Long-term Impacts of Short-term Fluctuations

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- Schwandt and von Wachter (2019) "Unlucky Cohorts: Estimating the Long-term Effects of Entering the Labor Market in a Recession in Large Cross-sectional Data Sets," *Journal of Labor Economics*

- Schwandt and von Wachter (2019) "Socio-economic Decline and Death: Midlife Impacts of Graduating in a Recession," *Working Paper*

- Schwandt and von Wachter (2019) "Unlucky Cohorts: Estimating the Long-term Effects of Entering the Labor Market in a Recession in Large Cross-sectional Data Sets," *Journal of Labor Economics*

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Developing a methodology that allows to

- harness power of large cross-sectional data sources (CPS/Census/VitalStats/...)
- spanning a long period of time (1976-2016)

Introduction

- Business cycle fluctuations are temporary
- But potential long-term impacts on young adults entering the labor market
- Existing literature concentrated on college graduates up to 10-15 years past entry (Oyer 2008/2006, Kahn 2010, Wozniak 2010, Oreopoulos et al. 2012, Altonji et al. 2016, etc.)

Introduction

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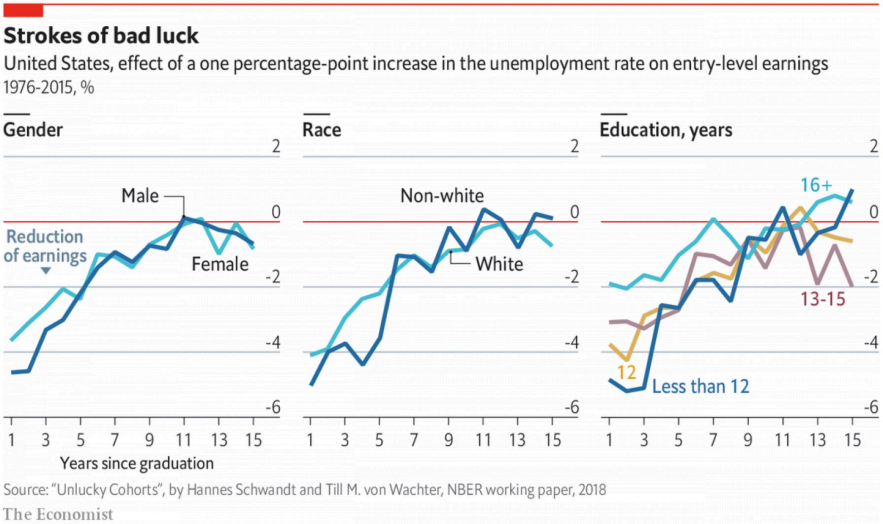
Three main contributions today

1. **Broaden analysis to less advantaged labor market entrants**
2. **Analyze mortality**
3. **Look at impacts in middle age and beyond**

Summary of core take-aways

1. Less-advantaged workers suffer larger earnings and employment losses than college graduates

The *Economist*'s version of our results – "Figure of the Day"

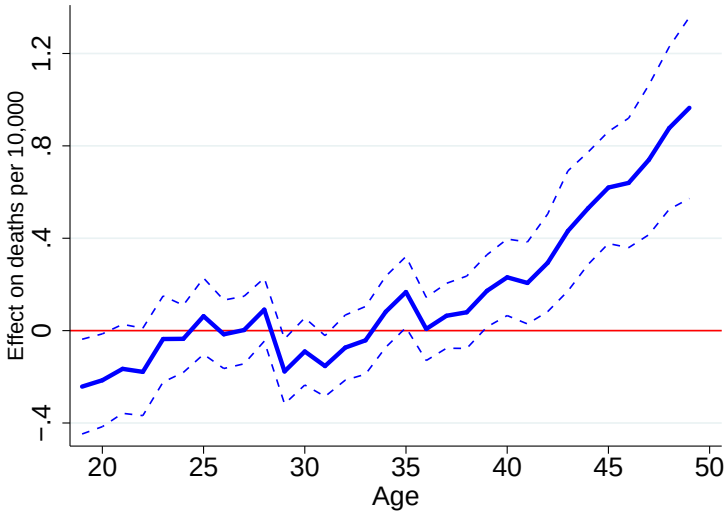


Summary of core take-aways

1. Less-advantaged workers suffer larger earnings and employment losses than college graduates

2. Positive and increasing impacts on mortality after age 35

Effect on deaths per 10,000



Summary of core take-aways

1. Less-advantaged workers suffer larger earnings and employment losses than college graduates

2. Positive and increasing impacts on mortality after age 35

3. Negative wage effects reappear in midlife, along with adverse family formation and fertility outcomes


Log of wage and salary income
Effect on log earnings
.02
0
−.02
−.04
20
25
30
35
40
45
50
Age

Empirical approach

The ideal regression

$$outcome_{i,t} = \alpha + \beta_e u_{s,g} + \gamma_e + \delta_s + \lambda_g + \theta_t + \epsilon_{s,t}$$

- with $u_{i,g}$ unemployment rate at labor market entry
- Estimating profile by years of experience e (or age a)

The ideal regression

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- with $u_{i,g}$ unemployment rate at labor market entry
- Estimating profile by years of experience e (or age a)
- Two problems in cross-sectional data:
  1. Measurement: Year and state of labor market entry unknown
  2. Selection: Year and state of labor market entry endogenous

Mincerian approach in CPS data

$$outcome_{i,t} = \alpha + \beta_e u^{minc}_{r,g} + \gamma_e + \delta_r + \lambda_g + \theta_t + \epsilon_{i,t}$$

- "Mincerian" year of graduation: yob + 6 + years of education
- State of residence r as proxy for state of graduation

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- "Mincerian" year of graduation: yob + 6 + years of education
- State of residence r as proxy for state of graduation
- Potentially poor proxy, especially at older ages
- Endogeneity not solved

Double-weighted approach in Census/ACS/VitalStats

$$outcome_{i,t} = \alpha + \beta_a u^{DW}_{b,c} + \gamma_a + \delta_b + \lambda_c + \theta_t + \epsilon_{i,t}$$

- Dividing population into cohorts by state and year of birth
- "Double-weighted" average graduation year u-rate, using cohort specific migration and educational attainment as weights

$$u^{DW}_{b,c} = \sum_{A=16}^{22} edu^{A}_{b,c} \sum_{s=1}^{50} mig^{A}_{b,s} u_{s,c+A}$$

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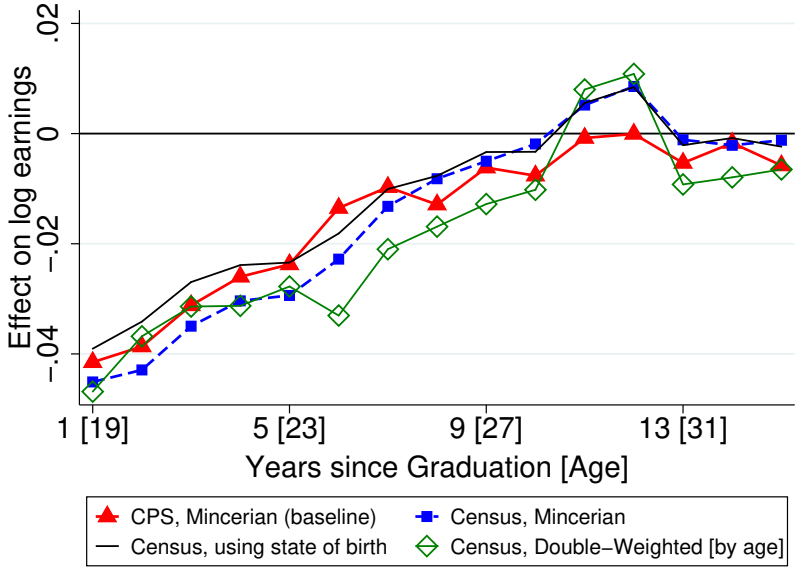
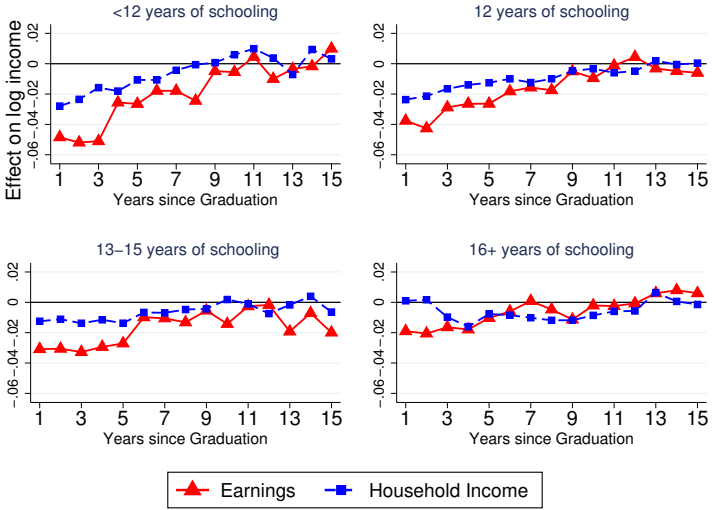
- Compare Mincerian to double-weighted approach in Census/ACS

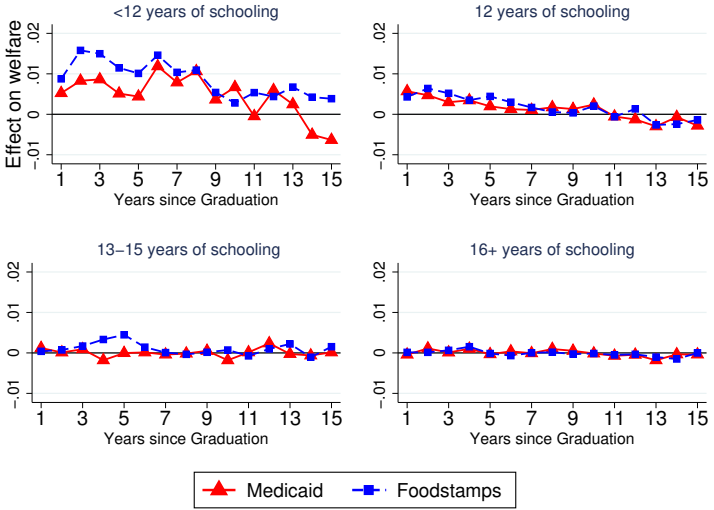

Effect on log earnings
.02
0
−.02
−.04
1 [19]
5 [23]
9 [27]
13 [31]
Years since Graduation [Age]
CPS, Mincerian (baseline)
Census, Mincerian
Census, using state of birth
Census, Double−Weighted [by age]

CPS results

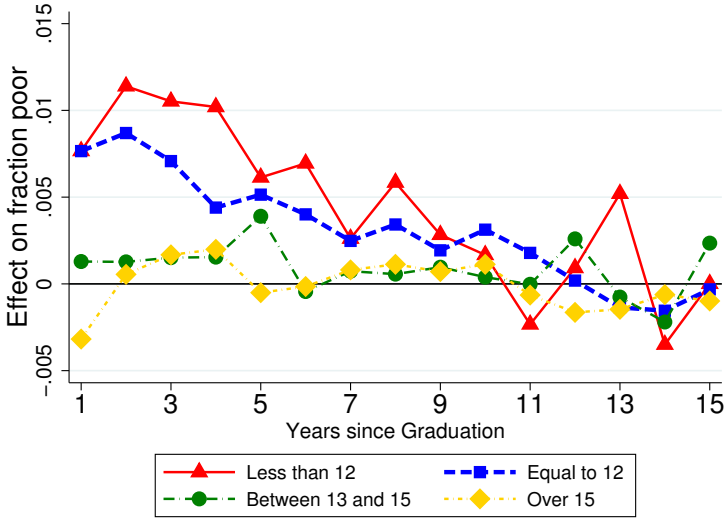
Earnings and household income



Welfare support

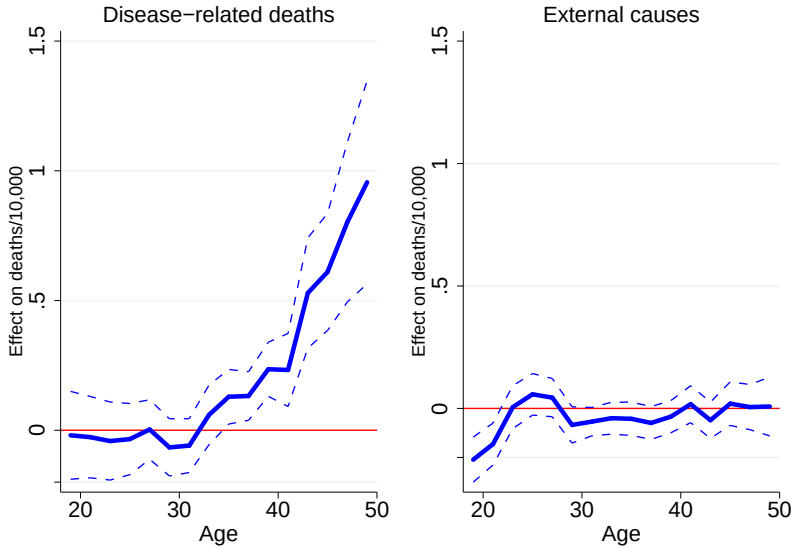


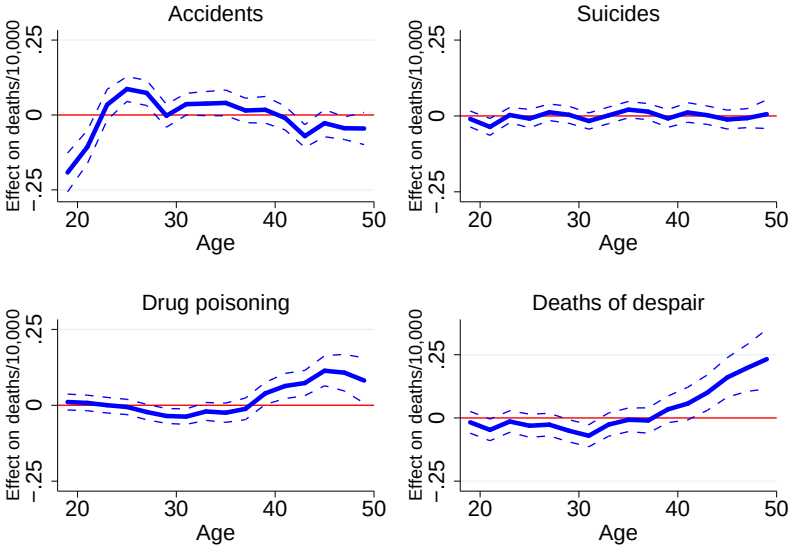
Poverty


Effect on fraction poor
−.005
0
.005
.01
.015
1
3
5
7
9
11
13
15
Years since Graduation
Less than 12
Equal to 12
Between 13 and 15
Over 15

Vital Stats mortality results

$$mortality_{i,t} = \alpha + \beta_a u_{b,c}^{DW} + \gamma_a + \delta_b + \lambda_c + \theta_t + \epsilon_{i,t}$$


Disease−related deaths
External causes
Effect on deaths/10,000
0
.5
1
1.5
20
30
40
50
Age


Accidents
Suicides
Drug poisoning
Deaths of despair
Effect on deaths/10,000
−.25
0
.25
20
30
40
50
Age

ACS/Census/CPS results up to age 50

Impacts in middle age

- In midlife, recession graduates
  - earn less (-1% vs. -3% initially)
  - work more (+0.2pp vs. -0.6pp initially)
  - are more divorced (+1.5%)
  - have fewer children (-1%)
  - and receive less welfare support (-6% vs. +15% initially)

▸ Figures

Consequences of adverse labor market entry

1. Negative earnings effects stronger for less-advantaged groups, only partly offset by welfare benefits
2. Mortality impacts after age 35
3. Broad deterioration of labor market and family outcomes in midlife

Consequences of adverse labor market entry

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$\Rightarrow$ **Temporary economic fluctuations have permanent effects on both economic and life trajectories of labor market entrants**

APPENDIX

Data

- Census / ACS: State of birth, years of education
- CPS: State of residence, years of education
- Vital Statistics: State of birth, no education
- Unemployment rates: BLS, 1976+ state-level

Contribution to literature

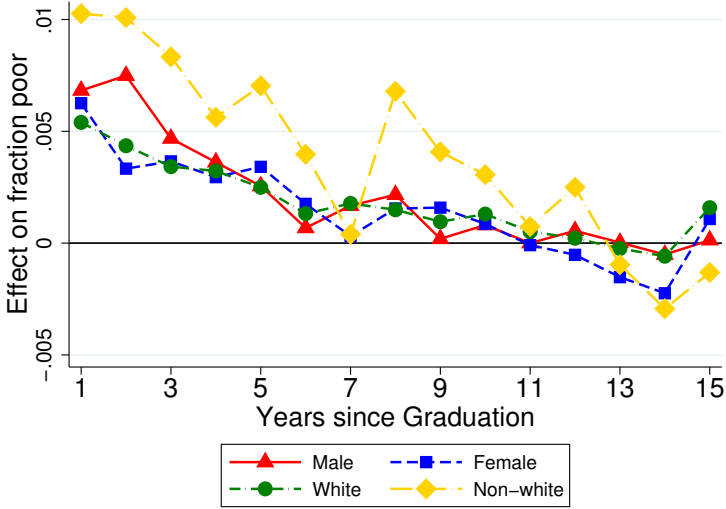
- Conditions at labor market entry

  Oyer (2008, 2006), Kahn (2010), Oreopoulos/von Wachter/Heisz (2012), Maclean (2013), Giuliano/Spilimbergo (2014), Cutler/Huang/Lleras-Muney (2016) Altonji et al. (2016), Arellano-Bover (2019)

- Midlife mortality / deaths of despair

  Case/Deaton (2015, 2017, 2018), Currie/Schwandt (2016a/b), Pierce/Schott 2016, Carpenter et al. 2017, Ruhm 2018, Currie/Jin/Schnell 2018, Bound et al. 2018

Poverty by gender and race




Log of wage and salary income
Effect on log earnings
−.04 −.02 0 .02
20 25 30 35 40 45 50
Age
Any earnings
Effect on perc. earnings>0
−1.5 −1 −.5 0 .5
20 25 30 35 40 45 50
Age
Any medicaid or food stamps
Effect on perc. welfare inc.
−.2 0 .2 .4 .6
20 25 30 35 40 45 50
Age
Divorced or separated
Effect on perc. divorced
−.2 0 .2 .4 .6
20 25 30 35 40 45 50
Age

back

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Short- and long-term effects of unemployment on fertility

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Edited by Kenneth W. Wachter, University of California, Berkeley, CA, and approved September 3, 2014 (received for review May 14, 2014)

Scholars have been examining the relationship between fertility and unemployment for more than a century. Most studies find that fertility falls with unemployment in the short run, but it is not known whether these negative effects persist, because women simply may postpone childbearing to better economic times. Using more than 140 million US birth records for the period 1975–2010, we analyze both the short- and long-run effects of unemployment on fertility. We follow fixed cohorts of US-born women defined by their own state and year of birth, and relate their fertility to the unemployment rate experienced by each cohort at different ages. We focus on conceptions that result in a live birth. We find that women in their early 20s are most affected by high unemployment rates in the short run and that the negative effects on fertility grow over time. A one percentage point increase in the average unemployment rate experienced between the ages of 20 and 24 reduces the short-run fertility of women in this age range by six conceptions per 1,000 women. When we follow these women to age 40, we find that a one percentage point increase in the unemployment rate experienced at ages 20–24 leads to an overall loss of 14.2 conceptions. This long-run effect is driven largely by women who remain childless and thus do not have either first births or higher-order births.

Demographers have been examining the effect of economic conditions on fertility for more than a century (1–10). Although some find that fertility is countercyclical (8–10), most studies find procyclical fertility; that is, fertility declines in times

Our birth data come from the US Vital Statistics natality data, and include ~140 million individual birth records for all births in the United States from 1975 and 2010. These records provide information about the state and date of the child's birth, gestation length, the age of the mother, and the mother's own state of birth. In our sample of all live births to US-born women over this period, we focus on the year of conception rather than on the year of birth, because economic conditions at the time of conception likely are more relevant to the decision to have a child. We also treat multiple births as a single conception (i.e., a single fertility choice). Thus, we are counting conceptions that resulted in a live birth. Cohorts are defined using the mother's own state and year of birth. To obtain rates, we divide conception counts by population estimates that also are constructed at the level of women's state and year of birth using data from the decennial US Census.

State-level unemployment rates are merged to cohorts' conception rates at the annual level. Most of our estimates use the weighted average of the unemployment rates in all states in which a cohort gave birth in a given year, with the number of births in each state as weights. Because the number of cohort members giving birth in each state may not be in proportion to the number of cohort members living in each state, we use census data to check on the extent to which the spatial distribution of births reflects a cohort's overall migration behavior.

Another issue is endogenous migration. Because prospective mothers might migrate to states with lower unemployment rates, using the actual locations of cohort members might cause fertility to appear more procyclical than it actually is. An alternative is to use the unemployment rate in the mother's own state of birth

SOCIAL SCIENCES

Long-run Effects on Percent Childless Women

Dependent variable	Percent childless women at				
	age 40	age 35	age 30	age 25	age 20
	(1)	(2)	(3)	(4)	(5)
Effect of average unemployment rate at					
Age 15-19	0.34	0.33	0.21	0.50***	0.62***
	(0.25)	(0.24)	(0.23)	(0.17)	(0.11)
Age 20-24	0.51**	0.55***	0.68***	0.48***	0.00
	(0.20)	(0.18)	(0.20)	(0.17)	(0.12)
Age 25-29	-0.06	0.09	0.15		
	(0.33)	(0.28)	(0.22)		
Age 30-34	0.27	0.20			
	(0.54)	(0.53)			
Age 35-39	-0.01				
	(0.46)				
N	510	510	510	510	510
Mean dep. var.	18.44	21.79	31.24	49.76	73.59

Notes: Coefficients from OLS regressions of the percent of childless women on the average unemployment rate at different periods of women's fertile lifecycles are displayed. See notes under Table 2 for further comments. Significance levels: *:p<0.1, ** p<0.5; *** p<0.01.