

Canada Didn't Really Gain 93,000 Jobs in June

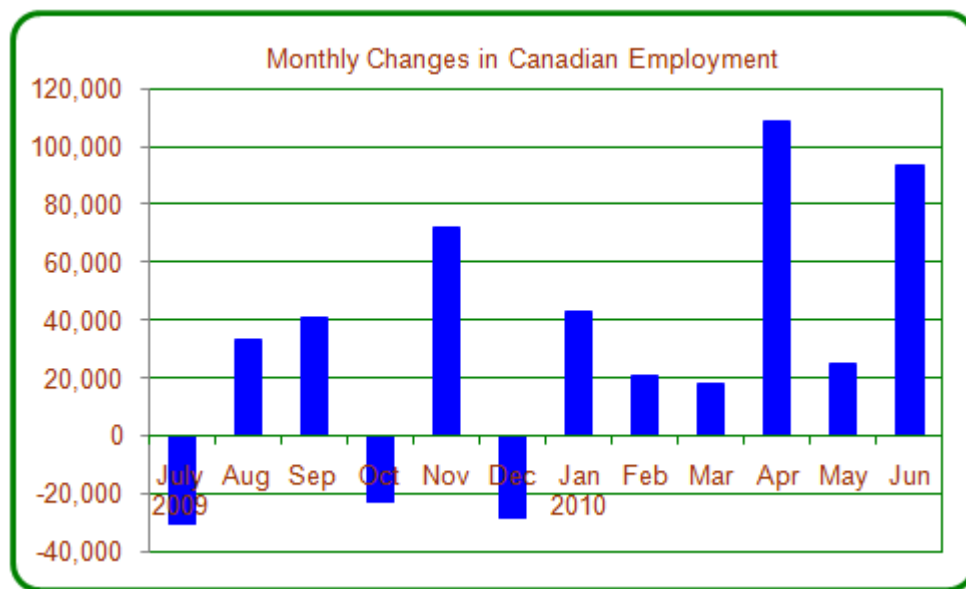
Or 109,000 jobs in April.

Twice in the past three months, Statistics Canada has reported very large growth in employment. But, there can be a difference between what is estimated by a survey versus what really happened.

The monthly employment estimates are generated by a sample survey, and like all other sample surveys there is a margin of error. Statistics Canada estimates that 5% of the time (one time out of 20) the employment estimates will be wrong by 55,000 or more.

A further complication is that one-sixth of the sample is rotated into and out of the sample each month. If the people entering the sample have different characteristics than the people leaving the survey estimates get distorted.

The data on monthly changes in the employment estimates (shown in the chart) suggests very strongly that this is what caused the exceptional growth estimates for this April and June.



Looking at the April data: six months earlier (in October 2009) there was an unexpected 23,000 drop in the estimated employment figures. That's what the survey estimates for the month, but the data from the adjacent months suggests that there might actually have been growth of about 40,000 or 50,000. It appears that the October estimate was off by more than the 55,000 "confidence interval" – the error might have been as large as 60,000 to 70,000. Thus, six months later, the unusual sample from October left the survey and consequently the April estimate was a very large 109,000. That estimate probably consists of 60,000 to 70,000 to correct the prior error, plus some real growth.

We see the same pattern for this June: it appears that the estimate includes a correction for a large error made six months earlier (December) and no doubt some real job growth.

In just the past nine months, it appears that there have been four months when the employment estimates have been off by more than the 55,000 confidence interval (October, December, April, and June).

The Canadian economy is in recovery, and jobs are being created at a brisk rate. However, because the data comes from a sample survey we don't know what the true growth rate is. Media reporting of the monthly data has been subject to wide mood swings from month-to-month, because of the volatile estimates. But, surely there is a reality of a much more gradual change in real economic conditions in Canada.

If we look at the months that appear to be relatively undistorted (January, February, March, and May) it appears that the rate of recovery might be just moderate. The average for those four months is 27,000 per month, or less than 2% at an annualized rate.

Does, this matter? Yes, it does. We pay a lot of attention to the economy, and the employment data is the first set of data that we get each month. If that data is wrong, bad decisions can get made.

But is there anything that can be done about it? Yes, there is. The data will always have to come from a sample survey and there will always be a margin of error. But, Statistics Canada could reduce the errors by breaking the monthly changes into two components: changes that occur within the constant part of the sample (real change), versus changes that occur due to the one-sixth sample rotation (measurement error). The reporting of month-to-month changes should be based on the constant sample.

There is ample precedent for this kind of analysis. It is used in the Case-Shiller index of US house prices and now in the Teranet - National Bank House Price Index for Canada. In the US, ADP uses a similar methodology to generate estimates of employment change.

Data matters, and so does accuracy. Statistics Canada could be doing a better job with the employment data.

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