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Cohort Size and Youth Earnings: Evidence from a Quasi-Experiment

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Cohort Size and Youth Earnings: Evidence from a Quasi-Experiment*

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Abstract

In this paper, I use data from the Canadian Labour Force Surveys (LFS), and the 2001 and 2006 Canadian Censuses to estimate the impact of an important labor supply shock on the earnings of young high-school graduates. The abolition of Ontario's Grade 13 generated a 'double' cohort of high-school graduates that simultaneously entered the Ontario labor market, generating a large and sudden increase in the labor supply. This provides a rare occasion to measure the impact of cohort size on earnings without the supply shock being possibly confounded with unobserved trends—a recurring problem in the literature. The Census findings suggest that the effect of the supply shock is statistically and economically important, depressing weekly earnings by 5 to 9 percent. The findings from Census are supported by the LFS results which suggest that the immediate impact of the supply shock—measured about six months after high-school graduation—is also important.

Keywords: Labor Supply Shock, Youth.

JEL classification: J10, J20, J21.

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Executive Summary

In this paper I look at the impact of the large increase in cohort size that followed the abolition of Ontario's Grade 13 on youth earnings. The findings from this paper shed light on two important issues in labour economics:

1) Demographics

The entrance of baby boomers onto the labour market and the associated worsening of the youth labour market situation generated much attention among economists. Since cohort size does not vary substantially from one year to the next, studies looking at the socioeconomic impact of cohort size have focused on long term (typically 8 to 25 years) variations in cohort size. A major challenge with this strategy is that it is hard to isolate cohort size effects from other unobserved trends which are unrelated to demographics.

The abolition of Grade 13 provides a rare occasion to measure the impact of cohort size on youth earnings without having to worry about the supply shock being confounded with unobserved trends. Following the abolition of Grade 13, two cohorts of high school graduates simultaneously entered the labour market in 2003, creating a large and sudden youth labour supply increase. Compared to 2001, the number of high school graduates increased by more than 30 percent in 2003.

2) Immigration

The Ontario supply shock can, in terms of its intensity, be compared to an immigration shock. Since Card's seminal 1990 paper on the impact of the Mariel Boatlift, a series of studies have used important political changes as quasi-experiments to measure the impact of immigration supply shocks on local labour markets. Overall, the findings from these studies suggest that immigration supply shocks have, at most, a modest impact on natives (Friedberg and Hunt, 1995).

One advantage of using such quasi-experiments is that it can deal with self-selection issues such as the possibility that immigrants settle in booming labour markets. But, although helpful in understanding the effect of immigration inflows on local labour markets, these studies can only shed limited light on the potential effects of exogenous increases of local workers, particularly if local workers and immigrants are poor substitutes. One advantage of the supply shock studied in this paper is that it is composed of potential workers *almost identical* to what would be referred to in the immigration literature as 'native workers.' This study can therefore inform us on the capacity of the labour market to absorb supply shocks without having skills or preferences playing any confounding role in the determination of the outcome of interest.

I take advantage of two sources of information to estimate the impact of the double cohort on youth earnings. First, I use the 2001 and 2006 Canadian Census master files. The Canadian Censuses are very useful to estimate the effect of cohort size for at least

two reasons: 1) the richness of the data renders it possible to get a measure of weekly earnings—something that is crucial if we are interested in the effect of cohort size on the price of labour—, and 2) it is the largest Canadian data set available to researchers. The large sample size makes precise estimations possible, even for very small subsamples of the Canadian population (like Ontario high-school graduates born in 1984). The second source of data used in this paper consists of the 2002 and 2004 Labour Force Survey (LFS) master files. The LFS contains rich information on individuals' labour market conditions (e.g., hourly wages), and by observing individuals shortly after the double cohort, it allows me to estimate an immediate impact of the double cohort on young workers.

The main findings of the papers are:

1. The Census data suggest that the Ontario double cohort decreased the weekly wages of its high-school graduates working full-time and full-year by between 5 and 9 percent.
2. Workers close in age to the double-cohort graduates seem to have been affected by the supply shock, suggesting they might be close substitutes.
3. The proportion of full-time, full-year workers decreased by as much as 1.8 percentage points for recent Ontario high-school graduates, following the double cohort. This drop in the proportion in full-time, full-year workers is economically large as it represents a decrease of about 10 percent.
4. There is no evidence of significant (provincial) out-migration by young Ontario high-school graduates following the double cohort.
5. The LFS data support the results from the Census, suggesting a large decrease in wages for recent Ontario high-school graduates shortly after the double-cohort graduation.

Overall, these findings suggest that a sudden inflow of 'native' worker significantly affects the labour market outcomes of similar 'native' workers. This finding contrasts with the studies looking at the impact of sudden inflows of immigrant on native workers.

References

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