EMPLOYMENT CREATION WITH VERY LARGE SCALE LABOUR SUBSIDIES

by Geoff Beacon and Peter Monk

Introduction

> 'High unemployment is not a temporary or transitional problem. It seems to have become a basic structural feature of the economy and most forecasters agree that current levels of unemployment will persist for the foreseeable future. It is far from certain that even a major reflation would greatly reduce unemployment, particularly in the North. Nor does there seem to be a real acceptance of the need to significantly redistribute employment on a more equitable basis.'[1]

> 'Life on the dole is not enjoyable: it undermines family, social and marital relationships and removes a sense of worth and purpose in life from individuals. Self-confidence and self-identity are severely damaged and are replaced by apathy and pessimism about the future.'[2]

None of the current mainstream economic policies make any claim to substantially change the present tragic unemployment situation. Even the most optimistic bid promises only to reduce unemployment by one million over two years. Since there are more than three million unemployed even this would mean only a modest improvement over the present situation.

This article outlines a policy of very large scale labour subsidies which presents the possibility of creating full employment – reducing unemployment to the level of 'frictional' unemployment only.[3]

Present Policies

(i) Demand management

There are three main categories of policy advocated for relieving unemployment. The first relies on managing (increasing) total demand in the economy.

The main debate over the past decade or so has been whether policies which use the management of total demand can be effective in the long run. Opponents claim that after an initial effect, which raises the level of employment, serious inflation occurs. If this inflation is not quickly tackled the rate of inflation accelerates out of control. The measures that cure this inflation cause even worse unemployment.

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On the other hand, the supporters of demand management policies are often less concerned about the long term effects. As Keynes said: 'In the long run we are all dead'. In any case a bit of inflation is better than a lot of unemployment.

Against this, opponents argue that it is not a matter of having the economy in a steady state with high inflation and low unemployment (possibly a desirable policy option) but of having the value of money totally out of control until the inevitable crash occurs[4]. They argue that there is a certain level of unemployment that is necessary to keep inflation steady and non-accelerating. This level may change slowly with time and depends on such things as technology, the rate of unemployment benefits and trade union activity.

Some supporters of demand management policies would accept that a long run 'high demand/low unemployment' policy is not supportable. However, they would argue that it is possible to pull an economy out of a deep recession by increasing the total demand and somehow direct the increase in economic activity, inducing a structural change towards a newer, better economy. Such changes have happened. The example most often cited is the economic change brought about by the Second World War, which saw the rapid development of new production techniques and a massive investment in productive capacity leading to the booms of the 'fifties and 'sixties.

One of the difficulties is that an increase in the demand in the economy of one country is as likely to cause a rise in the import bill as an increase in domestic employment. The beneficial employment effects are thus exported to other countries. Few countries, if any, are willing to take the risks in reflating their economies in this way.

(ii) Training

The second category of policies are those aimed at training unemployed people so that they can do jobs that are 'in demand'. Training policies are an important part of current strategies for creating more employment. A full analysis of the role of training is beyond the scope of this article; it is, however, worth making the following points.

Firstly, providing training takes time and effort. Determining which skills to teach, setting up training bodies, doing the training itself and selling the skills of trainees all take time and consume valuable resources.

Secondly, the effect of training on the total level of employment is not clear. Obviously there is an effect due to the increase in demand caused by extra public spending. Administration of training, and payments to trainees, do put significant amounts of money into the economy.

But after training is completed, how does increased availability of particular skills increase employment? It is not clear, for example, that doubling the number of people with plumbing skills will substantially increase the amount of plumbing that is done.

It is probably too early to make a rigorous assessment of training schemes that have been set up over the past few years but it is apparent that there has been mixed success. It is possible that the expansion of such schemes may be subject to diminishing returns.

(iii) Labour cost policies

The third category of policies can be broadly categorised as labour cost policies. These apply to labour the principle that a reduction in price for a particular item usually causes an increase in demand. Thus, if the cost of labour is reduced employment will increase. There are two ways in which this principle has been applied in recent years.

Firstly, there are policies which are designed to reduce wages (e.g. by removing minimum wage legislation or weakening the trade unions) or which are designed to encourage the unemployed to take jobs at these lower wages (e.g. by reducing entitlements to state benefits).

Secondly, there are labour subsidies of various sorts so that employers can take on workers that they would not otherwise employ. Over the past ten years various subsidy schemes have been tried. The most significant of these have been the Regional Employment Premium, the Temporary Employment Subsidy and the Small Firms Employment Subsidy. The empirical evidence for these shows that they do have a positive impact on employment[5] but they can be very expensive and it is difficult to see how they could be used as instruments for curing the long-run, large-scale unemployment problem we now have.

Another type of employment subsidy – the Marginal Employment Subsidy – has been proposed by Layard and Nickell[6]. The main problem with marginal employment subsidies is that they are aimed at changing the dynamics of the labour market: in a steady state economy they would have no effect. This means that the size of any long-run effect is dependent on the amount of short-term fluctuations. And fluctuations brought about by labour subsidies may simply be too slow for a significant effect[7]. In a recent study[8] of the effect of a sudden labour cost change, using the leading models of the UK economy, it was found that a time lag of up to four years would be necessary for the full effect to be felt.

Marginal Employment Subsidies can also be criticised for the way in which they can amplify short term fluctuations. Expanding firms, or industries, receive subsidies. Steady-state or contracting ones do not. If, for the expanding firm, the reduction in costs is passed on in reduced prices, increased demand may cause them to expand further until a saturation point is reached. When expansion stops, costs rise and cause reduced demand. Contraction continues until some base level is reached when the whole process may start again. It is likely that, because larger shocks travel faster through the economy, this effect would be unacceptably large if marginal employment subsidies were used on a very large scale.

It may be that marginal employment subsidies can improve the dynamics of the labour market by, say, reducing 'take-on' friction. Politically they have the advantage that they can be perceived as short-term measures. This means they do not fully confront the widely held view that subsidies 'distort the market' and that subsidised jobs are not 'real' jobs.

Distorting the Market – An Example

The proposals presented below involve mechanisms which would cause considerable distortion of the labour market and the creation of many 'unreal' jobs. However, market distortion is a general characteristic of subsidy schemes – as is the case, for example, with the agricultural industry.

For strategic reasons (amongst others) it has been thought desirable for this country to have a large and successful agricultural industry producing a high proportion of Britain's food. In order to ensure this, subsidies have been given to agriculture to stabilise production at a high level. When Britain joined the Common Market, the existing deficiency payments scheme was replaced by an intervention price mechanism. Both schemes obviously distort the agricultural market.

The method of operation of the old deficiency payments scheme was to allow farmers to sell produce at the current market price. If this was below a certain minimum, the farmer's income was made up by a subsidy. The operation of the intervention price mechanism is rather different. It has its effect by taking produce off the market at a standard intervention price whenever the market is weak. This ensures that prices do not fall below a certain minimum level.

Two points are worth noting here. Firstly, the political consensus has been that the strategic importance of food production has been more important than the fact that both schemes have distorted the agricultural market from its hypothetical 'perfect' state. Despite the current dissatisfaction with the Common Agricultural Policy this consensus will probably survive – it is not the principle of support to agriculture that is in question but the particular form of its application.

Secondly, it can be noted that both types of policy provide subsidised food. In the case of the Common Agricultural Policy, the subsidised food is sold outside the Common Market. This food is real food. One tonne of Common Market wheat is just as real (but with somewhat less gluten) as unsubsidised wheat from Kansas.

Distortions of the Labour Market

A perfect market is one which should theoretically produce the most efficient use of resources and any distortion causes a less efficient use of resources. However, there are few, if any, perfect markets and, in any actual market, it is difficult to measure its 'degree of perfection'. This makes it difficult to predict whether the application of a particular policy will make a market more or less perfect. Changing to a policy that would clearly distort a perfect market may not cause an increase in the distortion of a grossly imperfect market. The distortion might, in fact, be decreased.

Now it is clear that the labour market in Britain is grossly distorted – a perfect market would have no unemployment. But does the distortion in the labour market have an identifiable cause? This is not an easy question to answer either theoretically or practically but, if the following (over) simple answer fails, it will show some of the dangers of taking 'perfect market' arguments too seriously.

The simple answer is that state benefits to the unemployed are the distorting agent in the labour market. It can be argued that if benefits were removed then people would either remove themselves from the 'unemployed state' by ceasing to assert they are looking for work (as some do when their benefits are withdrawn) or they would take what jobs were available, probably at greatly reduced, even starvation, wages. Thankfully, there are few advocates of such extreme measures – market distortion being seen as preferable to mass starvation.

The very large scale labour subsidies outlined below would certainly distort a 'perfect labour market'. However, it is not obvious that such a policy would further 'distort' the present labour market, as it would reduce the major manifestation of labour market imperfection – unemployment.

It is perhaps worth returning to the analogy with the agricultural market. Here we can make a comparison between the payment of state benefits to the unemployed and the intervention price mechanism of the Common Agricultural Policy. Both have a similar affect in that the higher the intervention price the greater the amount of produce sold into intervention; the greater the level of state benefits the greater the level of unemployment becomes. This is because jobs which pay less than the current level of state benefits tend not to attract workers. The similarities between a policy of large scale labour subsidies and defiency payments schemes can also be seen. A level of subsidy, if high enough, could theoretically result in a clearing of the labour market without the descent to starvation wages, just as deficit payments allow the clearing of agricultural markets without ruining farmers.

TABLE 1

ANALOGY BETWEEN THE AGRICULTURAL MARKET AND LABOUR MARKET

Agricultural Market	**Labour Market**
Common Agricultural Policy	Benefits System
Intervention Price	Level of Benefit
Deficit Payment Scheme	Labour Subsidy Policy
Level of Deficit Payments	Level of Labour Subsidy

Models for Very Large Labour Subsidies

During the 1930's Lord Kaldor considered the possibility of subsidising the labour of all workers to create jobs[9]. Since then there has been little interest in such large scale (non-dynamic) subsidy policies. This may be because 'back-of-the-envelope' calculations show that the cost of such schemes is enormous[10]. These estimates, however, may not be as conclusive as they first seem.

Most of the estimates that have been occasionally published are based on a model of the economy that has only two sectors: capital and labour. In such a model there is only one source of finance for labour subsidies – a tax on capital. But in Britain the labour sector is about 70 per cent of the economy and the capital sector only 30 per cent[11]. It soon becomes clear that the capital sector is too small to generate enough finance to subsidise the labour sector to the extent of having a significant effect on employment levels.

In the context of a labour subsidy policy, however, a model of the economy in which there is only one labour sector misses one of the most important features of unemployment: most of the unemployed come from low-paid occupations. So while schemes which subsidise all labour equally are not likely to be viable, those which aim the subsidy at the lower-paid sector appear to offer more chance of success.

A more appropriate model for considering subsidy policies aimed at the lower paid would be one in which the labour sector is divided into several sub-sectors. The one we have used divides the labour sector into five sub-sectors.

In this simple model the labour sector is divided according to wage level (or, in the case of the unemployed, the wage that would be expected were they to be employed). The total number of workers is assumed to be 25 million with 5 million in each sub-sector. The wage levels for the sub-sectors are taken to be 50%, 75%, 100%, 125%, 150% of the wages of the middle group[12].

In examining policies which change the relative costs of employing capital and different categories of labour, one of the main difficulties is to obtain authoritative estimates of the 'elasticities of substitution' between these factors of production. Elasticities of substitution reflect the degree to which relative changes in the prices of factors of production result in relative changes in the quantities employed. This model assumes that they are all 0.5, a figure derived from an estimate of the elasticity of demand for labour given in a paper by David S. Hammermesh[13]. Elasticities of substitution of 0.5 imply that a 2% change in the relative prices of two factors (i.e. any two of capital and five labour types) would result in only a 1% change in the relative quantities of those factors employed in the economy.

Other factors, such as the elasticities of supply of labour and the costs of the unemployed have been estimated from other sources[14]. One of the problems for testing these policies is that existing economic models, such as the Treasury model, have not been designed to answer these sorts of questions so there is a dearth of good estimates for the necessary parameters. The Treasury model is incapable of predicting the effects of large scale labour subsidy policies[15].

Employment Adjustment Transfers

One scheme for very large labour subsidies could replace the present Value Added Tax by a combined tax and subsidy. In this scheme, an enterprise would pay a much higher rate of basic tax (say 50% instead of the present 15%) but would receive a subsidy for each worker it employed (say 40% of the average wage). This would mean that an enterprise employing mostly low-paid labour would receive a net subsidy but

enterprises employing mostly capital and high paid labour would bear a much heavier tax than at present. We use the term Employment Adjustment Transfers (EAT) to describe this system.

Using the model mentioned above, a small computer program has been designed to test such policies. The program ensures that the subsidy scheme is self-financing, balancing the subsidy paid out against extra taxes collected, plus savings made by the Exchequer when extra employment is created. These savings include unemployment benefit which is no longer paid when someone ceases to be unemployed, plus extra taxes which are collected when a worker is in employment. For the lowest paid group the savings are estimated at 70% of the working wage[16].

Some of the results of the program are given in Table 2 and a description of the method used is given in the Appendix.

How subsidies work

Five sets of results from the EAT model are shown in Table 2. These results are derived from labour subsidy figures set at 10, 20, 30, 40 and 50% of average wages. Consider, for example, the results obtained with a 30% labour subsidy. This would be financed by increasing VAT by 24.7 percentage points (and by the savings to the Exchequer described above). In the lowest paid sector, 726,000 new jobs would be created; in the next lowest paid sector there would be 389,000 new jobs; and so on.(Even the highest paid sector would see an extra 2,000 new jobs.) In all, over 1.3 million new jobs would be created. In addition, the wages paid to labour in each sector would increase, with proportionately greater increases for lower paid workers. The capital sector would also be affected; in the case of a 30% labour subsidy, the model estimates a 4.7% fall in the price of capital and a 9.4% fall in the quantity of capital employed.

These results suggest that policies involving very large labour subsidies can make a dramatic change in unemployment. It is worth considering the process by which the subsidies have their effect.

Clearly those goods and services provided mostly by the lower-paid sector (e.g. catering services, clothing) will fall in price. Those made with little labour or high paid labour (e.g. petrol, plastics, computer software) will rise in price. These changes in price will cause shifts in demand for the relevant products.

Another effect is to change techniques within an industry. For example, the building industry will find the relative prices of bricklaying and concrete work changing. This will have some effect on the design of buildings.

It should be noted that, with all the price changes, average prices should fall because the value of the subsidy is larger than the increase in tax, the difference being made up from the savings that falling unemployment produces.

TABLE 2

Results of Computer Simulation of EAT Five Sector Model

Labour Subsidy	Extra VAT	New Jobs (Per Sector)	Old Wages	New Wages	Change in Capital Amount	Change in Capital Price
% of av. wage	%	(thousands)	% of avge.	% of avge.	%	%
		212.0	50.0	51.0		
		115.0	75.0	76.1		
10	6.7	52.0	100.0	101.2	-2.8	-1.4
		17.0	125.0	125.9		
		0.6	150.0	150.0		
Total new jobs = 496,500						
		482.0	50.0	52.2		
		234.0	75.0	77.2		
20	14.8	110.0	100.0	102.5	-5.9	-2.9
		37.0	125.0	126.9		
		1.3	150.0	150.1		
Total new jobs = 864,300						
		726.0	50.0	53.5		
		389.0	75.0	78.6		
30	24.7	174.0	100.0	103.9	-9.4	-4.7
		54.0	125.0	127.9		
		2.0	150.0	150.2		
Total new jobs = 1,345,000						
		1047.0	50.0	55.0		
		557.0	75.0	80.2		
40	37.0	247.0	100.0	105.5	-13.5	-6.7
		76.0	125.0	129.1		
		3.0	150.0	150.3		
Total new jobs = 1,927,000						
		1432.0	50.0	56.8		
		757.0	75.0	82.0		
50	53.0	329.0	100.0	107.4	-18.2	-9.1
		100.0	125.0	130.3		
		5.0	150.0	150.4		
Total new jobs = 2,623,000						

PSBR Costing

A common measure of performance of policies designed to create employment is the cost to the PSBR (Public Sector Borrowing Requirement) per job created. While this measure is not without relevance it must be treated with caution because there are effects other than employment generation associated with any particular policy. The size of these effects varies not only with the amount spent but also on the nature of the policy. For example, increased public expenditure will create jobs and have an inflationary effect. A cut in the rate of VAT with an identical PSBR cost will have different effects on employment and the inflation rate[17]. Thus the PSBR cost alone cannot be the measure by which policies are judged.

The EAT model has been constructed to have a nil PSBR cost. The intention in doing this was to construct a policy of generating employment with no (first-round) inflationary effect. Thus EAT policies should avoid the traditional jobs vs inflation trade off.

That is not to say that EAT policies have no effect other than an increase in employment. There are serious implications for foreign trade and it is clear that some changes in capital-intensive industries will take place. Analysing these effects in detail is beyond the scope of this article but some observations on this issue are considered below.

Foreign Trade

In the area of foreign trade subsidies obviously cause trouble. An EAT policy contains an element that, if taken separately, is a very large subsidy. So EAT policies are likely to cause trouble too. Exactly how is hard to predict. It would probably be possible to get away with a mini-EAT by removing employers' National Insurance Contributions completely and increasing VAT. A larger application of EAT policies would probably be seen by the UK's trading partners as unfair play.

If large labour subsidies were paid to exporting firms which did not pay the levy on value added (VAT is not paid on exports) then British exports would enjoy a considerable subsidy. If the firms did pay the levy on value added then firms with high value-added per worker would be at a disadvantage relative to their foreign counterparts. Obviously some careful decisions would have to be made.

Some commentators, however, do not believe that the problems of international trade are as serious as we have been led to believe[18]. In any case, the adverse consequences of international disagreements on trade policy are usually presented in terms of domestic unemployment. If EAT policies really can generate employment on the scale we predict, then the 'trade war doomsday' will indeed be 'rather mild'.

Decreased Capital Use

EAT policies have their effect, in the absence of an expansion of the economy, by substituting low-paid labour for high-paid labour and capital. The results from the model outlined above show capital use decreasing by up to 20% and the return on

capital decreasing by up to 10%. It is hard, at this stage, to say whether this is a good thing or a bad thing. Clearly costs in industries with a high value added per worker will increase. Clearly they would become less competitive relative to industries with a low value-added per worker. But since EAT policies cause a rise in national output there may be few enterprises that are losers in an absolute sense.

Summary

Presented here is one of a range of possible schemes for very large scale labour subsidies. The results of a computer simulation based on a simple model of the economy have been presented. The results suggest that very large scale labour subsidies are a viable policy option for substantially reducing unemployment.

NOTES

1. Editorial, *Northern Economic Review,* 13, 1986.

2. E. Smith: Living with Unemployment in Cleveland, *Northern Economic Review,* 13, 1986.

3. See also:
   G. Beacon: How to Create More Jobs without Inflation, *Computer Weekly,* 18 October 1978.
   G. Beacon: Getting Britain Back to Work, *Guardian,* 4 Feb 1982.

4. M. Parkin: United Kingdom Inflation: the Policy Alternatives, *National Westminster Bank Quarterly Review,* May 1974.

5. Small firms employment subsidy – an evaluation of its effectiveness, *Department of Employment Gazette,* May 1978.
   Small firms in Special Development Areas were able to claim £20 per week for each extra full-time job created. Payments were made for up to 26 weeks. This article concludes '... the subsidy appeared to be successful in achieving its objectives of stimulating employment... Moreover, this stimulation has been achieved at a reasonable cost to public funds if allowance is made for flowbacks to the Exchequer.' The total number of jobs supported by the scheme was 5,928.

6. P.R.G. Layard and S.J. Nickell: The Case for Subsidising Extra Jobs, *The Economic Journal,* 90, March 1980.
   P.R.G. Layard: Subsidising Jobs Without Inflation, *The Times,* 28 January 1976.

7. J.D. Whitley and R.A. Wilson: The Macroeconomic Merits of a Marginal Employment Subsidy, *The Economic Journal,* 93, December 1983.
   This article specifically studied the proposals of Layard and Nickell. It concludes '... the likely effect of lags in the economic system ... suggest that MES will take between two and three years to reach its maximum impact on employment' and 'whilst we would concur with Layard and Nickell on the need to introduce policies to create new jobs, we remain sceptical as to whether a complex marginal scheme would be preferable to a more straightforward cut in employers' national

insurance contributions.'

8. House of Commons Parliamentary Unit: Ready Reckoners – An evaluation of alternative fiscal measures on the econometric models of the Treasury, London Business School, National Institute of Economic Research and Bank of England, November 1986.

9. N. Kaldor: Wage Subsidies as a Remedy for Unemployment, *Journal of Political Economy,* December 1936.

10. J. Burton: Employment Subsidies – The Cases For and Against, *National Westminster Bank Review,* February 1977.

11. *Input–output Tables for the UK,* Central Statistical Office, HMSO, 1976.

12. Based on the *New Earnings Survey,* 1977.

13. O.S. Hammermesh: Econometric Studies of Labour Demand and their Applications to Policy Analysis, *Journal of Human Resources,* 11, 4, 1976.

14. Sources include:
S. Mukerjee: The Costs of Unemployment, *PEP Broadsheet,* 561, 1976.
W. Daniel: A National Survey of the Unemployed, *PEP Broadsheet,* 546, 1976.

15. There are no explicit parameters for even elasticity of substitution between capital and labour in the Treasury Model. Until recently the model's structure allowed for no implicit elasticity that would come from an interaction of its other parameters. David Turner, of the Macroeconomic Modelling Bureau at Warwick, has informed the authors that this has now changed but that its elasticities are lower than any of the other models. It still does not seem very useful for modelling labour/capital substitution brought about by relative price changes.

16. Mukerjee (1976) and others have shown that the unemployed cost the taxpayer of the order of 95% of their working wage. However, not everyone seeking work is registered as unemployed and in receipt of state benefits. To allow for this and certain other complications the model presented here assumes a figure of 70% for the lowest paid group and less for the other groups.

17. House of Commons Parliamentary Unit (Nov 1986), *op.cit.*
This study shows that cuts in Employers' National Insurance Contributions (which can be regarded as being the same as a flat-rate labour subsidy) compare well with other measures in terms of their low inflationary, balance of payments and PSBR cost of reducing unemployment.

18. Anthony Harris: Doomsday Will be Rather Mild, *Financial Times,* 2 May 1987.

APPENDIX

Basis of the Mathematical Model

The EAT policy described above achieves its effect by making a factor of production that is perceived to be under-used (low-paid labour) less expensive to employ relative to other factors of production (high-paid labour and capital). Changing the costs causes substitution between these factors so a model which uses elasticities of substitution has been used.

The major problem with this approach is that there are no estimates of the fifteen elasticities in our six factor model (five labour sub sectors plus capital). None of the standard models of the economy disaggregate labour by wage. However, on the simplifying assumption that all the elasticities in our model have the same value, it can be shown that they will have the same value as the elasticity of substitution between capital and labour in a two factor model.

Our model has an in-built constraint that the policy should be self-financing. This is at variance with other models which are designed to show, among other things, how given amounts of public expenditure might be spent. This means that the parameters that are easiest to extract from them are elasticities of demand rather than elasticities of substitution. More recent studies have suggested that these elasticities may be greater than we have used in our model* and consequently the EAT levy may not need to be as great as we have suggested.

*See M.J. Andrews, D.F. Bell, P.G. Fisher, K.F. Wallis, J.D. Whitley: Models of the UK Economy and the Real Wage-Employment Debate, *ESRC Macroeconomic Modelling Bureau, University of Warwick: Discussion Paper No. 3,* December 1984.

This paper looked at values for the elasticity of demand for labour in various computer models of the UK economy. David Turner of Warwick has provided us with some updated values from the same models.

In our model the elasticities of substitution are assumed to be 0.5, equivalent to an elasticity of demand for labour of 0.15. The new estimates for the elasticity of demand for labour are all greater than ours, varying from 0.18 to 1.31.