Online Appendix for:

Work Incentives and the Food Stamp Program

Hilary Williamson Hoynes
Department of Economics
University of California, Davis
and NBER
hwhoynes@ucdavis.edu

Diane Whitmore Schanzenbach
School of Education and Social Policy
Northwestern University
and NBER
dws@northwestern.edu

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<u>On-line Appendix</u>

In our paper, we examine the impact of the food stamp program on labor supply. In this Appendix, we provide supplemental estimates to those provided in the main paper.

Appendix Table 1 provides the food stamp price schedule for 1969, by income and family size.

Appendix Table 2 presents county regressions of FSP implementation dates on county pre-treatment characteristics. This is a cross-sectional regression with one observation for each county; we estimate models with and without state fixed effects.

Appendix Table 3 provides descriptive statistics for the four samples used in the paper: (1) all nonelderly families, (2) nonelderly families where the head has less than or equal to 12 years of education, (3) families with children headed by a single woman (female heads of household), and (4) nonwhite female heads of household.

Appendix Table 4 shows results for our sample of families headed by a single woman. We show how the estimates change as more controls and fixed effects are added to the model.

Appendix Table 5 shows expected impacts on annual earnings, assuming no change in hourly wages. In particular, we take our estimated effect on annual hours to generate predicted impacts on annual earnings at the 25th percentile, median, and mean hourly wage. In the text we note that these predictions are within (the wide) 95% confidence interval for our estimated impacts on annual earnings.

Appendix Table 6 shows results for our triple difference analysis. We show how the estimates change as more controls and fixed effects are added to the model.

Appendix Figure 1 shows the event study estimates for annual earnings and log family cash income. These are estimated using the same method as those in Figure 3a and 3b in the main text.

Appendix Table 1: 1969 Food Stamp Price Schedule, by Income and Family Size

	Family size =2 (1)	Family size =3 (2)	Family size=4 (3)
Total monthly coupon allocation	56	84	106

Monthly income range	Monthly purchase price		
0-19	1	1.5	2
20-29	1	1.5	2
30-39	4	4	4
40-49	7	7	7
50-59	10	10	10
60-69	12	13	13
70-79	15	16	16
80-89	18	19	19
90-99	21	21	22
100-109	23	24	25
110-119	26	27	28
120-129	29	30	31
130-139	31	33	34
140-149	34	36	37
150-169	36	40	42
170-189		46	48
190-209		52	54
210-229		58	60
230-249		64	66
250-269		66	72
270-289			72
290-309			76
310-329			80
330-359			80
360 and higher			82

Appendix Table 2: Determinants of County Level Food Stamp Program Start Date

	All Counties		Limiting to post-pilot counties	
	(1)	(2)	(3)	(4)
Percent of land in farming	-0.025	0.124	0.114	0.136
	(0.830)	(0.028)***	(0.027)***	(0.033)***
Percent of pop with income<$3000	0.005	-0.544	-0.347	0.085
	(0.050)	(0.092)***	(0.088)***	(0.147)
Percent of pop urban	0.214	-0.068	-0.040	-0.001
	(4.36)**	(0.041)	(0.039)	(0.053)
Percent of pop black	-0.326	-0.208	-0.212	-0.474
	(4.36)**	(0.070)***	(0.067)***	(0.145)***
Percent of pop age < 5	-3.566	-2.329	-2.954	-3.557
	(4.92)**	(0.625)***	(0.593)***	(0.786)***
Percent of pop age > 65	-1.030	-0.982	-1.133	-3.048
	(2.49)*	(0.390)**	(0.371)***	(0.524)***
log population	-11.229	-9.139	-7.819	-7.335
	(13.44)**	(0.752)***	(0.718)***	(0.932)***
South * % of land in farming				-0.125
				(0.058)**
South * % pop with income<$3000				-0.603
				(0.188)***
South * % pop urban				-0.110
				(0.080)
South * % pop black				0.373
				(0.165)**
South * % pop age < 5				0.787
				(1.222)
South * % pop age > 65				3.467
				(0.754)***
South * log population				0.645
				(1.548)
State Fixed Effects		X	X	X
Number of Observations	2,957	2,957	2,939	2,939
R squared	0.14	0.56	0.55	0.56

Notes: The data is at the county level and the dependent variable is equal to the calendar month (normed to 1 in January 1961) that the county began offering the Food Stamp Program. The control variables come from the 1960 City and County Data Book. Alaska counties are dropped due to missing data on the Food Stamp Program. Very small counties (with population less than 1,000) are dropped because of missing data on some control variables. A small number of counties are dropped because the variable *percent of land in farming* exceeds 100 percent. Estimates are weighted using the 1960 county population.

Appendix Table 3: Descriptive Statistics

	All Nonelderly Singles and Families				Nonelderly, Head <=12				Female Headed Households				Nonwhite Female Headed Households			
	N	Mean	Min	Max	N	Mean	Min	Max	N	Mean	Min	Max	N	Mean	Min	Max
FSP participation	39,607	0.066	0	1	30,889	0.087	0	1	5,681	0.309	0	1	4,264	0.467	0	1
Head any work last year	48,148	0.926	0	1	37,447	0.904	0	1	6,890	0.694	0	1	5,175	0.610	0	1
Head Annual hours	48,148	1947	0	5824	37,447	1880	0	5824	6,890	1032	0	4628	5,175	849	0	4628
Head Annual earnings	48,148	41749	0	503346	37,447	34613	0	439860	6,890	13795	0	117854	5,175	9898	0	75516
Spouse any work last year	31,438	0.556	0	1	23,781	0.544	0	1								
Spouse annual hours	31,438	710	0	7980	23,781	705	0	7980								
Spouse annual earnings	31,438	9841	0	116806	23,781	8738	0	103129								
Log(Family Income)	48,148	10.763	6.617	13	37,447	10.645	6.645	13	6,890	10.184	6.714	13	5,175	9.942	6.714	12
County FSP prorgam implemented	48,148	0.760	0	1	37,447	0.762	0	1	6,890	0.828	0	1	5,175	0.825	0	1
Urban county	48,148	0.622	0	1	37,447	0.595	0	1	6,890	0.680	0	1	5,175	0.740	0	1
Education<12 years	48,148	0.336	0	1	37,447	0.487	0	1	6,890	0.501	0	1	5,175	0.612	0	1
Education=12years	48,148	0.353	0	1	37,447	0.513	0	1	6,890	0.362	0	1	5,175	0.300	0	1
Education>12 years	48,148	0.312	0	1	37,447	0	0	0	6,890	0.137	0	1	5,175	0.088	0	1
White	48,148	0.857	0	1	37,447	0.823	0	1	6,890	0.610	0	1	5,175	0.000	0	0
State unemployment rate	48,148	5.82	2	13	37,447	5.74	2	13	6,890	6.10	2	13	5,175	6.05	2	13
County % black, 1960	48,148	9.68	0	81	37,447	9.90	0	81	6,890	13.57	0	62	5,175	20.69	0.1	62
County % urban, 1960	48,148	70.15	0	100	37,447	67.07	0	100	6,890	76.00	0	100	5,175	83.74	0	100
County % farmland, 1960	48,148	44.75	0	240	37,447	45.54	0	240	6,890	38.96	0	127	5,175	35.61	0	116
County % ? $3,000, 1960	48,148	20.94	5.5	74	37,447	22.09	5.5	74	6,890	20.56	5.5	68	5,175	20.95	5.5	68
County % <5 years, 1960	48,148	11.25	5.6	18	37,447	11.19	5.6	18	6,890	11.13	6.7	18	5,175	11.22	7.4	15
County % >65 years, 1960	48,148	9.28	1	25	37,447	9.39	1	25	6,890	9.21	2.8	25	5,175	8.94	2.8	25
log(1960 county population)	48,148	12.29	7.72	16	37,447	12.15	7.72	16	6,890	12.75	7.72	16	5,175	13.30	8.80	16
County per cap ret. and dis.	48,148	983.12	0	23532	37,447	992.67	0	23532	6,890	1039.14	0	23532	5,175	988.65	0	4539
County per cap medical payments	48,148	219.02	0	6647	37,447	216.89	0	6647	6,890	241.42	0	6647	5,175	249.53	0	1282
County per cap cash PA payments	48,148	225.03	0	14071	37,447	224.57	0	14071	6,890	298.89	0	14071	5,175	346.76	0	2714

Note: PSID interview years 1969-1978. Observations from Alaska are dropped because of missing data on food stamp program start date. All outcome variables correspond to annual measures taken as of the interview (in spring of interview year).

Appendix Table 4: Additional Specifications for Table 2

	(1)	(2)	(3)	(4)	Table 2 Col 1 (5)
A. Any Food Stamps =1					
County FSP Implemented	0.171	0.209	0.211	0.216	0.223
	(0.047)***	(0.047)***	(0.046)***	(0.046)***	(0.047)***
Number of Observations	5,681	5,681	5,681	5,681	5,681
B. Head Any Work =1					
County FSP Implemented	-0.037	-0.032	-0.041	-0.047	-0.043
	(0.037)	(0.039)	(0.038)	(0.037)	(0.037)
Dependent variable mean	0.926	0.926	0.904	0.904	0.707
C. Head Annual hours					
County FSP Implemented	-131	-122	-141	-198	-183
	(76)*	(77)	(74)*	(78)**	(77)**
Dependent variable mean	1947	1947	1879	1879	1068
D. Head Annual Earnings					
County FSP Implemented	-1037	-84	-510	-887	-533
	(1484)	(1327)	(1142)	(1052)	(1112)
Dependent variable mean	41742	41742	34600	34600	14194
E. Log(Family Income)					
County FSP Implemented	-0.002	-0.019	-0.033	-0.048	-0.046
	(0.058)	(0.055)	(0.052)	(0.051)	(0.051)
Number of Observations	6,890	6,890	6,890	6,890	6,890
1960 Cty Vars * Linear Time				X	X
Year and County Fixed Effects	X	X	X	X	X
Per Capita Cty Transfers					X
State x Linear Time		X	X	X	X
Demographics			X	X	X

Notes: Each parameter is from a separate regression of the outcome variable on a dummy variable equal to 1 if the county-year observation had a food stamp program in place by January of that year. The sample includes non-elderly PSID families using interview years 1968-1978. Observations from Alaska are dropped because of missing data on food stamp program start dates. All outcome variables correspond to annual measures taken as of the interview (in spring of the interview year). Demographic controls include dummies for education, number of children, number of adults, race, urban location and state unemployment rate. 1960 county variables include log of population, percent of land in farming, percent of population black, urban, age<5, age>65 and with income less than $3,000, each interacted with a linear time trend. Per capita county transfer income comes from the BEA REIS and includes measures for public assistance (AFDC, General Assistance), medical care (Medicare, Medicaid, military), and retirement and disability benefits. Estimates are weighted using the PSID weight and clustered on county. Standard errors are in parenthesis and ***, **, and * indicate that the estimates are statistically significant at the 1%, 5% and 10% levels, respectively.

Appendix Table 5: Expected Impact on Earnings, Assuming No Change in Wages

	Female Heads				Nonwhite Female Heads			
	Estimates and 95% CI	Distribution of Wages 2005$ (among workers)		Implied impact, earnings	Estimates and 95% CI	Distribution of Wages 2005$ (among workers)		Implied impact, earnings
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Head Annual hours								
County FSP Implemented	-183	mean	13.16	-2408	-158	mean	11.78	-1856
	(77)**	25%p	7.69	-1407	(74)**	25%p	6.71	-1057
Head Annual Earnings		50%p	11.21	-2051		50%p	9.71	-1530
County FSP Implemented	-533				-1193			
	(1112)				(986)			
	[-2722, 1657]				[-3144, 757]			

Appendix Table 6: Additional Specifications for Table 5

	(1)	(2)	(3)	(4)	Table 5, col 3 (5)
Head Any work last year					
County FSP Implemented x Pg	-0.262	-0.264	-0.266	-0.267	-0.242
	(0.084)***	(0.081)***	(0.081)***	(0.081)***	(0.067)***
County FSP Implemented	0.023	0.022	0.02	0.020	0.018
	(0.008)***	(0.008)***	(0.007)***	(0.007)***	(0.006)***
Head Annual hours					
County FSP Implemented x Pg	-255	-286	-277	-281	-269
	(202)	(183)	(183)	(183)	(169)
County FSP Implemented	32	27	17	26	25
	(31)	(28)	(24)	(24)	(23)
Head Annual Earnings					
County FSP Implemented x Pg	-2211	-7368	-6709	-6728	-4418
	(6078)	(5619)	(5930)	(5935)	(5440)
County FSP Implemented	237	482	343	744	600
	(1140)	(1042)	(921)	(905)	(891)
Log(Family Income)					
County FSP Implemented x Pg	-0.091	-0.161	-0.139	-0.122	-0.122
	(0.150)	(0.119)	(0.123)	(0.122)	(0.122)
County FSP Implemented	0.023	0.019	0.014	0.012	0.012
	(0.024)	(0.020)	(0.017)	(0.017)	(0.017)
Number of Observations	48,148	48,148	48,148	48,148	48,148
1960 Cty Vars * Linear Time				X	X
Per Capita Cty Transfers				X	X
Group Fixed Effects, Group * linear time		X	X	X	X
Year Fixed Effects (main and x Pg)	X	X	X	X	X
County Fixed Effects	X	X	X	X	X
State x Linear Time			X	X	X
Pg x Other Covariates (except area fixed effects)					X
State x Linear Time * Pg					

Notes: Each parameter is from a separate regression of the outcome variable on the food stamp implementation dummy multiplied by a group food stamp participation rate. The food stamp implementation dummy equals one if the county-year observation had a food stamp program in place by January of that year. The group food stamp participation rate is calculated for each education-race-marital status-presence of children cell using the 1976-78 PSID. The sample includes all years 1968-78 and excludes observations from Alaska. For details on this sample selection, see text. All outcome variables correspond to annual measures taken as of the interview (in spring of the interview year). Demographic controls include dummies for education, number of children, number of adults, race, urban location and state unemployment rate. 1960 county variables include log of population, percent of land in farming, percent of population black, urban, age<5, age>65 and with income less than $3,000, each interacted with a linear time trend. Per capita county transfer income comes from the BEA REIS and includes measures for public assistance (AFDC, General Assistance), medical care (Medicare, Medicaid, military), and retirement and disability benefits. Estimates are weighted using the PSID weight and clustered on county. Standard errors are in parenthesis and ***, **, and * indicate that the estimates are statistically significant at the 1%, 5% and 10% levels, respectively

Appendix Figure 1a: Event Study Estimates of Impact of FSP on Annual Earnings
Female headed households with children only

event time in years
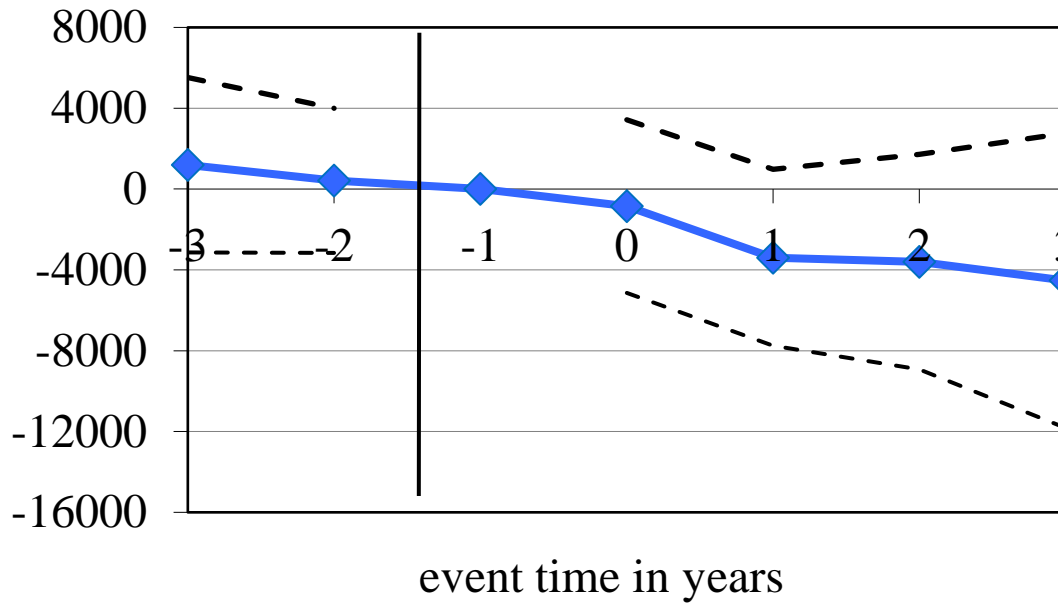
Appendix Figure 1b: Event Study Estimates of Impact of FSP on Log Family Cash Income
Female headed households with children only

event time in years
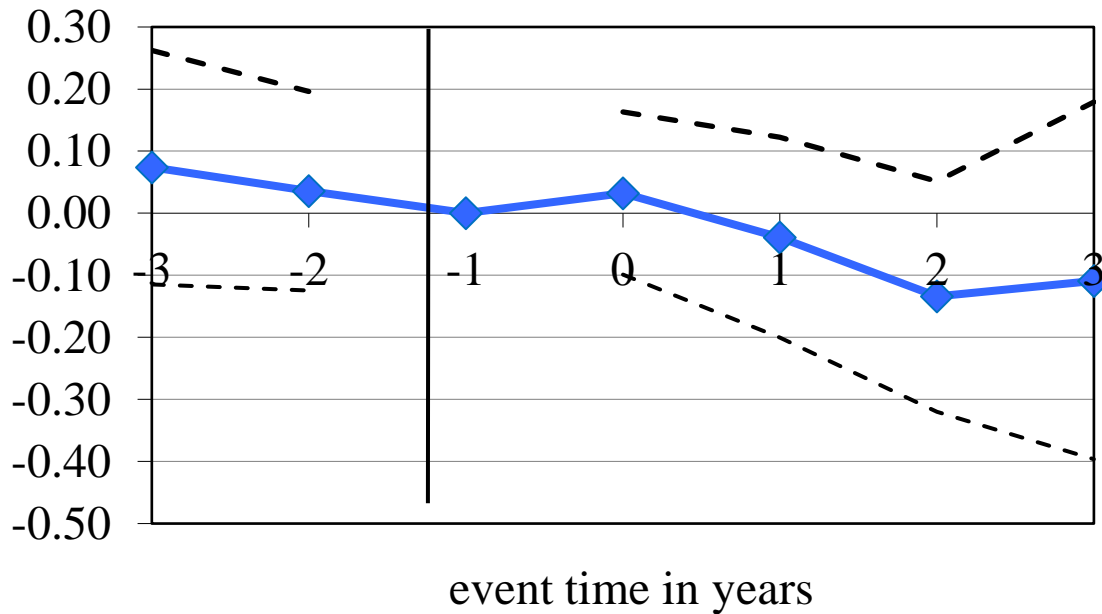
Notes: The graphs plot estimates and 95% confidence intervals from an event-study analysis described by equation (3) in the text. Coefficients are defined as years relative to the year the Food Stamp Program is implemented in the county. Year 0 is the first year that the county was treated for the entire year. The sample is a balanced county sample, where county is included only if there are observations for all 7 event periods.