

Economic Insights

FEDERAL RESERVE BANK OF DALLAS VOLUME 9, NUMBER 1

Knut Wicksell

The Birth of Modern Monetary Policy

For many years, the Federal Reserve has used influence on short-term interest rates to contain inflationary pressure in the American economy and promote growth and employment. The genesis of this approach and its theoretical foundation both lie in the work of Knut Wicksell, one of the 20th century's more colorful and eclectic economists.

Wicksell was a free thinker, a lifelong socialist, a mentor to several justifiably famous Swedish economists who followed him, and one of the most influential economists of his time. His ongoing exchanges over the role of money in generating changes in prices—a dispute in which he and American economist Irving Fisher were the central players—predated the mid-20th century clash between Keynesian and monetarist views of business cycles and correct price stabilization policy.

For those interested in the early work done on the quantity theory of money, the relationship between interest rates, money, prices and real factors, and the ways in which they might affect the macro economy, we offer you this issue of Economic Insights.

—**Bob McTeer**
President
Federal Reserve Bank of Dallas

Johan Gustav Knut Wicksell was born in 1851 in Stockholm. His mother died when he was 6, and his father, a moderately successful businessman and real estate investor, died when Knut was 15. His father's estate provided sufficient funds for him to enroll at the University of Uppsala in 1869, where he studied mathematics and physics. Within two years, he had taken his first degree and gone on to graduate work. He passed two of the three required examinations for a doctorate in mathematics in 1875 but waited until 1885 to finish the third. By then, Wicksell had become a well-known social critic and lecturer, and his interests had changed to the social sciences, and to economics in particular.

Early in his life, Wicksell had studied the Bible at great length and even contemplated a religious calling. But as he read social science tracts in college, including George Drysdale's influential *The Elements of Social Science*, his calling as a social scientist became clear. His interests turned to controversial topics such as human sexuality and birth control, discussed at length in Drysdale's essentially Malthusian tome.¹

In 1880, Wicksell gave his first public address on such a topic at Uppsala. The lecture was titled "The Most Common Causes of Habitual Drunkenness and How to Remove Them." At the time, the ideas Wicksell expressed in this lecture about the relationship between worker alienation, poverty, and the social ills of alcohol and prostitution were considered radical, even socialist. The controversial nature of this and subsequent lectures



Knut Wicksell

Lund University, Lund, Sweden

resulted in much publicity for Wicksell, who used his notoriety to earn a meager living by speaking publicly, then writing his speeches for publication.

In 1885, funded by the sale of some family-owned properties, Wicksell was able to spend a year in London reading the major works of the classical economists. During his stay, a small, obscure foundation—the Victor Lorén Foundation—awarded him a three-year grant to study economics in Germany and Austria. Although the Lorén will was contested, it was settled in Wicksell's favor in 1887, and he received the promised funds. Had it not been for this grant, Wicksell might well not have become an economist.

In Vienna, Wicksell heard lectures by Austrian economist Carl Menger. He also attended lectures at the Univer-

Is Money a Commodity?

In passing, there is a point to be noticed. The growth in the use of money, and the increase in monetary stocks, tends more and more to reduce the significance of the commodity characteristics of money. On the other hand, the development of the monetary system results in a displacement of specie by credit instruments and so-called money substitutes, and there exists, therefore, an important tendency towards a strengthening of the commodity aspect of money and of its influence on prices.

It is sometimes said to be feasible to base a monetary system upon gold and yet to dispense entirely, or almost entirely, with the employment of gold both in circulation and in the banks' reserves. This would be done by extending the use of cheques, by the issue of notes of which the cover is of a purely banking nature, and so on. This view, which is held by some of the most prominent writers on monetary questions, must be regarded as utopian. In such a system the value of money would be directly exposed to the effects of every fortuitous incident on the side of the production of the precious metal and every caprice on the side of its consumption. It would undergo the same violent fluctuations as do the values of most other commodities.

But it would be quite possible to maintain a stable value of money without the use of reserves of a precious metal. Only it would be necessary for the metal to cease to serve as a standard of value. ■

— Interest and Prices, 34–35;
original emphasis

sities of Strassburg, Berlin and Paris. He then returned to Sweden, but his radical reputation prevented him from getting a position at the University of Stockholm.

In the summer of 1887, Wicksell took a common-law wife, Anna Bugge. By 1893, he had two sons but still no permanent position with which to support his family. During the 1890s, his work in economics—some of it path-breaking, such as *Value, Capital and Rent* (1892), his first major work—went largely unnoticed. But his radical speeches continued to earn him another sort of notice.

Wicksell's second major economic work, *Studies in the Theory of Public*

Finance, published in 1896, was a groundbreaking application of marginal thinking to such issues as progressive taxation, optimum tax prices for public and semipublic goods, public utilities and oligopolies characterized by cartel behavior. *Interest and Prices*, a work on monetary economics, was published in 1898.

On the strength of his published economic work, Wicksell applied to the University of Uppsala for a doctorate in economics. One was finally granted, with honors, in 1896. He was still denied an economics professorship, however, because at that time in Sweden economics was taught in law school, and Wicksell lacked a law degree. So he borrowed money and moved his family to Uppsala, where he finished the four-year law degree in two years. He became a lecturer at the University of Uppsala, but his income there depended solely on the number of students who took his tutorials. In 1900, at the age of 49, he finally received a teaching position in economics at the University of Lund, although the position was not fully funded until 1904.

University life was productive for Wicksell. In addition to teaching classes in tax law and economics, he wrote *Lectures on Political Economy* (volumes 1 and 2, 1901 and 1906) and numerous articles on pre- and post-World War I policy issues. He favored a mild form of socialism, achieved gradually and built on the foundations of a welfare state. Sweden came to represent precisely this vision as the 20th century unfolded.

In 1908, in a stand for free speech and against the advice of friends, he gave a lecture that satirized the Immaculate Conception. The lecture, which Wicksell intended as a test case, resulted in a two-month jail sentence. He served the term in 1910 after a lower court's decision was upheld on appeal.

After retiring from Lund in 1916, Wicksell and his wife moved to Stockholm, where he continued to write profusely and advise the government on banking and financial issues. He also supervised doctoral dissertations in economics, often for students who

Money's Value and Rational Expectations

All practical proposals for the improvement of currency systems actually proceed, though more or less consciously, from the desire to guarantee this stability of value. When it is said that Governments or banks should seek to provide enough money of full value, or a monetary system at once sound and flexible, all that is really meant is that the value of money should be protected against violent fluctuations, either downwards in the form of the depreciation of money or upwards in the form of a fall in commodity prices: this includes a demand for the preservation of the stability of value of money in space, i.e. the maintenance of the currency unit of one country at the same level as that of another.

Sometimes, it is true, we hear it said that certain changes in the value of money, especially a gradual decline or a progressive rise in commodity prices, might be preferred under certain circumstances to complete stability. Rising prices would act as a stimulus to enterprise and a falling value of money would free debtors from the burden of obligations thoughtlessly incurred. This view is, however, evidently naïve. It need only be said that if this fall in the value of money is the result of our own deliberate policy, or indeed can be anticipated and foreseen, then these supposed beneficial effects will never occur, since the approaching rise in prices will be taken into account in all transactions by reasonably intelligent people. What is contemplated is, therefore, unforeseen rises in price. The result of this would seem to be that we should cross our arms and wait in order not to frustrate the beneficial workings of nature. But nature does not always guarantee rising prices; falling prices also occur. ■

— Lectures on Political Economy,
vol. 2, 128–29;
original emphasis

later became famous in their own right, such as Bertil Ohlin and joint Nobel Prize winner (with F. A. Hayek) Gunnar Myrdal. He died in Stockholm in May 1926 while working on an article on the theory of interest that was to be included in a book honoring Austrian economist Friedrich von Wieser.

Many of Wicksell's theoretical extensions went unrecognized during his lifetime. It was only after his death

Emergence of the Modern Theory of Value: Marginal Utility

In other words, the value in use, according to [John Stuart] Mill, constitutes the upper limit of value in exchange. But on further consideration it appears that the value in exchange cannot be lower than the value in use either, for exchange presupposes two exchanging parties, and while no one will buy a commodity which has a value in exchange higher than its value in use, no one will sell a commodity whose exchange value is lower. We thus seem to arrive at the remarkable result that value in use is, at one and the same time, the upper and the lower limit of exchange value; or, in other words, is its exact equivalent. This, however, is contrary to experience; neither is it easy to understand how, under such circumstances, any exchanges whatever could be effected. The obvious explanation is the well-known fact that the same thing may possess different degrees of utility for different persons, so that the relative values in use can, at the same moment, be greater or less than the relative exchange values for one or other of the exchanging parties respectively. If we follow up this train of thought, we shall easily see that a thing may have quite different degrees of utility for one and the same person under different conditions. The most important circumstance in this connection is evidently, at least in a primitive economy, the quantity of the commodity in one's possession—or of other commodities which can, to a greater or lesser degree, replace it. In a more advanced economy, the determining condition will be the possession, or accessibility, of a certain quantity of the medium of exchange.... But what sets the standard in both cases is, in the last resort, the quantities of the various commodities which the person in question is in a position to consume in a given unit of time.

Value in use is, therefore, by its very nature, something variable. Value in exchange, on the contrary, is always, or always tends to be, constant and invariable for each commodity throughout the market. The question then becomes: which of these possible, or conceivable, degrees of value in use determines (or, to express ourselves more cautiously, is related to) the actual exchange value of the commodity? The answer must evidently be: the degree of utility which it possesses for the exchanging parties at the moment the exchange is effected.... ■

—Lectures on Political Economy, vol. 1, 29–30;
original emphasis

that his major works were translated and appreciated, leading Mark Blaug, one of the foremost historians of economic thought, to proclaim that Wicksell “more or less founded modern macroeconomics” (Blaug 1986, 274).

Major Contributions to Economics

Wicksell's work is linked directly to three major traditions in economic theory:

- the quantity theory of money and its implications for allowing an analysis of aggregate macro outcomes as well as their appropriate monetary policies;
- the Austrian theory of business cycles, which uses Wicksell's concept of a natural rate of interest;
- and the modern Public Choice paradigm in public finance, which is based on Wicksell's contentions regarding interest groups in democracies.

According to Blaug (1986, 272), Wicksell's work was an attempt at

“integrating general equilibrium theory [learned from Leon Walras], the Austrian theory of capital [learned from Eugen von Böhm-Bawerk's 1884 classic *Capital and Interest: History and Critique of Interest Theories*] and interest, and the marginal productivity theory of income distribution [learned from David Ricardo's 1817 treatise *On the Principles of Political Economy and Taxation*].” While working on his grand synthesis of these three theoretical approaches, Wicksell made improvements to each for which he is remembered today. The most important is probably his distinction between the natural and money rates of interest.²

The money, or market, rate of interest is the observed rate at which banks carry on credit transactions. The natural rate is a bit more complicated. Wicksell variously defined it as the rate that is neutral for commodity prices and the rate at which the supply and demand for capital are in equilibrium in an economy *not using money at all*. The tie-in be-

tween Wicksell and the Austrians is straightforward: In the Austrian business cycle theory, a boom emerges when the natural rate of interest is higher than the market rate, which is subject to manipulations by humans using sophisticated financial institutions and credit instruments that drive the market rate below the natural, equilibrium rate.

This is Wicksell's “cumulative process” model of business cycles. When the loan (market) rate of interest is below the natural rate, the demand for loans by entrepreneurs exceeds the quantity of savings in the economy. Banks expand credit by creating checking accounts (demand deposits) rather than by supplying savings, and an economic expansion occurs that must, other things being equal, drive up prices. Although Wicksell's process does not demand a monetary change to begin, it is perfectly consistent with—and this is what the Austrians later emphasized—a lowering of the market interest rate through central bank monetary injections.

Ludwig von Mises and Hayek took Wicksell's cumulative cycle process much further.³ They combined it with the doctrine of forced savings to create a monetary theory of cycles in which the money interest rate divergence from the natural rate, generated by expansionary central bank policy or by an unanticipated inflow of gold specie working its way through the banking system, creates a distortion in the time structure of production between capital goods and consumer goods that cannot be maintained. This results in a necessary economic downturn during which all of the boom's “malinvestments” have to be liquidated. The Austrians' extension of Wicksell's analysis was the major business cycle theory innovation before John Maynard Keynes wrote *The General Theory of Employment, Interest and Money* in 1936, and it remains an alternative money-generated cycle theory today.⁴

Understood within the context of Wicksell's model, the interest rate divergence phenomenon was crucial for

understanding the differences between Wicksell's treatment of the quantity theory of money and the view held by his main rival, American economist Irving Fisher. For Fisher, changes in the quantity of money fully explained changes in long-run prices; for Wicksell, the quantity of money was but one aspect of the mechanism that changed prices because the flow of goods and services worked its way through the economy by first changing interest rates.

Keynes no doubt read and appreciated Wicksell's approach and then built on it, stressing that cycles were generated by changes in real factors such as investment spending and interest rates and not by monetary changes. The seeds of the Keynesian–monetarist debates that began in the 1960s were planted first in the differences between Fisher and Wicksell. Nonetheless—and surprisingly—despite Fisher's and Wicksell's seemingly disparate theoretical approaches, both men reached the same implied policy conclusion: A nation's central bank does bear the responsibility for controlling the long-run price level.⁵

Another important Wicksell theoretical element connecting major economists is the “real shock” cyclic view, also emphasized by Austrian economist Joseph Schumpeter, who saw innovators and entrepreneurs as an often destabilizing shock to the market economy, giving rise to what he called “creative destruction.” In this sense, there is a continuous thread that runs from Wicksell, through Schumpeter, and on to Keynes' influential nonmonetary model of business cycles. The modern Keynesian–monetarist dispute over the role of money and its effects on the macroeconomy has its roots in the earlier Fisher–Wicksell differences concerning the nature and causes of cycles.

Wicksell perfectly anticipated modern central bank monetary policy when he argued that interest rates must be changed to control prices. He favored price-level stabilization because he felt that inflation and deflation were unfair income redistributive events, where some

gained at others' expense. His policy rule was simple: If prices were rising, then interest rates were too low; if prices were falling, then rates were too high. His exposition and extension of the quantity and marginal productivity theories ensure him a permanent place in the development of modern macroeconomic thought. ■

— **Robert L. Formaini**
Senior Economist

Notes

¹ Thomas Robert Malthus (1766–1834) authored his famous “An Essay on the Principle of Population” in 1798. In this essay, Malthus argued that population growth is limited by the supply of food and that because population grows faster (geometrically) than the food supply (arithmetically), poverty is not a curable but an inevitable, long-run condition. Because social reformers' schemes to better the lot of humanity seemed to run aground on Malthus' dreary predictions about starvation and poverty, all such reformers, including Wicksell, had to effectively deal with Malthus' pessimistic contention in their own work. Today, those who hold the view that overpopulation and environmental degradation are an increasing concern are often referred to as neo-Malthusians.

² The natural rate was also called, in Wicksell's various writings, “neutral,” “normal” and “real.” The money rate was also sometimes called the “market” rate.

³ For more information, see Robert Formaini, “Ludwig von Mises,” Federal Reserve Bank of Dallas Economic Insights, vol. 6, no. 4, and “Hayek,” Economic Insights, vol. 4, no. 1.

⁴ See Laidler (1991), 146. For a modern exposition of the Austrian economic theory, see Roger W. Garrison (2001), *Time and Money: The Macroeconomics of Capital Structure* (London: Routledge).

⁵ Humphrey (1997), 72.

Sources and Suggested Reading

Blaug, Mark (1986), *Great Economists before Keynes: An Introduction to the Lives and Works of One Hundred Great Economists of the Past* (New York: Cambridge University Press), 272–75.

Humphrey, Thomas M. (1993), “The Origins of Velocity Functions,” *Federal Reserve Bank of Richmond Economic Quarterly*, vol. 79, no. 4 (Fall), 1–17.

——— (1997), “Fisher and Wicksell on the Quantity Theory,” *Federal Reserve Bank of Richmond Economic Quarterly*, vol. 83, no. 4 (Fall), 71–90.

——— (2002), “Knut Wicksell and Gustav Cassel on the Cumulative Process and the Price-Stabilizing Policy Rule,” *Federal Reserve Bank of Richmond Economic Quarterly*, vol. 88, no. 3 (Summer), 59–83.

Laidler, David (1991), *The Golden Age of the Quantity Theory: The Development of Neoclassical Monetary Economics, 1870–1914* (Princeton, N.J.: Princeton University Press).

Uhr, C. G. (1987), “Johan Gustav Knut Wicksell,” in *The New Palgrave: A Dictionary of Economics*, ed. John Eatwell, Murray Milgate and Peter Newman, vol. 4 (London: Macmillan Press), 901–8.

Wicksell, Knut (1965), *Interest and Prices* (New York: Augustus M. Kelley), orig. pub. 1898, trans. pub. 1936.

——— (1970), *Value, Capital and Rent* (New York: Augustus M. Kelley), orig. pub. 1893, trans. pub. 1954.

——— (1977), *Lectures on Political Economy*, vol. 1 (Fairfield, N.J.: Augustus M. Kelley), orig. pub. 1901, trans. pub. 1934.

——— (1978), *Lectures on Political Economy*, vol. 2 (Fairfield, N.J.: Augustus M. Kelley), orig. pub. 1906, trans. pub. 1935.

Economic Insights is a publication of the Federal Reserve Bank of Dallas. The views expressed are those of the authors and should not be attributed to the Federal Reserve System.

Please address all correspondence to
Economic Insights
Public Affairs Department
Federal Reserve Bank of Dallas
P.O. Box 655906
Dallas, TX 75265-5906
Visit our web site at www.dallasfed.org.