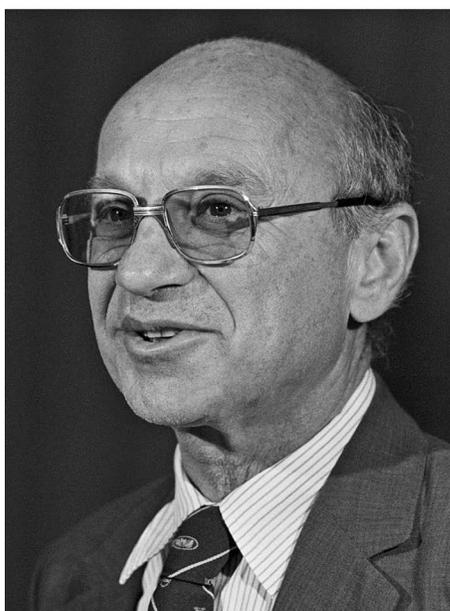


Milton Friedman: An Economist Who Championed Free Markets

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Milton Friedman received the economic sciences prize in 1976 and according to the award committee, the prize motivation reported by “Milton Friedman: Facts” was “for his achievements in the fields of consumption analysis, monetary history and theory and for his demonstration of the complexity of stabilization policy.” His recognition was for “Contributions to consumption analysis and to monetary history and theory, including observations of the complexity of stabilization policy.”

Milton Friedman was born July 31, 1912, in Brooklyn, New York and died November 16, 2006, in San Francisco, California.² He graduated from Rutgers University with a Bachelor of Arts (1932) and the University of Chicago with a Master of Arts (1933) in economics. At Rutgers, he studied mathematics and economics and was influenced by Arthur Frank Burns and Homer Jones who were professors of economics. Burns wrote about business cycles and inflation and served as the research director (1945-1953) at the National Bureau of Economic Research (NBER). Additionally, he was appointed to several senior influential government positions including chair of the United States Council of Economic Advisors (1953-1956), chair of the Board of Governors of the United States Federal Reserve serving two terms (1970-1978) and United States ambassador to West Germany (1981-1985). Homer Jones joined the United States Federal Reserve Bank of St. Louis in 1958 as the research director and later became a senior vice-president. While at Rutgers University, Friedman was required to enroll in a Reserve Officers’ Training Corps (ROTC) program for a period of two years. He explained later to the Editors (2017), “Milton Friedman: There is no Such Thing as a Free Lunch,” that the experience was unpleasant and led to his opposition against compulsory military service.

Friedman was awarded a Columbia University fellowship for studying statistics during the 1933-1934 academic year under Harold Hotelling. Hotelling (Ph.D., Princeton University, 1924) was a statistician and economic theorist who developed Hotelling’s law and Hotelling’s rule. Hotelling advised doctoral student Kenneth Joseph Arrow (Economic Sciences Laureate, 1972). Friedman returned to the University of Chicago during the following academic year, 1934, to serve as Henry Schultz’s research assistant until 1935. Schultz had arranged the fellowship for Friedman to study under Hotelling at Columbia. Schultz (Ph.D., Columbia University, 1925) was an early contributor to the development of econometrics. Schultz (1938) wrote, in *The Theory and Measurement of Demand*, about statistics and the mathematics of Léon Walras and Vilfredo Pareto.

Friedman became life-long friends with George Stigler (Economic Sciences Laureate, 1982) and W. Allen Wallis while studying at the University of Chicago.

Friedman joined Wallis at the National Resources Planning Board in Washington, D.C. during the summer of 1935. President Franklin Roosevelt signed Executive Order 6777 with the authority of the National Industrial Recovery Act of 1933 to create the entity. Friedman worked on a project involving a consumer budget study that would be addressed in one of his future books published in 1957, *A Theory of the Consumption Function*. His belief in free markets led him to co-author a monograph with George Stigler (1946), *Roofs or Ceilings? The Current Housing Practice*, opposing rent control. Stigler received the Economic Sciences Laureate in 1982. Friedman and Stigler believed that in the context of the immediate post-World War II housing shortage, restricting rental income was the wrong remedy, since private owners would not find it attractive to build additional housing units if the rents were kept artificially low in the face of a shortage. Friedman (1953a) followed this experience with his essay “The Methodology of Positive Economics” which was included in his book, *Essays in Positive Economics*.

He left his position at the National Resources Planning Board in the fall of 1937 to take a job at the National Bureau of Economic Research (NBER). His position as a member of the research staff would last until 1981. He worked initially as an assistant to Simon Kuznets (Economic Sciences Laureate, 1971) studying professional income and wealth distribution. Kuznets and Friedman (1939) were co-authors of *Income from Independent Professional Practice*. In the book, they commented that medical licensing results in a barrier to enter the profession restricting competition, consequently resulting in doctors being able to demand higher fees due to their partial monopoly power.

Friedman served on the faculty at the University of Wisconsin as an assistant professor during 1940 experiencing considerable organizational conflict regarding the economics department and its possible merger with the business school, his employment status and antisemitism. He then took a position in 1941 with the United States Department of the Treasury examining wartime tax policy. In 1943, he relocated to New York City as a mathematical statistician for the Division of War Research at Columbia University to work with Hotelling and Wallis on weapon design, military tactics and metallurgical experiments. This work lasted until 1945 when he relocated to the University of Minnesota for one year and was a colleague of George Stigler. Kuznets was Friedman’s doctoral advisor at Columbia University. Their co-authored book (1939), *Income from Independent Professional Practice*, was submitted in 1945 as Friedman’s doctoral dissertation and he earned a Doctor of Philosophy degree (1946). He then accepted a post at the University of Chicago in 1946 teaching economic theory.

Friedman attended the first meeting of the Mont Pèlerin Society in 1947 along with the other co-founders; Friedrich August von Hayek, Frank Hyneman Knight, Ludwig Heinrich Edler von Mises, Sir Karl Raimund Popper and George Joseph Stigler. Frank Hyneman Knight (Ph.D., Cornell University, 1916) served at the University of Chicago on its faculty and taught Friedman, Stigler and James McGill Buchanan, Jr. (Economic Sciences Laureate, 1986). Mises was an Austrian-American economist who advanced the cause of classical liberalism through his contributing efforts to the Austrian School of economic thought. Popper was a preeminent Austrian-British philosopher of science who argued that empirical science theories cannot be proven but could be potentially falsified. Stigler (Ph.D. University of Chicago, 1938) conducted scholarly research on regulation and the history of economic thought. Friedman’s views, compatible with that of Hayek, were consistent with the Mont Pèlerin Society’s mission which was to provide a forum for scholars to contribute to the advancement of a free society and free market economic systems. Friedman served as the president of the Society for one term from 1970 to 1972.

At the University of Chicago, he was appointed as an associate professor in 1946, a full professor in 1948 and as the Paul Snowden Russell Distinguished Service Professor of Economics in 1962 retaining his appointment until 1982. Burns, serving as the research director at NBER, invited Friedman upon his appointment to Chicago to rejoin the staff and lead the effort to examine money’s role in the business cycle. Friedman was the recipient of the John Bates Clark Medal in 1951. The Medal is awarded by the American

Economic Association to economists under the age of forty who have contributed most significantly to economic thought and knowledge while residing in the United States.

In 1953, Friedman offered his Money and Banking Workshop at the University of Chicago. The workshop was attended by faculty, doctoral students and visitors. At Chicago, the prevailing view of economics was neoclassical in nature and oriented toward monetarism while rejecting the Keynesian perspective. In 1954, he attended Harry Markowitz's (Economic Sciences Laureate, 1990) doctoral dissertation defense on portfolio theory and questioned the topic's suitability as an economics subject, according to Markowitz (1990). In a sense, Markowitz was vindicated regarding Friedman's, perhaps flippant, comment. He was awarded his doctorate and a paradigm shift occurred in the 1970s as new classical macroeconomics based on the concept of rational expectations emerged.

Friedman was a consultant to the United States government analyzing the Schuman Plan while living in Paris during the fall of 1950. The Schuman Plan, introduced by Jean-Baptiste Nicolas Robert Schuman, the former two-term French prime minister. His first term as prime minister was for a period of eight months from November 1947 to July 1948; his second term was for a period of six days during September 1948. Schuman served as the foreign minister from 1948 to 1953 under successive governments. On May 9, 1950, Schuman and other individuals called for the creation of a multinational steel and coal production authority. The proposal was ratified on July 23, 1952, and the European Coal and Steel Community came into existence as a group of six nations: Belgium; France; Italy; Luxembourg; the Netherlands and West Germany. The plan also became the basis for the establishment of the European Economic Community in 1958. Friedman was an early advocate for the implementation of floating exchange rates that he thought would be beneficial for countries by enabling them to avoid balance of payments problems. Consistent with his concern regarding government intervention, he viewed fixed exchange rates as government interference in the marketplace. Friedman (1953b) expressed his views in an article, "The Case for Flexible Exchange Rates."

Friedman spent the 1953-1954 academic year as a Fulbright visiting professor at Gonville & Caius College, University of Cambridge. He was critical of the United States Federal Reserve Bank's policy decisions when reacting to the economic crisis during the 1930s. Specifically, he was opposed to the credit restriction activities after the stock market crash, which he believed increased the severity and length of the Great Depression. The Federal Reserve should have engaged in its role as the lender of last resort providing liquidity to the economic system. Friedman referred to the period from 1929 to 1933 as the Great Contraction. He and Anna Jacobson Schwartz (Ph.D., Columbia University, 1964) wrote (1963) about this period of time using the title, *The Great Contraction, 1929-1933*, and included the work as Chapter 7 in *A Monetary History*. Their chapter was subsequently published (1965) separately as *The Great Contraction, 1929-1933*. Friedman also criticized the Federal Reserve's actions during the Great Depression in a co-authored article in 1963 with David Meiselman (Ph.D., University of Chicago, 1961). In *Free to Choose*, co-authored with Rose D. Friedman and published in 1980, they posited that lender role should have involved the Federal Reserve purchasing government bonds through its open market activities. The banks would have been able to use their now additional monetary resources as a result of the sale of their government bonds to meet their depositors' demands to either close their accounts or withdraw money from their accounts. Ben Shalom Bernanke, nearly fifty years after the analysis by Friedman and Schwartz regarding their assessment of the Federal Reserve actions during the Great Depression, lauded their judgment, in his 2002 "On Milton Friedman's Ninetieth Birthday." Bernanke, (Ph.D., Massachusetts Institute of Technology, 1979; Economic Sciences Laureate, 2022) served as the chair of the Federal Reserve from February 1, 2006 to January 31, 2014.

In Friedman's (1956) collection of essays published as a book, *Studies in the Quantity Theory of Money*, Friedman opined that in the short-term money supply increases result in increases in employment and production output, money supply decreases result in employment and production output decreases. This direct relationship does not hold in the long term. In contrast, the long-term effect of money supply growth results in price increases without a corresponding impact on production output. Friedman's scholarly in-

vestigations resulted in his recommendation that the money supply should increase at a fixed rate on the order of three to five percent annually with monthly or even daily adjustments. Although it may seem at odds with the monetarist view about expanding the money supply, the logic was that if the economy expanded while the money supply remained constant then the resultant and continuous fall in prices would lead to lower output and higher unemployment. Alexander William Salter (2014), wrote “An Introduction to Monetary Policy Rules” upon reviewing Friedman’s *A Program for Monetary Stability* (1960) and “The Role of Monetary Policy (1968),” indicated that the rate of increase should be equivalent to the real Gross Domestic Product (GDP) rate increase. GDP, a measure developed by Kuznets in 1934 for a United States Congressional report, is the total monetary value of finished goods and services produced within a country during a specific time. The Friedman formulation, known as the k-percent rule, can be reduced to the following formula according to Salter:

$$gM = k = gP - gV + gy = gy - gV$$

where:

g = growth

M = money supply

k = money supply growth rate

P = price level (inverse of money’s purchasing power)

V = money turnover rate

y = real income (real GDP)

Friedman was interested in the M1 and M2 money supply and recommended significant changes in the current banking rules. One recommendation was to require a one hundred percent reserve position on deposits to enhance currency controls. M1 is the supply of money that is very liquid and includes cash, demand deposits and traveler’s checks. M2 is a less liquid supply of money that includes M1, as well as less liquid assets, i.e., savings and time deposits, money market funds and certificates of deposit.

Friedman developed his permanent income hypothesis in 1957 introducing the term “permanent income” and defining its meaning as the average annual income expected during a period of a few years. The hypothesis theorizes that a person will set a personal expenditure level consistent with expected long-term average annual income. Friedman found that consumers may finance a new tax increase from savings and maintain the current consumption levels thus frustrating the fiscal policy objective of reducing consumption. This view contrasted with the Keynesian view that consumption is a more direct function of existing income.

Friedman expressed his libertarian views on a number of subjects in his 1962 book, *Capitalism and Freedom*. He was of the opinion that a country’s successes derive from free markets and its failures are a result of government intervention in the marketplace. He was in favor of legalizing drug use, prostitution, gay rights, school vouchers and all immigration as well as eliminating medical licenses as a way to lower medical fees. He opposed discrimination. He was also opposed to raising the minimum wage which he thought would be a deterrent to the hiring of young laborers and low-skilled laborers particularly minority individuals. Friedman (1962) argued in his book, *Capitalism and Freedom*, against conscription into the military service as an unneeded government intervention in the lives of its citizenry. His view was that the process of conscription was both inequitable and arbitrary. During the Richard M. Nixon (United States) presidential administration, Friedman was appointed to head the committee to seek a transition from conscription to a volunteer military service program. According to Doherty (1995), in reflection, Friedman commented in an interview that, “In the realm of policy, I regard eliminating the draft as my most important accomplishment.”

Monetarism considers the quantity theory of money vital for understanding the economy in general and inflation specifically. This theory views the pricing of goods and services as proportional to the economy’s money supply. The theory offers that if an economy’s monetary level increases by a particular per-

centage, then so also will the prices for the goods and services, at least on average. Friedman and Schwartz (1963) addressed this issue. Schwartz was a research economist who met Friedman through Arthur Burns while Friedman was at the National Bureau of Economic Research.

Friedman served as an economic advisor to Senator Barry Goldwater, the Republican Party nominee, during his unsuccessful candidacy for the United States presidency in 1964. In 1966, *Newsweek* magazine invited Friedman to write a triweekly column about economics alternately with Paul Samuelson (Economic Sciences Laureate, 1970) and Henry Wallich. Henry Christopher Wallich (Ph.D., Harvard University, 1944) was a German-American economist, who emigrated to the United States and became an American national in 1944. He was appointed as a governor of the United States Federal Reserve System in 1974. In 1977, Friedman retired from the University of Chicago but continued to maintain a relationship with the institution by continuing his research activities. As a retiree, his title was the Paul Snowden Russell Distinguished Service Professor Emeritus of Economics at the University of Chicago. He was appointed as a senior research fellow (1977-2006) at Stanford University's Hoover Institution.

Friedman enjoyed an active retirement as he was involved in many scholarly and advisory pursuits. He continued his *Newsweek* column until 1983 when the magazine terminated the project. He co-authored with Anna J. Schwartz (1982) *Monetary Trends in the United States and the United Kingdom: Their Relation to Income, Prices, and Interest Rates, 1867-1975* and wrote (1992) *Money Mischief: Episodes in Monetary History*. In addition, he authored numerous op-ed pieces in various newspapers. He was an unofficial advisor to Ronald Reagan as he campaigned during 1980 for the office of the President of the United States. Upon Reagan's election, Friedman served as a member of the President's Economic Policy Advisory Board. In 1996, he and his wife, Rose, founded the Milton and Rose D. Friedman Foundation for Educational Choice to promote parental choice in schooling. According to the EdChoice Foundation website, the organization was renamed the EdChoice Foundation in 2016. In 1998, he and his wife co-authored (1998) *Two Lucky People: Memoirs*. Friedman's professional and retirement years were considered distinguished by those individuals who found his research and advocacy compatible with their views and misguided by those individuals who opposed his economic philosophy.

Friedman contributed to the understanding of economics in various ways. He is best known for his work on monetarism which is a theoretical approach to economic stabilization by controlling the money supply. Economic stabilization refers to government policy interventions to control the business cycle's behavior with the aim to maintain stability in the economy. Monetary and fiscal policy tools are used to reduce the fluctuations, both expansionary and contractionary phases, found in the business cycle. Monetary tools include the discount rate, reserve requirements, open market operations and interest on reserves. Fiscal policy tools include taxes and government spending. Friedman conducted research on the policy implications of using monetary tools.

The discount rate represents the amount of interest the United States Federal Reserve banks charge commercial banks for short-term loans. The discount rate influences the interest rates charged by commercial banks and other financial institutions. A lower discount rate results in an expansionary liquidity because increased borrowing by businesses and households becomes less expensive and more attractive. Conversely, a higher discount rate is contractionary because borrowing by businesses and households is more expensive and less attractive.

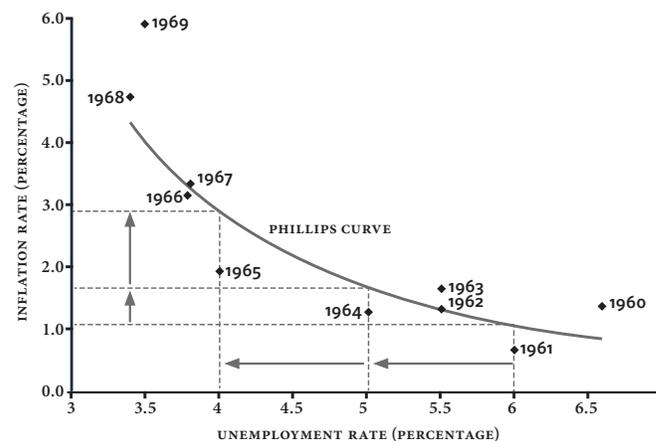
Banks are required to observe reserve requirements which dictate the amount of money that must be held on deposit to protect against loan defaults. If the Federal Reserve reduces the reserve requirement the results are expansionary because the amount of a bank's deposits that can be loaned to businesses and households increases. Conversely, the implementation of higher reserve requirements is contractionary as the result is a reduction of money available for lending to businesses and households.

Open market operations take place when the Federal Reserve purchases and sells United States Government securities, commonly known as bonds, notes and bills, depending on their term to maturity. The purchase of the securities increases the monetary supply within the economy; thus, the purchases are expansionary as the result is increased bank reserves available to be loaned to businesses and households.

Conversely, if the Federal Reserve sells the securities, it had previously purchased the result is a contractionary move to decrease the money supply by reducing loanable bank reserves limiting the businesses and households' access to borrow funds.

Monetarists are quite concerned that an event causing inflation results in a deteriorating economy. Friedman, as perhaps the leading monetarist of his time, insisted that the monetary growth rate and, ultimately, its supply influences potential inflationary outcomes. A rise in wages results in consumers being willing to pay higher prices for goods and services. The incremental increase in money chasing after goods and services results in inflationary prices. This rise in wages may be either higher pay or higher levels of employment. Alban William Housego Phillips was a New Zealand economist and a professor of economics at the London School of Economics and Political Science. He studied the relationship between employment levels and wages. Phillips (1958) model, known as the Phillips curve, described, in "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957," the inverse relationship between inflation and the unemployment rate and presented his findings to the economics profession. The inverse relationship found that high unemployment was paired with slowly increasing wages and low unemployment was paired with rapidly increasing wages. His reasoning was that in a tight labor market, employers were required to raise wages to attract scarce workers. Higher wages were not required when unemployment rates were high. Thus, the potential for wage inflation existed at higher employment levels. An example of a Phillips curve is provided in the figure immediately following the paragraph.

The Phillips Curve, 1961–1969^{1,2}



¹Note: Inflation based on the Consumer Price Index.

²Source: United States Bureau of Labor Statistics.

Friedman and Edmund Strother Phelps each independently conducted scholarly research that challenged the theoretical foundation of the Phillips curve. Phelps (Economic Sciences Laureate, 2006) earned his Ph.D. at Yale University (1959) and was employed on the staff at the Cowles Foundation (1960-1966). He held a professorship at the University of Pennsylvania (1966-1971) and subsequently joined the faculty at Columbia University (1971). Friedman and Phelps recognized that labor markets include a certain amount of unavoidable unemployment. This level of unavoidable unemployment is a composite of both frictional and structural unemployment. Frictional unemployment considers workers in the process of changing jobs whereas structural unemployment accounts for workers who lose their positions due to industrial reorganization or demographic migration rather than supply and demand changes. Their critique of the Phillips curve was that real (inflation adjusted) wages, not nominal (non-inflation adjusted) wages, should be the focus of study. Labor availability (supply) would equal labor requirements (demand) based on the adjustment of real wages. The resultant unemployment rate at the intersection of the supply and demand curves

would be unique for that specific real wage. This unemployment rate was labeled the “natural rate” of unemployment. The “natural rate” of unemployment may be influenced by exogenous factors such as a recession which would increase the rate. The rate is also influenced by institutional factors, e.g., minimum wage laws and unionization, which tend to result in a long-term wage rate increase.

Friedman and Phelps believed the government policy of accepting higher inflation for lower unemployment was not sustainable. With a focus on real wages, workers’ expectations were that cost-of-living adjustments to enable them to maintain the level of their purchasing power would be necessary to offset inflationary increases. When the government uses expansionary monetary or fiscal policies to drive the unemployment rate below the “natural rate,” the increased demand for goods and services will influence producers to raise prices faster than the anticipated inflation rate. Producers will increase their employment levels; unemployment decreases and over time workers demand pay increases to maintain their purchasing power as it decreases because goods prices rise. The real wage rate is adjusted to its previous level and unemployment increases to its “natural rate.”

Friedman and Phelps noted that the relationship between the inflation and unemployment rates was not maintained when examining the short-term and long-term experiences. Government monetary and fiscal policy actions to reduce the unemployment rate below its “natural rate” will be unsuccessful as enduring inflation rates shift the unemployment rate. Economists generally agree that substantial aggregate demand increases during a period of time when the economy operated below full capacity. This condition will lead to a lower unemployment rate and a higher inflation rate. Fundamentally, Friedman, as a monetarist, posited that the Phillips curve can explain the inverse relationship between unemployment and inflation in the short-term. However, the resultant inflationary pressure ends the relationship over the long-term. Contrarily, Keynesians view that the relationship can be maintained over the long-term. Friedman’s position was confirmed during the 1970s when the United States experienced an extended period of stagflation that exhibited high inflation, high unemployment and stagnant demand. More recent empirical scholarship by Mulligan (2011) has demonstrated that inflation tends to increase unemployment, even in the short run.

Although most economists accepted the view of Friedman and Phelps that a specific unemployment rate would be appropriate for a stable inflation rate, the term “natural rate” seemed to suggest that it connotated a socially optimal, unchanging level unaffected by government policy. As Hoover has reported, economists have developed the term “nonaccelerating inflation rate of unemployment” known as NAIRU to describe the relationship between the unemployment and inflation rates. NAIRU can be a changing rate neither observable nor quantifiable. It is inferred using various statistical measures. The United States Congressional Budget Office estimates NAIRU based on historical data on unemployment rates and inflation rate changes. The United States Federal Reserve staff estimates NAIRU using similar methods. However, the Board of Governors and presidents of the Federal Reserve Banks may develop their own estimates. These potential disagreements are debated as public policy is developed.

Friedman developed what has become known as the Friedman test. He presents his work (1937, 1939, 1940) describing the nonparametric statistical test used to detect differences in treatments across multiple test attempts. Friedman devised a procedure that ranks each row (block) together prior to considering the values of the ranks by columns. The Friedman test is a special case of the Durbin test. Whereas the Durbin test applies to incomplete designs, the Friedman test is applicable to complete block designs. In the Friedman test, the null hypothesis being tested is that there are no differences between the variables. The null hypothesis is rejected when the calculated probability is less than the selected significance level. The researcher can then conclude that at least two of the variables are significantly different from each other. The Friedman test is like the Kruskal-Wallis test which is a non-parametric ANOVA (analysis of variance) statistical test to determine if the samples originate from the same distribution. William Henry Kruskal (Ph.D. Columbia University, mathematical sciences, 1955) was an academician who served as president of both the Institute of Mathematical Statistics (1971) and the American Statistical Association (1982). Wilson Allen Wallis was an economist and statistician who served as dean of the University of Chicago Graduate School of Business (1956-1962) and president of the University of Rochester (1962-1970) prior to his appointment

as chancellor (1970-1982) and chief executive (1970-1975). Wallis also served as an economic advisor from 1959 to 1989 to four United States presidents. Many statistical software packages include the Friedman test application.

Friedman collaborated with Leonard J. Savage (Ph.D., University of Michigan, 1941), a mathematician and statistician, to develop the Friedman-Savage utility function. An individual's wealth influences the person's utility function and risk tolerance. Friedman and Savage (1948) found that higher wealth corresponds to risk-prone behavior; a lack of wealth corresponds to risk-averse behavior. He also developed the Friedman rule which is a monetary policy that considers establishing the nominal interest rate at zero percent. He thought that the opportunity cost of holding money should be equal to the social cost of creating fiat money. Fiat money is government issued lacking the backing of a physical commodity, typically gold or silver. A country's central bank would establish a rate of deflation equal to the real interest rate on government bonds thus making the nominal interest rate equal to zero percent. Friedman (1969) reported that this action favors the holding of money (savings) because the value of money is not lessened during periods of inflation.

Friedman's view of corporate social responsibility inflames the passions of many people both supportive of and opposed to his opinion. He has argued that corporate executives are employed by the owners of the entity and serve as the shareholders' agents. Thus, executives are responsible to the owners and that responsibility entails increasing shareholder wealth measured by increased organizational profitability. The increased profitability permits the corporation to declare dividends that pass money to the owners. The owners can then decide how to spend their newly acquired money. In an article written by Friedman (1970) for *The New York Times Magazine*, Friedman refers to his position in his (1962) book, *Capitalism and Freedom*. He identified the doctrine of social responsibility as a "fundamentally subversive doctrine" in a free society. He added, "there is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud."

Friedman served in various capacities as an advisor to national governments or as a proponent of what he thought about the form of their economic systems. Beginning in the 1950s, he was invited often to speak to audiences and his influence grew in the conservative community. The Institute of Economic Affairs (IEA) hosted many of his lectures. The IEA was founded in 1955 and devotes its energies to promoting the free market. He met with Margaret Thatcher during his visit to England in 1978 prior to her election as Prime Minister in 1979.

Friedman visited the People's Republic of China initially in 1980 and subsequently in 1988 and 1993 to discuss economic development. The official Chinese government invitation in 1979 for his visit was to hold discussions about inflation as China was beginning to relax price controls transitioning away from fixed prices. Friedman delivered four lectures during this visit. In 1988, he lectured to 400 students at Fudan University in Shanghai and received an honorary professorship during his second visit to China. Zhao Ziyang (Premier (1980-1987) and General Secretary (1987-1989) of the Chinese Communist Party) requested a meeting and the discussion revolved around the issues of a centrally planned economy and a free market. Friedman was invited for his third visit during October 1993. Gewirtz (2017) reported that Friedman participated in official government meetings with Jiang Zemin (General Secretary (1989-2002) of the Communist Party and President (1993-2003)). Friedman was invited to visit Iceland during 1984 and deliver a lecture at the University of Iceland. During his visit, he participated in a debate with three intellectuals who were known for expressing their left-of-center political views. One of the intellectuals was Ólafur Ragnar Grímsson who was elected president of the country for a four-year term beginning in 1996 and re-elected multiple times serving through 2016.

Of all Friedman's involvement with foreign countries, none have resulted in the heated controversy that surrounds his activities regarding his Chilean experience. He visited Chile during March 1975 to lecture and meet Augusto José Ramón Pinochet Ugarte. Pinochet was a career military officer appointed as the commander-in-chief of the Chilean Army by President Salvador Guillermo Allende Gossens. Pinochet

served in that role for a period of eighteen days before leading the *coup d'état* to oust President Allende. Allende was a Marxist activist elected as a socialist in 1970. The coup occurred on September 11, 1973, and, on that date, during an attack on the Presidential Palace, Allende died. The rebels claimed he committed suicide; his supporters claimed he was killed, and his death was made to look like a suicide. Pinochet, serving as head of the military junta, received international condemnation for his harsh tactics to suppress dissent.³

Friedman was the focus of controversy for his involvement with Chile. He did write a letter, dated April 21, 1975, to Pinochet after his visit advising him to administer policies to cure the inflation in the economy which he indicated would be part of a “shock treatment” including reducing the rate of increase of the quantity of money (Friedman and Friedman, 1998). The advice was implemented by a number of Chilean economists, known as the “Chicago Boys,” who studied at the University of Chicago during the 1950s and 1960s. The implemented policy included severe public spending reductions, privatization of former state-owned businesses, elimination of wage and price controls and the deregulation of the financial markets as well as international commerce. In addition to his 1975 visit, he returned to Chile during November 1981. He coined the term “Miracle of Chile” to describe the Chilean economy’s transition during the 1980s under the dictatorship of Pinochet. According to Caldwell (undated), Friedman claimed he was not an advisor to Pinochet, that his involvement was in the form of lectures and seminars he delivered on inflation.

Friedman’s supporters argued that due to his advice, inflation in Chile decreased and the living standard increased. His detractors argued that the severe internal oppression was too high a price to pay for the improving economy. Myrdal (Economic Sciences Laureate, 1974), upon learning that the economic sciences prize was awarded to Friedman, challenged the concept of the prize. Although his remarks did not specifically indicate the appropriateness of the award in the case of Friedman, his letter to the *Dagens Nyheter* (a Swedish newspaper) called for the termination of the economic sciences prize. He argued that economics is a soft science influenced by political and social values. Silk (1977) wrote that Myrdal stated that he should have declined the award he received in 1974. Four Nobel laureates, David Baltimore (Nobel Laureate, Physiology or Medicine, 1975), Salvador Luria (Nobel Laureate, Physiology or Medicine, 1969), Linus Pauling (Nobel Laureate, Chemistry, 1954) and George Ward (Nobel Laureate, Physiology or Medicine, 1967) registered their disapproval (Baltimore and Luria, 1976 and Wald and Pauling, 1976) for Friedman’s award specifically due to his involvement in Chile in letters to *The New York Times*. Friedman (1977) responded to their objections in *The New York Times*.

In summary, Friedman influenced economic theory and government policy. His achievements were recognized by various organizations. A selected list of his honors and recognition is provided at Appendix A. Friedman was a prolific and influential author who, in addition to his scholarly output, attempted to educate the public with his articles in *The Wall Street Journal* and *Newsweek Magazine* as well as numerous op-ed pieces in newspapers. Together with his wife Rose, Friedman produced *Free to Choose*, a ten-part public television series on economics with a companion book, broadcast on the Public Broadcasting Service (PBS) in 1980. In some ways *Free to Choose* was inspired as a response to John Kenneth Galbraith’s (Ph.D., University of California at Berkeley, 1934) 1977 series *The Age of Uncertainty*. More than 1,500 digital items of Friedman’s writing and writing about him can be found at The Collected Works of Milton Friedman website at the Hoover Institution Archives (<https://miltonfriedman.hoover.org/collections>). The National Bureau of Economic Research website (https://www.nber.org/people/milton_friedman) also lists his writing while he was on staff at the organization. His publications are indexed by Google Scholar (<https://scholar.google.com/citations?user=DV6pTH0AAAAJ>). A selected list of his writing is presented at Appendix B.

NOTES

- 1 Photo: “File: Milton Friedman 1976.jpg,” from Wikimedia Commons.
- 2 Biography obtained, in part, from “Milton Friedman Biographical.”
- 3 Information reported in this paragraph was obtained by two entries, both undated, in *Encyclopaedia Britannica* attributable to Editors and updates by Amy Tikkanen.

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APPENDIX A

HONORS AND RECOGNITION

- Awarded (1951), John Bates Clark Medal
- Trustee (1966-68, 1970-73, 1976-79), Philadelphia Society
- Member (1969-1970), President's Commission on an All-Volunteer Armed Force.
- Member (1971-1973), President's Commission on White House Fellows
- Awarded (1976), Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel
- Member, (1981-1988), President's Economic Policy Advisory Board
- Awarded (1986), Grand Cordon of the First Class Order of the Sacred Treasure (Japanese government)
- Awarded (1988), (United States) National Medal of Science
- Awarded (1988), (United States) Presidential Medal of Freedom
- Awarded, Honorary degrees by universities in the United States, Japan, Israel, and Guatemala.
- President, American Economic Association
- President, Western Economic Association
- President (1970-1972) and Member, Mont Pèlerin Society
- Member, American Philosophical Society
- Fellow, Econometric Society
- Member, (United States) National Academy of Sciences
- Honored (2001), Biannual Milton Friedman Prize for Advancing Liberty, Cato Institute

APPENDIX B

SELECTED PUBLICATIONS

- Friedman, Milton (1937). "The Use of Ranks to Avoid the Assumption of Normality Implicit in the Analysis of Variance". *Journal of the American Statistical Association*. 32(200): 675–701.
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- Friedman, Milton (1983). *Bright Promises, Dismal Performance*. Thomas Horton and Daughters. [Consists mostly of reprints of tri-weekly columns written for Newsweek from 1966 to 1983.]
- Friedman, Milton and Rose D. Friedman (1984). *Tyranny of the Status Quo*. Harcourt Brace Jovanovich. [Complements a three-part TV series of the same name, shown over PBS in early 1984.]
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