Anna J. Schwartz (1915–2012)

By Liya Palagashvili

Introduction

Today it is commonly recognized that a country's central bank and the money supply have a significant impact on inflation and economic activity. Indeed, whether in research or academic circles, in the financial industry, or in popular press, no one can utter the words "recession" or "inflation" without discussing the actions of the US Federal Reserve. This was not always the case. Prior to the 1960s, few people acknowledged that the money supply and a central bank's actions governing it matter for economic activity and prices.

This all changed thanks to Anna Jacobson Schwartz (1915-2012). With her collaborator, Milton Friedman, the duo revolutionized macroeconomics by shedding light on the role of the money supply and how the actions of a country's central bank matter a great deal for the health of an economy (Friedman and Schwartz, 1963; 1965). In doing so, Schwartz and Friedman founded their own school of thought, referred to as *monetarism* or *monetary economics*, which continues to be a top field of study for economics students and professionals today.

In particular, Schwartz highlighted how a central bank's control of the money supply can influence economic fluctuations in the short run and how it can influence the price level (inflation or deflation) in the long run. Thanks to the work of Friedman and Schwartz, most of us today understand that a central bank's decisions to increase money supply growth can lead to inflation in the long run. In fact, their work had a significant influence on government policies, especially in the United States and the United Kingdom following the inflation crises in the 1970s and '80s when both countries' central banks started to reduce the growth of the money supply to combat rapid inflation and in so doing jumpstarted a policy of price stability (Frazer, 1982; Champroux and Sowels, 2015; Pianalto, 2012).

These new insights by Friedman and Schwartz were published in 1963 in what is considered one of the most influential publications in economics in the 20th century: *A Monetary History of the United States, 1867-1960*. In that book, Friedman and Schwartz also successfully exposed, for the first time, the Federal Reserve's role in partially causing and certainly worsening the Great Depression. Former Federal Reserve Chairman Ben Bernanke referred to their book as "the leading and most persuasive explanation of the worst economic disaster in American history" (Bernanke, 2002, November 8). Christina Romer, former Chair of the United States Council of Economic Advisors, also said of the book: "It changed so much about the field of economics. It changed how we teach economics, it changed how we do research, it changed how we think about economic policy."[1]

1 As quoted in a video interview (Goldin and Romer, 2020, January 21).

Just as impressive as Schwartz's work in revolutionizing macroeconomics is the fact that she was one of a very few female economists at the time. This fact sometimes played a role in Schwartz's contributions being overshadowed as Milton Friedman himself acknowledged on one occasion: "Anna did all the work, and I got a lot of the credit" (Brunner and Friedman, 1987). If one considers today's 3:1 male-female ratio among economics professors as contentious, imagine the desolate nature of the field in the mid-20th century. What is more, the field of macroeconomics itself is not popular among women in economics as most tend to gravitate to microeconomic specialties such as labour, education, health, and industrial organization (Goldin, Voena, and Guerrieri, 2019).

Born in 1915, Schwartz began her career as a professional economist in 1936 at a time when few women even dared even to *think* about economics as a career option. But in some sense, Schwartz had no choice; while in high school she had become captured by economics, and it changed her life forever. The questions and the discussions in her high school economics course inspired her to major in economics. Schwartz later said of that time: "I couldn't imagine wanting to pursue further study in a subject that would not have included economics."[2]

In 1934, at age 18, she graduated from Barnard College, an affiliate of Columbia University in New York City, with a degree in economics, and earned her Master's in Economics from Columbia University in the following year. After briefly working at the Department of Agriculture, Schwartz went on to pursue her PhD at Columbia University and worked on her dissertation with Arthur Gayer and Walt Rostow. But funding for her dissertation had to be cut because of paper rationing during World War II, and eventually she was denied her PhD because her dissertation included a "collaborative" project. But this setback did not stop Schwartz from continuing to pursue a career as a professional economist.

In 1941, she joined the National Bureau of Economics Research (NBER), where she would work for the rest of her life. Schwartz's impressive 70-year career at NBER would serve as a foundation for most of her professional work. In an interview, Schwartz said that NBER was "the most central part of my

2 As quoted in video interview (Goldin and Romer, 2020, January 21).

intellectual life, so I'm very grateful to this organization" (Goldin and Schwartz, 2001: 1:10 - 1:25). Soon after joining NBER, she started collaborating with Milton Friedman, and the two communicated by post across state lines to produce their monumental book, *A Monetary History of the United States*. It wasn't until more than 20 years later, in 1964, after Schwartz had made some of her most significant contributions in economics, that Columbia University finally awarded her a PhD in economics. In a world with no Internet, she was known for tirelessly searching for data by scouring through libraries and leaving no relevant books untouched as she unearthed figures on banks, treasuries, prices, and other important information that became a staple feature of her contributions (Bordo, 1987).

Anna Schwartz left a remarkable legacy. She was one of the founders and leading economists in monetary economics, and one of few women of her time to advance the study of economics. She became an inspiration to the generations of economists who followed and a role model to female economists—including some of the most successful ones working today, such as Claudia Goldin and Christina Romer. Schwartz contributed to economics research until the very last years of her life. She passed away in 2012 at age 96 by which time she had published 10 books and more than 100 articles; she founded and promoted an entire school of thought that had significant influence in the late 20th century and continues to have just as much influence today. And she forever changed our understanding of the Federal Reserve and the Great Depression. In the words of economist Claudia Goldin, for Anna, "her passion for economics knew no limits."[3]

Overview of monetary economics

What is the role of money in business cycles? This was the guiding question behind Schwartz and Friedman's novel effort to theorize and empirically test how money influences economic activity and prices. Their work provided an extensive historical account that relied on them gathering new data and coming up with novel ways to measure information in order to demonstrate the link

3 As quoted in video interview (Goldin and Romer, 2020, January 21).

between the quantity of money generated by banks, the growth of prices, and the changes in output (business cycles).

Their work swept away the generally held consensus among economists at the time and launched the field of monetary economics, which is best described as a framework for thinking about business cycles and price levels, and which emphasizes the role of the money supply. The framework prominently features the Quantity Theory of Money (QTM), a theory they popularized that establishes the long-run connection between the growth of the money supply and the growth of the price level (inflation). Friedman famously summarized this notion in a speech: "inflation is always and everywhere a monetary phenomenon" (Leeson and Palm, 1963)—meaning that inflation is caused by changes in the money supply. The idea is that as the money supply increases—usually because of central bank actions—eventually "too much money is chasing too few goods," thus bidding up the price of each good or service. These price hikes happen because the growth of money outpaces the growth of output, or production of goods and services, in the economy.

Inflation is thus the long-run effect of increases in the money supply. But how do changes in the money supply affect short-run fluctuations in gross domestic product (GDP) or business cycles? According to the framework, because changes in price take some time to adjust as the impact of the bidding wars unfold, in the short run increases in money supply can stimulate the economy through greater spending and greater investment. An increase in the money supply works by lowering interest rates, which spurs investment. An increase in the money supply also puts more money in the hands of consumers, making them feel wealthier and thus prompting them to spend more. This surge in investment and spending increases short-run output and GDP. But as prices adjust upward and people discover that inflation is occurring, the continued increases in the money supply cease to stimulate the economy, and instead we are left in the long run only with higher prices of goods and services (inflation) but no changes in real economic output or employment. Put simply, increases in the money supply stimulate the economy only in the short run, and lead to increases in prices in the long run.

The same logic holds when there are decreases in the growth of the money supply—leading either to disinflation (reduced inflation) or deflation (falling prices). In the short run, decreases in the growth of the money supply can reduce output and GDP. This is because slower money supply growth has an effect opposite that of the output-stimulating faster money supply growth. A decrease in the growth of the money supply puts upward pressure on short-term interest rates. These higher interest rates depress investment. Moreover, with higher interest rates, individuals who have borrowed money (debtors) are made worse off and thus reduce their spending. A decrease in the money supply spirals spending downward, causing production to fall. Layoffs and unemployment are the eventual result. However, similar to when there are increases in the money supply, this impact of decreases in the money supply on output and GDP only happen in the short run. In the long run, all prices adjust downward and we are left with deflation. Put simply, decreases in the money supply depress the economy only in the short run, and lead to decreases in the price level in the long -run.

To sum up, the monetarist explanation is that business cycles are fuelled by fluctuations in the money supply. “Too much” growth in the money supply stimulates the economy in the short run, and “too little” growth in the money supply depresses the economy in the short run. In the long run, “too much” growth in the money supply leads to increases in prices (inflation) and “too little” growth in the money supply leads to decreases in prices (deflation).

In modern economies, control of the money supply is in the hands of central banks. Identifying the role that central banks play in business cycles was one of Anna Schwartz’s most important contributions.

Central banks control of the money supply and regulating inflation and deflation

Whether it is the United States’ Federal Reserve, the Bank of Canada, the European Central Bank, or the Bank of England, today a country’s central bank has a primary role in influencing business cycles, and perhaps more importantly, in regulating inflation and deflation. Schwartz argued that central banks should pursue steady growth while avoiding “too much” inflation that comes from excessive increases in the money supply, or deflation that is a result of excessive decreases in the money supply. "At first, central bankers and governments did not accept our theory," remarked Schwartz.[4]

Soon, however, Friedman's and Schwartz's ideas reached across the Atlantic—and at a time when they were much needed. In the 1970s the United Kingdom was experiencing rapid price increases, with inflation reaching 25 percent per year. In 1979, Margaret Thatcher became the nation's prime minister. She and her team were influenced by the newly formed monetarist ideas (Frazer, 1982; Champroux and Sowels, 2015). Trying their best to follow Friedman's and Schwartz's technical directives, and even meeting with Friedman himself (Lawson, 1980, February 22), Thatcher's team began to restrict the money supply growth in order to combat inflation. They were successful: By March of 1983, inflation in the UK was down to less than 5 percent per year. Schwartz continued her work on the British economy, which had also been the subject of her dissertation in the 1930s. Over the years she published several bodies of work on the topic and acted as a consultant on a major project with the City University of London to provide a monetary history of the United Kingdom (Friedman and Schwartz, 1982).[5]

Similar to the United Kingdom, the United States also faced an inflation crisis in the 1970s. The inflation rate jumped from 1.3 percent in 1964 to almost 15 percent in 1980. In order to curb this inflation, the Federal Reserve drastically reduced the money supply growth beginning in the early 1980, and by 1983 inflation was down to less than 3 percent per year. This policy proved to be an important step and one upon which the next decades of influence of Friedman's and Schwartz's ideas on the Federal Reserve and monetary policy generally were built.

The impact of a central bank's policies on inflation can be seen perhaps most dramatically in the case of Zimbabwe's hyperinflation of the early 2000s. To finance his government's spending, Zimbabwe's dictator, Robert Mugabe, forced the central bank to start printing more money. Without increases in investment or in the production of goods or services, Zimbabwe found itself

---

4 As quoted by Sorman (2009, April 26).

5 Schwartz had also published parts of her dissertation in a book co-authored with Walt Rostow and Arthur Gayer, Growth and Fluctuations of the British Economy, 1790-1850: An Historical, Statistical, and Theoretical Study of Britain's Economic Development (1953).

in a situation where more money was chasing the same amount of goods—in other words, you needed more Zimbabwean dollars to buy the same things as before. As the newly printed money began flooding the market, prices began to rise. And as prices rose, the central bank had to print yet more money to buy just as many goods as before. The faster prices rose, the faster the central bank printed money, which led to prices rising even faster, thereby creating a vicious cycle that led to hyperinflation. By 2008, prices were rising by more than a thousand percent *per month*, and the central bank started to print its notorious one hundred trillion-dollar notes. In the end, Zimbabwe's currency was left worthless and by early 2009 the country's people began using foreign currencies instead. In 2015, Zimbabwe officially announced that it was switching its currency to the US dollar.

The Zimbabwean experience with hyperinflation highlights the clear danger that Friedman and Schwartz spent decades understanding and describing. In a series of studies, they emphasized that stable prices are essential for financial stability, sound banking, and the overall health of an economy. Schwartz wrote, "Unexpected price change can invalidate the assumptions underlying bank lending and investing" (Fettig, 1993). In 1981, the US Secretary of the Treasury selected Anna Schwartz to join the congressionally mandated "Gold Commission" to assess the role of gold in domestic and international monetary systems (United States, Department of the Treasury, 1981, July 6). In addition to her recommendations regarding gold, Schwartz proposed that the commission recommend that Congress and the Federal Reserve "study the merits of establishing a rule specifying that the growth of the nation's money supply be maintained at a steady state which insures long-range price stability" (Fettig, 1993).[6] At the time, the other members of the Gold Commission opposed Schwartz's recommendation. However, the Federal Reserve did eventually start to follow a specified monetary growth rule with price stability as a main principle.

6 Schwartz (1987) also published a chapter on her reflections of the Gold Commission: "Reflections on the Gold Commission Report."

What caused the Great Depression?

The Great Depression is considered American's worst economic disaster; close to a quarter of the population was unemployed at the Depression's height and GDP dropped by 30 percent. Forty percent of the nation's banks failed and closed.

What caused the Great Depression? There were several contributing factors, but until 1963 few considered that the money supply or the Federal Reserve were to blame. Friedman and Schwartz fundamentally altered the consensus. They successfully showed that the Federal Reserve's strategy of decreasing the money supply while also neglecting to act as a "lender of last resort" in the face of the bank failures in the early 1930s pushed the economy from what might have been an "ordinary recession" (in the immediate wake of the stock-market crash in October 1929) into a deep and extended depression.

Providing some of the most extensive and novel historical data of their time, Friedman and Schwartz highlighted how from late 1929 through 1933 the Federal Reserve allowed the money supply to plunge by nearly 35 percent, which they termed "the great [monetary] contraction" (Friedman and Schwartz, 2008). This contraction was due to several factors: First, during the severe downturn of 1930, the Federal Reserve "did nothing" as the first wave of banks failed. As people witnessed the first wave of bank failures and saw that many depositors were unable to retrieve their money, they too became alarmed and started a "run on their bank"—a situation in which too many depositors attempt to withdraw their money from their bank all at the same time. Since banks at any given time only retain on hand a fraction of their deposits, the bank runs only led to more people being unable to withdraw their money, so further bank failures and closures followed. Taken together, these bank failures led to a reduction in the money supply. As lender of last resort, the Federal Reserve should have stepped in to mitigate this collapse of the banking system by providing emergency lending to banks or by otherwise increasing the supply of money.

Moreover, in 1931 and again in early 1933, the Federal Reserve also raised the discount rate (a move that decreased the money supply) without implementing any other measures to increase the money supply and to counteract the drastic money supply decreases that the economy was already experiencing. The continued reduction of the money supply led to a downward spiral of spending and production closures, rising unemployment, and a major deflationary period—prices fell by almost 33 percent.

By carefully documenting these failed Federal Reserve policy moves, Friedman and Schwartz made one of their most important contributions to our understanding of economic recessions and depressions. Today the economic profession widely accepts their argument. As former Chair of the Federal Reserve Ben Bernanke remarked: "Let me end my talk by abusing slightly my status as an official representative of the Federal Reserve. 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" (Bernanke, 2002, November 8).

Financial market crisis of 2008

From experiencing and writing about the Great Depression in the 1930s, Anna Schwartz's life and career came full circle with some of her final work: analyses of the Great Recession of 2008. Although 93 years old at the time, Schwartz remained active in the discourse on the economic crisis and how governments responded to it.

Schwartz argued that causes of the 2008 financial market crisis were three-fold (Schwartz, 2009). First, she argued, the Fed's expansive monetary policy fuelled an asset bubble in the housing market. She wrote, "the Fed was accommodative too long from 2001 on and was slow to tighten monetary policy… this was the monetary policy setting for the housing price boom" (Schwartz, 2009). She also held that the government played a role in stimulating demand for houses and subprime securities through the US government-sponsored enterprises Fannie Mae and Freddie Mac. Second, Schwartz argued that the emergence of financial investment instruments such as securitization, derivatives, and auction-rate securities were also a factor in the cause of the financial crisis. These financial instruments had a basic flaw: it was difficult to determine their prices—they were so complex that "neither the designer nor the buyer of these instruments apparently understood the risks they imposed" (Schwartz, 2009: 21). A third factor was the collapse of the market for some financial instruments, in particular the auction-rate security, which is primarily issued by municipalities, hospitals, museums, student-loan finance authorities, and close-end mutual funds.

Schwartz was also vocal in criticizing Ben Bernanke as the Chairman of the US Federal Reserve for his excessive "easy" monetary policy in response to the financial crisis. Writing in a *New York Times* editorial, Schwartz said, "Why is easy monetary policy such a sin? Because in such an environment, loans are cheap and borrowers can finance every project that they dream up. This results in excesses, and also increases the severity of the recession that inevitably follows when the bubble bursts" (Schwartz, 2009, July 25).

While acknowledging that Bernanke was an excellent scholar of the Great Depression, Schwartz argued that, as Fed Chairman, he was "fighting the wrong war today; the present crisis has nothing to do with a lack of liquidity."[7] Instead, the tools that Bernanke used in response to the 2008 financial market crisis should have been used by central bankers during the Great Depression—when there was an indeed a liquidity problem and easy monetary policy would have been the right solution (Carney, 2008, October 18). Schwartz acknowledged that the problems leading up to the 2008 financial crisis were also perpetuated by Bernanke's predecessor, Alan Greenspan, who fuelled excessive exuberance for spending on all sorts of things by keeping interest rates at historically low levels.

Indeed, Schwartz's analysis of the factors that contributed to the causes and severity of the 2008 financial crisis are still relevant today as central banks continue to push for interest rates to remain low and continue to delay allowing interest rates to rise back to normal levels.

Conclusion

Before Anna Schwartz led the monetary revolution, few economists, let alone the general public, believed that the money supply had an influence on prices or on economic growth. Our understanding of the money supply and of central banks has fundamentally changed due to Anna Schwartz's work. Beyond her pioneering contributions on monetary economics and as a woman working in economics, Schwartz analyzed the specific tools that the Federal Reserve

7 As quoted by Sorman, 2009: 66.

uses (and often misuses).[8] She also wrote on international monetary issues and exchanges rates,[9] equity price behaviour (Schwartz, 2002), and an extensive history of the British economy, price fluctuations, and business cycles (Gayer, Rostow, and Schwartz, 1953). She continued to work diligently until the end of her life and is rightly known today as one of the most influential economists of the 20th century.

References

Bernanke, Ben (2002, November 8). *Remarks by Governor Ben S. Bernanke at the Conference to Honor Milton Friedman, University of Chicago, Chicago, Illinois*. Federal Reserve Board. <https://www.federalreserve.gov/boarddocs/speeches/2002/20021108/>, as of November 24, 2021.

Bordo, Michael (ed.) (1987). *Money, History, and International Finance: Essays in Honor of Anna J. Schwartz.* University of Chicago Press.

Bordo, Michael, Owen Humpage, and Anna Schwartz (2010). *U.S. Foreign-Exchange-Market Intervention during the Volcker-Greenspan Era*. Working paper 10/07. Federal Reserve Bank of Cleveland. <https://www.clevelandfed.org/en/newsroom-and-events/publications/working-papers/working-papers-archives/2010-working-papers/wp-1007-us-foreign-exchange-market-intervention-during-the-volcker-greenspan-era.aspx>, as of November 24, 2021.

Brunner, Karl, and Milton Friedman (1987). Anna Schwartz: An Appreciation. In Michael Bordo (ed.), *Money, History, and International Finance: Essays in Honor of Anna J. Schwartz* (University of Chicago Press): 245-250. <https://www.nber.org/system/files/chapters/c6741/c6741.pdf>, as of November 24, 2021.

---

8 For example, she examined decades of the Federal Reserve's use (or rather, abuse) of the discount rate (a tool that the Fed uses to influence market interest rates) and concluded that "a Federal Reserve System without the discount window would be a better functioning institution" (Schwartz 1992).

9 See, for example, Schwartz (2000) and Bordo, Humpage, and Schwartz (2010).

Carney, Brian M. (2008, October 18). Bernanke is Fighting the Last War. *Wall Street Journal*.

Champroux, Nathalie, and Nicholas Sowels (2015). *The Monetary and Fiscal Policies of Early Thatcherism and the Legacy of the Medium Term Financial Strategy*. Observatoire de la Société Britannique 17. <https://www.researchgate.net/publication/304420977_The_Monetary_and_Fiscal_Policies_of_Early_Thatcherism_and_the_Legacy_of_the_Medium_Term_Financial_Strategy>, as of November 24, 2021.

Fettig, David (1993). *Interview with Anna Schwartz*. Federal Reserve Bank of Minneapolis, September 1. <https://www.minneapolisfed.org/article/1993/interview-with-anna-j-schwartz>, as of November 23, 2021.

Frazer, William (1982). Milton Friedman and Thatcher's Monetarist Experience. *Journal of Economic Issues* 16, 2: 525-533.

Friedman, Milton, and Anna J. Schwartz (1963). *A Monetary History of the United States: 1867-1960.* Princeton University Press.

Friedman, Milton, and Anna J. Schwartz (1965). Money and Business Cycles. *The State of Monetary Economics* (National Bureau of Economic Research): 32-78.

Friedman, Milton, and Anna J. Schwartz (1982). *Monetary Trends in the United States and the United Kingdom: Their Relations to Income, Prices, and Interest Rates*. National Bureau of Economic Research.

Friedman, Milton, and Anna J. Schwartz (2008). *The Great Contraction, 1929-1933.* Princeton University Press.

Gayer, Arthur David, Walt Whitman Rostow, and Anna Jacobson Schwartz (1953). *Growth and Fluctuations of the British Economy, 1790-1850:*

An Historical, Statistical, and Theoretical Study of Britain's Economic Development. Clarendon Press.

Goldin, Claudia, Alessandra Voena, and Veronica Guerrieri (2019). "Why are there so few women economists?" *Chicago Booth Review* (May 29). <https://review.chicagobooth.edu/economics/2019/article/why-are-there-so-few-women-economists>, as of November 24, 2021.

Goldin, Claudia, and Anna J. Schwartz (2001). *Anna Schwartz Oral History Interview with Claudia Goldin*. Video interview. National Bureau of Economic Research. <https://www.nber.org/historical-video/anna-schwartz-oral-history-interview-claudia-goldin>, as of November 24, 2021.

Goldin, Claudia, and Christina Romer (2020, January 21). *Women in Economics: Anna Schwartz*. Video interview Marginal Revolution University. <https://learn.mru.org/women-economics-series-anna-schwartz/>, as of November 24, 2021.

Lawson, Nigel (1980, February 22). "Visit of Milton Friedman." Brief for Margaret Thatcher's meeting with Friedman on February 27, 1980. Government of the United Kingdom, Treasury Secretary. <www.margaretthatcher.org/document/E6DD924ED1284679BC1A67C63ABA99E0.pdf>, as of November 24, 2021.

Leeson, Robert, and Charles G. Palm (eds). "Inflation Causes and Consequences. First Lecture." Asia Publishing House for the Council for Economic Education (Bombay), 1963. *The Collected Works of Milton Friedman*. Hoover Institution Library and Archives. <https://miltonfriedman.hoover.org/objects/57545/inflation-causes-and-consequences>, as of November 24, 2021.

Pianalto, Sandra (2012). *The Fed and the Economy: Lessons from Milton Friedman.* Federal Reserve Bank of Cleveland. <https://www.clevelandfed.org/en/newsroom-and-events/speeches/sp-20120402-the-fed-and-the-economy-lessons-from-milton-friedman.aspx>, as of November 24, 2021.

Schwartz, Anna J. (1987). "Reflections on the Gold Commission Report." In *Money in Historical Perspective* (University of Chicago Press): 317-332.

Schwartz, Anna J. (1992). *The Misuse of the Fed's Discount Window*. Sixth Annual Homer Jones Memorial Lecture. Federal Reserve Bank of St. Louis (September/October): 58-69. <https://files.stlouisfed.org/files/htdocs/publications/review/92/09/Misuse_Sep_Oct1992.pdf>, as of November 24, 2021.

Schwartz, Anna J. (2000). The Rise and Fall of Foreign Exchange Market Intervention as Policy Tool. *Journal of Financial Services* 18, 2: 319-339.

Schwartz, Anna J. (2002). *Asset Price Inflation and Monetary Policy.* NBER Working Paper #9321, National Bureau of Economic Research. <https://www.nber.org/papers/w9321>, November 24, 2021.

Schwartz, Anna J. (2009). Origins of the Financial Crisis of 2008. *Cato Journal* 29, 19: 19-23.

Schwartz, Anna J. (2009, July 25). Man Without a Plan, *New York Times*. Available at https://www.nytimes.com/2009/07/26/opinion/26schwartz.html.

Sorman, Guy (2009). *Economics Does Not Lie: A Defense of the Free Market in a Time of Crisis,* Encounter Books.

Sorman, Guy (2009, April 26). Monetarism Defiant. *Forbes.* <https://www.forbes.com/2009/04/26/milton-friedman-anna-schwartz-financial-crisis-opinions-contributors-sorman.html?sh=146001032a21>, as of November 24, 2021.

United States, Department of the Treasury (1981, July 6). Anna Schwartz to Work with Gold Commission. News release. United States, Department of the Treasury. <https://fraser.stlouisfed.org/title/press-releases-united-states-department-treasury-6111/volume-238-587081/anna-schwartz-work-gold-commission-531923>, as of November 23, 2021.

About the author

Liya Palagashvili is a senior research fellow at the Mercatus Center at George Mason University in Arlington, Virginia, and a research fellow at New York University School of Law. She has published in academic journals, books, and in major media outlets such as the New York Times and Wall Street Journal. Her research is in law and economics, political economy, and entrepreneurship. She earned her PhD in Economics from George Mason University in 2015.