Levy Economics Institute of Bard College

Policy Note

2011 / 4

WAS KEYNES'S MONETARY POLICY, *À OUTRANCE* IN THE *TREATISE*, A FORERUNNER OF ZIRP AND QE? DID HE CHANGE HIS MIND IN THE *GENERAL THEORY*?

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Introduction. Keynes's Challenge: ZIRP and QE

At the end of 1930, as the 1929 US stock market crash was starting to have an impact on the real economy in the form of falling commodity prices, falling output, and rising unemployment, John Maynard Keynes, in the concluding chapters of his *Treatise on Money*, launched a challenge to monetary authorities to take "deliberate and vigorous action" to reduce interest rates and reverse the crisis. He argues that until "extraordinary," "unorthodox" monetary policy action "has been taken along such lines as these and has failed, need we, in the light of the argument of this treatise, admit that the banking system can *not*, on this occasion, control the rate of investment, and, therefore, the level of prices" (Keynes 1930a, 387).[1] The "unorthodox" policies that Keynes recommends are a nearly perfect description of the Japanese central bank's experiment with a zero interest rate policy (ZIRP) in the 1990s and the Federal Reserve's experiment with ZIRP, accompanied by quantitative easing (QE1 and QE2), during the recent crisis. These experiments may be considered

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a response to Keynes's challenge, and to provide a clear test of his belief in the power of monetary policy to counter financial crisis. That response would appear to be a clear *No*.

The Objectives of Monetary Policy

In the penultimate chapter of volume 2 of the *Treatise*, Keynes raises the question of the ability of the monetary authority to influence the price level: "I reach at last the crux of the whole matter. We have endeavoured to analyse and to classify the multifarious factors which determine the price level and the means by which the central bank in a closed system, or the aggregate behaviour of central banks throughout the world, can influence and dominate the behaviour of the banking and monetary system as a whole. But when all is said and done, does it lie within the power of a central bank in actual practice to pursue a policy which will have the effect of fixing the value of money at any prescribed level?" (339).

Keynes confronts this question in the context of setting the central bank the legal "duty of preserving the purchasing power of money within narrow limits" (ibid.). While he indicates that he had formerly been favorably disposed to such a proposition, he notes that the "reasonable doubts expressed by persons of great experience" (345) had tested his resolve. He refers in particular to committee hearings held in the United States on the issue of whether the Federal Reserve Act should be amended "to lay upon the Federal Reserve Board the duty of using all the powers at its disposal to 'promote a stable price level for commodities in general'" (340). In particular, the hearings raised the question of how international conditions impact commodity prices, and thus domestic prices, and the difficulty of using monetary policy to counter declining prices in a depression.

Despite his doubts, Keynes nonetheless answers his own question in the affirmative, urging central bankers to adopt extraordinary, unorthodox measures in an attempt to counter the deepening recession. His proposals are virtually identical to the measures that were taken by the Bank of Japan in countering the collapse of asset prices in the 1990s and the policies adopted by the Federal Reserve in response to the financial crash of 2007–08.

The *Treatise* and the Alternative Determination of Prices

Keynes's position is built on the explanation of price determination that he had attempted to provide as an alternative to the traditional quantity theory. His approach was based on the formulation of "fundamental equations" for the prices of what he called "available" and "non-available" output: "We have claimed to prove in this treatise that the price level of output depends on the level of money incomes relatively to efficiency, on the volume of investment (measured in cost of production) relatively to saving, and on the 'bearish' or 'bullish' sentiment of capitalists relatively to the supply of savings deposits available in the banking system. We have claimed, further, that the banking system can control the supply of savings deposits, and hence the third factor; that it can by the terms of credit influence to any required extent the volume of investment, and hence the second factor; and that the indirect effects of its influence on the volume of investment determine the money offers which entrepreneurs make to the factors of production, and hence the first factor. But we have *not* claimed that the banking system can produce any of these effects instantaneously; or that it can be expected always to foresee the operation of non-monetary factors in time to take measures in advance to counteract their influence on prices; or that it can avoid violent fluctuations in the prices of different classes of commodities relatively to one another; or that a central bank, which is a member of an international system, can preserve domestic stability irrespective of the behavior of other central banks" (345–46).

In simple terms, Keynes argued that prices would be determined by unit labor costs (efficiency wages) and the pressure of demand (caused by a divergence of savings from investment). The focus of recovery policy should thus be to increase investment in order to drive up the demand for output, absorbing excess production and encouraging entrepreneurs to again expand employment and production. Keynes points out that his approach is substantially different from that of the quantity theorists, in that there is no direct impact of money on prices. Indeed, he notes the opposition that they might raise against his approach: that it would generate inflation rather than recovery of output.

Keynes's conclusions regarding the limitations of the banking system's ability to control the price level include:

- It is much easier to preserve stability than to restore it quickly.
- Nonmonetary causes of instability may sometimes arise so suddenly that it is impossible to counteract them in time.
- Strong social or political forces may cause spontaneous changes in the money rates of efficiency wages, and thus the control of the price level may pass beyond the power of the banking system.
- If the country adheres to an international standard that is itself unstable, it is, of course, impossible to preserve the stability of the domestic price level. Thus, even if the banking system is strong enough to preserve the stability of the price level, it does not follow that it is strong enough both to alter the price level and to establish equilibrium at the new level without long delays and frictions.

"In short," says Keynes, "I should attribute to the banking system much greater power to *preserve* investment equilibrium than to force the prevailing rate of money incomes away from the existing level or from the level produced by spontaneous changes, to a new and changed level imposed by conditions abroad or by arbitrary decree at home" (352).

Short-Term and Long-Term Rates of Interest

A major difficulty that Keynes recognizes in his reasoning is that "the main direct influence of the banking system is over the short-term rate of interest. But when it is a question of controlling the rate of investment, not in working capital but in fixed capital, it is the long-term rate of interest which chiefly matters. How can we be sure that the long-term rate of interest will respond to the wishes of the currency authority which will be exerting its direct influence, as it must, mainly on the short-term rate?" (ibid.).

But he does not consider this a real problem, since "experience shows that, as a rule, the influence of the short-term rate of interest on the long-term rate is much greater than anyone who argued on the above lines would have expected. We shall find, moreover, that there are some sound reasons, based on the technical character of the market, why it is not unnatural that this should be so" (353). Keynes cites the work of the American economist Winfield William Riefler (1930), who drew on statistical studies by the Federal Reserve Board to show that "'all the important movements in short-term rates from 1919 to 1928 were reflected in bond yields. Minor fluctuations in short-term rates were also frequently reflected in bond yields, even in the years 1921 and 1926'"(quoted in ibid.). Riefler observes that, "'the surprising fact is not that bond yields are relatively stable in comparison with short-term rates, but rather that they have reflected fluctuations in short-term rates so strikingly and to such a considerable extent'" (ibid., 355–56).[2]

Keynes then outlines the reasons why these results shouldn't be surprising:

> (a) If the running yield on bonds is greater than the rate payable in short-term loans, a profit is obtainable by borrowing short in order to carry long-term securities, so long as the latter do not actually fall in value during the currency of the loan. . . .
>
> (b) There are a number of financial institutions . . . which vary from time to time the proportionate division of their assets between long-term and short-term securities respectively. Where short-term yields are high, the safety and liquidity of short-term securities appear extremely attractive. But when short-term yields are very low, not only does this attraction disappear, but another motive enters in, namely, a fear lest the institution may be unable to maintain its established level of income, any serious falling off in which would be injurious to its reputation. A point comes, therefore, when they hasten to move into long-dated securities; the movement itself sends up the price of the latter; and this movement seems to confirm the wisdom of those who were recommending the policy of the changeover. Thus, unless there is a serious reason in the minds of the majority of those controlling funds for positively fearing long-term securities at their existing price level, this price will tend to rise a little, and the initial small price will tend to become a bigger one through its increasing the general anxiety amongst those who cannot afford to see their income from running yield suffer a serious fall, lest they miss the bus. (357–58)

In addition to these "technical reasons," Keynes raises an issue that would take on greater importance in the *General Theory*: the predominant impact of short-term realizations on long-term expectations. "In truth," he writes, "we know almost nothing about the more remote future. . . . The value of a company's shares, and even of its bonds, will be found to be sensitive to a degree, which a rational observer from outside might consider quite absurd, to short-period fluctuations in its known or anticipated profits. . . .

"Nor need we be surprised. The ignorance of even the best-informed investor about the more remote future is much greater than his knowledge, and he cannot but be influenced to a degree which would seem wildly disproportionate to anyone who really knew the future, by the little which he knows for certain, or almost for certain, about the recent past and the near future, and be forced to seek a clue mainly here to trends further ahead. But if this is true of the best informed, the vast majority . . . know almost nothing whatever about what they are doing. They do not possess even the rudiments of what is required for a valid judgment, and are the prey of hopes and fears easily aroused by transient events and as easily dispelled. This is one of the odd characteristics of the capitalist system under which we live, which, when we are dealing with the real world, is not to be overlooked.

"But there is also a further reason why it may often profit the wisest to anticipate mob psychology rather than the real trend of events, and to ape reason proleptically. For the value of a security is determined, not by the terms on which one could expect to purchase the whole block of the outstanding interest, but by the small fringe which is the subject of actual dealing; just as current new investment is only a small fringe on the edge of the totality of existing investments. Now this fringe is largely dealt in by professional financiers—speculators you may call them—who have no intention of holding the securities long enough for the influence of distant events to have its effect; their object is to re-sell to the mob after a few weeks or at most a few months. It is natural, therefore, that they should be influenced by the cost of borrowing, and still more by their expectations on the basis of past experience of the trend of mob psychology. Thus, so long as the crowd can be relied on to act in a certain way, even if it be misguided, it will be to the advantage of the better-informed professional to act in the same way—a short period ahead" (359–61).

Short-Term Money: Quantity Is as Important as Price

Having established the importance of the short term in formulating long-term expectations, and thus the possibility that short-term interest rates could be used to influence long-term capital investment decisions, Keynes goes on to admit, "I do not believe . . . that the volume of investment either in working capital or in liquid capital is sensitive to changes in the short-term rate of interest by itself and unless these changes create an expectation of changes in prices. Fluctuations in the volume of investment in working and liquid capital play a large part, of course, in the accentuation of booms and depressions; but I doubt if they can be either caused or avoided merely by changes of bank rate. They generally represent a belated response to changes in the price level which have been brought about by an unbalanced volume of investment in fixed capital. . . .

"Such effects as can be produced directly on the willingness to invest in working in liquid capital are attributable, I think, rather to the greater or less degree in which the fringe of 'unsatisfied' borrowers . . . is satisfied than to the cheapness or dearness of money in itself.

"On the other hand, the direct effects of cheap money operating through changes, even small ones, in the bond market . . . on the volume of new investment is probably of more importance. Willingness to invest more or less in manufacturing plant is not likely to be very sensitive to small changes in bond rate" (364).

Extraordinary Measures: ZIRP and QE

But Keynes goes on: "So far we have been dealing with the normal and orthodox methods by which a central bank can use its powers for easing (or stiffening) the credit situation to stimulate (or retard) the rate of new investment. If these measures are applied in the right degree and *at the right time*, I doubt whether it would often be necessary to go beyond them or to apply the extraordinary methods next to be considered. It is only, that is to say, if the milder remedies have not been applied in time, so that conditions of acute slump or boom have been allowed to develop, that more extreme measures will have to be invoked and that doubts may be reasonably entertained whether even these more extreme measures will be wholly efficacious.

"*These extraordinary methods are, in fact, no more than an intensification of the normal procedure of open-market operations* [emphasis added]. I do not know of any case in which the method of open-market operations has been carried out *à outrance*. Central banks have always been too nervous hitherto—partly, perhaps under the influence of crude versions of the quantity theory—of taking measures which would have the effect of causing the total volume of bank money to depart widely from its normal value, whether in excess or in defect. But this attitude of mind neglects, I think, the part which the 'bullishness' or 'bearishness' of the public plays in the demand for bank money; it forgets the financial circulation in its concern for the industrial circulation, and overlooks the statistical fact that the former may be quite as large as the latter and much more capable of sharp variation. . . . On such occasions the central bank should carry its open-market operations to the point of satisfying to saturation the desire of the public to hold savings deposits, or of exhausting the supply of such deposits in the contrary case.

"The risk of bringing to bear too rapidly and severely on the industrial circulation, when it is the financial circulation which is being aimed at, is greater, I think in the case of a contraction of credit than in the case of an expansion. But, on the other hand, it is less likely to be necessary to resort to extreme measures to check a boom than to check a slump. . . .

"My remedy in the event of the obstinate persistence of the slump would consist, therefore, in the purchase of securities by the central bank until the long-term market rate of interest has been brought down to the limiting point, which we shall have to admit a few paragraphs further on. It should not be beyond the power of a central bank (international complications apart) to bring down the long-term market-rate of interest to any figure at which it is itself prepared to buy long-term securities. For the bearishness of the capitalist public is never *very* obstinate, and when the rate of interest on savings deposits is next door to nothing the saturation point can fairly soon be reached. If the central bank supplies the member banks with more funds than they can lend at short term, in the first place the short-term rate of interest will decline towards zero, and in the second place the member banks will soon begin, if only to maintain their profits, to second the efforts of the central bank by themselves buying securities. This means that the price of bonds will rise until there are many persons to be found who, as they see the prices of long-term bonds rising, prefer to sell them and hold the proceeds liquid at a very low rate of interest. If (e.g.) the long-term rate is 3 per cent per annum above the short-term rate, this means that the mathematical expectation for bond prices in the minds of such persons is for a fall of 3 per cent per annum; and at that and at a time when bond prices are in fact rising and the central bank is accentuating the cheapness of money, there is not likely to be a large volume of such selling—unless the price of bonds has been driven to a level which is generally believed to be quite excessive from the long-period point of view, a contingency and a limiting factor to the consideration of which we will return shortly. If the effect of such measures is to raise the price of 'equities' (e.g., ordinary shares) more than the price of bonds, no harm *in a time of slump* will result from this; for investment can be stimulated by its being unusually easy to raise resources by the sale of ordinary shares as well as by high bond prices. Moreover, a very excessive price for equities is not likely to occur at a time of depression and business losses.

"Thus I see small reason to doubt that the central bank can produce a large effect on the cost of raising new resources for long-term investment, if it is prepared to persist with its open-market policy far enough. What, however, are in practice the factors limiting the degree in which it can push such a policy home?

"There is, first of all, the question of the sufficiency of its 'ammunition,' i.e., of its power to go on buying or selling in adequate quantity securities of the suitable kind. The lack of suitable ammunition is more likely to hamper a central bank when it is seeking to contract the volume of bank money than when it is seeking to expand it, since its stock of securities at the commencement of its contraction policy is necessarily limited. But it also operates, in a sense, against an expansionist policy, since a central bank is generally limited in the type of securities which it purchases, so that, if it continues such purchases beyond a certain point, it may create an entirely artificial position in them relatively to other securities. It is to provide against the contingency of insufficient ammunition for the carrying on of open-market operations *à outrance* that I have suggested . . . that the central bank should have power to vary within limits the reserve requirements of its member banks" (369–72).

Keynes then notes that if the central bank may be purchasing securities at rates "*far beyond what it considers to be the long-term norm* . . . this will mean that these purchases, when in due course they have to be reversed by sales at a later date, may show a serious financial loss. . . .

"We might perhaps expect the central bank, as representing the public interest, to be ready to run the risks of the future prospects when private interest reckons these risks to be unusually high. But the choice may conceivably lie between assuming the burden of a prospective loss, allowing the slump to continue, and socialistic action, by which some official body steps into the shoes which the feet of the entrepreneurs are too cold to occupy.[3]

"I would repeat, however, that these extreme situations are not likely to arise except as a result of some previous mistake which has prevented the slumping tendency from being remedied at an earlier stage before so complete a lack of confidence had sapped the spirits and the energies of enterprise" (373).

"A partial recovery, therefore, is to be anticipated merely through the elapse of time and without the application of purposeful remedies. But if my diagnosis is correct, we cannot hope for a complete or lasting recovery until there has been a very great fall in the long-term market rate of interest throughout the world towards something nearer pre-war levels. Failing this, there will be a steady pressure towards profit deflation and a sagging price level" (384). Thus, Keynes concludes, without extraordinary policies, "the thing will never cure itself by the lack of borrowers forcing down the rate; *for it absorbs just as much savings to finance losses as to finance investment*" (ibid.). "The remedy should come, I suggest, from a general recognition that the rate of investment need not be beyond our control, if we are prepared to use our banking systems to effect a proper adjustment of the market rate of interest. It might be sufficient merely to produce a general belief in the long continuance of a very low rate of short-term interest. The change, once it has begun, will feed on itself" (386).

It would appear that the Bank of Japan, by introducing a zero interest rate policy, experimented with Keynes's recommendation that interest rates be set as low as possible, and that the Federal Reserve, through its program of quantitative lending, has followed his recommendation in full by purchasing long-term securities to bring down the long-term rate of interest and satiate the desire to hold deposits. Keynes notes that these policies are not at all different from normal open-market policies, and that the central bank possesses the power to set any interest rate, short or long, at any level it desires. It also appears as if Keynes's expectation that the public would become willing buyers of government securities upon a sharp reduction in short rates, thereby aiding the policy of lowering the long-term rate, was accurate. In addition, we have experienced the recovery of stock prices that Keynes expected.

What has not been borne out is the expected impact on the rate of investment. Businesses have indeed increased their borrowing, and the spread between corporate junk bonds has fallen to near-historic lows as companies seek to borrow at historically low interest rates. However, these funds are not being used to finance new investment. Similarly, banks have accumulated record levels of reserves in their deposit accounts at the Fed, earning the short-term interest rate, which is nearly zero. Thus, the policy has been successful in influencing the interest rate in the way Keynes predicted, but it has not had the impact on investment that he outlined in the *Treatise*.

A Shift of Position in the *General Theory*?

Keynes maintained his belief in the efficacy of monetary policy at least until September 1932, when he writes in the *Economic Journal*, "A reduction of the long-term rate of interest to a low level is probably the most necessary of all measures if we are to escape from the slump and secure a lasting revival of enterprise" (Keynes 1932, 415). However, his position changed with his development of the *General Theory*.

Keynes tells his readers that one of the basic differences between it and the earlier book is the separation of the analysis of investment in financial assets and capital assets through the separation of their determinants via liquidity preference and the marginal efficiency of capital. While the *Treatise* made a distinction between industrial and financial circulation, the prices of both assets and liabilities were treated in a single fundamental price equation and financed by the financial circulation.

In his new analysis in the *General Theory*, Keynes states that "current investment will depend . . . on what we shall call the inducement to invest; and the inducement to invest will be found to depend on the relation between the schedule of the marginal efficiency of capital and the complex of rates of interest on loans of various maturities and risks" (Keynes 1936, 27). "The schedule of the marginal efficiency of capital may be said to govern the terms on which loanable funds are demanded for the purpose of new investment; whilst the rate of interest governs the terms on which funds are being currently supplied" (165).

Another novel feature of the *General Theory* is its emphasis on the conditions of a monetary economy as "one in which changing views about the future are capable of influencing the

quantity of employment and not merely its direction" (ibid., vii). In particular, Keynes notes that the major determinant of the rate of interest will be "largely governed by the prevailing view as to what its value is expected to be" (203), while "the schedule of the marginal efficiency of capital is of fundamental importance because it is mainly through this factor (much more than through the rate of interest) that the expectation of the future influences the present"(145).

Echoing his views in the *Treatise*, he writes: "It would be foolish, in forming our expectations, to attach great weight to matters which are very uncertain. It is reasonable, therefore, to be guided to a considerable degree by the facts about which we feel somewhat confident, even though they may be less decisively relevant to the issue than other facts about which our knowledge is vague and scanty. For this reason the facts of the existing situation enter, in a sense disproportionately, into the formation of our long-term expectations; our usual practice being to take the existing situation and to project it into the future, modified only to the extent that we have more or less definite reasons for expecting a change.

"The state of long-term expectation, upon which our decisions are based, does not solely depend, therefore, on the most probable forecast we can make. It also depends on the *confidence* with which we make this forecast—on how highly we rate the likelihood of our best forecast turning out quite wrong. If we expect large changes but are very uncertain as to what precise form these changes will take, then our confidence will be weak.

"The *state of confidence* . . . is a matter to which practical men always pay the closest and most anxious attention" because of "its important influence on the schedule of the marginal efficiency of capital. There are not two separate factors affecting the rate of investment, namely, the schedule of the marginal efficiency of capital and the state of confidence. The state of confidence is relevant because it is one of the major factors determining the former" (148–49). Thus, "there is no clear evidence from experience that the investment policy which is socially advantageous coincides with that which is most profitable. It needs *more* intelligence to defeat the forces of time and our ignorance of the future than to beat the gun. Moreover, life is not long enough;—human nature desires quick results, there is a peculiar zest in making money quickly, and remoter gains are discounted by the average man at a very high rate. The game of professional investment is intolerably boring and overexacting to anyone who is entirely exempt from the gambling instinct; whilst he who has it must pay to this propensity the appropriate toll. Furthermore, an investor who proposes to ignore near-term market fluctuations needs greater resources for safety and must not operate on so large a scale, if at all, with borrowed money—a further reason for the higher return from the pastime to a given stock of intelligence and resources. Finally it is the long-term investor, he who most promotes the public interest, who will in practice come in for most criticism, wherever investment funds are managed by committees or boards or banks. For it is in the essence of his behaviour that he should be eccentric, unconventional and rash in the eyes of average opinion. If he is successful, that will only confirm the general belief in his rashness; and if in the short run he is unsuccessful, which is very likely, he will not receive much mercy. Worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally" (157).

As a result, Keynes modifies his prior belief in the positive impact of lower interest rates on the rate of investment. For example, "an expectation of a future fall in the rate of interest will have the effect of *lowering* the schedule of the marginal efficiency of capital; since it means that the output from equipment produced to-day will have to compete during part of its life with the output from equipment which is content with a lower return. This expectation will have no great depressing effect, since the expectations, which are held concerning the complex of rates of interest for various terms which will rule in the future, will be partially reflected in the complex of rates of interest which rule to-day. Nevertheless there may be some depressing effect, since the output from equipment produced to-day, which will emerge towards the end of the life of this equipment, may have to compete with the output of much younger equipment which is content with a lower return because of the lower rate of interest which rules for periods subsequent to the end of the life of equipment produced to-day" (143).

Keynes also modifies his position on the ability of the central bank to influence the lending practices of financial institutions through a reduction in interest rates: "So far we have had chiefly in mind the state of confidence of the speculator or speculative investor himself and may have seemed to be tacitly assuming that, if he himself is satisfied with the prospects, he has unlimited command over money at the market rate of interest. This is, of course, not the case. Thus we must also take account of the other facet of the state of confidence, namely, the confidence of the lending institutions towards those who seek to

borrow from them, sometimes described as the state of credit. A collapse in the price of equities, which has had disastrous reactions on the marginal efficiency of capital, may have been due to the weakening either of speculative confidence or of the state of credit. But whereas the weakening of either is enough to cause a collapse, recovery requires the revival of *both*. For whilst the weakening of credit is sufficient to bring about a collapse, its strengthening, though a necessary condition of recovery, is not a sufficient condition" (158).

Further, Keynes argues that there may be difficulty in pushing interest rates down to extremely low levels: "We have seen . . . that *uncertainty* as to the future course of the rate of interest is the sole intelligible explanation of the type of liquidity-preference . . . which leads to the holding of cash. . . . It follows that . . . what matters is not the *absolute* level of *r* [rate of interest] but the degree of its divergence from what is considered a fairly *safe* level of *r*, having regard to those calculations of probability which are being relied on. . . . Every fall in *r* reduces the market rate relatively to the 'safe' rate and therefore increases the risk of illiquidity; and, in the second place, every fall in *r* reduces the current earnings from illiquidity, which are available as a sort of insurance premium to offset the risk of loss on capital account, by an amount equal to the difference between the *squares* of the old rate of interest and the new. For example, if the rate of interest on a long-term debt is 4 per cent, it is preferable to sacrifice liquidity unless on a balance of probabilities it is feared that the long-term rate of interest may rise faster than by 4 per cent of itself per annum, i.e. by an amount greater than 0.16 per cent per annum. If, however, the rate of interest is already as low as 2 per cent, the running yield will only offset a rise in it of as little as 0.04 per cent per annum. *This, indeed, is perhaps the chief obstacle to a fall in the rate of interest to a very low level* [emphasis added]. Unless reasons are believed to exist why future experience will be very different from past experience, a long-term rate of interest of (say) 2 per cent leaves more to fear than to hope, and offers, at the same time, a running yield which is only sufficient to offset a very small measure of fear" (201–02).

Keynes also notes that the classical theory proposed an alternative method of lowering the rate of interest, by "reducing wages, whilst leaving the quantity of money unchanged. . . . Just as a moderate increase in the quantity of money may exert an inadequate influence over the long-term rate of interest, whilst an immoderate increase may offset its other advantages by its disturbing effect on confidence; so a moderate reduction in money-wages may prove inadequate, whilst an immoderate reduction might shatter confidence even if it were practicable.

"There is, therefore, no ground for the belief that a flexible wage policy is capable of maintaining a state of continuous full employment;—any more than for the belief that an open-market monetary policy is capable, unaided, of achieving this result. The economic system cannot be made self-adjusting along these lines" (267).

Although Keynes continues to maintain that the "short-term rate of interest is easily controlled by the monetary authority, both because it is not difficult to produce a conviction that its policy will not greatly change in the very near future, and also because the possible loss is small compared with the running yield (unless it is approaching vanishing point)," he also observes that "the long-term rate may be more recalcitrant when once it has fallen to a level which, on the basis of past experience and present expectations of *future* monetary policy, is considered 'unsafe' by representative opinion. For example, in a country linked to an international gold standard, a rate of interest lower than prevails elsewhere will be viewed with a justifiable lack of confidence; yet a domestic rate of interest dragged up to a parity with the *highest* rate (highest after allowing for risk) prevailing in any country belonging to the international system may be much higher than is consistent with domestic full employment" (203).

Thus, the influence of capital's marginal efficiency on the rate of investment (independent of the rate of interest) and liquidity preference as the (independent) determinant of the rate of interest leads Keynes to modify his *Treatise* analysis of the impact of "extraordinary" monetary policy on the long-term rate of interest: "A monetary policy which strikes public opinion as being experimental in character or easily liable to change may fail in its objective of greatly reducing the long-term rate of interest, because M_2 [speculative funds] may tend to increase almost without limit in response to a reduction of *r* below a certain figure. The same policy, on the other hand, may prove easily successful if it appeals to public opinion as being reasonable and practicable and in the public interest, rooted in strong conviction, and promoted by an authority unlikely to be superseded"(ibid.).

In the *General Theory*, Keynes, "after giving full weight to the importance of the influence of short-period changes in the state of long-term expectation as distinct from changes in the

rate of interest," further modifies his belief in the efficacy of monetary policy to influence the rate of investment, noting that "we are still entitled to return to the latter [i.e., the rate of interest] as exercising, at any rate, in normal circumstances, a great, though not a decisive, influence on the rate of investment. Only experience, however, can show how far management of the rate of interest is capable of continuously stimulating the appropriate volume of investment" (164). He then goes on to state: "For my own part I am now somewhat sceptical of the success of a merely monetary policy directed towards influencing the rate of interest. I expect to see the State, which is in a position to calculate the marginal efficiency of capital-goods on long views and on the basis of the general social advantage, taking an ever greater responsibility for directly organising investment; since it seems likely that the fluctuations in the market estimation of the marginal efficiency of different types of capital, calculated on the principles I have described above, will be too great to be offset by any practicable changes in the rate of interest" (ibid.).

While Keynes can be considered the true father of the unorthodox monetary policies introduced by the Bank of Japan and the Federal Reserve, these policies also meet the test of their efficacy that Keynes called for. They suggest that Keynes's *Treatise* optimism was misplaced, and that his more nuanced position in the *General Theory* was more appropriate; in particular, his emphasis on the need to provide an external source of demand through government expenditure. Finally, in comparison with the current period, Keynes did not take into account the impact of capital loss on the inducement to invest and the propensity to consume, factors that in all likelihood would have led him to place even greater emphasis on the role of government spending in bringing about recovery.

Notes

1. Keynes had expressed this view as early as May 1930, in an article in the *Nation* that reflects the conclusions of the *Treatise*: "The fact is—a fact not yet recognized by the great public—that we are now in the depths of a very severe international slump, a slump which will take its place in history amongst the most acute ever experienced. It will require not merely passive movements of bank rates to lift us out of a depression of this order, but a very active and determined policy" (Keynes 1930b, n.p.).
2. Keynes does not, however, report Riefler's caveat that this is more the result of the impact on the stock of existing long-terms bonds than on the prices of newly issued long-term securities; see Riefler 1930, 123.
3. In Keynes 1932, he notes that "in the United States the fear of the Member Banks lest they should be unable to cover their expenses" may have provided "an obstacle to the adoption of a wholehearted cheap money policy" (421–22).

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