



OXFORD JOURNALS  
OXFORD UNIVERSITY PRESS

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Keynes, Inflation and Money Illusion

Author(s): James A. Trevithick

Source: *The Economic Journal*, Mar., 1975, Vol. 85, No. 337 (Mar., 1975), pp. 101-113

Published by: Oxford University Press on behalf of the Royal Economic Society

Stable URL: <https://www.jstor.org/stable/2230531>

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## KEYNES, INFLATION AND MONEY ILLUSION<sup>1</sup>

WITH the onset of war in 1939, Keynes turned his attention to the problem of financing the war effort of the United Kingdom. One of his main preoccupations at this time was with devising a method of war finance which depended to but a minimal extent upon inflation. In the course of writing and advising on financial problems, Keynes advanced a model of inflation which was subsequently adapted and translated into mathematical form by neo-Keynesian writers. These adaptations, however, were not particularly faithful to Keynes's writings on inflation. They tended to place great emphasis upon the equilibrating properties of labour markets which were subject to money illusion.

Section I of this paper will be devoted (*a*) to a restatement of Keynes's theory of inflation and (*b*) to an examination of the strategy he advanced for controlling inflation. The model formulated in this section will be contrasted in Section II with neo-Keynesian formalisations of *How to Pay for the War* which rely heavily upon the presence of money illusion in the labour market. The central thesis of these two sections will be that Keynes had a very different process in mind when writing on wartime inflation. Far from assuming that inflation would eventually cease once certain irrational forces had redistributed income sufficiently in favour of low consumption groups, Keynes regarded ongoing, but not accelerating, inflation as the mechanism which maintained a distribution of national income consistent with income-expenditure equilibrium.

### I. KEYNES ON INFLATION

In this section we shall be concerned with two fundamental questions:

- (*a*) What is the nature of the wartime inflationary process?
- (*b*) What policies are capable of providing the finance required for the war effort while at the same time avoiding an explosive inflationary spiral?

It should be constantly borne in mind that Keynes was focusing attention during this period upon *one particular source* of inflationary pressure, namely the excess of purchasing power over producible real income. Whereas this approach is entirely justifiable in time of war, it throws little light upon the problems of many post-war economies suffering from the twin evils of accelerating inflation and rising unemployment rates. In circumstances where the very survival of the nation was at stake, it is reasonable to suppose that cost-push factors played a minimal role in generating inflationary pressure.

<sup>1</sup> I am indebted to W. B. Reddaway, D. G. Champernowne, A. R. Gloyne, A. A. Tait and to the anonymous referee for comments and suggestions on earlier drafts of this paper.

The state of patriotic solidarity was such that the moral and political position of trade unions, which, in an attempt to strengthen their own sectional interests, jeopardised the success of the war effort, was very weak indeed. Many of the factors which are contributing to the current inflationary situation (trade-union militancy, permissive monetary policies both on a national and international level, *etc.*) scarcely gained mention either in *How to Pay for the War* or in his other wartime writings. *How to Pay for the War* should not be regarded as a universal panacea for tackling a wide variety of inflationary situations.

(a) *The Model of Inflation*

Although isolated observations concerning the inflationary process may be found scattered throughout learned journals, newspapers, periodicals and government memoranda, the most complete statement of Keynes's ideas is contained in the pamphlet *How to Pay for the War* (1940*a*).<sup>1</sup> It would seem natural, therefore, to treat *How to Pay for the War* as the basis for any examination of Keynes's views and to refer to other sources when clarification becomes necessary.

The fundamental problem with which Keynes was concerned in *How to Pay for the War* was "how best to reconcile the demands of War with the claims of private consumption" (Preface, p. iii). In chapter ix he was particularly concerned with how a policy of giving a free rein to inflationary pressure, as had occurred during the First World War, could achieve such a reconciliation. This is not to say, however, that Keynes was in fact *advocating* a policy of inflationary war finance. On the contrary, the initial impetus for writing the pamphlet was a desire to devise a set of alternative policies which would avoid most of the social inequities which would be consequent upon the pursuit of a policy of unbridled inflation.<sup>2</sup> Moreover he was anxious to demonstrate how inflation, which had been successful in financing the First War, could *not* be relied upon to finance the Second War. Inflation was not only unjust; it had been rendered ineffective as a financial instrument.

A large part of chapter ix of Keynes's pamphlet is devoted to a discussion of how the necessary amount of war finance had been raised during the First War through a rise in voluntary savings. The source of these higher savings was the windfall gain that inflation had bestowed upon "profiteers"; the distribution of income had tilted in favour of those groups which had a higher propensity to save. Thus not only had the level of aggregate savings been raised but they had been raised without undue recourse to methods of fiscal coercion.<sup>3</sup>

<sup>1</sup> *How to Pay for the War* is an extended version of three lengthy articles which appeared in *The Times* late in 1939. These articles do not reveal Keynes's views on inflation quite so clearly as the later pamphlet. *How to Pay for the War* evidently provided the ideal opportunity for deeper discussion.

<sup>2</sup> "A rising cost of living puts an equal proportionate burden on every one, from the old-age pensioner upwards, and is the cause, therefore, of great social injustice" (1939*a*).

<sup>3</sup> It should be noted that Keynes had certain reservations about calling such a rise in savings

Along conventional income-expenditure lines, the following formula for the equilibrium share of wages in national output,  $a_t$ , may be derived (see Maital, 1972):

$$a_t = \frac{c_t - v(1 - t_v)}{u(1 - t_u) - v(1 - t_v)} \quad . \quad . \quad . \quad . \quad (1)$$

where  $u$  and  $v$  are the average and marginal propensities to consume of workers and rentiers respectively;  $t_u$  and  $t_v$  are the rate of tax on wages and profits. The parameter  $c_t$  is the proportion of the (fixed) level of output which remains for consumption after the resource needs of waging war have been fully satisfied. It follows, moreover, that, since all members of the labour force are fully employed, equation (1) will also define a *unique real wage rate* consistent with national income equilibrium.

But now suppose that, with all resources fully employed, the equilibrium share of wages which had obtained before the onset of war,  $a_0$ , was inconsistent with the level of non-consumption expenditure which was necessary for the successful completion of the war effort. That is, what happens when  $a_0 > a_t$ ? In the absence of government intervention, how could equilibrium be restored and the share of wages be depressed so as to conform with equation (1)?

If in these circumstances the initial actual real wage rate exceeds the full employment equilibrium real wage rate, an inflationary gap will exist. The crucial question is: by what mechanism will the distribution of income be shifted against high consumption groups (workers) and in favour of high savings groups (profiteers)? At this point neo-Keynesians, recalling certain passages in the *General Theory* (1936), assumed that money illusion on the part of workers restored equilibrium.<sup>1</sup> Other equilibrating mechanisms were relegated to the second division. Recent commentators (especially Axel Leijonhufvud) have questioned this view, arguing that Keynes did not place exclusive reliance on money illusion even in the context of an under-employed economy. An examination of Keynes's writings on a fully employed economy in inflationary conditions tends to corroborate this thesis.

Using Keynes's own numerical example (1940*a*, p. 63), we may postulate that real disposable income (valued at pre-war prices) is £3,900 million but that only £3,250 million worth of goods are available for consumer purchase after the necessary demands of investment, defence, *etc.*, have been satisfied. An inflationary gap of £650 million will exist. "Obviously prices will have to rise 20 per cent which will equate supply and demand." But higher prices will provide profiteers with extra income which, if they spend it in its entirety,

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"voluntary". "It is a method of *compulsorily* converting the appropriate part of the earnings of the worker which *he* does not save voluntarily into the voluntary savings (and taxation) of the entrepreneur" (1940*a*, p. 69).

<sup>1</sup> There is some indication in many of Keynes's writings that a modest increase in prices of the order of 5-10% may be sufficiently small to prevent retaliatory wage demands. This may be regarded as a form of money illusion which is operative below some threshold limit. Once this threshold is exceeded, however, the mechanism outlined below will take over.

will leave the community in exactly the same real position. Fortunately two forces, one psychological and one legal, will prevent all but a tiny fraction of the rise in profiteers' incomes being diverted towards higher consumption expenditure: (a) the high marginal propensity to save of this group, especially of large business corporations; and (b) the very high rates of profit and income tax. In fact, Keynes refers to this group as potential government tax-collectors; they provide war finance either in the form of higher voluntary savings or of higher taxes.

In the absence of secondary repercussions by other economic groups, the initial excess demand occasioned by the outbreak of war would have been more or less eliminated<sup>1</sup> by the windfall gains to profiteers. But this is an unwarranted assumption. Even in times of war it is unreasonable to assume that Trade Unions will stand on the side-lines and regard with equanimity the erosion of the living standards of their members. Henceforward (1940*a*, p. 65 onwards) this assumption is relaxed. But how, apart from money illusion, may the necessary depression of the real wage rate be maintained in the face of vigorous Trade Union reaction? The answer would appear to be that lags in adjustment of wages to price changes confer a lasting advantage (at least for the duration of the war) upon the profiteers.

“Wage adjustments and the like take time. It takes time, and sometimes a considerable time, before adjustments are made even when the pressure is sufficient to make them inevitable sooner or later. It is these time lags and other impediments which come to the rescue. Wars do not last for ever. Wages and other costs will chase prices upwards, but nevertheless prices will always . . . keep 20 per cent ahead. However much wages are increased, the act of spending these wages will always push prices this much in advance” (1940*a*, pp. 66–7).

This passage is of central importance. Together with Keynes's numerical examples for the 1914–18 war, it provides clear evidence that wartime inflation was *not to be regarded as a convergent process*.

“During the war inflation is serviceable *only in so far as* there is a time-lag between wages and prices. That is how it worked in the last war with prices always about 15 per cent ahead of wage rates, and this figure is about the magnitude we should require this time” (1940*b*, italics added).

Even a modest excess of aggregate demand over producible output “may lead to an unlimited rise in prices” (1941*a*). This is hardly the stable process which is implied in “money illusion” interpretations of Keynes. But more of this later. For the moment we are concerned with formalising the inflationary gap model of *How to Pay for the War*.

The model which adheres most closely to the numerical examples on

<sup>1</sup> Keynes does allow for some increased consumption on the part of profiteers but argues that, in order to offset such a rise, “a modest increase of taxation on the general public will be sufficient” (1940*a*, p. 65).

pages 67 and 72 of *How to Pay for the War* is provided below.<sup>1</sup> Following Keynes's second example (1940*a*, p. 72) it will be assumed that wages and prices are both set equal to 100 in the base period (the year 1914 is selected by Keynes). Thus we have

$$P(0) = W(0) \quad . \quad . \quad . \quad . \quad . \quad (2)$$

where it is remembered that  $W(0)$  and  $P(0)$  are money wage rate and price level index numbers which have as their base period the day before war broke out. With the outbreak of war an inflation occurs in which prices rise by an amount necessary to depress the real wage rate by a proportion  $\lambda$ , where  $\lambda = -\left\{\frac{(a_t - a_0)}{a_0}\right\}$ .

Thus

$$P(t) = \frac{W(t)}{1 - \lambda} \quad . \quad . \quad . \quad . \quad . \quad (3)$$

In the next period, however, wages respond fully to the change in prices, the time-lag in Keynes's model being of one year's duration.<sup>2</sup> That is

$$W(t) = P(t-1) \quad . \quad . \quad . \quad . \quad . \quad (4)$$

The dynamic model described in equations (3) and (4) is of the simplest possible nature. It is consistent, not only with Keynes's own numerical examples, but also with perhaps the most analytically revealing paragraph in chapter ix. Referring to the 15% annual rate of inflation which occurred during the First World War, he wrote (1940*a*, p. 72):

"The volume of spendable earnings... increased 15 per cent relatively to the supply of consumption goods... , as indicated by the 15 per cent rise in prices relative to wages. This rise in the cost of living provoked a corresponding rise in wage-rates with a time-lag of almost exactly a year and was off-set simultaneously by an equal further rise in prices. In each year, wages rose almost exactly to the price level of the previous year. Thus the time-lag was just enough to prevent disaster."

The model outlined above possesses several interesting characteristics:

(i) The rate of inflation will be more or less constant for the duration of the war provided that the lag in adjustment of wages to prices remains the same. Any shortening of this time lag will raise the annual rate of inflation which would be necessary to close a given inflationary gap.

(ii) The above model provides a clear answer to an important question: What rate of inflation would the community have to tolerate if the necessary amount of war finance were to be provided by inflationary methods alone? The annual rate of inflation which would result from the emergence of an

<sup>1</sup> The original *Times* articles could have been the source of some confusion as they did not include the numerical examples of *How to Pay for the War*.

<sup>2</sup> "In 1914-18 there was a time lag between rising prices and rising wages of nearly a year" (1940*c*). "In 1917 wage-rates as a whole lagged six months to a year behind prices" (1940*d*). "In the last war the time lag was of the order of six months to a year..." (1940*b*).



inflationary gap would depend (a) upon the speed of reaction of wages to prices and (b) upon the initial extent of the inflationary gap.<sup>1</sup>

(iii) *The Process of Ongoing Inflation is the Means by which the Inflationary Gap is Closed.* At first this may appear to be a rather paradoxical result but further examination of the model solves the mystery. The sequence is as follows: the inflationary gap must be closed by a reduction of the real wage rate by a proportion  $\lambda$ ; in Keynes's model such a reduction is effected by keeping price rises one step ahead of wage increases. Should the price inflation suddenly come to an end, wages would catch up after one year and the inflationary gap would reopen. Thus although the inflationary gap has been closed, continuous inflation carries on unabated. Only by undergoing the rigours of positive (but not accelerating) inflation will the economy be able to strike a balance between aggregate demand and full employment output.

In the circumstances which prevailed in the late 1930s, however, Keynes was highly sceptical of the efficacy of inflationary finance. The model which was presented in chapter ix of *How to Pay for the War* was irrelevant to the financial situation facing the United Kingdom economy in the Second World War. The government could no longer fall back upon the old faithful of inflation to meet its financial requirements. The reason for this state of affairs is crystal clear:

“Everyone, including the Trade Unions, has become index-number conscious. Wages will pursue prices with not so lame a foot. And this new fact means that the old type *laissez-faire* inflation is no longer to be relied upon” (1940*b*).

“The rise in prices helps only to the extent that it is greater than the rise in wages. But there are to-day many wage rates linked by agreement with the cost of living, so that the two move together” (1939*a*).

Moreover, explaining why the First World War weapon of inflationary finance had lost its cutting edge. Keynes wrote:

“Fortunately or unfortunately, a repetition of this technique is not open to us. So large a body of wage contracts is now automatically tied to the cost of living and the influence of wage rises in this group on others is so strong that *there is no sufficient time lag*” (1940*c*, italics added).<sup>2</sup>

The gradual learning process which had occurred in trade-union circles in the inter-war period had made inflationary finance an extravagant luxury.

“There are *two* obstacles to our getting through somehow on the lines of 1914–18. One of these I have already emphasised, namely the absence

<sup>1</sup> For the precise formula for the rate of inflation, see footnote 2 below.

<sup>2</sup> Keynes's concern at the shortening of the time-lag may be formalised in the following manner. Assume that the government wishes to depress the real wage rate by a proportion  $\lambda$ . If there is a one period lag between price increases and wage increases, the resultant rate of inflation which would be required to maintain national income equilibrium would be  $100\lambda\%$  per annum. Should the time lag be halved, the rate of inflation would have to be  $200\lambda\%$  per annum. In general, a time-lag of  $1/\gamma$  will imply a necessary rate of inflation of  $100\lambda\gamma\%$  per annum. Keynes was evidently perturbed by the fact that  $\gamma$  had become prohibitively large.

to-day of a sufficient time lag between wages and prices to make inflation an effective instrument. But there is another obstacle, namely the comparative efficiency of our price controls. In 1918 prices rose sufficiently to absorb the available purchasing power; and that was an essential condition for the success of the policy adopted” (1940*c*, original italics).

But these conditions did not obtain in the 1940s:

“Such maximum price imposed by the Ministry of Food releases purchasing power to create shortages elsewhere” (1940*c*).

Attempts to control prices inhibited even the limited role that inflation could play in shifting the distribution of income in favour of low consumption/high taxation groups.

(b) *The Control of Inflation*

A characteristic of the evolution of Keynes’s views on the control of inflation during this period was the progressive decline in the emphasis he placed upon direct taxation from an almost exclusive role in the 1941 Budget (especially in the earlier memoranda) to the relatively minor role in the 1942 Budget. The final recommendations made by Keynes for the 1941 Budget can be summarised under three broad headings:

- (i) Direct taxation should be raised.
- (ii) A wages standstill should be agreed upon with trade unions, coupled with a possible controlled increase in prices.
- (iii) A wide range of subsidies should be introduced to stabilise the cost of living at about 30 % above pre-war.

(i) *Direct Taxation*. Writing early in the October of 1940, Keynes (1940*c*) was of the opinion that the brunt of the financial problem could be borne by means of increases in the level of direct taxation (in addition to subsidies to the cost of living). Although, as will be demonstrated below, his position on this point shifted somewhat, direct taxation nevertheless continued to play a central role in his final scheme for the 1941 Budget.

The burden of this higher taxation had to be imposed not merely on the rich but on all classes of society. This was not because Keynes was averse to a “soak the rich” policy on principle but simply that he did not believe that the revenue from this source alone would generate even a fifth of the requisite finance.

Given that higher direct taxation had to be levied upon all classes of society, what adjustment in the tax system was necessary in order to meet the government’s fiscal requirements? Keynes (1940*e*) urged the adoption of a “War Surcharge, superimposed on the existing income tax and surtax, and falling on the *net* income remaining after deduction of these taxes, the whole of what is required, say £400m to £450m, to be raised in this way.”<sup>1</sup>

<sup>1</sup> After further exchanges with H. D. (later Sir Hubert) Henderson, Keynes agreed to amend his formula for the War Surcharge by applying it to *net assessable* income, *i.e.* to income after deduction not only of the then existing tax but also of the then existing allowances.



One single theme, first advanced in *How to Pay for the War*, permeated his writing at this time. This was the issue of the deferment of pay. Taxpayers would have to pay the War Surcharge to assist the Government in winning the war, but the whole of this surcharge need not necessarily be of the nature of an outright tax: part of it could be a forced loan to the Government repayable at some date or over some period at the end of the war. Keynes (1940*f*) was anxious that at least part of the proposed War Surcharge should be deferred pay and not an outright tax.

(i) *The Wages Standstill*. One particular suggestion for restraining the pressure of demand, a wages standstill, was discounted by Keynes in September 1941:

“It is suggested in some quarters that a very gradual rise in the cost of living would be comparatively harmless in its effects on wages. I distrust this view. A gradual rising tendency will create the wrong atmosphere. And no-one can predict at what point a general movement of wages and prices will break loose. . . . The importance of creating a psychological atmosphere, in which heavy direct taxation can be accepted, is paramount” (1940*g*).

Keynes was well aware of the arbitrary nature of wage controls. “It is difficult to draw the line between wage adjustments and wage increases” (1940*h*). He did not consider it prudent to attempt any interference with the traditional right of trade unions to negotiate freely with employers:

“[T]he freedom of the wage bargain is the Ark of the Covenant for the Trade Union movement, which it is not wise to call in question except for grave and unavoidable cause. My advice to the Chancellor of the Exchequer is, therefore, to stabilise the cost of living without asking for the stabilisation of wages, but to insist that it should be paid for by higher direct taxes” (1940*h*).

In contrast, by December of the same year, Keynes (1940*c*) was advocating a policy of wage restraint in the face of a controlled, gradual and small rise in prices, probably of the order of 5%. By this date he had become impressed by “how hard it would be to solve the whole problem by taxation without recourse to higher prices” (1940*c*, original italics). “Nature’s remedy” of inflation (see Keynes, 1939*b*) was thus to be accorded a limited role after all:

“There is a great deal to be said for a controlled rise of prices if this can be prevented from reacting on wage rates. I would urge that the Chancellor of the Exchequer put this expedient fairly and squarely before his Labour colleagues. . . .” (1940*c*).

As a *quid pro quo*, he urged the Chancellor to implement a comprehensive series of social measures which would “aim at making the programme as a whole socially just and politically acceptable” (1940*c*). Wage restraint,

which, until a few months before the end of 1940, Keynes had regarded as unwise and probably unnecessary, had become an integral part of his final scheme for the 1941 Budget.

(iii) *Subsidies to the Cost of Living*. The third element of Keynes's anti-inflation package for the 1941 Budget was a series of subsidies to the cost of living (see 1940 *g*, *h*) which, if they were administered efficiently, could cost as little as £50m. Owing to the incomplete coverage of the official Cost of Living Index, however, this did not imply a stabilisation of *all* prices. Many prices, especially the prices of luxuries and semi-luxuries, could be allowed to rise without provoking retaliatory responses from trade union circles.

Although Keynes persistently regarded *general* rationing with severe distaste, he was in favour of the rationing of certain essential goods. In deciding upon the allocation of subventions to the cost of living, preference should be given to goods which were already rationed in supply. "It is safer to reduce the prices of rationed, than of non-rationed articles, since there is a safeguard against the lower price leading to a higher consumption of the particular article" (1940 *g*).

Whereas the 1941 Budget could be regarded as a *Financial Policy Budget*, the 1942 Budget should, in Keynes's view (1941 *b*), be a *Social Policy Budget*, concentrating principally upon a more equitable distribution of the burden of taxation between different income groups. Although Keynes's own proposals did involve raising an extra £50m–£100m per annum in tax revenue,<sup>1</sup> "this is not their only purpose and must not be judged merely by the revenue they may raise. They are proposed in the interests of a sounder social policy to meet the change of conditions" (1941 *b*). Further *overall* increases in direct taxation were generally regarded as the least satisfactory solution to the financial problem; in this general opinion Keynes concurred. In the various advisory memoranda prepared for the 1942 Budget (1941 *b*, 1942 *a*), Keynes presented a detailed scheme of taxation which had two main objectives: (*a*) the accentuation of the difference of treatment between luxuries and necessities; and (*b*) the adjustment of direct taxation in favour of children and of women in employment.

In connection with the first objective he advocated an increase in the indirect tax payable on a wide variety of non-essentials which included cinema tickets, rail fares, petrol, *etc.*, in addition to a general increase in Purchase Tax for the 33 $\frac{1}{3}$ % category of goods. It is interesting to note that he proposed an embryonic form of Selective Employment Tax whereby a tax would be levied "payable by the employer, of 5s. a week on female and £1 a week on male domestics and attendants, including those employed in gardens, restaurants, hotels, places of entertainment *etc.* . . ."

In connection with the second objective Keynes put forward a scheme (1941 *b*, 1942 *a*) which included many features regarded as commonplace in contemporary Britain but which bore the taint of unwelcome novelty in the

<sup>1</sup> This figure of £50m–£100m was subsequently raised to £100m–£150m.

1940s. The provision of family allowances which were independent of the system of direct taxation and a more equitable treatment of married women in employment are two of the more outstanding examples of his scheme. Furthermore the extension of the system of direct taxation to the great mass of wage-earners made a revision of the system of income taxation a matter of some urgency. Early in 1942 Keynes proposed (1942*b*) a method of direct taxation which bears a considerable resemblance to the present system of Pay As You Earn.

The main difference between Keynes's advice for the structure of the 1942 Budget as compared to the 1941 Budget is the much greater emphasis placed on considerations of equity and fairness in shouldering the war burden in the former. The back of the purely financial problem had been broken in the 1941 Budget. Since the potential inflationary gap during 1942 was modest compared to the 1941 figure, only a relatively minor adjustment in the general level of tax revenue was required. By 1942 it had become apparent that a review of the incidence of particular taxes was necessary in order to effect a more socially just division of the burden of waging war.<sup>1</sup>

## II. MONEY ILLUSION INTERPRETATION OF HOW TO PAY FOR THE WAR

In the light of the analysis of Section I it is now possible to examine the exegetical fidelity of certain neo-Keynesian interpretations of *How to Pay for the War* which have been current from the early 1940s down to the present day. Most of these models (for example, Duesenberry (1950) and Smithies (1942)) tended to assume, implicitly or otherwise, (a) that money illusion would assist in restoring full employment equilibrium and (b) that there existed some sort of Phillips curve relating the rate of inflation to an index of excess demand. The underlying assumption of these models was that the existence of an inflationary gap would give rise to price increases which would not be matched by *equiproportionate* wage increases. Wages would only rise by a fractional proportion of the percentage increase in prices, reflecting the hypothesis that such increases in their money incomes would be sufficient to delude workers into believing that their real incomes had not changed appreciably. The net outcome of this process would be a redistribution of national income against workers and a reduction in the pressure of demand.

Following the example set by earlier neo-Keynesian writers, S. Maital (1972) has recently advanced an interpretation of *How to Pay for the War* which relies heavily upon the assumption of money illusion in the labour market. Keynes, according to Maital, "postulated an institutional parameter  $\phi$ , defined as the percentage change in money wages caused by a 1 %

<sup>1</sup> An aspect of Keynes's writings on inflation which will surprise the contemporary economist is the complete omission of any consideration of how monetary restraint may be useful in bringing inflation under control. This is a complex matter which cannot be pursued at this point. The interested reader should consult the extensive survey of Keynes's views on monetary policy by D. E. Moggridge and S. Howson (1974).

change in prices". It is clear from this definition that the necessary depression of the share of wages to its equilibrium level could be achieved by a *once and for all* rise in prices, the extent of such a price increase depending (a) upon the degree of money illusion, *i.e.* upon the magnitude of  $\phi$ ; and (b) upon the amount by which the wage share would have to be depressed, *i.e.* upon  $(a_0 - a_t)$ . In fact the precise formula is

$$\pi = \frac{a_0 - a_t}{a_t - \phi a_0} \quad . \quad . \quad . \quad . \quad . \quad (5)$$

where  $\pi$  is the once and for all change in prices which is required to restore equilibrium.

There is a pronounced tendency in the neo-Keynesian literature on inflation to *identify* a decline in the real wage rate with the presence of money illusion. Neo-Keynesians in the main assume that, because real wages typically do fall during wartime inflations, this *must* be due to irrational factors which affect the supply of labour. This, as we saw in Section I, is not necessarily the case. Other factors, most notably lags in adjustment, may account for the decline in the real wage rate. It is of cardinal importance to distinguish the various forces which serve to depress the share of wages in national income. Are these forces the dynamic frictions indicated in Section I or are they the irrational factors implicit in money illusion hypotheses? We have seen that, on strictly textual grounds, the former interpretation is exegetically more faithful to Keynes's writings on the subject.

Moreover the textual evidence cited in Section I is strongly corroborated by a purely logical objection to the money illusion hypothesis. We saw above that in Keynes's view the prime reason for rejecting a policy of inflationary finance was that the lag between wage changes and price changes had shortened dramatically. But if there were money illusion in the labour market, why should Keynes have worried? Indeed Keynes should have rejoiced at the increased vigilance of organised labour for it implied that national income equilibrium would be arrived at much more rapidly than with a one year time lag. The demonstration of this is simple. Assume that the money illusion parameter  $\phi$  is incorporated into the above model. With a one year time lag we obtain

$$p_t = w_t \quad . \quad . \quad . \quad . \quad . \quad (6)$$

and

$$w_t = \phi p_{t-1} \quad . \quad . \quad . \quad . \quad . \quad (7)$$

where 
$$p_t = \frac{P_{t+1} - P_t}{P_t} \quad \text{and} \quad w_t = \frac{W_{t+1} - W_t}{W_t}$$

The solution of the system is clearly

$$p_t = p_0 \phi^t \quad . \quad . \quad . \quad . \quad . \quad (8)$$

It should be noted that equation (8) is uniquely determined once the condition that  $p_0 = \lambda$  is imposed.

But suppose now that the lag in adjustment of wage changes to price changes fell from one year to  $1/\gamma$  of a year [ $\gamma > 1$ ]. Equation (7) would become

$$w_t = \phi p_{t-1/\gamma} \quad . \quad . \quad . \quad . \quad . \quad (7)'$$

and the solution of the system would be

$$p_t = p_0 \phi^{\gamma t} \quad . \quad . \quad . \quad . \quad . \quad (9)^1$$

The rate of inflation in both equations (8) and (9) tends to zero in the limit. In equation (9), however, the process of convergence is obviously more rapid, implying a much more brisk progress to equilibrium. Indeed a shortening of the time lag should have been welcomed by Keynes for it made inflation a much more *efficient* weapon in financing the war. There are only two possible explanations of why Keynes objected to inflationary finance: (a) either he was being inconsistent or (b) he had not proposed a money illusion model in the first place. A careful scrutiny of Keynes's writings in the period 1939–42 reveals that the latter explanation is by far the more probable. Keynes did not view inflation as a convergent process; he predicted that inflationary war finance “may lead to an *unlimited* rise in prices” (1941 *a*, italics added). A *once and for all* increase in prices of magnitude  $\pi$  is not what Keynes had in mind when writing *How to Pay for the War*.

Finally it should be noted that the Phillips curve, for long regarded as the empirical embodiment of the Keynesian theory of inflation, occupies a dubious status in the field of Keynesian exegesis. An eminent neo-Keynesian, Professor Tobin (1967), has recently written:

“The Phillips curve idea is in a sense a reincarnation in dynamic guise of the original Keynesian idea of ‘money illusion’ in the supply of labor. The Phillips curve says that increases in money wages—and more generally, other money incomes—are in some significant degree prized for themselves, even if they do not result in equivalent gains in real incomes.”

It is evident from the model of Section I that any relationship between the rate of inflation and the unemployment rate (or any other indicator of aggregate demand) will be of a purely ephemeral nature. Inflation is not the consequence of *persistent* income–expenditure disequilibrium: it is the means by which national income equilibrium is restored.

### III. CONCLUSION

The central objective of this paper has been to show that Keynes, unlike many neo-Keynesians, did not invoke the assumption of money illusion as an adjunct to his theory of inflation. Keynes proposed a model which relied almost exclusively upon lags in adjustment in avoiding a decline into hyper-

<sup>1</sup> According to the version of Keynes's model outlined in Section I, equation (9) should read

$$p_t = p_0 1^{\gamma t} = p_0 \quad \text{where} \quad p_0 = \gamma \lambda$$

inflation. A shortening of the relevant lags, far from being greeted with the enthusiasm implicit in the logic of money illusion models, was regarded as a disastrous occurrence, rendering the need for vigorous fiscal intervention all the more imperative.

On the other hand, despite its analytical rigour, *How to Pay for the War* does little to answer the questions which the modern theorist would wish to pose in respect of the current inflation. The inflations which preoccupied Keynes's attention were normally of the short, sharp variety which were associated with particular situations of national crisis. Keynes would have been the first to admit that his pamphlet should not be regarded as incorporating a *general* theory of inflation.

JAMES A. TREVITHICK

*University of Glasgow.*

*Date of receipt of final typescript: September 1974.*

#### REFERENCES

- Duesenberry, J. (1950). "The Mechanism of Inflation," *Review of Economics and Statistics*. May.
- Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money* (Macmillan).
- (1939*a*). *The Times*, 14 November 1939.
- (1939*b*). "The Income and Financial Potential of Great Britain," *ECONOMIC JOURNAL*, December.
- (1940*a*). *How to Pay for the War* (London, Macmillan).
- (1940*b*). Letter to the *New Statesman and Nation*, 6 April.
- (1940*c*). P.R.O. T. 171, A Supplementary Note on the Dimensions of the Budget Problem (26 December 1940).
- (1940*d*). P.R.O. T. 171, The Policy of the Budget (17 February 1940).
- (1940*e*). P.R.O. T. 171, Notes on the Budget, IV, Direct Taxation (6 October 1940).
- (1940*f*). P.R.O. T. 171, A Supplementary Note on the Budget (18 November 1940).
- (1940*g*). Notes on the Budget, III, Subsidies to the Cost of Living and Indirect Taxation, (29 September).
- (1940*h*). P.R.O. T. 171, Notes on the Budget, II, Price and Wage Policy (28 September).
- (1941*a*). P.R.O. T. 171, The Theory of the "Gap" (26 December 1940).
- (1941*b*). P.R.O. T. 171, Notes on the Budget (3 November 1941).
- (1942*a*). P.R.O. T. 171, Revised Notes of the Budget (3 February 1942).
- (1942*b*). P.R.O. T. 171, Income Tax on Weekly Wage Earners (9 January 1942).
- Maital, S. (1972). "Inflation, Taxation and Equity: *How to Pay for the War* Revisited," *ECONOMIC JOURNAL*, March 1972.
- Moggridge, D. E. and Howson, S. (1974). "Keynes on Monetary Policy," *Oxford Economic Papers*, July.
- Smithies, A. (1942). "The Behavior of Money National Income Under Inflationary Conditions," *Quarterly Journal of Economics*, November.
- Tobin, J. (1967). "Unemployment and Inflation: the Cruel Dilemma," in *Prices: Issues in Theory and Public Policy* (ed. A. Phillips and O. E. Williamson), University of Pennsylvania Press.