Does the volatility of the Labour Force Survey render it useless as a leading indicator? (September 19)

The recent sharp decline of 52,000 jobs in the Canadian Economy (Labour Force Survey of Canada, August 2018, raises questions about how to interpret such changes. Some commentators see the LFS as volatile and advise against reading too much into month-to-month changes. This is conventional counsel, but does this variability render it less useful as a leading indicator? Has the volatility of this economic benchmark increased? Can we process the information from the survey to offer more insight into the near-term economic prospects? And, what change in level of September employment (scheduled for early October 2018) should prompt concern that the economy is in danger?

A simple inspection of the monthly change in employment since 1976 reveals that, if anything, the estimate of numbers of employed persons has become a little less volatile in the last decade.

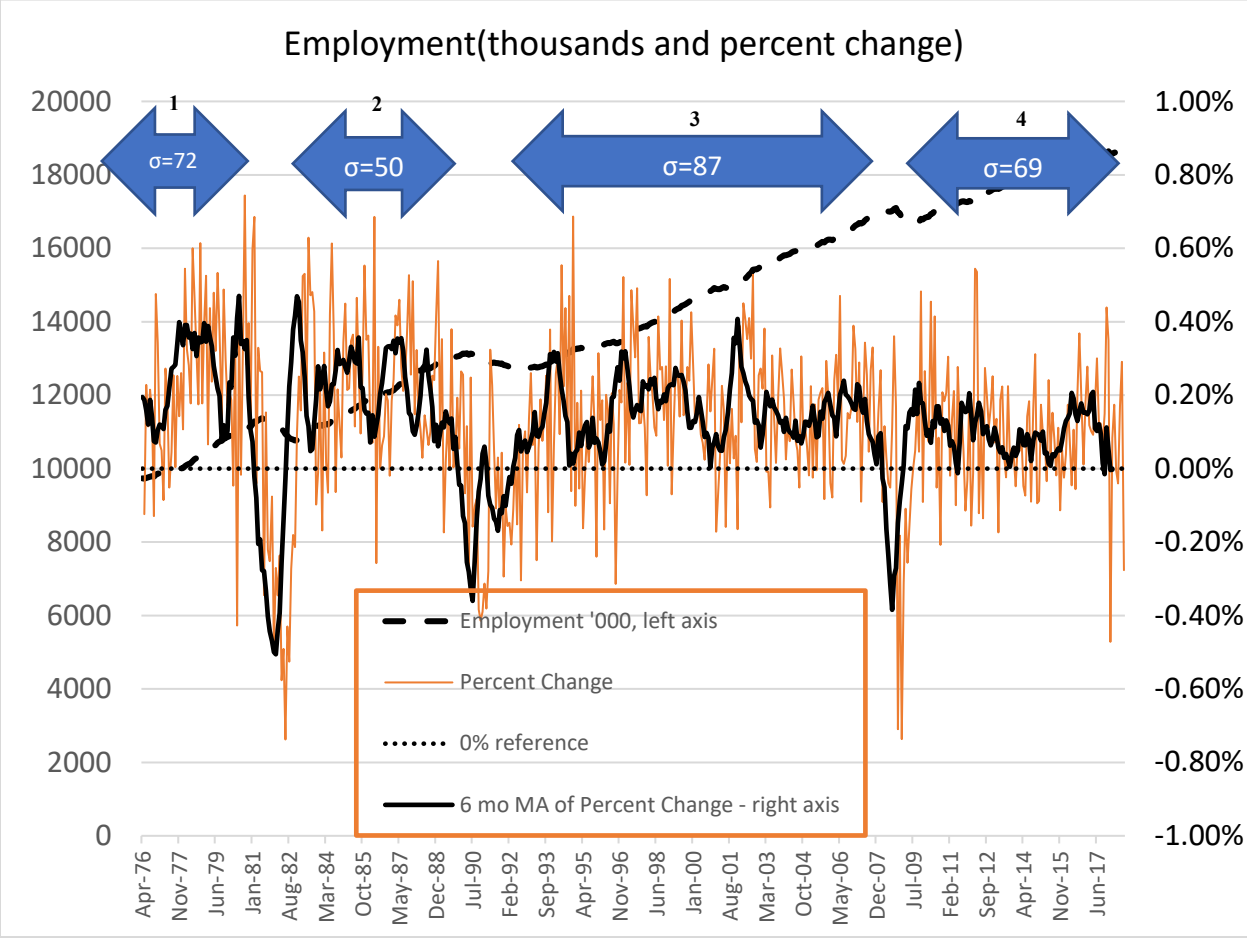


Figure 1

Figure 1 shows the monthly employment in Canada since April 1976. Taking a simple percent change reveals the considerable variability in this index. This is the nature of labour markets in a

dynamic economy with marked regional differences. A six-month moving average smooths the percent change series and is one way to highlight periods of recession. A dip in the moving average below 0% change serves as one simple way to show slowdowns in the economy. The periods of February ’81 to April’82, January ’90 to April ’92, and of course, the period March ’08 to February ’09 are all recognized as periods of slowdown in the Canadian economy

It is possible to illustrate the volatility of employment growth in several ways. Here, four epochs mark periods of growth in the employment levels. Calculating the deviations from a simple time trend is one way to portray volatility. In this informal non-parametric measure, the standard deviations of those variations around the trend summarizes the volatility in employment growth. (A more technical approach would be to use a parametric regression and make the variability a function of time.) The most recent decade (Epoch 4) marks a reduction in volatility compared to Epoch 3 where the variability is largely due to the gyrations in the December ’92 – January ’97 period.

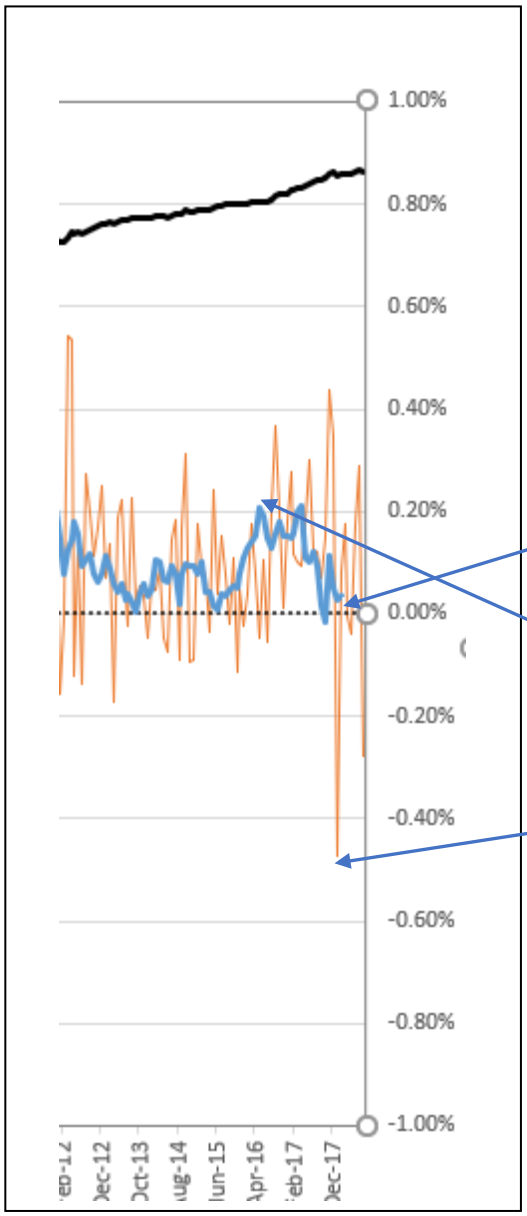


Figure 2

Looking at Figure 2, one question to guide commentators when Statistics Canada releases the September report is “What percent change for the current month will maintain the moving average above 0”?

A further contraction of the employment level by no more than .16% or about 30,000 further jobs lost will keep the moving average just above 0 and signal an economy not yet in recession, at least using this informal measure.

The decline of the moving average since December 2016 seems to show a labour market in Canada that is losing steam. Now to be sure the employment level continued to add jobs during this period (except for a major dip in December 2017), but trend is the issue is that rate of job increase has slowed.

Of course, any reduction in employment reported for September 2018, will confirm the worst fears of some, who will see the effect of minimum wages, trade disruption, high taxes on corporations, and failure to maintain investment in energy infrastructure as creating the perfect storm for the Canadian economy. Therefore, any further contraction of employment by more than 30,000 jobs could be a strong signal of an impending recession.

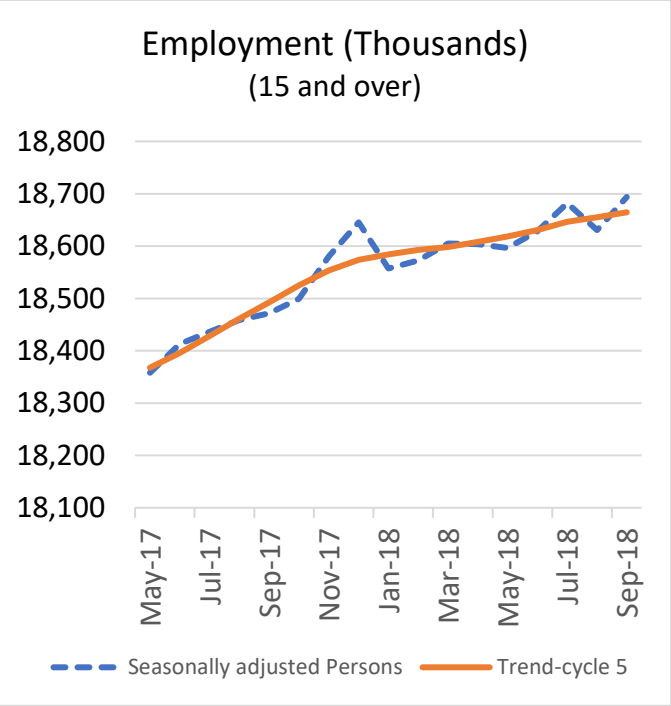
If the reduction in employment is much less than 30,000, some will still argue it is too soon to draw any conclusions. But should employment grow, most commentators will see this as a vindication that the LFS is indeed a hyperactive index that should not support inferences about the economy.

One thing this analysis does not do, is separate employment changes by region or sector. Job losses in Ontario (such as have recently occurred) do not support the same conclusions as job losses in Atlantic Canada or Alberta. Such regional and sectoral analysis is also very important for a full understanding of what changes in employment really mean for the economy.

The monthly release of the LFS is a leading indicator for the economy that many disparage. This brief and informal note should at least temper quick dismissals of the LFS in this role and show that with a little analysis one can at least map out how to interpret the next data release of the LFS and place some context around the reactions of pundits.

Addendum – October 16, 2018

Right on cue, the Canadian economy added some 63,000 jobs in September August, entirely reversing the losses in August. The press reported this, but with much less fanfare and the pundits fell silent.



Monthly fluctuations, especially when sharply negative, support "awfulization" offering a convenient stick with which to berate government. It is unlikely that pundits will relinquish the opportunity to spin data and so they will continue to abuse these data.

The important adjustment that Statistics Canada makes in labour force survey is to undertake seasonal adjustment (Trend-cycle 5) which moderates monthly fluctuations, as shown to the left.

There is one feature the emerges from detrended data – the employment growth rate slowing. Now that is an interesting story.