

Employment FactBook for Canada using the Labour Force Survey

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Outline

- 1 Definitions and issues
 - The Labour Force Survey
 - Statistical uncertainty
 - Levels versus rates
- 2 Employment levels
 - Overall
 - By age
 - By gender
- 3 Employment rates
 - Overall
 - By age
 - By gender

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Labour Force Classifications

according to Statistic Canada's Labour Force Survey

The Labour Force Survey is conducted monthly, usually during the week following the “reference” week, the week containing the 15th day of the month. The determination of labour force status involves placing each individual in the survey into one of three categories according to their activities during the reference week:

- ① employed
- ② unemployed
- ③ not in the labour force

It is described in this way by Statistics Canada:

- <http://www.statcan.gc.ca/pub/71-543-g/2014001/part-partie2-eng.htm>

Employment

is not a measure of “jobs”, and does not measure the intensity of work

A respondent to the Labour Force Survey is considered “Employed” if:

- that person did any work at all at a job or business, that is, paid work in the context of an employer-employee relationship, or self-employment (or had a job but were not at work due to factors such as own illness or disability, personal or family responsibilities, vacation, labour dispute)

The number of employed is not the same thing as the number of jobs

- over the course of a month thousands upon thousands of “jobs” are created and destroyed, the level of employment is the net result of these very large gross flows

The intensity of employment is not a consideration

- an individual who holds more than one job is simply considered as “employed,” just like an individual who holds only one job
- the number of hours of work also does not matter

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The Labour Force Survey is not a Census

and the estimates of employment it provides are subject to “sampling error”

Census

- collects information from all “units” in the population
- can be time consuming and costly
- no sampling error

Sample Survey

- collects information from a fraction of “units” in the population
- can be faster and less costly
- subject to sampling error

Employment is measured with uncertainty

because it is estimated from a survey, not a census

- Sampling error is the error that results from estimating a parameter by using a proportion of the population rather than the entire population
- We need to know the extent of the sampling error, and one of the ways of measuring this is by the “standard error”
- There is roughly a 1 in 3 chance that statistical noise will push an estimate beyond plus or minus one standard error, and only a 5% chance beyond plus or minus 2 standard errors.
- Statistics Canada updates the standard error every six months, it currently stands at 28,500.

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Employment “levels” are important for communication but employment rates give a better sense of economic growth and labour demand

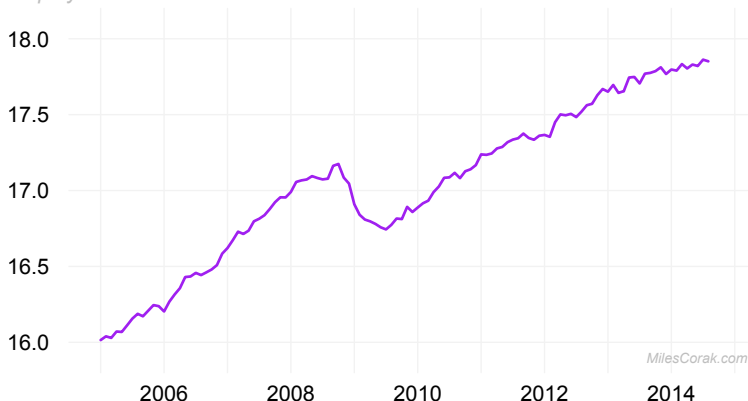
- The “level” of employment refers to the number of individuals in the working age population (those 15 and older) who are classified as employed during the reference week.
 - if it falls, or even just stays constant, this is a major development
 - but normally we would expect it to grow for the simple reason that the population is growing
 - it is a valuable communication device because it refers directly to “people”
- But on its own it is not a clear indicator of the growth of the economy, and how that translates into jobs and the demand for labour services
- To get a full picture, levels should be used in conjunction with the fraction of the working age population that is employed, which is called the “employment rate.”

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Employment stands at 17,851,400 in August 2014
it peaked at 17,175,100 in October 2008, and wasn't that high again until January 2011

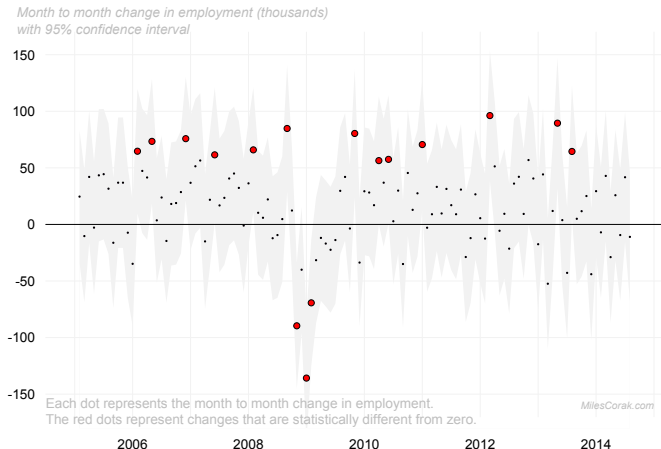
Employment in millions



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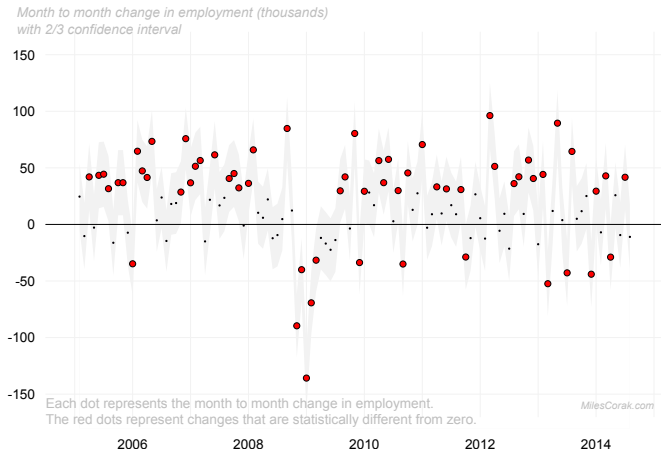
Month to month changes in employment

have to be large to be distinguished from statistical noise with a high degree of confidence



Month to month changes in employment

are more often distinguished from statistical noise with a 1 in 3 chance of being wrong

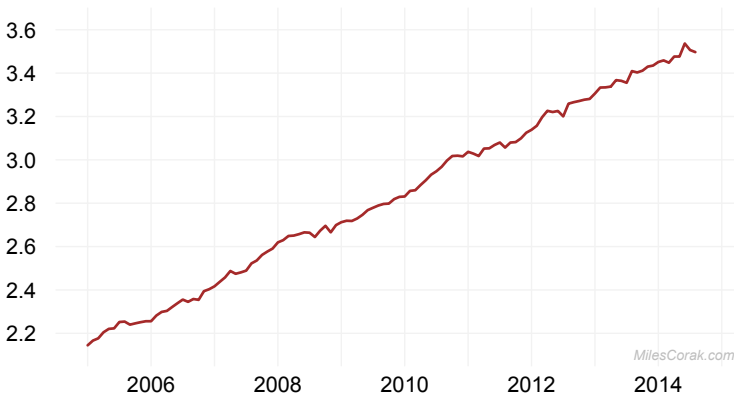


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Employment for those 55 years and older never experienced a recession

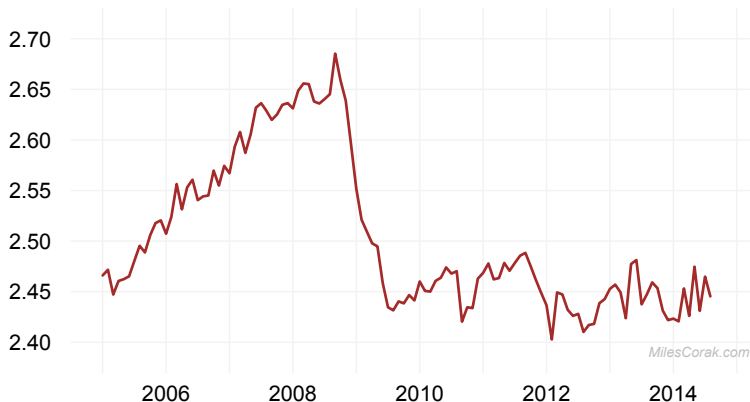
Employment in millions



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Employment for 15 to 24 year olds never recovered peaking at 2,659,100 in October 2008, and stuck at about 2,450,000 since

Employment in millions



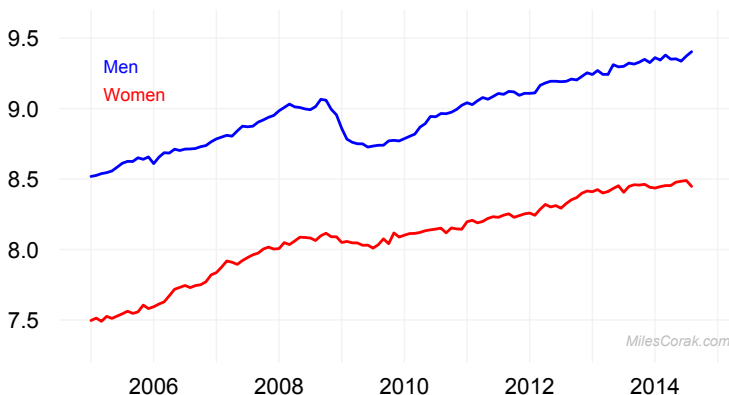
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Employment for men took two and a half years to recover from the recession, but only a year for women

Employment in millions



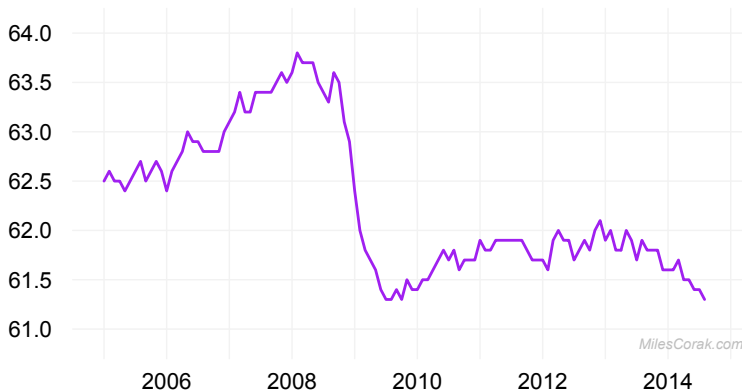
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The employment rate has fallen during the last year
and at 61.3% it is as low now as it was at the trough of the recession in October 2009

Employment rate (%)



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The fraction of the 15 to 24 year old population employed has not substantially changed since the depth of the recession

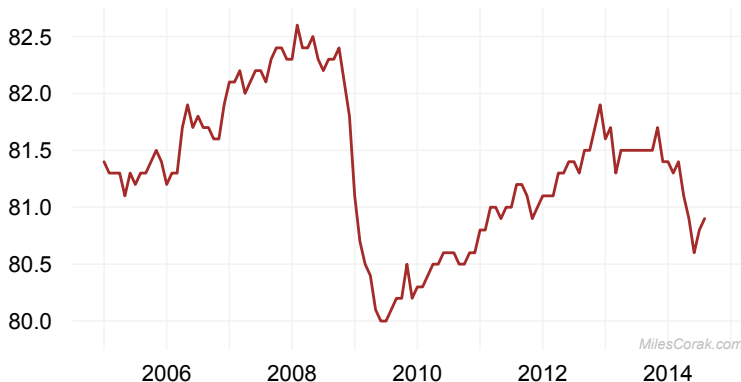
Employment rate (%)



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The fraction of the 25 to 54 year old population employed has been on a downward trend over the past year

Employment rate (%)



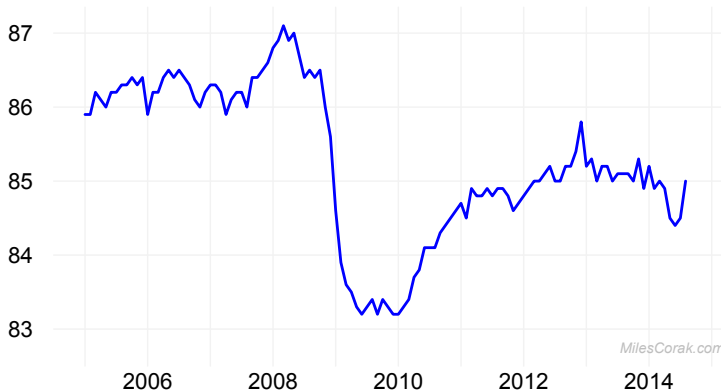
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The fraction of men 25 to 54 year olds employed has been about the same for the last three years

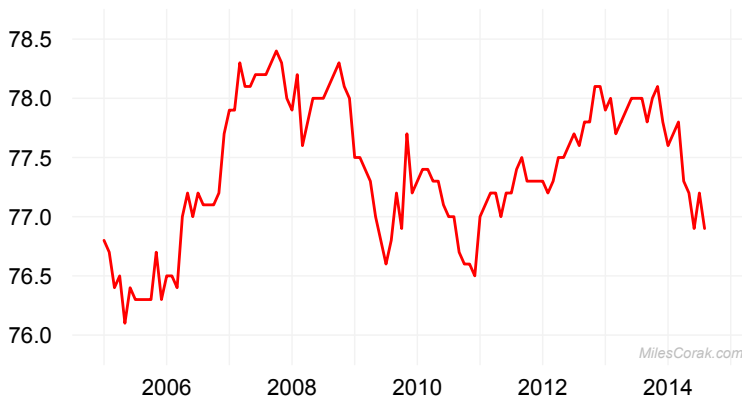
Employment rate (%)



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The fraction of women 25 to 54 year olds employed has been falling since November 2013

Employment rate (%)



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Major messages

- ① If you want to be “really” certain that a month to month change in employment is not just statistical noise, then it has to be pretty large, say larger than 57,000
 - if you are willing to be just “fairly” certain, then the change has to be about 28,000 or more
- ② Employment has barely kept up with population growth during the last five years
 - for young people this is not even the case, there being no change in the level of employment during the last 5 years
- ③ The Employment rate has yet to return to pre-recession levels, and has been falling during the past year
 - this fall seems to be due to a dropping off of the employment rate of women

Data Sources

All data used in the preparation of the graphs in this FactBook are for January 2005 to August 2014, and are from:

- Statistics Canada CANSIM. Table 282-0087 - Labour force survey estimates by sex and age group, seasonally adjusted and unadjusted, monthly. Accessed October 3, 2014
- The data are available here: http://mileskorak.com/?attachment_id=5579
- The standard errors used were provided by Statistics Canada for the period before July 2013, and were obtained from Statistics Canada, *The Daily*, for July 2013 and afterwards
 - from July 2013 to Dec. 2013:
<http://www.statcan.gc.ca/daily-quotidien/130809/t130809a001-eng.htm>
 - from January 2014 to June 2014:
<http://www.statcan.gc.ca/daily-quotidien/140207/t140207a001-eng.htm>
 - from July 2014 to Dec. 2014:
<http://www.statcan.gc.ca/daily-quotidien/140815/t140815a001-eng.htm>

Standard errors from the Labour Force Survey

for month to month changes in employment (in thousands)

	2005	2006	2007	2008	2009
January to June	29.2	27.5	29.7	27.4	27.8
July to December	28.8	27.2	29.5	27.7	28.1
	2010	2011	2012	2013	2014
January to June	28.2	28.3	28.6	28.7	28.9
July to December	27.9	28.7	28.6	28.9	28.5