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The Hunter unemployment rate – moving back to trend

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In the December release of the Australian Bureau of Statistics (ABS) Selected Summary Tables for the Labour Force, total Hunter region employment dropped by 4.4 thousand, unemployment rose by 5.3 thousand with the difference being a slight rise in the labour force participation rate. The official unemployment rate was published as 7.4 per cent, a sharp rise on the October rate of 5.4 per cent.

Once again these monthly shifts in the official data are not to be taken literally. The movement over 2002 in the Hunter's unemployment rate until October showed a dramatic drop from 11.3 per cent to 5.4 per cent. This led many local commentators to declare that the Hunter economy was now out of trouble.

At the time the Centre of Full Employment and Equity (CofFEE) did some detective work to put things into perspective. They concluded that the declining unemployment rate reflected an improving, but fragile, local economy in line with national trends. But, more significantly, they argued that it reflected statistical volatility.

Statistical volatility arises from the survey methods used to calculate the unemployment rate (see CofFEE Op-Ed *Making sense of the labour force data November 2002* available at <http://e1.newcastle.edu.au/coffee>). Once the statistical volatility was taken into account an entirely different picture of the local labour market movements emerged.

In this paper we further develop that argument. The official unemployment rate is what statisticians call a 'point estimate' and carries with it a sampling error referred to as the standard error. The ABS publishes estimates of the standard error for various sample sizes, which is used to make statements of confidence about the published estimates. So I might say I am 99 percent confident that the true level of unemployment in the Hunter lies between one figure (a lower bound) and another (an upper bound). The larger the standard error, the less confident I am that the published figure is a reliable indicator of the unemployment situation.

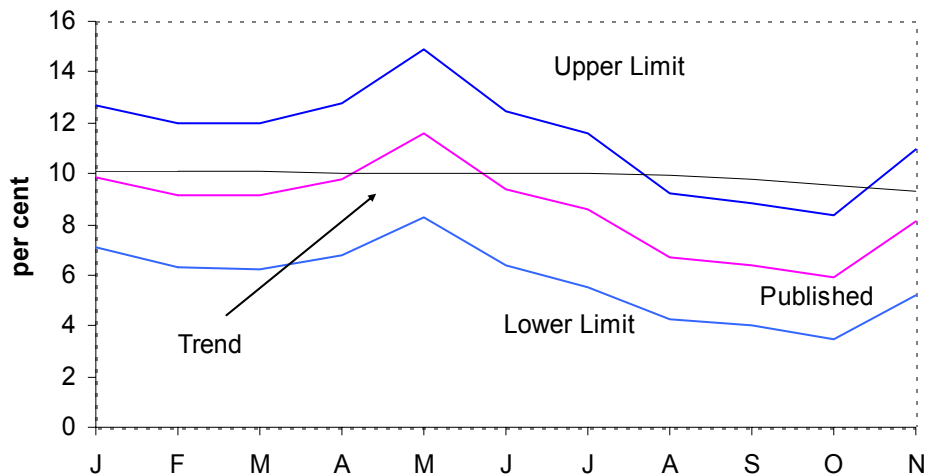
The standard errors for Hunter labour force estimates are large. The impact of the large standard errors on computing the breadth of the confidence intervals that lie around the official unemployment rate published by the ABS is shown in Figure 1.

The official unadjusted Hunter unemployment rate for November is published as 7.4 per cent, whereas the ‘seasonally adjusted’ Hunter unemployment rate is around 8.1 per cent (not published by the ABS but computed by CoffEE).

Using the seasonally adjusted data and the standard errors obtained from ABS, we calculated the upper and lower bounds of confidence for the published Hunter unemployment rate over 2002 up until November. The middle line in the chart is the official ABS estimate of the unemployment rate (seasonally adjusted).

A way of interpreting the Figure is to say that in November 2002, I would be 99 per cent sure that the true Hunter unemployment rate was somewhere between 5.2 and 11.0 per cent.

Figure 1 ABS Published Hunter unemployment rate, upper and lower bounds of confidence and underlying trend, 2002



What should we make of all this? Wise heads use the underlying trend to assess how things are moving. One such measure (an 8-month moving average) suggests the Hunter unemployment rate in November was 8.0 per cent (9.3 seasonally adjusted). This is more realistic and close to the upper bound in the chart.

The message for the Hunter is that the 5.4 per cent unemployment rate published in October 2002 was mostly an illusion. Things have been getting marginally better in the Hunter region with respect to the unemployment rate over 2002 but the local economy is still fairly stagnant. With the world slowdown and the local domestic economy now poised to achieve growth rates of less than 3 per cent, the indicators are very poor.

What we know is that the unemployment rate rises quickly once the slowdown is entrenched and then takes a very long time to come back down to close to its previous low point. Overall this low point rate has been steadily rising over successive cycles. The Hunter labour market is about to see a sharp rise once again in its unemployment rate.

We need to address this with strong public sector job creation as outlined in CoffEE’s recently released Community Development Job Guarantee proposal available from the CoffEE home page (<http://e1.newcastle.edu.au/coffee>).