



Labour Market Matters

Special points of interest:

- Supply shock from the Ontario double cohort found to have a negative effect on the wages of young Ontario workers.
- Wages for less skilled workers found to follow a “ratchet” pattern: downwardly rigid, but upwardly flexible.

“[T]he average weekly wages of young Ontario workers decreased by 7.4 percent between 2000 and 2005. This is especially surprising given that Ontario's economy experienced steady growth over this period”



In 2003, the graduation of a “double-cohort” in Ontario caused wages to fall 5 to 9 percent, while wages in the rest of Canada rose 3.5 percent.

Image: [Scott Chan](#)

Volume 4, Issue 1

January 2012

Double-Trouble: the Impact of Cohort Size on Earnings – Lessons from the Ontario Double-cohort

Cohort size can have a significant impact on individual labour market prospects. Large cohort sizes can increase competition for job-opportunities, which can result in increased unemployment and depressed wages for individuals in a large peer cohort. In 2003, the phasing out of Grade 13 caused a “double-cohort” to simultaneously graduate from high school. The double cohort generated a large and sudden influx of workers. A paper by CLSRN affiliate Louis-Philippe Morin (University of Ottawa) entitled “**Cohort Size and Youth Earnings: Evidence from a Quasi-Experiment**” ([CLSRN Working Paper no. 85](#)) found that the Ontario double-cohort caused earnings for high-school graduates to decrease and that earnings and job market conditions for workers close in age to double-cohort graduates were also adversely affected despite a period of steady economic growth in Ontario.

Compared to 2001, the double-cohort caused the number of high school graduates to increase by more than 30 percent in 2003, creating an exceptionally large surge in youth labour market entrants that year. In order to estimate the impact of the double cohort on youth earnings, Morin uses data from the Canadian Labour Force Surveys (LFS), and the 2001 and 2006 Canadian

Censuses (long-form questionnaires).

The study found that the wages of full-time, full-year workers decreased by 5 to 9 percent due to the supply shock in the census data. Interestingly, the study found that the supply shock effect is less apparent for workers further away in age to the double-cohort, suggesting that workers close in age to the double-cohort graduates were also affected by the supply shock.

The effect of this large cohort entering the labour market has been likened to an immigration shock by some economists. Basic economic theory predicts that large supply shocks would have a negative impact on wages. Indeed, the analysis found that the average weekly wages of young Ontario workers decreased by 7.4 percent between 2000 and 2005. This is especially surprising given that Ontario's economy experienced steady growth over this period. This sharp decrease in wages is by far the most significant among all worker groups considered in the paper.

Not only did the supply shock affect the wages of full-time, full-year workers, but it also affected the likelihood to be working full time and for a full year by about 1.5 percentage points. Accounting for this effect on labor market participation, Morin estimates the impact of the supply



Louis-Philippe Morin
(University of Ottawa)

shock on wages to have ranged between -3.1 and -16.5 percent.

In the absence of any other shock to Ontario's economy, this drop in wages is indicative of a significant labor-supply effect. Further supporting the cohort size shock idea is the fact that, young workers in the rest of Canada saw their wages increase by 3.5 percent which is comparable to the growth rates of most of the worker age groups in the rest of Canada, and of older workers in Ontario.

The double-cohort phenomenon made it possible to clearly identify the impact of cohort size on wages. In particular, the short time span over which the supply shock occurred resolved the identification problem faced by previous studies looking at cohort size effects over a long period of time.

The Evolution of Worker Wages in Canada since the 1980s: Economic Upturns, Downturns, Wage Ratcheting and Capital Market Lag

Over the last three decades, the real wages of less-educated workers have declined substantially. Real wages among high-school educated males are over 12% lower than they were in 1980; however wage movements appear to vary according to how long an individual has been working. Workers whose jobs started in the early 1980s, and hence had high job tenure in the 1990s and 2000s, had real wages that were seemingly unaffected by the same economic developments driving the downturns and upturns in the wages of new job starters. In contrast, real wages for new job starters declined by approximately 25% between 1980 and 1997, recovering by about 10% from their low point between 1997 and 2007, but still approximately 10% below what they had been in 1981 in real terms. A paper entitled ***“Understanding the Wage Patterns of Canadian Less Skilled Workers: the Role of Implicit Contracts”*** (CLSRN Working Paper no. 38)* by



David Green (University of British Columbia)

CLSRN affiliates David Green (University of British Columbia) and James Townsend (University of Winnipeg) examines the reasons behind this pattern of uneven wage decline across high and low tenure workers.

“[P]hysical capital did not grow fast enough to outfit expanding numbers of skilled workers, there was less capital available to employ less skilled workers, resulting in wage declines for less skilled workers”

The researchers believe that this wage tenure patterns fits well with an “implicit contract model.” In such a model, workers and firms form contracts (which may be implicit) in which workers accept a lower average wage over time in return for greater stability in the form of not having their wages cut during downturns. However, as workers cannot credibly commit to refusing higher wages from other firms during good times and are able to renegotiate for high wages during upturns, this creates a “ratchet feature” in which wages are set higher during good times but do not



James Townsend (University of Winnipeg)

move lower during downturns. Within such a model, the cohort of job starters beginning work in the early 1980s, when wages were high, would never renegotiate because entry wages never reached the same level again. Thus, their wage path over time has stayed above the wages for later job starters.

Workers entering the labour market during the upturn that followed 1997 would receive higher entry wages than those who started working at the low point of the downturn in the mid-1990s. However, as entry wages were improving in subsequent years, workers entering jobs from the mid-1990s onwards would also be able to renegotiate their wages, resulting in steeper wage-tenure profiles than those of workers entering jobs in the 1980s.

From an examination of a number of different data sources including the Labour Force Survey (LFS), the researchers find the “implicit contract”

model fits well with the data from the last three decades. This is important for several reasons: first, it suggests that wages are downwardly rigid, but upwardly flexible in the less skilled labour market - a feature of interest when Canada is dealing with an economic downturn. Second, it implies that the evolution of entry wages are key component to understanding overall wage movements for the less skilled workers since the wage movements of higher tenure workers can be described in terms of wage negotiations based on the starting wages of the day.

The researchers believe that declining wages may be attributable to technological innovation and the lag in the availability of physical capital to outfit both skilled and unskilled workers. As physical capital did not grow fast enough to outfit expanding numbers of skilled workers, there was less capital available to employ less skilled workers, resulting in wage declines for less skilled workers. The analysis suggests this process was reversed after 1997 as capital inflows began to outstrip growth in the number of skilled workers. The researchers believe that improving the wages of less skilled workers can lie in increasing the capital market, in order to better employ less skilled workers and improve wage outcomes.

* This paper was subsequently published in the [Canadian Journal of Economics](#)

Endnotes

[Labour Market Matters](#) is a publication of the Canadian Labour Market and Skills Researcher Network (CLSRN). The CLSRN is supported by the Social Science and Humanities Research Council of Canada (SSHRC) under its Strategic Research Clusters program. Opinions expressed in this publication do not necessarily reflect the views of the SSHRC.

Articles in *Labour Market Matters* are written by Vivian Tran - Knowledge Transfer Officer, CLSRN, in collaboration with the researchers whose works are represented. For further inquiries about *Labour Market Matters* or the CLSRN, please visit the CLSRN Website at: <http://www.clsrn.econ.ubc.ca> or contact Vivian Tran at: Vivian.Tran@ubc.ca