

ANNA JACOBSON SCHWARTZ:
IN MEMORIAM
George S. Tavlás

This issue of the *Cato Journal* is dedicated to Anna Jacobson Schwartz, who passed away on June 21, 2012, at the age of 96. Anna was an economic historian whose scholarship was marked by, among other things, dedication, tenacity, and perseverance. Her career spanned three quarters of a century. When Anna was about 90, her son Jonathan complained (somewhat tongue-in-check) that he had thought about retiring, but did not feel comfortable doing so while his mother was still working. In 1936, she began collaborating with A. D. Gayer and W. W. Rostow on a study of fluctuations in the British economy between 1790 and 1850. The study was not published until 1953, although most of the work on the study had been completed by the early 1940s. Anna joined the National Bureau of Economic Research in 1941 and remained there for the rest of her life, continuing to go to her office until shortly before her death. She published her first NBER paper in 1947 with Elma Oliver, and her last with Michael Bordo and Owen Humpage in 2012. Her collaboration with Milton Friedman on *A Monetary History of the United States, 1867–1960* began in 1948 and was not completed until 1963. The underlying objective of Anna's scholarship throughout her career was to use historical evidence, which she assembled with meticulous attention to accuracy, to understand the workings of the economy better.

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Anna was born on November 11, 1915, in the Bronx, the third of five children of Hillel Jacobson and the former Pauline Shainmark, both of whom were Jewish immigrants from Eastern Europe. She was drawn into economics while still in high school: "I found it more exciting than literature or foreign languages," she said. She graduated from Barnard College at the age of 18 and received an MA in economics from Columbia University at the age of 19. In another display of her tenacity, she earned her PhD from Columbia University at the age of 48.

Collaboration with Gayer and Rostow

After working for the U.S. Department of Agriculture in 1936, the year in which she married Isaac Schwartz, she spent five years at Columbia University's Social Science Research Council, where she began collaborating with Gayer and Rostow on what would become *Growth and Fluctuation of the British Economy, 1790–1850*. This two-volume work, which runs to over 1,000 pages, is considered a classic investigation of the British economy in the first half of the 19th century (Capie and Wood 1989). It used NBER techniques to identify cycles and trends in key time series. The authors gathered and collated existing data, and constructed new data on some 200 variables, including output, prices, labor-market indicators, trade, and finance. They used these data to provide historical narratives and assessments of the key forces underlying the dynamics of the British economy during the period under investigation.

Essentially, Gayer, Rostow, and Schwartz posited an overinvestment theory of the cycle along Keynesian lines and a cost-push theory of inflation. The business cycle, they argued, is generated by changes in the demand for consumer goods, which give rise to greater changes in the production of producer goods through an accelerator-type mechanism. The authors attributed movements in the general level of prices to changes in costs caused by changes in supply conditions. They assigned money a passive role in both cyclical and inflation dynamics. Although the book drew enthusiastic reviews, it was criticized for its lack of consideration of monetary forces (Capie and Wood 1989: 81). For Anna, the view that money plays a passive role in both the business cycle and inflation generation would subsequently undergo a profound change.

Milton Friedman's Influence

That change came after Anna joined the National Bureau of Economic Research and began collaborating with Milton Friedman. Arthur Burns, the NBER president (and a future chairman of the Federal Reserve), suggested that Anna and Milton collaborate on a historical study of the relationship between money and other variables in the United States. The authors did not envisage that the proposed research project would turn out to be anything like the massive study that would eventually be published in 1963. At the time that they started their work on *A Monetary History* in 1948, Friedman estimated that the project would be completed within three years. At that time, Friedman, having made important contributions to statistical analysis, “was regarded as a statistician, and not particularly as an up-and-coming economist” (Schwartz, quoted in Nelson 2004: 401). Although he had published several papers on macroeconomic policies by the late-1940s, Friedman, like Schwartz in her work with Gayer and Rostow, downplayed the role of money and monetary policy in his early work. He advocated a Keynesian-type policy centered on the use of fiscal measures aimed at attaining both full employment and price-level stability.

In some ways, the two scholars were very different. Milton felt at home whether in a classroom, a professional conference, or the public spotlight, giving testimony before a congressional committee, writing a column for *Newsweek*, or hosting the popular TV series, *Free to Choose*. Anna seemed satisfied to spend most of her professional time at her NBER office, actively participating in academic conferences and occasionally holding a teaching position—in the 1960s she taught at both New York University and the City University of New York. Milton assigned low priority to cultural activities while Anna actively engaged in such activities. During the early 1950s, when Anna found out that Milton was about to travel to Paris, she asked him whether he would be visiting any museums. As Anna told the story, “He looked at me as if I was crazy. He said, ‘Why would I spend my time going to museums?’” (Schwartz, quoted in Nelson 2004: 405). Anna, in contrast, enjoyed visiting museums as well as going to the ballet, the opera, and the theater. Yet she did not identify herself with the New York cultural crowd. As she put it, “I do enjoy the opportunities available in the city to hear opera and chamber music, but I’m just not what

people think of as a New York intellectual. . . . New York intellectuals don't share my views at all. I mean this is a sea of liberal left-wing Democrats" (Schwartz, quoted in Fetting 1993: 9). What Milton and Anna shared, however, was an enormous dedication to academic scholarship.

Their collaboration—she in New York and he at the University of Chicago—took the form of exchanges of drafts through the mail. As Anna put it, "In those days you didn't pick up the telephone the way you do nowadays—it had to be something very urgent to make a phone call! I would simply write a letter to him, and he would answer it. It took a number of years before we had a final money series" (Schwartz, quoted in Nelson 2004: 401). But once they had their money series, and compared movements in that series with movements in other key macroeconomic variables, "the whole thing seemed to come alive" (Schwartz, quoted in Nelson 2004: 401). By the late-1950s, they had drawn the following conclusions.

- In the long run, there is a strong empirical relationship between changes in money and changes in prices, with changes in the former typically preceding changes in the latter. While this relationship tells us nothing about direction of influence, the variety of monetary arrangements—for example, the gold standard, flexible exchange rates, regimes with and without a central bank—over which this relationship holds suggests that changes in money are a necessary and sufficient condition for substantial changes in prices.
- There is no clear-cut relationship between changes in prices and changes in output. Economic growth depends on such factors as the growth of knowledge and technical skills, the growth rate of the population, and the growth of capital. On average, during the period from 1867 to 1960 the annual growth of output has been a little more than 3 percent.
- The relationship between money, output, and prices is much more complicated within the cycle than over the long run. Within the cycle, this relationship is subject to long and variable lags. Historically, discretionary monetary policy that aimed to smooth the cycle served instead to amplify the cycle.
- The Federal Reserve's monetary stance contributed to the Great Depression in two ways. First, the Fed *precipitated* the Great Depression in 1929 by pursuing a tight monetary policy from early 1928. Second, from the end of 1930 the Fed

permitted the Depression to *deepen* when a series of bank failures led to a liquidity crisis and the Fed failed to provide sufficient liquidity to enable the banks to meet the demands of their customers. By allowing the money supply to fall by over a third between 1929 and 1933, the Fed bore the major responsibility for both the onset and the depth of the Depression.

These empirical facts led Friedman and Schwartz to single out the crucial importance of money in the economy and the necessity to have monetary policy aim at a stable price level. In light of the long and variable lags between changes in the money supply and changes in output and prices within the cycle, discretionary monetary policy could amplify, rather than smooth, cyclical movements in output and prices. Secularly, Friedman and Schwartz came to understand that economic growth is subject to its own internal dynamics, and monetary policy is powerless to increase potential growth. Monetary policy can, however, interfere with the forces underlying long-run growth by causing large fluctuations in the price level. Therefore, the objective of monetary policy should be to stabilize cyclical fluctuations in output, and the way to accomplish that objective is through price stability.

A Monetary History had a profound impact on both Friedman and Schwartz, as well as on the economics profession. In looking back at her collaboration with Milton on *A Monetary History*, Anna said: “I didn’t think that my education in economics was really attended to until I started working with Friedman. And it was as if he were my real instructor in economics” (Schwartz, quoted in Nelson 2004: 395). Out went the notions of a real business cycle theory and a cost-push theory of inflation, posited in the first edition of the Gayer, Rostow, and Schwartz study on British economic history. In came a monetary theory of the business cycle and of inflation. Anna used the 1975 publication of the second edition of *The Growth and Fluctuation of the British Economy* as the opportunity to point out the marked change in her thinking that had transpired since the publication of the first edition. In the preface to the second edition she wrote that an “amicable divergence” of view had emerged between Rostow and her (Arthur Gayer passed away in 1951). In particular, she indicated that research in monetary economics since the first edition—much of it her research with Friedman—had changed her view about the role of money and monetary policy in the economy (Capie and Wood 1989: 81).

Friedman also changed his views on the role of money in light of the evidence accumulated for *A Monetary History*. In contrast to his work of the late-1940s, his papers of the 1950s, frequently drawing on his research findings with Schwartz, consistently stressed the importance of monetary policy. The findings underpinned Friedman's famous policy proposal, first presented in 1958, that the money supply should grow annually within a range of 3 to 5 percent in order to maintain a stable price level.

Major Impact on the Profession

A Monetary History changed the thinking of the economics profession. At the time of its publication, the profession was riding the high-tide of Keynesian dominance. Most economists ascribed a minor role to monetary policy and a central role to finely tuned fiscal policy; they interpreted inflation as a cost-push phenomenon to be contained by wage and price controls; and they thought that the Great Depression demonstrated the impotence of monetary policy. *A Monetary History* played a key role in changing those views. The book, which totals 860 pages, including 33 tables and 64 charts, contains an evaluation of 94 years of annual data and more than 50 years of monthly data on a large number of time series, including the money supply, credit, real output, the velocity of circulation, and interest rates. Friedman and Schwartz used their data to examine both secular and within-cycle co-movements among variables, singling out the central role of money in producing economic fluctuations and inflation. The book helped usher in a revolution in thinking about the role of money in the economy. It was a major reason that Friedman was awarded the Nobel Prize in Economics in 1976. Along with Keynes's *General Theory* (1936), *A Monetary History* is generally considered to be one of the two most influential books in macroeconomics and the most important book on the subject of money published during the 20th century.

Friedman and Schwartz would go on to collaborate on two additional NBER studies—*Monetary Statistics of the United States* (1970) and *Monetary Trends in the United States and the United Kingdom* (1982)—as well as eight articles for professional journals, published between 1963 and 1991. In addition, portions of *A Monetary History* were subsequently issued as separate

books: *The Great Contraction* (1965) and *From New Deal Banking Reform to World War II Inflation* (1980).

Beginning in the 1980s, however, Friedman seemingly became less interested in pure academic research. Although *Monetary Trends* was favorably received by the profession, it did not make nearly the impact made by *A Monetary History*. As Nelson (2004) pointed out, by the 1990s the profession had moved from the kind of long-run analysis contained in *Monetary Trends* to focus, instead, on dynamic, short-term adjustment. Whereas *Monetary Trends* used straightforward statistical techniques (ordinary least squares) to analyze long-term relationships, after its publication the profession increasingly adopted sophisticated tools, including dynamic stochastic general equilibrium models, to focus on the manipulation of the short-run inflation-unemployment tradeoff (the Phillips curve). Anna believed that the lack of impact of *Monetary Trends* “was a big disappointment” to Friedman, who “sort of lost heart, and chose not to keep in touch with the literature” (Schwartz, quoted in Nelson 2004: 406–7).

Anna, however, did not lose interest in academic research. In fact, in terms of the number of publications in academic journals and conference volumes, she became more prolific as time went on. Between 1940 and 1979 she published 22 articles or comments in journals and edited volumes. Between 1980 and 2008 she published 100 articles or comments. Much of her work during this latter period was with Friedman’s former student, Michael Bordo, with whom Anna began collaborating in the 1970s. She authored 11 essays and comments for the *Cato Journal* and, with Jim Dorn, in 1987 co-edited a book, *The Search for Stable Money: Essays on Monetary Reform* (published by the University of Chicago Press), which included many essays previously published in the *Cato Journal*. The contributors to the book included such illustrious economists as Friedman, Bordo, Karl Brunner, James Buchanan, and Allan Meltzer. A key theme was the importance of price stability not only for economic stability, an issue stressed by Friedman and Schwartz in their earlier work, but also for *financial* stability.

Beginning in the 1980s Anna’s research focused increasingly on international monetary issues, including the working of the classical gold standard, the causes of international financial instability, the transmission of shocks under alternative exchange-rate regimes, the effectiveness of foreign exchange intervention, and the future of

the euro. In each of these areas, her scholarship was marked by originality and depth, and she became a leading authority in such areas as the functioning of the gold standard and financial stability. She attributed the durability and viability of the gold standard to both the limited size of government spending relative to GDP during the late 19th and early 20th centuries, which, she believed, facilitated adjustment to external shocks, and gold's role as a nominal anchor for preserving price stability, which, in turn, helped preserve economic and financial stability. As an example of the depth and originality of her thinking during this latter period, consider what Anna had to say (at the age of 85) about the relevance of the classical gold standard for today's world:

The growth of government itself has destroyed the viability of a gold standard. A real gold standard was feasible in a world in which government spent 10 percent of national income, as in Britain and the United States pre-World War I. It is not feasible in a world in which governments spend half or more of national income. Why is this so? A country that adopts a gold standard and observes the convertibility rule at times will be compelled to implement contractionary monetary policy. A balance of payments deficit will lead to a loss of gold reserves. A loss of gold reserves will enforce a reduction in domestic money supply. That reduction will impose price reductions and employment losses. The government share of national income is unaffected by the contraction in money, but the private sector bears its brunt. The government will not be constrained, as the private sector is, to lay off workers and cut the price of its services. When government's share is half of national income, the burden on the private sector is magnified. That is why the appeal of the gold standard has declined as the leviathan government has grown [Schwartz 2000: 21].

Anyone who has experienced firsthand the Greek financial crisis as I have understands that it has been the private sector (accounting for less than 50 percent of Greek GDP) that has borne the brunt of adjustment under the euro's fixed exchange rate regime. The unemployment rate in Greece has risen from under 8 percent in 2008 to 26 percent in early 2013, without a single layoff of a public sector worker. Anna was prescient.

A Nobel Career

In light of the depth, breadth, and the originality of Anna's contributions, the quality of which was sustained over three-quarters of a century, the question whether Anna was given her full due by the profession arises. Anna was the recipient of many awards and honors. She was president of the Western Economic Association, a Distinguished Fellow of the American Economic Association, a Fellow of the American Academy of Arts and Science, and the recipient of nine honorary doctorates. In addition, she was appointed director of the U.S. Gold Commission in 1982, and was a charter member of the Shadow Open Market Committee. The profession's highest honor, however, eluded her—Anna was not awarded the Nobel Prize in Economics.

Did she deserve the Nobel Prize? The usual argument that Anna did not deserve a Nobel Prize runs something as follows. The Nobel Prize in Economics is typically not awarded for work in the field of history. True, Friedman won the Nobel Prize in 1976, in part for his work on *A Monetary History*. However, Friedman had made important contributions in other areas as well which, taken together, justified his Nobel award. In awarding the Nobel Prize to Friedman, the Royal Swedish Academy cited his original scientific work in several areas—studies on the demand for money, exchange rate regimes, the theory of the consumption function, the trade-off between the unemployment rate and the inflation rate, and the effects of lags on stabilization policy. The combined effects of those various contributions led to what the Royal Swedish Academy characterized as “the renaissance of the role of money in inflation and the consequent renewed understanding of the instrument of monetary policy” (Royal Swedish Academy of Sciences 1976). Anna's combined scientific achievements, so the argument goes, were no match for those of Milton. Thus, a joint Nobel Prize for both Milton and Anna, or a subsequent, separate Prize for Anna, was not justified.

Consider, however, a different line of reasoning. First, although Friedman's Nobel Prize could have been awarded on the basis of his individual contributions in several specific areas, including his pioneering work on both the theory of the consumption function and the inflation-unemployment tradeoff, *A Monetary History* played an important role in the awarding of the Nobel Prize to Friedman. Thus, in the conclusion of its 1976 Press Release announcing the

Nobel Prize, the Royal Swedish Academy made the following argument. (Note that Anna's name did not appear in the Press Release.)

His major work, *A Monetary History of the United States, 1867–1960*, is regarded as one of Friedman's most profound and also most distinguished achievements. Most outstanding is, perhaps, his original and energetically pursued study of the strategic role played by the policy of the Federal Reserve System in sparking off the 1929 crisis, and in deepening and prolonging the depression that followed. The critics agree that this is a monumental scientific work which will long stimulate the re-examination of the course of events during this epoch.

Second, many of the contributions that helped Milton earn the Nobel Prize were directly shaped by the inferences that he and Anna had drawn from *A Monetary History*. These contributions included his work during the 1950s and 1960s on the role of policy lags, the stability of the long-run demand for money (or the velocity of circulation), and the absence of a long-run tradeoff between the unemployment rate and inflation rate. In this connection, it is important to recall that Nobel Prizes are frequently awarded in light of the effects of a particular work of scholarship on subsequent research. *A Monetary History* clearly is such a work of scholarship as it has sparked a voluminous line of research into U.S. monetary history and the effectiveness of monetary policy.

Third, and most important, consider the following counterfactual. Suppose that Milton had not pursued any other scientific work during his lifetime other than that associated with his 15-year collaboration with Anna on *A Monetary History*; in other words, he had made no contributions to the literature on exchange rate regimes, the consumption function, the unemployment rate-inflation rate tradeoff, the effects of lags on stabilization policy, and so on. Also, suppose that Anna, during her lifetime, had worked on only a single project, *A Monetary History*; there was no classic investigation of the early 19th century British economy with Gayer and Rostow, no research on the workings of the classical gold standard or the transmission of shocks under alternative monetary regimes. Would Friedman and Schwartz have been awarded the Nobel Prize jointly, solely on the basis of their collaboration on *A Monetary History*?² Perhaps they would not have received the Prize as early as 1976, the year in which Friedman received the award. Although *A Monetary History* was a

major reason that Milton won the Nobel Prize in 1976, the stature of *A Monetary History* has, in fact, only grown as the years have passed. Therefore, is it conceivable that, under the assumptions of this counterfactual exercise, the co-authors of one of the two most important books in macroeconomics during the 20th century would not have been jointly awarded the Nobel Prize, if not by say 1976 or 1986, certainly by 1996 or 2000? Alternatively, had Keynes not written anything else during his lifetime other than *The General Theory*—there was no *Tract on Monetary Reform*, no *Treatise on Money*, and so on—would he not have been awarded the Nobel Prize for his singular contribution, *The General Theory*, if the prize had existed in his day? Clearly, although Anna was not awarded the profession's highest honor, she earned it.

Anna is survived by her two daughters Paula Berggren and Naomi Pasachoff, and two sons, Jonathan and Joel. Because of her dedication and perseverance, she is also survived by a lifetime of scholarship that has changed the way we think about monetary economics.

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