»FULL EMPLOYMENT« IN A PERIOD OF RECONSTRUCTION [1]

By J. R. HICKS

THE purpose of this paper is to examine certain qualifications to the doctrine of "Full Employment", as presented by Keynes in the *General Theory*. These qualifications have, I think, a fairly wide application; but they are particularly important when we are concerned, as we still are at present, with war-damaged and therefore underequipped economies, instead of the economies with surplus capacity which were in Keynes's mind when he was writing. Thus they are qualifications which it is especially important for us to have in mind when we are discussing the economic problems of to-day. Nevertheless, what I am going to offer is not a theory of the present-day economy, which is so characteristically a controlled economy. I am concerned with more underlying forces.

According to the assumptions on which Keynes proceeded in the General Theory, an increase in effective demand will always lead to an increase in employment, until a certain critical level of employment, called Full Employment, is reached. At this point a shortage of labour develops and wages tend to rise; so that if effective demand increases beyond this point it spends itself in an inflationary rise in wages, not in a further increase of employment. It is of course admitted that Full Employment in this sense does not necessarily mean the absence of unemployment; various factors are listed which may cause the shortage of labour to develop before the unemployment index has fallen to a negligible figure. It is even possible that the shortage in question may be an artificial shortage rather than a true shortage; trade unions may take advantage of a relative tightness of the labour market to secure wage-advances before the unemployed have been anything like fully absorbed. Thus even in Keynes Full Employment is at bottom nothing more than the maximum level of employment which can be reached by an expansionary policy — a policy, that is, which relies upon a general expansion of demand, its direct effects and indirect repercussions. It is admitted that this level may fall short, perhaps far short, of the level of employment which we should regard as socially desirable.

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Nevertheless, in spite of these qualifications, it should be noticed that in Keynes the level of money wages is fundamentally always a function of the volume of employment. So long as *employment* remains below the critical mark, wage-rates can be trusted not to rise in an inflationary manner. It is only when the demand for labour approaches the supply to within a certain limit that labour becomes scarce, and it is when labour becomes scarce that money wages tend to rise.

This particular assumption was indeed questioned by several of Keynes's critics, who were puzzled by the queer psychology on the part of labour wich appeared to be implied in it. Is it really conceivable, they asked, that wage policy runs in terms of money wages alone, not (as we have been brought up to suppose) in terms of real wages? Is the worker really so insensitive to the buyingpower of his wages? The existence of cost-of-living sliding scales is a powerful argument to the contrary. It is indeed so powerful an argument that on this issue the critics have never confessed themselves beaten; nevertheless, even on this issue the Keynesian Juggernaut bore down opposition. The assumption of money wages depending on employment became a part of the Keynesian orthodoxy, even though it had to be modified in practice, even by Keynes himself, when he came to deal with the economics of war-time. The theoretical consequences of making an amendment on this point seem, however, never to have been worked out.

I would now begin by granting that the position adopted in the General Theory was quite a strong one in the situation of the 1930's. For the purposes of analysing depression, when prices fall, but there remains a considerable resistance to wage-cuts, it is a liberation of the mind when one starts to think (in Keynes's manner) in terms of money wages; so that one can discard the awkward implication that the worker's "supply-price" rises as the demand for his services falls off, which is unavoidable if one persists in thinking of the demand and supply of labour in real terms. Further (and even more to the point) when it comes to analysing recovery — whether natural or induced by public policy — Keynes has on his side the volume of experience which tends to show that employment can often increase a long way from the depths of depression without there being any very important pressure on the price-level of consumption goods; changes in real wages are then not large enough to be relevant. It will be remembered that on this point researches subsequent to the publication of the General Theory suggested that even those qualificationswhich Keynes did introduce in his text were unnecessary; thus the original doctrine could have been made even more absolute than it was. This is how the position appeared up to 1939. It is only in the light of war-time and post-war experience that it has finally become evident that amendment is in fact needed.

In the light of this new experience, it is now fairly safe to say: (1) that

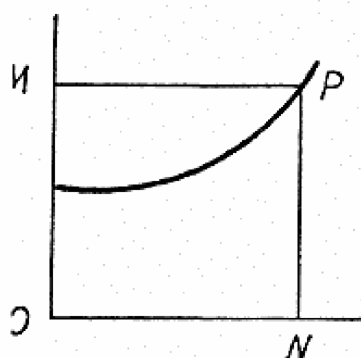
the level of money wages *is* affected by the level of consumption good prices, so that real wages *are* relevant (2) that the supply of consumption goods cannot be relied upon in all circumstances to be highly elastic, or even elastic at all. What gave the supply of consumption goods its apparent elasticity in the short period, in the conditions when Keynes was writing, was the excess capacity of the consumption goods industries, which was an inheritance from the years of acute depression which immediately preceded. With surplus plant and surplus materials, nothing was wanting but an expansion in demand to produce an expansion in output with the minimum of delay. These conditions were present in 1934—5, but in 1947—8 they are wholly lacking. For the analysis of post-war economics, the assumptions that prices vary only slightly with demand, and that the money wage-level is little affected by prices, simply will not do.

2. Let us then assume that we are in a position in which (1) an increased demand for consumption goods will lead to a significant increase in their prices in terms of money wages; and in which also (2) the prices of consumption goods cannot rise beyond a certain point, relatively to the wage-level, without unsettling the level of money wages. It follows that in the absence of controls, inflation may set in at a point well short of Keynes's full employment point, if that is understood to mean a point at which there is a general shortage of labour. We have to recognise that there are in principle not one but two "explosion points", one of them being Keynes's full employment point, where there is a scarcity of labour, and the other being that at which the fall in real wages, resulting from expansion, leads to pressure on the money wage level. Of these two points, it is of course that one which is reached first, in a process of expansion, which will be the effective check. Keynes's theory is the economics of a system in which the full employment point is reached first. It is however not necessary that it should be reached first. It seems probable that in present conditions it is the "cost-of-living" point, as we may call it, which provides the effective check; and, as we shall see, the economics of a system in which the "cost-of-living" check is the effective one, is appreciably different from the Keynesian structure.

It must of course be admitted that the cost-of-living check cannot operate effectively at a very low level of employment. If there is a great deal of employment, trade unions may desire to press for higher wages, but their desire is not very likely to have effective results. Thus it is not surprising to find that the world has been able to pass from a situation in which the full employment check was operative into one in which the cost of living check is operative — and public policy has been quite largely adjusted to the new state of affairs — without there being any general realisation among economists of how considerable a change has taken place. It is however quite

time for economists to become conscious of the change, if their thinking is to be properly appropriate to the new state of affairs.

Diagram I shows a supply curve of consumption goods, on the assumption of a given level of money wage-rates. If the demand for consumption goods expands, the point of equilibrium will move to the right along this curve. Since we are assuming that the capital equipment (fixed or working capital) needed to make consumption goods is in limited supply, as far as the current period is concerned, it must be expected that the supply curve will be steeply upward sloping, over the range at which a shortage of capital equipment begins to be felt. Thus if the demand for consumption goods reaches a point where this steep upward slope is encountered, the prices of consumption goods — in the absence of controls — will rise steeply. It is assumed that this rise cannot go beyond a certain point (marked OM) without resulting in a rise in wage-rates. The result of such a rise in wage-rates proceeds according to the usual Keynesian mechanism, the whole system merely repeating itself at a higher (money) wage and price level. Thus if the pricelevel of consumption goods reaches OM, it touches off an inflationary process, just as (according to Keynes) an increase in effective demand will do if labour in general is "fully employed".



The maximum output of consumption goods which can be achieved without inflation and without controls is thus indicated by P the point at which the horizontal line through M intersects the supply curve. In this position the output of consumption goods is measured by ON, and the value (c) of this output (which equals consumers' expenditure, and also equals the gross earnings of capital and labour in the production of consumption goods) is measured by the rectangle OMPN.

Total gross income $Y = C + I$, where I is the gross earnings of the factors of production in the production of other than consumption goods. Adopting the usual Keynesian assumption that C is an increasing function of Y, it follows that Y is an increasing function of C. If the maximum value of C which is consistent with the avoidance of inflation is that shown by the rectangle OMPN, the maximum value of Y which is consistent with the avoidance of inflation can be deduced from it by the use of this (inverse) consumption function. The maximum expenditure on other than consumption goods which is consistent with the avoidance of inflation is then given by $Y - C$. The maximum employment in other than consumption goods industries depends upon the number of workers whose labour can be absorbed into these industries with the demand for their products at this level.

Suppose, for instance, that the consumption function takes the simple

form $C = a\,Y + b$, (a being supposed, as usual, to be less than 1). Then if the maximum value of C (indicated by the rectangle OMPN) is C', the maximum value of Y will be

$$Y' = \frac{C' - b}{a}$$

and the maximum value of $Y - C$ will be $\frac{C' - b}{a} - C' = C'\left(\frac{1 - a}{a}\right) - \frac{b}{a}$

This measures the maximum demand for the products of investment and other non-consumption industries, which is consistent with the avoidance of inflation. Let n_2 be the number of workers who can be employed in these industries with the demand for their products at this level; and let n_1 be the number of workers who will be employed in the consumption goods industries to produce the product ON. Then $n_1 + n_2$ is the maximum employment consistent with the avoidance of inflation for "cost-of-living" reasons.

If $n_1 + n_2$ is greater than "Full Employment" in Keynes's sense, then we are in a Keynesian world. But if it is less — and it is my contention here that there is no reason why it should not be less — then we are in a world with quite different properties.

3. Before saying anything about the effects of controls (in the war-time and post-war sense) it will be well to begin by working out the economics of our system under essentially laisser-faire conditions, or with no greater intervention by the State than was contemplated in the original model of the *General Theory*. This analysis, though it stops some way short of being realistic, will be useful as a step towards understanding of the new mechanism; and it will also be useful as a basis for comparison with the familiar Keynesian structure.

Let us assume, then, that we are in a situation where $n_1 + n_2$ (as defined in the previous paragraph) amount to a total which is less than Full Employment, in the sense of an overall shortage of labour. Although, as explained, this implies that there is a shortage of capital equipment in the consumption goods industries, it is nevertheless possible (though perhaps unlikely) that the incentive to invest will be low — either because of pessimistic anticipations and uncertainty impeding investment directly, or because of high liquidity preference and high rates of interest. If the incentive to invest is low, then actual employment will be less than $n_1 + n_2$, and the Keynesian theory will hold precisely; any method which encourages investment will stimulate employment.

If, on the other hand, the incentive to invest is greater than that which would induce an employment level of $n_1 + n_2$, then it would be the mechanism which we have been discussing which would operate, so that it

would be cost-of-living inflation which would set in. This inflation, however, would be checked if the monetary supply is not perfectly elastic; for the increasing demand for money which would follow upon the rising wages and prices must then lead to a rise in interest rates. Further inflation would thus be prevented by a rise in interest, which would cut down the amount of investment to an amount which the system could tolerate.

We have thus to envisage the possibility of an equilibrium situation, in which investment is checked by high (of relatively high) interest rates, and in which there is an appreciable amount of unemployment. But it is not an underemployment equilibrium in Keynes's sense. For the result of monetary expansion, directed towards lowering interest rates and expanding investment, would be to increase the effective demand for consumption goods (according to the multiplier); but this would raise the prices of consumption goods, and this would lead to a rise in money wages. It follows that any increase in employment which resulted from an increase in the money supply could only be temporary; the main effect of increasing the money supply would be to increase money wages and prices — exactly as if the quantity theory were in operation!

Thus, in the position we are analysing, an expansionary policy of the usual Keynesian sort would be futile; but what means would be available for increasing employment? The most obvious, and most important, means would be to find some way of increasing saving: to diminish, that is, the amount spent upon consumption goods out of a given money income. It follows from the formulae of the preceding section that if a or b can be diminished, $Y'—C'$ will be increased and thus n_2 will be increased. The cost-of-living explosion point will correspond to a larger amount of employment; employment will thus be expanded beyond what would have been possible with a lower propensity to save.

Monetary expansion is futile, but saving is effective as a means of expansion — our system certainly looks as if it is in a very »classical« condition. In many ways this is so; but it should be noticed that not many »classical« economists (in Keynes's sense) thought of saving as increasing *employment*. Also (and this is more important) an increase in the propensity to save would not, in our system, increase employment automatically. An increase in saving might still leave interest rates unaffected; if this happened, investment expenditure might not be increased, while consumption expenditure would be diminished, so that employment would be diminished. Employment would in fact be reduced below the »cost-of-living explosion point« so that there would unquestionably be a state of underemployment in Keynes's sense, which would need to be counteracted by expansionary measures of Keynes's type. It is only true that an increase in saving would increase employment if the increase was accompanied by expansionary

measures, such as a reduction of interest rates through monetary expansion, or any other measure which stimulated the employment of labour in the non-consumption-goods industries[1]).

4. The most efficient way of stimulating saving (in the relevant sense) is of course by taxation. If we assume, as seems reasonable for a first approximation, that the consumption function indicates a relation between consumption expenditure and income after direct taxation, then we can deduce that direct taxation increases employment, or potential employment, by precisely the number of workers who can be employed by an additional non-consumption expenditure equal to the revenue of the tax. For if T is tax revenue, and the consumption function is $C = a(Y - T) + b$, we can invert it in the form

$$Y' = \frac{C' - b}{a} + T$$

so that the extent to which the social income (in wage-units) can be expanded by direct taxation is exactly equal to the amount of tax revenue.

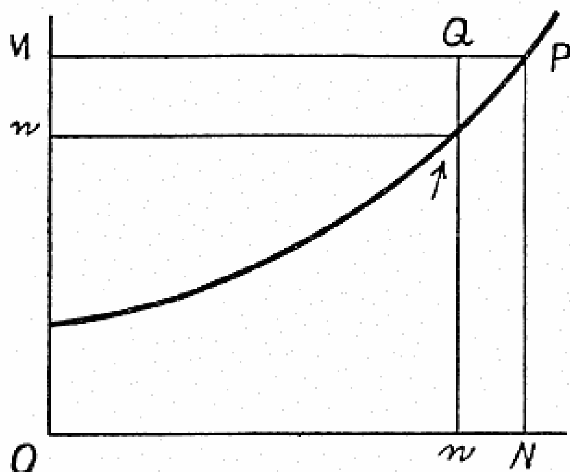
Substantially the same thing holds for indirect taxation, so long as the indirect taxes do not upset the prices of those consumption goods which are relevant for wage policy. But if the prices of consumption goods, in our sense, are affected, the situation is more complicated.

The situation in the consumption goods industries, following upon the imposition of a tax on consumption goods, is shown in Diagram II. Since it will be the price-level of consumption goods including tax which will now be unable to exceed OM (measured in wage units), the price-level excluding tax will have the lower maximum Om (Mm measuring the average rate of tax). The amount which can be produced at this lower price will be On; thus output of consumption goods will have to be reduced by an amount Nn, and there will be a corresponding fall in employment in the consumption goods industries.

Consumers' expenditure on consumption goods includes tax and is thus reduced from OMPN to OMQn only. Nevertheless this is a reduction and the total social income must therefore be reduced (according to our formula $Y = (C - b)/a$) by an amount equal to $\triangle C/a$ where $\triangle C$ is the difference between these two rectangles. On the other hand, earnings in the consumption goods industries are only Ompn, so that the amount available for expenditure

[1]) It may be admitted, however, that if the diminution in demand for consumption goods led to a fall in money wage-rates, thus diminishing the demand for money at a given level of employment, it is then possible that interest rates (with a given supply of money) would fall automatically, so that the needed stimulus to investment would come about automatically. This may serve as a rationalisation of a full »classical« position; but I do not regard it as consistent with the assumptions on which I am working here. It is essential to my argument that there is only a limited degree, and a particular sort, of flexibility in wage-rates.

on investment (or non-consumption) is increased by the tax revenue (as in the case of direct taxation), though it is reduced by the reduction in output of the consumption goods indusries, the latter being subject to a multiplier effect. In order to get the total effect on employment, we have thus to take into account (1) the direct effect on employment in the consumption goods industries, which will certainly be a diminution of employment (2) the indirect effect on the investment goods industries, which may go in either direction, according as the multiplier effect of contraction in the consumption goods industries is or is not offset by the additional »saving« due to the tax revenue.



To put this in another way. If the government balances its budget, the receipt of additional revenue will allow it to increase its expendi/ure, and this will ordinarily increase employment directly. But if this is done and nothing else is done, when the revenue is raised by indirect taxes and the economy was initially on the edge of a cost-of-living inflation, then the rise in the prices of consumption goods will set off the inflation. Restrictive measures to counteract this will have to be taken; and the question is whether the adverse effect on employment of these restrictive measures will offset the favourable effect due to the spending of the additional revenue, or will not.

It appears however that from our analysis something can be said which gives a clue to the probable answer to this question. If the supply of consumption goods is very inelastic, the necessary reduction in the output of consumption goods will be small, so that the rectangle QPNn will be small, and even when the multiplier effects is applied to it the result will still be small. Thus the favourable effect on employment of the additional expenditure possible with a still balanced budget (or a not more than before unbalanced budget) will, in all probability, be greater than the adverse effects of the necessary restriction in consumers' demand, and the reduction in the social income as a whole needed to induce that restriction in demand. But if, on the other hand, the supply of consumption goods is elastic, the reverse will hold.

It is obvious that the whole of this argument can be applied, in reverse, to the case of subsidies, which are nothing but negative indirect taxes. In cases where the supply of consumption goods is elastic, the effect of indirect taxation would be likely to be unfavourable, so that the effect of subsidies

would be favourable. In cases where the supply of consumption goods is inelastic, the effect of subsidies is likely to be unfavourable. The case for withdrawing subsidies is the same as that for imposing indirect taxes.

5. All the above analysis, because it has implied a laisserfaire economy, with no more control than can be exercised through budgetary policy and monetary policy, is to-day unrealistic, if applied to most European countries. But it still has an indirect relevance, because it does illustrate the situation which would arise if controls were relaxed. And the case for relaxing controls is bec5oming on other grounds a very strong one.

It is becoming widely recognised in Britain (I have at this point to speak of my own country) that controls, carried to the length which we have carried them, have a very deleterious effect on productivity. But if we relaxed our controls and did nothing else, we should merely precipitate inflation; and it is therefore becoming agreed that controls could only be relaxed as part of a deflationary policy, directed towards reducing the level of demand to what the economy, in a less highly controlled condition, could bear. My general analysis is sympathetic to this point of view; but it leads me to emphasise the danger of excessive contraction — if the controls were swept away wholesale, and the main reliance for the avoidance of inflation were put upon cuts in governmental and industrial expenditure. For it seems to follow from what has been said that such a policy would be liable to lead to large-scale unemployment; though it is indeed possible that in spite of that unemployment, real recovery might be more rapid under such a contractionary policy than it is likely to be on present methods. Nevertheless, a contractionary policy of this type is definitely not the best alternative which ought to be open.

The best alternative, I would suggest, would be something of the following type. Controls over production should be relaxed as far as possible, but controls over consumption (especially in the form of high taxation and a budget surplus) should be retained until supplies are more abundant. Such a policy would be made more tolerable if people could be made to see that the high taxes are necessary in the interests of employment. It is true that the maintenance of consumption restrictions itself involves a drag on productivity, owing the lack of incentive which would persist; but the lack of incentive is far from being the only thing which is restricting production at present. From the point of view of incentive, it would be far better if controls over consumption could be relaxed with the rest; but the time for that is definitely not yet. It should only come as a "reward" for the successful completion of the first stages of recovery. The fact that it will be not merely a reward but a positive help to the achievement of the later stages does not mean that we do not have to do without it in the earlier stages. It is of the nature of a process of recovery that it gets easier as it goes on.