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THE JOSEPH FISHER LECTURE
1981
WORK AND WELFARE IN THE YEARS AHEAD
R.G. Gregory
Discussion Paper No. 47
May 1982

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ABSTRACT

WORK AND WELFARE IN THE YEARS AHEAD

R.G. Gregory

Australian National University

During a typical week of 1981 the average unemployed person was on the way to completing an unemployment spell of seventy weeks. The average worker was on the way to completing a job tenure of twelve years. Most unemployed persons are drawn either from outside the labour force or from those whose previous job was of short tenure. These and other facts are used to explain why money and real wages appear to be only loosely related to excess supply in the labour market.
WORK AND WELFARE IN THE YEARS AHEAD

R. G. Gregory
Australian National University

I INTRODUCTION

Macro economic policy since World War II has been dominated by the notion of a Phillips curve, whereby the rate of inflation and the level of unemployment are linked together so that more of one implies less of the other. These two variables are among the six major objectives of economic policy as listed in the terms of reference to the Vernon Report [5].

It is interesting to look back over the Fisher Lectures since they began in 1934 to see the extent to which the role of these two objectives of present day governments were reflected in the choice of subject matter discussed.

Inflation has always had a presence. In his 1921 Lecture, Professor D. B. Copland included the following quotation in his first paragraph:

"The rise and fall of the general price level is one of the greatest evils that can affect a commercial nation." [7,p.5]
Such sentiments were expressed in other lectures between 1933 and 1944 and there was much discussion of the relationship between inflation and gold, the money supply, national debt and government deficits in a vein similar to the discussions that are occurring today. In 1934, during the depths of the Depression, when trade union unemployment in Australia was about 30 per cent Sir Leslie Melville began his Fisher Lecture with the statement:

"Today, in English-speaking countries, the price level has come to be the chief pre-occupation." [22,p.5]

There is virtually no discussion of unemployment. A surprising omission given that throughout the pre-World War II period unemployment was generally much higher than it is now.

It is not until forty years after the first Fisher Lecture that an address is specifically directed towards employment and unemployment. In 1944 H. C. Coombs begins his lecture with the statement:

"Governments of democratic countries during the war have accepted a new responsibility - that of maintaining a high, stable level of employment within their borders." [6,p.5]

For those of you who may be starting to lose faith in the ability of governments to control the level of economic activity and who yearn for a simpler world, I recommend this lecture to you. It is a good lecture to read during these troubled times for it embodies the spirit of the brave new world that I remember when I was first taught macro economics. Coombs talks of how governments will manage the economy to maintain full employment and thereby increase human welfare. In the future

"There will be a few more jobs available than men and women to fill them, (so) that there will be a slight but persistent shortage of labour". [6,p.7]
Coombs mentions very briefly an inflation-unemployment link similar to that which made Professor Phillips famous and discusses the fact "that a high employment economy always carries within it the seeds of inflation" [6, p.29]. However, little attention is given to this topic and he comments that the difficulties for macro economic policy that are presented by any inflation-unemployment link should not deter us. The emphasis is clearly on full employment and not on inflation. A new era seems to be beginning. Coombs comments upon the 10 per cent unemployment rate of 1940 and thought that full employment might mean 4 per cent unemployment for males and 2 per cent for females.

As we all know, after World War II and until very recently full employment policies appeared to be very successful. Recessions were short and unemployment was so low that three decades passed before unemployment of males rose above the level that Coombs called full employment.

After Coombs, inflation and unemployment disappeared from the Fisher Lectures until 1971 when Professor Henderson began his lecture by introducing the notion of stagflation:

"the combination of a stagnant level of activity combined with a rapid rise in prices." [16, p.1]

Like Coombs before him, Henderson focussed on what was to become the central issue of economic policy through the coming decade: low growth rates and high levels of unemployment and inflation.
I have drawn these lectures to your attention to help explain my choice of topic. Looking back over the Fisher Lectures in the period before World War II it is remarkable how little regard was given to unemployment. Not only was unemployment not in the centre of the stage but it also did not appear to be in the cast of players. In some respects we are stepping back towards a world more like that of pre World War II. The change in the price level is increasingly becoming the centre of attention and the degree of responsibility that governments feel for full employment, as measured by their policy actions, is gradually being reduced. Because I feel so uneasy about this transition process, most of this lecture is devoted to observations on the nature of employment and unemployment in Australia today. These observations are made in the hope that eventually they will make a small contribution towards the design of government policies that will lead to higher levels of employment and lower rates of inflation than we have experienced over the last six or seven years. They focus on the labour market, rather than the Australian economy as a whole; because of this and the complexity of achieving full employment and stability of costs and prices these observations do not offer a simple and clear panaceas for the problems we now face. They are more in the nature of a beginning of an attempt to redirect the economic discussion away from the increasing emphasis that is being placed on the control of inflation by tight monetary policy, reduced government spending and deficits and slow economic growth. Disquiet with the current stance of policies in many western economies and similar ideas to those developed here can be found in Okun [25], Solow [30], Akerlof [1], Hicks [17], and Clark and Summers [4].
The basic themes of the lecture relate to a search for answers to the following two questions:

- Why do real and nominal wage increases - and therefore price increases - appear to be only loosely related if at all, to excess demand and supply in the labour market?
- How is employment and unemployment allocated among people in the Australian economy.

To a large extent these are relatively new questions, brought to the forefront by the very poor performance of the Australian economy over the last decade. Australia has shared this poor performance with other countries but as Gray and Gruen [11] and Norton and McDonald [23] have shown, the relative deterioration in Australia is among the worst in the OECD countries.

I have posed two questions because I want to suggest that to a significant extent the answer to the first is related to the answer to the second. Since most of the research to be described is new and possibly unfamiliar to you let me present a brief outline of the analysis to follow.

In section II I argue that real and nominal wages are only loosely related to excess demand and supply in the labour market, particularly in the long term. Then in sections III, IV and V the data are assembled which will be used to explain why the price of labour is less flexible than other prices in the economy.

The message of section III is that although many people experience unemployment, most of the unemployment weeks incurred are concentrated on a very small group. Thus, during 1983-81, the 4.6 per cent of all unemployment spells that lasted more than
a year accounted for 32 per cent of all the weeks of unemployment during that year. This concentration of long unemployment spells upon a small group means that a lengthy period of unemployment is a rare event for most of the labour force.

In Section IV I show that although job turnover is high (a new job lasts on average 2-3 years) most employed people are in jobs which will last a long time. The expected length of a job for the currently employed is about twelve years. Consequently for most of the employed labour force there is a small probability of leaving their current job and incurring unemployment.

In Section V data are presented to show that at any point of time more than half of the unemployed have either not held a full time job in the last eighteen months or have held a job of short duration. The long term employee who works full time has a very small probability of becoming unemployed, even during a very slack labour market.

From these facts we develop two closely related themes. First, a steady but higher rate of unemployment does not offer firms a significant reserve army of unemployed persons from which they can draw good workers. Much of the unemployment is concentrated upon the long term unemployed who, as a result of a sorting process, appear to have low productivity. Nor does a steady but higher rate of unemployment pose a serious threat to most of the employed workforce. After one or two years in the job the probability of experiencing a long period of unemployment is very low. For these reasons a higher but stable level of unemployment will not significantly affect the rate of growth of
money and real wages. It is suggested that the rate of growth of real wages is determined primarily by implicit long term agreements between the firm and its workforce as to the allocation of productivity gains. The size of the unemployment pool is largely irrelevant for the striking of these agreements.

The second theme is more of an aside in tonight's lecture. If it is in the mutual interests of firms and employees to have long job tenure and implicit contracts are an efficient means of cementing career relationships between workers and employers then there is considerable scope for conventions, customs, fairness and equity in the wage determination process. It is a result of this view of labour markets that many economists have been recently expressing sentiments similar to the following from R. Hall [14]:

"There is no point any longer in pretending that the labour market is an auction market cleared by the observed average hourly wage. In the extreme case, wages are just instalment payments on a long term debt and reveal essentially nothing about the current state of the market." [14, p.126].
II THE PHILLIPS CURVE

Figure 1 presents a Phillips Curve\(^1\) for the years 1967-1981. Since I am primarily interested in labour markets the vertical axis measures the rate of growth of average weekly earnings per employed male unit rather than the rate of increase of the price level. It is obvious that there is no stable relationship between wage increases and the level of unemployment. If a trade off between wage increases and unemployment exists then it has shifted to the right and become worse. Relative to the late sixties, and indeed the whole post World War II period, Australia is now experiencing both higher rates of inflation and higher rates of unemployment.

It does appear to be true, however, that initially an increase in unemployment is associated with some reduction in the rate of increase of money wages. The moderation of the wage increases during the 1971-72 and the 1975-78 period appear to be evidence of this. But when the labour market improves and unemployment begins to fall a new relationship appears to emerge with higher rates of wage inflation at each unemployment level. The period since 1979 is very marked in this respect. Unemployment, which is still at record levels for the post World War II period, has fallen slightly but the rate of increase of money wages during 1981 has been exceeded only in three of the last fifteen years.

A similar story may be told with respect to real wages (Figure 2). The initial rise in unemployment checked the rate of growth of real wages quite dramatically during 1975 but recently real wages have begun to increase again and at rates which are

SOURCE: ABS, Average Weekly Earnings, Cat. no. 6392.0.
FIGURE 2: UNEMPLOYMENT AND THE RATE OF INCREASE OF REAL WAGES

are only slightly less than those of the pre 1975 period. There is an obvious move to the right of the real wage-unemployment relationship. The recovery of the rate of growth of real wages after each initial shock of an increase in unemployment is also evident.

The original idea underlying the Phillips curve and the real wage-unemployment diagram is that the labour market is similar to a market for any other commodity in that the rate of change of the commodity price depends upon excess demand or supply. Unemployment is the measure of the gap between the demand and the supply curve. If this were an accurate description of the workings of the labour market the rate of increase of money wages should still be falling and real wages should not be increasing.2

Before we look more closely at the nature of the current levels of unemployment and some reasons why it is not affecting real and nominal wages to the extent that might be expected it is worth establishing the relative importance of demand and supply influences which have given rise to the increased level of unemployment.

Figure 3 plots the employment-population ratio (labour demand) and the labour force participation rate (labour supply) for the period 1966-81. It is evident that the rise in unemployment since 1973 has been the result of a collapse of labour demand. For seven of the last eight years the employment-population ratio has fallen. There has been no comparable drawn out recession since before World War II. In each of the previous recessions employment has recovered...

% of population 15 years +

(a) Employment Population Ratio
(b) Labour Force Participation

reasonably quickly. (OECD [24]; Gregory and Duncan [12]). Between 1979 and 1980 the employment-population ratio increased at a rate comparable to the previous best years of employment growth but between 1980 and 1981 the decline has begun again.

A particularly depressing feature of Figure 3 is that the employment decline has not been concentrated in one or two bad years. Although the 1974-75 and 1977-78 recessions are evident the decline in the employment-population ratio has been fairly steady and is beginning again.

It is especially interesting that the demand history over the recent seven or eight years is not faithfully reflected in the unemployment data. There have been unusual changes in labour supply. The 1974-75 employment falls were not matched by supply reductions and unemployment increased markedly as we saw in Figure 1. Since 1977, however, labour supply has varied closely with labour demand so that the employment declines of the employment-population ratio during 1978, 1979 and 1981 have not led to significant increases in unemployment.

The parallel movements of employment and labour force participation over recent years have led many economists to suggest that considerable hidden unemployment has been created in the Australian economy over the last few years (Stricker and Sheehan [29]; Gruen [13]; Gregory and Duncan [12]). If employment were to grow rapidly the hidden unemployed would return to the labour force. This phenomenon suggests that unemployment, as measured, is unlikely to fall quickly even if employment continues to grow quickly. Consequently in the absence of large falls in labour supply, it appears that there
is little prospect for a significant decline in the high unemployment rates of recent years. For unemployment to return to 2 per cent of the labour force, three or four continuous years of employment growth would be needed at rates which have only been achieved in isolated good years over the post war period. The probability of three or four good years occurring together must be slight. Of course, the employment situation could continue to deteriorate as now seems likely and unemployment may increase further.

We now turn to consider how this higher burden of unemployment is allocated in our community and whether that allocation has any bearing on unemployment as a measure of excess demand and supply of labour? In considering possible answers to this question our focus will be primarily on unemployment as measured by the ABS. We put aside the concept of hidden unemployment.
III UNEMPLOYMENT

(a) Incidence of Unemployment: 1981

Employment opportunities are not spread evenly in our society. It is common knowledge that the unemployment rate of teenagers is, on average, four times that of adults, that the unemployment rate of teenage girls is greater than that of teenage boys and that the unemployment rate of the low skilled and less educated exceeds that of the skilled and educated workers. Now that the unemployment rate is three times that of the sixties and appears likely to remain that way for some time, the incidence and concentration of unemployment looms more importantly as an economic and social problem.

It is usual to analyse the incidence and concentration of unemployment by documenting the dispersion of the unemployment rate across social, economic and demographic groups. I will adopt a different approach and analyse the incidence of unemployment by focussing upon the length of the unemployment spell that individuals experience.

Over the last few years the rate of unemployment has averaged about 6 per cent. Over a 12 month period this could mean at one extreme that 6 per cent of the labour force were without work for a whole year, or at the other, that every member of the labour force was unemployed for about 3 weeks and, as a result, incurred a loss of annual income of approximately 6 per cent. It obviously matters which situation more closely characterises the actual experience. Under most circumstances the more widespread a given level of unemployment the more
equitable the burden of this unemployment and certainly the
greater the degree of understanding by society at large of the
nature and ramifications of unemployment. The narrower the
incidence of unemployment the more likely it is that society will
generate a wide range of myths and general intolerance towards
the unemployed. It is often useful therefore to think of the
unemployment rate as the product of two factors - the rate of
inflow to unemployment and the duration of the completed
unemployment spell. Thus, the unemployment rate may increase
because more people experience unemployment or because the
unemployed remain without work for longer periods.

During 1981, 16.8 per cent of those who were in the labour
force at some time experienced a period of unemployment. The
ABS does not publish information as to the completed duration of
the unemployment spell of these people but there are a number of
ways of estimating it.

The ABS publishes comprehensive data on the interrupted
duration of unemployment of those measured as unemployed by the
Labour Force Survey. The interrupted or current duration of
unemployment is the number of weeks of unemployment experienced
to date by those unemployed at the time of the sample. At August
1981, the average current duration of unemployment was 35.2
weeks. When these data are adjusted they can provide the
foundation upon which a thorough and comprehensive analysis of
the incidence of unemployment can be built.

For those in the ABS sample, duration refers to the length
of the unemployment spell to date. They will have a further
period of unemployment before their spell terminates. It can be
shown (Salant [27]) that under steady state conditions these data will understate the average completed unemployment experience of the currently unemployed by a factor of two because, on average, the currently unemployed will be halfway through their unemployment spell. Consequently for those measured as unemployed at August 1981 the average completed spell of unemployment will be 78 weeks. This is a very long time indeed and it suggests that the unemployment experience is very concentrated. The magnitude of the number is worth repeating: The 377,000 unemployed who represent 5.6 per cent of the labour force at August 1981 will, on average, be unemployed for between 16 and 17 months. This suggests a particularly serious unemployment problem.

You may be puzzled by this figure because it may be difficult to reconcile with your own experience of unemployment, or the length of the unemployment spell of those you know. I would guess that most of this audience believed that the average completed spell of unemployment was less than this. Further, you may ask the following question: if about 16 per cent of the labour force looked for work during a year and the average completed duration of unemployment of those unemployed at August 1981 is 78 weeks, how is it that the unemployment rate is as low as 5.6 per cent? Should it not be much higher? These are good questions – the answers to which have only become clear quite recently (see the excellent article by Clark and Summers, [4]). The answers relate to the differences between the completed unemployment spell of those measured as unemployed at a point of time and the completed unemployment spell of all those who become unemployed during a year.5
The ABS survey measures the current unemployment experience at a point in time. It is a cross section sample and consequently not everyone who becomes unemployed during a year is included. Those who begin and end their unemployment between sample dates are excluded. In fact, the cross section is biased with respect to the length of all unemployment spells that occur during a year because the longer the spell of unemployment the more likely it is to be included in the cross section. The shorter the unemployment spell the greater the under representation of spells of this length. This suggests that the length of the average completed spell of all who become unemployed will be less than the length of the average completed unemployment spell of those in the sample.

For our purposes of measuring the completed spells of unemployment there are two biases at work in the ABS data. The first, as indicated above, is an "interruption bias" which states that for those in the sample the completed spell length is greater than the spell length to date. The second, is a "spell length bias" which states that the average completed spell length of those in the sample exceeds that of all those who become unemployed. The two biases operate in different directions. Is it possible to say which will predominate? Salant [27] has shown that the crucial factor is the relationship between the probability of leaving unemployment and the length of the unemployment spell. If the probability of leaving unemployment is unrelated to the length of the unemployment spell then the two biases exactly offset each other and the average length of the completed spell of unemployment is equal to the average length of the interrupted spells of unemployment as published by the ABS.
If the probability of leaving unemployment declines as the duration of unemployment lengthens then the average completed spell of all who become unemployed will be less than the average interrupted spell of those in the cross section at the time of the survey.

In Figure 4 we plot the probability of leaving unemployment within the following month against spells of differing lengths, for August 1981. In the first month the probability of leaving unemployment is .29. After one year of unemployment the probability of leaving unemployment in the next month has fallen to .16. A similar relationship has been found in other Western economies. The probability of leaving unemployment declines as the length of the unemployment spell increases. Consequently the average length of the completed duration of unemployment will be less than the average length of the interrupted period of unemployment as published by the ABS.

Table 1 presents the expected completed duration of an unemployment spell for all who entered unemployment during 1981. Upon entering unemployment the expectation was that the completed spell would be 16 weeks.

This is considerably less than the 70 weeks referred to earlier and is a reflection of the fact that the long term unemployed leave unemployment at a slower rate than the short term unemployed. It is the 16 weeks that should be closer to your experience of the unemployment duration rather than 70 weeks.
TABLE 1: UNEMPLOYMENT DURATION, ALL PERSONS

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 weeks</td>
<td>5</td>
<td>15</td>
<td>17</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>26 weeks</td>
<td>10</td>
<td>24</td>
<td>30</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>65 weeks</td>
<td>nc</td>
<td>49</td>
<td>68</td>
<td>86</td>
<td></td>
</tr>
</tbody>
</table>

nc = not calculated

SOURCE: Derived from The Labour Force, ABS Cat.No. 6204.0, see Foster and Gregory [8].

TABLE 2: UNEMPLOYMENT EXPERIENCE DURING 1981, ALL PERSONS

<table>
<thead>
<tr>
<th>Completed Spell Length</th>
<th>Spells</th>
<th>Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>&lt; 4 weeks</td>
<td>28.5</td>
<td>3.3</td>
</tr>
<tr>
<td>4 to less than 13 weeks</td>
<td>35.1</td>
<td>16.9</td>
</tr>
<tr>
<td>13 to less than 26 weeks</td>
<td>20.4</td>
<td>23.0</td>
</tr>
<tr>
<td>26 to less than 52 weeks</td>
<td>11.4</td>
<td>25.2</td>
</tr>
<tr>
<td>52 weeks and over</td>
<td>4.6</td>
<td>31.6</td>
</tr>
</tbody>
</table>

SOURCE: Foster and Gregory [8].
We also provide estimates of the expected number of weeks of unemployment yet to be experienced for those who have currently incurred spells of different lengths. Thus, after 26 weeks the expected number of additional weeks of unemployment is 32 weeks. This means, on average, that the completed spell will be 58 weeks long. After 65 weeks there is, on average, 86 weeks of unemployment yet to be served and, the completed spell will be 151 weeks long. There is a clear pattern. The longer a person remains unemployed the longer the period of unemployment yet to be served.

Another implication of the fact that the probability of leaving unemployment declines as the length of the spell increases is that there is a considerable difference between the distribution of completed spells of unemployment and the distribution of unemployment weeks attributable to spells of different lengths (Table 2). Thus, during 1981, when the expected duration upon entry to the unemployment pool was 16 weeks, 28.5 per cent of those who became unemployed left within 4 weeks and 63.6 per cent left within 13 weeks. For most people the completed unemployment spell is considerably shorter than the average. At the other extreme 4.6 per cent left after a completed spell of 12 months.

We also present the distribution of unemployment weeks attributed to spells of different lengths. The distribution of unemployment weeks is the opposite to the distribution of spells. The 28.5 per cent of spells which terminate within 4 weeks account for 3.3 per cent of the total weeks of unemployment experienced during 1981, and at the other extreme of the distribution, the 4.6 per cent of spells which last for for more
than a year account for 31.6 per cent of the total number of
unemployment weeks.

It is the declining probability of leaving unemployment as
the spell increases that enables the following statements to be
ture at the same time. During 1981:

- 63.6 per cent of unemployment spells terminate
within 13 weeks. But for all spells that occur the
average length of a completed spell is 16 weeks;
- the average completed length of an unemployment
spell of all who become unemployed is 16 weeks but
the completed spell of the currently unemployed is,
on average, 70 weeks;
- 28.5 per cent of unemployment spells last less than
4 weeks but 31.6 per cent of all weeks spent in
unemployment is accounted for by the 4.6 per cent of
unemployment spells which last for more than a year.

Once these points are understood - and the concepts are
difficult - a number of potentially important observations
follow.

(i) It is possible to have a very serious unemployment
problem - 31.6 per cent of the total unemployment
weeks that occur last more than a year - and yet
the people you meet who have been unemployed will
typically have experienced a very short
unemployment spell. Consequently, the view that
will be widely held in the community, based on
experience, will be that there is no serious
unemployment problem. After all, 28.5 per cent of
the unemployment spells end within four weeks.

(ii) Welfare workers, and those who work with the
unemployed will tend to meet the small proportion
of all who become unemployed who account for most
of the total weeks of unemployment that occur in
the community. The perception of unemployment
shared by those who work with the unemployed will
be different from the perception of the community
at large. Consequently, as unemployment increases
and the duration of unemployment lengthens we
might expect a polarisation of views in society as
to the seriousness of the unemployment problem;

(iii) Unemployment measured in terms of the number of
people who experience unemployment is very
concentrated in our society. As indicated earlier
about 16 per cent of those in the labour force at some time during the year experience an average 16 weeks of unemployment during an unemployment spell. However, once allowance is made for the way in which the length of the unemployment spell is shared among the unemployed, the concentration of unemployment is even more marked. Approximately three quarters of one per cent of those in the labour force at some time during 1968-81 will account for 31.6 per cent of the unemployment weeks that occur during the year. Two-and-a-half per cent of those in the labour force at some time will account for half the unemployment weeks experienced in our society.

The Changes Since 1968

Between August 1968 and August 1981 the unemployment rate increased from 1.6 to 5.6 per cent of the labour force - a rise of 350 per cent. The number of people unemployed during the year as a proportion of those who were in the labour force at some time during the year increased by 128 per cent from 7.4 to 16.3 per cent. Consequently, although a wider range of people now experience unemployment during a year - one in seven rather than one in twelve - this change, in proportionate terms, is less than the increase in the rate of unemployment. As a result the duration of unemployment has lengthened and the unemployment experience has become more concentrated upon particular individuals. It is evident from Table 3 that those currently unemployed for more than 9 months have increased their share of unemployment from 4 per cent to 25 per cent.

It is not possible from the data available to calculate over all this time period the completed duration of unemployment of all those who become unemployed during each year. We therefore utilise data as to the interrupted unemployment duration of the stock of unemployed at August of each year. Over the period 1968-81 the average interrupted duration of unemployment for
### TABLE 3: CURRENT DURATION OF UNEMPLOYMENT, ALL PERSONS: 1972 to 1981

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Under 3 months</td>
<td>67</td>
<td>115</td>
<td>123</td>
<td>175</td>
<td>187</td>
<td>178</td>
</tr>
<tr>
<td>3 months and under 9 months</td>
<td>na</td>
<td>23</td>
<td>15</td>
<td>81</td>
<td>132</td>
<td>105</td>
</tr>
<tr>
<td>9 months or more</td>
<td>na</td>
<td>6</td>
<td>3</td>
<td>37</td>
<td>77</td>
<td>94</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>144</td>
<td>141</td>
<td>293</td>
<td>396</td>
<td>377</td>
</tr>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Under 3 months</td>
<td>83</td>
<td>80</td>
<td>87</td>
<td>59</td>
<td>48</td>
<td>47</td>
</tr>
<tr>
<td>3 months and under 9 months</td>
<td>na</td>
<td>16</td>
<td>10</td>
<td>28</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td>9 months or more</td>
<td>na</td>
<td>4</td>
<td>3</td>
<td>13</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Mean duration (weeks)</td>
<td>8.9</td>
<td>9.7</td>
<td>6.5</td>
<td>17.5</td>
<td>26.2</td>
<td>35.1</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>1.6</td>
<td>2.5</td>
<td>2.4</td>
<td>4.7</td>
<td>6.2</td>
<td>5.6</td>
</tr>
</tbody>
</table>

(a) At 31 August
na Not available

persons counted in the ABS Labour Force at August of each year, increased from 8.9 to 35.0 weeks - an increase of 290 per cent. If we use the doubling rule discussed earlier, the average completed spell for those counted as unemployed by the ABS has increased from 18 to 78 weeks. Furthermore, and this is particularly disturbing, although employment growth has been fairly buoyant since 1979 - and as a result the employment-population ratio has increased marginally - there is no sign of a reduction in the interrupted duration of unemployment. This disturbing fact should be investigated in a little more detail.

In Table 1 presented earlier, we calculate the expected completed spell of unemployment over the last few years. Although the expected completed spell upon entry to unemployment has not changed very much since 1978 the probability that the longer term unemployed will leave unemployment has continued to decline. For those unemployed 26 weeks the expected spell has increased from 58 to 58 weeks and for those unemployed 65 weeks the expected spell has increased from 104 to 151 weeks.

These results suggest that over the last few years as unemployment has marginally decreased the composition of unemployment is steadily changing towards an increasing number of long term unemployed.10

IV EMPLOYMENT

Employment can also be analysed in terms of inflows to employment and completed employment spells. Interestingly we find the same kind of picture of employment as of unemployment:
although job turnover is high it conceals the fact that most jobs are held for very long periods of time.

It is often argued that the Australian labour force is extremely mobile. There are a number of statistics that are often quoted to support this view. For example, the employment separation rates reported by industry indicate a very high degree of labour mobility. These typically show a turnover rate of labour of between 50 and 70 per cent per annum and an implied average completed job tenure of between one and two years. These data refer to job changes rather than to leaving employment.11

With respect to leaving employment the gross flow data recently published by the ABS12 suggest that, on average, four per cent of those employed at the end of one month are no longer employed at the end of the next month, implying an annual rate of leaving employment of 47 per cent. These facts suggest a great deal of labour mobility, a very short job tenure and considerable scope for a high incidence of new labour contracts between the firm and new hires. They raise the question as to why wages are not more responsive to excess demand or supply as measured by the unemployment rate. The answer lies, in part, in the nature of job tenure and the misleading impression that can be created by labour turnover and gross flow statistics.13

For a number of years the ABS has collected the job duration to date of the employed. These data are available for a number of years since 1972 and from our perspective they indicate very little change in job tenure over the last decade.
These data are the job duration counterpart of the unemployment duration data and may be utilized in the same way to reveal the inflow into new jobs and the expected length of stay. It should be remarked, however, that the data refer to jobs and not to employment. To the extent that job changes can occur without leaving employment they understate the length of continuous employment experience. The data for 1975 are given for all persons in column 1 of Table 4.15 We could have chosen data from any of the other years for which they are available without any significant change in our conclusions.

The average current job tenure at the end of 1975 was 6.3 years but most people had held their job for less than 5 years (63 per cent). Only 20 per cent of those employed had been in their current job for more than 10 years. If we utilise the fact that on average, the currently employed are sampled half way through their completed job tenure these data indicate an average completed job tenure of about 12 years - a statistic which at first sight is difficult to reconcile with the high employment turnover figures quoted earlier. The reconciliation lies in the changing probability of leaving the job as the job duration increases.

The probability of leaving a job of different current tenure can be derived from column 1 of Table 4. In a steady state the distribution of employment in column 1 implies the distribution of the probability of leaving a job of column 2. It is evident from column 2 that the probability of leaving a job within the next twelve months declines the longer the person has been in that job. The probability that those employed in their current job for less than a year will leave that job within the
next 12 months is estimated to be .58. For those in the job
duration category of 20 years and over the probability of leaving
within 12 months is .10.

Since the probability of leaving a job is not constant as
the length of tenure changes, considerations similar to those
discussed with respect to unemployment arise. For example, job
spells of short tenure will be under represented in the sample of
the currently employed, the expected completed job tenure will
change as the length of tenure increases and there will be a
difference between the average length of time in the current job
and the completed job tenure.

Column 3 of Table 4 presents the estimated job tenure for
new jobs created during 1975. New jobs typically have a short
life: 68 per cent of jobs begun in a year will terminate within
12 months. Only 2 per cent of new jobs will last 20 years or
more.

Column 4 presents the distribution of the expected completed
job tenure of those employed at the end of 1975. It takes
account of the fact that all those currently employed can expect
to remain in their job for a longer period. The long length of
expected job tenure may come as a surprise. Twenty per cent of
the currently employed can, on average, expect to remain in their
current job for more than 20 years and 43 per cent for more than
ten years. Only 9 per cent of the currently employed will
complete a job tenure of less than 12 months.

The data in column 4 indicate that the currently employed
can expect a period of very long tenure and the particular
definition of a job that is used by the ABS suggests that
### Table 4: Job Tenure and the Probability of Leaving a Job, All Persons: 1975

<table>
<thead>
<tr>
<th>Duration of Job</th>
<th>Current Job Tenure</th>
<th>Probability of leaving a job during the next year for a person employed at December 1975</th>
<th>Completed Job Tenure for New Jobs</th>
<th>Expected completed job tenure for persons employed at December 1975</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Under 1 year</td>
<td>23</td>
<td>.58</td>
<td>60</td>
<td>9</td>
</tr>
<tr>
<td>1 - less than 5 years</td>
<td>40</td>
<td>.20</td>
<td>24</td>
<td>23</td>
</tr>
<tr>
<td>5 - less than 10 years</td>
<td>17</td>
<td>.16</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>10 less than 20 years</td>
<td>12</td>
<td>.13</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>20 years +</td>
<td>8</td>
<td>.10</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>6.3 years</td>
<td>3.2 years</td>
</tr>
</tbody>
</table>

SOURCE: ABS, Labour Mobility, February 1972, Cat.No. 6.43. 
Poster and Gregory [8].
employees may in fact stay longer with their current employer. Furthermore, since it is possible to change jobs without experiencing unemployment the average length of continuous employment without unemployment will be even longer.

Table 5 is the job tenure counterpart to the distribution of unemployment duration in Table 2. It shows in column 1 the estimated completed tenure distribution of all those who began a new job in 1975, and in column 2 the proportion of completed employment years that will be associated with them. These data indicate that the typical new job length is very short. During 1975 it was 3.2 years - a number which is larger than that calculated from labour turnover data. They also indicate that most work will be done by those employed in new jobs that will be of short duration. Thus, at one extreme of the distributions, 60 per cent of the new job starts will account for 9 per cent of the employment years worked and, at the other extreme, 2 per cent of the new jobs created will account for 15 per cent of the work years. In columns 3 and 4 we show comparable data for the currently employed. Here a similar phenomenon arises. The 32 per cent of the currently employed who will terminate their job within five years account for only 7 per cent of the work to be delivered by the current workforce. Seventy-four per cent of the extra years of work to be delivered by the existing workforce will come from those who will complete more than ten years of tenure.

These results suggest, where hiring costs are substantial and firm specific human capital is important, that firms will have a strong interest in their present workforce relative to
### TABLE 5: EXPECTED COMPLETED TENURE AND YEARS OF FURTHHER WORK ASSOCIATED WITH THE EXISTING WORK FORCE AND NEW JOBS: 1975

<table>
<thead>
<tr>
<th>Completed job tenure</th>
<th>Completed tenure of new jobs</th>
<th>Years of work in new jobs</th>
<th>Completed tenure for persons employed at December 1975</th>
<th>Extra years of work for persons employed at December 1975</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>60</td>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>1-less than 5 years</td>
<td>24</td>
<td>23</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>5-less than 10 years</td>
<td>10</td>
<td>27</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>10-less than 20 years</td>
<td>5</td>
<td>27</td>
<td>23</td>
<td>36</td>
</tr>
<tr>
<td>20 years +</td>
<td>2</td>
<td>15</td>
<td>20</td>
<td>38</td>
</tr>
</tbody>
</table>

**SOURCE:** Foster and Gregory [8].

### TABLE 6: COMPLETED DURATION OF LAST JOB OF THE UNEMPLOYED, ALL PERSONS: MAY 1976

<table>
<thead>
<tr>
<th>Completed job duration</th>
<th>Duration</th>
<th>Unemployment rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 26 weeks</td>
<td>49</td>
<td>11</td>
</tr>
<tr>
<td>26 - less than 52 weeks</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>1 - less than 2 years</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>2 - less than 5 years</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>5 years +</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTE:** The Table includes those persons unemployed at May 1976 who finished working in their last job in 1975 or 1976.

**SOURCE:** ABS, Persons Looking for Work, Cat.No. 6.60.
those newly hired. The existing workforce will deliver in the future twice as many years work per worker as an average new hire. It will pay the firm to attempt to hoard its existing labour force during economic downturns and to develop employment contract terms and conditions that keep the existing employment stock intact.

V THE OVERLAP BETWEEN JOB TENURE AND UNEMPLOYMENT

There is one more building block to construct. Is it possible to relate job tenure to the probability of experiencing unemployment? If upon leaving a job the probability of experiencing unemployment were independent of job tenure then the results of the previous section would suggest that those with long tenure are unlikely to become unemployed because they are unlikely to leave their job.

Table 6 presents data that can be used to throw some light on the relationship between job tenure and unemployment. During May 1976 approximately one-half of the unemployed had not been employed in a full time job in the previous 18 months. Of those that had held a full time job the completed duration of that job was typically very short. Forty-nine per cent of the unemployed who had held a job in the previous 18 months had held that job for less than 26 weeks and sixty-five per cent had held their previous job for less than 12 months.

At any point of time, therefore, the unemployed come overwhelmingly from those who have not held a previous full time job or have held a previous full time job of very short duration. In the third column of Table 6 we have divided the number unemployed,
classified by current job tenure by the number employed in each job tenure group. The approximate "unemployment rate" thus calculated diminishes very quickly with job tenure, from 11 per cent for job tenures of less than 26 weeks to .78 per cent for job tenures greater than 5 years. Those with long tenure therefore face a very low probability of becoming unemployed.

VI IMPLICATIONS FOR THE PHILLIPS CURVE

The above description of the labour market stresses that the employment and unemployment experiences are very different for different groups of individuals.

With respect to the unemployed it was argued that as the level of unemployment increased and is now being maintained at a relatively high level, the nature of the unemployment pool has changed so that an increasing fraction of the pool consists of the long term unemployed. Over the period 1974 to 1981 those unemployed for more than 9 months have increased their share of the number unemployed, as measured by the ABS, from about 3 to 25 per cent. About 2 per cent of those who were in the labour force at some time during 1981 account for about 50 per cent of all the weeks spent in unemployment.

One outcome of the changing nature of the unemployment pool is that an increasing fraction of the unemployment pool is exerting very little influence on possible wage outcomes. On the demand side of the labour market the evidence suggests that the employability of the longer term unemployed is very low. In the employment stakes they certainly come a poor third behind the short term unemployed and those seeking employment from outside
the labour force. In other words they do not serve as an effective reserve army. On the supply side of the labour market it is unlikely that the longer term unemployed are an important force acting upon the consciousness of the employed because (i) the long term unemployed represent such a small proportion of the labour force; (ii) the experience of the long term unemployed is atypical of all those who become unemployed; and (iii) those with current job tenures exceeding a few years have a low probability of becoming unemployed. Under these circumstances the employed are unlikely to have encountered those who have been unemployed for long spells.

With respect to the employed a picture of remoteness from potential unemployment has been built up. Forty-three per cent of the currently employed will remain in their current job for more than ten years. Long term job tenure buys advantages for both firms and employees. After an initial period, during which workers and the firm learn about each other and during which a high proportion of the newly employed leave, most of the remaining workers will stay with the firm a long time. By staying with the firm the risk of unemployment is reduced and the high probability of further costly job changes which are associated with beginning a new job is avoided. Furthermore after the initial learning period the worker may begin to reap the benefits of the specific skills that will have been acquired. For their part firms will want their workers to stay with them because of the high cost of hiring new workers. There is a very high probability that workers will leave during the initial phase of the job and the greater the degree of firm specific skills to be acquired the greater the cost imposed by this turnover. The
interests of the existing work force and firms therefore mean that at any point of time the bulk of the employed are in the process of completing a job of long tenure. Even today when the average unemployment rate is about 6 per cent, the "unemployment rate" for the 40 per cent of the labour force that has been employed in their current job for more than 5 years is less than 1 per cent. A stable rate of unemployment of about 6 per cent is not a serious threat to these people.

These points can be put together to capture many of the important elements of the wage determination process and to throw some light on why real and nominal wage increases are loosely related, if at all, to excess demand and supply in the labour market. The existence of firm-specific capital and the difficulties that workers experience in settling into a new job means that both labour and the firm have a stake in a stable, durable relationship. The long tenure that exists suggests that the firm and its work force will deal with each other on the assumption that there will be a long term relationship between them. The long term relationship and the efficiency gains that stem from this relationship will establish the preconditions for social customs and conventions to be important in the wage process. As Solow remarked in this context:

"There is a difference between a long-term relationship and a one night stand, and acceptable behaviour in one context may be unacceptable in the other". [30, p.10].

It is not surprising that under a long term relationship money or real wages are not flexible to clear markets and that customs, fairness and equity exert such an important role in the determination of wage levels and relativities. Under these
circumstances it has been suggested that firms and workers will establish implicit contract or what Okun [25] has called invisible handshakes (see Hall [14], Okun [25], Solow [30], Hicks [17]). The implicit contracts that evolve become an understanding between the parties which, it has been argued by these authors, is to explain the following observed behaviour. Over the long term the firm will deliver a reasonable rate of growth of real wages and share the wealth that is generated. They will not reduce real wages during recessions or threaten tenured employees by hiring new workers during economic slumps under conditions which are less advantageous than those currently enjoyed. Bonnell [3], for example, has recently documented that real wages generally increased in the great depression of the thirties in the UK, USA, Sweden and Germany. The firm will attempt to hoard labour during the slump and as far as possible allow profits to absorb as much of the short run economic fluctuations, see Okun [25]. This behaviour generates the familiar pro-cyclical variation of labour productivity. For their part workers agree to moderate real wage demands during the profit slump and to allow their work effort to vary in the short run in a way that helps the firm. An analysis of the variability of average hours worked and labour productivity over the cycle suggests that most adjustments of labour input occur on the job rather than between employment and unemployment. See Hall [14].

As a result of these understandings there will not be a close relationship between the real wage and the value of the marginal product of labour in the short run. Workers and firms build up a notion, based on past experience, as to what a reasonable rate of real wage increases should be in the medium
and longer term and money wage increases are the mechanism to bring the real wage increases about. When there is a sudden fall in aggregate demand and a decline in firm profitability, the employed workers forego their real wage increases because the ability of the firm to pay real wage increases has been impaired. As a result, nominal wage increases are seen to be moderated at the same time as unemployment increases in response to the fall in aggregate demand. Hence, there appears to be a short run Phillips curve relationship and the rate of increase of real wages is reduced. But the change in the unemployment rate does not itself lead to the reduced rate of growth of real and money wages. The association is not causal. It is the profitability of the firm that matters.

If the labour market recession is a long one, as has been the case since 1974-75, firms are gradually able to re-establish their profitability by the continuation of productivity growth during the recession and by the adjustment of the capital stock that comes about by the reduction of investment during the slump. As a result of the restored profitability the elements of the implicit contract that relate to the understanding that real wages will increase when profits increase come back into play. Real and money wages begin to increase although unemployment is much greater than before. Some empirical support for this view was given in Figures 1 and 2 and is also discussed in Scherer [28].

From this view of the wage determination process a number of important conjectures may be made as to the current stance of macro economic policy.
First, short sharp shocks to aggregate demand will increase unemployment and moderate money and real wage increases. But it is not the unemployment per se that leads to the reduced rate of wage increases. Both are primarily the result of the reduced profitability of firms which invokes the implicit understanding between workers and firms that real wage increases will be moderated when firm profitability is low.

Second, long drawn out periods of unemployment and low real economic growth are not very effective anti-inflation weapons. In the longer run the correlation between firm profitability and unemployment begins to breakdown. As unemployment is maintained through the years, less and less is gained in terms of lower wage claims (see Figure 1 and Figure 2). As soon as firm profitability is restored the real and money wage increases begin again.

The result is that a great danger stemming from long periods of sluggish output growth and high unemployment is a ratchet effect upon the unemployment pool. The number of long term unemployed and their expected period of completed unemployment duration increases. This analysis suggests that with respect to moderating nominal wage increases the crucial period is the beginning of the recession. It is during this time that the largest possible range of policy instruments should be brought to bear on nominal price increases. As the period of slack in the labour market lengthens the effect of excess supply on wage and price increases is reduced.
Third, it seems inevitable that a solution to the current crisis of low economic growth and high inflation must involve a change of attitude on the part of firms and the currently employed. The major thrust of the analysis of the labour market developed above suggests that the pursuit of low economic growth and the creation of large scale unemployment will not be sufficient to change these attitudes.20 The economic position of most of the employed workforce is not seriously undermined by high and stable unemployment. Consequently it is not useful to think of price and output effects of macro economic policy as the outcome of a two person game between a monolithic wage setting union and a central bank. The key players are the firms and their workforce, most of the members of which have long job tenure. Therefore, despite the difficulties associated with income and wages policies of various sorts, perhaps we have to go down that road even if we are not optimistic as to the outcome. Income and wages policies cannot substitute for managing aggregate demand but given the insensitivity of nominal wages to high unemployment in the longer term it is likely that they must be a part of good economic policy. The more than can be done to affect the attitudes that are built into implicit contracts the better.

Fourth, there is probably a special need for policies that reallocate jobs towards the long term unemployed. Given that the long term unemployed are to be with us for quite some time, that their numbers are swelling and, if as I have argued above, they do not contribute significantly to the reduction of inflation or to the moderation of real wage increases there is a case for policies that do nothing more than reallocate job opportunities
towards this group. As the level of unemployment and the expected length of unemployment increases, the welfare objectives of manpower policies should increasingly come to dominate the efficiency objectives.

Further, it might be argued that policies which widen the incidence of unemployment by reducing its duration may even contribute to the ability of macro policy to impinge on wage settlements. We have manpower policies that discriminate in favour of long term unemployed youth. Perhaps they should be extended to encompass adults.
CONCLUDING REMARKS

The performance of the Australian economy since 1974 has been the worst for thirty-five years. The fall in the growth rate has been considerable. Between 1966-67 and 1973-74 the growth of real GNP averaged 5.4 per cent. Between 1974-75 and 1980/81 the average rate has been 2.2 per cent. No-one appears to believe that the restoration of a fast rate of economic growth is likely in the near future.

The negative effects of this slow growth have been large. I have focussed upon the increase in unemployment but I could also have drawn attention to the very large numbers of people now receiving sickness, invalid and service and widows pensions which in many respects act as a substitute for unemployment benefits. (See Strickler and Sheehan [29].) To date, on the positive side, the slow economic growth has brought us only a temporary respite from inflation. Since 1978 the inflation rate has begun to steadily increase and the forecasts are for no significant improvement.

In this lecture I have attempted to explain why the employed will not be aware of the seriousness of the unemployment problem and why restrictive policies, leading to low economic growth and unemployment, can only be expected to have a major effect on the wage bargaining process in the short run. In the longer run the effectiveness of restrictive policies is reduced as 'normal' behaviour is reestablished on the part of both firms and the employed.
In sketching out the behaviour of the labour market with respect to job tenure and unemployment duration I have not had the time to tie down all the loose ends. Only a start has been made on the integration of the labour market flows material with the inflation process, good economic policy and the generation of attitudes towards wage increases in our society. The theory of implicit labour contracts is also not well developed nor is its empirical relevance fully established. Nevertheless, it seems clear that the history of the seventies indicates that a steady level of excess supply in the labour market will not lead to a substantial reduction in the rate of increase of money and real wages. Nor does it appear that the creation of excess supply by government policy is the obvious way back to a fully employed economy with a low rate of inflation within a measurable time scale. There is a need for a better economic policy.

We must not abandon the objective of full employment even though there will be a strong temptation to do so. That temptation stems from the difficulties inherent in the achievement of full employment and low inflation, the natural unwillingness to face the failure of current macro policies, and from the fact that most of us, being employed, belong to the group that can expect long job tenure. We are insulated from the worst effects of low output growth. Under these circumstances it is all too easy for most of us to shrug off the consequences of attempting to fight inflation by the application of restrictive policies alone.
BIBLIOGRAPHY


[18] Industries Assistance Commission (1976), Structure and Mobility of the Australian Labour Force. (Mimeo)


FOOTNOTES

* Joseph Fisher Lecture in Economics, given at the University of Adelaide, 9 December 1981. Much of the research reported has been undertaken with W. Foster, P. Stricker and P. Sheehan of the Institute of Applied Economic and Social Research, University of Melbourne. I am grateful for their help. I have also received comments from J. Pincus, F. Gruen, L. Edwards, A. Hall and M. Gray. The analysis of Parts III and IV is developed in more detail in Foster and Gregory [8, 9]. The research was financed in part by the Utah Foundation and the Bureau of Labour Market Research. Neither are responsible for the views expressed.

1 Phillips published his important article in 1958. He was Professor of Economics in the Research School of Social Sciences, Australian National University, between 1967 and 1979.

2 The Phillips curve has generated a large literature. In that literature the shifting Phillips curve is 'explained' by adding additional variables to the equation that links wage increases to unemployment. The most important of these variables is the rate of increase of past consumer prices. We have placed this literature to one side in this paper. For an analysis of the Australian data in this tradition see M. G. Kirby [20].

3 The circumstances referred to relate to individual attitudes towards work and unemployment. The argument that equity is increased if unemployment is less concentrated presupposes that individuals experiencing unemployment are not those with the weakest preference for work.


5 There are differences in definition involved in the measurement of the 16 per cent on the one hand and the 5.6 per cent and 70 weeks on the other. But these differences are not an important part of the answer to the question posed. The 16 per cent is taken from the Labour Force Experience where the unemployment concept used is "looking for work". This is a wider definition of unemployment than that used in The Labour Force which is the data source for the 5.6 per cent and the 70 weeks completed unemployment duration.

6 These 'biases' are not to be taken to imply that there is something wrong with the ABS sampling procedure. It is only for our purpose of identifying the distribution of completed unemployment spells through time that the cross section data of incomplete spells at August 1981 is inappropriate.
7 We are not sure why this phenomenon occurs. It is also evident in other countries and is thought to be the outcome of:

1. a sorting process - those who are most employable are employed first;

2. behaviour changes on the part of the unemployed - long periods of unemployment create either increasingly dispirited and unemployable people or people who adjust to their situation by reducing their desire for a job;

3. the hiring policy of firms - the length of unemployment is used as a screening device. Hiring personnel believe that the long term unemployed are, on average, less productive than the short term unemployed.

For an analysis of the US, UK and Canadian data, see Clark and Summers [4], Main [21] and Hasan and de Broucher [15] respectively.

8 We have not yet extended the analysis to encompass multiple spells of unemployment. As about 20 per cent of those who become unemployed incur more than one spell, the average length of time spent in unemployment per person will exceed the average length of a spell. Since delivery of this lecture this phenomenon has been analysed by Trivedi and Baker [31].

9 E. Khoo [19] attempted to measure changes in the completed duration of unemployment over the period 1962 to 1975. He uses data from the Commonwealth Employment Service.

10 For a fuller analysis disaggregated by age and sex, see Foster and Gregory [8].

11 See ABS Labour Turnover, Cat. No. 6210.8.


13 There are very few studies of labour turnover in Australia. The most comprehensive is IAC [18].

14 A job is defined with respect to a particular employer and locality. Consequently, a change in job locality without a change in employer is regarded as a job change. Thus employees can change their job but remain with their employer so increasing the length of continuous employment with one employer beyond that indicated by the data.

15 These data disaggregated by age and sex are analysed in detail in W. Foster and R.G. Gregory [9].

16 There are a number of ways of estimating the relationship between job tenure and the probability of leaving a job and each will involve some approximation. Our method is reported in Foster and Gregory [9]. Preliminary calculations suggest that the results of this method are likely to underestimate the rate at which people leave jobs of short tenure.
17 It is likely that the population of new jobs that terminate within a year is even higher than this. See Foster and Gregory [9].

18 Of course, if the building is to be grander we need more building blocks. One in particular would be very useful. Recent work in the USA, see Clark and Summers [4] and some of our earlier work, see Foster and Gregory [10] suggests that a considerable amount of unemployment ends not in finding a job but in leaving the labour force as defined by the ABS. We need data as to job finding success as unemployment duration lengthens rather than the data we have analysed here which refer to the rate at which people leave unemployment as unemployment duration lengthens.

19 These remarks are not to be interpreted as stating that market forces have no influence. If social customs and implicit contracts get too far out of line with the market for too long they will begin to break down. Throughout the text the term implicit contract has been used in a wider context than the class of models which have developed from M.N. Bailey [2].

20 The world is more complex than that. To underline this point Solow explains why individual employers do not want to cut wages during recession "if employers know that aggressive wage cutting in a buyers market may antagonize the remaining work force, and make it harder to recruit high quality workers when the labour market tightens, they will be less inclined to push their short run advantage" [30, p.8].

21 These programmes primarily reallocate jobs. There are two important facts which should be known. Who gets a job as a result of the programme (the target group) and who loses a job as a result of the programme. It needs to be shown that those who lose a job, in turn, do not join the long term unemployed.