

## Appendix A. Supplementary Tables

**Appendix Table A1. Employment and Earnings Effects of For-Profit Degree Students**

<i>A. Associate's Degree</i>	(1)	(2)	(3)
	Employment	Annual Earnings (\$)	Ln Annual Earnings
Post-Education	-0.008** [0.002]	-697** [133]	-0.015 [0.008]
Mean	0.85	14,317	
Observations	5,159,673	5,159,673	4,392,945
Individuals	438,965	438,965	435,952
 <i>B. Bachelor's Degree</i>			
	Employment	Annual Earnings (\$)	Ln Annual Earnings
Post-Education	-0.012** [0.002]	-593** [173]	-0.039** [0.008]
Mean	0.89	23,177	
Observations	3,286,449	3,286,449	2,924,476
Individuals	279,795	279,795	278,260
 <i>C. Master's Degree</i>			
	Employment	Annual Earnings (\$)	Ln Annual Earnings
Post-Education	-0.006 [0.003]	946** [267]	0.003 [0.013]
Mean	0.93	35,876	
Observations	1,463,357	1,463,357	1,369,711
Individuals	115,548	115,548	115,278

Notes: Standard errors clustered at the state-year level in brackets. \*\* p<0.01, \* p<0.05. All regressions are single difference estimates including age, year, and individual fixed effects for each subsample by degree. All years enrolled in a Gainful Employment program are dropped. Annual Earnings in column (2) include individuals who are not employed and have zero earnings, while Ln(Annual Earnings) in column (3) drop individuals with zero earnings. Mean is the pre-enrollment mean.

**Appendix Table A2. Certificate Students with and without Title IV Aid, National Postsecondary Student Aid Survey (NPSAS) 2008**

	Title IV Students		Non-Title IV Students	
	Public	For-Profit	Public	For-Profit
<i>A. Demographics</i>				
Age as of 12/31/07	28.1	26.4	32.6	26.6
Independent (%)	73.2	69.5	74.0	60.0
Female (%)	71.2	73.0	44.5	77.2
English Primary Language (%)	87.3	81.3	87.7	82.6
Married (%)	27.9	24.1	35.8	24.2
Military or Vet (%)	3.4	3.2	3.5	2.6
Parent has BA+ (%)	15.5	17.4	31.1	24.0
Non-White Race/Eth (%)	55.3	58.5	37.8	48.1
Lives off-campus (%)	97.0	99.8	98.9	99.2
Single Parent (%)	37.3	32.6	20.2	22.1
<i>B. Income and Work</i>				
Balance Due on all Credit Cards (\$)	1,569	2,064	1,862	2,536
Parents' Income if Dependent	45,638	43,296	78,554	82,808
Hours worked per week while enrolled	23.8	19.9	27.4	17.5
Earnings from work while enrolled (\$)	8,604	7,700	15,834	7,500
<i>C. Financial Aid</i>				
Applied for Federal Aid (%)	100	100	14	32
Total amount of aid from any source (\$)	4,166	9,390	588	2,641
Total all loans (with 0s, no PLUS) (\$)	1,646	6,344	125	1,949
Total all grants (with 0s) (\$)	2,101	2,281	370	488
<b>Weighted NPSAS Sample Size (in 1,000s)</b>	<b>112.7</b>	<b>623.5</b>	<b>528</b>	<b>108.9</b>

Note: Authors' tabulations of 2008 NPSAS data in Powerstats (<https://nces.ed.gov/datalab/>).

**Appendix Table A3. The Effect of Sample Restrictions on Sample Size and Count of Certificate Students**

	Full Sample		For-Profit		Public	
	Observations	Persons	Observations	Persons	Observations	Persons
<b>Exit Gainful Employment Program 2006-2008</b>	<b>13,030,089</b>	<b>925,780</b>	<b>8,714,432</b>	<b>610,870</b>	<b>4,315,657</b>	<b>317,502</b>
Drop Persons who exit from both For-Profit and Publics	12,992,791	923,188	8,683,451	608,278	4,309,340	314,910
Drop Persons who die 2014 or earlier	12,858,933	913,697	8,599,564	602,452	4,259,369	311,245
Drop Persons who Enter School Ages < 18 or > than 50	12,392,817	880,851	8,358,150	585,727	4,034,667	295,124
Drop Observations Ages < 18 and > 55	10,221,272	879,806	6,794,166	585,257	3,427,106	294,549
Drop Persons who Enroll more than 5 years	10,101,600	863,883	6,790,303	584,756	3,311,297	279,127
Drop Observations from non-US States, or with State missing	9,895,377	844,715	6,595,978	566,671	3,299,399	278,044
<b>Unmatched Sample</b>	<b>9,895,377</b>	<b>844,715</b>	<b>6,595,978</b>	<b>566,671</b>	<b>3,299,399</b>	<b>278,044</b>
Present in Pre-Enrollment Years Only	702	585	169	144	533	441
Present in Post-Enrollment Years Only	435,007	64,012	288,637	42,931	146,370	21,081
Present in Pre- and Post-Enrollment Years	9,459,668	780,118	6,307,172	523,596	3,152,496	256,522
<b>Matched Public Sample</b>						
Present in Pre-Enrollment Years Only	0	0	0	0	0	0
Present in Post-Enrollment Years Only	0	0	0	0	0	0
Present in Pre- and Post-Enrollment Years	6,276,129	548,168	3,158,623	274,084	3,117,506	274,084

Notes: Observations are at the person-year level spanning the years 1999-2014 and exclude years of enrollment in the Gainful Employment program. For observations with missing information on state, we attempt to impute state based on leading/lagging observations for the same person using up to +/-7 years prior to sample restriction.

**Appendix Table A4. Robustness Tests of Matching Strategy for Matched Public Sample**

	<u>Employment</u> (1)	<u>Annual Earnings (\$)</u> (2)	<u>Ln Annual Earnings</u> (3)
<i>Panel A: Matched within Gender, Age, CIP4, ZIP3</i>			
Post-Education	-0.002 [0.018]	1,069* [445]	0.168* [0.068]
Post-Educ*For-Profit	-0.015* [0.006]	-2,144** [183]	-0.113** [0.011]
Observations	6,276,129	6,276,129	5,020,672
<i>Panel B: Matched within Gender, Age, ZIP3</i>			
Post-Education	0.019** [0.007]	2,890** [309]	0.176** [0.023]
Post-Educ*For-Profit	-0.024** [0.004]	-4,800** [131]	-0.218** [0.007]
Observations	12,201,489	12,201,489	9,936,560
<i>Panel C: Matched within Gender, ZIP3, CIP4</i>			
Post-Education	-0.006 [0.022]	859 [561]	0.173* [0.079]
Post-Educ*For-Profit	-0.009 [0.006]	-2,076** [181]	-0.105** [0.011]
Observations	8,156,508	8,156,508	6,578,427
<i>Panel D: Matched within Gender, Age, CIP4</i>			
Post-Education	0.005 [0.006]	267 [248]	0.034* [0.017]
Post-Educ*For-Profit	0.012** [0.004]	-822** [128]	-0.047** [0.008]
Observations	12,356,584	12,356,584	10,084,943

Notes: Standard errors clustered at the state-year level in brackets. \*\* p<0.01, \* p<0.05. All regressions include age, year, and individual fixed effects, as described in equation (1). All years enrolled in a Gainful Employment program are dropped. Annual Earnings in column (2) include individuals who are not employed and have zero earnings, while Ln(Annual Earnings) in column (3) drop individuals with zero earnings.

**Appendix Table A5. Tests of Differential Pre-Trends for For-Profit Students and Matched Public Sample**

<i>A. Prior Years</i>	Employment (1)	Annual Earnings (\$) (2)	Ln Earnings (3)
Year t-2 * ForProfit	0.008 [0.008]	34 [187]	-0.028 [0.032]
Year t-3 * ForProfit	0.006 [0.009]	-196 [194]	-0.043 [0.032]
Year t-4 * ForProfit	0.006 [0.009]	-224 [224]	-0.070* [0.034]
Year t-5 * ForProfit	-0.001 [0.010]	-461* [233]	-0.091* [0.036]
Year t-6 * ForProfit	0.005 [0.012]	-451 [241]	-0.049 [0.035]
Year t-7 * ForProfit	-0.017 [0.011]	-812** [264]	-0.100* [0.042]
Observations	2,573,695	2,573,695	1,966,957
DF Ind. FE	315,854	315,854	282,943

<i>B. Overall Trend</i>	Employment (1)	Annual Earnings (\$) (2)	Ln Earnings (3)
Trend * ForProfit	0.002 [0.002]	115** [35]	0.013* [0.005]
Observations	2,557,434	2,557,434	1,958,792
DF Ind. FE	314,931	314,931	282,036

Notes: Standard errors clustered at the state-year level in brackets. \*\* p<0.01, \* p<0.05. All regressions include age, year, and individual fixed effects, as described in equation (1). All years enrolled in a Gainful Employment program are dropped. Annual Earnings in column (2) include individuals who are not employed and have zero earnings, while Ln(Annual Earnings) in column (3) drop individuals with zero earnings.

**Appendix Table A6. Tests of Differential Pre-Trends for For-Profit Students and Matched "No College" Group**

<i>A. Prior Years</i>	Employment (1)	Annual Earnings (\$) (2)	Ln Earnings (3)
Year t-2 * ForProfit	0.072** [0.007]	628** [133]	-0.013 [0.014]
Year t-3 * ForProfit	0.109** [0.008]	699** [139]	-0.029 [0.015]
Year t-4 * ForProfit	0.121** [0.008]	532** [151]	-0.040* [0.019]
Year t-5 * ForProfit	0.128** [0.009]	420* [165]	-0.059** [0.020]
Year t-6 * ForProfit	0.132** [0.010]	182 [182]	-0.080** [0.021]
Year t-7 * ForProfit	0.156** [0.011]	386 [204]	-0.040 [0.027]
Observations	1,069,495	1,069,495	746,784
DF Ind. FE	135,685	135,685	125,958
<i>B. Overall Trend</i>	Employment (1)	Annual Earnings (\$) (2)	Ln Earnings (3)
Trend * ForProfit	-0.020** [0.002]	17 [29]	0.011** [0.004]
Observations	1,069,495	1,069,495	746,784
DF Ind. FE	135,685	135,685	125,958

Notes: Standard errors clustered at the state-year level in brackets. \*\* p<0.01, \* p<0.05. All regressions include age, year, and individual fixed effects, as described in equation (1). All years enrolled in a Gainful Employment program are dropped. Annual Earnings in column (2) include individuals who are not employed and have zero earnings, while Ln(Annual Earnings) in column (3) drop individuals with zero earnings.

**Appendix Table A7. Employment and Earnings Outcomes of For-Profit Certificate Students Relative to Matched Public Students, by Completion Status**

	(1) Employment	(2) Annual Earnings (\$)	(3) Ln Earnings
Post	0.001 [0.016]	747 [437]	0.170* [0.069]
For-Profit*Post	-0.050** [0.007]	-3,432** [267]	-0.188** [0.018]
Post*Graduate	0.039** [0.008]	3,538** [202]	0.109** [0.022]
Post*Graduate*For-Profit	0.051** [0.008]	1,002** [225]	0.082** [0.024]
Observations	6,300,773	6,300,773	5,024,193
Individuals	315,855	315,855	312,753

Notes: Standard errors clustered at the state-year level in brackets. \*\* p<0.01, \* p<0.05. All regressions include age, year, and individual fixed effects, as described in equation (1). Matched sample includes public and for-profit students matched on propensity scores within sex-age-3-digit zipcode-4-digit CIP code bins. All years enrolled in a Gainful Employment program are dropped. Annual Earnings in column (2) include individuals who are not employed and have zero earnings, while Ln(Annual Earnings) in column (3) drop individuals with zero earnings.

**Appendix Table A8. Self-Employment Outcomes of For-Profit Certificate Students Relative to Public Sector Students**

	<u>Any Self-Employment</u> (1)	<u>Self-Employment Earnings (\$)</u> (2)
Post-Education	-0.013 [0.020]	-59 [119]
Post-Educ*For-Profit	0.004 [0.003]	10 [26]
Mean	0.03	213
Observations	6,276,129	6,276,129

Notes: Standard errors clustered at the state-year level in brackets. \*\* p<0.01, \* p<0.05. All regressions include age, year, and individual fixed effects, as described in equation (1). All years enrolled in a Gainful Employment program are dropped. "Any self-employment" is defined as any non-zero earnings reported on IRS Schedule SE. Earnings are gains reported on Schedule SE. Mean is the pre-enrollment mean of public sector students. Mean is the pre-enrollment mean of public sector students.