Unemployment and the Structure of Unemployment Benefits

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Abstract
Analysis suggests that the higher the replacement ratio, that is the level of unemployment benefit relative to average earnings, the higher the level of unemployment is likely to be. This effect comes about in two main ways. The replacement ratio will influence both the rate of inflow into unemployment and the period for which people remain unemployed. The empirical evidence supports these propositions although the sensitivity of unemployment to changes in the replacement ratio is fairly weak. In the light of equity considerations reducing unemployment benefits as a policy weapon to counteract unemployment is thus not a viable option. Changing the rules relating to part-time earnings and unemployment benefit however could reduce long-term unemployment.

1. Introduction
In order to investigate the relationship between the level of unemployment benefit relative to some measure of average earnings and the level of unemployment it is useful to set out a simple relationship. This is that the level of unemployment is determined by both the magnitude of the flows of people into unemployment, and out of unemployment and by the average

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period of time which elapses between the two flows. In a static labour force the unemployment rate, U, is given by

$$U \equiv \frac{I}{L} \times D,$$

where
I: inflows to unemployment
L: labour force
D: average duration of unemployment
       and where I and D are measured in the same units of time.

From the above identity it is evident that the level or structure of unemployment benefits, or the way in which the benefit system is administered, may influence the level of unemployment by affecting the inflows to unemployment and/or the average duration of unemployment.

The purpose of this note is to briefly survey the empirical evidence on this issue. (A very comprehensive survey of the literature is provided by Atkinson and Micklewright, 1991.) While some relevant empirical work has been undertaken in Australia it is necessary to make reference to overseas studies. Fortunately the main conclusions to be drawn seem to be fairly clear and the recommendations made by the Committee on Employment Opportunities are consistent with these conclusions. I start by briefly looking at the effect of benefits on the inflows into unemployment and then in section three at the effect on the duration of unemployment. The concluding section draws out the policy recommendations.

2.   Unemployment Benefits and Inflows to Unemployment

The unemployment benefit system may increase the number of voluntary quits and hence the inflows into unemployment. These will comprise those who prefer a spell of unemployment to work and those who choose to search for new work while unemployed rather than while in employment. In either case the higher the ratio of unemployment benefits to after tax earnings while employed, termed the entry replacement ratio, the greater would the inflows be expected to be. It is also likely that the level of, and administration of, unemployment benefits may influence inflows to unemployment from outside of the labour force. For example, a generous benefit system may lead to young people entering unemployment rather than staying on at school.

The structure of the system might also influence inflows in that if there is an extended waiting period before benefit is paid, the incentive to quit voluntarily would be correspondingly reduced. Further, in many countries those who leave employment voluntarily are either disqualified from benefit or receive benefit after an extended waiting period. Formal research has, however, concentrated on the relation between entry replacement ratios and inflows to unemployment (from either of the two other labour market states) rather than on the effect of the administration of benefit procedures. This concentration has come about because in most instances it is very hard to derive summary measures of how generous, or otherwise, are the administrative rules.

Trivedi and Kapuscinski (1985) have estimated equations explaining inflows into unemployment in Australia for the period 1970-80. While this evidence is now a little dated the results are of interest as it was in this period that substantial increases in replacement ratios occurred in Australia. It shows that changes in the replacement ratio had only a weak effect on inflows, their effect being most noticeable in the case of adult males where the elasticity of inflows with respect to the replacement rate was of the order of 0.6. This is to be interpreted in the following way. If the replacement ratio was raised by ten per cent then this is estimated to lead to a six per cent increase in the rate at which people flow into unemployment.

The balance of the European evidence, however, is that replacement ratios have little effect on flows into unemployment. The cause of the absence of an effect on inflows in many European countries may be due to rules disqualifying voluntary quits from benefit. (Atkinson and Micklewright, 1991)

The evidence for the United States presents a rather different picture in that replacement ratios are positively associated with *involuntary* quits. (In most States, workers who voluntary quit are not eligible for unemployment insurance.) This effect arises from a peculiar feature of the United States labour market, the use of temporary layoffs to cope with cyclical downturns. In this case the effect on unemployment comes from the demand (employer) side of the labour market rather than from the responses of employees. (Atkinson and Micklewright, 1991)

Thus it seems unlikely that reducing entry replacement ratios would have any significant impact on the level of unemployment by reducing inflows into unemployment. Automatically disqualifying those who voluntary quit employment from benefit, or increasing the average waiting period in these cases would seem likely to reduce inflows into unemployment although the magnitude of the effect is not known.

3. Unemployment Benefits and the Duration of Unemployment.

Standard search theory provides a convenient framework for analysing the relation between benefits and how long people remain unemployed. The probability of an unemployed worker entering a job is equal to the probability of he or she receiving a job offer multiplied by the probability of them accepting it. This latter probability will be lower the higher the worker's reservation wage. In turn the more 'generous' is the system of unemployment benefits the higher will be the reservation wage, and hence the longer the expected duration of unemployment.

There are two main aspects of the generosity of the system that influence duration. Both the exit replacement ratio, the ratio of benefits to after tax expected earnings, and how long benefits continue to be paid for are both relevant. In some countries, entitlement to unemployment benefit ceases after some period of time. As the time of loss of eligibility approaches (and is passed) the reservation wage will fall and thus the probability of accepting a job offer will increase.

There is a third dimension to the generosity of the benefits system which I will also briefly discuss and this is the extent to which benefit is lost if part-time work is undertaken by the unemployed. In this case it may well be that, paradoxically, the less generous the system the higher may be the level of unemployment.

We begin by summarising the evidence on the relation between duration and the exit replacement ratio. Most empirical work has found that the average duration of unemployment is in fact positively related to the replacement ratio, which is what we would expect, but that the responsiveness of unemployment duration to changes in the replacement ratio is typically found to be small.

Analysis of this effect in Australia in the 1970s, when replacement ratios were substantially increased is difficult since until 1975 the duration data had an open ended upper range of over thirteen weeks (as very few spells lasted longer than this). Trivedi and Kapuscinski (1985) found that both for adults and juniors, and for males and females, changes in replacement ratios had a significant impact on unemployment duration although, of course, this was confined to those who by current standards had been unemployed for a short period of time.

Various other pieces of empirical work in Australia support the proposition that the level of benefits and unemployment are positively related. Lewis and Kirby (1988) found that the real level of unemployment benefits had a positive effect on the level of unemployment over the period 1967-87.

Pissarides (1991) suggested that the significant increases in replacement ratios that occurred in the mid 1970s had an impact on the equilibrium level of unemployment, raising it by nearly two percentage points. In his model, however, an increase in the replacement ratio increases unemployment in an additional way. It increases the bargaining power of unions causing the real wage to rise and the volume of employment to fall. Fahrer and Pease (1993) have investigated the causes of the outward shift in the unemployment-vacancy relation (or Beveridge curve). In a general sense such a shift is equivalent to an increase in the equilibrium rate of unemployment. Over the period 1966-92 they too find that changes in the replacement ratio had a statistically significant effect. The authors also separately estimated equations for inflows to, and outflows from, unemployment. In neither case, however, was the replacement ratio found to be of any importance. They explain this result through 'specific institutional features of the Australian benefit system'.

For Britain, Nickell et. al. (1989) found that the elasticity of unemployment duration with respect to the replacement ratio decreases with age, for example, being around 0.7 for teenage males and around 0.1 for males aged over 45. Across all age groups, however, the effects were limited to the first six months of unemployment. That is after the first six months it is the low probability of receiving a job offer that dominates any effect that the replacement ratio may have.

Work from a variety of other countries has consistently found that, as we would expect, the elasticity of unemployment duration with respect to unemployment benefits is positive and typically in the range 0.2-0.9. (Layard, Nickell and Jackman). The effect of benefits upon duration is weaker the higher the level of unemployment and the longer the spell of unemployment has lasted.

Unemployment benefit systems vary in the length of time for which benefit can be claimed. For example, benefit entitlement lasts six months in the United States, a year in France, Germany and Sweden and indefinitely in Australia and Belgium. Some of these differences may be more apparent than real for in some countries when unemployment benefit ends the worker moves on to a different system of assistance. Nonetheless real differences in the duration of entitlement do exist. We would expect that as the remaining weeks of benefit entitlement decrease so too would the worker's reservation wage and hence the probability of accepting a job offer would increase. This broadly seems to be what happens. As is well known, exit rates from unemployment decline with the duration of unemployment. In systems with a cut-off benefit this tendency is reversed in the weeks before benefit is exhausted and is then resumed (OECD 1991).

The relation between unemployment durations and the length of unemployment benefit entitlement seems, however, weak. Schmitt and Wadsworth (1993) put the elasticity of unemployment durations to unemployment benefit durations at between 0.1 and 0.6 in Britain (on the basis of 1979-82) data and around 0.4 in the United States. Katz and Meyer (1990) use United States panel data to analyse this issue and reach similar conclusions. They suggest that if unemployment benefit duration in the United States had been doubled, from six months to a year the average duration of unemployment would have increased by four to five weeks (implying an elasticity of around 0.3). To put this into context, in 1984 average uncompleted spells of unemployment were sixty three weeks in the United States and eighteen weeks in Britain. Meyer and Katz suggest that benefit durations may have explained 10-30 per cent of the difference.

4. Concluding Comments

Three main conclusions can be drawn about the influence of unemployment benefits upon the level of unemployment. First that changes in replacement ratios have a very weak effect upon inflows into unemployment. Second that variations in replacement ratios do have some influence upon the duration of unemployment but that this effect is confined to those who have been unemployed for relatively short periods of time. Third, that in those countries where benefit entitlement ceases after some period of time, unemployment durations, other things being equal, tend to be slightly lower than where benefit has no time limit. This latter effect arises from a temporary increase in rates of exit from unemployment as the time of benefit exhaustion approaches.

Thus the level of unemployment could be reduced by reducing replacement ratios or by imposing a time limit on benefit entitlement. The evidence strongly suggests, however, that large changes to benefits would be needed to have any significant impact on unemployment. Further, the impact would largely be on those unemployed for a short period of time. The level of unemployment benefits is not generous by international standards and thus I think that a reduction in them is not a viable policy option.

It should be emphasised that these comments are made in the context of the present level of wages. Were a system of training wages for the long-term unemployed to be introduced, as discussed by Lewis in this volume, some changes to the benefit system would be necessary. These could take the form of reduced benefit for the long-term unemployed and some income support for those on training wages.

There is one aspect of the benefit system that could be changed so as to reduce the level of unemployment, namely the rules governing part-time earnings and benefit entitlement. There is some overseas evidence that the reintegration of the long-term unemployed into full-time employment is achieved through a spell of part-time work. I am not aware of any published Australian work on this proposition but there is certainly anecdotal evidence in its favour. What we know about the reasons for exit rates from unemployment declining with unemployment durations also suggests that part-time work could be a transitional stage between long-term unemployment and full-time work. On the one hand employers use duration of unemployment as a screening device. If a person can, despite this, get entry to casual part-time work and demonstrate their work skills he or she may ultimately gain full-time employment with the same employer. On the other hand, the probability of leaving unemployment declines with the length of unemployment spells because skills decay and because people become demoralised and seek work ineffectively. A spell of part-time work can reverse, or at least halt, these tendencies.

At present a single unemployed person can earn $45 a week without loss of benefit and for the next $40 of earnings benefit is lost at a rate of 50 cents in the dollar. Beyond this benefit is lost dollar for dollar with earnings. It was argued in the Centre's submission to the Committee that there was a case for relaxing the rules governing part-time earnings, perhaps by increasing the threshold at which dollar for dollar loss of benefit occurs. A proposal along these lines was made by the Committee – to reduce the free area and then to withdraw benefit by 65 cents in the dollar. It has been pointed out by Bradbury (1994) that while this increases the incentive to work for one and a half to three days a week (for a single person) it decreases the incentive to work for shorter periods. Alternative changes would have different incentive effects. This is not the place to discuss detailed structures. The main point is that there is a case for some change to the rules relating to part-time earnings and benefit entitlement.

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