

## CLMI 1 : HOURS-BASED UNDERUTILISATION INDICATORS

### **Official unemployment**

Australia's official unemployment rate at February 2008 is 4.08 %, one of the lowest official rates since 1980. This official person-based measure of unemployment fails, however, to capture the splintering of full-time, permanent jobs into part-time and casual positions that has occurred since then. Jobs involving one hour of paid work per week are counted in the official measure as *a job*, and anyone so employed is counted as employed. However, many people working in these fragments of jobs want more hours of employment, and for many the need is desperate. In fact such a person is partly employed (the hours they work) and partly unemployed (the hours they want to work).

The CLMI developed by CofFEE are designed to incorporate these important realities and to provide broader measures of labour underutilisation. These more fully represent the degree to which willing labour resources are being wasted. A description of all the concepts used in the CLMI appears at the end of this note.

*Please note: The CLMI were seasonally adjusted using the X12 method. In the past we have used the X11 method but this cannot extend historically beyond 120 quarters. The February 2008 series now have 121 quarterly observations. We used the multiplicative adjustment in both the X12 and the previous X11 historical seasonal adjustments. We do not believe that this significantly alters the time series generated.*

### **CofFEE's hours-based indicators**

Table 1 compares the CofFEE CLMI measures with the official unemployment rate from February 2006 to February 2008

**Table 1 Official unemployment rate and CLMI hours-based indicators (%), seasonally adjusted**

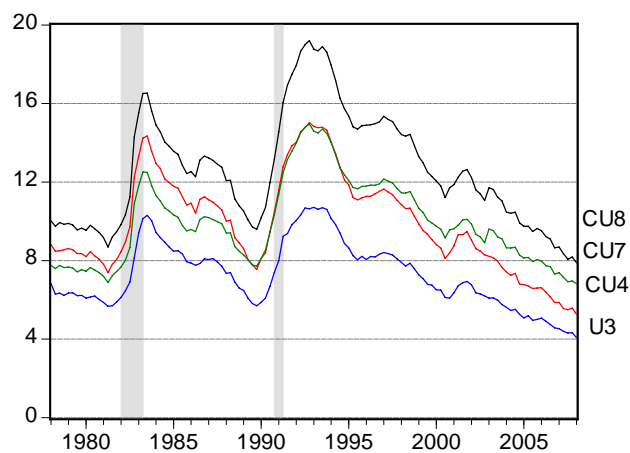
Quarter	Australia				
	U3	CU4	UE	CU7	CU8
Feb-2006	5.07	6.62	2.95	7.97	9.52
May-2006	4.91	6.39	2.86	7.74	9.22
Aug-2006	4.74	6.15	2.99	7.70	9.09
Nov-2006	4.57	5.87	2.78	7.31	8.65
Feb-2007	4.53	5.87	2.89	7.39	8.69
May-2007	4.39	5.56	2.82	7.15	8.36
Aug-2007	4.31	5.50	2.63	6.92	8.07
Nov-2007	4.32	5.58	2.63	6.97	8.18
Feb-2008	4.08	5.25	2.73	6.81	7.90

CU4 indicates that there is a high level of discouraged workers in the economy. CU4 is approximately 1.2 percentage points higher than U3, the official measure of unemployment, over the period shown in the table.

The hours-adjusted underutilisation rates are substantially higher than the official rate indicating that the extent of underemployment (CU7 and CU8) and underutilisation (included in CU8) in the economy is large. On average, the difference from the official rate U3 over the 2 years shown in the table is 2.8 percentage points higher for CU7 and 4.1 percentage points higher for CU8. The total labour underutilisation rate is now 7.9%, a decrease from the last period. The comparison with the conventional unemployment measure U3, leads to the conclusion that the degree of underutilisation is significantly understated by that measure.

A longer view of the movement in the indicators against the official unemployment rate can be seen in Figure 1. It reveals the cyclical sensitivity of all measures of underutilisation including the official rate U3. What is notable is that the low point unemployment rate has risen over the cycles. Also, since 1980 the gap between U3 and CU7 has risen. This reflects the creation of an increasing proportion of part-time and casual jobs which offer less than the hours desired by many workers.

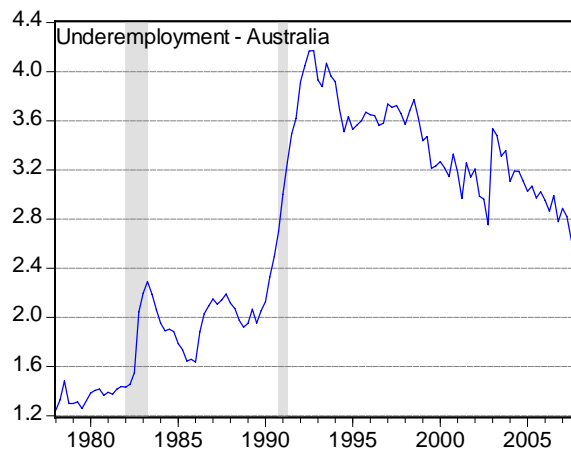
**Figure 1 Official unemployment rate and CoffEE Underutilisation measures, February 1978– February 2008**



Source: ABS Labour Force data and CoffEE estimates

While U3, CU7 and CU8 exhibit similar cyclical patterns with pronounced cyclical asymmetry and hysteresis, UE shown in Figure 2, resembles a step function with the jumps coinciding with the major downturns over the period since 1980. The indicator UE has not returned to pre-recession levels, indicating that there is a high level of underemployment in the community.

**Figure 2 Underemployment, February 1978 – November 2007**



Source: CoffEE estimates

## **Background - labour underutilisation concepts**

*Official measures:* The labour force is the most commonly used measure of available labour resources in the economy. It counts all those over 15 who are either employed or unemployed. A person is defined as employed if they have at least one hours work per week. A person is defined as unemployed if they do not have work, but they are available for work and they are actively seeking work. The unemployment rate measures the number of persons unemployed as a percentage of the economically active population (the civilian labour force). The inference from the measure is that the economy is wasting resources and sacrificing income by not providing enough opportunities for work and underutilising labour.

*Underutilisation* refers to all persons who are currently not working but who are willing and able to undertake work. Some of them may be classified as 'in the labour force', like the unemployed. Others may not be 'in the labour force' but nevertheless have an attachment to it. These persons are referred to as marginally attached workers of which the hidden unemployment is a subset.

The *hidden unemployed* or discouraged workers want to work and are available to start work in the reference week but are not actively looking for work. A major reason for their lack of search activity is that they believe that search is futile given the poor state of the labour market. They are discouraged from actively looking for work, and thus participating in the labour force, because of labour-market related constraints. The discouraged worker is thus more like the unemployed (in the labour force) worker than they are, for example, like a retired person or a child in full-time education, who are clearly not in the labour force. It is therefore appropriate to take into account their labour market attachment by including them in measures of underutilised labour.

*Underemployment* refers to employed workers who are constrained by the demand side of the labour market to work fewer hours than they desire. It can also reflect underutilisation of skills due to lack of opportunities. In terms of time-related underemployment, a part of an underemployed worker is employed and a part is unemployed, even though they are wholly classified among the employed. Given this, it is appropriate to also include this unsatisfied willingness-to-work in measures of unused labour resources.

Typically, if these groups are taken into account, it is based on the numbers of persons involved. A truer measure of underutilisation is gained by taking into account how many *hours* each of the unemployed and marginally attached workers would like to work. Similarly, underemployment can be measured by considering how many more hours each of the currently underemployed would like to work. CoffEE has developed *hours-based* indicators which address these issues.

### **CoffEE's hours-based indicators**

- U3** Total unemployed, as a percent of the civilian labour force (official unemployment rate)
- CU4** Total unemployed, plus discouraged workers, as a percent of the civilian labour force plus discouraged workers. CU4 adds to U3 an estimate of working hours lost due to hidden unemployment.
- CU7** Hours-adjusted unemployment rate which includes the unemployed based on the number of hours they wish to work as well as an estimate of the impact of underemployment of part-time workers, who want to work more hours than they are currently working. CU7 is U3 unemployment measured in hours plus an estimate of working hours lost due to underemployment of those working. It is the ratio of unutilised hours of work available to the total available (fully-utilised) labour force in hours.
- UE** A derivative measure of underemployment derived from the components of CU7.
- CU8** Hours-adjusted unemployment rate with hidden unemployment (discouraged workers), which is equal to CU7 plus an estimate, in hours, of the unused resources currently not counted in the labour force but still willing to work – the so-called hidden unemployed. These discouraged worker estimates are explained in Mitchell (2001). CU8 extends CU7 by including the hours-aspirations of the hidden unemployed.

CU7 and CU8 distinguish between full-time and part-time employment, and take into account the fact that a substantial number of part-time workers (and in CU8 the hidden unemployed) are frustrated by their failure to gain fulltime work or more part-time hours. CU8, the hours-based measure augmented by estimates of hidden unemployment is the most comprehensive measure of underutilisation and underemployment.

All series are seasonally adjusted.

The labels used here reflect the fact that CoffEE computes a range of indicators; for consistency, we retain them here. For example, CoffEE has also computed measures CU7A and CU8A. These latter measures deviate from CU7 and CU8 from April 2001 because they exclude all part-time workers who preferred more hours of work but did not actively search for it or were unavailable. This is consistent with changes in data presentation by the Australian Bureau of Statistics. For the purposes of this report ONLY, the measures CU7A and CU8A as defined above are designated as CU7 and CU8. For the full range of indicators, see <http://e1.newcastle.edu.au/coffee/indicators/indicators.cfm>

#### References for further reading:

- Mitchell, W.F. and Carlson, E. (2001) 'Labour underutilisation in Australia and the USA', in Mitchell, W.F. and Carlson, E. (eds.) *Unemployment: the tip of the iceberg*, CAER-UNSW Press, Sydney, 47-68.
- Mitchell, W.F. (2001) 'Hidden unemployment in Australia', *ibid*, 33-46.

**Next CLMI Publication: May 2008**