Preface to the Italian Edition of

A Monetary History of the United States 1867-1960 by Milton Friedman and Anna Jacobson Schwartz Alberto Mingardi

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It is genuine pleasure to follow up to Alberto Mingardi's request and contribute this preface to Istituto Bruno Leoni's new Italian edition and translation of Milton Friedman and Anna Jacobson Schwartz's *A Monetary History of the United States 1867-1960*.

Friedman and Schwartz first published their classic book with Princeton University Press six decades ago in 1963. Early on, James Tobin (1965) published one of the first reviews writing that "This is one of those rare books that leave their mark on all future research in the subject." Three decades after *A Monetary History* appeared and after reading many other insightful reviews, Robert Lucas (1993) wrote "Such a gift to the profession merits a long life, perhaps even immortality. . . . The book played an important—perhaps even decisive—role in the 1960s' debates over stabilization policy between Keynesians and monetarists." Four decades after *A Monetary History* appeared, Allan Meltzer (2003) published his own monumental monetary history of the United States focusing on the central bank, building on Friedman and Schwartz, and writing that their "book is clearly designed to be a classic, perhaps one of the few emerging in that role rather than by growing into it." And five decades after Monetary History appeared, Michael Bordo and Hugh Rockoff (2013) wrote "*A Monetary History*, unlike the other books, has endured the test of time and has become a classic whose reputation has grown with age...The narrative methodology pioneered by Friedman and Schwartz and the beautifully written story still captures the imaginations of new generations of economists."

The book by Friedman and Schwartz has had a big influence on me for many years. I remember studying *A Monetary History* in college and writing a senior thesis, Taylor (1968), on the constant growth rate rule for the money supply saying that it was the "kind of monetary action that Friedman has suggested. The money supply is increased at a constant rate regardless of whether there is a deflationary or inflationary gap." In graduate school I wrote a paper about Friedman and Schwartz's Chapter 2, "The Greenback Period," on how good policy resulted in strong economic growth and low inflation, an empirical counter to any notion of a Phillips curve tradeoff. And later in Taylor (1979) I showed that Friedman's "constant growth rate rule would clearly dominate actual performance" though an optimal rule might do better. Later on I got to know Milton very well when we were both colleagues at the Hoover Institution; we talked about monetary policy rules all the time. We did an interview together in 2001, I gave a paper in his honor in 2002, and I went back to Chicago for his centennial in 2012.

The special way that Milton Freidman and Anna Schwartz collaborated is summarized in Friedman's (1989) wonderful essay, and that perfectly reflects my experience. Schwartz (1952) had already been active in writing about economic history and policy, and Bordo (1989) nicely delves into her collaboration. And I am forever grateful to Anna Schwartz for the book jacket quote for my little history and policy book *Getting Off Track*; she wrote "If Milton Friedman and I had written as persuasive an analysis as this, one year—rather than 30 years—after the Great Depression began, the United States might have had a typical recession rather than the greatest downturn in history." The center piece of *The Monetary History* was in many ways the wonderful Chapter 7, "The Great Contraction."

I remember calling Milton Friedman from Washington in 1990 during a stint I had at the Council of Economic Advisers. It was my job to ask for his support for President George H.W. Bush's "revenue enhancements" alternatively known as tax increases. I didn't even have to ask the question before he realized why I was calling and simply said, "No!" adding "You better come back to Stanford right away, John. Washington is corrupting you."

He was always willing to be a guest lecturer in my Economics 1 course at Stanford, speaking to hundreds of students. He would start off telling the students that two major things the government is involved in are a mess: education and drugs—and that would set off a lively round of questions with his memorable answers impressing both those on the left and the right.

In many ways, Milton Friedman, Anna Schwartz and their book *A Monetary History* revolutionized how most people think about monetary policy. They have already taught us many things. But what can the Friedman-Schwartz book teach to us today? Does it counteract the aggressive recent actions by central banks or provide alternatives to new academic forces, such as the Modern Monetary Theory (MMT)?

Monetary Policy Rules in the Book and in General

The empirical justification for using monetary policy rules emerges from *A Monetary History*, and, interpreted correctly, that may be the book's most important legacy. The most widely-cited monetary policy rule for many years was the constant growth rate rule for the money supply. Yet one can think of policy rules for other types of monetary instruments— the short term interest rate as well as the money supply.

Although interest rate rules and money supply rules are frequently viewed as quite different, there is an important similarity between them. First, consider a money supply rule

which calls for constant growth rate of the money supply. Recall that the demand for money is a demand for real money balances—the money supply divided by the price level—which is a function of some scale variable such as real income or real GDP, an opportunity cost variable such as the short-term interest rate, and some other taste variables which may change from time to time. If money growth is fixed then the money demand function can be viewed as a relationship between three variables: (1) the price level or its percentage change, the inflation rate, (2) real GDP, and (3) the short-term interest rate. If we isolate the interest rate as one variable, then this money supply relationship says that the interest rate depends on the inflation rate and on real GDP. This relationship may be quite complex, but over long periods of time the signs are remarkably stable: along this relationship a higher level of real GDP raises the interest rate and a higher level of inflation also raises the interest rate if money growth is constant.

The similarity between money supply rules and interest rate rules is that interest rate rules—including the one that I proposed (Taylor, 1993) and discussed many times with Friedman and Schwartz—have exactly the same properties: a rise of real GDP calls for the central bank to increase the interest rate and an increase in the inflation rate calls on the central bank to increase the interest rate. In fact, when the effects of interest rate rules are simulated in econometric models, the money demand function is replaced with the policy rule as a determinant of the short-term interest rate.

This close connection between money rules and interest rate rules is important. First, it helps design rules: the good properties of one type of rule can be copied in the other. In the case of the interest rate rules, the effect of real GDP and inflation on the interest rates are carried over from money supply rules. Second, the connection reminds us that if interest rate rules become unreliable—perhaps because of the zero lower bound on the nominal interest rate, or perhaps

because inflation gets very low and the short-term nominal interest rate movements become dominated by expectations of inflation or deflation—then money rules can be emphasized. For example, in Japan, the years of deflation made an interest rate rule unreliable, calling for greater emphasis on money supply rules and the need to keep money growth from falling. Another example was the Great Depression in the United States in the 1930s which Friedman and Schwartz wrote about in *A Monetary History*. Interest rate rules need to be supplemented by money supply rules in cases of either extended deflation or inflation.

The similarity between money supply rules and interest rate rules suggests that both have a role as a consistency check on monetary decisions. The connection between money rules and interest rate rules helps resolve a puzzle that many have raised about interest rate rules. Macroeconomic theory shows that there are dangers for a central bank to have a target for real output. But then why is real output a variable in the interest rate policy rule? The answer is that non-target variables have an important role in policy rules; effectively real GDP plays a role in moving interest rates when the central bank keeps money growth fixed: this is one of the attractive features of money supply rules, because the interest rate increase helps moderate the boom in real GDP and thereby helps stabilize both inflation and real GDP. Real GDP appears in interest rate policy rules for exactly the same reason: the increase in the interest rate helps moderate the boom and stabilize inflation.

My first experience with research on monetary policy rules, as I described above, was when I was in college nearly 60 years ago. I built a dynamic simulation model to evaluate different types of policy rules for monetary policy. In fact, the rule which I found worked best was a money supply rule in which the money supply growth rate increased when real GDP fell below potential GDP and decreased when real GDP rose above potential GDP—an adaptation of

the Friedman constant growth rate rule. That model was before rational expectations entered macroeconomics, and involved no formal policy optimization. We have made progress since then. Future progress will occur not only in improving policy rules, but in finding ways for them to be more useful to monetary policy makers. That is why reading *A Monetary History* is so important.

A challenge, therefore, for future research is to find ways for policy rules to be used more directly by policymakers. One of the advantages of explicit policy rules is that they can be used in parallel with other means of formulating policy decisions. The experience can then prove useful in modifying the policy rule for the future.

In assessing future work on policy rules I think it is useful to quote a statement from Milton Friedman (1962) from about the same time as *A Monetary History* with reference to his constant growth rate rule: "I should like to emphasize that I do not regard my particular proposal as a be-all and end-all of monetary management, as a rule which is somehow to be written in tablets of stone and enshrined for all future time. It seems to me to be the rule that offers the greatest promise of achieving a reasonable degree of monetary stability in light of our present knowledge. I would hope that as we operated with it, as we learned more about monetary matters, we might be able to devise still better rules, which would achieve still better results."

Getting Off Track Again with History Guiding a Return

Recent developments in the United States and elsewhere, however, have again begun to raise questions about the value of policy rules, and here Friedman and Schwartz's *A Monetary History* can provide excellent guidance. For several years, starting around 2017, the Federal Reserve had started to move back to a more rules-based monetary policy that had worked well in

the past. Papers were written at the Fed and elsewhere reflecting this revival and showing the benefits of rules-based policies. In 2017 the Fed began to report on rules-based policy in its Monetary Policy Report and favorable comments about rules-based policy were made by many policy makers. The evidence is that the move was beneficial and was reflected in an improvement in economic performance.

That move was interrupted in the first quarter of 2020 when COVID-19 hit the American economy. The Fed took a number of actions to deal with the effects of a health crisis on the economy, including a rapid reduction in the federal funds rate, a sharp increase in the growth rate of the money, and large-scale purchases of Treasury and mortgage-backed securities causing a huge expansion of the Fed's balance sheet. By most accounts these actions were not consistent with rules-based policies. The Fed also stopped reporting on rules-based policy in its Monetary Policy Report.

Later in 2020 the Fed completed a review of its monetary policy and reported on possible changes in policy. By early 2021 the Fed began to put rules back in its Monetary Policy Report and the new rules reflected some of these changes. But these changes had not affected actual monetary policy decisions. Evidence appeared that a gap had been created between the rules-based policy and the actions of the Fed.

Following the research by Friedman and Schwartz, monetary policy rules has been the subject of much research in the 1970's through the early 2000s. For several years thereafter there was a lull in policy rule research and applications, but in the years from 2017 to early 2020 there was a big pickup. Examples are found at the annual monetary policy conference at Stanford in May 2019, the Federal Reserve conference in Chicago in June 2019, and the Macro Model Comparison Conference in Frankfurt in June 2019.

The evidence goes beyond these conferences. Some researchers, including Belognia and Ireland (2016), followed Friedman and Schwartz and looked at the money supply. Many others continued to look at interest rate instruments. In 2017 a new section on monetary policy rules for the instruments appeared in the Fed's Monetary Policy Report with five different policy rules presented and compared with actual policy. This section appeared regularly through the February 2020 report.

What explains this revival? One explanation is simply a revealed preference for such research on the part of monetary policy officials and others interested in monetary policy making. There were statements by central bank leaders: including Raghu Rajan, former governor of the Reserve Bank of India, "what we need are monetary rules," Mario Draghi, then President of the European Central Bank: "we would all clearly benefit from...improving communication over our reaction functions..." and Jay Powell Chair of the Federal Reserve Board "I find these rule prescriptions helpful."

Another explanation for the revival was the desire to figure out how to deal with the effective or zero lower bound on the interest rate. There was genuine concern about the lower bound in the case of a need for substantial easing. How else can one evaluate alternative proposals for "lower for longer" policy than with a rule? This is a huge motivation behind the work presented at many monetary conferences.

Another possible explanation was the disappointment with monetary policy leading to the great recession and especially the deviation from rules in the 2003-2005 "too low for too long" period. Yet another explanation was the recognition that rules are needed to evaluate quantitative easing proposals. At the Chicago conference, for example, Brian Sack said "Talking more about the policy rules…is appropriate' to guide future bond purchase programs and improve their

impact." Perhaps concern about the proposed Policy Rules Legislation in Congress in 2017-18 led the Fed to talk more openly about policy rules in the Monetary Policy Report.

The pandemic that started in the first quarter of 2020 with COVID-19 was a jolt to the economy. It interrupted the revival of rules-based policies as many central banks, including the Fed, took special actions to deal with the effects of a health crisis on the economy.

These actions included a rapid reduction in the target for the federal funds rate from 1.75 percent to .25 percent during the weeks of March 2020. Both M1, M2 and the Divisia measures of the money supply grew rapidly as shown in Figure 1. The Fed also purchased Treasury and mortgage-backed securities causing a large expansion of the Fed's balance sheet.

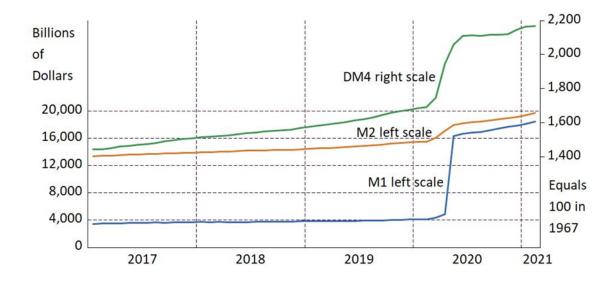


Figure 1. M1, M2 and Divisia (DM4)

By many accounts these actions were discretionary and were not consistent with rules-based policies. Perhaps reflecting these special actions, the Fed also stopped reporting on rules-based policy in its Monetary Policy Report in the July 2020 issue of the Report.

While these changes were underway, many of the world's central banks began to formally review their monetary policy strategies in light of COVID-19 and the experience leading up to the pandemic. One of the first to complete this review was the Fed, which decided to move to a new "flexible form of average inflation targeting," as Fed Chair Jerome Powell described it at the annual Jackson Hole monetary policy conference in August 2020. European Central Bank President Christine Lagarde explained at the annual ECB and Its Watchers conference in September 2020 that the ECB was in the middle of its own "monetary policy strategy review." In fact, it looked like there was a move underway to reform the entire international monetary system, with each country or region following a strategy similar to the Fed, though attuned to its own circumstances. But that has yet to turn out that way. Others criticized the Fed's new approach to average inflation targeting. Capital Markets criticized the Fed for not being specific about the timespan over which average inflation will be measured. Is it one year or several years?

Chair Powell acknowledged this lack of specificity in August saying that "we are not tying ourselves to a particular mathematical formula that defines the average." He added that, "Our decisions about appropriate monetary policy ... will not be dictated by any formula." Then, in a press release the same day, the Fed's Board of Governors explained that policy decisions would be based on "assessments of the shortfalls of employment from its maximum level" rather than by "deviations from its maximum level," as had been previously stated.

In adopting this "flexible" approach, the Fed seemed to "Get Off Track" again shifting away from the more strategic, rules-based policy that it had been pursuing since 2017. As mentioned, the Monetary Policy Report dropped material on monetary policy rules in contrast to the previous six reports which had featured a whole section in which different rules were presented and compared with actual policy.

The Federal Reserve's latest Monetary Policy Report, which was released on February 19, 2021, again had a whole section on monetary policy rules. That policy rules reentered the Report was a welcome development. It re-initiated a helpful reporting approach that began in the July 2017 Monetary Policy Report when Janet Yellen was Fed chair. The approach continued under Chair Jay Powell in 2018, 2019 and early 2020, but it was dropped in July 2020.

Five rules were discussed in the February 2021 Monetary Policy Report. To quote the Report, these include "the well-known Taylor (1993) rule, the 'balanced-approach' rule, the 'adjusted Taylor (1993)' rule, and the 'first difference' rule. In addition to these rules," and this is very important, there is a new "balanced-approach (shortfalls) rule,' which represents one simple way to illustrate the Committee's focus on shortfalls from maximum employment." Figure 2 shows the five rules from the February 2021 Report: There were also five rules in the earlier Reports, but one was left out, and a new one—the balanced-approach (shortfalls) rule—was added in. As stated in the document, this modified simple rule "would not call for increasing the policy rate as employment moves higher and unemployment drops below its estimated longer-run level. This modified rule aims to illustrate, in a simple way, the Committee's focus on shortfalls of employment from assessments of its maximum level."

Figure 2. Five Policy Rules in the Fed's February 2021 Monetary Policy Report

Taylor (1993) rule	$R_t^{T93} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t)$
Balanced-approach rule	$R_t^{BA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2(u_t^{LR} - u_t)$
Balanced-approach (shortfalls) ru	ale $R_t^{BAS} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2min\{(u_t^{LR} - u_t), 0\}$
Adjusted Taylor (1993) rule	$R_t^{T93adj} = max\{R_t^{T93} - Z_t, \text{ELB}\}$
First-difference rule	$R_t^{FD} = R_{t-1} + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t) - (u_{t-4}^{LR} - u_{t-4})$

A. Monetary policy rules

NOTE: R_t^{T93} , R_t^{BAS} , R_t^{BAS} , R_t^{T93adj} , and R_t^{FD} represent the values of the nominal federal funds rate prescribed by the Taylor (1993), balanced-approach, balanced-approach (shortfalls), adjusted Taylor (1993), and first-difference rules, respectively.

The important contribution of this new discussion is that one now has an explicit way to think about the Fed's new "shortfalls from maximum employment" approach. One can see if the new rule performs better than the balanced approach or the modified Taylor rule, for example, by simulating models. A huge amount of research can now take place both outside as well as inside the Fed. The kind of historical research in *A Monetary History* would now be invaluable.

It is good that rules are put back in the Fed's Monetary Policy Report, but it would be more helpful if the Fed incorporated some of these rules or strategy ideas into its actual decisions. Apparently this has not yet happened. There has been little mention of why the discrepancy exists between the Fed's actual decisions and the rules. Does this mean that the Fed will actually keep the rate this low under these circumstances regarding real GDP and inflation? Will it then raise the rate sharply in 2023 or 2024? Historical research can help provide the answer.

To consider such approaches and thereby come closer to the new "flexible form of average inflation targeting" policy of the Fed, consider the formulation of policy rules as put forth in a recent paper by David Papell and Ruxandra Prodan (2021).

In their recent paper, Papell and Prodan (2021) consider a Taylor rule with shortfalls and a balanced approach rule with shortfalls as introduced in the Monetary Policy Report and described by Chair Powell. For the Taylor (shortfalls) rule and the balanced approach (shortfalls) rule, they replace the difference between the unemployment rate in the long run and the actual unemployment rate with the minimum of that difference and zero. In other words, the focus is on the shortfall of unemployment from the long-run value rather than the deviation. Thus, if the unemployment rate is 3.5 percent and the long-run level is 4.0 percent, the interest

rate is not raised as it would be in the rules without shortfalls. That is, zero is the minimum of .5 percent (=4.0-3.5) and zero.

Papell and Prodan (2021) observe, however, that this adjustment does not fully reflect the changes in policy strategy made by the FOMC. They therefore also consider another important adjustment which results in the Taylor (consistent) rule and the balanced approach (consistent) rule. This second adjustment defines the unemployment rate consistent with maximum employment to be 3.5 percent rather than 4.0 percent and also assumes an inflation rate which is moderately above the target inflation rate. For example, if the target inflation rate is 2 percent, then they use a moderate inflation rate of 2.2 percent. This means that the Fed would not adjust the interest rate simply because the inflation rate was 2.0 or 2.1 percent; rather it would watch for inflation going above 2.2 percent.

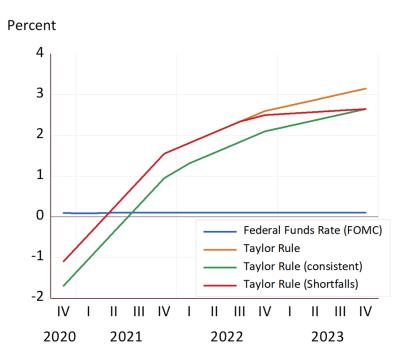
Papell and Prodan (2021) consider the behavior of the shortfalls and the consistent rules over recent history using the actual historical values of the unemployment rate, the inflation rate and the federal funds rate. Here we look at the behavior of the rules going into the future using forecasts of unemployment and inflation and comparing with the FOMCs stated path for the interest rate. We look at the period from the fourth quarter of 2020 through the fourth quarter of 2023. It is also assumed that the equilibrium real interest rate is .5 percent.

We consider in Figure 3 the three Taylor rules, including the regular, shortfalls, and consistent rules, along with the FOMC path for the federal funds rate. The FOMC projection is the "value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year," as stated in Table 1 of the Fed's Summary of Economic Projections. We use an equilibrium real interest rate of .5 percent in these rules. Note that all three interest rates from the

rules rise as the inflation rate is forecast to rise and the unemployment rate to fall. The balanced approach and the balanced approach (shortfalls) rule are the same through 2022Q3.

Look out into the period later in 2021 as well as in 2022 and 2023. By the fourth quarter of 2021, a sizable gap of 1.4 percent for the average of the three rules compared with the FOMC path emerges. That gap rises to 2.4 percent in the fourth quarter of 2022 and 2.8 percent in the fourth quarter of 2023.

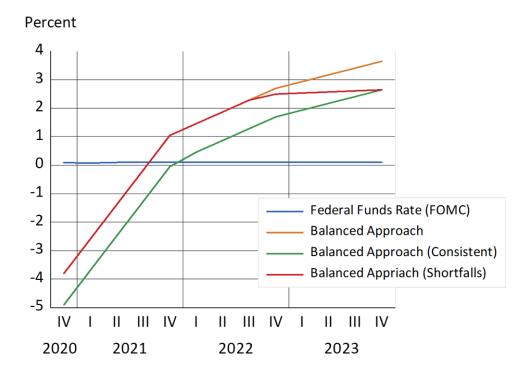
Figure 3, Three Taylor Rules and the Federal Funds Rate: 2020Q4 to 2023Q4. Source: Based on policy rules in Papell and Prodan (2021) as calculated by Ruxandra Prodan.



We also consider the balanced approach (regular, consistent and shortfalls) rule in Figure 4. There is little difference in the later years with the average difference between the rule and federal funds rate being 3 percent in 2023Q4, compared with 2.8 percent and 2.7 percent with the

Taylor rules. But the balanced approach rules rise faster. Thus it indicates that the policy rate could be held low through the fourth quarter of 2021. But even in this case, an adjustment is then warranted.

Figure 4. Three Balanced Approach Rules & the Federal Funds Rate: 2020Q4 to 2023Q4 Source: Based on policy rules in Papell and Prodan (2021) as calculated by Ruxandra Prodan.



The results indicate that the Fed should now engage in a strategy or rule in which people and markets understand that it would raise the policy interest rate if economic growth increases and inflation rises as they are now forecast to do. It would of course be a contingency plan as all rules and strategies should be. By having clearly stated a shortfalls policy rule in its February 2021 Monetary Policy Report, the Fed has prepared for such a strategy in practice. Explaining how its policy rule or strategy would be consistent with its flexible average inflation targeting statements would further clarify the Fed's monetary policy and facilitate the market adjustment when it takes place. It would remove uncertainty and remaining inconsistencies. Again the wisdom that comes from considering these choices within the historical experience in *A Monetary History* is invaluable.

Modern Monetary Theory in Monetary Policy in Practice

There is another view of the money supply that has received increasing attention in recent years. It has been exposited by Kelton (2020) and is sometimes called Modern Monetary Theory. The ideas are often associated with proposals for government programs such as a jobs guarantee programs or complete reconstruction of the economy to deal with environmental risks. To move the resources from one part of the economy to another, controls over prices and wages as in wartime are often suggested.

The basic idea is that money or deposits at the central bank could be used to finance the budget deficit, and thus a link between monetary policy and fiscal policy is created. The automatic stabilizers of fiscal policy would still work, but it is difficult to determine how this approach would work in practice in the future.

History can be a guide. As explained by Shultz and Taylor (2020) with many words of wisdom by Milton Friedman, there are many historical examples where poor economic reasoning leads to poor economic policy and thus to poor economic performance. It is reversed when good economics again prevails, and policy changes. The Great Depression of the 1930s, so clearly portrayed in *A Monetary History of the United States*, or the Great Inflation of the 1970s are prime examples. In the 1970s the United States imposed wage and price controls and the Federal Reserve helped finance the federal deficit by creating money. The result was a terrible economy in the 1970s with unemployment and inflation both rising. This only ended when money growth was reduced in the late 1970s and early 1980s.

Let us hope that when economic historians look back at the past 100 years from the perspective of the year 2063, that they see more good monetary policy than bad, and thus more good economic performance than bad. The policy during the next four decades will make all the difference. But there is already so much to learn about policy from experiences reported as of 1963 in Friedman and Schwartz's *A Monetary History of the United States*.

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