*Philadelphia Evening Bulletin*, April 26, 1970; *New York Post*, October 18, 1976). It would therefore be inaccurate to regard their rift as moving either Burns or Friedman into a state of animosity toward one another.

The relationship between the two was, however, definitely chillier than before. "He may have been civil in encountering Burns," observed Anna Schwartz (email to author, January 25, 2007), "but the relationship of closeness had ended." Friedman would subsequently repair his relationship with Burns, and was accordingly reluctant after 1978 to criticize Burns' record or to recount in detail his previous criticisms.[55] But the deterioration in the Burns/Friedman relationship in the 1970s is clear from the accounts of Schwartz and others; it is also evident in Friedman's public criticisms of Burns during the remainder of the Chairman's tenure.

In 1972, it was Friedman and not Burns who was under pressure. The economy seemed to be coming up roses, with strong economic growth and lower inflation. Moreover, monetarism was

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[53] Samuelson and Heller testified against tighter aggregate demand policies in July 1972 testimony (*Evening Star*, July 27, 1972).

[54] See, for instance, the 1970−1971 correspondence with Burns that Friedman (1982, pp. 106−110) quotes.

[55] Silber (2012, p. 150), for example, notes that Friedman did not mention Burns in his *Newsweek* column of February 19, 1979, which criticized the monetary policy of the 1970s. However, most inaccurately, Silber (pp. 150, 151) suggests that Friedman's columns *never* held Burns accountable for the inflation of the 1970s, a claim that overlooks many of Friedman's columns (and other commentaries) during Burns' tenure. (The earliest Friedman *Newsweek* column that Silber considers was written after Burns' successor had been named.) And even Friedman's post-1978 statements occasionally named Burns (as well as Martin and Miller) in his indictment of monetary policy since the early 1960s, for example in the *Free to Choose* television series (U.S. version, Episode 9, "How to Cure Inflation," March 7, 1980, p. 6 of online transcript), *Newsweek* (May 2, 1983), Friedman (1984), and Taylor (2001, p. 105).

under greater attack, with judgments—in retrospect, premature— that the money/nominal income relationship had broken down leading to the *Boston Globe* headline "Whatever Happened to Monetarism?" (January 16, 1972). Meanwhile, Friedman himself assumed a lower profile in the monetary policy sphere, taking a lengthy sabbatical in Hawaii and writing relatively few *Newsweek* columns on monetary policy.

In retrospect, a still-lower profile during 1972 might have been a good idea. After making some extremely astute predictions in late 1971 that inflation and a severe recession were in store beyond 1972, Friedman had, by October 1972, backtracked considerably, adopting a more benign position. In particular, his analysis in the *Newsweek* issue of October 16 stated that rates of monetary growth of late had been "high by historical standards and are higher than I myself favored but, *for this period*, they have not been dangerously high." What led Friedman astray? Most likely, he was far too willing to take the inflation data of the previous year literally, notwithstanding the distortions to the official statistics arising from wage and price controls.[56]

4.2 1973 to 1978

As inflation came out into the open in 1973, Friedman's warnings in 1971 about the dangers of high money growth came to be widely seen as having been vindicated. Friedman's criticisms of the Burns Federal Reserve, which had experienced something of a lull in mid-1972, and which had even given way to strong praise late in the year, resurfaced with a vengeance during 1973. Moreover, Burns now had been in office long enough that, using Friedman's (1972a) reckoning of a roughly two-year lag before monetary policy actions show up strongly in inflation behavior, inflation outcomes could be attributed to decisions made under Chairman Burns.

Friedman provided an early negative judgment on Burns' record in June 1973 Congressional testimony. "Some of my best friends are at the Fed. And that is a literal statement," he observed, alluding to Burns. But he went on to say that the prior eighteen months' monetary growth had been "decidedly too high" and that the Federal Reserve "must bear a great deal of responsibility for an economic climate which underlies the rapid price explosion in the first few months of this year." (June 21, 1973, testimony, in Joint Economic Committee, 1973, p. 130.)

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[56] In partial mitigation, it should be mentioned that Friedman was not well during this period, suffering from cardiovascular problems that led to open-heart surgery in December 1972.

Friedman further critiqued Burns' record in a *Newsweek* column titled "The Inflationary Fed" (*Newsweek*, August 27, 1973). This column reiterated Friedman's refrain that "inflation is made in Washington" and that his hopes in January 1970, the month that the Federal Reserve ostensibly shifted focus from interest rates to monetary growth, as well as the point from which Burns took over, "have been shattered. Monetary growth has been both higher and more variable in the past three and a half years than in any other postwar period of equal length."

In September 1973 Burns was pressed in Congressional questioning about the column and so submitted a written reply to Friedman's *Newsweek* piece—although his reply managed not to refer to either Friedman or the column. Burns argued that "Federal Reserve policy has been to resist expansionary forces," citing the fact that M1 growth had been below nominal GNP growth in 1972 and 1973 (in Committee on Banking and Currency, U.S. House of Representatives, 1973, p. 336). From a monetarist perspective, this did not constitute a satisfactory response: M1 growth had been high in absolute terms; the fact of a spread of nominal GDP growth above M1 growth did not constitute good evidence of tight monetary policy.

Burns' response also cited "special factors that have tended powerfully to raise prices this year" (ibid., p. 336) including food price increases, bottlenecks in industrial materials, and dollar devaluation. Burns' appeal to these factors continued in the next skirmish with Friedman, again in the context of a reply to a member of a Congress. It started when Burns penned a letter to Senator Proxmire in November 1973 (Burns, 1973) rejecting the notion that Federal Reserve behavior had generated recent high inflation. To the previous list of world economic developments, devaluation, and commodity price changes, Burns added environmental controls as a source of recent inflation. Burns' analysis prompted Friedman to let fly in a rebuttal, also in the form of a letter to Proxmire, in early 1974 that made headlines (*New York Times*, February 26, 1974) and was reprinted in a number of Federal Reserve Bank bulletins.[57] Friedman was irked by Burns' (1973, p. 21) statement, "The severe rate of inflation that we have experienced in 1973 cannot responsibly be attributed to monetary management." This sentence, Friedman (1974, p. 20) contended, was "unexceptionable" as written, but, "Delete the word 'severe,' and the sentence is indefensible." Commodity price increases and other one-time events, Friedman said, might have added two percentage points to the inflation rate in 1973 but this begged the question of why the rate on which these transitory factors was superimposed was as high as 6 percent; moreover, the more years one considered, the less valid it became to invoke

[57] Including the *Federal Reserve Bank of St. Louis Review* (Friedman, 1974).

nonmonetary events to explain inflation. From this flowed Friedman's (1974, p. 21) conclusion that "the Fed's long-run policies have played a major role in producing our present inflation."

Once again, Congressional questioning forced Burns to provide a reply. "Mr. Friedman is a very dear friend of mine," Burns testified in the week that Friedman's letter appeared. "I don't wish to engage in any debate with him or with any other economist." Burns cited the "extraordinary" budget deficits from 1971 to 1973; these had had "an enormous influence on the rate of inflation in this country," including, he implied, by forcing higher monetary growth (February 26, 1974, testimony, in Joint Economic Committee, 1974, p. 746). However, neither the data on budget deficits nor the values of real interest rates in 1971−1973 square with Burns' suggestion that deficits were an important source of upward pressure on monetary growth (see Hetzel, 1998, and Nelson, 2005).

Friedman and Burns were on the same page in seeing an excess demand situation during 1973. On inflation, too, while Burns attributed far more of the rise in inflation to special factors than did Friedman, he granted in his November 1973 letter that demand pressure had played a part and noted (Burns, 1973, p. 21), "In retrospect, it may well be that monetary policy should have been a little less expansive in 1972." By the time of his acknowledgement, Burns had tightened monetary policy considerably.[58] Indeed, monetary policy tightening shows up in 1973 on a host of criteria: slower growth in the monetary base, M1 and M2; higher short-term nominal interest rates (with the federal funds rate continuing the rise that had started in 1972); and even, for a time, higher real interest rates.

The chronology of the monetary tightening deserves some attention because it bears on Friedman's interpretation of events. As judged by monetary aggregates, especially the old definitions, the monetary squeeze tightened considerably during 1974 (see Table 1). The fact of a recession became known around October 1974 and its severe character became clear later in the year.[59] From the end of 1974, Friedman's analysis of the mid-1970s downturn took a consistent complexion: The Federal Reserve had undergone a moderate tightening in 1973 that was appropriate, indeed overdue (*Wall Street Journal*, August 21, 1975). But in 1974 it had overdone the tightening, its unwillingness to permit a rapid reduction in the federal funds rate leading to an additional decline in monetary growth. That further downturn in monetary growth

[58] The monetary policy tightening during 1973 is emphasized by Barsky and Kilian (2001, p. 150). They note earlier discussions of this tightening in the monetary policy literature; all these discussions, however, are predated by the Friedman commentary on the 1973 tightening that is analyzed here.
[59] Romer and Romer (1994, p. 27) note that the Federal Reserve first acknowledged a protracted decline in economic activity at the October 14 FOMC meeting.

led to Friedman's bluntly-titled *Newsweek* column of March 10, 1975, titled "What Is the Federal Reserve Doing?" Friedman refrained from criticizing Arthur Burns by name in this column. In contrast, in his own column a week earlier, Paul Samuelson named names, centering his column's discussion on Burns, taking him to task for the tightness of monetary policy since the summer, and heading his column "A Burns Depression?" (*Newsweek*, March 3, 1975). Likewise, Anna Schwartz, with nearly three decades as Burns' employee behind her, seemed to relish the fact that she could be uninhibited in her criticism of the Chairman. A glimpse into Schwartz's views on Burns' record at the Federal Reserve is provided by her statement in a newspaper interview in early 1975: "We would not have had such a severe recession, and such a prolonged one, had the Fed been doing its job properly." (*Hagerstown Herald*, March 1, 1975.)

Table 1. Monetary growth patterns from 1971 to 1975
(percent changes at annual rate)

Period	Old M1	Old M2	New M1	New M2
1971:Q1 through 1973:Q2	7.5	10.9	7.3	12.1
1973:Q3 through 1974:Q1	5.7	9.2	5.5	6.2
1974:Q2 through 1975:Q1	3.7	6.6	3.7	5.8
1975:Q2 through 1975:Q3	7.2	10.4	7.0	15.4

Source: Lothian, Cassese, and Nowak (1983) and Federal Reserve Bank of St. Louis' FRED portal.

A development that Friedman applauded in 1974 was the United States' move away from wage and price controls. Nevertheless, Friedman remained irritated by the profusion of alleged nonmonetary cures for inflation and of Burns' ongoing advocacy of nonmonetary explanations for inflation. With the controls' expiration, Burns continued, throughout his second term as Federal Reserve Chairman, to be an advocate of various alternative types of incomes policy (see DiCecio and Nelson, 2013, pp. 404–416).

Congress' Concurrent Resolution 133 of March 1975 required that the Federal Reserve report to Congress on its "objectives and plans" for monetary growth, a move that made monetary aggregate targets a more formal part of the monetary policy process. Friedman was initially elated about Resolution 133. He hailed the Resolution's linkage of long-run monetary growth to real output growth, and its requirements for public statements by the Federal Reserve concerning shorter-run actions, as "perhaps the most important change since the Banking Acts of the mid-1930s" (*Newsweek*, June 2, 1975.) But Friedman would retract that assessment. In the early

1980s, he poured scorn on his initial euphoria and indicated that he now viewed Resolution 133 as only a "noteworthy minor step."[60] Citing a variety of factors—the continued use of an interest-rate instrument, wide target ranges, major target misses combined with base drift, and the use of simultaneous targets for a set of monetary aggregates—Friedman would conclude that monetary targeting had been implemented in a way that had not led to the changes in monetary policy that he considered desirable.[61] In this respect, the 1975 changes were, in Friedman's view, similar to those in 1970 (when the FOMC formally upgraded monetary growth in its policy deliberations) and in 1972 (when the FOMC seemed to embrace a reserves instrument). Indeed, the fact that the Federal Reserve and several other central banks found a way to reconcile monetary growth targets with policies that were contrary in substance to what Friedman recommended is likely the principal reason that Friedman stated (in *Financial Times*, June 7, 2003) that monetary targets had not been a success.

The extent to which Friedman held Burns personally responsible for the way monetary targeting was implemented is not clear. Despite all his continuing criticisms of Federal Reserve policy, Friedman was more subdued in late 1975 and during 1976 in his direct criticism of Arthur Burns; Friedman's hard-hitting August 1975 *Wall Street Journal* op-ed on Burns' "doubletalk" was not followed by similar pieces in the *Journal* or *Newsweek* in the rest of the year or in 1976. Testifying before a Congressional committee in January 1976, Friedman remarked, "Dr. Burns is a former teacher of mine and a long-time friend, so I would certainly grant that I have been very much influenced [by him]." (January 22, 1976, testimony, in Committee on Banking, Currency and Housing, 1976, p. 2192.)

Perhaps Friedman reasoned that an improved dialogue with Burns would strengthen the chances of a change in Federal Reserve operating procedures. Perhaps, also, Friedman softened his direct criticism of the Chairman in 1975−1976 because, although already convinced that inflation would rise in coming years, Friedman thought that the rise could be contained if monetary policy was moderate going forward, and that he should provide backing for Burns against the many Keynesian economists calling for greater monetary expansion. The Chairman countered such calls, and Friedman observed in 1977, "Burns' statements are excellent," although Friedman added that actual monetary growth had been high in recent years (*St. Louis Globe-Democrat*, December 7, 1977). In any event, the Burns-Friedman relationship was clearly away from its nadir of 1970−1974 and the foundations had been laid for the fuller restoration of their friendship that would occur in the late 1970s.

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[60] See Friedman (1982, p. 108). See also Friedman and Friedman (1984, pp. 96–97).
[61] Se especially Friedman (1982, 1983, 1984).

In the meantime, with monetary growth having come down in 1973–1974 from its peaks earlier in the decade, and with output subsequently falling below potential, a partial disinflation took place, with inflation falling to about 5 percent in late 1976. However, not only did Friedman regard this rate as too high, he saw little prospect of the rate falling below that rate in the foreseeable future. He had expected a major takeoff in monetary growth in 1975 as part of an overreaction to the recession, but in 1976 Friedman granted that monetary growth in the previous year had not been as high as he had expected (Instructional Dynamics Economics Cassette Tape 183, January 1976). It would eventuate, however, that Friedman's fears of an overreaction did not turn out to be far off as monetary growth, using old M2, was higher in 1976 and 1977 than it had been in 1975. Thus in mid-1976 Friedman declared, "We are currently in the midst of a monetary explosion." (*Newsweek*, June 14, 1976.)

4.3 International economic policy

From 1971 to 1973, the world international system shifted to more flexible exchange rates, while the official peg of the U.S. dollar price of gold—a major symbol of the Bretton Woods system—was discontinued. These developments met with Friedman's strong approval, all the more so because they provided the impetus for the dismantling of foreign exchange controls in the United States from 1971 to 1974 and the legalization of U.S. private ownership of gold in 1975. Friedman credited George Shultz, a Cabinet member in the Nixon years, with making the running among policymakers on the issue of exchange-rate flexibility (*Newsweek*, April 1, 1974). Friedman suggested that the Federal Reserve had been an obstacle to the transition to a flexible-rate system, by, he claimed, urging intervention in the foreign exchange market and supporting the maintenance of exchange controls. However, Friedman did not specifically name Burns as an advocate of these measures.[62] In general, Friedman seems to have regarded Burns as a supporter of the flexible-exchange-rate system and as someone who consciously helped to bringing it about.

5. G. William Miller

G. William Miller had a short tenure as Chairman (March 1978 to August 1979), and during Miller's term in office Friedman, who had moved to California in 1977, was preoccupied with

[62] Friedman may have had in mind President Alfred Hayes of the Federal Reserve Bank of New York as a skeptic concerning floating exchange rates. (Shortly after leaving office, Hayes called for exchange rate floating to end: *Daily News*, September 1, 1975.) Meltzer (2009b, pp. 781–782), however, provides some basis for believing that Burns resisted the move to flexible exchange rates.

various activities unrelated to monetary policy, including tax- and spending-limitation campaigns and getting plans for his own television program off the ground. Thus, there is not a vast amount of commentary on Friedman's part on Miller's tenure. There does, however, exist an amount sufficient to provide an outline of his impressions of Miller.

Friedman met Miller at the May 11, 1978, meeting of the Board's Academic Consultants. This was the last such meeting Friedman attended, as he had become disillusioned with these meetings as a forum for giving his policy recommendations (Friedman, 1982, p. 105). Shortly before the meeting, Friedman gave a negative retrospective on Burns' performance as Chairman, adding, "Let's hope it will be different with Miller." (*Evening Gazette*, May 3, 1978.) Asked later in the month to provide an assessment of Miller, Friedman said, "His statements to date are excellent. However, the real test is performance, and it is too early to judge that." (*Newsweek*, May 29, 1978.) Evidently, some of Miller's statements since his nomination had left a favorable impression on Friedman. But Miller's statements prior to joining the Federal Reserve indicated that he was well-disposed toward cost-push views of inflation (Romer and Romer, 2004, pp. 154–156) and Miller's statements as Federal Reserve Chairman would make clear that he continued to hold a nonmonetary view of inflation (Nelson, 2005). One statement by Miller, in July 1978, that "monetary policy cannot do the job alone," would particularly draw Friedman's ire; Friedman was still quoting it in the 1980s (*Newsweek*, May 2, 1983; Friedman, 1984, p. 55).

Another area of disappointment for Friedman was in monetary policy operation. Friedman expressed optimism that Miller's background in the business world might make him inclined to shake up monetary policy procedures, and in particular to initiate a move from the use of a federal funds rate instrument to the use of a bank reserves instrument (*Newsweek*, July 24, 1978). Miller, however, maintained the federal funds rate as the FOMC's operating instrument.

On May 9, 1978, Miller replied to a request by Representative Dawson Mathis to react to a *Newsweek* column (of April 24, 1978) that Friedman had written. Miller commented,

> In the last section of his article Dr. Friedman asserts that "We need a long-term program dedicated to eliminating inflation." I agree wholeheartedly.

The difference with Friedman was brought out by Miller's next observation,

> Monetary policy has a critical role to play, but it cannot alone bear the whole burden of combating inflation.

Miller also took exception to Friedman's proposal to reduce M2 growth by one percentage point a year from 1978 to 1982, arguing that "the 4 percent rate of growth in M2 that Dr. Friedman sets as a goal for 1982 would be the lowest rate of growth in that aggregate since 1960, except for the 'credit crunch' year of 1969."[63] Friedman and the Federal Reserve probably did not differ too much in their assessments of longer-term M2 velocity behavior; it was widely accepted that M2 velocity had been roughly trendless since the late 1950s (see, for example, Fellner and Larkins, 1975). If Miller took potential output growth to be about 3.5 percent, and this assumption is combined with a constant or gently rising longer-run pattern for M2 velocity, Miller's objection to 4 percent M2 growth might amount to a judgment that the appropriate longer-run inflation objective was about 2 percent rather than around zero. Such a judgment would be consistent with Romer and Romer's (2002b) position that Federal Reserve economic objectives have not changed appreciably over time. Friedman's 4 percent ultimate monetary growth target, in contrast, reflected his preference for roughly zero inflation.

In the late 1970s, however, the choice between zero and 2 percent inflation was a distinctly hypothetical one, as inflationary pressures were severe. In late 1976 and into 1977, Friedman had stuck his neck out when, against a background of placid inflation projections from professional economic forecasters, and with bond market indicators suggesting blue skies ahead on the inflation front, he predicted that inflation would shortly start rising again and that 7 to 9 percent inflation could be expected over 1977 and 1978 (Instructional Dynamics Economics Cassette Tape 204, December 1976; Friedman, 1977). In late 1977, again well ahead of the bond market and other major forecasts, Friedman indicated that a return of inflation to the double-digit range was in prospect for 1979 and 1980 (*Newsweek*, October 3, 1977). These predictions about inflation would be vindicated. And if one accepts Friedman's position that the inflation behavior from 1978 to 1980 was largely set in place by monetary developments before 1978, it puts a different complexion on Miller's record as Federal Reserve Chairman. Although writers on monetary policy often follow Friedman in taking inflation in year t as largely determined by events in years $t-1$ and earlier, it seems that they rarely do so when discussing the behavior of inflation under Chairman Miller. Very often, the fact that inflation was high and rising under Miller is taken as evidence that Miller's monetary policy was inflationary (examples include DeLong, 1997, and Levin and Taylor, 2013). In addition, the fact that monetary policy tightened under Chairman Volcker is sometimes taken as strongly implying that monetary policy did not tighten under Miller (see, for example, Goldfeld, 1990, p. 200, and Rotemberg, 2013). An alternative interpretation is available and is consistent with Friedman's commentaries during

[63] Miller letter of May 9, 1978, Federal Reserve Board records.

1978 and 1979 and with the accounts of Romer and Romer (1989, 2002a) and Nelson (2005). Under this interpretation, the second peak of inflation in the 1970s reflected the aftereffects of the easy monetary policy of 1976 and 1977, and Miller tightened monetary policy notably during his tenure.

Evidence of an appreciable monetary policy tightening under Miller is provided by the fact that real interest rates turned positive for a considerable part of his tenure (see Table 2). In addition, narrative evidence of a Miller tightening underlies the inclusion in the "Romer dates" of an FOMC tightening in August 1978 (Romer and Romer, 1989, p. 136). M2 growth visibly fell in 1978—see Figure 4—and in later years Miller would emphasize his success in hitting M2 targets and the fact that most of his tenure witnessed a firming of policy (see Biven, 2002, p. 143).[64] Friedman himself pointed in his *Newsweek* column of February 19, 1979, to the sharply lower monetary growth in the period from October 1978 to January 1979; (old) M2 growth, Friedman related, was down to 3.3 percent, which was "fine as an ultimate target" but represented too drastic a decline from the prior rate. In quoting this column, Rotemberg (2013) implies that it is obvious that Friedman was wrong that monetary policy had tightened; but, as the pieces of evidence related in this paragraph indicates, such a judgment is far from obvious.

After Friedman's *Newsweek* column appeared, Senator Orrin Hatch used it as the basis for written questions to Miller. Senator Hatch stated,

> Many economic observers, although pleased that the Federal Reserve has decided to restrain the growth of the money supply, are concerned that the Fed is reducing the rate of money growth too rapidly. Milton Friedman, one of the few economists to foresee our present accelerating inflation and predict last year's high inflation rate, has become too critical of the Fed for reducing money supply growth too drastically. He argues that the Fed is putting us back on the roller coaster of inflation, recession, and more inflation.

Miller ignored Friedman in his reply and cast doubt on the significance of the money figures before concluding, "The Federal Reserve believes that the deceleration implied by its current longer-run growth ranges for the monetary aggregates is consistent with the avoidance of recession."

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[64] Miller may have found a move to monetary restriction to be consistent with his views of inflation because a monetary tightening would have shored up the exchange value of the dollar, thus providing a basis for a monetary policy tightening even from a cost-push perspective. See Nelson (2005).

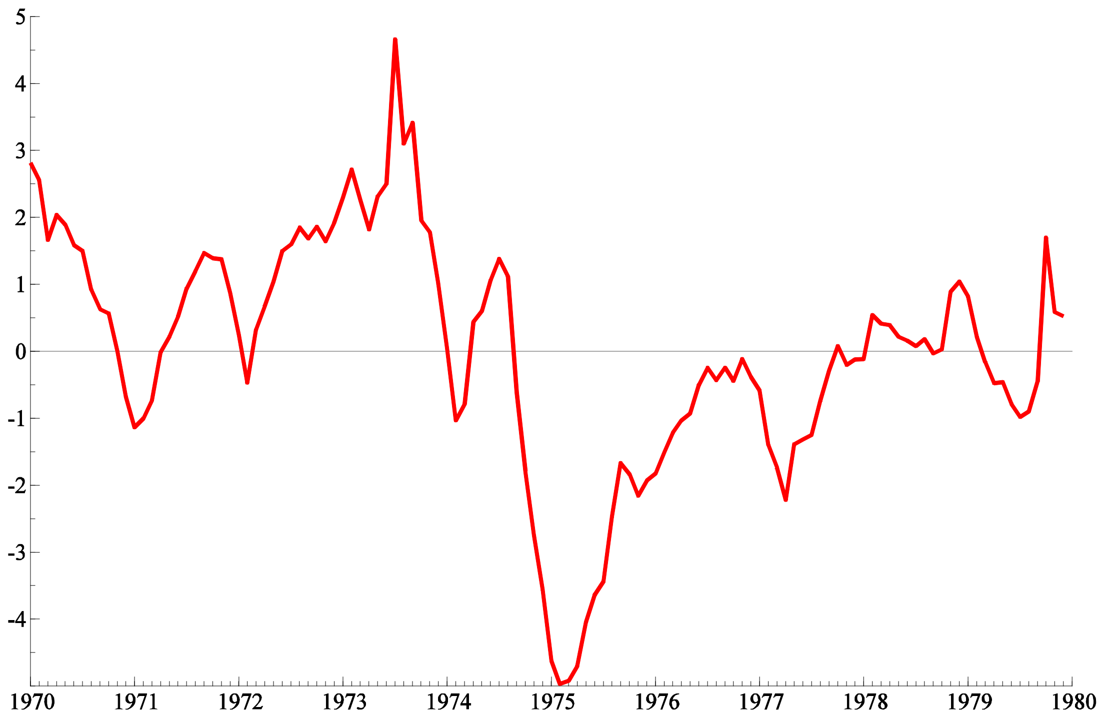

Figure 5. The real federal funds rate in the 1970s

Note: Real federal funds rate approximated by nominal federal funds rate (monthly average) minus contemporaneous twelve-month CPI inflation.

Source: FRED data portal, Federal Reserve Bank of St. Louis.

Table 2. The behavior of the real federal funds rate in the 1970s

Period	Average real interest rate (annual units)	Number of months in which real rate was positive
Burns—whole period (February 1970–January 1978)	–0.05 percent	47 (of 96)
Burns—first term (February 1970–January 1974)	1.28 percent	41 (of 48)
Burns—first term, period before price controls (February 1970–July 1971)	0.75 percent	12 (of 18)
Burns—second term (February 1974–January 1978)	–1.38 percent	6 (of 48)
Miller—whole period (March 1978–August 1979)	0.04 percent	11 (of 18)

Source: As for Figure 5.

Senator Hatch's next question included the passage,

> Milton Friedman and other monetarists successfully forecast last year's 9 percent increase in the CPI by looking at the rapid, accelerating rate of money growth beginning in 1976. By pumping money into the economy at a rapid rate during most of 1977 and 1978, hasn't the Federal Reserve guaranteed that inflation will not diminish significantly over the next couple of years? Based on his reading of the rate of monetary growth over the past few years, Milton Friedman has indicated that inflation may not have yet peaked. Do you believe that there is anything the Fed or the federal government can do to significantly reduce inflation over the next year?

Miller again avoided mentioning Friedman in his reply, but his final paragraph was revealing about his view of inflation:

> Monetary and fiscal policy actions can have a noticeable impact on inflation this year. By applying appropriate restraint, they can moderate aggregate demand pressures in the economy. In addition, they can have a salutary effect on inflation expectations and thus help to brake the wage-price spiral.[65]

In a sense, this answer is enlightened, as it acknowledges forward-looking aspects of price setting and allows for an expectations channel through which inflation can respond to monetary policy relatively promptly. But Miller's reply also perhaps reflected inadequate absorption of a lesson about policymaking that has since become widely accepted and is attributed to Friedman: that inflation responds to monetary policy actions with a noticeable lag. Indeed, the model of Christiano, Eichenbaum, and Evans (2005) adds mechanisms to the New Keynesian baseline system in order to slow down the response of inflation to monetary policy; Christiano, Eichenbaum, and Evans (2005, pp. 5, 8) explicitly motivate these mechanisms by pointing to Friedman's work on lags in effects of monetary policy actions. Thus, notwithstanding the wide adoption since 1978 of models for monetary analysis that incorporate forward-looking elements, there would not be great support today for Miller's contention in 1978 that monetary policy actions can have a noticeable impact on inflation in the same year.

For his part, Friedman in some 1980s writings judged Miller in terms of actual inflation performance during Miller's tenure (*Newsweek*, May 2, 1983; Friedman, 1984, p. 55). This might be considered a just criterion in light of Miller's statement above. It was, however, a yardstick that contradicted Friedman's own views on the lags between monetary growth and inflation; and on other occasions (such as Friedman and Friedman, 1984, p. 89), Friedman

[65] In Committee on the Budget, U.S. Senate (1979, pp. 204–205).

acknowledged that monetary growth had been brought down in 1978 and that the early 1980s disinflation could therefore be traced in part to the monetary tightening that commenced under Miller.

6. Conclusion

Several points emerge from the preceding analysis of Friedman's commentary on and relationship with three Federal Reserve Chairmen from 1951 to 1979.

First, Friedman had good reason to be pleased with the overall development of international economic policy, as Friedman's preferred positions in the early 1950s—of a flexible-exchange-rate regime, with no connection of monetary arrangements to gold, and removal of foreign exchange controls—had largely become reality by the late 1970s.

Second, with respect to the acceptance by the Federal Reserve Chairmen of his views on internal monetary policy, Friedman could claim only to have made limited headway. The nominal/real interest rate distinction that he emphasized was firmly part of Federal Reserve Chairmen's analysis by the end of the 1960s, and Friedman's stress on the link between money and output fluctuations, which underlay his and Anna Schwartz's indictment of Depression-era monetary policy, had also seeped through into official thinking. But both Chairmen Burns and Miller in the 1970s rejected Friedman's view that monetary policy actions could by themselves control inflation.

Third, on the issue of the operating procedures of monetary policy, Friedman expressed hope at various times that Martin, Burns, or Miller would shift from a federal funds rate instrument to a reserves-type instrument, and he was disappointed in each case by the resilience of the Federal Reserve's attachment to a federal-funds-rate-oriented operating procedure. The ascension in 1979 of Paul Volcker to the position of Federal Reserve Chairman saw further changes in monetary policy. These included a temporary (and, for Friedman, incomplete) move away from the use of the federal funds rate as a policy instrument. More enduringly, monetary policy after 1979 was founded on a strategy that accepted Friedman's emphasis on monetary policy as the appropriate device, and the only effective device, for the control of inflation.

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