Should Student Employment Be Subsidized?
Conditional Counterfactuals and the Outcomes of Work-Study Participation

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APPENDIX TABLES

APPENDIX A
Additional Full Sample Results

Table A1.1: Summary Statistics by FWS status before and after propensity score matching-Model 1

Variable	Matched	FWS Recipients	FWS non-recipients	Standardized mean difference by FWS status	Unmatched t-Test	Matched t-Test
Female	Unmatched	0.61479	0.55506	12.1	***	
	Matched	0.61423	0.61431	0.0		
Age	Unmatched	18.303	18.363	-9.9	***	
	Matched	18.303	18.308	-0.9		
Age Squared	Unmatched	335.3	337.63	-10	***	
	Matched	335.32	335.51	-0.8		
Black, non-Hispanic	Unmatched	0.11068	0.08198	9.7	***	
	Matched	0.11084	0.11714	-2.1		
Hispanic	Unmatched	0.09377	0.09452	-0.3		
	Matched	0.0939	0.09453	-0.2		
Other Race	Unmatched	0.09425	0.08662	2.7		
	Matched	0.09439	0.09587	-0.5		
Distance from first institution	Unmatched	332.35	296.66	4.9	**	
	Matched	332.57	332.61	0.0		
Mother is a HS grad only	Unmatched	0.33204	0.28227	10.8	***	
	Matched	0.33156	0.33764	-1.3		
Mother has some college	Unmatched	0.21798	0.20277	3.7		
	Matched	0.2183	0.21744	0.2		
Mother is has a BA	Unmatched	0.36878	0.4239	-11.3	***	
	Matched	0.36931	0.36406	1.1		
Father is a HS grad only	Unmatched	0.31706	0.24899	15.2	***	
	Matched	0.31704	0.31835	-0.3		
Father has some college	Unmatched	0.17545	0.16672	2.3		
	Matched	0.1757	0.17667	-0.3		
Father has a BA	Unmatched	0.39053	0.47398	-16.9	***	
	Matched	0.39013	0.38616	0.8		
pmomed_m	Unmatched	0.02852	0.04632	-9.4	***	
	Matched	0.02856	0.0279	0.3		
pdaded_m	Unmatched	0.03673	0.05037	-6.7	***	
	Matched	0.03679	0.03671	0.0		
HS GPA (2.5-2.9)	Unmatched	0.0812	0.0962	-5.3	**	
	Matched	0.08132	0.07798	1.2		
HS GPA (3.0-3.4)	Unmatched	0.31078	0.3122	-0.3		
	Matched	0.31123	0.30783	0.7		
HS GPA (3.5-4.0)	Unmatched	0.51764	0.45126	13.3	***	
	Matched	0.51694	0.52535	-1.7		
hsgpacat_m	Unmatched	0.04543	0.07723	-13.3	***	
	Matched	0.0455	0.04432	0.5		

Variable	Matched	FWS Recipients	FWS non-recipients	Standardized mean difference by FWS status	Unmatched t-Test	Matched t-Test
SAT score	Unmatched	1055.1	1037.5	8.8	***	
	Matched	1055.2	1053.1	1.1		
Enrollment delay	Unmatched	0.02707	0.04928	-11.6	***	
	Matched	0.02711	0.02684	0.1		
enrdelay_m	Unmatched	0.00048	0.00069	-0.9		
	Matched	0.00048	0.00044	0.2		
EFC	Unmatched	5889.1	14540	-66.7	***	
	Matched	5896	5920.3	-0.2		
EFC Squared	Unmatched	78000000	510000000	-46.9	***	
	Matched	78000000	79000000	-0.1		
Financial Need after All Grants	Unmatched	9842.8	5399.5	71.4	***	
	Matched	9845.2	9563	4.5		
Institutional Grants	Unmatched	6620.5	2354.7	81.3	***	
	Matched	6597.8	6721.9	-2.4		
Int. EFC & Tuition	Unmatched	110000000	170000000	-23.4	***	
	Matched	110000000	110000000	-0.3		
Received any Pell Grant	Unmatched	0.43403	0.21699	47.6	***	
	Matched	0.4332	0.43097	0.5		
First Institution: Selective	Unmatched	0.40696	0.38528	4.4	*	
	Matched	0.40755	0.40912	-0.3		
First Institution: Very selective	Unmatched	0.35089	0.29857	11.2	***	
	Matched	0.34995	0.35108	-0.2		
First Institution: Public Institution	Unmatched	0.26148	0.61847	-77.1	***	
	Matched	0.26186	0.26782	-1.3		
First Institution: Tuition and fees	Unmatched	15688	9685.2	73.0	***	
	Matched	15675	15478	2.4		
Tuition Squared	Unmatched	300000000	150000000	58.1	***	
	Matched	300000000	290000000	2.6		
First institution, total enrollment	Unmatched	9073	14566	-48.9	***	
	Matched	9081.7	9240.4	-1.4		
Total Enrollment Squared	Unmatched	180000000	360000000	-38.8	***	
	Matched	180000000	190000000	-0.6		
Inst in large city	Unmatched	0.22571	0.21333	3.0		
	Matched	0.22604	0.23604	-2.4		
Inst in mid-sized city	Unmatched	0.28661	0.34341	-12.2	***	
	Matched	0.28606	0.27563	2.2		
Inst in urban fringe of large city	Unmatched	0.16481	0.11654	13.9	***	
	Matched	0.16457	0.16258	0.6		
insturb_m	Unmatched	0.02127	0.03802	-9.9	***	
	Matched	0.0213	0.02106	0.1		

Table A1.2: Summary Statistics by FWS status before and after propensity score matching-Model 2

Variable	Matched	FWS Recipients	FWS non-recipients	Standardized mean difference by FWS status	Unmatched t-Test	Matched t-Test
Female	Unmatched	0.61479	0.56977	9.2	***	
	Matched	0.61367	0.61612	-0.5		
Age	Unmatched	18.303	18.402	-15.6	***	
	Matched	18.303	18.304	-0.1		
Age Squared	Unmatched	335.3	339.13	-15.7	***	
	Matched	335.33	335.36	-0.1		
Black, non-Hispanic	Unmatched	0.11068	0.0733	13.0	***	
	Matched	0.11003	0.12386	-4.8		
Hispanic	Unmatched	0.09377	0.09754	-1.3		
	Matched	0.09355	0.09448	-0.3		
Other Race	Unmatched	0.09425	0.07482	7.0	***	
	Matched	0.09452	0.09449	0.0		
Distance from first institution	Unmatched	332.35	249	11.5	***	
	Matched	331.92	345.21	-1.8		
Mother is a HS grad only	Unmatched	0.33204	0.31914	2.8		
	Matched	0.33204	0.33244	-0.1		
Mother has some college	Unmatched	0.21798	0.20786	2.5		
	Matched	0.21813	0.22315	-1.2		
Mother is has a BA	Unmatched	0.36878	0.37813	-1.9		
	Matched	0.36888	0.3561	2.6		
Father is a HS grad only	Unmatched	0.31706	0.2825	7.5	***	
	Matched	0.31701	0.30894	1.8		
Father has some college	Unmatched	0.17545	0.17561	-0.0		
	Matched	0.17547	0.1774	-0.5		
Father has a BA	Unmatched	0.39053	0.42546	-7.1	***	
	Matched	0.39069	0.38903	0.3		
pmomed_m	Unmatched	0.02852	0.046	-9.2	***	
	Matched	0.0286	0.03004	-0.8		
pdaded_m	Unmatched	0.03673	0.0502	-6.6	**	
	Matched	0.03684	0.03827	-0.7		
HS GPA (2.5-2.9)	Unmatched	0.0812	0.10765	-9.1	***	
	Matched	0.08143	0.07893	0.9		
HS GPA (3.0-3.4)	Unmatched	0.31078	0.31895	-1.8		
	Matched	0.3112	0.30367	1.6		
HS GPA (3.5-4.0)	Unmatched	0.51764	0.42279	19.1	***	
	Matched	0.51672	0.52589	-1.8		
hsgpacat_m	Unmatched	0.04543	0.08017	-14.4	***	
	Matched	0.04556	0.046	-0.2		

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Variable	Matched	FWS Recipients	FWS non-recipients	Standardized mean difference by FWS status	Unmatched t-Test	Matched t-Test
SAT score	Unmatched	1055.1	1015.9	20.1	***	
	Matched	1054.9	1056.9	-1		
Enrollment delay	Unmatched	0.02707	0.06318	-17.5	***	
	Matched	0.02714	0.02849	-0.6		
enrdelay_m	Unmatched	0.00048	0.00076	-1.1		
	Matched	0.00048	0.00051	-0.1		
EFC	Unmatched	5889.1	12722	-58.1	***	
	Matched	5898.1	5984.6	-0.7		
EFC Squared	Unmatched	78000000	400000000	-40.4	***	
	Matched	78000000	81000000	-0.4		
Financial Need after All Grants	Unmatched	9842.8	5277.2	76.5	***	
	Matched	9844.1	9617.6	3.8		
Institutional Grants	Unmatched	6620.5	2208.1	85.5	***	
	Matched	6576.5	6589.1	-0.2		
Int. EFC & Tuition	Unmatched	110000000	130000000	-9.2	***	
	Matched	110000000	110000000	-1.5		
Received any Pell Grant	Unmatched	0.43403	0.23077	44.2	***	
	Matched	0.43335	0.42495	1.8		
First Institution: Selective	Unmatched	0.40696	0.40008	1.4		
	Matched	0.40814	0.40786	0.1		
First Institution: Very selective	Unmatched	0.35089	0.22829	27.3	***	
	Matched	0.34901	0.35807	-2		
First Institution: Public Institution	Unmatched	0.26148	0.63161	-80.2	***	
	Matched	0.26224	0.26588	-0.8		
First Institution: Tuition and fees	Unmatched	15688	8828.8	86.8	***	
	Matched	15661	15449	2.7		
Tuition Squared	Unmatched	300000000	130000000	72.1	***	
	Matched	300000000	290000000	3.4		
First institution, total enrollment	Unmatched	9073	14107	-45	***	
	Matched	9082.1	9176.6	-0.8		
Total Enrollment Squared	Unmatched	180000000	350000000	-35.6	***	
	Matched	180000000	190000000	-0.3		
Inst in large city	Unmatched	0.22571	0.2134	3		
	Matched	0.22637	0.24022	-3.3		
Inst in mid-sized city	Unmatched	0.28661	0.33804	-11.1	***	
	Matched	0.28599	0.27387	2.6		
Inst in urban fringe of large city	Unmatched	0.16481	0.13094	9.6	***	
	Matched	0.16529	0.16019	1.4		
insturb_m	Unmatched	0.02127	0.03531	-8.5	***	
	Matched	0.02133	0.02152	-0.1		

Table A1.3: Summary Statistics by FWS status before and after propensity score -Model 3

Variable	Matched	FWS Recipients	FWS non-recipients	Standardized mean difference by FWS status	Unmatched t-Test	Matched t-Test
Female	Unmatched	0.61479	0.53930	15.3	***	
	Matched	0.61442	0.60695	1.5		
Age	Unmatched	18.303	18.321	-3.2		
	Matched	18.303	18.309	-1.0		
Age Squared	Unmatched	335.3	336.01	-3.3		
	Matched	335.31	335.52	-1.0		
Black, non-Hispanic	Unmatched	0.11068	0.09128	6.4	**	
	Matched	0.11079	0.11881	-2.7		
Hispanic	Unmatched	0.09377	0.09128	0.9		
	Matched	0.09386	0.09336	0.2		
Other Race	Unmatched	0.09425	0.09926	-1.7		
	Matched	0.09434	0.09538	-0.4		
Distance from first institution	Unmatched	332.35	347.76	-2.1		
	Matched	332.66	314.21	2.6		
Mother is a HS grad only	Unmatched	0.33204	0.24273	19.8	***	
	Matched	0.33237	0.34395	-2.6		
Mother has some college	Unmatched	0.21798	0.1973	5.1	**	
	Matched	0.21771	0.2177	0.0		
Mother is has a BA	Unmatched	0.36878	0.47298	-21.2	***	
	Matched	0.36913	0.36085	1.7		
Father is a HS grad only	Unmatched	0.31706	0.21306	23.7	***	
	Matched	0.3164	0.32154	-1.2		
Father has some college	Unmatched	0.17545	0.15718	4.9	*	
	Matched	0.17562	0.18277	-1.9		
Father has a BA	Unmatched	0.39053	0.52599	-27.4	***	
	Matched	0.3909	0.37723	2.8		
pmomed_m	Unmatched	0.02852	0.04666	-9.6	***	
	Matched	0.02854	0.02563	1.5		
pdaded_m	Unmatched	0.03673	0.05055	-6.8	**	
	Matched	0.03677	0.03624	0.3		
HS GPA (2.5-2.9)	Unmatched	0.0812	0.08391	-1.0		
	Matched	0.08128	0.07214	3.3		
HS GPA (3.0-3.4)	Unmatched	0.31078	0.30495	1.3		
	Matched	0.31108	0.30394	1.5		
HS GPA (3.5-4.0)	Unmatched	0.51764	0.48178	7.2	***	
	Matched	0.51717	0.53816	-4.2		
hsgpacat_m	Unmatched	0.04543	0.07409	-12.1	***	
	Matched	0.04548	0.03996	2.3		

Variable	Matched	FWS Recipients	FWS non-recipients	Standardized mean difference by FWS status	Unmatched t-Test	Matched t-Test
SAT score	Unmatched	1055.1	1060.5	-2.7		
	Matched	1055.1	1055.7	-0.3		
Enrollment delay	Unmatched	0.02707	0.03438	-4.2		
	Matched	0.02709	0.02658	0.3		
enrdelay_m	Unmatched	0.00048	0.00061	-0.6		
	Matched	0.00048	0.00058	-0.4		
EFC	Unmatched	5889.1	16488	-75.6	***	
	Matched	5893.7	5903.1	-0.1		
EFC Squared	Unmatched	78000000	620000000	-53.3	***	
	Matched	78000000	79000000	-0.1		
Financial Need after All Grants	Unmatched	9842.8	5530.7	66.5	***	*
	Matched	9846	9445.3	6.2		
Institutional Grants	Unmatched	6620.5	2511.9	77.0	***	
	Matched	6603.9	6867.6	-4.9		
Int. EFC & Tuition	Unmatched	110000000	220000000	-35.6	***	
	Matched	110000000	110000000	-0.1		
Received any Pell Grant	Unmatched	0.43403	0.20221	51.4	***	
	Matched	0.43348	0.43006	0.8		
First Institution: Selective	Unmatched	0.40696	0.36942	7.7	***	
	Matched	0.40735	0.40754	0.0		
First Institution: Very selective	Unmatched	0.35089	0.37393	-4.8	*	
	Matched	0.35027	0.35247	-0.5		
First Institution: Public Institution	Unmatched	0.26148	0.60438	-73.8	***	
	Matched	0.26173	0.26531	-0.8		
First Institution: Tuition and fees	Unmatched	15688	10603	59.8	***	
	Matched	15678	15467	2.5		
Tuition Squared	Unmatched	300000000	180000000	45.2	***	
	Matched	300000000	290000000	2.1		
First institution, total enrollment	Unmatched	9073.0	15059.0	-53.1	***	
	Matched	9077.6	9245.3	-1.5		
Total Enrollment Squared	Unmatched	180000000	380000000	-42.2	***	
	Matched	180000000	190000000	-0.5		
Inst in large city	Unmatched	0.22571	0.21326	3.0		
	Matched	0.22593	0.24084	-3.6		
Inst in mid-sized city	Unmatched	0.28661	0.34916	-13.5	***	
	Matched	0.28592	0.26808	3.8		
Inst in urban fringe of large city	Unmatched	0.16481	0.10111	18.8	***	
	Matched	0.16497	0.17406	-2.7		
insturb_m	Unmatched	0.02127	0.04093	-11.3	***	
	Matched	0.02129	0.02017	0.6		

Table A2.1: Federal Work Study (FWS) Impact on Student Outcomes for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions using Caliper 0.2 (BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.464	(.016)	***						
Total hours worked per week in year 1	6.260	(.434)	***	-1.496	(.479)	***	15.041	(.24)	***
GPA in year 1	0.003	(.03)		-0.030	(.033)		-0.071	(.036)	**
Still enrolled or attained during year 2	0.016	(.009)	*	0.010	(.01)		0.001	(.009)	
Number of months enrolled through year 6	0.998	(.415)	**	1.015	(.491)	**	0.427	(.497)	
Earned a BA within 4 years	0.019	(.019)		0.017	(.022)		-0.023	(.023)	
Earned a BA within 6 years	0.043	(.017)	**	0.041	(.02)	**	0.028	(.021)	
Enrolled or employed in year 6	0.028	(.01)	***	0.022	(.012)	*	0.032	(.013)	**
Enrolled (graduate or undergraduate) in year 6	0.009	(.017)		0.000	(.02)		-0.021	(.022)	
Employed in year 6, of those not enrolled	0.037	(.015)	**	0.027	(.017)		0.055	(.019)	***
Employed in year 6	0.019	(.019)		0.022	(.021)		0.053	(.023)	**
Log of total earnings from current job in year 6	-0.021	(.026)		-0.060	(.03)	**	-0.032	(.033)	
Enrollment in graduate school in year 6	0.022	(.015)		-0.002	(.017)		0.000	(.019)	
Any undergraduate student loan, cumulative through year 6	0.169	(.016)	***	0.149	(.018)	***	0.175	(.02)	***
Undergraduate student loan amount, cumulative through year 6	$5,738	(785)	***	$6,282	(843)	***	$6,755	(958)	***
Any student loan in year 1	0.206	(.017)	***	0.184	(.02)	***	0.236	(.022)	***
First year student loan amount	$1,240	(173)	***	$1,173	(191)	***	$1,405	(208)	***
First year FWS amount	$1,521	(18)	***	$1,521	(18)	***	$1,521	(18)	***
First year Pell grant amount	-$12	(54)		$36	(62)		-$43	(66)	
First year total aid amount	$2,918	(327)	***	$2,626	(363)	***	$2,743	(391)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with caliper of 0.2, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 3,490, for Model 2 is 3,150, and for Model 3 is 3,080. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A2.2: Federal Work Study (FWS) Impact on Student Outcomes for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions using Nearest Neighbor with Replacement
(BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.464	(.157)	***						
Total hours worked per week in year 1	6.260	(.434)	***	-1.496	(.479)	***	15.041	(.24)	***
GPA in year 1	0.003	(.03)		-0.030	(.033)		-0.071	(.036)	**
Still enrolled or attained during year 2	0.016	(.009)	*	0.010	(.01)		0.001	(.009)	
Number of months enrolled through year 6	0.998	(.415)	**	1.015	(.491)	**	0.427	(.497)	
Earned a BA within 4 years	0.019	(.019)		0.017	(.022)		-0.023	(.023)	
Earned a BA within 6 years	0.043	(.017)	**	0.041	(.02)	**	0.028	(.021)	
Enrolled or employed in year 6	0.028	(.01)	***	0.022	(.012)	*	0.032	(.013)	**
Enrolled (graduate or undergraduate) in year 6	0.009	(.017)		0.000	(.02)		-0.021	(.022)	
Employed in year 6, of those not enrolled	0.037	(.015)	**	0.027	(.017)		0.055	(.019)	***
Employed in year 6	0.019	(.019)		0.022	(.021)		0.053	(.023)	**
Log of total earnings from current job in year 6	-0.021	(.026)		-0.060	(.03)	**	-0.032	(.033)	
Enrollment in graduate school in year 6	0.022	(.015)		-0.002	(.017)		0.000	(.019)	
Any undergraduate student loan, cumulative through year 6	0.169	(.016)	***	0.149	(.018)	***	0.175	(.02)	***
Undergraduate student loan amount, cumulative through year 6	$5,738	(785)	***	$6,282	(843)	***	$6,755	(958)	***
Any student loan in year 1	0.206	(.017)	***	0.184	(.02)	***	0.236	(.022)	***
First year student loan amount	$1,240	(173)	***	$1,173	(191)	***	$1,405	(208)	***
First year FWS amount	$1,521	(18)	***	$1,521	(18)	***	$1,521	(18)	***
First year Pell grant amount	-$12	(54)		$36	(62)		-$43	(66)	
First year total aid amount	$2,918	(327)	***	$2,626	(363)	***	$2,743	(391)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with nearest neighbor matching, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 3,490, for Model 2 is 3,150 and for Model 3 is 3,080. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A2.3: Federal Work Study (FWS) Impact on Student Outcomes for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions using 5-Nearest-Neighbors with Replacement
(BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.478	(.011)	***						
Total hours worked per week in year 1	6.340	(.357)	***	-1.606	(.393)	***	15.041	(.24)	***
GPA in year 1	-0.026	(.024)		-0.038	(.028)		-0.057	(.029)	**
Still enrolled or attained during year 2	0.011	(.007)		0.012	(.008)		0.002	(.008)	
Number of months enrolled through year 6	0.511	(.341)		0.912	(.415)	**	-0.046	(.411)	
Earned a BA within 4 years	0.015	(.015)		0.027	(.018)		0.004	(.019)	
Earned a BA within 6 years	0.036	(.014)	**	0.048	(.017)	***	0.019	(.017)	
Enrolled or employed in year 6	0.014	(.008)	*	0.015	(.009)		0.027	(.011)	**
Enrolled (graduate or undergraduate) in year 6	-0.009	(.014)		-0.006	(.016)		-0.004	(.017)	
Employed in year 6, of those not enrolled	0.025	(.012)	**	0.018	(.014)		0.044	(.016)	***
Employed in year 6	0.023	(.015)		0.021	(.017)		0.031	(.019)	*
Log of total earnings from current job in year 6	-0.021	(.022)		-0.035	(.026)		-0.022	(.027)	
Enrollment in graduate school in year 6	0.003	(.012)		0.006	(.014)		0.006	(.015)	
Any undergraduate student loan, cumulative through year 6	0.158	(.012)	***	0.148	(.015)	***	0.178	(.016)	***
Undergraduate student loan amount, cumulative through year 6	$5,855	(617)	***	$6,085	(688)	***	$6,414	(743)	***
Any student loan in year 1	0.198	(.013)	***	0.184	(.016)	***	0.243	(.017)	***
First year student loan amount	$1,215	(132)	***	$1,090	(154)	***	$1,492	(161)	***
First year FWS amount	$1,521	(18)	***	$1,521	(18)	***	$1,521	(18)	***
First year Pell grant amount	$7	(43)		$23	(49)		-$16	(52)	
First year total aid amount	$2,791	(252)	***	$2,677	(284)	***	$2,963	(302)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with nearest neighbor matching with 5 matches to a single unit, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 6,040, for Model 2 is 4,630 and for Model 3 is 4,550. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A3: Federal Work Study (FWS) Impact on Student Outcomes for the Overall Sample, including Independent, Part-Time Students, and Two-Year Enrollees (BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.446	(.074)	***						
Total hours worked per week in year 1	5.742	(.34)	***	-2.182	(.361)	***	16.345	(.242)	***
GPA in year 1	-0.027	(.02)		-0.018	(.024)		-0.051	(.024)	**
Still enrolled or attained during year 2	0.023	(.007)	***	0.024	(.009)	**	0.020	(.009)	**
Number of months enrolled through year 6	1.701	(.336)	***	1.896	(.415)	***	1.385	(.421)	***
Earned a BA within 4 years	0.026	(.011)	**	0.044	(.012)	***	0.008	(.014)	
Earned a BA within 6 years	0.056	(.012)	***	0.075	(.013)	***	0.033	(.015)	**
Enrolled or employed in year 6	0.020	(.007)	***	0.008	(.008)		0.037	(.01)	***
Enrolled (graduate or undergraduate) in year 6	0.000	(.011)		-0.008	(.013)		0.003	(.014)	
Employed in year 6, of those not enrolled	0.029	(.01)	***	0.010	(.012)		0.052	(.014)	***
Employed in year 6	0.019	(.012)		0.016	(.014)		0.034	(.015)	**
Log of total earnings from current job in year 6	-0.010	(.019)		-0.021	(.021)		-0.013	(.024)	
Enrollment in graduate school in year 6	0.009	(.009)		0.012	(.009)		0.002	(.011)	
Any undergraduate student loan, cumulative through year 6	0.157	(.01)	***	0.133	(.012)	***	0.189	(.013)	***
Undergraduate student loan amount, cumulative through year 6	$5,906	(456)	***	$5,383	(506)	***	$6,560	(538)	***
Any student loan in year 1	0.189	(.011)	***	0.157	(.013)	***	0.216	(.014)	***
First year student loan amount	$1,085	(96)	***	$838	(107)	***	$1,299	(114)	***
First year FWS amount	$1,514	(17)	***	$1,515	(17)	***	$1,515	(17)	***
First year Pell grant amount	$26	(35)		$36	(39)		$27	(42)	
First year total aid amount	$2,736	(188)	***	$2,623	(203)	***	$2,703	(219)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted only to students with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size for total hours worked per week in year 1 and for Model 1 is 24,960, for Model 2 is 15,940, and for Model 3 is 10,840. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A4: Federal Work Study (FWS) Impact on Student Outcomes for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions and Discarding Observations with Missing Data
(BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.477	(.012)	***						
Total hours worked per week in year 1	6.243	(.36)	***	-1.497	(.385)	***	15.101	(.311)	***
GPA in year 1	-0.029	(.019)		-0.026	(.021)		-0.049	(.023)	**
Still enrolled or attained during year 2	0.010	(.005)	**	0.012	(.006)	**	0.004	(.006)	
Number of months enrolled through year 6	0.571	(.321)	*	0.906	(.369)	**	0.081	(.355)	
Earned a BA within 4 years	0.008	(.012)		0.027	(.015)	*	-0.008	(.016)	
Earned a BA within 6 years	0.033	(.012)	***	0.053	(.014)	***	0.014	(.016)	
Enrolled or employed in year 6	0.015	(.008)	**	0.010	(.009)		0.022	(.01)	**
Enrolled (graduate or undergraduate) in year 6	-0.004	(.013)		-0.006	(.016)		-0.002	(.016)	
Employed in year 6, of those not enrolled	0.023	(.012)	*	0.013	(.014)		0.034	(.015)	**
Employed in year 6	0.019	(.014)		0.016	(.017)		0.025	(.017)	
Log of total earnings from current job in year 6	-0.026	(.02)		-0.034	(.025)		-0.017	(.022)	
Enrollment in graduate school in year 6	0.008	(.011)		0.010	(.014)		0.004	(.013)	
Any undergraduate student loan, cumulative through year 6	0.164	(.011)	***	0.141	(.013)	***	0.192	(.014)	***
Undergraduate student loan amount, cumulative through year 6	$6,247	(648)	***	$5,897	(722)	***	$6,791	(795)	***
Any student loan in year 1	0.208	(.013)	***	0.177	(.014)	***	0.239	(.016)	***
First year student loan amount	$1,237	(130)	***	$1,007	(152)	***	$1,442	(156)	***
First year FWS amount	$1,521	(30)	***	$1,520	(30)	***	$1,522	(31)	***
First year Pell grant amount	$19	(23)		$26	(26)		-$13	(28)	
First year total aid amount	$2,889	(159)	***	$2,629	(183)	***	$3,110	(187)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to find matched pairs or identify the treatment and control groups, and finally OLS is executed with covariates and clustered s.e. by institution to estimate the analytical model. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years.The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 11,420 for Model 2 is 6700 and for Model 3 is 6190. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A5: Federal Work Study (FWS) Impact on Student Outcomes for Model 1, Model 2 and 3, Clustering Standard Errors by Institution After Matching (BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.477	(.012)	***						
Total hours worked per week in year 1	6.243	(.36)	***	-1.497	(.385)	***	15.101	(.311)	***
GPA in year 1	-0.029	(.019)		-0.026	(.021)		-0.049	(.023)	**
Still enrolled or attained during year 2	0.010	(.005)	**	0.012	(.006)	**	0.004	(.006)	
Number of months enrolled through year 6	0.571	(.321)	*	0.906	(.369)	**	0.081	(.355)	
Earned a BA within 4 years	0.008	(.012)		0.027	(.015)	*	-0.008	(.016)	
Earned a BA within 6 years	0.033	(.012)	***	0.053	(.014)	***	0.014	(.016)	
Enrolled or employed in year 6	0.015	(.008)	**	0.010	(.009)		0.022	(.01)	**
Enrolled (graduate or undergraduate) in year 6	-0.004	(.013)		-0.006	(.016)		-0.002	(.016)	
Employed in year 6, of those not enrolled	0.023	(.012)	*	0.013	(.014)		0.034	(.015)	**
Employed in year 6	0.019	(.014)		0.016	(.017)		0.025	(.017)	
Log of total earnings from current job in year 6	-0.026	(.02)		-0.034	(.025)		-0.017	(.022)	
Enrollment in graduate school in year 6	0.008	(.011)		0.010	(.014)		0.004	(.013)	
Any undergraduate student loan, cumulative through year 6	0.164	(.011)	***	0.141	(.013)	***	0.192	(.014)	***
Undergraduate student loan amount, cumulative through year 6	$6,247	(648)	***	$5,897	(722)	***	$6,791	(795)	***
Any student loan in year 1	0.208	(.013)	***	0.177	(.014)	***	0.239	(.016)	***
First year student loan amount	$1,237	(130)	***	$1,007	(152)	***	$1,442	(156)	***
First year FWS amount	$1,521	(30)	***	$1,520	(30)	***	$1,522	(31)	***
First year Pell grant amount	$19	(23)		$26	(26)		-$13	(28)	
First year total aid amount	$2,889	(159)	***	$2,629	(183)	***	$3,110	(187)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to find matched pairs or identify the treatment and control groups, and finally OLS is executed with covariates and clustered s.e. by institution to estimate the analytical model. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years.The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 11,420 for Model 2 is 6700 and for Model 3 is 6190. This sample size is different for the variables conditioned on employment and cumulative debt.

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Table A6.1: Federal Work Study (FWS) Impact on Student Outcomes using Nearest Neighbor Matching and Adjusting S.E. for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions
(BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.464	(.016)	***						
Total hours worked per week in year 1	6.260	(.407)	***	-10.487	(.459)	***	15.037	(.236)	***
GPA in year 1	0.003	(.026)		-0.008	(.029)		-0.025	(.03)	
Still enrolled or attained during year 2	0.005	(.007)		0.005	(.007)		-0.001	(.007)	
Number of months enrolled through year 6	0.210	(.362)		1.204	(.4)	***	-0.175	(.387)	
Earned a BA within 4 years	0.019	(.018)		0.017	(.019)		-0.023	(.022)	
Earned a BA within 6 years	0.043	(.016)	***	0.041	(.017)	**	0.028	(.019)	
Enrolled or employed in year 6	0.028	(.011)	**	0.022	(.012)	*	0.032	(.016)	**
Enrolled (graduate or undergraduate) in year 6	0.009	(.018)		0.000	(.02)		-0.021	(.02)	
Employed in year 6	0.019	(.019)		0.022	(.021)		0.053	(.023)	**
Enrollment in graduate school in year 6	0.022	(.016)		-0.001	(.018)		0.000	(.018)	
Any undergraduate student loan, cumulative through year 6	0.173	(.015)	***	0.131	(.016)	***	0.177	(.017)	***
Undergraduate student loan amount, cumulative through year 6	$6,183	(754)	***	$5,126	(848)	***	$5,876	(1157)	***
Any student loan in year 1	0.206	(.016)	***	0.183	(.018)	***	0.237	(.021)	***
First year student loan amount	$1,240	(157)	***	$1,170	(176)	***	$1,407	(182)	***
First year FWS amount	$1,521	(17)	***	$1,521	(17)	***	$1,521	(17)	***
First year Pell grant amount	-$11.9	(41)		$26	(45)		-$44	(57)	
First year total aid amount	$2,918	(226)	***	$2,613	(243)	***	$2,744	(258)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 1 and 2. Model 1 compares FWS recipients to working students (non-recipients) while Model 2 compares them to non-working students. Uses teffects psmatch in which logit command is used to estimate the propensity score and then nearest neighbor matching with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 1 and Model 2, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 12,194 for Model 2 is 7,160 and for Model 3 is 6,821. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A6.2: Federal Work Study (FWS) Impact on Student Outcomes using teffects nnmatch Five-Nearest-Neighbors for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions
(BPS 96 and BPS 04 Combined)

Variable	Model 1			FWS vs. Working Students			FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.466	(.01)	***						
Total hours worked per week in year 1	5.911	(.34)	***	-1.968	(.369)	***	15.041	(.24)	***
GPA in year 1	-0.027	(.021)		-0.026	(.024)		-0.023	(.026)	
Still enrolled or attained during year 2	0.016	(.006)	***	0.021	(.006)	***	0.006	(.007)	
Number of months enrolled through year 6	0.571	(.305)	*	1.226	(.343)	***	-0.162	(.353)	
Earned a BA within 4 years	0.021	(.014)		0.044	(.016)	***	0.008	(.017)	
Earned a BA within 6 years	0.047	(.013)	***	0.068	(.015)	***	0.030	(.016)	*
Enrolled or employed in year 6	0.009	(.008)		0.013	(.009)		0.009	(.009)	
Enrolled (graduate or undergraduate) in year 6	-0.004	(.014)		-0.011	(.016)		0.001	(.016)	
Employed in year 6, of those not enrolled	0.018	(.011)		0.017	(.014)		0.029	(.013)	**
Employed in year 6	0.013	(.015)		0.023	(.017)		0.008	(.017)	
Log of total earnings from current job in year 6	-0.027	(.021)		-0.027	(.023)		0.001	(.024)	
Enrollment in graduate school in year 6	0.015	(.012)		0.021	(.014)		0.010	(.014)	
Any undergraduate student loan, cumulative through year 6	0.183	(.011)	***	0.158	(.013)	***	0.212	(.015)	***
Undergraduate student loan amount, cumulative through year 6	$7,077	(622)	***	$6,673	(676)	***	$7,594	(790)	***
Any student loan in year 1	0.226	(.012)	***	0.197	(.014)	***	0.270	(.016)	***
First year student loan amount	$1,385	(141)	***	$1,189	(162)	***	$1,627	(161)	***
First year FWS amount	$1,521	(18)	***	$1,521	(18)	***	$1,521	(18)	***
First year Pell grant amount	$83	(28)	***	$95	(33)	***	$82	(37)	**
First year total aid amount	$3,542	(203)	***	$3,405	(253)	***	$3,710	(251)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses teffects nnmatch with 5 matches to execute the matching and estimate ATT. Also, uses Euclidean distance, rather the default Mahalanobis distance. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years.The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 12194 for Model 2 is 7308 and for Model 3 is 6955. This sample size is different for the variables conditioned on employment and cumulative debt.

Table A7: OLS Impact Estimates of Federal Work Study (FWS) on Student Outcomes for Model 1, Model 2 and 3 for Full-Time Dependent Students Entering 4-year Institutions (BPS 96 and BPS 04 Combined)

Variable	Model 1			Model 2: FWS vs. Working Students			Model 3: FWS vs Non-Working Students		
	B	S.E.		B	S.E.		B	S.E.	
Any employment during school year	0.478	(.01)	***						
Total hours worked per week in year 1	6.156	(.361)	***	-1.965	(.374)	***	15.406	(.34)	***
GPA in year 1	-0.030	(.019)		-0.026	(.022)		-0.030	(.022)	
Still enrolled or attained during year 2	0.013	(.006)	**	0.015	(.007)	**	0.010	(.006)	
Number of months enrolled through year 6	0.714	(.327)	**	1.083	(.381)	***	0.324	(.358)	
Earned a BA within 4 years	0.009	(.012)		0.029	(.013)	**	-0.014	(.014)	
Earned a BA within 6 years	0.041	(.011)	***	0.065	(.013)	***	0.017	(.013)	
Enrolled or employed in year 6	0.018	(.007)	**	0.010	(.008)		0.026	(.009)	***
Enrolled (graduate or undergraduate) in year 6	0.003	(.012)		0.002	(.014)		0.007	(.014)	
Employed in year 6, of those not enrolled	0.025	(.011)	**	0.013	(.011)		0.039	(.013)	***
Employed in year 6	0.015	(.013)		0.008	(.014)		0.020	(.015)	
Log of total earnings from current job in year 6	-0.026	(.019)		-0.033	(.022)		-0.013	(.022)	
Enrollment in graduate school in year 6	0.013	(.011)		0.023	(.012)	**	0.006	(.012)	
Any undergraduate student loan, cumulative through year 6	0.179	(.012)	***	0.146	(.012)	***	0.222	(.014)	***
Undergraduate student loan amount, cumulative through year 6	$6,951	(619)	***	$6,073	(664)	***	$7,766	(708)	***
Any student loan in year 1	0.220	(.013)	***	0.186	(.014)	***	0.261	(.016)	***
First year student loan amount	$1,316	(121)	***	$1,050	(132)	***	$1,504	(134)	***
First year FWS amount	$1,511	(31)	***	$1,500	(31)	***	$1,512	(31)	***
First year Pell grant amount	$12.7	(22)		$29	(24)		-$23	(24)	
First year total aid amount	$3,058	(157)	***	$2,725	(166)	***	$3,298	(176)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. Clustering s.e. at institution level. The same covariates used in Table 3 were used for these models. OLS estimates. Sample is restricted to full-time, dependent students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size for total hours worked per week in year 1 and for Model 0 is 12194. This sample size is different for the variables conditioned on employment and cumulative debt.

APPENDIX B
Subgroup Analyses

Table B1.1: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent and High Ability Students Entering 4-year Institutions (BPS 96 and BPS 04 Combined)

Variable	High SAT					
	Model 1		Model 2: FWS vs. Working Students		Model 3: FWS vs Non-Working	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.503	(.015) ***				
Total hours worked per week in year 1	6.396	(.438) ***	-0.938	(.526) *	13.914	(.299) ***
GPA in year 1	-0.015	(.027)	-0.024	(.034)	-0.025	(.034)
Still enrolled or attained during year 2	0.008	(.007)	0.007	(.01)	0.005	(.008)
Number of months enrolled through year 6	0.180	(.368)	0.105	(.494)	0.413	(.441)
Earned a BA within 4 years	0.005	(.02)	0.018	(.025)	-0.014	(.025)
Earned a BA within 6 years	0.013	(.016)	0.017	(.021)	0.013	(.019)
Enrolled or employed in year 6	0.017	(.011)	0.006	(.013)	0.028	(.014) **
Enrolled (graduate or undergraduate) in year 6	0.003	(.019)	-0.001	(.024)	0.004	(.024)
Employed in year 6, of those not enrolled	0.033	(.016) **	0.018	(.019)	0.045	(.021) **
Employed in year 6	0.014	(.02)	0.006	(.025)	0.023	(.025)
Log of total earnings from current job in year 6	-0.022	(.031)	-0.012	(.037)	-0.020	(.04)
Enrollment in graduate school in year 6	0.007	(.018)	0.007	(.021)	-0.008	(.022)
Any undergraduate student loan, cumulative through year 6	0.189	(.017) ***	0.181	(.022) ***	0.196	(.023) ***
Undergraduate student loan amount, cumulative through year 6	$7,778	(796) ***	$7,136	(939) ***	$8,186	(984) ***
Any student loan in year 1	0.243	(.018) ***	0.211	(.023) ***	0.280	(.023) ***
First year student loan amount	$1,455	(172) ***	$1,158	(215) ***	$1,807	(210) ***
First year FWS amount	$1,594	(23) ***	$1,595	(23) ***	$1,595	(23) ***
First year Pell grant amount	$33.3	(47)	$40	(57)	$18	(55)
First year total aid amount	$3,046	(344) ***	$3,060	(414) ***	$3,193	(421) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent high ability students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. High ability students were identified as those who scored at or above the median SAT students, 1030 points. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 6,140, for Model 2 is 3,010, and for Model 3 is 3,200. This sample size is different

Table B1.2: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent and Low Ability Students Entering 4-year Institutions (BPS 96 and BPS 04 Combined)

Variable	Model 1 B	Model 1 S.E.	Model 2: FWS vs. Working Students B	Model 2 S.E.	Model 3: FWS vs Non-Working Students B	Model 3 S.E.
Any employment during school year	0.429	(.014) ***				
Total hours worked per week in year 1	5.551	(.537) ***	-2.283	(.568) ***	16.370	(.399) ***
GPA in year 1	-0.033	(.034)	-0.012	(.04)	-0.035	(.044)
Still enrolled or attained during year 2	0.015	(.011)	0.019	(.014)	0.007	(.014)
Number of months enrolled through year 6	1.090	(.565) *	1.391	(.679) **	0.121	(.698)
Earned a BA within 4 years	0.022	(.02)	0.045	(.022) **	0.011	(.026)
Earned a BA within 6 years	0.068	(.021) ***	0.103	(.025) ***	0.041	(.027)
Enrolled or employed in year 6	0.023	(.011) **	0.014	(.013)	0.028	(.015) *
Enrolled (graduate or undergraduate) in year 6	-0.020	(.019)	-0.034	(.022)	-0.015	(.025)
Employed in year 6, of those not enrolled	0.026	(.016)	0.016	(.018)	0.030	(.023)
Employed in year 6	0.043	(.021) **	0.048	(.024) **	0.043	(.027)
Log of total earnings from current job in year 6	-0.028	(.03)	-0.038	(.035)	-0.016	(.041)
Enrollment in graduate school in year 6	0.014	(.014)	0.005	(.016)	0.019	(.019)
Any undergraduate student loan, cumulative through year 6	0.102	(.017) ***	0.065	(.021) ***	0.127	(.025) ***
Undergraduate student loan amount, cumulative through year 6	$4,371	(830) ***	$3,679	(929) ***	$4,784	(1035) ***
Any student loan in year 1	0.144	(.018) ***	0.108	(.022) ***	0.157	(.025) ***
First year student loan amount	$910	(174) ***	$705	(195) ***	$998	(217) ***
First year FWS amount	$1,457	(28) ***	$1,457	(28) ***	$1,459	(28) ***
First year Pell grant amount	-$7.4	(62)	-$8	(68)	-$75	(77)
First year total aid amount	$2,357	(296) ***	$2,187	(333) ***	$2,337	(371) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent low ability students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. Low ability students were identified as those who scored below the median SAT students, 1030 points. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 5,680, for Model 2 is 3,510, and for Model 3 is 2,920. This sample size is different for the variables conditioned on employment and cumulative debt.

Table B2.1: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent and High-Income Students Entering 4-year Institutions
(BPS 96 and BPS 04 Combined)

Variable	High Income					
	Model 1		Model 2: FWS vs. Working Students		Model 3: FWS vs Non-Working	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.502	(.013) ***				
Total hours worked per week in year 1	5.964	(.439) ***	-1.381	(.506) ***	13.434	(.31) ***
GPA in year 1	-0.055	(.03) *	-0.094	(.036) **	-0.062	(.035) *
Still enrolled or attained during year 2	0.006	(.007)	0.009	(.01)	-0.002	(.008)
Number of months enrolled through year 6	-0.087	(.405)	0.117	(.517)	-0.342	(.456)
Earned a BA within 4 years	0.003	(.02)	0.012	(.024)	-0.049	(.024) **
Earned a BA within 6 years	0.020	(.017)	0.030	(.021)	-0.012	(.02)
Enrolled or employed in year 6	0.015	(.01)	0.001	(.011)	0.025	(.013) **
Enrolled (graduate or undergraduate) in year 6	-0.019	(.019)	-0.027	(.022)	-0.014	(.022)
Employed in year 6, of those not enrolled	0.018	(.015)	0.004	(.017)	0.035	(.019) *
Employed in year 6	0.034	(.02) *	0.029	(.023)	0.040	(.024) *
Log of total earnings from current job in year 6	-0.033	(.03)	-0.046	(.034)	-0.048	(.037)
Enrollment in graduate school in year 6	-0.014	(.017)	-0.015	(.019)	-0.018	(.02)
Any undergraduate student loan, cumulative through year 6	0.198	(.016) ***	0.174	(.021) ***	0.253	(.021) ***
Undergraduate student loan amount, cumulative through year 6	$7,640	(834) ***	$7,501	(950) ***	$8,342	(964) ***
Any student loan in year 1	0.242	(.017) ***	0.235	(.021) ***	0.278	(.021) ***
First year student loan amount	$1,347	(180) ***	$1,321	(206) ***	$1,544	(209) ***
First year FWS amount	$1,508	(24) ***	$1,504	(24) ***	$1,503	(24) ***
First year Pell grant amount	-$12.9	(12)	-$16	(13)	-$45	(14) ***
First year total aid amount	$2,910	(329) ***	$2,862	(373) ***	$3,269	(382) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent high-income students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. High-income students were identified as those whose annual household income is greater than the median income of FWS recipients, USD 49,186. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 7,740, for Model 2 is 4,340, and for Model 3 is 4,390. This sample size is different for the variables conditioned on employment and cumulative debt.

Table B2.2: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent and Low-Income Students Entering 4-year Institutions
(BPS 96 and BPS 04 Combined)

Variable	Low Income					
	Model 1		Model 2: FWS vs. Working Students		Model 3: FWS vs Non-Working	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.447	(.015) ***				
Total hours worked per week in year 1	6.529	(.543) ***	-1.488	(.588) **	16.452	(.369) ***
GPA in year 1	0.007	(.035)	0.047	(.044)	-0.022	(.048)
Still enrolled or attained during year 2	0.013	(.011)	0.014	(.014)	0.008	(.014)
Number of months enrolled through year 6	0.873	(.551)	1.120	(.695)	0.424	(.714)
Earned a BA within 4 years	0.020	(.021)	0.031	(.024)	0.019	(.026)
Earned a BA within 6 years	0.048	(.021) **	0.061	(.026) **	0.041	(.027)
Enrolled or employed in year 6	0.023	(.012) *	0.010	(.014)	0.022	(.016)
Enrolled (graduate or undergraduate) in year 6	0.010	(.02)	-0.007	(.024)	0.009	(.027)
Employed in year 6, of those not enrolled	0.030	(.018) *	0.012	(.021)	0.033	(.024)
Employed in year 6	0.013	(.022)	0.017	(.026)	0.013	(.028)
Log of total earnings from current job in year 6	-0.019	(.033)	0.004	(.038)	0.003	(.043)
Enrollment in graduate school in year 6	0.036	(.016) **	0.029	(.018)	0.034	(.021)
Any undergraduate student loan, cumulative through year 6	0.100	(.017) ***	0.084	(.021) ***	0.107	(.024) ***
Undergraduate student loan amount, cumulative through year 6	$3,928	(780) ***	$3,324	(916) ***	$4,510	(1024) ***
Any student loan in year 1	0.148	(.019) ***	0.103	(.023) ***	0.185	(.026) ***
First year student loan amount	$1,004	(162) ***	$829	(200) ***	$1,267	(194) ***
First year FWS amount	$1,564	(27) ***	$1,565	(27) ***	$1,567	(27) ***
First year Pell grant amount	$90.4	(67)	$77	(79)	$48	(88)
First year total aid amount	$2,498	(327) ***	$2,233	(378) ***	$2,660	(408) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent low-income students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. Low-income students were identified as those whose annual household income is at or below the median income of FWS recipients, USD 49,186. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 4,060, for Model 2 is 2,640, and for Model 3 is 2,350. This sample size is different for the variables conditioned on employment and cumulative debt.

Table B3.1: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent Students Entering 4-year Institutions Located in High Unemployment Areas (BPS 96 and BPS 04 Combined)

Variable	Model 1 B	Model 1 S.E.		FWS vs. Working Students (Model 2) B	S.E.		FWS vs Non-Working Students (Model 3) B	S.E.	
	High Unemployment Rates								
Any employment during school year	0.494	(.014)	***						
Total hours worked per week in year 1	6.460	(.483)	***	-1.670	(.571)	***	15.349	(.336)	***
GPA in year 1	-0.047	(.033)		-0.015	(.043)		-0.069	(.04)	*
Still enrolled or attained during year 2	0.006	(.009)		0.006	(.013)		0.005	(.011)	
Number of months enrolled through year 6	0.705	(.477)		1.204	(.655)	*	0.115	(.571)	
Earned a BA within 4 years	0.002	(.021)		0.021	(.025)		-0.014	(.025)	
Earned a BA within 6 years	0.035	(.019)	*	0.057	(.025)	**	0.024	(.023)	
Enrolled or employed in year 6	0.018	(.011)		0.025	(.014)	*	0.011	(.015)	
Enrolled (graduate or undergraduate) in year 6	-0.014	(.019)		-0.018	(.024)		-0.013	(.024)	
Employed in year 6, of those not enrolled	0.021	(.017)		0.019	(.02)		0.025	(.022)	
Employed in year 6	0.032	(.02)		0.043	(.026)	*	0.024	(.025)	
Log of total earnings from current job in year 6	-0.016	(.033)		-0.019	(.04)		-0.022	(.042)	
Enrollment in graduate school in year 6	0.004	(.016)		0.008	(.019)		0.001	(.02)	
Any undergraduate student loan, cumulative through year 6	0.141	(.017)	***	0.101	(.023)	***	0.190	(.023)	***
Undergraduate student loan amount, cumulative through year 6	$6,457	(849)	***	$5,096	(1028)	***	$7,644	(1015)	***
Any student loan in year 1	0.168	(.018)	***	0.136	(.024)	***	0.200	(.023)	***
First year student loan amount	$1,279	(174)	***	$903	(213)	***	$1,554	(213)	***
First year FWS amount	$1,550	(26)	***	$1,551	(26)	***	$1,550	(26)	***
First year Pell grant amount	$56	(57)		$20	(68)		$64	(70)	
First year total aid amount	$2,834	(337)	***	$2,403	(416)	***	$2,964	(407)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions localed in counties with high unemployment rates with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 5,660, for Model 2 is 3,160 and for Model 3 is 2,990. This sample size is different for the variables conditioned on employment and cumulative debt. High unemployment has been constructed using BLS unemployment rates at county level. A county with high unemployment rate was defined as one with greater than or equal to 4.4 percent in 1996 and 5.4 percent in 2004.

Table B3.2: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent Students Entering 4-year Institutions Located in Low Unemployment Areas (BPS 96 and BPS 04 Combined)

Variable	Low Unemployment Rates					
	Model 1		FWS vs. Working Students (Model 2)		FWS vs Non-Working Students (Model 3)	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.457	(.014) ***				
Total hours worked per week in year 1	5.943	(.481) ***	-1.508	(.532) ***	14.759	(.345) ***
GPA in year 1	-0.019	(.031)	-0.027	(.037)	-0.034	(.04)
Still enrolled or attained during year 2	0.018	(.009) **	0.023	(.011) **	0.011	(.011)
Number of months enrolled through year 6	0.457	(.439)	0.500	(.556)	0.204	(.538)
Earned a BA within 4 years	0.024	(.021)	0.043	(.023) *	-0.004	(.026)
Earned a BA within 6 years	0.041	(.018) **	0.056	(.022) **	0.015	(.023)
Enrolled or employed in year 6	0.011	(.01)	0.005	(.011)	0.021	(.014)
Enrolled (graduate or undergraduate) in year 6	0.003	(.019)	-0.006	(.022)	-0.004	(.024)
Employed in year 6, of those not enrolled	0.021	(.015)	0.015	(.017)	0.039	(.02) *
Employed in year 6	0.008	(.02)	0.011	(.023)	0.025	(.025)
Log of total earnings from current job in year 6	-0.041	(.028)	-0.055	(.032) *	-0.035	(.036)
Enrollment in graduate school in year 6	0.012	(.017)	0.012	(.019)	0.014	(.021)
Any undergraduate student loan, cumulative through year 6	0.175	(.016) ***	0.166	(.02) ***	0.188	(.023) ***
Undergraduate student loan amount, cumulative through year 6	$6,180	(762) ***	$6,143	(863) ***	$6,145	(968) ***
Any student loan in year 1	0.238	(.017) ***	0.203	(.021) ***	0.272	(.023) ***
First year student loan amount	$1,240	(164) ***	$1,020	(192) ***	$1,350	(204) ***
First year FWS amount	$1,492	(24) ***	$1,492	(24) ***	$1,492	(24) ***
First year Pell grant amount	-$21	(51)	$0	(59)	-$103	(62) *
First year total aid amount	$2,908	(311) ***	$2,846	(348) ***	$3,042	(386) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions localed in counties with low unemployment rates with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 6,430, for Model 2 is 3,480 and for Model 3 is 3,130. This sample size is different for the variables conditioned on employment and cumulative debt. Low unemployment has been constructed using BLS unemployment rates at county level. A county with low unemployment rate was defined as one with less than 4.4 percent unemployment rate in 1996 and less than 5.4 percent in 2004.

Table B4.1: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent Students Entering 4-year Institutions Located in Urban Areas (BPS 96 and BPS 04 Combined)

Variable	Urban					
	Model 1		Model 2: FWS vs. Working Students		Model 3: FWS vs Non-Working Students	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.468	(.012) ***				
Total hours worked per week in year 1	6.481	(.417) ***	-0.980	(.466) **	15.434	(.295) ***
GPA in year 1	0.008	(.027)	0.012	(.033)	-0.014	(.032)
Still enrolled or attained during year 2	0.011	(.007)	0.009	(.01)	0.007	(.008)
Number of months enrolled through year 6	0.519	(.379)	0.630	(.494)	0.114	(.444)
Earned a BA within 4 years	0.004	(.018)	0.027	(.02)	-0.022	(.022)
Earned a BA within 6 years	0.024	(.016)	0.047	(.02) **	0.004	(.019)
Enrolled or employed in year 6	0.020	(.009) **	0.019	(.011) *	0.022	(.012) *
Enrolled (graduate or undergraduate) in year 6	-0.001	(.017)	-0.002	(.02)	0.000	(.02)
Employed in year 6, of those not enrolled	0.035	(.014) **	0.019	(.017)	0.037	(.018) **
Employed in year 6	0.021	(.017)	0.021	(.021)	0.022	(.022)
Log of total earnings from current job in year 6	-0.011	(.027)	-0.012	(.032)	-0.020	(.034)
Enrollment in graduate school in year 6	0.010	(.014)	0.021	(.016)	0.002	(.018)
Any undergraduate student loan, cumulative through year 6	0.181	(.014) ***	0.163	(.017) ***	0.210	(.019) ***
Undergraduate student loan amount, cumulative through year 6	$7,269	(700) ***	$6,688	(813) ***	$7,709	(853) ***
Any student loan in year 1	0.227	(.015) ***	0.201	(.019) ***	0.260	(.02) ***
First year student loan amount	$1,387	(149) ***	$1,134	(180) ***	$1,681	(178) ***
First year FWS amount	$1,592	(23) ***	$1,592	(23) ***	$1,592	(23) ***
First year Pell grant amount	-$1.0	(46)	-$5	(55)	-$31	(53)
First year total aid amount	$3,054	(285) ***	$3,025	(330) ***	$3,075	(352) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions located in urban areas with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. Urban corresponds to institutions located in large and mid-size cities as well as in an urban fringe of large city. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 8,210, for Model 2 is 4,320, and for Model 3 is 4,540. This sample size is different for the variables conditioned on employment and cumulative debt.

Table B4.2: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent Students Entering 4-year Institutions Located in Rural Areas (BPS 96 and BPS 04 Combined)

Variable	Rural					
	Model 1		Model 2: FWS vs. Working Students		Model 3: FWS vs Non-Working Students	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.488	(.019) ***		***		
Total hours worked per week in year 1	5.449	(.623) ***	-2.863	(.713) ***	14.105	(.427) ***
GPA in year 1	-0.101	(.043) **	-0.114	(.052) **	-0.108	(.055) *
Still enrolled or attained during year 2	0.013	(.013)	0.013	(.017)	0.010	(.015)
Number of months enrolled through year 6	0.419	(.638)	0.901	(.796)	0.319	(.774)
Earned a BA within 4 years	0.026	(.027)	0.037	(.031)	0.044	(.033)
Earned a BA within 6 years	0.044	(.025) *	0.066	(.031) **	0.060	(.031) *
Enrolled or employed in year 6	0.012	(.013)	0.001	(.015) **	0.026	(.018)
Enrolled (graduate or undergraduate) in year 6	-0.016	(.025)	-0.022	(.029)	-0.036	(.03)
Employed in year 6, of those not enrolled	0.028	(.019)	0.002	(.022)	0.045	(.028)
Employed in year 6	0.028	(.026)	0.023	(.031)	0.062	(.032) *
Log of total earnings from current job in year 6	-0.035	(.038)	-0.090	(.044)	-0.021	(.049)
Enrollment in graduate school in year 6	0.006	(.021)	0.000	(.024) **	0.009	(.025)
Any undergraduate student loan, cumulative through year 6	0.129	(.022) ***	0.085	(.027)	0.156	(.029) ***
Undergraduate student loan amount, cumulative through year 6	$4,914	(1015) ***	$3,173	(1140) ***	$5,479	(1263) ***
Any student loan in year 1	0.182	(.023) ***	0.125	(.029) ***	0.221	(.031) ***
First year student loan amount	$1,185	(207) ***	$990	(232) ***	$1,334	(262) ***
First year FWS amount	$1,351	(27) ***	$1,353	(27) ***	$1,352	(27) ***
First year Pell grant amount	-$17.2	(69)	$5	(77) ***	-$64	(84)
First year total aid amount	$2,209	(383) ***	$2,337	(445)	$2,859	(464) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent students enrolled at four-year institutions located in rural areas with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. Rural corresponds to institutions located in urban fringe of mid-size city, large and small towns and rural areas. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 3,280, for Model 2 is 1,860, and for Model 3 is 1,800. This sample size is different for the variables conditioned on employment and cumulative debt.

Table B5.1: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent Female Students Entering 4-year Institutions
(BPS 96 and BPS 04 Combined)

Variable		Female				
	Model 1		Model 2: FWS vs. Working Students		Model 3: FWS vs Non-Working	
	B	S.E.	B	S.E.	B	S.E.
Any employment during school year	0.464	(.013) ***				
Total hours worked per week in year 1	6.422	(.437) ***	-0.872	(.485) *	15.002	(.312) ***
GPA in year 1	0.005	(.028)	0.018	(.035)	-0.029	(.037)
Still enrolled or attained during year 2	0.012	(.007)	0.020	(.01) **	0.002	(.009)
Number of months enrolled through year 6	0.648	(.403)	0.869	(.514) *	0.272	(.507)
Earned a BA within 4 years	-0.001	(.019)	0.029	(.022)	-0.016	(.025)
Earned a BA within 6 years	0.038	(.017) **	0.062	(.021) ***	0.017	(.022)
Enrolled or employed in year 6	0.023	(.01) **	0.016	(.012)	0.039	(.014) ***
Enrolled (graduate or undergraduate) in year 6	-0.008	(.018)	0.002	(.021)	-0.009	(.023)
Employed in year 6, of those not enrolled	0.041	(.015) ***	0.019	(.017)	0.062	(.021) ***
Employed in year 6	0.031	(.019) *	0.014	(.022)	0.048	(.025) *
Log of total earnings from current job in year 6	-0.034	(.027)	-0.018	(.032)	-0.033	(.035)
Enrollment in graduate school in year 6	0.003	(.016)	0.016	(.018)	0.008	(.021)
Any undergraduate student loan, cumulative through year 6	0.162	(.016) ***	0.141	(.019) ***	0.181	(.024) ***
Undergraduate student loan amount, cumulative through year 6	$6,431	(728) ***	$5,835	(834) ***	$6,266	(977) ***
Any student loan in year 1	0.223	(.016) ***	0.187	(.02) ***	0.245	(.023) ***
First year student loan amount	$1,353	(152) ***	$1,062	(175) ***	$1,549	(197) ***
First year FWS amount	$1,512	(22) ***	$1,511	(22) ***	$1,512	(22) ***
First year Pell grant amount	$0.4	(50)	$17	(57)	$21	(63)
First year total aid amount	$2,880	(299) ***	$2,775	(342) ***	$3,042	(384) ***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent female students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 6,680, for Model 2 is 3,700 and for Model 3 is 3,400. This sample size is different for the variables conditioned on employment and cumulative debt.

Table B5.2: Federal Work Study (FWS) Impact on Student Outcomes for Full-Time Dependent Male Students Entering 4-year Institutions
(BPS 96 and BPS 04 Combined)

Variable	Model 1 B	Model 1 S.E.		Model 2: FWS vs. Working Students B	Model 2 S.E.		Model 3: FWS vs Non-Working B	Model 3 S.E.	
Any employment during school year	0.495	(.016)	***						
Total hours worked per week in year 1	5.936	(.558)	***	-2.884	(.643)	***	14.908	(.389)	***
GPA in year 1	-0.074	(.038)	**	-0.051	(.048)		-0.098	(.048)	**
Still enrolled or attained during year 2	0.005	(.011)		-0.001	(.015)		0.006	(.014)	
Number of months enrolled through year 6	0.121	(.551)		0.550	(.719)		-0.168	(.684)	
Earned a BA within 4 years	0.020	(.023)		0.045	(.026)	*	-0.013	(.03)	
Earned a BA within 6 years	0.024	(.022)		0.053	(.028)	*	-0.001	(.028)	
Enrolled or employed in year 6	0.009	(.012)		0.002	(.014)		0.010	(.016)	
Enrolled (graduate or undergraduate) in year 6	-0.015	(.022)		-0.028	(.026)		-0.006	(.027)	
Employed in year 6, of those not enrolled	0.013	(.018)		0.003	(.02)		0.019	(.024)	
Employed in year 6	0.024	(.023)		0.030	(.027)		0.016	(.029)	
Log of total earnings from current job in year 6	-0.014	(.036)		-0.043	(.042)		-0.001	(.047)	
Enrollment in graduate school in year 6	0.010	(.017)		0.017	(.019)		0.002	(.022)	
Any undergraduate student loan, cumulative through year 6	0.157	(.019)	***	0.128	(.024)	***	0.182	(.026)	***
Undergraduate student loan amount, cumulative through year 6	$6,326	(931)	***	$6,030	(1090)	***	$6,899	(1147)	***
Any student loan in year 1	0.187	(.02)	***	0.153	(.025)	***	0.222	(.027)	***
First year student loan amount	$1,227	(202)	***	$886	(248)	***	$1,463	(250)	***
First year FWS amount	$1,576	(30)	***	$1,573	(30)	***	$1,574	(30)	***
First year Pell grant amount	$11.6	(62)		$87	(72)		-$55	(75)	
First year total aid amount	$2,598	(374)	***	$2,556	(435)	***	$2,378	(464)	***

Source: BPS: 96/01 & 04/09 Restricted-Use Data File

Note: This table shows results for our baseline model as well as the first two alterative specifications, Model 2 and 3. Model 2 compares FWS recipients to working students (non-recipients) while Model 3 compares them to non-working students. Uses a two-step process in which logit command is used to estimate the propensity score and then PSMATCH2 command with radius caliper of 0.01, with replacement and excluding observations outside of common support, is used to execute the matching and estimate ATT. No weights. Continuous variables are imputed to the mean if missing; dummy variables are imputed to zero; missing data flags are included for all variables with missing data. No clustering. The same covariates used in Table 3 were used for these models. ATT estimates. Propensity scores are re-estimated separately for Model 2 and Model 3, which use restricted samples. Sample is restricted to full-time, dependent male students enrolled at four-year institutions with non-missing data on institution ID, FWS receipt (first year), first-year employment, and BA attainment within 6 years. The unweighted sample size, rounded to the nearest 10, for total hours worked per week in year 1 and for Model 1 is 5,130, for Model 2 is 2,570 and for Model 3 is 2,640. This sample size is different for the variables conditioned on employment and cumulative debt.