

Working While Enrolled: The Effects of Federal Work Study Participation on Students' Academic Outcomes

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Student Employment

Cost of college is rising while family incomes decline:

- Unmet need: In 2010, grants and tax benefits only 37% of tuition and fees (College Board, 2012)
- Students working more: 1970 → 2003, average hours worked increased from 5.0 to 9.6 per week (Scott-Clayton, 2012)

Ex ante, not clear how work effects students:

- Student work may detract from the time spent on studies
- On the other hand, working on campus may help students integrate into campus life

Federal Work-Study Program

Federal Work-Study Program:

- \$1 billion spent on FWS in 2010-2011 (College Board, 2012)
- Subsidizes 50-80% of on-campus wages
- FWS given to students with low Estimated Family Contributions (EFC)
- FWS allocated as a lump-sum to institutions
- Some portion of allocation remains consistent from year to year (“base guarantee”), other portion may fluctuate (“fair share”) (Smole, 2005)

FWS in Ohio:

- In OH \$100 FWS \approx 12.5 to 20 hours of work a semester
- Students encouraged to find a job related to course of study
- In OH, 65% of institutional allocation is base guarantee (Smole, 2005)

What do we know about the effect of working while enrolled?

Off-campus work:

- Some authors find negative effect on GPA, positive effect on credits earned (DeSimone, 2008; Dadger, 2012)
- Some evidence of a negative effect on cumulative credits earned (Darolia, 2014)

On-campus work:

- Some evidence of negative effect on GPA (Stinebrickner & Stinebrickner, 2003; Scott-Clayton, 2011)

Data & Sample

Administrative Data from Ohio Board of Regents

- Enrollment files
- Term by term credits and GPA
- Financial aid files including detailed information on financial aid received

First time, full-time freshmen

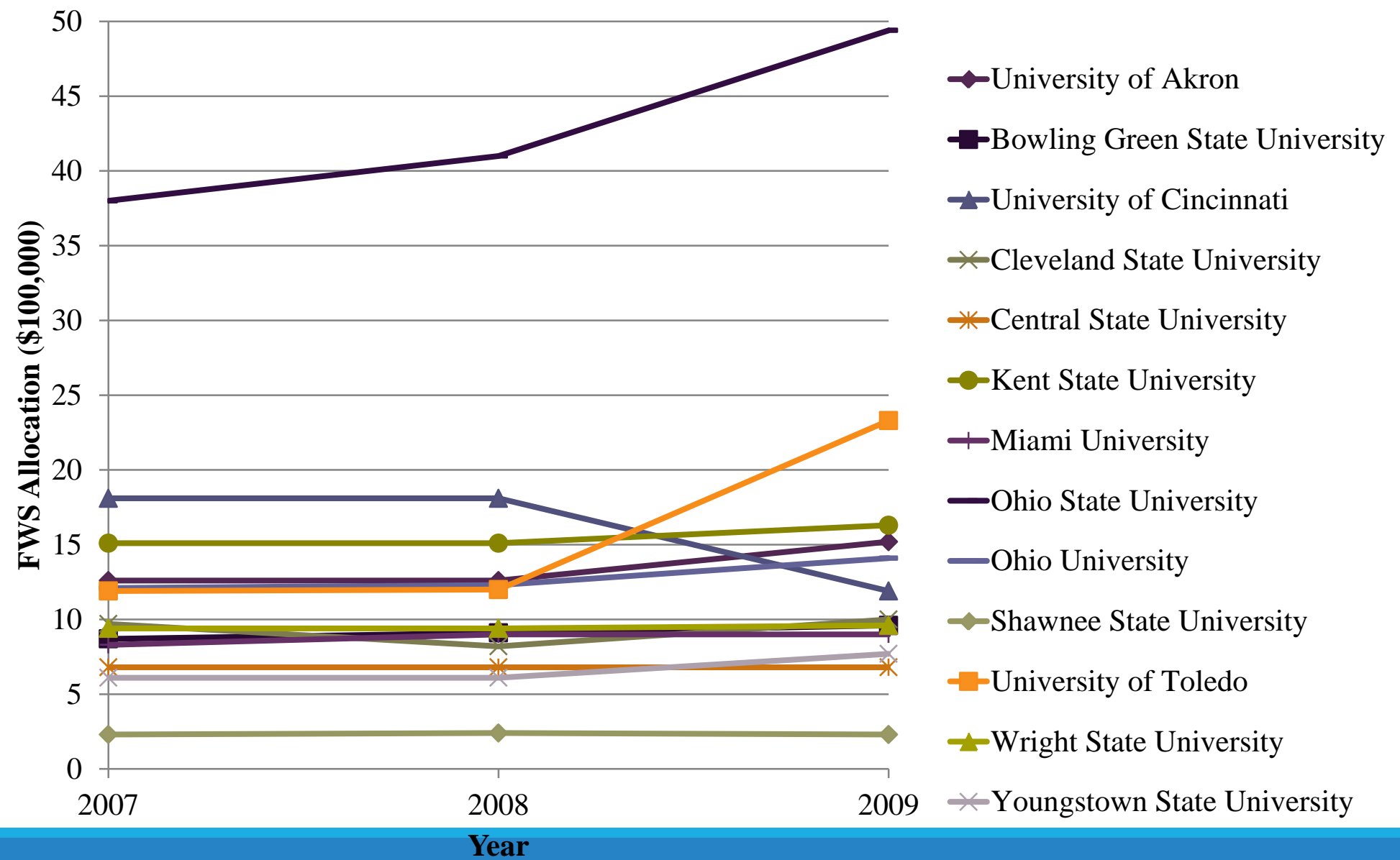
2007, 2008, 2009 cohorts

Students attending a four-year campus

70,800 students with complete FA files

Female	0.53
White	0.78
Black	0.14
Hispanic	0.02
Asian	0.02
Dependent	0.95
Mother's Education	1.61
Has Work Study	0.06
Work Study Amount Received	0.11
First Semester GPA	2.74
Second Semester GPA	2.69
First Semester Credits Earned	13.11
First Year Cumulative Credits Earned	30.98
Persisted to Sophomore Year	0.85
N	70800

FWS Allocations in Ohio 2007-09



Estimating variation

	Ohio State University, Allocation = \$447.02	Bowling Green University, Allocation = \$218.05
EFC = 0	Student 1, $\widehat{WSreceived} = \$1260$	Student 3, $\widehat{WSreceived} = \$426$
EFC = 10,000	Student 2, $\widehat{WSreceived} = \$447$	Student 4, $\widehat{WSreceived} = \$48$

Diagram illustrating the relationship between Estimated Family Contribution (EFC) and the amount of financial aid received (WSreceived) for four students at two universities: Ohio State University (OSU) and Bowling Green University (BGU).

The table is divided into two rows based on EFC and two columns based on the university. The total allocation for OSU is \$447.02, and for BGU is \$218.05.

Horizontal arrows indicate the relationship between OSU and BGU for each student. Vertical double-headed arrows indicate the relationship between the two EFC levels for each student.

- Student 1 (OSU):** $\widehat{WSreceived} = \$1260$ (EFC = 0)
- Student 2 (OSU):** $\widehat{WSreceived} = \$447$ (EFC = 10,000)
- Student 3 (BGU):** $\widehat{WSreceived} = \$426$ (EFC = 0)
- Student 4 (BGU):** $\widehat{WSreceived} = \$48$ (EFC = 10,000)

Main Results

	1 st Semester GPA	1 st Year Cumulative GPA	1 st Semester Credits Earned	1 st Year Cumulative Credits	Persisted to Sophomore Year
	(1)	(2)	(3)	(4)	(5)
WS	-0.0339**	-0.0453***	-0.340***	0.569	-0.006
Received	(0.0165)	(0.0157)	(0.0824)	(0.7660)	(0.0050)
N	61574	61574	61574	61574	39606

An additional \$100 of FWS (working an additional 12-20 hours per semester) has a small, negative effect on 1st year GPA for freshman

Some evidence participating in FWS increased the number of credits earned by the end of freshman year

Discussion

Some evidence participating in work study has a small, negative effect on GPA, similar to previous studies (Stinebrickner & Stinebrickner, 2003; DeSimone, 2008; Scott-Clayton, 2011; Dadger, 2012)

Evidence that having a work-study job has a positive effect on credits earned, similar to previous studies (Dadger, 2012; Scott-Clayton, 2011)

Work study may have a more negative effect on dependent students

On the one hand, we do not find strong evidence that receiving FWS helps student persist or succeed in school

On the other hand, the negative effects are minimal and students may be be benefitting in ways we don't observe

- Labor market skills
- Building on-campus network

Can FWS be used to improve college completion?

FWS funds may not be targeted towards students who need it most

- Ohio State Allocation in 2007 > \$4 million, approx 15% of students low-income*
- \$447 per pell elig student
- Youngstown State Allocation in 2007 ~ \$700,000, approx 40% of students low-income*
- \$146 per pell elig student

Research suggests that financial aid administrators are interested in effective strategies for distributing FWS (NASFAA, 2016)

- Better access to data essential to improving understanding about how participation affects student outcomes
- Better data collection and access --> data-driven decision making about how best to target FWS

Thank you!

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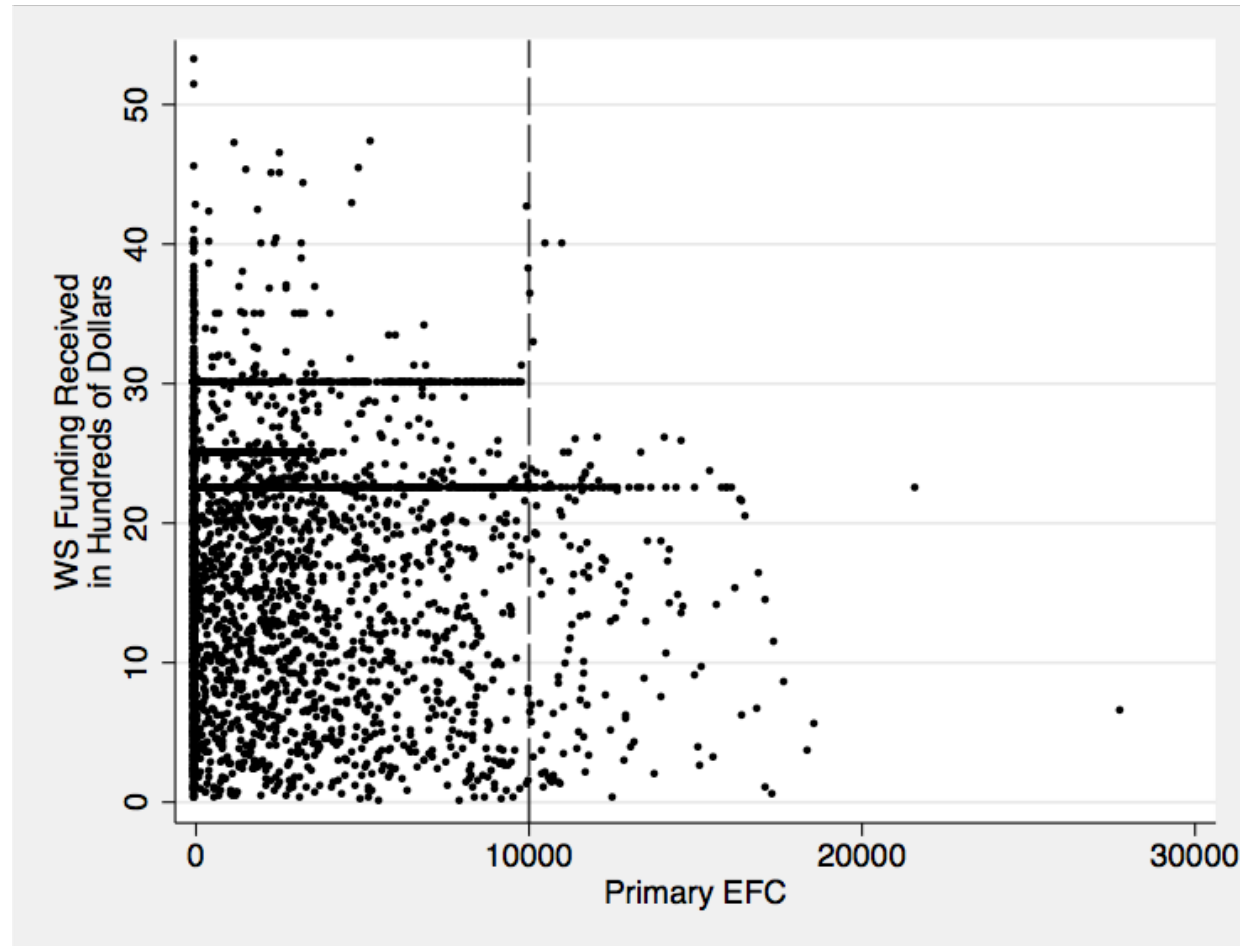
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Appendix

Variation in FWS funds received



Estimation strategy

Want to estimate the effect of participating in work study on student outcomes

- Participating in WS may be correlated with unobserved characteristics
- Use instrumental variables to overcome selection issue

Instrumental variables model:

- Need a source of variation correlated with WS received, but uncorrelated with student outcomes
 - following Scott-Clayton (2011) we use the interaction of institutional FWS allocation and student EFC (our “instrument”)
- First regress amount FWS received on interaction of institutional FWS allocation and student EFC (“first stage”)
- Second regress students’ academic outcomes on amount FWS received predicted in the first stage (“second stage”)

FWS Allocation Across Years

