A Review of Allan Meltzer's *A History of the Federal Reserve, Volume 2*[*]

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This paper reviews Allan H. Meltzer's *A History of the Federal Reserve, Volume 2*. This two-book volume covers Federal Reserve policies from 1951 to 1986. The book represents an enormous achievement in synthesizing a great amount of archival information into a historical account grounded on economic analysis. At the same time, Meltzer's interpretation of specific eras is open to question. He does not appear to acknowledge adequately the degree to which 1950s monetary policy decisions had a solid analytical foundation. Furthermore, Meltzer's account of the shift from the 1970s inflation to the 1980s disinflation implausibly stresses a shift in policymakers' objective function. The crucial change over this period, both in the United States and other countries, is more likely to have been policymakers' improved grasp of the connections between monetary policy and inflation. The review also takes issue with Meltzer's account, in his book's epilogue, of the financial crisis from 2007 to 2009. In this epilogue, Meltzer understates the degree to which the Federal Reserve's reaction to the financial crisis was in line with the historical practice of the Federal Reserve and other central banks.

JEL Codes: E52, E58.

[*]For helpful discussions on the subject matter of this paper and comments on earlier drafts, the author is grateful to Richard Anderson, James McAndrews, and David Romer. The paper has benefited substantially from three referee reports and the comments of the co-editor (Carl Walsh). The author thanks Christine Garnier and Andrew Giffin 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. Author e-mail: Edward.Nelson@frb.gov.

1. Introduction

In his review of Friedman and Schwartz (1963), Tobin (1965, p. 483) observed, "Now, thanks to the constructive action of the present Board of Governors in making available past minutes of the Board and the Open Market Committee, scholars will be able to provide a more definitive history of Federal Reserve policymaking." Volume 2 of Allan Meltzer's *A History of the Federal Reserve* (Meltzer, 2009a, 2009b) completes the most ambitious and wide-ranging attempt at an archives-based history of the type that Tobin envisaged. Many studies in the past few decades have intensively used historical FOMC minutes and transcripts as well as other items on the public record. Such material has been used in the monetary policy literature to shed light on specific eras of policy, to construct estimates of policy stance, or—something that is perhaps closest to Meltzer's aim—to bring out the objectives and thinking underlying Federal Reserve decisions.[1] Compared with these studies, Meltzer's has the advantage of length—volume 2 of the *History* totals 1,312 pages—as well as an extensive base of unreleased material, such as Federal Reserve Board staff memoranda and correspondence. Meltzer also draws on records related to monetary policy from U.S. presidential libraries and other sources.

Most of the years of Federal Reserve history covered by Friedman and Schwartz (1963)—that is, the years up to 1960—fell into the period covered in Meltzer's volume 1. Meltzer's volume 2 covers the period from 1951 to 1986. In contrast to Hetzel's (2008) recent history, Meltzer does not cover the Greenspan era. In the course of his account of 1951–86 developments, however, Meltzer has occasion to make many comments on the Greenspan era. In addition, an epilogue to the *History* discusses the financial crisis that began in 2007.

Volume 2 actually comprises *two* books, which are being retailed separately, and whose individual subtitles are "Volume 2, Book 1" and "Volume 2, Book 2." The individual books cover 1951 to 1969,

[1]See, for example, Feinman and Poole (1989), Karamouzis and Lombra (1989), Romer and Romer (1989, 2002a, 2002b, 2004a, 2004b), Hetzel (1998, 2008), Orphanides (2003), and Lindsey, Orphanides, and Rasche (2005).

and 1970 to 1986, respectively. Prospective readers who are interested solely in the 1951–69 period, and who are therefore inclined only to purchase book 1, should be warned that book 1 does not have its own index or bibliography. Instead, book 2's index and bibliography cover the whole of volume 2. This arrangement underscores the fact that the two books are intended to be regarded as a single work, and they are reviewed as such in the present paper.

It is worth bringing to the fore a theme, running throughout Meltzer's account, with which the present author will strongly take issue. Meltzer argues that the enduring change in the late 1970s in Federal Reserve policymaking was a shift in policymakers' objectives toward a greater weight on inflation stabilization relative to stabilization of real activity. It is this shift in the weights on policymaker objectives that Meltzer sees as the key to the early 1980s disinflation and subsequent Great Moderation. In Meltzer's view, this reweighting of objectives removed an inclination on the Federal Reserve's part to overreact to unemployment, an inclination that he believes lies behind the Great Inflation of the 1970s. The explanation offered by Meltzer downplays theoretical misconceptions as an explanation for poor monetary policy performance during the 1970s. Indeed, Meltzer's explanation actually *requires* considerable knowledge on Federal Open Market Committee (FOMC) members' part of the connections between inflation and monetary policy actions, because it presumes that the FOMC knowingly acquiesced to high inflation.

An alternative position, which the present author favors, is that changes in policymaker objectives are not an important component of the explanation of post-war monetary policy developments.[2] Rather, what distinguished policymakers' attitudes during the 1970s from those in other post-war decades was the fact that the 1970s Federal Reserve subscribed to a non-monetary view of inflation. In turn, a change in Federal Reserve doctrine in favor of a monetary view of inflation, rather than a change in the weight on inflation in policymakers' objective function, was what prompted the changes

[2]Constancy of policymakers' objective function also underlies the accounts of post-war Federal Reserve policy provided by Romer and Romer (2002b), Orphanides (2003), and Romer (2005).

in monetary policy behavior in the late 1970s.[3] The international dimension of the Great Inflation, which Meltzer seriously neglects, supports explanations of policy behavior that emphasize changes in doctrine over explanations that emphasize changes in the objective function. This international evidence supplements and reinforces the message from the U.S. documentary record that 1970s monetary policy was misguided primarily because policymakers in that decade succumbed to a non-monetary view of inflation.

This review will also take issue with Meltzer's history on several other matters. Consequently, in order to keep a proper perspective on these criticisms, three points deserve emphasis. First, Meltzer's book covers some thirty-five years of Federal Reserve history, and the reviewer is in essential agreement with the substance of Meltzer's account for fully half of the years covered, namely, the years 1961 to 1969 and from 1979 to 1986. Naturally, much of the review will concentrate on areas of disagreement with Meltzer: specifically, his accounts of the 1950s and the 1970s. Second, on the many episodes in the thirty-five years covered in the book, students of monetary policy will learn much from Meltzer's account, even if they disagree with certain arguments he advances. In particular, we are all in debt to Meltzer for his impressive consolidation of a vast amount of archival material into a digestible narrative account. Third, it is important to recall that Lucas (1988, p. 137) opened his contribution to a Festschrift for Meltzer by noting that "details are the way scholarship is carried out." In that spirit, evaluation of a highly scholarly effort like Meltzer's must involve devoting some space to the nuts and bolts of his study and not just to the main themes. Notwithstanding the disagreement laid out in this paper with both the details and major themes of Meltzer's account, it is undeniable that Meltzer has provided in both volumes of his *History* a goldmine of factual material and an account whose depth of scholarship makes the *History* the crowning achievement in Meltzer's fifty-year body of work on monetary issues.

[3] "The late 1970s" is used here (rather than 1979) because, as discussed in Romer and Romer (2002b) and Nelson (2005a), the monetary view of inflation was gaining ground among U.S. policymakers, and actual monetary policy was tightening considerably, over both 1978 and 1979.

This review proceeds as follows. Section 2 gives an overview of Meltzer's book and then provides some comments on the book's organization and methodology before considering Meltzer's analysis of specific eras. Section 3 disputes Meltzer's treatment of the international character of the Great Inflation. Section 4 considers Meltzer's epilogue on the financial crisis, and section 5 concludes.

2. Overview

This section describes the layout of Meltzer's volume 2 (section 2.1), then discusses some choices made for the organization of the material, and offers some comments on each of the eras that Meltzer studies (section 2.2).

2.1 A Bird's Eye View of Volume 2

Meltzer's volume 2 is laid out as follows. A forty-page chapter 1, "Introduction," sets the stage and sketches some of the themes that will emerge in subsequent chapters. Chapter 2, "A New Beginning, 1951–60," covers the first decade after the Treasury–Federal Reserve Accord reestablished effective central bank independence in the United States. This chapter considers the same decade as that which tail-ended Friedman and Schwartz's (1963) account, but provides greater detail than that in Friedman and Schwartz—as Meltzer's chapter 2 is over 200 pages—and has the benefit of greater hindsight and access to internal documents. Chapter 3 (again over 200 pages) is titled "The Early Keynesian Era: A Low Inflation Interlude, 1961–65," and deals with the shift to expansionary policies in the early 1960s. Chapter 4, "The Great Inflation: Phase I," essentially covers the remainder of the William McChesney Martin period at the Federal Reserve.

Volume 2, book 2, opens with "International Monetary Problems, 1964–71," covering the demise of the Bretton Woods arrangements. Chapter 6, "Under Controls: Camp David and Beyond," covers the first three-and-a-half years (early 1970 to mid-1973) of Arthur Burns's first term as Federal Reserve Chairman. Chapter 7, "Why Monetary Policy Failed Again in the 1970s," covers what Meltzer calls "the least successful period for post-war Federal Reserve policy" (page 843), the later part of 1973 to late 1979, which includes the remainder of Burns's tenure and the William Miller interregnum. "Disinflation" (chapter 8) takes the reader from the nomination in July 1979 of Paul Volcker to the position of Federal Reserve Chairman, to the end of 1982. Chapter 9 is "Restoring Stability, 1983–86." This is followed by a twenty-six-page reflective chapter on both volumes, "Past Problems and Future Opportunities" (chapter 10). The book closes with a fourteen-page epilogue entitled "The United States in the Global Financial Crisis of 2007–9."

2.2 Comments on the Book's Structure

Meltzer (1965) criticized Friedman and Schwartz (1963) for organizing their history without a formal theoretical framework (in the sense of a system of equations in which to frame the analytical discussion). In the course of writing his *History*, Meltzer seems to have become more sympathetic to the Friedman-Schwartz "analytical narrative" approach, as his discussion is deep in economic analysis but does not have an explicit model—for example, one patterned after the model of Brunner and Meltzer (1973)—to guide the discussion. Nevertheless, those familiar with the monetarist literature will recognize the analytical structure underlying Meltzer's discussion; many of the analytical points made by that literature are brought out by Meltzer's discussions of specific episodes and his critical discussion of the Federal Reserve's own analysis. Occasionally, however, Meltzer does not exposit the monetarist framework in the clearest fashion. For example, in referring to "the fungibility of money and credit" (page 506), Meltzer certainly does *not* mean that money and credit are interchangeable with one another—many of Meltzer's theoretical contributions emphasize precisely the opposite point! Rather, what is intended to be conveyed is that different types of money are interchangeable with one another, and that different types of credit are easily substituted for one another. Another instance in which Meltzer's discussion seems contrary to the monetarist literature is his evaluation of the relationship between money growth and variables such as nominal income and prices on the basis of the *contemporaneous* relationship between the series (see pages 196, 1168). One of the major insights of the monetarist literature (acknowledged by Christiano, Eichenbaum, and Evans 2005, p. 5, for example) is the pervasiveness of lags in the relationship between monetary policy actions and economic aggregates. By and large, however, Meltzer's book serves as a good means by which interested readers can acquaint themselves with the major aspects of monetarist analysis.

Meltzer's breakup of chapters reflects shrewd choices. The coverage of the 1950s as a single era is wise and facilitates comparison (undertaken below) with Romer and Romer's (2002a) study of 1950s Federal Reserve policy. The separate coverage given to the late 1960s inflation is to be applauded. This is preferable to treating the second half of the 1960s with the 1970s as a monolithic "Great Inflation." Meltzer's chronological breakdown is appealing because, as argued below, the reasons behind the 1970s monetary policy mistakes are different from those that underlay 1960s policy choices—although, as also contended below, the particular factors that Meltzer stresses in explaining 1970s policy failures do not seem to be the most important factors.[4] It was also wise to give international policy in the 1960s its own chapter. To a considerable extent, the United States in the 1960s was able to call the shots on monetary policy independently of its Bretton Woods obligations and of the U.S. balance-of-payments situation. It was therefore sensible to separate the issues that bear on international policy from those weighing on monetary policy decisions. Later in the book, Meltzer's division of the Volcker years into the 1979–82 and the post-1982 epochs allows the crucial years from 1983 to 1986 to receive the attention they deserve, and gets away from the preoccupation of researchers with the 1979–82 portion of the Volcker era.

Some observations follow concerning Meltzer's account of specific eras of 1951–86 monetary policy.

2.2.1 The 1950s

Meltzer's coverage of the 1950s provides an indispensable account of the first decade of post-Accord policy. The chapter adds substantially to existing factual knowledge about this period, and is

[4]The fact that the two periods of problematic policy arose from different sources of error is underscored by the fact that the bridging period of 1969–70 witnessed the pursuit of a disinflationary policy that was well informed by modern natural-rate theory. See Romer and Romer (2002b) and DiCecio and Nelson (2009) for development of this point.

also persuasive on several analytical matters. Nevertheless, there are grounds for believing that Meltzer understated the sophistication of policymaking in the 1950s. Romer and Romer (2002a, p. 127) argue that "monetary policymakers in the 1950s had figured out the essence of sensible policy," and Romer and Romer (2002b, p. 19) add that "monetary policymakers in the 1950s also had a relatively modern view of the process of disinflation." Meltzer rejects this view. Indeed, he is brusque in his dismissal of the Romer-Romer position, stating in a footnote on page 48, "I find no evidence to support their claim," with a similarly curt remark appearing on page 90. Meltzer's failure to provide a systematic comparison of his evidence for the 1950s with that of Romer and Romer is a shortcoming of his chapter on 1951–60.

A comparison of the rival accounts, taken in conjunction with the present author's research into 1950s monetary policy, suggests that, in several important respects, the evidence favors Romer and Romer over Meltzer. A few specific examples follow.

First, Meltzer (on pages 81 and 87) insists that the Federal Reserve in the 1950s did not understand the distinction between nominal and real interest rates. By contrast, Romer and Romer (2002a, p. 127) contend that "many FOMC members showed a clear understanding of the distinction between real and nominal interest rates." The one example they give, however, is a statement by Karl Bopp, Federal Reserve Bank of Philadelphia president. Meltzer may not attach weight to this example, perhaps requiring evidence that Board governors or Board senior staff understood the nominal rate/real rate distinction before he would concede that knowledge of the distinction was instilled in 1950s policymaking. As it happens, such evidence exists in a 1957 statement by Federal Reserve Chairman William McChesney Martin and in a 1959 statement by Winfield W. Riefler, senior staffer and assistant to the Chairman. Martin (1957, p. 1266) testified, "A large part of the savings of the country is mobilized in savings deposits and similar claims that call for some stated amount of dollars. If people generally come to feel that inflation is inevitable, they will not save in this form unless they are paid a much higher interest premium to compensate them for the depreciation of their saved dollars. It is for this reason that it is impossible, in a period of demand in excess of savings, to maintain lower interest rates through a policy of 'easy credit.'"[5] Likewise, in a speech in July 1959, Riefler (1959, p. 3372) noted that in "a period of price stability," it would not "be necessary to set anything aside to compensate for erosion in the purchasing power of the dollars invested in liquid assets," whereas in "a period of creeping inflation—at, say, a 3 percent annual rate," an interest rate would require a premium of 3 percent "to maintain the real purchasing power of the investment." Riefler continued, "It is this process that our monetary authorities have in mind when they take the position that the current higher levels of interest rates now prevailing are basically the result of a widespread experience with and expectation of inflation, rather than the result of restrictive monetary policies."[6] These 1950s statements by Federal Reserve Board officials clearly acknowledge the Fisher effect.

On a second point, Meltzer claims (on page 942) that Federal Reserve policymakers did not blend preemptive actions into a stabilizing monetary policy reaction function until 1994. Yet evidence that 1950s policy was stabilizing and preemptive is present in Romer and Romer's (2002a, p. 125) finding that 1950s funds rate policy responded strongly to expected future inflation and expected future economic activity. Other interpretations of the 1950s have also perceived a forward-looking dimension to monetary policy in that decade; for example, Tobin (1965, p. 485) observed that Friedman and Schwartz (1963) "praise the shifts to ease that occurred before the cyclical peaks of 1953 and 1960." It also bears mentioning that in 1958, Ralph Young, at the time the director of the Federal Reserve Board's Division of Research and Statistics, stated, "The forward-looking nature of monetary policy forces the central banking

[5] The existence of enlightened statements by Martin such as this renders inappropriate Meltzer's conclusion (on page 1222) that "Chairman Martin had no interest in economic or monetary explanations of events." While Martin was probably not as analytical in some respects as other Chairmen, it is surely excessive to claim that Martin had no interest in economic explanations. And while—as Meltzer so skillfully documents—monetary policy went astray for much of Martin's second decade as Chairman, the reasons for this are largely to be found in *misguided* economic analysis rather than in *lack of interest in* economic analysis.

[6] Private financial market participants over this period also referred to the Fisher relation. For example, Alan Greenspan (1959, p. 12) stated, "It is true that *expectations of price increases* tend to add an 'inflation premium' to interest rates." (Emphasis in original)

statistician to forecast, no matter how inadequate the tools for doing so" (Young 1958, p. 205).

Finally, a modern aspect of 1950s policymaking was the resolute orientation of monetary policy on inflation. Meltzer sees this orientation as only a post-1979 phenomenon, observing (on page 1091) of the refusal to ease during 1981, "Nothing like that had happened [previously] in the postwar years." In contrast, Friedman (1984, p. 26) and Romer and Romer (2002a) stress that it was monetary restraint during the second half of the 1950s, with the uncomfortable interim consequence of two recessions, that delivered the price stability of the early 1960s. The resolve of policymakers to fight inflation gives the monetary policy of the 1950s a modern flavor and seems inconsistent with Meltzer's position that post-war policymakers' objective function featured a lower weight on inflation stabilization before 1979 than after 1979.

2.2.2 The 1960s

Meltzer's account of the 1960s is a highlight of volume 2's book 1. The integration of Federal Reserve, White House, and Treasury materials, together with oral history recordings, is very well done. The use of Oval Office recordings in Meltzer's account does not wait until the Nixon years; he uses recordings of Kennedy-era conversations in chapter 3 (see especially pages 394 and 395). Aspects of Meltzer's narrative of the 1960s that will appear particularly relevant from today's perspective are the accounts of "Operation Twist" (the Federal Reserve's attempts in the early 1960s to influence the term structure through purchases of long-term government securities) and the 1966 credit crunch.[7] In addition, Meltzer highlights aspects of the emergence of overestimates of potential output during the 1960s, a feature that is central to Orphanides' (2003) account of the same period.

Just as he did in his account of the 1950s, Meltzer sees in 1960s Federal Reserve policy a failure to distinguish between nominal and

[7]An apparent omission from Meltzer's account of the 1966 credit crunch is mention of the Interest Rate Control Act of 1966. This legislation was an upshot of the financial disintermediation that occurred during the 1966 crunch. The Act extended Regulation Q-style deposit rate ceilings to thrift institutions (savings banks and savings and loan institutions). Though these powers were not given to the Federal Reserve, in practice they were used in tandem with the Federal Reserve's adjustments to Regulation Q in the late 1960s and early 1970s.

real interest rates. This is more plausible as a description of 1960s policy than of the 1950s; indeed, one 1968 speech by a senior Board staffer (Gramley 1968) leaves little doubt that high nominal interest rates in 1967 were taken as tight monetary policy. If, as argued above, policymakers had been well informed about the real/nominal rate distinction in the 1950s, how could they become ill informed by the 1960s? The answer is twofold. On the one hand, U.S. data for the 1950s featured very little autocorrelation in quarterly inflation rates: see McCallum (1994, table 1) and Erceg and Levin (2003). Under these circumstances, the assumption of constant expected inflation will tend to be a good approximation, and time-series evidence will suggest that a nominal rate/inflation connection is not present in the data. In light of the apparent absence, ex post, of a relation between nominal interest rates and inflation, policymakers in the 1960s may have reverted to a disregard of the Fisher relation—or, more precisely, may have assumed that inflation expectations were quite flat. A second dimension of policymakers' 1960s view of interest rates was that high nominal market interest rates were taken to have contractionary implications for aggregate demand because interest rate ceilings on bank deposits were seen as a potent policy tool. In actuality, as Meltzer documents, interest rate ceilings were likely ineffective for aggregate-demand-management purposes, because any banking activity discouraged by the ceilings could be taken up by unregulated financial intermediaries.

2.2.3 The 1970s

The 1970s are considered in detail in section 3 below. Highlights of Meltzer's account that deserve mention here are the details provided on the transitions from Burns to Miller and from Miller to Volcker.

The contributions of Federal Reserve Bank presidents to monetary policy in Meltzer's account are brought out mainly through references to their contributions to the FOMC's deliberations. Meltzer does note, however, the contributions that the Federal Reserve Banks of St. Louis and Minneapolis made during the 1970s as critics of prevailing FOMC orthodoxy, both via their research output and via the contributions of their presidents, especially Darryl Francis (St. Louis) and Mark Willes (Minneapolis). In light of Meltzer's attention to the insights provided by these Bank presidents, it is all the more jarring that the closing sentence of Meltzer's chapter on the period from 1973 to 1979 states, "No one suggested bold, decisive action to end inflation." While this provides a dramatic end to Meltzer's chapter on events prior to October 1979, it neglects the fact that the 1979 policy change was in the direction suggested by the Federal Reserve Bank of St. Louis. The St. Louis Bank had approved of the step-down in money growth and nominal spending growth envisaged in the Federal Reserve's successive monetary targets since 1975, but was alarmed by considerable overshoots of these targets. Viewing these misses as arising from the overly gradual adjustment by the FOMC of the federal funds rate target, the Federal Reserve Bank of St. Louis called for more willingness to tolerate funds rate fluctuations.[8] Consequently, the October 1979 change was welcomed by President Lawrence Roos of the Federal Reserve Bank of St. Louis, who said the day after the new arrangements were announced, "This is a major change of emphasis on the part of the Federal Reserve and monetary policymaking. This is what the St. Louis Fed has been preaching since the year one."[9]

2.2.4 1979 to 1982

This period has received saturation coverage in the monetary policy literature. Nevertheless, there are still plenty of new insights about the era available in Meltzer's chapter 8. One reason for this is the sheer level of detail and range of Meltzer's source material, which, in addition to voluminous Federal Reserve archival records,[10]

[8]This was of course the position taken by outside monetarists as well, including Meltzer, who, in the week prior to the 1979 regime change, pointed to the inadequacy of "policies that move the fed funds rate an eighth of a point at a time" (Meltzer 1980b).

[9]Quoted in Riesenberger (1979).

[10]One complaint, however, regarding Meltzer's use of the archives is that he does not make clear the specific contribution to our knowledge of events made by the archival material. The key problem is that Meltzer's citation procedure does not distinguish material that is special to the Federal Reserve's archives from material by Federal Reserve personnel that was published contemporaneously and has been used in previous histories of monetary policy. For example, Meltzer gives Federal Reserve Bank of New York archival boxes as his sources for 1970s speeches by Paul Volcker, even when these speeches were published in journals. Moreover, when quoting a 1984 speech by Governor Wallich, Meltzer gives "Board Records" as his source (p. 1164) instead of simply citing the version that appeared in print at the time (see Wallich 1984).

includes interviews with Volcker and members of his senior staff. Another reason is that Meltzer covers *both* the development of the Federal Reserve's "new operating procedures" in the form of non-borrowed reserves targeting—the aspect of this era focused on in the 1980s literature—and the implications of the policy change for such matters as the sacrifice ratio and policy credibility—the aspect of 1979–82 which tends to be the subject of the more recent literature.[11] Meltzer also decisively dispatches with some myths about the era that have downplayed Paul Volcker's own contribution to the disinflation that bears his name. For example, Meltzer rejects (on page 1024) the once-popular story that Volcker adopted the new procedures only after being browbeaten into doing so at a 1979 policymakers' summit in Yugoslavia. Meltzer also refutes (on pages 1081 and 1087) the claim—for which Meltzer gives no source, but which appeared in Newton (1983)—that the resolute monetary policy in 1981 was the product of President Reagan calling Volcker to account in a meeting at the White House.[12]

2.2.5 1983 to 1986

Meltzer's high-quality coverage of the Volcker years continues in his chapter 9. Particularly notable is the coverage of developments in 1983 and early 1984. Meltzer describes how the Volcker Federal Reserve, against an inauspicious background of a crisis-stricken financial system and confusion over the Federal Reserve's choice of

[11]On the other hand, Meltzer's consideration of both strands of the existing literature misses some key references: Karamouzis and Lombra (1989) is an important missing reference on the 1979–82 operating procedures, and Erceg and Levin (2003) is a major omission from Meltzer's discussion of the output costs and credibility problems associated with the Volcker disinflation.

[12]Meltzer is in error, however, on some details concerning this period. It is not accurate (according to the National Bureau of Economic Research business-cycle chronology) to describe the United States as being in recession in the spring of 1981, as Meltzer does on pages 1081–82. It is also not the case, as claimed by Meltzer on page 1035, that President Carter never publicly criticized Volcker's monetary policy during the 1980 campaign; Meltzer's own account (on page 1065) provides a counterexample to this claim. Meltzer's discussion of Volcker's record in hitting monetary targets is marred by his use of incorrect M1 growth rates: compare Meltzer's table on page 891 with the correct numbers given in Broaddus and Goodfriend (1984, p. 7).

policy instrument, managed to consolidate the disinflation and usher in the era of the Great Moderation.

The Federal Reserve reverted to an interest rate instrument from 1982 onward, and Meltzer uses this chapter and others to lay out his views on interest rate rules. These views have changed over the years. Meltzer (1980a) acknowledged that, in principle, the choice between a reserves instrument and an interest rate instrument pertained to tactics, not strategy, with monetary stability achievable under either instrument choice. But Meltzer's position was that, in practice, an interest rate instrument promotes excessive delays in interest rate adjustment and fosters a procyclical and often inflationary monetary policy. Meltzer is now critical of his former position (see pages 16 and 596). He provides the following poignant and balanced summary:

> Monetarists wanted the Federal Reserve to avoid procyclical actions by controlling money growth. . . . They recognized that if the Federal Reserve changed interest rates to control money growth, interest-rate control would be effective and countercyclical. But they did not emphasize the last point and insisted on the importance of controlling money directly. (p. 1017)

To acknowledge that an appropriately selected interest rate rule can be highly stabilizing does not, of course, rule out the possibility that monetary aggregates might have a valuable role in the formation of monetary policy decisions. Indeed, Meltzer notes that rapid money growth provided a more accurate signal of the strength of the initial stages of the post-1982 economic recovery than did real interest rates, which were historically high. Nevertheless, the preceding quotation from Meltzer does amount to an important acknowledgment on the part of a prominent monetarist that some of the monetarist thinking on policy rules required revision.[13]

The developments in Meltzer's thinking on monetary policy implementation provide an interesting parallel with the evolution of views of a Federal Reserve governor who features prominently in Meltzer's history: Henry Wallich. Wallich was not a monetarist; prior to serving as a Board member from 1974 to 1986, Wallich

[13]For a parallel acknowledgment by another prominent monetarist, see Schwartz (2009).

was one of the non-monetarist *Newsweek* columnists whose contributions provided a counterweight to Milton Friedman's articles for the magazine. While a *Newsweek* columnist and an academic, Wallich saw merit in the Nixon price controls (see the roundtable discussion of Friedman, Samuelson, and Wallich 1972). As a Federal Reserve governor, he came to see merit in the monetarist emphasis on the centrality of monetary policy to inflation and on money's role as an indicator, saying of the monetarists "they basically have a good idea."[14] But, in defending the short-term interest rate as a monetary policy instrument (for example, in Wallich 1982), he frequently found himself at odds with the monetarists. Over time, Wallich took on board much of the monetarist account of the effects of monetary policy, while Meltzer has come closer to Wallich's position on the choice of policy instrument. The common positions that Meltzer and Wallich ultimately reached in the wake of the events of the 1970s and early 1980s provides an example of the reconciliation that developed between monetarist and non-monetarist economists—a reconciliation that is also clear in the prominence given to monetary policy in New Keynesian economics.[15]

3. International Aspects of the Great Inflation

The principal matter on which the present review takes issue with Meltzer's volume 2 concerns his account of the Great Inflation of the 1970s. As noted above, Meltzer primarily attributes 1970s monetary policy outcomes to a low weight on inflation stabilization until 1979 in FOMC policymakers' objective function. (See, for example, Meltzer's pages 864, 1033–34, 1097, 1131, and 1217.) Meltzer gives little credence to explanations that focus on policymakers' misunderstanding of the importance of monetary policy to inflation. (See, for example, Meltzer's pages 861 and 863.) Meltzer's interpretation of the Great Inflation is hard to reconcile with the U.S. experience. Furthermore, as I detail below, his interpretation also does not come

[14]Quoted in Clark and McGinley (1984). See also Wallich (1980, 1984) and Meltzer's discussion of Wallich's views on pages 1092, 1132–34, and 1165.

[15]New Keynesian economics likewise recognizes the distinction, repeatedly stressed by Meltzer, between price-level shocks and the ongoing inflation rate; see, for example, the discussion of the New Keynesian Phillips curve in Walsh (2003, p. 517).

to grips with the Great Inflation's international character. Meltzer states the following:

> The international character of the Great Inflation is sometimes advanced as support for explanations based on errors in economic theory. The claim is that many countries made the same errors, particularly denial of the natural rate hypothesis, claiming that unemployment in the long run was independent of inflation. . . . Appealing as this argument is to economists, it fails to separate the start of inflation and its continuance. (p. 864)

This is an unsatisfactory statement. Unlike the rest of Meltzer's book, the quoted passage does not conform to good scholarly practice; referring to an argument as having been "sometimes advanced" is no substitute for citing the relevant literature and confronting the arguments in that literature. Yet Meltzer provides no bibliographical references in the paragraph containing the above-quoted passage. The omission is not just a bibliographical problem; Meltzer does not face the arguments that have been central to recent discussions of international aspects of the Great Inflation. It appears appropriate to conclude that, in a book published five years after his exchange with Romer (2005), Meltzer has not risen to the challenge posed by Romer, whose critique of Meltzer's account highlighted the international dimension of the Great Inflation.

The portion of the Great Inflation literature that covers the experience of other countries is quite small, as Cecchetti et al. (2007) note. Other than Cecchetti et al., this strand of the literature includes Nelson (2005a, 2005b) and Scrimgeour (2008). The material in those papers brings out problems with Meltzer's characterization of explanations for the Great Inflation. Contrary to the impression that Meltzer creates, the literature on international aspects of the Great Inflation does *not*, by and large, attribute international inflation to policymaker pursuit of a Phillips-curve trade-off. Indeed, such an account of policy behavior is untenable, as it does not square with the fact that policymakers in the 1970s in several major countries explicitly rejected Phillips-type trade-off ideas. For example, Prime Minister Pierre Trudeau of Canada in 1970 ruled out the existence of a long-run Phillips relation (see Nelson 2005a, p. 147). As another example, in March 1976 the UK Prime Minister, Harold Wilson, said in a television interview (Independent Television News 1976), "the old theory that if you have a lot of unemployment, you can't have inflation, has been disproved in Britain and all over the world, as some of us many years ago said it would be before very long. In 1957, I was writing articles saying that."

Explicit rejections of a long-run Phillips-curve trade-off appeared in statements by U.S. policymakers during the late 1960s and the 1970s. Meltzer correctly notes (on pages 585 and 845) that Arthur Burns rejected the notion of a long-run Phillips-curve trade-off. But it would not be correct to infer that Burns, or his counterparts in other major countries, adhered to modern inflation theories, under which monetary policy ultimately determines inflation. On the contrary, the coexistence of high inflation and high unemployment can be rationalized by unorthodox theories of inflation as well as by modern natural-rate theory.[16] In particular, pure cost-push, or non-monetary, views of inflation can lead one to the view that there is *no* connection between output gaps and inflation, because these theories take the coefficient on the output gap in the Phillips curve to be zero when the economy is below a state of full employment. Since pure cost-push views can rationalize arbitrary combinations of unemployment and inflation, it is easy to see why these views of the inflation process gained ground and persisted among policymakers in the 1970s.[17] Pure cost-push views of inflation were already prevalent in policy circles in the United Kingdom and other countries before

[16]Meltzer is therefore in error when he suggests (on page 864) that accounts of the Great Inflation that focus on policymaker adherence to erroneous theories fail to explain the durability of these theories in the face of the high inflation and rising unemployment of the 1970s.

[17]Belief in cost-push forces as one factor behind inflation had cropped up as an element of official thinking about inflation during the 1950s and 1960s; see Meltzer's chapter 2, as well as Riefler (1959) and Romer and Romer (2002b). But in those decades, U.S. policymakers still believed that the level of the output gap mattered for inflation behavior; thus, a policy that held down output could offset the effects of cost-push forces on overall inflation. Beginning in 1970, however, U.S. policymakers moved to a harder-line position—a purely non-monetary view of inflation—under which cost-push forces drove inflation even in the face of monetary restraint. This contrast between pre-1970 and post-1970 policymaker positions underscores the point that the 1960s and 1970s inflation problems of the United States arose from different sources of policy error. See DiCecio and Nelson (2009) for further discussion.

1970, but gained traction at the highest levels of U.S. policymaking only in 1970. Chairman Burns and Chairman Miller both subscribed to this non-monetary view of inflation.[18] Meltzer tells us (page 861) that there is "little reason to doubt that FOMC members recognized their role in creating inflation," but the extensive analysis of the statements of Burns and his FOMC colleagues in Hetzel (1998), Romer and Romer (2002a, 2004b), Nelson (2005b), and DiCecio and Nelson (2009) suggests the opposite conclusion.

Meltzer claims that international transmission of U.S. inflation via the Bretton Woods system can account for the international character of the 1970s inflation. An appeal to Bretton Woods does not, however, provide a valid explanation. For one thing, even under Bretton Woods, U.S. monetary policy was not the be-all and end-all in determining other member countries' monetary policies; it was possible for these countries to separate their monetary policy considerably from U.S. monetary policy. For example, Rasche (1990) for Japan, and Throop (1980) and Mankiw (1986) for the United Kingdom, find that, over the 1960s and 1970s, there was considerable divergence in the path of domestic interest rates from that prevailing in the United States. True, these countries did feature occasions on which the exchange rate was fixed so low that it triggered capital inflow on a scale beyond what could be discouraged by existing exchange controls or sterilized by domestic operations.[19] But a detailed examination of these instances establishes that the domestic monetary conditions engendered by the fixed exchange rate policy were seen as desirable from the point of view of stabilization policy. In particular, governments in fixed-rate countries in the 1970s frequently adhered to the misconception that non-monetary

[18]The evidence that Meltzer offers to the contrary (for example, on pages 846 and 861) neglects the aspect of the monetary explanation of inflation that monetary policy actions are *necessary and sufficient* for inflation control. The pure cost-push views of inflation prevailing during the 1970s held that inflation was insensitive to the level of the output gap (and hence aggregate demand policies) when the output gap was negative; they did not deny that positive output gaps, on those occasions when these did emerge, could add to inflation.

[19]This was the case, for example, in 1972 for Japan and in 1971 and 1977 for the United Kingdom. A contrasting case is provided by Germany, which in 1972–73 tightened exchange controls and was thereby in a position to commence an early disinflation (see, for example, von Hagen 1999, p. 686).

policies could take care of inflation, while at the same time believing that there was a considerable amount of economic slack that made the looser monetary conditions induced by the capital inflows desirable.[20] Furthermore, different countries left Bretton Woods in different stages. And once they moved to floating rates, some countries pursued a tighter monetary policy than the United States, while others pursued an easier policy. The different choices made by each country can be understood in terms of the theories of inflation prevalent among policymakers in each nation.

The non-monetary view of inflation was a fundamental misconception embedded in 1970s policymakers' evaluation of the structural connection between monetary policy and price stability. It would be a mistake, moreover, to contend that this misconception can be regarded as a special case of, a restatement of, or isomorphic to, the factor to which Meltzer gives prominence, namely, a low weight on inflation in policymakers' objective function. The non-equivalence between an emphasis on non-monetary views of inflation and a hypothesized low weight on inflation in the objective function is brought out immediately by the fact that Meltzer claims that this low weight prevailed *throughout* the post-war period up to 1979. Being unchanged in the 1970s from prior decades, such a postulated objective function cannot serve as a means of capturing intensified misconceptions, and resulting policy errors, on the Federal Reserve's part from 1970 onward.

It seems essential to focus on policymaker misconceptions in understanding the 1970s inflation and 1980s disinflation. Meltzer's focus on the objective function in accounting for policy developments does not seem to be an attractive alternative.[21] Contrary to Meltzer's account, the Great Inflation during the 1970s, both in

[20]As the co-editor (Carl Walsh) has observed, New Zealand in the 1970s provides an example of a country whose authorities—backed up by majority academic opinion—firmly believed that inflation was a non-monetary phenomenon and shaped their policy mix in light of this misguided belief. For further discussion, see Nelson (2005a) and Svensson (2011, pp. 1243–44).

[21]While his account places emphasis on particular policymaker misconceptions (in particular, misjudgments about long-run inflation/unemployment trade-offs) that are not those stressed here, Primiceri (2006) finds little evidence of shifts in weights in policymakers' objectives in accounting for differences in policy behavior before and after 1979.

the United States and elsewhere, is best understood as resulting from policymakers' failure to understand the central role of monetary policy in determining inflation.[22] Their non-monetary view of inflation led them to see the solution to inflation in non-monetary means such as wage-price controls and other types of incomes policy. Weak monetary policy responses to inflation in the 1970s flowed from the view that non-monetary tools were best suited to fight inflation—not from a low weight on inflation stabilization in policymakers' objective functions. The failure of non-monetary policies to cure inflation led to a debate in each country on monetary versus non-monetary views of inflation. The monetary view of inflation ultimately prevailed. Those countries for which the debate was resolved promptly in favor of the monetary view were the countries that disinflated earliest; these included Germany, Japan, and Switzerland. The nations in which non-monetary views lingered at the highest policy levels into the late 1970s—countries like the United States, the United Kingdom, and Canada—took longer to move decisively to disinflationary policies.

4. Meltzer's Epilogue

In his epilogue on post-2007 events, Meltzer is critical of the Federal Reserve's policy response. Meltzer claims (on page 1243) that his critique of post-2007 policy highlights points he has raised in the preceding *History*. In fact, elements of Meltzer's epilogue clash with the account in volume 2 of his *History*. For example, Meltzer states on page 1243, concerning post-2007 policy, "Never before had it taken responsibility as lender of last resort to the entire financial system." Yet Meltzer on page 656 referred to the "landmark" recognition in the late 1960s that "the Federal Reserve was the lender

[22] This is not to claim that important misconceptions about monetary policy's role were absent prior to the 1970s, or that 1970s misconceptions were isolated to non-monetary views of inflation. In particular, as already noted, Meltzer, like the previous literature, notes that exaggerated estimates of potential output played a part in 1960s policy errors. In addition, Meltzer argues persuasively (for example, on pages 521–22, 532, and 675) that the Federal Reserve in the 1960s placed too much weight on the scope for modest fiscal policy tightening to serve as a substitute for monetary policy tightening.

of last resort to the entire financial system," and on page 609, in discussing 1970 events, Meltzer had taken for granted "the role of lender of last resort to the financial system." Meltzer's epilogue also states (on page 1250), "Reading transcripts of Federal Open Market Committee meetings, one finds very little discussion of regulatory and supervisory credit problems." Why should that be a surprise? The FOMC is not the body primarily responsible for executing the Federal Reserve's regulatory and supervisory responsibilities.

The substance of Meltzer's criticism of the policy response to the financial crisis is that long-standing central banking principles formed in the nineteenth century (especially those that he associates with Bagehot) could have been adhered to more closely during the crisis period.[23] Meltzer should have been more explicit about how to interpret, apply, and, if necessary, modify these principles in a modern financial environment. In particular, Meltzer should have laid out explicitly the policy responses appropriate to an environment in which commercial banks issue uninsured short-term obligations on a large scale, and a vast wholesale banking market intensifies the connections between different financial institutions. When an institution encounters problems in such a system, the counterparty implications of the problems are formidable, and the time-critical nature of the policy response is greater than in previous systems. Readers of Meltzer's account will feel justified in feeling that he has not come to grips with this issue and is instead considering simpler and more compartmentalized cases. For example, a footnote on pages 1158–59 that considers the appropriate policy response to insolvency of a bank turns out to be framed on the assumption that the bank actually has some positive net worth remaining at the time of the policy intervention. Likewise, it is very hard to find references to wholesale banking in Meltzer's book; the word "wholesale" is almost always used in other contexts (such as in references to the wholesale price index). Wholesale funding markets grew in the 1970s and 1980s, yet once he gets past the mid-1970s, Meltzer's discussions of banks' managed liabilities are fleeting.

[23] In an article which was probably not available when Meltzer's volume 2 went to press, Madigan (2009) detailed some connections between Bagehot's prescriptions and recent Federal Reserve lending activity.

Meltzer states on page 1249, "By guaranteeing deposits, money market liabilities, and other instruments, the Federal Reserve prevented bank runs and further breakdown of the payments system." This is an important acknowledgment on Meltzer's part—although "the federal authorities" would have been a more accurate phrase than "the Federal Reserve."

5. Conclusion

This review of volume 2 of Allan Meltzer's *History of the Federal Reserve* has taken issue with Meltzer's interpretation of policy developments on several counts. The most important area of disagreement is with Meltzer's view that policymakers' objective function is the key to understanding the Great Inflation of the 1970s and the disinflation of the 1980s. His emphasis on shifts in the objective function seems misplaced, as it does not provide an explanation that satisfactorily accounts for the international character of the Great Inflation. The reason for the monetary policy mistakes of the 1970s, in the United States and other countries, is to be found elsewhere. Most importantly, 1970s policymakers had misguided non-monetary views on why inflation had risen and how it could be curbed, and it was the shaking off of these misconceptions that was the crucial step in shifting policymakers to disinflationary monetary actions. It bears emphasis, however, that notwithstanding the qualms expressed here about Meltzer's interpretations of particular episodes, volume 2 of his *History of the Federal Reserve* is a landmark contribution to our stock of knowledge about the development of U.S. monetary policy.

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