



August 8, 2013

# THE CAUTIONARY TALE OF CANADIAN EMPLOYMENT VOLATILITY

## Highlights

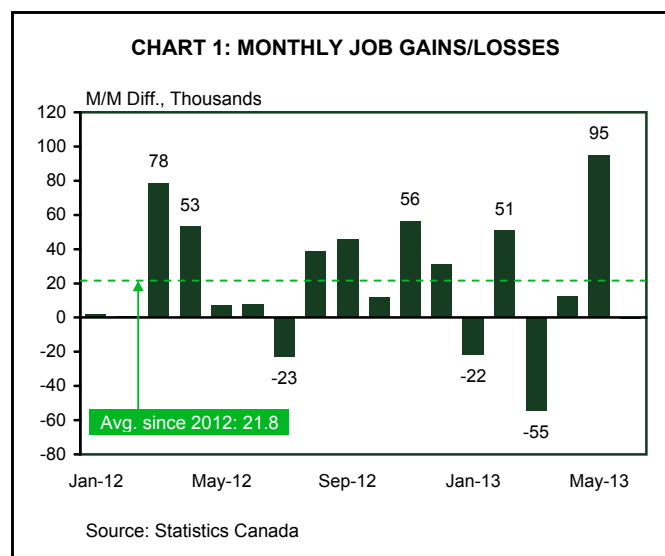
- Sizeable monthly job gains and losses since 2012 have raised concerns that the Labour Force Survey is becoming increasingly volatile. A historical comparison reveals that volatility is a routine feature of the Canadian labour market and that the current level appears to be no higher than in the past.
- However, a deeper inspection of the underlying data reveals that the last 18 months are unique relative to previous episodes due to the fact that we are neither in a recession nor recovery period.
- Causes of elevated volatility are hard to pinpoint. Certain sectors have likely contributed more than others, such as construction. However, it is likely the case that an uncertain economic environment is impacting employer hiring decisions.
- While a few more outsized monthly gains or losses are still possible in the coming months, history suggests that periods of elevated volatility tend to be temporary. Looking at 6-month or 12-month moving averages and supplementing with other labour force data is a simple way of obtaining a more accurate notion of labour market strength.

In May 2013, Statistics Canada reported that the Canadian labour market added a stunning 95,000 net jobs. The gain was the largest posted in a single month since August 2002 and was also the third largest increase on record, with data going back to 1966. Just two months prior, 55,000 net jobs were lost, the biggest monthly decline in the labour market outside of a recession since 1973. Since the beginning of 2012, the labour market has posted some sizeable swings (Chart 1), raising concerns about the level of volatility and the reliability of the monthly Labour Force Survey (LFS). In this brief note, we discuss this issue by comparing current and historical experiences. The evidence suggests that the current episode is indeed volatile and in a way that is unique relative to history.

## How volatile are the data?

A basic measure of volatility is referred to as standard deviation which, in this case, determines how far away each month's job change is from the underlying 12-month moving average. Based on this metric, volatility has indeed been on a secular upward trend since the beginning of 2012. It is also well above its long-term average. However, Chart 2 reveals an interesting observation. Historically, the data appear to follow cyclical episodes in which volatility rises and falls and that the current peak is actually not exceptionally elevated relative to history.

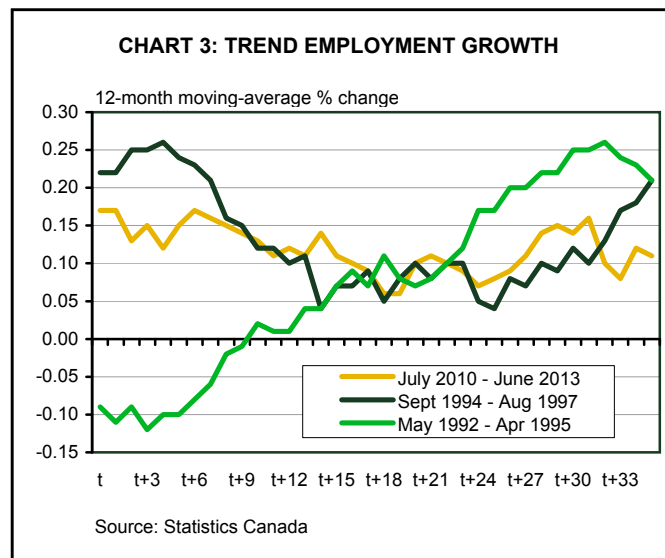
In all fairness, the three recessionary episodes in the early-1980s, early-1990s and 2008-09 make for poor comparisons – a



rise in volatility would be expected in a period of heavy job losses. However, there were periods even in the mid-1990s in which volatility was seemingly higher than at present. This is counter to the context in which that decade is generally viewed. The implementation of inflation targeting in Canada at the time led to a dramatic smoothing of the economic cycle. Both inflation and GDP growth after 1993 recorded much milder fluctuations, leading many to refer to subsequent years as, “The Great Moderation”. Clearly, employers were left out of the loop as the job market remained visibly volatile. From this perspective, the current level of volatility is no higher than either April 1995 or August 1997, neither of which were recessionary periods. Based on a cursory look at the data, there appears to be historical precedent for what we are seeing in today’s job numbers.

**Hold your standard deviations, this time may be different**

However, even 1995 and 1997 are not entirely comparable to the current experience. Just as recessions make for poor comparisons due to heavy job losses, so too do recoveries given strong job gains. This is especially the case for the recovery of the 1990-91 recession which was an extremely rocky period for the labour market. The recovery in employment, which began in late-1992, was partitioned by a two-year period of stagnant job growth. April 1995 and August 1997 bookended those two years and was preceded and followed by robust employment gains. As a consequence, volatility was rising because of a sudden downshift in job

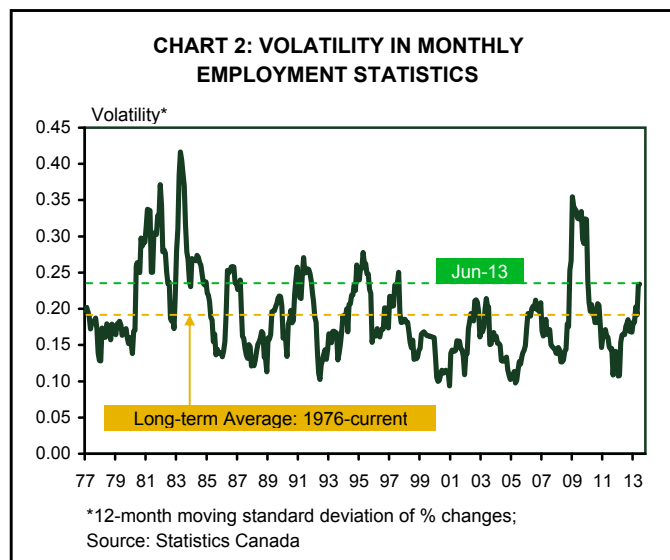


growth in 1995 and a subsequent restart of the recovery in 1997. This is evident in Chart 3, which shows dramatic shifts in the 12-month moving average pace of job growth during those years.

In contrast, we are no longer in the recovery period from the 2008-09 recession. Employment and output losses were recouped more than two years ago and the underlying trend pace of job growth has been relatively steady since 2011, at around 20,000 net jobs per month (Chart 3). In other words, the increased volatility seen since 2012 is a reflection of the month-to-month changes moving further away from its underlying average. In 1995 and 1997, the average itself was changing. Analogously, it seems worse that a marksman would miss a stationary target than a moving one.

**The sectoral breakdown**

A sectoral breakdown of the labour force survey yields several useful insights as to the causes of the current bout of higher volatility. Of the large gains and losses posted since the beginning of 2012, the biggest contributor each month is different (Chart 4). However, there are several sectors in which volatility shares a similar trend to the headline numbers. In particular, construction, professional/scientific/technical services, and public administration have all become more volatile since the beginning of 2012 (Chart 5). It is ultimately difficult to attribute the broad increase in volatility to one sector or another, but certainly some have contributed more than others.

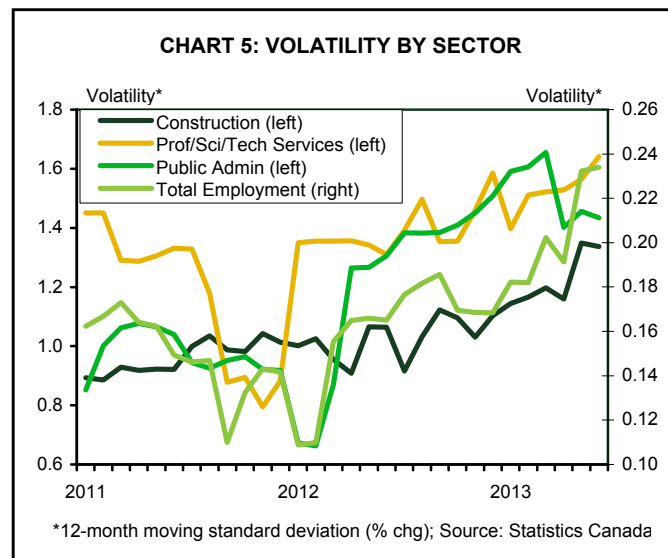


In turn, the factors driving volatility in these individual sectors can be quite different. Construction, for example, has likely been impacted by many different factors: extreme weather, a warmer-than-average summer, fluctuations in the housing market, etc. Meanwhile, public administration could be influenced by policies related to deficit-fighting. Rising volatility could also be a reflection of an increasing share of the labour market accounted for by temporary employment, particularly fixed-term and contract workers who tend to be more vulnerable than their permanent counterparts.

It is also worth noting that the economic recovery itself has been highly uncertain since it began. Issues with decidedly global ramifications, including the European sovereign debt crisis and the variety of problems related to the U.S. economic recovery. Elevated labour market volatility in Canada could simply be an indication that employers are uncertain about future prospects.

### The Statistics Canada explanation

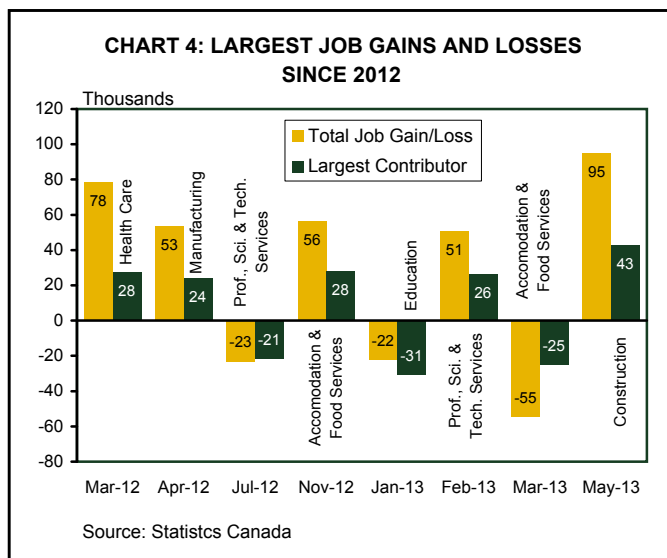
One of the most common reactions to the volatile job numbers is simply to shoot the messenger. Statistics Canada has shouldered at least some of the blame with claims that there is some seasonality not being accounted for or that the confidence intervals are too large for the month-to-month changes to be reliable. The former explanation is certainly possible, but Statistics Canada has stated that they have investigated this issue and concluded that errors were not made in the seasonal adjustment process. It is certainly the case that the labour force survey has large confidence intervals. In



the accompanying commentary, the statistics agency noted that for June's 400 net job loss, the 95% confidence interval is +/- 57,400. In other words, we can be 95% certain that the number fell between +57,000 and -57,800. However, this argument is no truer today than at any other point in time. Household surveys do ultimately tend to suffer from this problem; it is worth noting that the U.S. household survey (which reports the monthly unemployment rate) samples only a few thousand more households than in Canada, despite the population being ten times larger.

### So how should we view the labour force survey data?

So, the data are indeed more volatile than normal. Fortunately, there are several ways to adjust for the increased volatility. A simple solution would be to look at 6-month or 12-month moving averages of the employment data rather than depend on the month-to-month change. In addition to smoothing some of the bumps and wiggles, these averages also provide a much more accurate notion of trend employment growth that is likely more consistent with the broader economic picture. Misperceptions around the strength or weakness of the labour market relative to the economy tend to arise when drawing implications from a single month's data, especially those in which job gains or losses are significant. A more fulsome picture is provided by supplementing the change in employment with unemployment and employment rates. These ratios tend to be much more stable. Moreover, Canada has several other metrics to assess labour market strength, such as the survey of payroll,



earnings, and hours (SEPH), and the Bank of Canada's business outlook survey.

Looking ahead to the July Labour Force Survey data and beyond, it is possible that we could still see a few more big gains or losses. However, with economic growth expected to strengthen in the second half of this year, uncertainty

surrounding the outlook should ostensibly moderate going forward. Stronger confidence among employers should translate into a more stable profile for job gains. This is consistent with history which suggests that periods of elevated volatility are never permanent. The real implication of the current period simply reinforces that caution must always be taken in analyzing the monthly Labour Force Survey.

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