Online Appendix
Fixing Errors in a SNAP: Addressing SNAP Under-reporting to Evaluate Poverty

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Appendix A. Imputation Model

We impute values for three variables in Y: 1) SNAP receipt, and conditional on receipt, 2) months of SNAP receipt, and 3) annual SNAP benefit amount. We impute each Y_j at the household level. We use predictive mean matching. For each variable, we predict $\hat{Y}_j$ for all households, whether $A = 1$ or $A = 0$. For each household i where $A = 0$, we find the 10 closest households k where $A = 1$, where distance is defined as $|\hat{Y}_{j,i} - \hat{Y}_{j,k}|$. We randomly select a household m from this set of 10 and assign $Y_{j,i} = Y_{j,m}$.

For the model variables (O), we include many variables from survey responses. These include household level information and data from the household head and spouse. The variables include: SNAP receipt and amounts, household income, receipt of each income type on the CPS ASEC, disability status, hours and weeks worked, occupation, industry, health insurance information, means-tested program participation, age, education, race, marital status, family and household composition, information on item nonresponse, union status, citizenship status, etc. We also include in O information on each income type on 1040s and income reported on W-2s (from the DER) and from 1099-Rs. As a proxy for state-level variation in SNAP administration, O also includes USDA summary information on monthly SNAP participation and benefit payments at the state level.[1] We also include many two- and three-way interactions, as well as handful of four-way interactions.[2]

However, as a practical matter, there are too many potential variables in O to be used in our model. We reduce the set of variables to be used to impute each Y_j in two stages. In the first stage, we take all of the possible variables in O using a stepwise selection OLS regression model to prune the list to $\hat{O}_j$ that predict Y_j. In this first stage, the selection criteria are relatively permissive, and thus the set of variables in $\hat{O}_j$ is relatively large (hundreds of variables and interactions). In terms of the general notation $f(Y|O, \theta)$, this process places constraints on θ.[3]

The next step is to estimate the values in $\hat{\theta}$. As $\hat{\theta}$ is a set of unknown parameters, we also must incorporate the uncertainty in $\hat{\theta}$ into the imputation process. We do this as follows. In each implicate c, we start by taking a Bayesian Bootstrap of the CPS ASEC sample, we then do a second-stage variable selection process to further reduce the number of variables in $\hat{O}_j$ to $\hat{O}_{j,c}$.[4] From the OLS regression of Y_j on $\hat{O}_{j,c}$, we estimate $\hat{\theta}_{j,c}$. Doing this on a

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[1] We hope to include information on state- and county-level SNAP rules in future work.

[2] For example, there may be a non-linear relationship between error in reported SNAP receipt and income. That relationship could also vary by race, age, education, etc. Capturing that variation in our imputation model likely requires higher level interactions.

[3] This is primarily done for practical speed considerations. Reducing the number of candidate variables upfront considerably speeds up the process of imputation for each variable in each implicate. Taking into account the leave-one-out models discussed in Section **??**, we run nine separate imputation models. The nine models are each set up the same, but differ only in the sample used to predict "true" SNAP benefits. Each model has five independent implicates. Therefore, each variable Y_j is imputed 45 times. This first-stage selection means that instead of taking days or weeks to run, the full set of models can be run in hours.

[4] The Bayesian Bootstrap (Rubin, 1981) is the Bayesian analogue of the bootstrap. Each observation is drawn

Bayesian Bootstrap sample enables us to account for the uncertainty present in each step of this process, including which variables are used as model predictors ($\hat{O}_{j,c}$) and to draw from the distribution of parameters values $\hat{\theta}_{j,c}$. This resampling approach to estimating uncertainty in regression-based imputation has been taken in other data products and research, including SIPP topic flag imputation (Benedetto, Motro and Stinson, 2016), the SIPP Gold Standard and SIPP Synthetic Beta (Benedetto, Stinson and Abowd, 2013), and imputation research on missing income in the CPS ASEC (Hokayem, Raghunathan and Rothbaum, 2020).

With the estimates of $\hat{O}_{j,c}$ and $\hat{\theta}_{j,c}$, we can estimate $\hat{Y}_{j,c}$ and take a random draw for each household in i where $A = 0$ from the ten nearest households k where $A = 1$.

We repeat this process five times, to create the five independent implicates. Therefore, we have five separate data sets with imputed SNAP administrative data for all households where $A = 0$. For any statistic or parameter estimate, we can account for the uncertainty in the imputation process (Rubin, 1976). This approach involves calculating the total variance by combining the within implicate variation (for example, the standard error of an estimate in one implicate) with the between implicate variation (the variance of the estimates for that parameter across the five implicates).

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(with replacement) with an expected probability of $1/n$, but with variability. The probabilities of being drawn are defined by taking $n-1$ draws from the uniform distribution (0,1), ordering draws from lowest to highest, where $u = u_0, u_1, u_2, ..., u_n$ given $u_0 = 0$ and $u_n = 1$. The probability of being drawn for each observation i is based on the gaps between each adjacent value in u, so that for observation i the probability of being drawn is $g_i = u_i - u_{i-1}$. As noted in Benedetto, Stinson and Abowd (2013), using the Bayesian Boostrap adds additional variability to the imputation process to account for the fact that the sample distribution may not be the same as the population distribution. Without the use of the Bayesian Bootstrap, the confidence intervals would not be proper.

Table A1—: Summary Statistics - States with and without SNAP Administrative Data.

	States with Admin Records		Other States		Difference	
	Estimate (1)	SE (2)	Estimate (3)	SE (4)	Estimate (5)	SE (6)
USDA State-Level Aggregates						
Average Monthly SNAP Recipiency Rate	29.4	0.03	26.3	0.02	3.10	0.03
Average Monthly Receipt Amount12	3192	5	3305	8	-113	9
SPM Rates	15.5	0.5	15.5	0.2	0.01	0.55
SNAP Recipiency Rate	14.2	0.7	12.5	0.2	-1.72	0.72
Cond. Mean HH Annual SNAP Value	3,508	112	3,565	53	58	126
Male	48.9	0.1	49.0	Z	0.12	0.17
Female	51.1	0.1	51.0	Z	-0.12	0.17
Under 18 years	22.9	0.1	23.8	Z	0.90	0.14
18 to 64 years	62.6	0.2	62.1	0.1	-0.51	0.30
65 years and older	14.5	0.2	14.1	0.1	-0.39	0.31
Married couple unit	59.6	0.7	60.7	0.3	1.14	0.74
Cohabiting partner unit	7.8	0.4	8.1	0.2	0.27	0.39
Female reference person unit	13.5	0.5	13.3	0.2	-0.26	0.55
Male reference person unit	4.9	0.3	4.4	0.1	-0.43	0.30
Unrelated individuals	14.2	0.4	13.5	0.1	-0.72	0.40
White	73.5	0.5	78.6	0.1	5.09	0.64
White, not Hispanic	62.7	0.8	62.3	0.2	-0.37	0.97
Black	16.2	0.1	12.2	Z	-3.94	0.11
Asian	6.3	0.4	5.3	0.1	-1.02	0.46
Hispanic (any race)	13.9	0.7	18.1	0.2	4.26	0.85
Native born	85.4	0.4	87.3	0.2	1.82	0.47
Foreign born	14.6	0.4	12.7	0.2	-1.82	0.47
Naturalized citizen	7.2	0.3	5.9	0.1	-1.36	0.33
Not a citizen	7.4	0.3	6.9	0.1	-0.47	0.32
Total, aged 25 and older	67.7	0.3	66.6	0.1	-1.11	0.34
No high school diploma	7.9	0.3	7.8	0.1	-0.06	0.32
High school, no college	20.0	0.3	19.8	0.2	-0.13	0.36
Some college, no degree	17.3	0.3	17.9	0.2	0.56	0.38
Bachelor's degree or higher	22.5	0.4	21.1	0.2	-1.47	0.46
Owner	66.0	0.6	68.0	0.3	2.02	0.71
Owner/mortgage	44.1	0.7	43.3	0.3	-0.85	0.77
Owner/no mortgage/rentfree	21.9	0.5	24.8	0.3	2.87	0.52
Renter	34.0	0.6	32.0	0.3	-2.02	0.71
Inside MSAs	87.6	1.6	84.4	0.6	-3.25	1.70
Inside principal cities	36.9	1.2	31.7	0.5	-5.19	1.26
Outside principal cities	50.7	1.1	52.7	0.5	1.94	1.16
Outside MSAs	12.4	1.6	15.7	0.6	3.25	1.70
Northeast	33.1	0.1	14.2	Z	-18.97	0.14
Midwest	17.9	0.1	22.1	Z	4.20	0.13
South	34.9	0.1	37.9	0.1	2.99	0.14
West	14.0	0.1	25.8	Z	11.78	0.13
With private insurance	65.7	0.6	63.8	0.3	-1.85	0.64
With public, no private insurance	22.7	0.6	22.4	0.2	-0.30	0.56
Not insured	11.6	0.3	13.8	0.1	2.15	0.38
Total, 18 to 64 years	62.6	0.2	62.1	0.1	-0.51	0.30
All workers	46.4	0.3	46.7	0.2	0.28	0.39
Worked full-time, year-round	32.5	0.4	32.1	0.2	-0.41	0.47
Less than full-time, year-round	13.9	0.3	14.6	0.1	0.69	0.32
Did not work at least 1 week	16.1	0.3	15.4	0.2	-0.79	0.34
Total, 18 to 64 years	62.6	0.2	62.1	0.1	-0.51	0.30
With a disability	4.7	0.2	4.8	0.1	0.09	0.20
With no disability	57.5	0.3	56.9	0.1	-0.57	0.35

Notes: This table compares summary statistics for CPS ASEC respondents in states with and without SNAP administrative records. The first two rows show data from the USDA on state-level monthly aggregates for SNAP recipiency rates and average benefits received in 2013. All other rows are calculated from the survey responses to the CPS ASEC only, without using administrative data. Z indicates an estimate rounds to zero.
Source: 2014 CPS ASEC Traditional File linked to state SNAP administrative records for eight states: Arizona, Idaho, Maryland, Michigan, New York, North Dakota, Tennessee and Virginia.

Table A2—: Comparison of SNAP Administrative Data to Imputes

	SNAP Receipt			Annual SNAP Amount																
				Average			Percentile													
							10th			25th			Median			75th			90th	
	Adrec (1)	Imputed (2)	Difference (3)	Adrec (4)	Imputed (5)	Difference (6)	Adrec (7)	Imputed (8)	Difference (9)	Adrec (10)	Imputed (11)	Difference (12)	Adrec (13)	Imputed (14)	Difference (15)	Adrec (16)	Imputed (17)	Difference (18)	Adrec (19)	Imputed (20)	Difference (21)
Adrec States	0.200	0.201	0.002	2,613	2,388	-225**	396	315	-82*	992	833	-160*	2,060	1,870	-189**	3,693	3,200	-493*	5,821	5,479	-342
	(0.008)	(0.010)	(0.009)	(64)	(104)	(111)	(33)	(35)	(47)	(54)	(70)	(84)	(48)	(80)	(87)	(127)	(243)	(257)	(185)	(449)	(458)
Each Individually																					
Arizona	0.217	0.223	0.006	2,688	2,323	-365	285	347	62	884	890	5	1,842	1,902	60	3,950	3,173	-777	6,134	4,982	-1,152
	(0.056)	(0.048)	(0.028)	(194)	(256)	(294)	(47)	(89)	(102)	(186)	(167)	(242)	(127)	(222)	(250)	(219)	(578)	(593)	(719)	(853)	(951)
Idaho	0.166	0.159	-0.007	2,361	1,991	-371	270	288	18	657	699	42	1,510	1,544	35	3,462	2,526	-936	5,742	4,184	-1,558
	(0.020)	(0.025)	(0.024)	(321)	(320)	(434)	(70)	(114)	(125)	(115)	(204)	(217)	(204)	(264)	(318)	(766)	(617)	(903)	(943)	(887)	(1,269)
Maryland	0.141	0.142	0.001	2,630	2,670	40	281	430	149	771	1,098	328	1,934	2,069	135	3,902	3,659	-243	6,286	5,805	-480
	(0.011)	(0.022)	(0.022)	(198)	(355)	(376)	(84)	(176)	(192)	(163)	(255)	(280)	(184)	(248)	(290)	(300)	(731)	(754)	(298)	(840)	(876)
Michigan	0.230	0.218	-0.012	2,760	2,562	-198	503	345	-157	1,053	999	-53	2,060	1,974	-86	3,794	3,428	-367	6,193	5,828	-365
	(0.015)	(0.027)	(0.027)	(151)	(396)	(409)	(78)	(123)	(142)	(129)	(382)	(386)	(102)	(336)	(344)	(398)	(731)	(804)	(223)	(1,048)	(1,050)
New York	0.216	0.216	-0.001	2,588	2,281	-307**	560	305	-255***	1,219	783	-436***	2,192	1,750	-442***	3,511	3,024	-487	4,939	5,104	165
	(0.010)	(0.015)	(0.015)	(109)	(121)	(142)	(74)	(42)	(82)	(122)	(84)	(139)	(47)	(113)	(116)	(251)	(342)	(385)	(356)	(535)	(610)
North Dakota	0.130	0.142	0.013	2,384	2,657	273	472	387	-85	1,028	908	-120	1,999	1,952	-47	3,157	3,602	445	4,729	6,322	1,593
	(0.019)	(0.021)	(0.017)	(252)	(473)	(433)	(144)	(185)	(220)	(293)	(394)	(460)	(196)	(432)	(429)	(317)	(870)	(841)	(634)	(1,067)	(989)
Tennessee	0.253	0.274	0.021	2,532	2,607	75	264	379	115	745	969	224	1,786	2,076	290	3,868	3,519	-350	6,158	5,943	-215
	(0.021)	(0.046)	(0.045)	(208)	(252)	(265)	(55)	(121)	(126)	(139)	(203)	(217)	(176)	(141)	(178)	(356)	(461)	(488)	(421)	(825)	(888)
Virginia	0.118	0.122	0.004	2,453	1,989	-465	414	218	-195	1,021	558	-463*	2,027	1,456	-571**	3,281	2,521	-760*	5,006	4,777	-230
	(0.011)	(0.017)	(0.015)	(194)	(309)	(322)	(127)	(61)	(138)	(210)	(156)	(249)	(152)	(257)	(279)	(315)	(369)	(440)	(911)	(1,260)	(1,388)
All Imputed	0.192			2,676			341			900			2,059			3,792			6,077		
	(0.004)			(83)			(23)			(52)			(48)			(174)			(122)		
All States (Adrec + Imputed)	0.194			2,663			351			917			2,059			3,771			6,035		
	(0.004)			(68)			(20)			(43)			(39)			(141)			(104)		

Notes: This table compares various estimates of SNAP receipt and benefits from administrative SNAP data and the imputation model. "Adrec States" indicate estimates from the pooled sample of states with administrative SNAP data available. For the pooled adrec states and each individually, column (2) shows the results from the leave-one-out (LOO) imputation. In the LOO model, the state's administrative SNAP records are ignored and SNAP receipt and benefit amounts are imputed using data from the remaining seven states. This allows us to test the quality of the imputation by comparing the model results to the SNAP administrative data for each state. The "All Imputed" row shows the imputation estimates for the 42 states and DC where administrative records are not available. The estimates in "All States" combine the administrative data for the eight states where it is available with the imputed data for the remaining states and DC. In the difference estimates, ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Source: 2014 CPS ASEC Traditional File linked to state SNAP administrative records for eight states: Arizona, Idaho, Maryland, Michigan, New York, North Dakota, Tennessee and Virginia.

Table A3—: Comparison of SPM using Survey, Administrative, and Imputed SNAP Data - Adrec States Only

		Differences Between Estimates			
		Survey - Adrecs		LOO - Adrecs	
	SNAP Adrecs (1)	Estimate (2)	SE (3)	Estimate (4)	SE (5)
All People	14.09	0.41	0.14	-0.13	0.18
Male	13.20	0.48	0.15	-0.03	0.22
Female	14.94	0.34	0.16	-0.24	0.17
Under 18 years	14.73	0.62	0.27	-0.04	0.28
18 to 64 years	14.10	0.37	0.14	-0.11	0.21
65 years and older	12.96	0.22	0.15	-0.40	0.38
Married couple unit	8.20	0.41	0.14	0.02	0.16
Cohabiting partner unit	13.52	0.65	0.58	0.29	0.92
Female reference person unit	29.01	1.00	0.64	0.02	0.67
Male reference person unit	21.66	-0.32	0.79	-0.81	1.15
Unrelated individuals	23.38	-0.07	0.24	-0.97	0.39
White	11.72	0.45	0.16	-0.13	0.21
White, not Hispanic	9.63	0.36	0.14	-0.13	0.17
Black	23.35	0.32	0.53	-0.18	0.74
Asian	15.78	Z	Z	-0.47	0.48
Hispanic (any race)	24.09	0.80	0.46	0.21	0.82
Native born	13.00	0.38	0.15	-0.10	0.18
Foreign born	21.07	0.59	0.20	-0.35	0.43
Naturalized citizen	17.34	0.32	0.25	-0.29	0.35
Not a citizen	25.11	0.88	0.33	-0.42	0.76
Total, aged 25 and older	13.04	0.31	0.12	-0.20	0.17
No high school diploma	31.21	1.81	0.68	-0.32	0.91
High school, no college	15.79	0.21	0.23	-0.25	0.30
Some college, no degree	11.27	0.04	0.16	-0.22	0.28
Bachelor's degree or higher	6.19	0.11	0.05	-0.10	0.09
Owner	9.17	0.12	0.10	-0.14	0.19
Owner/mortgage	8.02	0.10	0.10	0.03	0.17
Owner/no mortgage/rentfree	11.54	0.16	0.23	-0.48	0.39
Renter	24.36	1.01	0.39	-0.13	0.37
Inside MSAs	14.27	0.32	0.15	-0.16	0.21
Inside principal cities	19.28	0.42	0.25	-0.14	0.36
Outside principal cities	10.88	0.25	0.19	-0.17	0.25
Outside MSAs	12.84	0.98	0.47	0.05	0.52
Northeast	13.92	0.41	0.27	-0.21	0.30
Midwest	13.18	0.48	0.25	0.14	0.52
South	13.33	0.35	0.25	-0.32	0.23
West	17.54	0.43	0.34	0.16	0.49
With private insurance	6.83	0.21	0.08	Z	0.10
With public, no private insurance	28.77	0.74	0.51	-0.37	0.59
Not insured	28.74	0.92	0.42	-0.49	0.66
Total 18 to 64 years	14.10	0.37	0.14	-0.11	0.21
All workers	8.52	0.29	0.09	-0.07	0.14
Worked full-time, year-round	4.87	0.16	0.05	-0.08	0.10
Less than full-time, year-round	16.95	0.59	0.25	-0.04	0.32
Did not work at least 1 week	31.13	0.62	0.44	-0.23	0.56
Total 18 to 64 years	14.10	0.37	0.14	-0.11	0.21
With a disability	25.39	0.41	0.81	-0.87	0.97
With no disability	13.23	0.37	0.13	-0.04	0.21

Notes: This table compares the estimated SPM rates using state administrative data (Column (1)) for the eight states studied in this paper to estimates using survey data (estimates in Column (2) and standard errors in Column (3)) and the pooled leave-one-out (LOO) models (estimates in Column (4) and standard errors in Column (5)). SPM estimated with administrative data and with the leave-one-out imputations is lower for most groups than using the survey data, due to under-reporting of SNAP benefits. However, the leave-one-out estimates are not statistically different from the administrative estimates for any group except unrelated individuals. Z indicates an estimate rounds to zero.

Source: 2014 CPS ASEC Traditional File linked to state SNAP administrative records for eight states: Arizona, Idaho, Maryland, Michigan, New York, North Dakota, Tennessee and Virginia.

Table A4—: Association Between Earnings and SNAP Receipt

	Adrecs (1)	Survey (2)	LOO Imputes (3)	Survey - Adrecs (4)	LOO - Adrecs (5)
SNAP Receipt	-0.175	-0.227	-0.178	-0.052	-0.003
	(0.019)	(0.023)	(0.018)	(0.015)	(0.018)
Female	0.028	0.026	0.027	-0.003	-0.002
	(0.010)	(0.010)	(0.010)	(0.002)	(0.003)
Urban	0.005	0.004	0.002	-0.001	-0.003
	(0.011)	(0.012)	(0.012)	(0.002)	(0.003)
Race/Ethnicity					
Black	-0.004	-0.005	-0.005	-0.001	-0.002
	(0.015)	(0.015)	(0.015)	(0.004)	(0.004)
Native American	-0.028	-0.017	-0.028	0.011	Z
	(0.034)	(0.035)	(0.035)	(0.007)	(0.008)
Asian	-0.015	-0.020	-0.010	-0.005	0.006
	(0.019)	(0.019)	(0.019)	(0.003)	(0.005)
Pacific Islander	0.068	0.079	0.097	0.011	0.029
	(0.041)	(0.038)	(0.060)	(0.006)	(0.041)
Hispanic	0.009	0.003	0.008	-0.006	-0.001
	(0.020)	(0.020)	(0.019)	(0.004)	(0.006)
Education					
High School	0.118	0.109	0.119	-0.009	0.001
	(0.026)	(0.026)	(0.026)	(0.005)	(0.007)
Some College	-0.021	-0.022	-0.022	-0.001	-0.001
	(0.018)	(0.018)	(0.018)	(0.003)	(0.004)
Associates	0.063	0.061	0.065	-0.002	0.002
	(0.018)	(0.019)	(0.018)	(0.005)	(0.006)
Bachelors	-0.005	Z	-0.004	0.005	0.001
	(0.014)	(0.014)	(0.014)	(0.004)	(0.005)
Masters	0.009	0.012	0.011	0.003	0.002
	(0.012)	(0.013)	(0.013)	(0.002)	(0.003)
Age	0.031	0.031	0.031	Z	0.001
	(0.004)	(0.004)	(0.004)	(0.001)	(0.001)
Age^2	-0.00040	-0.00040	-0.00041	Z	-0.00001
	(0.00004)	(0.00005)	(0.00005)	(0.00001)	(0.00001)
Constant	0.258	0.263	0.248	0.004	-0.010
	(0.091)	(0.091)	(0.091)	(0.016)	(0.023)
R-Squared	0.14	0.15	0.14		
N	5,200	5,200	5,200		

Notes: This table shows results from regressing earnings on SNAP receipt with additional demographic and socioeconomic characteristics using three sources of information on SNAP receipt: 1) administrative data (Adrecs), 2) survey responses, and 3) leave-one-out (LOO) imputes. Columns (4) and (5) show the difference between the estimates with administrative data and the survey and LOO estimates, respectively. Z indicates an estimate rounds to zero.
Source: 2014 CPS ASEC Traditional File linked to state SNAP administrative records for eight states: Arizona, Idaho, Maryland, Michigan, New York, North Dakota, Tennessee and Virginia.

Table A5—: National SPM Poverty Estimates

		Survey - Adrecs	
	SNAP Adrecs	Estimate	SE
	(1)	(2)	(3)
All People	14.36	0.22	0.08
Male	13.65	0.27	0.08
Female	15.04	0.18	0.09
Under 18 years	15.38	0.02	0.17
18 to 64 years	14.08	0.28	0.07
65 years and older	13.89	0.34	0.10
Married couple unit	8.71	0.17	0.06
Cohabiting partner unit	16.17	-0.02	0.35
Female reference person unit	28.94	0.14	0.46
Male reference person unit	19.87	0.30	0.38
Unrelated individuals	23.09	0.69	0.17
White	12.55	0.20	0.08
White, not Hispanic	10.11	0.12	0.09
Black	23.56	0.58	0.43
Asian	14.97	0.40	0.40
Hispanic (any race)	23.43	0.41	0.34
Native born	13.40	0.19	0.08
Foreign born	21.34	0.49	0.19
Naturalized citizen	16.66	0.47	0.29
Not a citizen	26.03	0.52	0.38
Total, aged 25 and older	13.04	0.28	0.06
No high school diploma	28.36	1.50	0.37
High school, no college	15.83	0.20	0.10
Some college, no degree	11.69	0.08	0.13
Bachelor's degree or higher	6.31	0.12	0.05
Owner	9.57	0.09	0.07
Owner/mortgage	7.95	0.08	0.06
Owner/no mortgage/rentfree	12.49	0.10	0.17
Renter	25.12	0.52	0.21
Inside MSAs	14.68	0.22	0.09
Inside principal cities	18.33	0.35	0.20
Outside principal cities	12.48	0.15	0.09
Outside MSAs	12.61	0.22	0.26
Northeast	13.02	-0.02	0.21
Midwest	11.62	0.36	0.14
South	14.79	0.25	0.21
West	17.33	0.23	0.19
With private insurance	7.55	0.14	0.05
With public, no private insurance	27.29	0.15	0.26
Not insured	26.98	0.78	0.22
Total 18 to 64 years	14.08	0.28	0.07
All workers	8.92	0.27	0.06
Worked full-time, year-round	4.77	0.18	0.05
Less than full-time, year-round	18.05	0.47	0.14
Did not work at least 1 week	30.39	0.31	0.18
Total 18 to 64 years	14.08	0.28	0.07
With a disability	25.57	0.83	0.34
With no disability	13.14	0.23	0.07

Notes: This table shows the estimate poverty estimate using the imputed values for states without SNAP administrative data and the administrative data for the eights states with SNAP administrative data (Column (1)). Columns (2) shows the difference between the adrec-based estimates in Column (1) and the survey estimates. Column (3) shows the standard error of the comparisons. Z indicates an estimate rounds to zero.
Source: 2014 CPS ASEC Traditional File linked to state SNAP administrative records for eight states: Arizona, Idaho, Maryland, Michigan, New York, North Dakota, Tennessee and Virginia.

Table A6—: National Association Between Earnings and SNAP Receipt

	Estimates			Comparisons	
	Adrec States	National		Adrecs	National
	Adrecs	Adrecs	Survey	National - Adrec States	Survey - Adrecs
	(1)	(2)	(3)	(4)	(5)
SNAP Receipt	-0.175	-0.173	-0.224	0.002	-0.052
	(0.019)	(0.012)	(0.009)	(0.019)	(0.012)
Female	0.028	0.041	0.038	0.012	-0.002
	(0.010)	(0.004)	(0.004)	(0.009)	(0.001)
Urban	0.005	0.007	0.008	0.002	0.001
	(0.011)	(0.006)	(0.005)	(0.011)	(0.001)
Race/Ethnicity					
Black	-0.004	-0.039	-0.042	-0.035	-0.003
	(0.015)	(0.008)	(0.006)	(0.015)	(0.004)
Native American	-0.028	-0.044	-0.039	-0.016	0.005
	(0.034)	(0.017)	(0.017)	(0.030)	(0.004)
Asian	-0.015	-0.005	-0.015	0.010	-0.010
	(0.019)	(0.009)	(0.008)	(0.018)	(0.005)
Pacific Islander	0.068	0.020	0.018	-0.048	-0.002
	(0.041)	(0.022)	(0.021)	(0.043)	(0.009)
Hispanic	0.009	0.029	0.021	0.020	-0.008
	(0.020)	(0.006)	(0.006)	(0.018)	(0.002)
Education					
High School	0.118	0.103	0.102	-0.015	-0.001
	(0.026)	(0.010)	(0.010)	(0.024)	(0.003)
Some College	-0.021	-0.005	-0.007	0.015	-0.001
	(0.018)	(0.007)	(0.007)	(0.016)	(0.002)
Associates	0.063	0.030	0.030	-0.033	Z
	(0.018)	(0.007)	(0.007)	(0.015)	(0.002)
Bachelors	-0.005	0.010	0.012	0.015	0.002
	(0.014)	(0.006)	(0.006)	(0.012)	(0.002)
Masters	0.009	0.012	0.014	0.003	0.002
	(0.012)	(0.005)	(0.005)	(0.011)	(0.001)
Age	0.031	0.026	0.026	-0.005	Z
	(0.004)	(0.001)	(0.001)	(0.004)	Z
Age^2	-0.00040	-0.00035	-0.00035	0.00005	Z
	(0.00004)	(0.00002)	(0.00002)	(0.00004)	Z
Constant	0.258	0.376	0.364	0.118	-0.012
	(0.091)	(0.034)	(0.033)	(0.082)	(0.011)
R-Squared	0.14	0.14	0.14		
N	5,200	32,500	32,500		

Notes: This table shows results from regressing earnings on SNAP receipt with additional demographic and socioeconomic characteristics using three sources of information on SNAP receipt. The regression in Column (1) uses administrative SNAP data in the 8 states where it is available. The regressions in Columns (2) and (3) use the full CPS ASEC sample used in this paper. In Column (2), the administrative SNAP data is used in the 8 states where it is available and the imputed SNAP data is used in the other 42 states and DC. In Column (3), survey-reported SNAP receipt is used. Columns (4) shows the comparison between the adrec-based national estimates in (2) and the adrec-based estimates in the states with administrative SNAP data in (1). Column (5) compares the national survey and adrec-based estimate (Column (3) - Column (2)). Z indicates an estimate rounds to zero.
Source: 2014 CPS ASEC Traditional File linked to state SNAP administrative records for eight states: Arizona, Idaho, Maryland, Michigan, New York, North Dakota, Tennessee and Virginia.