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The Great Depression: Mises vs. Fisher

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Abstract Ludwig von Mises established the foundations of modern Austrian economics while Irving Fisher established the foundations of modern mainstream macroeconomics and central bank policy. Fisher helped create and was a proponent of mathematical economics, statistics and index numbers, and a monetary policy that "stabilized" the value of the dollar. Fisher claimed that his scientific approach established a new era of prosperity during the 1920s. Mises published a book in 1928 that critiqued Fisher's approach and predicted that it would lead to an economic crisis and collapse. Before the stock market crash in 1929 Fisher proclaimed a perpetual prosperity for the economy and continued to recommend investing in stocks long after the market had collapsed. In this important case study, Mises passed the "market test" while Fisher lost his personal fortune during an economic crisis that his economics help create.

Keywords Ludwig von Mises · Irving Fisher · Great Depression · Methodology

> True, governments can reduce the rate of interest in the short run. They can issue additional paper money. They can open the way to credit expansion by the banks. They can thus create an artificial boom and the appearance of prosperity. But such a boom is bound to collapse soon or late and to bring about a depression.
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> Ludwig von Mises, *Omnipotent Government*, p. 251

The Living Legacy of Mises?

Trained in the tradition of the Austrian School, Ludwig von Mises was the first modern monetary theorist. Writing in 1912, he was able to solve the classical

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dichotomy between microeconomics and monetary-macroeconomics and to answer the question: How does money get its purchasing power, or rather, how is the purchasing power of money determined? (Mises 1981). His important and famous solution was the regression theorem, in which Mises posited that (a) the value of money today was based on its purchasing power yesterday and that (b) this causal chain of reasoning goes back to the point in time when money did not exist, and to that point just prior to a particular commodity going into use as a medium of exchange. Thus, not only did Mises solve the classical dichotomy, he also made an important contribution concerning the nature of money: whatever money is, it must first serve as a commodity demanded in the marketplace.

Of course, Mises went on to make many more contributions to economic theory and analysis. Particularly noteworthy are his contributions to the socialist calculation debate, business cycle theory, the nature of economics within the social sciences, and the relationship between economic theory and economic history. His contributions to the socialist calculation debate are particularly noteworthy because Mises has been credited with both starting and winning the debate over a dominating chorus of opponents. For nearly 70 years Mises's theory was ridiculed—with nearly the entire economics profession believing that it was socialism that would eventually be triumphant. And then, to almost everyone's surprise the Berlin Wall fell, the Soviet Union disintegrated, and Red China converted to capitalism and now is in the process of buying up the rest of the world. Although he himself would scoff at this proposition: real-world events have proved that Mises was right.[1]

Mises's other contributions have not yet been so fortunate. His proof of the microeconomic foundations for the determination of the purchasing power of money— the regression theorem—has not been accepted by the mainstream economics profession, except in the very limited sense that they accept the notion that the value of money must have some microeconomic basis, but not the particulars of Mises's approach and certainly not his conclusion that money has a foundation as a commodity good and cannot be created *de novo*.[2] Mises's "theoretical metallism" was, according to Schumpeter (1954, pp. 289–93), more popular prior to Mises's extension of the doctrine, than after.

Mises's contribution to business cycle theory, where he combined Wicksell's contributions with existing Austrian theory to produce the Austrian business cycle theory, was largely ignored by mainstream economics until the posthumous recognition associated with the granting of the Nobel Prize in economics to Mises's student, F. A. Hayek, for his elaboration of Mises's work. Finally, Mises's work on the nature of economic science and its relation to history is "positively" deplored by mainstream economists who stubbornly maintain their mantra to positivism.

The looming question is: how will history ultimately report on Mises's contributions? Will he be a one-hit wonder with the socialist calculation debate

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[1] See Lavoie (1981) for a review of the debate. Also see Salerno (1990) and Rothbard (1991) for a more precise explanation of Mises's contribution and the downfall of socialism.

[2] See Rothbard (2004) and Gertchev (2004) for more information on this subject. See also Hoover (2006) for a mainstream perspective on the microeconomics of macroeconomics. He declares that Mises's extreme apriorism "provides the underlying vision of modern microeconomics".

and be otherwise forgotten? Or will he be vindicated by his other contributions? Will mainstream economic analysis continue to be dominant? Or will it be seen one day in the future as a hopelessly ill-conceived and a painfully long detour away from sound economic analysis? The purpose here is to provide one insight, using a very important but mostly ignored example, that will give us some foresight on how that future will unfold.[3] This insight is based on an examination of how well economists such as Mises forecast the twentieth century's most important economic event—the Great Depression. We compare Mises's performance to that of Irving Fisher, the inventor of modern mainstream economics.[4] The results of this investigation are much more than of simple antiquarian interest. The investigation provides evidence regarding the validity of Mises's and Fisher's contributions to economics, and their contributions in turn represent the foundations of modern mainstream and Austrian economics, especially with respect to the nature of money and interest, monetary and business cycle theory, and the role of history in economic methodology. Representing nearly polar-opposite views, Fisher placed prediction at the heart of his science and yet had no foresight of the Great Depression, while Mises cast economic forecasting outside the realm of economic science and yet was able to predict the depression and accurately describe the pitfalls of Fisher's monetary system in 1928. As such, this comparison provides evidence for the merits of Mises's contributions and the likelihood of their ultimate triumph.

Irving Fisher: Prophet of Modern Economics

Irving Fisher was one of the first American mathematical economists and one of the most celebrated economists of the twentieth century. Fisher is considered a pioneer in virtually every aspect of modern mainstream economics and is considered the greatest American economist of all time. As Formaini (2005, pp. 1, 2) concluded:

> Modern economics was going through tremendous changes during Fisher's college years, and he helped lead it in the direction that produced its current reliance on mathematics, general equilibrium analysis and aggregate data sets for the calculation of various price indexes. In this transformative undertaking, he should be ranked along with Leon Walras, Stanley Jevons and Francis Edgeworth. . . . His theoretical work touches on almost every major macroeconomic issue and is still regularly consulted and cited, not only by historians of economic thought, but also by practicing economists. That, in itself, sets him apart from most of his contemporaries.

While most economists from America's Progressive Era continue to fade in importance over time, Fisher has gained in importance as an original thinker in

[3] For a more general coverage of who predicted the Great Depression see Skousen (1993).

[4] Tobin (1985, 1987) for example shows the wide-ranging impact of Fisher on modern economics.

virtually all the major tenets of modern mainstream economics, particularly macroeconomics and monetary policy.[5]

In 1891, Fisher wrote the first dissertation in economics at Yale University, Mathematical Investigations in the Theory of Value and Prices (1892). It was directed in part by members of the Yale mathematics faculty and became a true landmark in the development of mathematical economics. The use of mathematics in economics spread in the first half of the twentieth century and came to dominate the economics profession in the second half of the century. It now enjoys near complete supremacy in graduate programs and in the leading academic journals devoted to economics. Likewise, the general equilibrium theorizing from his dissertation has also become the stock in trade of mainstream economics.

Fisher (1913) also changed how the economics profession viewed the quantity theory of money. He converted the classical view of the quantity theory from a *theory* into a *mechanism* that could (and should) be manipulated in order to stabilize the value of money. He presented his views in *The Purchasing Power of Money*, where he introduced the concept of a "compensated dollar." He wanted to change our notion of the dollar from one of a coin with a constant weight of gold to one of a currency that had constant purchasing power. Fisher is therefore credited with forming the foundations of monetarism and the monetary policy rules used today by central bankers.[6]

Fisher's development of index numbers as a method of measuring the purchasing power of the dollar is also a landmark in the history of modern economic orthodoxy. His policy of price-level stabilization requires the central bank's monetary policy to target and stabilize a price index. Fisher (1927) was one of the first to define and calculate index numbers and he even began to publish a weekly wholesale price index in the early 1920s. His foundational work *The Making of Index Numbers* showed the basis of how central bankers could conduct and review monetary policy. Modern mainstream economists today would view any other approach to monetary policy as unscientific and they are in agreement with Fisher that price-level inflation and deflation are inherently bad things, and that the value of the dollar (as measured by price indexes) should be stabilized like physical measurements such as the meter or kilogram. Fisher (1925) can also be credited with one of the first attempts to dismiss the business cycle as an independent economic concept.[7] He even discovered what was to become the famous Phillips curve (which depicts an inverse relationship between inflation and unemployment) decades prior to A. W. Phillips.[8] In this light, modern macroeconomics can be seen as nothing but a thick layer of dust on the foundations laid by Fisher.

[5] Tobin (1987, p. 370) shows that citations to Fisher's work have been increasing relative to other important Progressive Era economists.

[6] On the connection between Fisher and Friedman (who declared Fisher "the greatest economist of the twentieth century") see Rothbard (2002a).

[7] See Fisher (1925) where he attempts to empirically show that it is the instability of the purchasing power of the dollar that is the problem, not the business cycle *per se*. Mainstream economists also dismiss the idea of the business cycle and that it is really just "shocks" and "real factors" that cause changes in the economy. See for example Milton Friedman's (1993) plucking model.

[8] Fisher's (1976) paper was reprinted by the *Journal of Political Economy* in 1976.

In addition to all this academic success, Fisher was a successful inventor and entrepreneur, writer, multimillionaire, and notable public figure. However, he was not without his problems. He had severe health problems early in his adult life and devoted several years to developing healthy living styles and new-age diets. He was the leading academic proponent of alcohol prohibition—writing three books in its support—only to see it repealed as a failed "experiment." He was a proponent of eugenics, but social engineering via genetics fell into disrepute after the actions of the Nazis.[9] Fisher also had severe financial setbacks during the Great Depression and had to be supported by family members at the end of his life.

Fisher's Great Depression

In the aftermath of the destruction of World War I, central banks had been established across the globe, and the U.S. had become an economic and military world power. America during the Progressive Era gave women the right to vote, established a federal income tax, and prohibited alcohol consumption across the nation. However, with the world at peace and a series of tax cuts in place, the U.S. had a prosperous if not stable economy during the 1920s.[10]

The 1920s saw technological revolution as important as the world has ever experienced. This was the decade when the airplane and automobile went into mass production. In communication, it was the onset of mass availability of the telephone and radio. Motion pictures were invented, along with electric household appliances such as the electric toaster and refrigerator. The use of petroleum products and electricity increased dramatically while the use of manual power decreased. Assembly-line production became ubiquitous and was seen as the key to industrial progress.[11]

This decade of economic boom and stock market bubble is often referred to as the Roaring Twenties. Rothbard (1983) has persuasively shown that the principal cause of the boom and bubble was the Federal Reserve management of the nation's money and banking systems. The nation, and indeed the world, had been fundamentally changed during the Progressive Era and the world economy no longer functioned automatically according to market discipline. Central banks could now engineer unnatural swings in money supplies, interest rates, and foreign exchange rates.[12] Therefore the best explanation of the Great Depression is that Federal Reserve policy led first to overly optimistic capital investments and then to the inevitable correction via the bust in the stock market and unemployment in the economy.[13] The length of the Great Depression is attributed not to the initial cause, but to subsequent

[9] On the place of eugenics in economics see Leonard (2005a, 2005b, 2005c).

[10] For more on the impact of the tax cuts see Ekelund and Thornton (1986).

[11] See Parrish (1994) for a description of the important changes in the economy during this period.

[12] Rothbard (2002b, parts 3 & 4) shows how money and banking were changed, and why.

[13] Rothbard (1983). Interestingly, economist Steve Liesman described on CNBC (November 16, 2006) Rothbard's explanation for the Great Depression when supposedly describing Milton Friedman's contribution on the cause of the Great Depression.

government policies that were used to counter the symptoms of depression—policies that instead stymied the readjustment process.

Progressives such as Irving Fisher were the vanguard of this "new era" of the 1920s, proclaiming it to be nothing less than the early stages of a real-world utopia. Fisher was an enthusiastic supporter of Herbert Hoover and believed that the great economic prosperity of the 1920s was attributable to alcohol prohibition and, more importantly, the "scientific" stabilization of the dollar that had been undertaken by the Federal Reserve. In his view, this new technocracy would employ price indexes to measure the value of the dollar, and Federal Reserve policies would maintain a stable dollar. Using this approach Fisher believed that business cycles would be a thing of the past and so was completely blindsided by the Great Depression.

Not only did Fisher fail to predict the crash and depression, his predictions were consistently wrong and completely at odds with the course of actual events. Just two days after reaching the peak of the bull market of the 1920s Fisher reassured investors that he foresaw no problem in the stock market:

> There may be a recession in stock prices, but not anything in the nature of a crash. Dividend returns on stocks are moving higher. This is not due to receding prices for stocks, and will not be hastened by any anticipated crash, the possibility of which I fail to see. (Fisher 1929a)

In addition to alcohol prohibition and a "stable" monetary policy, Fisher placed a great deal of emphasis on the role of investment trusts. According to Fisher the market for stocks would remain buoyant because the small investor could now hold a diverse number of stocks that were professionally managed by purchasing shares of the investment trust companies (which were similar to today's mutual funds). He thought that it was the trusts that brought more money into the stock market and that the trusts would allow investors to remain invested during bear markets.

> A few years ago people were as much afraid of common stocks as they were of a red-hot poker. In the popular mind there was a tremendous risk in common stocks. Why? Mainly because the average investor could afford to invest in only one common stock. Today he obtains wide and well managed diversification of stock holding by purchasing shares in good investment trusts. (Fisher 1929a)

Even after stocks started to fall in value, Fisher (1929b) stated on October 15th that stocks had reached a "permanently high plateau," and that he expected "to see the stock market a good deal higher than it is today within a few months" and that in any case he did "not feel that there will soon, if ever, be a 50 or 60 point break below present levels." On October 22 Fisher (1929c) was quoted as saying that he believed "the breaks of the last few days have driven stocks down to hard rock. I believe that we will have a ragged market for a few weeks and then the beginning of a mild bull movement that will gain momentum next year." On October 24 Fisher (1929d) was quoted as saying that if "it is true that 15 billion in stock quotation losses have been suffered in the present break I have no hesitation in saying values are too low." And yet once again, the next day the *New York Times* reported the "Worst Stock Crash" with nearly 13 million shares swamping the market.

Less than a week later, on October 28th and 29th, the Dow Jones Industrial Average (DJIA) plummeted, with almost a 70 point "break" and a 2 day loss of almost 25%. The stock market lost one-third of its value during October 1929, and on November 3rd Fisher (1929e) was quoted as saying that stock prices were "absurdly low." However, stocks had much further to fall, and in the 2 years following his predictions the DJIA lost almost 90% of its peak value and the market value of the leading investment trusts lost 95% of their market value. Not until the modern-day pundits of the technology stock bubble of the late 1990s was such a dismal record of predicting stock markets replicated. The stock market crash signaled the beginning of the Great Depression, the longest and most severe economic decline in modern history.

Well after the fact, Irving Fisher (1932, p. 75) identified what a "New Era" really was. In trying to identify the cause of the stock market crash and depression he found most explanations lacking. What he did find was that such new eras occurred when significant technological improvement resulted in higher productivity, lower costs, more profits, and higher stock prices: "In such a period, the commodity market and the stock market are apt to diverge; commodity prices falling by reason of the lowered cost, and stock prices rising by reason of the increased profits. In a word, this was an exceptional period—really a 'New Era'." The key development of the 1920s was that monetary inflation did not show up in price inflation as measured by price indexes, or as Fisher (1932, p. 74) noted: "One warning, however, failed to put in an appearance—the commodity price level did not rise." He suggested that price inflation would have normally kept economic excesses in check, but that price indexes have "theoretical imperfections."

> During and after the World War, it (wholesale commodity price level) responded very exactly to both inflation and deflation. If it did not do so during the inflationary period from 1923–29, this was partly because trade had grown with the inflation, and partly because technological improvements had reduced the cost, so that many producers were able to get higher profits without charging higher prices. (Fisher 1932, p. 75)

Fisher had stumbled near a correct understanding of the problem of new-era thinking. Technology can drive down costs, increase profits, and create periods of economic euphoria. What he would not understand is that artificial monetary inflation is what prevents true economic signals (i.e., market prices and interest rates) and the rational economic calculation that they provide. Fisher's so-called scientific approach of using price indexes to manage the economy and the money supply was what actually caused the biggest economic policy mistake in history.

Naturally this insight could not penetrate Fisher's ego because he had recommended those monetary injections to prevent any decrease in the price level, and he never lost faith in scientific management of the economy or his devotion to the idea of a stable dollar. Fisher's detailed analysis and painstaking investigations of the crash also did little to improve his economic forecasting.

> As this book goes to press [September 1932] recovery seems to be in sight. In the course of about two months, stocks have nearly doubled in price and commodities have risen 5 1/2. European stock prices were the first to rise, and

European buyers were among the first to make themselves felt in the American market. (Fisher 1932, p. 157)

Fisher (1932, p. 158) attributed this "success" to inflationary measures undertaken by the Fed that were of deliberate "human effort more than a mere pendulum reaction." Unfortunately, not only was his prediction wrong—the world was only at the end of the beginning of the Great Depression—the "human effort" that he thought was the tonic of recovery was actually the toxin of lingering depression.

Fisher scoffed at the "mere pendulum reaction" of the market economy that actually can correct for the excesses in the economy by liquidating capital and credit—a concept that he clearly opposed. However, the facts suggest otherwise. In previous depressions the market economy liquidated the malinvestments of the boom, leading the economy quickly back to prosperity. During the Great Depression, the Fed cut the discount rate from 6% to 1.5% and Federal Reserve credit outstanding almost doubled between 1929 and 1932, but their efforts were the equivalent of blowing air into a broken balloon: money pumping at the Fed could only prolong and worsen the problem that they created during the 1920s.[14] Looking backward into history, Milton Friedman (a disciple of Fisher's economic views) actually condemned the Fed for not doing enough (i.e., monetary inflation) in the early phase of the Great Depression. Likewise Friedman (1997) joined Paul Krugman in condemning the Bank of Japan for not increasing the money supply enough in their attempt to drive Japan out of its economic malaise during the 1990s despite the Bank's zero interest rate policy.

Mises on the Money

Was the Great Depression predictable? Was it preventable? The failure of the market economy to correct itself in the wake of the Great Crash is the most pivotal development in modern economic history, and its impact has continued to shape mass ideology, economic policy, and the structure of economic institutions. Unfortunately, very few saw the development of the stock market bubble or its cause, or predicted the bust and the resulting depression.

In Austria, economist Ludwig von Mises saw the problem developing in its early stages and predicted to his colleagues in 1924 that the large Austrian bank, Credit Anstalt, would eventually crash. More importantly, he wrote a full analysis of Irving Fisher's monetary views, first published in 1928, where he (1978, p. 93) targeted Fisher's reliance on price indexes as a key vulnerability that would bring about the Great Depression, concluding: "because of the imperfection of the index number, these calculations would necessarily lead in time to errors of very considerable proportions."

Mises (1978, p. 95) found that Fisher's attempt to stabilize purchasing power was riddled with inherent technical difficulties and was incapable of achieving its goals. "In regard to the role of money as a standard of deferred payments, the verdict must be that, for long-term contracts, Fisher's scheme is inadequate. For short-term commitments, it is both inadequate and superfluous." He then demonstrated how

[14] Friedman and Schwartz (1963, p. 197) show that the money stock increased under the Federal Reserve from less than $20 billion in 1914 to over $60 billion in 1929.

Fisher-type monetary reforms do not cause stabilization and are actually the cause of booms and the inevitable busts that result in crisis and stagnation. He attributed the popularity of Fisher's reforms and the resulting business cycle to political influence and bad ideology:

> The fact that each crisis, with its unpleasant consequences, is followed once more by a new "boom," which must eventually expend itself as another crisis, is due only to the circumstances that the ideology which dominates all influential groups—political economists, politicians, statesmen, the press and the business world—not only sanctions, but also demands, the expansion of circulation credit. (Mises 1928, p. 143)

In addition to demonstrating the inevitability of the crisis, he clearly identified its cause, where most others could not. The cause was not the rise in interest rates that accompanies the crisis, but rather the artificially low rates that caused the economic boom in the first place:

> It is clear that the crisis must come sooner or later. It is also clear that the crisis must always be caused, primarily and directly, by the change in the conduct of the banks. If we speak of error on the part of the banks, however, we must point to the wrong they do in encouraging the upswing. The fault lies, not with the policy of raising the interest rate, but only with the fact that it was raised too late. (Mises 1928, p. 147)

He showed that the central bank's attempt to keep interest rates artificially low and to maintain the boom only makes the crisis worse. Despite the tremendous odds against the adoption of his solution, Mises ends his analysis with a prescription for preventing future cycles.[15]

> The only way to do away with, or even to alleviate, the periodic return of the trade cycle—with its denouement, the crisis—is to reject the fallacy that prosperity can be produced by using banking procedures to make credit cheap. (Mises 1928, p. 171)

In addition to Mises, his student F. A. Hayek published several articles in early 1929 in which he predicted the collapse of the American boom. Felix Somary, who like Mises was a student at the University of Vienna, issued several dire warnings in the late 1920s, and in America economists Benjamin Anderson and E. C. Harwood also warned that the Federal Reserve policies would cause a crisis, and like Somary, they were largely ignored (Skousen 1991, pp. 104–06).

The Market Test

This case study clearly shows that Fisher failed to predict the Great Depression, made public predictions on investments that lost almost their entire value, and indeed helped create the mechanism that caused the Great Depression. Mises did

[15] For a further explanation of the Austrian business cycle theory and its application to the Great Depression see Rothbard (1963).

predict the Great Depression and provided a clear diagnosis of why it would happen and how it could have been avoided. The result is a clear indictment of Irving Fisher and the neoclassical macroeconomics and monetarism that he created. His approach failed and continues to fail. These same results can be seen in the cases of the great inflation (i.e., "stagflation") of the 1970s, the Japanese bubble of the 1980s, the technology bubble of the late 1990s and the current housing bubble. Austrians have correctly predicted these critical bubble/depressions while the neoclassical mainstream economists have not.[16]

The motto of the Econometrics Society is "science is prediction." The primary tenet of modern mainstream economics is that economics is an empirical science and that economic theory is an empirical construction. Positivism is the hallmark of modern economics, and the goal of mainstream economics is to be able to predict the future. Therefore the quality of economic analysis is judged not by the realism of assumptions or the quality of theories and models, but by the quality of your empirical results and forecasts. As such, it is a very pragmatic approach in that it disregards realism in favor of results. The hope of the mainstream approach is that over time they will learn how to predict the future and this, in the words of Irving Fisher (1906, p. 261), will allow us to "tamper with economic conditions." The evidence presented here clearly suggests that Fisher and the mainstream have not passed their own "market test" and that Mises and the Austrians have passed the mainstream test.[17] We can now see that Fisher's economic contributions actually bear some responsibility for the Great Depression.[18]

Finally, to more clearly draw the lines of battle it should be recognized that Fisher (1906, p. 257) explicitly denounced the Austrian *a priori* method and all "those who maintain that economics is not and never can be a true science (and who) base their contention on the fact that social phenomena are not constant." He went on to declare the end of *laissez-faire* economics and to endorse the entire gambit of government intervention based on his so-called scientific approach. Fisher was as unguarded in his optimism as he was arrogant in his abilities when he advocated the supremacy of technocracy:

> The world consists of two classes—the educated and the ignorant—and it is essential for progress that the former should be allowed to dominate the latter. But once we admit that it is proper for the instructed classes to give tuition to the uninstructed, we begin to see an almost boundless vista for possible human betterment. (Fisher 1907, p. 20)

I would imagine that in Fisher's worldview there would also be compulsory school attendance laws.

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[16] See Thornton (2004a, 2004b, 2004c, 2004d, 2006) for a recap of how well economists predicted these important economic events.

[17] For an in-depth analysis of the role of realism and abstraction in economics that contrasts the methods of Mises and Friedman see Long (2006).

[18] In addition to providing the theoretical building blocks for creating business cycles, Fisher (1956, p. 230; biography by his son, Irving N.) reported that in a conversation with Mussolini that "I am spending $15,000 to $20,000 a year on propaganda for stable money." The chapters in this biography on business cycles and fighting the depression are particularly revealing, not of economic insight, but in how badly Fisher had failed, as a blind man sifting unfamiliar evidence for a cure for his blindness.

Irving Fisher created the neoclassical economics that is embodied in modern mainstream economics. This approach enshrines a nonrealistic approach to economic theory and practitioners are often advocates of interventionist economic and social policies. Mises and the Austrian School take a realistic, value-free approach to economic theory and are champions of *laissez-faire* economic policy. As we have seen in the case of the Great Depression, Mises beat the mainstream at its own game. From this very clear perspective I believe that we can have great hope that Mises's contributions to economic science will one day be recognized for their correctness and usefulness as the guideposts of rational economic policy.

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