

# MONETARY ECONOMICS AT THE NBER

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The NBER was founded in 1920 to meet a growing demand for objective facts about the economy. The story of its founding is told in entertaining fashion by Nahan I. Stone (1945). Stone, a left-leaning policy economist, described how his path had crossed with that of business economist Malcolm C. Rorty several times as they both testified at public policy hearings in New York, arguing different sides of the issues at hand. Eventually, Rorty invited Stone to lunch and they became good friends despite their policy differences. At one of their early meetings, Rorty lamented that they were frequently arguing about “the purely arithmetic question what part of the national income goes to each element of society. Would it not be a great step forward if we had an organization that devoted itself to fact finding on controversial economics issues of great public interest?”

Stone suggested that they bring together “a group of well-known economists representing every school of economic thought from extreme conservative to extreme radical” so as to ensure as far as possible that the resulting facts were gathered in a scientific and impartial manner and would therefore be considered as credible facts. Rorty agreed and said that if Stone could assemble that group he could raise the funds. The first people approached were Wesley C. Mitchell of Columbia University and Edwin F. Gay, Dean of Harvard School of Business. This group formed the nucleus which then recruited several others and wrote the first memorandum on the purpose of the organization that was to become the NBER. In this memorandum, the purpose of the organization is described as follows: “The Committee will concern itself wholly with matter of fact, and is being organized for no other purpose and with no other obligation than to determine the facts and to publish its findings.”

The first and perhaps most celebrated project of the NBER was its study of the distribution of national income. This project eventually led to the creation of the National Income and Product Accounts (Rockoff, 2019). Other important early work of the NBER includes work by Mitchell and Arthur Burns on business cycles (e.g., Burns and Mitchell, 1946). During these early years, the contributions of the NBER to monetary economics were modest.

The singular contribution of the NBER to monetary economics is its project on money and banking headed by Milton Friedman in collaboration with Anna J. Schwartz from 1948 onward. Before discussing this project in detail, we would like to make a short digression. If we define monetary economics somewhat broadly to include the development of Keynesian macroeconomics, there is another contribution that deserves to be mentioned: the development of the permanent income hypothesis.

Milton Friedman’s *A Theory of the Consumption Function* was an NBER volume published in 1957. What is perhaps less well remembered today is the fact that both Milton Friedman and Franco Modigliani point to three landmark empirical studies as having “dealt a fatal blow to [Keynes’] extraordinarily

simple view of the savings process” (Modigliani, 1986). The first of these is Simon Kuznetz’ (1946) study of national income going back to 1899. One of the results that emerged from this study was that savings rates had remained relatively constant over long periods of time as opposed to having an upward trend. This contradicted the prevailing interpretation of the implications of Keynes’ consumption function for the evolution of savings over time (an MPC less than one was thought to imply rising savings rates). The second was a study of household budget surveys by Dorothy Brady and Rose D. Friedman (1947) which showed that cross-sectional consumption functions shifted up over time as the economy grew, helping make sense of Kuznetz’s result. And the third was a study by Margaret Reid (undated) which also analyzed household budget surveys and introduced the concept of permanent income. The first two of these studies were published by the NBER.

Returning to the NBER’s project on money and banking: Milton Friedman was recruited by Arthur Burns in 1948 to take this project over. Anna Schwartz had been working on the project since she began working for the NBER in the early 1940s.<sup>1</sup> Friedman described the plan of the project in the NBER’s 1948 annual report as constructing empirical series back to the Civil War on (i) the supply of generally accepted means of payment, (ii) the supply of assets easily marketable at a virtually fixed nominal price, and (iii) lending and investing activities of the banking system. The goal of the project was to then use this data to investigate the cyclical behavior of monetary and banking phenomena since the Civil War. In a sense, this project aimed to do the same for money and banking that the NBER had already done for national income.

The project took much longer to complete than originally planned. The original plan was for a single volume titled *Trends and Cycles in the Stock of Money in the United States, 1867-1960*. A conversation with Walter W. Stewart led Friedman and Schwartz to include a chapter on the historical narrative of post-Civil War monetary developments. This chapter “took on a life of its own,” first becoming a part and then a separate book. This book was published in 1963 with the title *A Monetary History of the United States, 1867-1960*. The project continued to grow in scope during the 1960s and eventually Friedman and Schwartz decided to split what remained into three volumes. First, a volume describing in detail the sources and methods used to construct their monetary aggregates. This book was published in 1970 with the title *Monetary Statistics of the United States*. Second, a volume on monetary trends which covered both the United States and the United Kingdom. This book was published in 1982 with the title *Monetary Trends in the United States and the United Kingdom, 1867-1975*. Third, a volume on monetary cycles, which was never finished. Other major outputs from the project include Philip Cagan’s book *Determinants and Effects of Changes in the Stock of Money, 1875-1960*, published in 1965, and Friedman and Schwartz’ article ‘Money and Business Cycles,’ published in 1963.

The *Monetary Statistics of the United States* was first into draft but later into print than the *Monetary History*. While it was the *Monetary History* that had the largest influence on the economics profession, the data construction work detailed in the *Monetary Statistics* is the foundation that the rest of the project rests on. In the *Monetary Statistics*, Friedman and Schwartz largely settle a century long debate about the definition of money. In their view, the definition of the money supply is a practical matter as opposed to one of principle. They say: “The problem is one common in scientific work: how to choose an

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<sup>1</sup> Hammond (1996), Rockoff (2010), and Nelson (2020).

empirical counterpart to an abstract concept. For us the test is strictly pragmatic: which counterpart is most useful in making predictions about observable phenomena on the basis of the theory one accepts.”

They referred to their main two money supply measures as M1 and M2. These names were adopted by the Federal Reserve when it began publishing estimates of the money supply based on Friedman and Schwartz's definitions around 1960 and have become the standard language used in the profession to refer to money supply aggregates. Friedman and Schwartz constructed estimates of M2 back to 1867 and M1 back to 1913. The *Monetary Statistics* also compiled earlier estimates of monetary aggregates for the period prior to the Civil War going back in some cases to 1775.

The publication of Friedman and Schwartz's *Monetary History* was a watershed moment in the history of macroeconomics. The book is widely considered to be one of the most influential works in economics. Its influence on the field of macroeconomics is immense. In fact, its influence is so immense that it is hard to describe because important terms such as “Keynesian” have come to mean dramatically different things as a consequence of its influence. The basic argument of the book is a simple one: money and monetary policy were important determinants of inflation and the business cycle over the period studied. While this claim may not seem very controversial from today's perspective, at the time it was a radical position that countered prevailing Keynesian thinking.

The notion that “inflation is always and everywhere a monetary phenomenon,” is today universally accepted within academia.<sup>2</sup> The prevailing “Keynesian” position prior to the publication of the *Monetary History*, however, downplayed the importance of money and monetary policy. Leading Keynesians scholars of the 1950s within academia held the view that monetary policy was ineffective when it came to management of aggregate demand and inflation. They believed that aggregate demand and inflation should be managed primarily with fiscal policy but they also discussed the use of direct price and wage controls as well as controls on credit.

While prevalent among Keynesians within academia in the 1950s, the view that money doesn't matter was not held by Keynes himself. Nor was it held by the Chairman of the Federal Reserve or the FOMC during the 1950s. Romer and Romer (2002) analyze the evolution of economic understanding within the Federal Reserve. They conclude that in the 1950s the leadership of the Federal Reserve has a remarkably modern view of how the economy worked and responded aggressively to changes in expected inflation. This contrasts with the much more pessimistic views of the Federal Reserve about their own power to influence the economy in the 1930s and 1970s (Romer and Romer, 2013a).

The 1950s Keynesian view that money doesn't matter was based on a combination of theory and empirical evidence. First, Keynesians viewed interest rates as being the main channel through which monetary policy affected output. Keynes had downplayed the importance of interest rates for consumption. The main channel through which interest rates affected output was therefore thought to be investment. But early studies of the impact of changes in interest rates on investment seemed to indicate that investment was not very interest sensitive. In addition, early Keynesians pointed to the

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<sup>2</sup> This phrase was popularized by Milton Friedman in the 1960s and 70s but does not appear in the *Monetary History*.

very low levels of nominal interest rates during the Great Depression and argued that monetary policy was “easy” during the Great Depression and yet the economy had collapsed. Finally, the period from the early 1930s to the 1951 Treasury Accord was a period over which nominal interest rates were effectively pegged at a very low level. Keynesian theory suggested that monetary policy was particularly ineffective in such a “liquidity trap” since money and bonds become close substitutes and changes in the money supply have limited effects on interest rates.<sup>3</sup>

In the *Monetary History*, Friedman and Schwartz challenge this view. They document that virtually all post-Civil War business cycles in the U.S. were preceded by a contraction in the money supply.<sup>4</sup> In particular, they show that during the Great Depression the money supply contracted massively by about 35%, suggesting that monetary policy was tight as opposed to easy. The lasting influence of the *Monetary History*, however, rests on the arguments Friedman and Schwartz make for causality running from money to output. While informal, their method was to identify shifts in policy that were not driven by developments on the real side of the economy – i.e., to identify exogenous monetary policy shocks. They did this by analyzing in detail the historical narrative of the time. This analysis substantially shifted views in the profession about the effectiveness of monetary policy.

The most influential analysis in the *Monetary History* is Friedman and Schwartz’ analysis of the Great Depression (or Great Contraction as they put it). They argue that tight monetary policy in 1928 and early 1929, meant to counter speculation on Wall Street, was the initial impulse that caused the downturn in late 1929. They then argue that inaction by the Fed in the face of massive banking panics starting in late 1930 greatly exacerbated this downturn and effectively turned an ordinary recession into a Great Depression by reducing the bank money multiplier. They point to the large increase in interest rates in the fall of 1931 after Britain left the gold standard as another serious negative monetary shock that further worsened the depression. Finally, they argue that a tightening in monetary policy in the second half of 1936 plunged the economy into another severe recession in 1937.

Friedman and Schwartz’ analysis in the *Monetary History* has faced a number of critiques over the years. One critique is that they overemphasized the role of monetary factors in the Great Depression. Temin (1976) argues that a contraction in the money supply could not have been the initial cause of the Great Depression since this would have led to an increase in interest rates, but interest rates actually fell. This analysis, however, does not take account of the deflationary dynamics that a negative monetary shock can cause. In fact, the price level fell rapidly starting in late 1929. There is some controversy in the literature as to whether this deflation was anticipated or not (see, e.g., Romer and Romer, 2013b). But if it was, real interest rates were very high despite nominal interest rates being low, undermining Temin’s argument.

There is a set of related critiques that argue that Friedman and Schwartz’ view of the transmission mechanism was too simplistic. One branch of this critique was that Friedman and Schwartz underemphasized the influence of interest rates on the velocity of money. Another branch is that they underemphasized the role of banks and credit (see, e.g., Bernanke, 1983). Some authors go so far as to say that Friedman and Schwartz had no theoretical framework. This, we think, is incorrect. While

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<sup>3</sup> See Mishkin (1986) for a more detailed discussion of these points.

<sup>4</sup> Their 1963 article “Money and Business Cycle” provides a concise summary of this argument.

Friedman and Schwartz did not formalize their theoretical framework with a mathematical model, their interpretation of the data is clearly grounded in a relatively simple theoretical framework consisting of a quantity theory equation ( $MV=PY$ ) and a Phillips curve of some form which implies that monetary disturbances initially affect output but ultimately affect prices.

Another set of critiques is more empirical. Various authors have critiqued the *Monetary History* for not presenting formal econometrics to back the empirical claims made in the book. In some cases, the authors in question are critiquing the historical and narrative nature of the analysis. Others, such as Romer and Romer (1989), have embraced the narrative method and viewed it as a major strength of the book but argued that Friedman and Schwartz may have been subject to unconscious bias in their selection of shocks and should have employed more formal methods in analyzing the effects of these shocks. Romer and Romer (1989) also discuss potential confounding factors that may make some of the episodes Friedman and Schwartz identify perhaps not “so consistent and sharp as to leave little doubt about their interpretation.” An example of these confounding factors is tight fiscal policy and labor strife in 1937.

Despite these critiques it is fair to say that the main thrust of the argument made by Friedman and Schwartz in the *Monetary History* has gone from being a radical view in 1963 to being conventional wisdom in the 21<sup>st</sup> century. Ben Bernanke, then Governor of the Federal Reserve, put it nicely in a speech at a conference honoring Milton Friedman on his 90<sup>th</sup> birthday in 2002: “I would like to say to Milton and Anna: Regarding the Great Depression. You’re right, we did it. We’re very sorry. But thanks to you, we won’t do it again.” The policy response of the Federal Reserve during the financial crisis of 2007-2009 under Bernanke’s leadership certainly suggests that Bernanke meant what he said in 2002.

Looking back at the evolution of thinking about the influence of money and monetary policy on inflation and business cycles, the quarter century or so after the publication of Keynes’ *General Theory* in 1936 seem like wilderness years for monetary economics when the conventional wisdom within academia was that money didn’t matter (even for inflation determination). This conventional wisdom seems puzzlingly unsophisticated from today’s perspective. It is hard to even believe that leading economists during the 1950s didn’t think of money and monetary policy as *the* key determinant of inflation. Two events stand out as major turning points that shifted the consensus in this regard. The first of these is the publication of Friedman and Schwartz’ *Monetary History* in 1963 and the second is the Volcker disinflation of the early 1980s. In combination, the *Monetary History* and the Volcker disinflation convinced the profession that monetary policy not only matters, it matters a lot.

As previously noted, that monetary policy matters a lot for inflation determination is by now a universal view within academia. The view that monetary policy matters a lot for business cycles is not however universally held. But this has become the Keynesian view. The meaning of the term “Keynesian” has been utterly transformed. Today the idea that monetary policy matters for business cycles is a squarely Keynesian view, actually it is hard to think of a more Keynesian viewpoint. This makes it quite jarring to a modern ear that the *Monetary History* was once viewed as a counter-revolution to the Keynesian revolution. Such is the influence of the *Monetary History* (and Volcker).

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