

John Maynard Keynes

Milton Friedman

John Maynard Keynes (1883–1946) is the latest in a line of great British economists who had a profound influence on the discipline of economics. By common consent, the line starts with Adam Smith (1723–1790), whose *Wealth of Nations* (1776) is generally regarded as the founding document of modern economics. It continues with David Ricardo (1772–1823), whose *Principles of Political Economy* (1817) dominated classical economics for much of the nineteenth century, and, incidentally, provided Karl Marx with one of his central concepts: the labor theory of value. John Stuart Mill’s (1806–1873) *Principles of Political Economy*, published in the same year, 1848, as the *Communist Manifesto* by Marx and Engels, became the standard textbook in the English-speaking world—and beyond—for decades. William Stanley Jevons’s (1835–1882) *Theory of Political Economy* (1871) inaugurated the “marginal revolution,” which replaced, or supplemented, emphasis on cost of production (supply) as determining value with emphasis on utility (demand). He resolved the classic diamond-water paradox—diamonds are a luxury, water a necessity, yet diamonds command a higher price than water—by showing that “marginal utility”—the utility gained from having one more unit of something—not “total utility” plays the key role in determining price. Alfred Marshall (1842–1924), Keynes’s own teacher, guide, and patron, dominated economics in the English-speaking world from the publication of the first edition of his classic, *Principles of Economics* (1890), to the 1930s.

■ The Federal Reserve Bank of Richmond is indebted to Professor Friedman for his kind permission to publish this article in its original English version. The article first appeared in German translation in the volume of commentaries accompanying the facsimile edition of John Maynard Keynes’s *General Theory of Employment, Interest and Money* (1936) published in 1989 by Verlag Wirtschaft und Finanzen GmbH, Düsseldorf, as part of its series *Klassiker der Nationalökonomie*. The generous permission of that publisher and its principal, Mr. Michael Tochtermann, are gratefully acknowledged.

Keynes clearly belongs in this line. In listing “the” classic of each of these great economists, historians will cite the *General Theory* as Keynes’s path-breaking contribution. Yet, in my opinion, Keynes would belong in this line even if the *General Theory* had never been published. Indeed, I am one of a small minority of professional economists who regard his *Tract on Monetary Reform* (1923), not the *General Theory*, as his best book in economics. Even after sixty-five years, it is not only well worth reading but continues to have a major influence on economic policy.

1. KEYNES’S LIFE

From 1908 to his death in 1946, Keynes was an active Fellow of King’s College, Cambridge, influencing successive generations of students. For many years, he was also Bursar of King’s College, and is credited with making it one of the wealthiest of the Cambridge colleges. From 1911 to 1944, he was the editor or joint-editor of the *Economic Journal*, at the time the leading professional economic periodical in the English-speaking world. Simultaneously, he was also Secretary of the Royal Economic Society.

Despite his lifelong commitment to economics, the earliest work he completed—though not the earliest to be published—was in mathematics not economics—*A Treatise on Probability*—essentially completed by 1911, but first published in 1921. It is a mark of Keynes’s range, creative originality, and insight that much recent work in statistics has returned to the themes of the *Treatise on Probability*. In economics, his first major publication was *Indian Currency and Finance* (1913), a product of his service in the India Office of the British government from 1906 to 1908.

Monetary Reform (1923) was followed in 1930 by the two-volume *Treatise on Money*, much of which remains of value, though Keynes himself came to regard its theoretical analysis as simply a step on the road to the *General Theory*, the last of his major works. These major works were supplemented by numerous articles, reviews, and biographical essays on some of his predecessors.¹

Keynes’s interest and influence were by no means limited to the confines of the academy. For decades he exerted a major influence on public affairs and played an active role in the world of business. His *Economic Consequences of the Peace* (1919), based on his activities as an adviser to the British Treasury during the negotiation of the Versailles Peace Treaty, had a major impact on public opinion and public policy, not only in Britain but throughout the world, and not only immediately. It was translated into many languages, became a worldwide best-seller, and first established Keynes as a major public

¹ The biographical essays on economists are gathered together in his *Essays in Biography* (1933), along with similar essays on politicians and others.

figure. It influenced the reaction of both victors and vanquished to the Versailles Peace Treaty. Indeed, in a book, *The Carthaginian Peace; or, the Economic Consequences of Mr. Keynes*, published more than two decades later (1946), Etienne Mantoux pays the *Economic Consequences* a backhanded compliment by arguing that Keynes's debunking of the peacemakers was the source of all subsequent evil, including World War II.

From 1919 on, Keynes remained active in public matters, publishing a steady stream of articles on current affairs in nonprofessional journals and newspapers, advising and participating in the deliberations of the Liberal party, serving as chairman of the *Nation and Athenaeum* when it was acquired by a group of Liberals in 1922, and later as director of the combined *New Statesman and Nation*, leading journals of opinion for which he wrote frequently. He brought together many of his most significant pieces on public affairs in *Essays in Persuasion* (1931). He served on government commissions, notably the Macmillan Commission, and advised and consulted with successive governmental ministers. He was chairman of the National Mutual Insurance Company and director of several other insurance companies. His interests were truly catholic: E. A. G. Robinson, who was co-editor of the *Economic Journal* with Keynes for some years and succeeded him as editor, begins an *Encyclopaedia Britannica* article on Keynes by describing him as "1st Baron . . . , British economist who revolutionized economic theories, critic and architect of national economic policies, political essayist, successful financier, bibliophile and patron of the arts." His interest in one particular art, ballet, was both cause and effect of his marriage in 1925 to Lydia Lopokova, a famous Russian ballerina. He established and largely financed the Cambridge Arts Theater and was a trustee of the National Gallery.

From 1919 to World War II, Keynes's connection with government was primarily as an influential outsider. From 1940 on, he served in government in a variety of capacities concerned with the economic conduct of the war and postwar reconstruction. He was the chief British representative at Bretton Woods in 1944, where he was a major architect of the plans for the International Monetary Fund and the World Bank for Reconstruction and Development. He was the chief negotiator of the large U.S. loan to Britain in 1945. On his return to Britain, he played an important role in persuading the British Parliament to adopt the Bretton Woods agreement. He died shortly thereafter, on April 21, 1946.

2. THE INFLUENCE OF THE *GENERAL THEORY*

To return to the *General Theory*: its influence on both economic thinking and economic practice was profound. The "Keynesian revolution" was far more than a figure of speech. From shortly after the publication of the book in 1936 to at least the 1960s, the majority of professional economists, and certainly

the most prominent, termed themselves “Keynesians.” Those who called themselves non- or anti-Keynesians were a beleaguered minority, supplemented, it must be said, by some important writers on economics who were not members of the professional guild.² Governments around the world hastened to adopt “Keynesian policies,” though many an economist—both Keynesians and anti-Keynesians—regarded some of the policies, particularly when they led to inflation, as at best “bastard Keynesianism.”³

As of this writing (1988), the status and influence of the book has changed. It continues to have a major influence on economic thinking and economic policy, and will long continue to do so, but for very different reasons and in a very different way than it did initially. The catalyst for the change was the inflation and stagflation of the 1970s. As Robert Lucas wrote in 1981, “Proponents of a class of models which promised 3½ to 4½ percent unemployment to a society willing to tolerate annual inflation rates of 4 to 5 percent have some explaining to do after a decade such as we have gone through [i.e., the 1970s, when inflation rose to 16 percent and unemployment to 8 percent in the United States, and to 30 percent and 6 percent in the U.K. Inflation rose as high as 25 percent in Japan and 7 percent in Germany, though unemployment remained relatively low]. A forecast error of this magnitude and central importance to policy has consequences, as well it should.”

The predictions to which Lucas refers were based on the so-called Phillips curve which linked inflation inversely to unemployment—allegedly, the higher the rate of inflation, the lower the level of unemployment. The curve was asserted by many Keynesians to be stable over time and to specify a menu of combinations of inflation and unemployment, any of which was attainable by the appropriate monetary and fiscal policy. Lucas went on to note that “in the late 1960s Milton Friedman (1968) and Edmund Phelps (1968) had argued . . . that these predicted Phillips curve trade-offs were spurious.” They emphasized the importance of distinguishing between anticipated and unanticipated inflation in interpreting the Phillips curve, and Friedman introduced the concept of a “natural rate of employment” to which the economy would tend as economic actors adjusted their anticipations.

“The central forecast to which [Friedman’s and Phelps’s] reasoning led,” Lucas continued, “was a conditional one, to the effect that a high-inflation decade should not have less unemployment on average than a low-inflation decade. We got the high-inflation decade, and with it as clear-cut an

² In the U.S., the most important was doubtless Henry Hazlitt, *The Failure of the New Economics: An Analysis of the Keynesian Fallacies* (Princeton, N.J.: Van Nostrand, 1959).

³ The phrase was coined by Joan Robinson, one of the earliest and most dedicated members of Keynes’s inner circle, in her review of Harry Johnson’s *Money, Trade and Economic Growth* (1962), *Economic Journal*, vol. 72 (September 1962), p. 690. However, she used it to refer to the theories of some of Keynes’s followers, rather than to policies.

experimental discrimination as macro-economics is ever likely to see, and Friedman and Phelps were right.”⁴

The 1980s have been no kinder to the earlier Keynesian models. In the U.S., inflation was brought down drastically, accompanied by a temporary increase in unemployment to a peak of nearly 11 percent—a short-term reaction to unanticipated disinflation along Phillips curve lines. But then, from 1983 on, unemployment fell concurrently with further declines in inflation, reaching 6 percent by the end of 1987 when inflation was about 4 percent—a flat contradiction of the asserted negative relation between unemployment and inflation embodied in the Phillips curve. In the U.K., too, an initial decline in inflation was accompanied by a sharp rise in unemployment, which was very much slower to decline but has more recently begun to do so. In Germany, inflation has come down since the early 1980s; unemployment rose initially, as in the U.S. and the U.K., but, in contrast to them, continued to rise after inflation had settled down, and has remained high. Japan, which was the first of the major countries to cut sharply the rate of inflation, has succeeded in keeping inflation low with little change in its recorded unemployment rate. All in all, this experience is hardly consistent with a stable trade-off between inflation and unemployment.

Experience led to disillusionment with initial Keynesianism on the part not only of professional economists but also of policymakers. The most dramatic evidence came from James Callaghan, when he was the Labour prime minister of the U.K.—the party and the country that had gone farthest in embracing and adopting Keynesian policies. Said Callaghan in 1976, “We used to think that you could just spend your way out of a recession and increase employment by cutting taxes and boosting government spending. I tell you, in all candour, that that option no longer exists; and that insofar as it ever did exist, it only worked by injecting bigger doses of inflation into the economy followed by higher levels of unemployment as the next step. That is the history of the past twenty years.”

Despite the widespread rejection of some of the key propositions that constituted the “Keynesian revolution,” the book continues to have a major impact on economic thinking. Some indication of its influence is given by the continuing citations to the book in the professional literature. Data from one citation index, which covers a wide range of economic journals, are available for sixteen years, 1972 to 1987. In all, there were 1,558 citations to the *General Theory*, or an average of nearly 100 a year. Of the total, 729 occurred in the first eight years, 829 in the second eight, so there is no sign that interest in the book is declining. However, the character of the book’s influence has changed.

⁴ Robert E. Lucas, Jr., “Tobin and Monetarism: A Review Article,” *Journal of Economic Literature*, vol. 19 (June 1981), p. 560.

Some years ago, I remarked to a journalist from *Time* magazine, “We are all Keynesians now; no one is any longer a Keynesian.” In regrettable journalist fashion, *Time* quoted the first half of what I still believe to be the truth, omitting the second half. We all use Keynesian terminology; we all use many of the analytical details of the *General Theory*; we all accept at least a large part of the changed agenda for analysis and research that the *General Theory* introduced. However, no one accepts the basic substantive conclusions of the book, no one regards its implicit separation of nominal from real magnitudes as possible or desirable, even as an analytical first approximation, or its analytical core as providing a true “general theory.”

As one, no doubt somewhat idiosyncratic, view of the book, I quote from a reply that I wrote some years ago to criticisms of my work mostly from a “Keynesian” point of view:

“One reward from writing this reply has been the necessity of rereading earlier work, in particular [Keynes’s] . . . *General Theory*. The *General Theory* is a great book, at once more naive and more profound than the ‘Keynesian economics’ that Leijonhufvud contrasts with the ‘economics of Keynes.’ . . .⁵

“I believe that Keynes’s theory is the right kind of theory in its simplicity, its concentration on a few key magnitudes, its potential fruitfulness. I have been led to reject it, not on these grounds, but because I believe that it has been contradicted by evidence: its predictions have not been confirmed by experience. This failure suggests that it has not isolated what are ‘really’ the key factors in short-run economic change.

“The *General Theory* is profound in the wide range of problems to which Keynes applies his hypothesis, in the interpretations of the operation of modern economies and, particularly, of capital markets that are strewn throughout the book, and in the shrewd and incisive comments on the theories of his predecessors. These clothe the bare bones of his theory with an economic understanding that is the true mark of his greatness.

“Rereading the *General Theory* has . . . reminded me what a great economist Keynes was and how much more I sympathize with his approach and aims than with those of many of his followers.”⁶

3. THE MESSAGE OF THE *GENERAL THEORY*

As its title indicates, the *General Theory* is almost pure abstract theory. There is only passing reference to applied economics, statistical magnitudes, or economic policy. Yet, like all of Keynes’s writings on economics, it was inspired by a major contemporary problem and written in the hope and expectation

⁵ Axel Leijonhufvud, *On Keynesian Economics and the Economics of Keynes* (London: Oxford University Press, 1968).

⁶ *Milton Friedman’s Monetary Framework: A Debate with His Critics*, ed. by Robert J. Gordon (Chicago: University of Chicago Press, 1974), pp. 133–34.

of providing a solution. The book was written during the worldwide Great Depression following 1929, when idle men, idle machines, and unmet demand coexisted on a large scale for years on end and produced widespread poverty, misery, and deprivation. For Britain, it followed a near-decade of economic stagnation, high unemployment, and long-term dependence of many families on a government dole. The key problem of the time was how to explain the apparent paradox, and, more urgently, how to resolve it.

Ups and downs in economic activity involving occasional periods of widespread unemployment had long occurred and had engaged the attention of numerous economists under the rubric of “business fluctuations,” or “business cycles.” Various theories had been offered to explain them. Most earlier theories implicitly accepted the proposition that a private-enterprise capitalist system contained self-correcting forces that would keep disturbances temporary. By corrective adjustments to changes in circumstances, the system, it was believed, would tend toward full employment of both men and machines—save only for fractional and transitory unemployment implicit in a dynamic economy. However, the long duration and magnitude of the unemployment during the Great Depression and the prior years in Britain did not seem to fit this pattern. Could these be interpreted as simply a temporary, if long-lasting, disturbance? Or did they indicate a defect in the supposed self-adjusting forces at work, so that the economy could get stuck for long periods of time at a position of high unemployment—a position that might have just as much reason to be regarded as an “equilibrium” as a position of full employment?

Such a possibility had frequently been asserted by socialist and other critics of a capitalist system, whom the mainline professional economists had regarded as “crackpots.” Keynes took the possibility seriously and proceeded to construct an hypothesis that he believed demonstrated the possibility—indeed the frequent reality—that, without government intervention, a private-enterprise capitalist system using a non-commodity money would tend toward a position characterized by a high level of involuntary unemployment of persons who would willingly be employed at the current wage rate but could not find jobs.

The classical remedy for idle men, according to Keynes, was a decline in the real wage rate, which would reduce the number of persons seeking jobs and increase the number of persons employers wanted to hire. The classical remedy for idle machines was a reduction in the cost to enterprises of using and producing such machines, and that was expected to occur via a reduction in the real interest rate.

In the 1920s and 1930s in Britain, these classical remedies seemed either inoperative or ineffective. Keynes set himself the task of explaining why, of constructing an alternative theory that would both explain what was happening and justify alternative policies—such as the large public works programs he had been recommending since the mid-1920s.

In one sense, his approach was strictly Marshallian: in terms of demand and supply. However, whereas Marshall dealt with specific commodities and “partial equilibrium,” Keynes proposed to deal with what he called “aggregate demand” and the “aggregate supply function,” and with general not partial equilibrium.

Where he deviated from Marshall was in the key variables that he regarded as producing equilibrium between demand and supply and in the process of adjustment to a change in demand or supply. In Marshallian analysis, the key role was played by prices, which reacted quickly to any change in circumstances. Let there be a sudden increase in demand, in the sense of a demand function relating the quantity demanded to price. In Marshall’s view, the immediate reaction would be on prices, which would rise to choke off the quantity demanded to the prior level plus whatever additional quantities might be made available from inventories. The rise in prices during the “market period” would give producers an incentive to increase output in the “short run” by using existing plant and equipment more intensively, and, if the increased demand persisted, in the longer run by adding to plant and equipment. In short, prices adjusted rapidly, quantities slowly, and changes in prices played the major role in producing equilibrium.

To Keynes, it seemed clear that this process had been inoperative or ineffective with respect to the economy as a whole. Nominal wage rates had indeed declined, but so had nominal prices, so that real wages had hardly moved, and may indeed have increased. He concluded that movements in prices and interest rates could not be counted on. Accordingly, he reversed Marshall’s presumptions: prices of labor and capital, at least “real wages” and “real interest rates,” are very slow to adjust; quantities, which is to say consumption, investment, and their sum, total output, are highly flexible and adjust rapidly. Changes in output (aggregate supply), not in prices, play the major role in producing equilibrium. Accordingly, as a first approximation—though one he never really relaxed—he took prices as given by forces outside his analysis. As a first approximation, also, he abstracted from both government spending and international trade, but these could readily be integrated into the analysis without affecting its substance.

Keynes defined aggregate demand and aggregate supply in terms of employment, in line with his view that he was developing a “theory of employment.” However, both Keynes and his followers tended to replace employment by output and to express aggregate demand and aggregate supply in terms of the value of output demanded by the public and supplied by enterprises.

Aggregate demand, in these terms, is the sum of expenditures on consumption goods and expenditures on investment goods. Keynes regarded expenditures on consumption as depending on income, introducing one of his key concepts: the propensity to consume, or, in his words, “the functional relationship . . . between . . . a given level of income in terms of wage-

units, and . . . the expenditure on consumption out of that level of income.” A “fundamental psychological law,” which plays a key role in the Keynesian system, is that “men are disposed . . . to increase their consumption as their income increases, but not by as much as the increase in their income”—i.e., the “marginal propensity to consume” is less than unity.⁷

Keynes defined investment as “the current addition to the value of the capital equipment which has resulted from the productive activity of the period.” He regarded investment as depending on the “marginal efficiency of capital,” the second of his key concepts, which he defined as “that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price,” i.e., “the cost of producing” one more unit of the asset. Like the propensity to consume, the marginal efficiency of capital is a function or schedule relating the amount of investment to the interest rate, since entrepreneurs would have an incentive to add to investment so long as the yield exceeded the interest rate at which they could borrow the funds to finance the investment.⁸

The interest rate, in turn, he regarded as determined by “liquidity preference,” the third of his key concepts. “An individual’s liquidity-preference is given by a schedule of the amounts of his resources, valued in terms of money or of wage-units, which he will wish to retain in the form of money in different sets of circumstances.” He regarded the amount of their assets that individuals would want to hold in the form of money as depending on both income and the interest rate—income because that would affect the amount held for “transactions- and precautionary-motives,” the interest rate, because that would affect the amount held “to satisfy the speculative-motive.”⁹

If, as Keynes did, we let Y be income, identical with the value of output, C be consumption, I be investment, L liquidity preference, M the quantity of money, and r the interest rate, then aggregate demand is given by

$$Y = C(Y) + I(r), \quad (1)$$

and the demand for money by

$$M = L(Y, r). \quad (2)$$

In line with his implicit assumption about the relative speed of adjustment of prices and output, Keynes regarded supply as essentially passive, expanding or contracting as demand expanded or contracted, subject only to the proviso that employment is less than “full,” which he defined as the point at which an increase in aggregate demand would call forth no additional workers willing to

⁷ *The General Theory of Employment Interest and Money* (London: Macmillan, 1936), pp. 90, 96, and 114.

⁸ *Ibid.*, pp. 62 and 135.

⁹ *Ibid.*, pp. 166 and 199.

work at the wage offered. This leads him to regard aggregate supply as given simply by aggregate demand, or

$$Y_S = Y_D, \quad (3)$$

and the level of aggregate supply and demand as affecting not a price but solely employment.

If we regard the interest rate as fixed, along with other prices, then equations (1) and (3) define the famous Keynesian “multiplier” (attributed by Keynes to Richard Kahn). For a simple version, assume that the consumption function is linear:

$$C = a + bY, \quad (4)$$

with b , of course, less than one. Substituting (4) in (1) and solving for Y , we have

$$Y = \frac{a + I(r)}{1 - b} = \left(\frac{1}{1 - b} \right) [a + I(r)]. \quad (5)$$

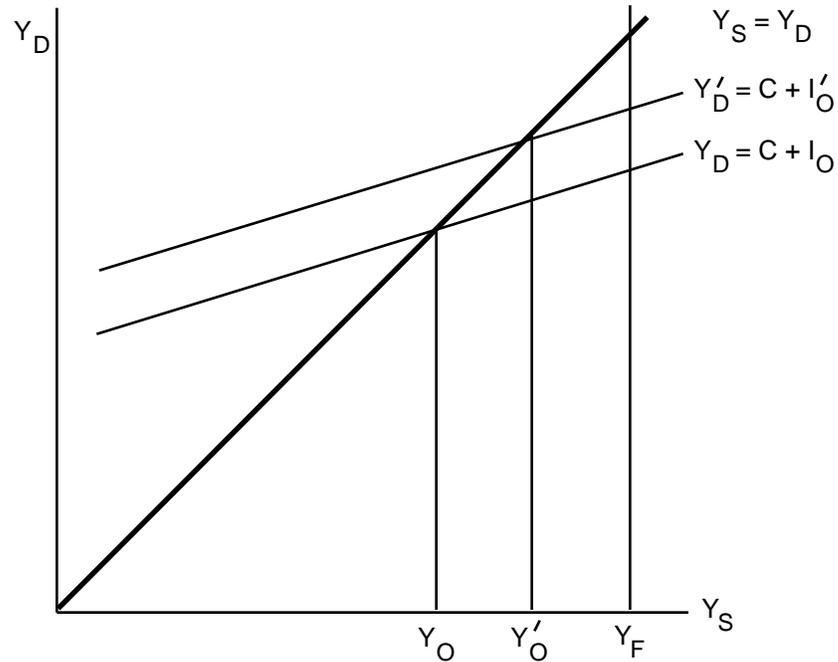
The multiplier is $1/(1 - b)$, which, given that b is between zero and unity, is necessarily greater than unity. The multiplicand, $(a + I)$, came to be termed “autonomous” spending, i.e., spending not dependent on the level of income. In addition, once government was introduced into the analysis, autonomous spending was regarded as including not only autonomous consumption spending (a) and investment (I) but also government spending.

Equations (1) and (3) define also the equally famous “Keynesian cross,” which has been reproduced in literally hundreds of textbooks in the past half century and is reproduced here in Figure 1.

The graph makes clear the key importance of the “fundamental psychological law” that the marginal propensity to consume is less than unity. If it were unity, the Y_D line would parallel the Y_S line and there would be either no or an infinite number of equilibrium positions, according as the two parallel lines were distinct or identical. If it exceeded unity, the Y_D line would slope more steeply than the Y_S line, and any point of intersection would be an unstable equilibrium position. Because it slopes less steeply, the intersection at Y_O is a stable equilibrium. If output were temporarily higher than Y_O , employers would be making losses, since the aggregate supply price would exceed aggregate demand, and would seek to contract output. Conversely, if output were temporarily lower than Y_O , employers would be making profits and would seek to expand.

If, for whatever reason, investment were to increase from I_O to I'_O , the Y_D line would shift to Y'_D and the new equilibrium would shift to Y'_O . At Y_F , the point of full employment, the process would end, and “the crude quantity theory of money,” which is the particular object of Keynes’s scorn and derision—no doubt because of his long earlier adherence to it—“is fully satisfied.”¹⁰

¹⁰ Ibid., p. 289.

Figure 1 The Keynesian Cross

Marvelously simple. A key that apparently unlocks the mystery of long-continued unemployment: inadequate autonomous spending or too low a propensity to consume. Increase either, or both, being careful simply not to go too far, and full employment could be attained. What a wonderful prescription: for consumers, spend more out of your income, and your income will rise; for governments, spend more, and aggregate income will rise by a multiple of your additional spending; tax less, and consumers will spend more with the same result. Though Keynes himself, and even more, his disciples, produced much more sophisticated and subtle versions of the theory, this simple version contains the essence of its great appeal to non-economists and especially governments. Here was one of the most famous and respected economists in the world informing governments that the way to full employment was paved with higher spending and lower taxes. What more attractive advice could politicians wish for? Long regarded public vices turned into public virtues!

Marvelously simple, yes. But also simply marvelous. How could a position such as Y_O in Figure 1 be regarded as a long-term equilibrium—as was implied in the claim that the theory was “general”? At that point, men and machines

are idle. Would not the excess supply of men and machines exert downward pressures on the prices of both? Yes, said Keynes, but, if effective, that would be accompanied by lower money prices of output that would cancel the lower money wages and money cost of capital, so that real wages and the real cost of capital would be unaffected—which is why Keynes expressed all aggregate magnitudes in “wage-units.” Hence, said Keynes, flexible wages and prices would do no good. Far better to operate directly on spending.

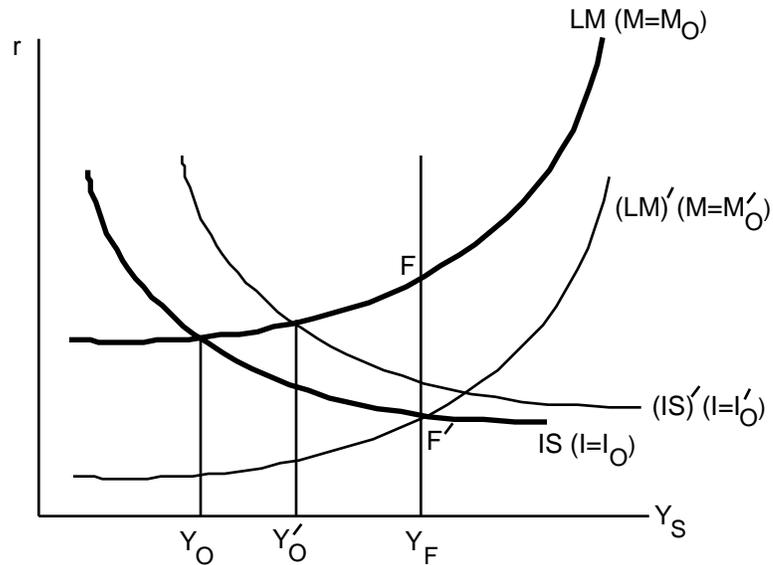
Of course, Keynes recognized that changes in prices, interest rates, and quantity of money did have effects that provided alternative avenues of escape from the so-called “underemployment equilibrium.” At best, it was a transitory equilibrium position, the existence of which would set in motion self-corrective forces. But Keynes tended to rule out these alternative avenues of escape as of no practical significance because of his empirical judgment that prices, wages, and interest rates were highly sluggish. Indeed, some commentators on Keynes maintain that he deliberately overstated his case in order to shock the economics profession into paying attention—a tactic that is common to every innovator, whether it be of an idea or a product.

Only one alternative avenue of adjustment is explicitly present in equations (1) and (2)—via the interest rate and the quantity of money. This avenue, analyzed at some length in the *General Theory*, and found wanting to produce, by itself, a full employment equilibrium, also was rapidly incorporated in an alternative, more sophisticated graphical representation of the Keynesian system developed almost simultaneously by John Hicks and Roy Harrod.¹¹ Figure 2 presents Hicks’s IS-LM version, which very quickly became the orthodox version.

In this diagram, the vertical axis is the interest rate. The horizontal axis is income expressed in wage-units, so that it is also output and employment. The IS curve traces equation (5), i.e., it shows the combinations of interest rate and output that would satisfy equation (1): the higher the interest rate, the lower investment and hence income, and conversely, which is why the IS curve has a negative slope. Put differently, it shows the combinations of interest rate and output at which the amount some people wish to invest is equal to the amount other people wish to save, which is what explains the S in IS. But note that the accommodation of saving to investment is produced not by the direct effect of the interest rate on saving, but by the effect of the level of income on saving, via the propensity to consume.

The LM curve traces equation (2) for a fixed quantity of money. Here, the higher the interest rate, the lower the quantity of money that the public would want to hold for a given income, and hence the higher income must be in order

¹¹ John R. Hicks, “Mr. Keynes and the ‘Classics’: A Suggested Interpretation,” *Econometrica*, vol. 5 (April 1937), pp. 147–59; Roy F. Harrod, “Mr. Keynes and Traditional Theory,” *Econometrica*, vol. 5 (January 1937), pp. 74–86.

Figure 2 The IS-LM Diagram

for the actual quantity of money to be willingly held. Hence the positive slope of the LM curve.

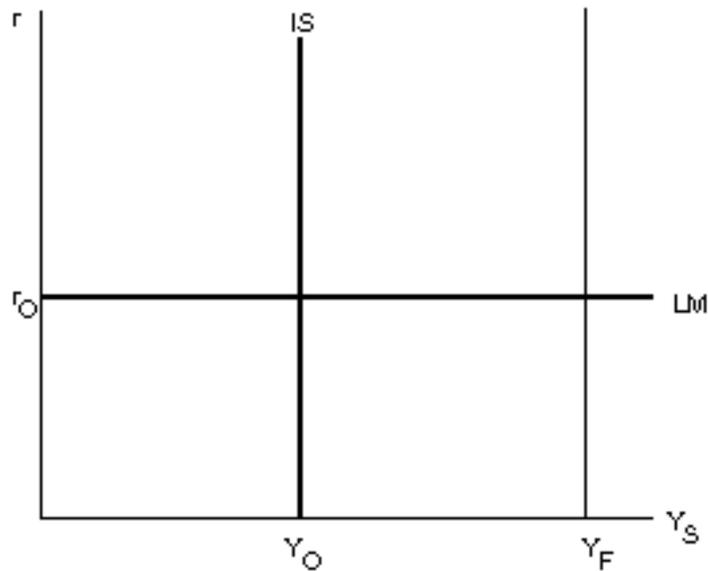
The intersection of the IS and LM curve at Y_0 is the counterpart of the intersection of the aggregate demand and supply curves in Figure 1 at Y_0 . Similarly, the IS' curve is the counterpart of the Y'_0 curve in Figure 1, reflecting a higher level of investment. It is the IS curve moved to the right by the change in income assumed to be produced by the increase in investment—the change in investment times the investment multiplier.

What is new in Figure 2 are the LM curves. Each LM curve is for a specific quantity of money: the LM curve for $M = M_0$, the $(LM)'$ curve for $M = M'_0$, which is larger than M_0 . For the community to hold the larger quantity of money willingly, either the interest rate must be lower for a given income or income higher for a given interest rate, which is why the $(LM)'$ curve is to the right of the LM curve.

The IS curve in the diagram embodies a possible Keynesian escape from underemployment via increases in investment (or, more generally, autonomous spending including government spending). Let autonomous spending be high enough so that the IS curve intersects the LM curve at point F , and full employment would be attained with the initial quantity of money.

The LM curve offers an alternative escape via the quantity of money. Let the quantity of money be large enough so that the LM curve intersects the

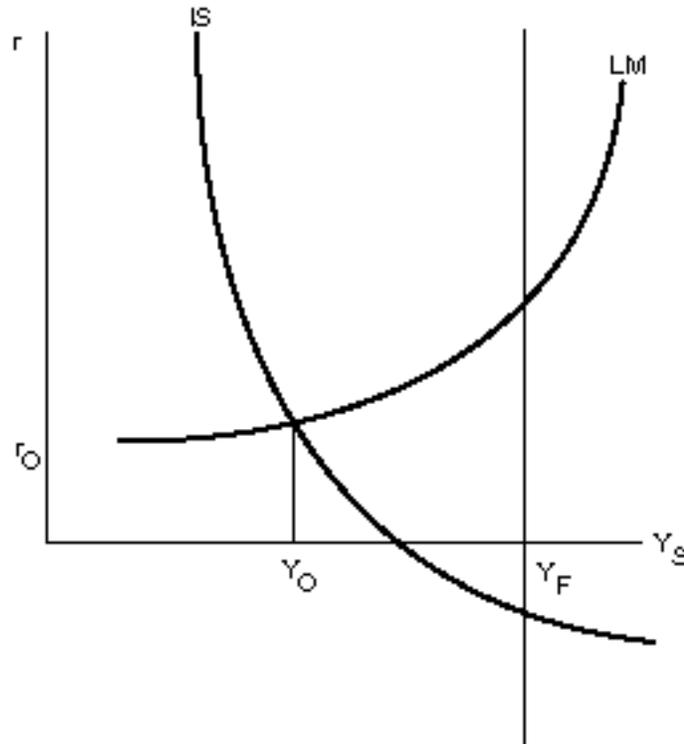
Figure 3 An Extreme IS-LM Diagram with Perfectly Elastic Liquidity Preference and Inelastic Investment



IS curve at point F' , and full employment would be attained with the initial marginal efficiency of capital schedule.

Keynes and his followers rejected this possibility as highly unrealistic, largely on the alleged empirical grounds that (1) private autonomous expenditures were little affected by changes in the interest rate while (2) there was a floor to the interest rate at which the community would be willing to hold assets other than money, so that, in the neighborhood of this floor, the quantity of money the community would be willing to hold would be highly sensitive to the interest rate: in short, a low elasticity of investment, but a high elasticity of liquidity preference, with respect to the interest rate.

Figure 3 shows an extreme version of these assumptions: perfectly inelastic investment and perfectly elastic liquidity preference. We are back to the Keynesian cross of Figure 1. No changes in the quantity of money can produce a full employment equilibrium. This LM curve depicts a “liquidity trap,” of which Keynes wrote, “whilst the limiting case might become practically important in future, I know of no example of it hitherto. Indeed, owing to the unwillingness of most monetary authorities to deal boldly in debts of long term, there has

Figure 4 A Less-Extreme Liquidity Trap

not been much opportunity for a test.”¹² Of course, it is not necessary to go to this extreme to generate Keynesian unemployment equilibria, and Keynes and his followers did not, though some of the more enthusiastic of his disciples came very close during the high tide of the Keynesian revolution. It is only necessary to suppose a highly inelastic IS curve, and a highly elastic LM curve, as in Figure 4. In this version, a negative interest rate would be required for a full employment equilibrium. The Keynesians ruled out this possibility by the assumption of given prices.¹³

The avenue of adjustment that is not explicitly allowed for in either equations (1) and (2) or in the more sophisticated $IS-LM$ diagram is the level of prices and wages. As already noted, a Keynesian position of underemployment equilibrium means downward pressure on wages and prices. Keynes explicitly

¹² *The General Theory*, p. 207.

¹³ The interest rate that is relevant to investment is the “real” interest rate, i.e., the nominal rate of interest less the rate of inflation, and the “real” interest rate has often been negative.

recognized that a change in real wages would affect employment by altering both the supply and the demand for labor.¹⁴ However, he ruled out that avenue of escape on the grounds that prices and wages would tend to change *pari-passu* leaving real wages largely unchanged—not a bad empirical approximation for the kind of major disturbances, such as the Great Depression, whose origin and cure Keynes was seeking. Keynes discussed two other effects of changes in the level of prices and wages. The first is on the real quantity of money, and thence the rate of interest. A lower level of prices is equivalent to a higher quantity of money, and like an increase in the quantity of money would shift the LM curve to the right. The second is the effect of a lower rate of interest on the consumption function, an effect that has come to be called the Keynes effect. The lower the interest rate, the higher the capital value of a given stream of income—such as rent on a piece of land, or coupons on a bond. Hence, a lower interest rate increases the wealth of the community. The higher the wealth, the less pressure to add to wealth via savings, and hence the higher is likely to be the average and marginal propensity to consume at any income.

Though Keynes recognized the existence of these avenues of adjustment, he largely dismissed them on empirical grounds. Sluggishness of price movements had pride of place, but inelasticity of investment and elasticity of liquidity preference with respect to the interest rate and inelasticity of consumption with respect to wealth were also important.

A third effect of a *pari-passu* change in prices and wages, which came to be known as the “Pigou” effect, was not discussed explicitly by Keynes. The lower the price level, the higher the real value of the fixed quantity of money. In principle, there is no limit to the real value of a fixed nominal quantity of money, and hence no limit to the wealth of a community, and accordingly, no limit to the extent to which the IS curve could be shifted to the right by the reduction in the incentive to save.¹⁵ There is much dispute about the empirical importance of this effect. I personally regard it as minor. However, on the purely abstract theoretical level of the *General Theory*, it conclusively demonstrates that there is no such flaw in the price system as Keynes professed to demonstrate. His position of underemployment equilibrium, whatever else it might be, was not a long-run equilibrium position that set in motion no effective forces tending toward full employment.

What difference does this abstract analysis make? Is it not simply arguing about how many angels can dance on the point of a pin? The answer is that it destroys Keynes’s most striking and radical claim made in the first paragraph of the *General Theory*: that what he called the “classical economics,” and, in

¹⁴ See, for example, *ibid.*, p. 289.

¹⁵ For a fuller theoretical analysis of (a) the possibility of a negative equilibrium interest rate, and (b) the Keynes and Pigou effects, see Milton Friedman, *Price Theory* (Chicago: Aldine Publishing Co., 1976), pp. 313–21.

particular, the quantity theory of money, were fundamentally fallacious, “that the postulates of the classical theory are applicable to a special case only and not to the general case, the situation which it assumes being a limiting part of the possible positions of equilibrium. Moreover, the characteristics of the special case assumed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience.”¹⁶

If this extreme claim is wrong, Keynes’s theory becomes not a theory of “equilibrium” but at best a theory of disequilibrium, readily encompassed in the earlier orthodoxy. Conventional wisdom prior to the *General Theory* had always recognized that fluctuations existed, and that periods of widespread unemployment did occur from time to time. But it regarded these as responses to changes in circumstances, plus rigidities in prices, wages, and other variables that impeded rapid adjustment to the new circumstances. And, indeed, conventional economic wisdom has by now come to regard the Keynesian theory as a theory of disequilibrium, which provides a useful way to analyze the process of adjustment to changes in circumstances in a world of relatively rigid prices and wages. It should be added that there does remain a significant number of respected economists who continue to regard Keynes’s contribution as providing a truly general theory fully justifying his initial claims, and continue to regard him as having demolished the so-called classical theory.¹⁷

There remains the twin questions of why Keynes, who described himself in the preface to the German edition as having been “a priest of” the English classical quantity theory tradition, regarded it as incompetent to explain the persistence of high unemployment in the 1920s and 1930s, and of how those of us who disagree with him reconcile that remarkable phenomenon with the earlier theory. The key to the answer to both questions is the interpretation of monetary developments, and particularly monetary policy in the 1930s. Consider first the situation in the U.S. By contrast with Britain, the 1920s were a period of general prosperity, high employment, and relatively stable prices. There was no reason to question the importance of monetary policy. Indeed, the Federal Reserve System in the United States took for itself much of the credit for the good performance of the economy. But then came the Great Depression. Its initial phase, from 1929 to late 1930, had all the characteristics of a garden-variety recession, though somewhat more severe than most, and, indeed, had it ended in early 1930, or even early 1931, as it showed some signs of doing, it would have gone down in history in that way, not as a major contraction, let alone Great Depression. But the second phase, from the end of 1930 to 1933, was very different. It was marked by a succession of banking crises, and the

¹⁶ Ibid., p. 1.

¹⁷ The most prominent of this group are the late Joan Robinson, the late Nicholas Kaldor, in Britain, and Professor Robert Eisner, in the United States.

veritable collapse of the banking system leading to an unprecedented “bank holiday” in March 1933, during which all the banks of the country—including the Federal Reserve Banks themselves—were closed for business. When the holiday ended and “sound banks” reopened, they numbered only two-thirds as many as were in existence in 1929. This sequence of events was accompanied by a disastrous increase in unemployment, and major declines in prices, wages, and national income both in current and constant prices. From 1929 to 1933, “money income fell 53 percent and real income 36 percent Per capita real income in 1933 was almost the same as in the depression year of 1908, a quarter of a century earlier At the trough of the depression one person was unemployed for every three employed.”¹⁸ And what happened in the United States was duplicated—the banking disaster partly excepted—around the world.

To Keynes and many of his contemporaries, this sequence of events seemed a clear contradiction of the earlier theory and of the efficacy of monetary policy. They tended then, as many still do, to regard monetary policy as operating via interest rates. Short-term interest rates in the United States had fallen drastically during the contraction. In particular, the discount rate charged by the Federal Reserve Banks on loans to banks that were members of the Federal Reserve System was steadily reduced from 6 percent in 1929 to 1.5 percent by the fall of 1931, though it was then abruptly increased to 3.5 percent in response to Britain’s departure from gold in September 1931, and was still 2.5 percent in early 1933. Judged in these terms, monetary policy was “easy,” yet it apparently had been powerless to stem the contraction, giving rise to widespread apprehension that monetary policy was like a string: you could pull on it, but not push on it, i.e., monetary policy could check inflation but could not offset contraction.

From another, and I would argue far more significant, point of view, monetary policy was anything but “easy.” That point of view regards monetary policy as operating via the quantity of money. In terms of annual averages, the quantity of money in the United States fell by one-third from 1929 to 1933—by 2 percent from 1929 to 1930, just before the onset of the first banking crisis, and by a further 32 percent from 1930 to 1933. Data on the quantity of money were not published regularly at that time and were not readily available even with some lag, whereas interest rates were readily and contemporarily available—both effect and reinforcement of the tendency to interpret monetary policy in terms of the interest rate rather than the quantity of money.

Keynes may well not have known what was happening to the quantity of money, though if he had, he would also have known that “[a]t all times

¹⁸ Milton Friedman and Anna J. Schwartz, *A Monetary History of the United States, 1867–1960* (Princeton: Princeton University Press for the National Bureau of Economic Research, 1963), p. 301.

throughout the 1929–33 contraction, alternative policies were available to the [Federal Reserve] System by which it could have kept the stock of money from falling, and indeed could have increased it at almost any desired rate.” Far from demonstrating, as Keynes concluded, that monetary policy is impotent, “[t]he contraction is in fact a tragic testimonial to the importance of monetary forces.”¹⁹ The contraction continued and deepened not because there were no equilibrating forces within the economy but because the economy was subjected to a series of shocks succeeding one another: a first banking crisis beginning in the fall of 1930, a second beginning in the spring of 1931, Britain’s departure from gold in September 1931, and the final banking crisis beginning in January 1933—all accompanied by a decline in the quantity of money of 7 percent from 1930 to 1931, 17 percent from 1931 to 1932, and 12 percent from 1932 to 1933.

Even after the end of the contraction and the start of revival in 1933, the shocks continued and impeded recovery: major legislative measures during Franklin Delano Roosevelt’s New Deal that interfered with market adjustments and generated uncertainty within the business community, although some of them, particularly the enactment of federal insurance of bank deposits, reassured the community about the safety and stability of the financial institutions; then ill-advised monetary measures in 1936 that halted the rapid rise that had been occurring in the quantity of money and produced an absolute decline from early 1937 to early 1938 that exacerbated if it did not produce the accompanying severe cyclical decline.

Keynes’s readiness to interpret the U.S. experience as evidence of the impotence of monetary policy was greatly strengthened by the British experience. By contrast with the U.S., the 1920s was a period of stagnation and high unemployment that the severe worldwide contraction beginning in 1929 intensified. However, the contraction ended earlier in Britain than in the U.S., shortly after Britain left the gold standard and thereby cut its monetary link with the U.S. Here, too, a succession of shocks played an important role: the end of World War I and demobilization; the pressure to return to gold at the prewar parity, which required internal deflation; the return in 1925 to gold at a parity that overvalued the pound sterling, particularly after France returned to gold at a parity that undervalued the franc; and, finally, the shock waves that spread from the U.S. after 1929. The effect of steady deflationary pressure was reinforced by “an unemployment insurance scheme that paid benefits that were high relative to wages available subject to few restrictions Although a few interwar observers saw clearly the effects of unemployment insurance, Keynes and his followers did not.”²⁰

¹⁹ Ibid., pp. 693 and 300.

²⁰ Daniel K. Benjamin and Levis A. Kochin, “Searching for an Explanation of Unemployment in Interwar Britain,” *Journal of Political Economy*, vol. 87 (June 1979), p. 441.

4. KEYNES'S POLITICAL INFLUENCE

In judging Keynes's overall influence on public policy, it is necessary to distinguish his bequest to technical economics from his bequest to politics. Keynes's bequest to technical economics was strongly positive. His bequest to politics, in my opinion, was not. Yet I conjecture that his bequest to politics has had far more influence on the shape of today's world than his bequest to technical economics. In particular, it has contributed greatly to the proliferation of overgrown governments increasingly concerned with every phase of their citizens' daily lives.²¹

I can best indicate what I regard to be Keynes's bequest to politics by quoting from his famous letter to Professor Friedrich von Hayek praising Hayek's *Road to Serfdom*. The part generally quoted is from the opening paragraph of the letter: "In my opinion it is a grand book [M]orally and philosophically I find myself in agreement with virtually the whole of it; and not only in agreement with it, but in a deeply moved agreement."

The part I want to direct attention to comes later:

"I should therefore conclude your theme rather differently. I should say that what we want is not no planning, or even less planning, indeed I should say that we almost certainly want more. But the planning should take place in a community in which as many people as possible, both leaders and followers wholly share your own moral position. Moderate planning will be safe if those carrying it out are rightly orientated in their own minds and hearts to the moral issue.

"What we need therefore, in my opinion, is not a change in our economic programmes, which would only lead in practice to disillusion with the results of your philosophy; but perhaps even the contrary, namely, an enlargement of them No, what we need is the restoration of right moral thinking—a return to proper moral values in our social philosophy Dangerous acts can be done safely in a community which thinks and feels rightly, which would be the way to hell if they were executed by those who think and feel wrongly."²²

Keynes was exceedingly effective in persuading a broad group—economists, policymakers, government officials, and interested citizens—of the two concepts implicit in his letter to Hayek: first, the public interest concept of government; second, the benevolent dictatorship concept that all will be well if only good men are in power. Clearly, Keynes's agreement with "virtually the

²¹ The rest of this preface up to the final paragraph is drawn largely from my "Comment on Leland Yeager's Paper on the Keynesian Heritage," in *The Keynesian Heritage*, a symposium by Leland Yeager, Milton Friedman, and Karl Brunner, Center Symposia Series CS-16 (Rochester, N.Y.: Center for Research in Government Policy and Business, Graduate School of Management, University of Rochester, 1985), pp. 12–18.

²² Donald Moggridge, ed., *John Maynard Keynes, The Collected Writings*, Vol. XXVII: *Activities, 1940–1946*, pp. 385, 387, 388.

whole” of the *Road to Serfdom* did not extend to the chapter titled “Why the Worst Get on Top.”

Keynes believed that economists (and others) could best contribute to the improvement of society by investigating how to manipulate the levers actually or potentially under control of the political authorities so as to achieve desirable ends, and then persuading benevolent civil servants and elected officials to follow their advice. The role of voters is to elect persons with the right moral values to office and then let them run the country.

From an alternative point of view, economists (and others) can best contribute to the improvement of society by investigating the framework of political institutions that will best assure that an individual government employee or elected official who, in Adam Smith’s words, “intends only his own gain . . . is . . . led by an invisible hand to promote an end that was no part of his intention,” and then persuading the voters that it is in their self-interest to adopt such a framework. The task, that is, is to do for the political market what Adam Smith so largely did for the economic market.

Keynes’s view has been enormously influential—if only by strongly reinforcing a pre-existing attitude. Many economists have devoted their efforts to social engineering of precisely the kind that Keynes engaged in and advised others to engage in. And it is far from clear that they have been wrong to do so. We must act within the system as it is. We may regret that government has the powers it does; we may try our best as citizens to persuade our fellow citizens to eliminate many of those powers; but so long as they exist, it is often, though by no means always, better that they be exercised efficiently than inefficiently. Moreover, given that the system is what it is, it is entirely proper for individuals to conform and promote their interests within it.

An approach that takes for granted that government employees and officials are acting as benevolent dictators to promote in a disinterested way what they regard as the public’s conception of the “general interest” is bound to contribute to an expansion in governmental intervention in the economy—regardless of the economic theory employed. A monetarist no less than a Keynesian interpretation of economic fluctuations can lead to a fine-tuning approach to economic policy.

The persuasiveness of Keynes’s view was greatly enhanced in Britain by historical experience, as well as by the example Keynes himself set. Britain retains an aristocratic structure—one in which noblesse oblige was more than a meaningless catchword. What has changed are the criteria for admission to the aristocracy—if not to a complete meritocracy, at least some way in that direction. Moreover, Britain’s nineteenth-century laissez-faire policy produced a largely incorruptible civil service, with limited scope for action, but with great powers of decision within those limits. It also produced a law-obedient citizenry that was responsive to the actions of the elected officials operating in turn under the influence of the civil service. The welfare state of the twentieth

century has almost completely eroded both elements of this heritage. But that was not true when Keynes was forming his views, and during most of his public activity.

Keynes's own experience was also influential, particularly to economists. He set an example of a brilliant scholar who participated actively and effectively in the formulation of public policy—both through influencing public opinion and as a technical expert called on by the government for advice. He set an example also of a public-spirited and largely disinterested participant in the political process. And it is not irrelevant that he gained worldwide fame, and a private fortune, in the process.

The situation was very different in the United States. The United States is a democratic not an aristocratic society, as Tocqueville pointed out long ago. It has no tradition of an incorruptible or able civil service. Quite the contrary. The spoils system formed public attitudes far more than a supposedly non-political civil service. And it did so even after it had become very much emasculated in practice. As a result, Keynes's political bequest has been less effective in the United States than in Britain, which partly explains, I believe, why the "public choice" revolution in the analysis of politics occurred in the United States. Yet even in the United States, Keynes's political bequest has been tremendously effective. Certainly most writing by economists on public policy—as opposed to scientific and technical economics—has been consistent with it. Economists, myself included, have sought to discover how to manipulate the levers of power more effectively, and to persuade—or educate—governmental officials regarded as seeking to serve the public interest.

I conclude that Keynes's political bequest has done far more harm than his economic bequest and this for two reasons. First, whatever the economic analysis, benevolent dictatorship is likely sooner or later to lead to a totalitarian society. Second, Keynes's economic theories appealed to a group far broader than economists primarily because of their link to his political approach. Here again, Keynes, in his letter to Hayek, said it better than I can: "Moderate planning will be safe if those carrying it out are rightly orientated in their own minds and hearts to the moral issue. This is in fact already true of some of them. But the curse is that there is also an important section who could almost be said to want planning not in order to enjoy its fruits but because morally they hold ideas exactly the opposite of yours [i.e., Hayek's], and wish to serve not God but the devil. Reading the *New Statesman and Nation* one sometimes feels that those who write there, while they cannot safely oppose moderate planning, are really hoping in their hearts that it will not succeed; and so prejudice more violent action. They fear that if moderate measures are sufficiently successful, this will allow a reaction in what you think the right and they think the wrong moral direction. Perhaps I do them an injustice; but perhaps I do not."

Keynes did not let this analysis prevent him from serving until his death as chairman of the *New Statesman and Nation*—presumably in the hope of

influencing the moral views of its editors and writers. I regard Keynes's analysis as indicating that the key problem is not how to achieve a moral regeneration but rather how either to frustrate what Keynes regards as "bad morals," or to construct a political framework in which those "bad morals" serve not only the private but also the public interest, just as, in the economic market, private greed is converted to public service.

The literature on Keynes and on the *General Theory* is by now immense. Of the books specifically devoted to Keynes's life, two stand out: the initial authorized biography by his student and disciple, Roy F. Harrod, *The Life of John Maynard Keynes* (1951); and the more recent multi-volume biography by Robert J. A. Skidelsky, *John Maynard Keynes*, Vol. 1: *Hopes Betrayed, 1883–1920* (London: Macmillan, 1983), and Vol. 2: *The Economist as Prince, 1920–1937* (London: Macmillan, 1988). The *Collected Writings of John Maynard Keynes* have been published under the auspices of the Royal Economic Society in 29 volumes (Macmillan, 1971 to 1982), with a final *Bibliography and Index* yet to come. This splendid collection includes not only his major work but also his published articles on economics and politics, many previously unpublished items, including letters, official memoranda and notes, and the like.