Minimum-wage policy implications in higher education

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Motivation

- In North America, 50% of minimum-wage workers are between ages 17-29.
- Within this group, half are students.

However..

- most studies are silent on whether minimum-wage policies affect higher education.

Existing literature

- Baker (2005) and Pacheco and Cruickshank (2007) study school enrollment (i.e. high school and post-secondary combined) of 15-24 year olds.
- Lee (2020) studies community-college enrollment.

We distinguish between university and community college, and study decisions beyond enrollment.

Our findings

A 10%-increase in the minimum wage

increases community-college enrollment by 6%

reduces university enrollment by 5%

Why?

Community college:
- High minimum wages reduce dropouts and encourage mature students to return to community college after a job separation

University:
- High minimum wages lead to fewer low socioeconomic-status (SES) students in university

Canadian data

Education Data: Survey of Labour and Income Dynamics (1993-2011)

Minimum wage: Provincial real minimum wages (1993-2011)

Sample: Individuals aged 18-45 with at least a high school diploma or GED equivalent

Data strengths: Panel data following students and workers
Great variation in provincial minimum wages (136 changes in 19 years)

University

$$Y_{ipt} = \alpha_0 + \alpha_1 ln(MW_{pt}) + \boldsymbol{\alpha_2}\mathbf{X'_{ipt}} + \boldsymbol{\alpha_3}\mathbf{Z'_{pt}} + u_{ipt}$$

linear probability model

MW = real minimum wage

Table 1

Y_{ipt}:	Enrolled$_{ipt}$	Enrolled$_{ipt}$	Enrolled$_{ipt}$	Dropped$_{ipt}$	Returned$_{ipt}$
Sample:	All	High SES	Low SES	All	All
ln(MW$_{pt}$)	-0.079***	0.025	-0.113***	0.029	0.057***
	(0.015)	(0.036)	(0.018)	(0.037)	(0.021)
Elasticity	*-0.5*	*0.1*	*-0.9*	*0.3*	*1.8*
N	220,518	30,655	189,863	16,963	19,658
R^2	0.322	0.434	0.244	0.070	0.026

Enrolled= 1 if enrolled in university, 0 not a student. Dropped=1 if dropped from university, 0 still in university. Returned=1 if returned to university after job separation, 0 did not return. SES measured by paternal education.

Community college

$$Y_{ipt} = \alpha_0 + \alpha_1 ln(MW_{pt}) + \boldsymbol{\alpha_2}\mathbf{X'_{ipt}} + \boldsymbol{\alpha_3}\mathbf{Z'_{pt}} + u_{ipt}$$

linear probability model

MW = real minimum wage

Table 2

Y_{ipt}:	Enrolled$_{ipt}$	Enrolled$_{ipt}$	Enrolled$_{ipt}$	Dropped$_{ipt}$	Returned$_{ipt}$
Sample:	All	High SES	Low SES	All	All
ln(MW$_{pt}$)	0.066***	0.112**	0.056***	-0.260	0.147***
	(0.016)	(0.043)	(0.019)	(0.203)	(0.042)
Elasticity	*0.6*	*0.7*	*0.5*	*-1.0*	*2.2*
N	211,790	23,866	187,924	9,499	20,431
R^2	0.179	0.257	0.163	0.064	0.041

Enrolled= 1 if enrolled in comm. college, 0 not a student. Dropped=1 if dropped from comm. college, 0 still in comm. college. Returned=1 if returned to comm. college after job separation, 0 did not return. SES measured by paternal education.

Difference-in-differences

$$Y_{ipt} = \beta_0 + \beta_1 ln(MW_{pt}) + \beta_2 ln(MW_{pt}) \times D_{ipt} + \beta_3 D_{ipt} + \boldsymbol{\beta_4}\mathbf{X'_{ipt}} + \boldsymbol{\beta_5}\mathbf{Z'_{pt}} + u_{ipt}$$

$$D_{ipt} = \begin{cases} 1 & \text{if } Wage_{ipt-1} < NominalMW_{pt} \\ 0 & \text{if } NominalMW_{pt} \leq Wage_{ipt-1} \leq NominalMW_{pt} \times \phi \end{cases}$$

Table 3

Y_{ipt}:	Enrolled$_{ipt}$	Enrolled$_{ipt}$	Enrolled$_{ipt}$	Enrolled$_{ipt}$
Institution:	University	University	Comm. College	Comm. College
$\phi =$	1.5	2	1.5	2
ln(MW$_{pt}$)×D$_{ipt}$	-0.090*	-0.101**	0.187***	0.197***
	(0.049)	(0.050)	(0.063)	(0.060)
N	35,829	57,613	32,596	53,928
R^2	0.395	0.387	0.240	0.222

X = demographics, family income, family size, parental education.
Z = tuition, de-trended GDP, PSE wage premium, % of individuals living in rural areas.