

The Effects of Tobacco Control Policies on Tobacco Products, Tar, and Nicotine Purchases among Adults: Evidence from Household Panel Data

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Online Appendix

APPENDIX A:

MAIN SPECIFICATION; MORE ALTERNATE SAMPLES

Appendix Table A1: Analysis of tobacco control policies and products (without restriction due to SLT taxes)

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Cigarette Excise Tax (\$)	-0.02160***	-15.30213*	0.00533*	0.03718	-0.00518	0.04760	-0.00396	-0.00131
	-0.00571	(7.77695)	-0.0031	(0.46791)	-0.00641	(0.33688)	-0.00254	(0.05358)
Smokeless Tobacco Tax	0.01137	4.73720	0.02094	3.19893	-0.03332**	-0.98133*	0.01209	-0.39017
	-0.01548	(22.93563)	-0.02863	(5.48676)	-0.01655	(0.57427)	-0.00889	(0.31170)
% Pop Under Bar Smoking Ban	-0.00118	-2.25695	-0.00383	-1.26785	-0.001	0.36291**	0.00365	0.01173
	-0.00232	(2.54087)	-0.00326	(0.92430)	-0.00677	(0.17990)	-0.004	(0.04426)
Observations	1,685,045	1,685,045	321,078	321,078	86,698	86,698	317,669	317,669
Households	36,026	36,026	5,870	5,870	1,398	1,398	5,787	5,787
Mean Value: Dep Variable	0.291	138.661	0.074	11.896	0.104	4.080	0.104	1.277

Notes: All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**APPENDIX B:
RESULTS INCLUDING SAMPLE WEIGHTS, EXCLUDING
STATE-SPECIFIC TIME TRENDS, OR INCLUDING STATE
FIXED EFFECTS INSTEAD OF HOUSEHOLD FIXED
EFFECTS**

Appendix Table B1: Analysis of tobacco control policies and products (excluding state-specific time trends)

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
	Cigarette Excise Tax (\$)	-0.0263*** (0.0055)	-23.2967*** (6.9921)	0.0040 (0.0049)	-0.0597 (0.9245)	-0.0176 (0.0116)	-0.2670 (0.5942)	-0.0077*** (0.0028)
Chewing Tobacco Tax (Ad Velorem)	0.0001 (0.0002)	0.0162 (0.1692)	0.0005*** (0.0001)	0.0332 (0.0362)	-0.0010 (0.0010)	-0.0260 (0.0519)	0.0002 (0.0002)	0.0042 (0.0026)
Snuff Tax (Ad Velorem)	-0.0003*** (0.0001)	-0.1046* (0.0588)	-0.0001 (0.0001)	0.0238 (0.0143)	0.0005** (0.0002)	0.0121 (0.0123)	-0.0002*** (0.0001)	-0.0021*** (0.0007)
% Pop Under Bar Smoking Ban	-0.0004 (0.0041)	-1.1629 (3.8181)	-0.0002 (0.0041)	-0.1427 (1.2635)	-0.0055 (0.0132)	0.0001 (0.4753)	-0.0009 (0.0039)	0.0059 (0.0634)
Observations	1,307,350	1,307,350	244,291	244,291	69,383	69,383	244,389	244,389
Households	30,476	30,476	4,964	4,964	1,232	1,232	4,922	4,922
Mean Value: Dep Variable	0.297	144.272	0.076	11.973	0.104	4.115	0.104	1.271

Notes: Samples are restricted to households who purchased the product at least once throughout the sample period. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table B2: NHANES Cigarette characteristics among households purchasing matched cigarettes (excluding state-specific time trends)

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$)	0.0603 (0.0436)	0.0052* (0.0029)	0.0026 (0.0313)	-37.8182*** (13.7942)	-392.7213*** (142.7114)	-29.5686** (11.5857)	-441.7066*** (149.5439)
Chewing Tobacco Tax (Ad Velorem)	-0.0018 (0.0025)	-0.0000 (0.0002)	-0.0035** (0.0014)	0.1887 (0.2371)	-3.9245* (2.2404)	-0.2032 (0.1764)	-4.3374 (2.6680)
Snuff Tax (Ad Velorem)	0.0019*** (0.0006)	0.0001*** (0.0000)	0.0016*** (0.0004)	-0.1900* (0.1117)	2.5938* (1.3023)	0.1291 (0.1027)	2.2621* (1.3116)
% Pop Under Bar Smoking Ban	0.0705 (0.0591)	0.0051 (0.0050)	0.0233 (0.0396)	-1.3160 (5.8579)	17.2253 (62.1232)	0.5067 (4.9862)	-4.0781 (66.4613)
Observations	349,779	349,779	349,779	349,779	349,779	349,779	349,779
Households	25,826	25,826	25,826	25,826	25,826	25,826	25,826
Mean Value: Dep Variable	11.738	0.949	11.959	488.2	5369.2	433.1	5499.7

Notes: The sample is restricted to household-month observations with a positive purchase for households who purchased cigarettes such that at least one purchase could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table B3: Analysis of tobacco control policies and products (without household fixed effects and including state fixed effects)

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Cigarette Excise Tax (\$)	-0.03135*** (0.00754)	-27.54651*** (7.20450)	0.00572 (0.00573)	3.09031*** (0.96079)	-0.00745 (0.01495)	0.17320 (0.63749)	-0.00943 (0.00713)	-0.04497 (0.08745)
Chewing Tobacco Tax (Ad Velorem)	0.00011 (0.00015)	-0.09776 (0.14596)	0.00024* (0.00014)	-0.08021** (0.03846)	-0.00043 (0.00049)	-0.00803 (0.01372)	-0.00020 (0.00021)	-0.00107 (0.00364)
Snuff Tax (Ad Velorem)	0.00002 (0.00005)	0.21585*** (0.05206)	-0.00006 (0.00004)	0.01070 (0.01886)	0.00043*** (0.00015)	-0.00342 (0.00751)	0.00029*** (0.00009)	0.00158 (0.00138)
% Pop Under Bar Smoking Ban	-0.00478 (0.00477)	-4.12210 (4.18819)	-0.00396 (0.00585)	-1.55792 (2.53768)	-0.01486 (0.01103)	-0.44492 (0.44764)	-0.01587** (0.00713)	-0.30032** (0.12816)
Observations	1,307,350	1,307,350	244,291	244,291	69,383	69,383	244,389	244,389
Households	30,476	30,476	4,964	4,964	1,232	1,232	4,922	4,922
Mean Value: Dep Variable	0.297	144.272	0.076	11.973	0.104	4.115	0.104	1.271

Notes: Samples are restricted to households who purchased the product at least once throughout the sample period. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table B4: NHANES Cigarette characteristics among households purchasing matched cigarettes (without household fixed effects and including state fixed effects)

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$)	0.09406 (0.09557)	0.00644 (0.00694)	0.03844 (0.06539)	-37.06831*** (11.67321)	-337.09235** (131.21446)	-28.38799** (10.58043)	-384.58495*** (131.90394)
Chewing Tobacco Tax (Ad Velorem)	0.00382** (0.00161)	0.00029** (0.00012)	0.00169 (0.00180)	-0.20613 (0.26601)	-3.02190 (3.44155)	-0.16511 (0.26672)	-5.03928 (3.32933)
Snuff Tax (Ad Velorem)	0.00146* (0.00084)	0.00010 (0.00006)	0.00115 (0.00075)	0.49141*** (0.10170)	8.36524*** (1.34658)	0.60072*** (0.10291)	8.84248*** (1.30514)
% Pop Under Bar Smoking Ban	-0.06091 (0.09333)	-0.00192 (0.00694)	-0.09122 (0.07079)	-1.21748 (11.34341)	-22.46718 (115.18349)	0.35432 (9.70756)	-37.06532 (122.85267)
Observations	349,779	349,779	349,779	349,779	349,779	349,779	349,779
Households	25,826	25,826	25,826	25,826	25,826	25,826	25,826
Mean Value: Dep Variable	11.738	0.949	11.959	488.2	5369.2	433.1	5499.7

Notes: The sample is restricted to household-month observations with a positive purchase for households who purchased cigarettes such that at least one purchase could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table B5: Analysis of tobacco control policies and products (including NHCP sample weights)

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Cigarette Excise Tax (\$)	-0.02162*** (0.00589)	-20.15105*** (6.02630)	0.00952 (0.00571)	1.28426 (1.02271)	-0.01608 (0.01403)	-0.77943 (0.66034)	-0.00588 (0.00574)	0.00964 (0.10162)
Chewing Tobacco Tax (Ad Velorem)	0.00061*** (0.00014)	0.21703 (0.12952)	0.00013 (0.00024)	-0.06019* (0.03427)	0.00035 (0.00038)	-0.04259*** (0.01104)	0.00035 (0.00026)	0.00220 (0.00642)
Snuff Tax (Ad Velorem)	-0.00049*** (0.00005)	-0.20992*** (0.03459)	0.00011* (0.00006)	0.04044*** (0.01313)	-0.00020 (0.00014)	0.00783 (0.00742)	-0.00020** (0.00009)	0.00106 (0.00133)
% Pop Under Bar Smoking Ban	0.00755** (0.00369)	-1.89145 (3.40891)	0.00187 (0.00423)	-1.47687 (1.11495)	0.01680 (0.01497)	1.26398*** (0.41440)	-0.00277 (0.00701)	-0.01912 (0.11063)
Observations	1,307,350	1,307,350	244,291	244,291	69,383	69,383	244,389	244,389
Households	30,476	30,476	4,964	4,964	1,232	1,232	4,922	4,922
Mean Value: Dep Variable	0.297	144.272	0.076	11.973	0.104	4.115	0.104	1.271

Notes: Samples are restricted to households who purchased the product at least once throughout the sample period. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. All models include NHCP sample weights, and robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table B6: NHANES Cigarette characteristics among households purchasing matched cigarettes (including NHCP sample weights)

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$)	0.08306 (0.08267)	0.00512 (0.00598)	0.03052 (0.05052)	-41.16514*** (12.85267)	-457.83253*** (140.68508)	-37.04725*** (11.26930)	-481.33276*** (140.30423)
Chewing Tobacco Tax (Ad Velorem)	-0.00371* (0.00200)	-0.00029* (0.00015)	-0.00510*** (0.00151)	0.40972 (0.30551)	-4.75882 (4.40748)	-0.26321 (0.36572)	-4.11989 (4.63681)
Snuff Tax (Ad Velorem)	0.00140 (0.00101)	0.00010 (0.00008)	0.00270*** (0.00056)	-0.43219*** (0.10239)	1.81231 (1.47228)	0.01379 (0.11612)	1.85694 (1.37258)
% Pop Under Bar Smoking Ban	0.06422 (0.12342)	0.00600 (0.00959)	0.05173 (0.07067)	-13.89166 (8.60785)	-40.00405 (166.92129)	-3.02701 (13.65921)	-45.55885 (137.10402)
Observations	349,779	349,779	349,779	349,779	349,779	349,779	349,779
Households	25,826	25,826	25,826	25,826	25,826	25,826	25,826
Mean Value: Dep Variable	11.738	0.949	11.959	488.2	5369.2	433.1	5499.7

Notes: The sample is restricted to household-month observations with a positive purchase for households who purchased cigarettes such that at least one purchase could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. All models include NHCP sample weights, and robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**APPENDIX C:
RESULTS - QUARTERLY LEADS AND LAGS**

Appendix Table C1: Analysis of tobacco control policies and products; quarterly leads and lags analysis

	Smoking Cessation Products							
	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Cigarette Excise Tax (\$) (4Q-Lead)	0.00066 (0.00248)	-3.02069 (2.83297)	-0.00402 (0.00599)	-0.90413 (0.61707)	0.01629* (0.00834)	-0.21035 (0.47239)	0.00789 (0.00491)	0.09150 (0.07307)
Cigarette Excise Tax (\$) (3Q-Lead)	-0.00032 (0.00286)	-1.57504 (3.40378)	-0.00029 (0.00373)	1.01977 (0.81626)	-0.00885 (0.00848)	0.59109 (0.39693)	-0.00540 (0.00405)	-0.01209 (0.05418)
Cigarette Excise Tax (\$) (2Q-Lead)	-0.00375 (0.00445)	5.13736 (3.87423)	0.00127 (0.00495)	2.40511** (1.03128)	0.00248 (0.00787)	0.54912 (0.39078)	-0.00930* (0.00480)	-0.14410 (0.13142)
Cigarette Excise Tax (\$) (1Q-Lead)	-0.00612 (0.00489)	-1.52757 (4.35775)	-0.00427 (0.00552)	0.26482 (0.76381)	0.00365 (0.00661)	0.37656 (0.40819)	0.00524 (0.00462)	0.11923** (0.05202)
Cigarette Excise Tax (\$)	-0.02467*** (0.00571)	-32.62002*** (5.51011)	0.01981*** (0.00471)	0.89214 (1.19828)	-0.00448 (0.01041)	-0.87628 (0.55353)	0.00078 (0.00637)	0.01105 (0.09596)
Cigarette Excise Tax (\$) (1Q-Lag)	0.00171 (0.00237)	5.95613** (2.40002)	-0.01274** (0.00629)	-1.88731* (1.02721)	0.01120 (0.00934)	0.41165** (0.18046)	-0.00653 (0.00429)	0.05015 (0.07447)
Cigarette Excise Tax (\$) (2Q-Lag)	0.00246 (0.00176)	2.32770* (1.36892)	0.00035 (0.00590)	3.13585** (1.38901)	-0.02265*** (0.00662)	-0.08491 (0.25045)	0.00570 (0.00406)	-0.09069 (0.05881)
Cigarette Excise Tax (\$) (3Q-Lag)	-0.00086 (0.00250)	1.69662 (2.00771)	-0.00992** (0.00447)	-1.89577 (1.15423)	0.00953 (0.00681)	0.33523 (0.25057)	-0.00506 (0.00436)	-0.04766 (0.07600)
Cigarette Excise Tax (\$) (4Q-Lag)	-0.00444 (0.00300)	-2.54051 (3.56518)	0.01054** (0.00495)	1.77778* (0.97398)	-0.00082 (0.00681)	-0.10414 (0.38913)	-0.00229 (0.00300)	0.04739 (0.05761)
Chewing Tobacco Tax (Ad Velorem)	0.00040*** (0.00010)	0.12123 (0.08602)	0.00027 (0.00020)	-0.16800*** (0.03724)	-0.00036 (0.00037)	-0.03108 (0.02930)	0.00052*** (0.00012)	0.00662* (0.00337)
Snuff Tax (Ad Velorem)	-0.00031*** (0.00004)	-0.09467** (0.03841)	-0.00001 (0.00005)	0.06014*** (0.01303)	0.00027*** (0.00008)	0.00485 (0.00716)	-0.00023*** (0.00005)	-0.00271** (0.00103)
% Pop Under Bar Smoking Ban	-0.00363 (0.00325)	-5.58620 (3.39444)	-0.00550 (0.00377)	-1.08783 (1.18332)	-0.00553 (0.01667)	0.58833 (0.38945)	-0.00157 (0.00596)	0.00541 (0.04194)
Observations	1,063,627	1,063,627	199,992	199,992	55,905	55,905	199,355	199,355
Households	28,021	28,021	4,690	4,690	1,161	1,161	4,633	4,633
Mean Value: Dep Variable	0.296	143.447	0.075	12.163	0.102	4.095	0.104	1.245

Notes: Samples are restricted to households who purchased any tobacco product at least once throughout the sample period. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table C2: NHANES Cigarette characteristics among households purchasing matched cigarettes; quarterly leads and lags analysis

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$) (4Q-Lead)	0.01101 (0.02932)	-0.00018 (0.00242)	0.01944 (0.01941)	-15.60150* (7.82592)	-221.82340*** (75.80300)	-17.44239*** (6.36329)	-237.51782*** (85.67939)
Cigarette Excise Tax (\$) (3Q-Lead)	0.03446 (0.03447)	0.00203 (0.00195)	0.03799 (0.03235)	-2.96150 (8.31201)	16.49904 (106.78994)	0.34427 (8.76720)	31.71963 (104.92927)
Cigarette Excise Tax (\$) (2Q-Lead)	-0.02132 (0.02990)	-0.00082 (0.00190)	-0.02348 (0.02823)	10.76942 (10.26126)	51.12103 (136.21527)	4.71778 (10.66926)	52.88813 (134.46077)
Cigarette Excise Tax (\$) (1Q-Lead)	-0.01283 (0.02487)	-0.00002 (0.00197)	-0.00138 (0.02052)	3.54213 (9.09094)	53.29202 (84.35242)	5.36969 (7.19385)	29.94382 (85.50114)
Cigarette Excise Tax (\$)	0.07506** (0.03644)	0.00446 (0.00306)	0.05057** (0.02206)	-67.50575*** (10.22320)	-718.07687*** (116.53709)	-60.09233*** (9.44205)	-726.82115*** (118.23026)
Cigarette Excise Tax (\$) (1Q-Lag)	0.01399 (0.01994)	0.00183 (0.00150)	0.02398 (0.01603)	15.12427** (6.32940)	162.92752** (69.08952)	14.44427** (5.70134)	162.14870** (77.00827)
Cigarette Excise Tax (\$) (2Q-Lag)	-0.00353 (0.02853)	0.00011 (0.00157)	-0.03132 (0.01950)	1.95479 (5.55755)	3.43946 (55.49572)	0.50165 (4.47272)	-11.93735 (63.95597)
Cigarette Excise Tax (\$) (3Q-Lag)	0.01599 (0.02474)	0.00003 (0.00212)	-0.00567 (0.02481)	6.45911 (7.26122)	69.06111 (72.02544)	4.86952 (5.80387)	55.96558 (72.65535)
Cigarette Excise Tax (\$) (4Q-Lag)	0.06798** (0.02986)	0.00702** (0.00266)	0.00900 (0.03089)	2.23662 (11.51456)	78.51074 (118.52341)	5.84091 (9.15126)	59.44711 (128.67903)
Chewing Tobacco Tax (Ad Velorem)	-0.00183 (0.00179)	-0.00019 (0.00015)	-0.00150 (0.00144)	0.19976 (0.23322)	-2.27729 (2.96922)	-0.12848 (0.22936)	-1.74435 (3.16638)
Snuff Tax (Ad Velorem)	0.00252*** (0.00056)	0.00022*** (0.00005)	0.00153*** (0.00035)	-0.06283 (0.10325)	4.54435*** (1.34080)	0.27618** (0.10535)	3.95833*** (1.41777)
% Pop Under Bar Smoking Ban	0.02723 (0.07399)	0.00415 (0.00672)	-0.03796 (0.04344)	-12.76603** (5.52062)	-71.46525 (90.89505)	-5.34852 (7.63259)	-103.74346 (80.41743)
Observations	284,670	284,670	284,670	284,670	284,670	284,670	284,670
Households	22,471	22,471	22,471	22,471	22,471	22,471	22,471
Mean Value: Dep Variable	11.708	0.947	11.944	487.6	5356.0	432.2	5491.3

Notes: The sample is restricted to household-month observations with a positive purchase for households who purchased cigarettes such that at least one purchase could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**APPENDIX D:
RESULTS - BOOTLEGGING ANALYSIS**

Appendix Table D1: Analysis of tobacco control policies and products; bootlegging analysis

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity	Any Purchase	Quantity	Any Purchase	Quantity	Any Purchase	Quantity
		Purchased		Purchased		Purchased		Purchased
Cigarette Excise Tax (\$)	-0.03308*** (0.00633)	-31.41303*** (7.08404)	0.00437 (0.00600)	2.34537* (1.26457)	-0.03124* (0.01563)	-0.58999 (0.59257)	-0.00374 (0.00515)	-0.13367 (0.09632)
Chewing Tobacco Tax (Ad Velorem)	0.00025** (0.00011)	0.14001 (0.10829)	0.00016 (0.00014)	-0.09550*** (0.02185)	-0.00085*** (0.00028)	-0.03283 (0.02130)	0.00010 (0.00018)	0.00233 (0.00277)
Snuff Tax (Ad Velorem)	-0.00024*** (0.00004)	-0.08100* (0.04737)	0.00005 (0.00005)	0.04067*** (0.00864)	0.00056*** (0.00011)	0.00923 (0.00699)	-0.00013** (0.00006)	-0.00108 (0.00082)
% Pop Under Bar Smoking Ban	-0.00042 (0.00237)	-2.09107 (2.51096)	-0.00336 (0.00384)	-1.50068 (1.05022)	-0.00065 (0.00550)	0.30326* (0.15886)	0.00066 (0.00354)	0.00291 (0.03865)
Tax Difference	0.00088 (0.02014)	20.60534 (19.25355)	-0.02514 (0.01719)	-4.50251 (8.09458)	0.01252 (0.05764)	-4.55758* (2.38147)	-0.04702* (0.02554)	-0.28759 (0.40019)
Ln (Distance)	-0.00092 (0.00116)	-0.35638 (1.44366)	-0.00177 (0.00141)	-0.12134 (0.47737)	-0.00312 (0.00450)	-0.13181 (0.15877)	-0.00141 (0.00133)	-0.10533*** (0.02976)
Interaction (Tax Diff * lnDist)	0.00276 (0.00431)	-1.84250 (4.08855)	0.00594 (0.00394)	0.59242 (1.54594)	0.00463 (0.01236)	1.23913** (0.57807)	0.01042* (0.00526)	0.09983 (0.07770)
Observations	1,307,350	1,307,350	244,291	244,291	69,383	69,383	244,389	244,389
Households	30,476	30,476	4,964	4,964	1,232	1,232	4,922	4,922
Mean Value: Dep Variable	0.297	144.272	0.076	11.973	0.104	4.115	0.104	1.271

Notes: Samples are restricted to households who purchased any tobacco product at least once throughout the sample period. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table D2: NHANES Cigarette characteristics among households purchasing matched cigarettes; bootlegging analysis

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$)	0.16648*** (0.05817)	0.01084** (0.00447)	0.11862*** (0.04142)	-49.51722*** (15.14479)	-485.63575*** (159.45201)	-41.26710*** (12.99403)	-557.31460*** (167.18974)
Chewing Tobacco Tax (Ad Velorem)	-0.00011 (0.00158)	-0.00001 (0.00015)	-0.00146 (0.00087)	0.46871** (0.20569)	0.35023 (2.41500)	0.11408 (0.18335)	0.30937 (2.47073)
Snuff Tax (Ad Velorem)	0.00075 (0.00056)	0.00008* (0.00005)	0.00090** (0.00037)	-0.23230** (0.09816)	1.74825 (1.20673)	0.05881 (0.09591)	1.63670 (1.19637)
% Pop Under Bar Smoking Ban	0.02105 (0.05201)	0.00302 (0.00470)	-0.03515 (0.03038)	-6.63350* (3.44616)	-25.35139 (50.94855)	-1.70931 (4.49624)	-51.25894 (43.06556)
Tax Difference	0.12534 (0.28924)	0.01204 (0.01792)	-0.08494 (0.22747)	68.84154* (35.61039)	892.19109* (517.26279)	82.17083** (39.32353)	896.87596 (571.89452)
Ln (Distance)	0.01770 (0.03793)	0.00096 (0.00292)	0.01027 (0.03484)	0.26546 (4.03775)	-18.27734 (71.82553)	-1.70661 (5.71753)	-24.92030 (70.50302)
Interaction (Tax Diff * LnDist)	-0.04942 (0.05870)	-0.00385 (0.00357)	0.00122 (0.04657)	-13.42984* (7.55371)	-202.64419* (111.32262)	-18.11596** (8.56090)	-187.91462 (120.95595)
Observations	349,779	349,779	349,779	349,779	349,779	349,779	349,779
Households	25,826	25,826	25,826	25,826	25,826	25,826	25,826
Mean Value: Dep Variable	11.738	0.949	11.959	488.2	5369.2	433.1	5499.7

Notes: The sample is restricted to household-month observations with a positive purchase for households who purchased cigarettes such that at least one purchase could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**APPENDIX E:
NHANES RESULTS AMONG HOUSEHOLDS ONLY
PURCHASING MATCHED CIGARETTES**

Appendix Table E1: NHANES Cigarette characteristics among households only purchasing matched cigarettes (excluding zero purchases)

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$)	0.0681 (0.0412)	0.0042 (0.0036)	0.0569* (0.0333)	-37.4715*** (10.9160)	-409.8395*** (136.2838)	-34.6425*** (10.6007)	-422.4547*** (139.1670)
Chewing Tobacco Tax (Ad Velorem)	0.0018 (0.0015)	0.0000 (0.0001)	0.0031*** (0.0009)	0.5756* (0.3092)	5.5849 (3.7719)	0.3589 (0.2809)	8.1454* (4.2448)
Snuff Tax (Ad Velorem)	-0.0024*** (0.0005)	-0.0001 (0.0000)	-0.0029*** (0.0003)	-0.3624*** (0.1067)	-2.5072* (1.3592)	-0.1443 (0.1051)	-4.1504*** (1.4119)
% Pop Under Bar Smoking Ban	0.0276 (0.0520)	0.0021 (0.0043)	-0.0123 (0.0303)	-4.9794 (3.4720)	-44.2674 (49.4364)	-3.7664 (3.8436)	-51.2376 (47.8041)
Observations	207,335	207,335	207,335	207,335	207,335	207,335	207,335
Households	18,761	18,761	18,761	18,761	18,761	18,761	18,761
Mean Value: Dep Variable	11.699	0.949	11.917	427.3	4891.1	396.5	5005.5

Notes: The sample is restricted to household-month observations with a positive purchase for households who purchased cigarettes such that all purchases could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table E2: NHANES Cigarette characteristics among households only purchasing matched cigarettes (including zero purchases)

	Total Estimated Monthly Consumption of:			
	Cigarettes	Tar	Nicotine	Carbon Monoxide
Cigarette Excise Tax (\$)	-21.39289*** (4.66837)	-204.04976*** (52.49740)	-17.17530*** (4.12619)	-213.58819*** (53.57026)
Chewing Tobacco Tax (Ad Velorem)	0.11468 (0.12835)	0.83654 (1.47723)	0.04034 (0.11251)	1.18484 (1.54293)
Snuff Tax (Ad Velorem)	-0.06420 (0.04094)	-0.37845 (0.50800)	-0.01469 (0.03928)	-0.68416 (0.53035)
% Pop Under Bar Smoking Ban	2.01062 (2.15453)	17.44431 (20.42088)	1.38345 (1.58948)	18.48871 (22.56039)
Observations	767,663	767,663	767,663	767,663
Households	19,920	19,920	19,920	19,920
Mean Value: Dep Variable	117.9	1321.0	107.1	1351.9

Notes: The sample is restricted to household-month observations for households who purchased cigarettes such that all purchases could be matched to cigarette characteristics. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

**APPENDIX F:
ANALYSIS OF HETEROGENEITY IN RESPONSES**

Appendix Table F1: Analysis of tobacco control policies and products: Occasional and pack-a-day smokers

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Occasional Smokers								
Cigarette Excise Tax (\$)	-0.0215*** (0.0045)	-13.6571*** (2.7560)	0.0006 (0.0011)	0.1852 (0.1438)	-0.0005* (0.0003)	-0.0053 (0.0163)	-0.0006 (0.0009)	0.0069 (0.0111)
Chewing Tobacco Tax (Ad Velorem)	0.0003*** (0.0001)	0.1079 (0.0711)	0.0001* (0.0000)	-0.0067 (0.0069)	-0.0000** (0.0000)	-0.0018 (0.0012)	0.0000 (0.0000)	0.0007* (0.0003)
Snuff Tax (Ad Velorem)	-0.0004*** (0.0000)	-0.0860*** (0.0169)	-0.0000*** (0.0000)	0.0016 (0.0016)	0.0000*** (0.0000)	0.0005** (0.0002)	-0.0000*** (0.0000)	-0.0003*** (0.0001)
% Pop Under Bar Smoking Ban	0.0010 (0.0021)	0.7661 (1.1094)	-0.0005 (0.0005)	-0.2642 (0.1649)	0.0001 (0.0002)	0.0216* (0.0111)	0.0004 (0.0006)	0.0019 (0.0098)
Observations	1,101,482	1,101,482	1,101,482	1,101,482	1,101,482	1,101,482	1,101,482	1,101,482
Households	25,115	25,115	25,115	25,115	25,115	25,115	25,115	25,115
Mean Value: Dep Variable	0.196	43.864	0.010	1.151	0.002	0.076	0.010	0.126
Pack-a-Day Smokers								
Cigarette Excise Tax (\$)	-0.0325** (0.0152)	-84.0007* (42.0881)	0.0019 (0.0021)	0.0378 (0.1318)	0.0007 (0.0011)	0.0282 (0.0806)	0.0004 (0.0028)	0.0265 (0.0279)
Chewing Tobacco Tax (Ad Velorem)	0.0004 (0.0003)	0.5846 (0.8831)	-0.0000 (0.0001)	-0.0077 (0.0048)	-0.0000 (0.0000)	-0.0026* (0.0014)	0.0001 (0.0001)	0.0013 (0.0012)
Snuff Tax (Ad Velorem)	0.0001 (0.0001)	0.2609 (0.2778)	0.0001** (0.0000)	0.0087*** (0.0014)	0.0000* (0.0000)	0.0012*** (0.0004)	-0.0000 (0.0000)	-0.0001 (0.0005)
% Pop Under Bar Smoking Ban	-0.0006 (0.0151)	-37.4973 (30.9613)	-0.0016 (0.0031)	-0.2287 (0.1890)	0.0018* (0.0010)	0.2034** (0.0962)	0.0002 (0.0031)	-0.0597 (0.0421)
Observations	87,529	87,529	87,529	87,529	87,529	87,529	87,529	87,529
Households	2,297	2,297	2,297	2,297	2,297	2,297	2,297	2,297
Mean Value: Dep Variable	0.914	1011.621	0.010	0.760	0.004	0.308	0.014	0.200

Notes: Samples are restricted to households meeting the criteria of occasional smokers (300 cigarettes or fewer purchased per month) or pack-a-day smokers (600 or more cigarettes purchased per month). All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F2: Analysis of tobacco control policies and products by income

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Income < \$30,000								
Cigarette Excise Tax (\$)	-0.03253*** (0.00836)	-13.6571*** (2.7560)	-0.00715 (0.00756)	0.1852 (0.1438)	-0.02608 (0.01688)	-0.0053 (0.0163)	0.00419 (0.00665)	0.0069 (0.0111)
Chewing Tobacco Tax (Ad Velorem)	0.00067*** (0.00014)	0.1079 (0.0711)	-0.00035 (0.00024)	-0.0067 (0.0069)	-0.00009 (0.00065)	-0.0018 (0.0012)	0.00041 (0.00030)	0.0007* (0.0003)
Snuff Tax (Ad Velorem)	-0.00040*** (0.00006)	-0.0860*** (0.0169)	0.00059*** (0.00009)	0.0016 (0.0016)	0.00066** (0.00025)	0.0005** (0.0002)	-0.00072*** (0.00011)	-0.0003*** (0.0001)
% Pop Under Bar Smoking Ban	0.00219 (0.00572)	0.7661 (1.1094)	-0.00479 (0.00866)	-0.2642 (0.1649)	-0.01061 (0.03228)	0.0216* (0.0111)	0.01444 (0.00959)	0.0019 (0.0098)
Observations	378,566	378,566	59,635	59,635	17,246	17,246	66,127	66,127
Households	11,245	11,245	1,640	1,640	436	436	1,712	1,712
Mean Value: Dep Variable	0.341	163.986	0.059	7.675	0.124	5.418	0.066	1.126
Income > \$30,000								
Cigarette Excise Tax (\$)	-0.02358*** (0.00520)	-22.37773*** (5.91013)	0.00859 (0.00731)	1.37612** (0.67093)	-0.00339 (0.01020)	-0.60835 (0.58112)	-0.00638 (0.00401)	-0.00614 (0.07658)
Chewing Tobacco Tax (Ad Velorem)	0.00017 (0.00012)	0.20523 (0.12343)	0.00045*** (0.00013)	-0.03752 (0.02273)	-0.00070* (0.00036)	-0.03003 (0.02092)	0.00019 (0.00018)	0.00243 (0.00340)
Snuff Tax (Ad Velorem)	-0.00018*** (0.00005)	-0.15400*** (0.04328)	-0.00015*** (0.00006)	0.00332 (0.01062)	0.00030*** (0.00010)	0.01056 (0.00651)	-0.00014*** (0.00004)	-0.00117 (0.00080)
% Pop Under Bar Smoking Ban	-0.00041 (0.00216)	-0.25242 (2.14646)	-0.00069 (0.00534)	-0.79783 (1.57100)	-0.00136 (0.00495)	0.32406 (0.23807)	-0.00126 (0.00316)	-0.05881 (0.06062)
Observations	933,870	933,870	186,311	186,311	52,439	52,439	179,052	179,052
Households	23,521	23,521	4,119	4,119	1,011	1,011	3,985	3,985
Mean Value: Dep Variable	0.280	136.559	0.081	13.295	0.097	3.680	0.104	1.285

Notes: Samples are restricted to households meeting the stated income criteria. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F3: Analysis of tobacco control policies and products by age group

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Age 25 - 54								
Cigarette Excise Tax (\$)	-0.02518*** (0.00719)	-20.46212*** (7.05335)	0.00417 (0.00394)	0.21108 (1.01425)	-0.00740 (0.00943)	-0.81820 (0.77871)	-0.00707 (0.00738)	0.04765 (0.13490)
Chewing Tobacco Tax (Ad Velorem)	0.00048*** (0.00014)	0.34693** (0.15406)	0.00041** (0.00019)	-0.05657** (0.02519)	-0.00140*** (0.00048)	-0.05051*** (0.01199)	0.00016 (0.00021)	0.00613 (0.00421)
Snuff Tax (Ad Velorem)	-0.00034*** (0.00005)	-0.15780*** (0.04936)	-0.00028*** (0.00007)	-0.01762 (0.01338)	0.00152*** (0.00013)	0.02941*** (0.00696)	-0.00010 (0.00007)	-0.00100 (0.00107)
% Pop Under Bar Smoking Ban	0.00320 (0.00305)	-2.37852 (3.34789)	-0.00070 (0.00491)	-0.26924 (1.45535)	-0.00382 (0.00720)	0.11839* (0.06578)	0.00354 (0.00343)	-0.00717 (0.06656)
Observations	727,712	727,712	134,609	134,609	32,728	32,728	137,272	137,272
Households	11,245	11,245	3,399	3,399	755	755	3,512	3,512
Mean Value: Dep Variable	0.321	146.181	0.072	10.735	0.092	3.276	0.065	1.210
Age 55+								
Cigarette Excise Tax (\$)	-0.02618*** (0.00633)	-28.74083*** (6.77124)	0.00669 (0.00885)	2.47014** (1.00031)	-0.01480 (0.01193)	-0.18718 (0.70731)	-0.00498 (0.00603)	0.05600 (0.07852)
Chewing Tobacco Tax (Ad Velorem)	0.00019* (0.00012)	0.16427 (0.12425)	-0.00014 (0.00016)	-0.13438*** (0.02139)	-0.00056 (0.00038)	-0.02398 (0.03501)	0.00016 (0.00024)	0.00444 (0.00330)
Snuff Tax (Ad Velorem)	-0.00033*** (0.00005)	-0.23764*** (0.05430)	0.00033*** (0.00008)	0.09669*** (0.01010)	-0.00008 (0.00015)	-0.00663 (0.00950)	-0.00014* (0.00007)	-0.00255** (0.00119)
% Pop Under Bar Smoking Ban	-0.00389 (0.00373)	-1.56815 (2.82759)	-0.00547 (0.00699)	-2.15468** (0.90460)	0.00929 (0.01685)	0.94526 (0.59881)	-0.00572 (0.00611)	-0.09124 (0.09604)
Observations	718,191	718,191	138,545	138,545	43,225	43,225	132,469	132,469
Households	15,699	15,699	2,805	2,805	804	804	2,520	2,520
Mean Value: Dep Variable	0.278	148.448	0.080	13.581	0.118	5.086	0.079	0.970

Notes: Samples are restricted to households meeting the criteria of age 25-54. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F4: Analysis of tobacco control policies and products by region

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
Northeast								
Cigarette Excise Tax (\$)	-0.00642 (0.00427)	-0.79465 (2.00051)	-0.00798 (0.00499)	1.25403 (1.51907)	-0.03146*** (0.00836)	-1.01789*** (0.18571)	0.00083 (0.00694)	-0.21330** (0.07041)
Chewing Tobacco Tax (Ad Velorem)	0.00099*** (0.00025)	1.07051*** (0.19067)	-0.00071** (0.00021)	-0.12562 (0.07155)	-0.00030 (0.00020)	-0.01923 (0.01076)	0.00041 (0.00070)	0.01754*** (0.00420)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.00196 (0.00824)	10.15242* (4.95386)	-0.00210 (0.00994)	-3.22515 (3.09873)	0.01127 (0.02961)	-1.35591*** (0.36026)	0.00188 (0.00792)	-0.10081 (0.08119)
Observations	160,579	160,579	28,763	28,763	5,430	5,430	26,679	26,679
Households	4,144	4,144	678	678	114	114	582	582
Mean Value: Dep Variable	0.297	135.896	0.064	7.596	0.090	2.522	0.099	1.128
South								
Cigarette Excise Tax (\$)	-0.03554*** (0.00528)	-33.34270*** (6.68731)	0.01386** (0.00628)	0.85195 (0.67873)	-0.00495 (0.01704)	-0.20874 (0.85248)	-0.00875* (0.00488)	0.06089 (0.08093)
Chewing Tobacco Tax (Ad Velorem)	0.00004 (0.00012)	0.12917 (0.13125)	0.00017 (0.00011)	-0.02841 (0.02190)	0.00005 (0.00031)	-0.03557 (0.02835)	-0.00011 (0.00021)	0.00119 (0.00311)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.00348 (0.00200)	1.75495 (1.63986)	-0.02012** (0.00855)	-0.91894 (1.14810)	0.00144 (0.00557)	0.18023 (0.10699)	-0.00059 (0.00191)	-0.09406 (0.07233)
Observations	531,963	531,963	95,703	95,703	37,301	37,301	112,658	112,658
Households	12,916	12,916	2,049	2,049	701	701	2,370	2,370
Mean Value: Dep Variable	0.312	160.729	0.076	11.950	0.139	6.029	0.118	1.561
Midwest								
Cigarette Excise Tax (\$)	-0.02611*** (0.00425)	-26.35404*** (5.11481)	0.00012 (0.00711)	-0.43265 (1.13126)	-0.00462 (0.01140)	0.00674 (0.33796)	0.00439 (0.00661)	-0.02224 (0.14633)
Chewing Tobacco Tax (Ad Velorem)	0.00048 (0.00030)	0.46852 (0.35480)	0.00057** (0.00024)	-0.00143 (0.04555)	-0.00204** (0.00074)	-0.02093** (0.00911)	0.00005 (0.00020)	-0.00115 (0.00365)
Snuff Tax (Ad Velorem)	-0.00031*** (0.00004)	-0.15560** (0.05782)	0.00002 (0.00007)	0.02992*** (0.00905)	0.00056** (0.00018)	0.00741 (0.00657)	-0.00025** (0.00010)	-0.00170 (0.00122)
% Pop Under Bar Smoking Ban	-0.00639 (0.00373)	-7.32277** (2.71308)	0.00300 (0.00302)	-1.51002 (1.18183)	-0.00515 (0.01059)	0.66108 (0.64177)	-0.00204 (0.00924)	0.00571 (0.04363)
Observations	407,142	407,142	79,575	79,575	16,094	16,094	71,780	71,780
Households	9,053	9,053	1,513	1,513	263	263	1,378	1,378
Mean Value: Dep Variable	0.285	132.631	0.070	10.810	0.073	2.832	0.096	1.075
West								
Cigarette Excise Tax (\$)	0.02475** (0.01038)	12.23534 (16.52014)	0.01324 (0.00850)	3.70369* (1.78496)	0.02128 (0.03483)	-0.39680 (0.68148)	-0.02768** (0.00922)	-0.05311 (0.14048)
Chewing Tobacco Tax (Ad Velorem)	-0.00071 (0.00045)	-1.19300* (0.54689)	-0.00056 (0.00034)	-0.11062** (0.04284)	-0.00144 (0.00157)	0.02931** (0.00985)	0.00092*** (0.00024)	-0.00738 (0.00909)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.00042 (0.01731)	-3.17301 (17.26585)	-0.00518 (0.00639)	-3.57798*** (0.95392)	0.02380 (0.01708)	0.62459 (0.43107)	0.00736 (0.01440)	0.18726 (0.17145)
Observations	237,126	237,126	46,154	46,154	12,163	12,163	37,927	37,927
Households	5,279	5,279	907	907	197	197	731	731
Mean Value: Dep Variable	0.283	130.809	0.093	16.374	0.040	0.507	0.080	0.868

Notes: Samples are restricted to households meeting the criteria by region of household location. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F5: Analysis of tobacco control policies and products by state smoking prevalence

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased	Any Purchase	Quantity Purchased
	Smoking Prevalence >= 20% (2013)							
Cigarette Excise Tax (\$)	-0.02888*** (0.00557)	-26.72059*** (6.00159)	-0.00230 (0.00684)	0.42029 (1.64969)	-0.02934* (0.01527)	-0.04524 (1.64578)	0.00578 (0.00655)	0.04079 (0.21725)
Chewing Tobacco Tax (Ad Velorem)	0.00028* (0.00016)	0.19561 (0.23479)	0.00024 (0.00044)	-0.13118* (0.07334)	0.00091 (0.00054)	-0.15737*** (0.02635)	-0.00148** (0.00053)	-0.00355 (0.01021)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	-0.00172 (0.00280)	-2.65492 (3.07373)	-0.00887 (0.00671)	-1.66534 (1.68578)	-0.00123 (0.00632)	0.34433* (0.18757)	-0.00129 (0.00392)	-0.03226 (0.05414)
Observations	561,468	561,468	103,261	103,261	34,309	34,309	117,351	117,351
Households	12,971	12,971	2,046	2,046	610	610	2,321	2,321
Mean Value: Dep Variable	0.308	149.888	0.313	164.225	0.139	5.693	0.119	1.510
Smoking Prevalence < 20% (2013)								
Cigarette Excise Tax (\$)	-0.02537*** (0.00755)	-23.77614*** (8.03250)	0.00599 (0.00664)	1.22384** (0.48417)	-0.00504 (0.00998)	-0.22580 (0.27502)	-0.00766* (0.00377)	0.00785 (0.08626)
Chewing Tobacco Tax (Ad Velorem)	0.00014 (0.00016)	0.00516 (0.14545)	0.00021 (0.00016)	-0.06627** (0.02818)	-0.00138*** (0.00031)	-0.01847** (0.00787)	0.00026 (0.00016)	0.00143 (0.00228)
Snuff Tax (Ad Velorem)	-0.00024*** (0.00007)	-0.06605 (0.06533)	0.00003 (0.00006)	0.04729*** (0.01464)	0.00062*** (0.00011)	0.00479 (0.00502)	-0.00007 (0.00005)	-0.00017 (0.00094)
% Pop Under Bar Smoking Ban	0.00330 (0.00631)	-0.01942 (5.31366)	0.00206 (0.00357)	-0.60473 (1.31486)	0.00885 (0.01444)	-0.01909 (0.52965)	0.00562 (0.00571)	0.05892 (0.05233)
Observations	769,725	769,725	146,878	146,878	36,161	36,161	131,267	131,267
Households	18,247	18,247	3,102	3,102	652	652	2,729	2,729
Mean Value: Dep Variable	0.290	140.350	0.077	12.573	0.070	2.653	0.088	1.032

Notes: Samples are restricted to households residing in a state with the stated smoking prevalence. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F6: Analysis of tobacco control policies and products by change in state smoking prevalence

	Cigarettes (count)		Smoking Cessation Products (count)		Chewing Tobacco (oz)		Snuff (oz)	
	Any Purchase	Quantity	Any Purchase	Quantity	Any Purchase	Quantity	Any Purchase	Quantity
		Purchased		Purchased		Purchased		Purchased
Smoking Prevalence Change < 3 Percentage Points (1993- 2013)								
Cigarette Excise Tax (\$)	-0.02268*** (0.00688)	-23.45361*** (6.69049)	-0.00386 (0.00859)	0.69713 (2.11580)	-0.03844** (0.01778)	-0.71322 (2.00525)	0.00720 (0.00874)	0.09232 (0.25501)
Chewing Tobacco Tax (Ad Velorem)	-0.00005 (0.00015)	-0.14724 (0.18002)	0.00009 (0.00049)	-0.14347** (0.06628)	0.00086 (0.00063)	-0.15315*** (0.04076)	-0.00142*** (0.00046)	-0.00969 (0.00859)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	-0.00148 (0.00286)	-1.43756 (2.69623)	-0.00234 (0.01316)	-1.49805 (1.96759)	0.00265 (0.00347)	0.27684* (0.13176)	0.00324 (0.00336)	0.05122 (0.06915)
Observations	373,116	373,116	67,394	67,394	20,161	20,161	80,346	80,346
Households	8,649	8,649	1,346	1,346	350	350	1,630	1,630
Mean Value: Dep Variable	0.315	152.742	0.076	12.269	0.128	5.378	0.131	1.663
Smoking Prevalence Change >= 3 Percentage Points (1993- 2013)								
Cigarette Excise Tax (\$)	-0.02657*** (0.00616)	-24.57077*** (6.93981)	0.00701 (0.00670)	1.45796*** (0.45502)	-0.00178 (0.01201)	-0.11442 (0.35344)	-0.00474 (0.00288)	0.01753 (0.06758)
Chewing Tobacco Tax (Ad Velorem)	0.00021 (0.00013)	0.10041 (0.12835)	0.00021 (0.00015)	-0.09046*** (0.02422)	-0.00096** (0.00038)	-0.01886** (0.00786)	0.00031*** (0.00011)	0.00302 (0.00255)
Snuff Tax (Ad Velorem)	-0.00026*** (0.00005)	-0.09236* (0.05221)	-0.00000 (0.00005)	0.04195*** (0.01031)	0.00042*** (0.00013)	0.00527 (0.00367)	-0.00015** (0.00006)	-0.00106 (0.00071)
% Pop Under Bar Smoking Ban	0.00220 (0.00437)	-1.65716 (3.72755)	-0.00261 (0.00354)	-1.29733 (1.23777)	-0.01512 (0.01700)	0.24412 (0.38780)	-0.00231 (0.00668)	-0.07807 (0.06722)
Observations	953,694	953,694	181,606	181,606	49,951	49,951	168,307	168,307
Households	22,450	22,450	3,767	3,767	903	903	3,411	3,411
Mean Value: Dep Variable	0.291	141.009	0.075	11.655	0.094	3.681	0.090	1.085

Notes: Samples are restricted to households residing in a state with the stated change in smoking prevalence. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include household, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F7: NHANES Cigarette characteristics among households purchasing matched cigarettes by income

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Income < \$30,000							
Cigarette Excise Tax (\$)	0.01407 (0.05187)	0.00219 (0.00391)	-0.01406 (0.05126)	-43.65473*** (11.44748)	-510.71688*** (159.40708)	-39.56587*** (13.17200)	-530.40346*** (170.76954)
Chewing Tobacco Tax (Ad Velorem)	-0.00029 (0.00238)	-0.00000 (0.00030)	-0.00387** (0.00163)	0.36366 (0.33980)	-2.93800 (4.18010)	0.06729 (-0.33581)	-5.39615 (3.80888)
Snuff Tax (Ad Velorem)	0.00267*** (0.00074)	0.00018** (0.00007)	0.00373*** (0.00056)	-0.20427 (0.12548)	5.29617*** (1.50823)	0.15970 (0.11862)	5.65578*** (1.60103)
% Pop Under Bar Smoking Ban	-0.02531 (0.03603)	-0.00072 (0.00338)	-0.04367 (0.03983)	-17.28147 (10.37114)	-202.22397 (124.39343)	-16.11148 (9.69964)	-197.87208 (128.06222)
Observations	114,171	114,171	114,171	114,171	114,171	114,171	114,171
Households	8,882	8,882	8,882	8,882	8,882	8,882	8,882
Mean Value: Dep Variable	12.271	0.985	12.377	481.6	5417.2	433.5	5502.1
Income > \$30,000							
Cigarette Excise Tax (\$)	0.11626** (0.04508)	0.00903*** (0.00316)	0.08266* (0.04365)	-40.01284** (15.33357)	-399.58310** (162.94498)	-32.71372** (13.55282)	-418.66226** (161.38723)
Chewing Tobacco Tax (Ad Velorem)	-0.00001 (0.00125)	-0.00001 (0.00010)	0.00103 (0.00095)	0.59085** (0.27038)	2.09483 (2.89320)	0.14849 (0.21650)	4.30306 (2.94034)
Snuff Tax (Ad Velorem)	0.00024 (0.00058)	0.00003 (0.00004)	-0.00115** (0.00046)	-0.41037*** (0.09913)	-1.08418 (1.28235)	-0.09580 (0.10187)	-2.52381** (1.24747)
% Pop Under Bar Smoking Ban	0.06105 (0.10153)	0.00653 (0.00776)	-0.02127 (0.06245)	2.70479 (9.22277)	103.06710 (125.37794)	8.43178 (10.18009)	61.16773 (111.65279)
Observations	237,096	237,096	237,096	237,096	237,096	237,096	237,096
Households	19,057	19,057	19,057	19,057	19,057	19,057	19,057
Mean Value: Dep Variable	11.480	0.931	11.757	492.1	5353.0	433.6	5505.4

Notes: The sample is restricted to household-month observations with income in the stated range by panel. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F8: NHANES Cigarette characteristics among households purchasing matched cigarettes by age group

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Age 25-54							
Cigarette Excise Tax (\$)	0.12504*** (0.04571)	0.00921*** (0.00290)	0.07275* (0.03936)	-28.49669** (13.58845)	-320.65750** (157.40423)	-25.33767* (12.79419)	-335.82265** (158.31782)
Chewing Tobacco Tax (Ad Velorem)	-0.00051 (0.00205)	-0.00007 (0.00016)	0.00122 (0.00106)	0.78351*** (0.23637)	1.15750 (3.16427)	0.17153 (0.23455)	3.99005 (3.31673)
Snuff Tax (Ad Velorem)	0.00016 (0.00059)	0.00006 (0.00004)	-0.00153*** (0.00041)	-0.32004*** (0.10767)	1.79973 (1.33078)	0.07997 (0.10218)	-0.26794 (1.41370)
% Pop Under Bar Smoking Ban	0.03722 (0.05272)	0.00293 (0.00404)	0.00420 (0.03414)	-5.74441 (4.93941)	-45.59043 (71.18897)	-4.24184 (5.44524)	-58.28219 (67.69277)
Observations	212,704	212,704	212,704	212,704	212,704	212,704	212,704
Households	18,070	18,070	18,070	18,070	18,070	18,070	18,070
Mean Value: Dep Variable	11.824	0.953	12.113	457.8	5060.8	407.4	5211.7
Age 55+							
Cigarette Excise Tax (\$)	0.08274 (0.06197)	0.00654 (0.00448)	0.05923 (0.05277)	-55.73587*** (11.87612)	-543.54456*** (125.53644)	-45.01466*** (10.55242)	-575.60995*** (125.25154)
Chewing Tobacco Tax (Ad Velorem)	-0.00170 (0.00164)	-0.00007 (0.00017)	-0.00369*** (0.00102)	0.67554** (0.33359)	1.85610 (4.04783)	0.30537 (0.28799)	0.21319 (4.46906)
Snuff Tax (Ad Velorem)	0.00286*** (0.00065)	0.00020*** (0.00006)	0.00279*** (0.00037)	-0.62064*** (0.13051)	-0.41687 (1.65515)	-0.18052 (0.13153)	0.18927 (1.61048)
% Pop Under Bar Smoking Ban	-0.01704 (0.06910)	0.00196 (0.00692)	-0.12782* (0.06423)	-9.86971 (8.77682)	-13.40240 (112.33889)	0.76526 (9.81033)	-67.02882 (115.06282)
Observations	176,790	176,790	176,790	176,790	176,790	176,790	176,790
Households	12,089	12,089	12,089	12,089	12,089	12,089	12,089
Mean Value: Dep Variable	11.632	0.944	11.772	539.8	5877.9	475.0	5991.1

Notes: The sample is restricted to household-month observations with income in the stated range by panel. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F9: NHANES Cigarette characteristics among households purchasing matched cigarettes by region

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Northeast							
Cigarette Excise Tax (\$)	-0.12848* (0.06567)	-0.00323 (0.00690)	-0.07006*** (0.01336)	1.93995 (8.55167)	-87.52972 (119.88147)	-4.06293 (10.98895)	-109.84430 (112.76001)
Chewing Tobacco Tax (Ad Velorem)	0.01464*** (0.00183)	0.00112*** (0.00014)	0.00440 (0.00261)	3.05947*** (0.59628)	46.33401*** (6.52937)	3.55059*** (0.61701)	42.36313*** (6.11312)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.13784 (0.16424)	0.01355 (0.01184)	0.02196 (0.12995)	-3.77676 (12.83777)	56.78388 (222.99356)	6.93677 (20.37444)	21.25464 (260.64553)
Observations	43,711	43,711	43,711	43,711	43,711	43,711	43,711
Households	3,376	3,376	3,376	3,376	3,376	3,376	3,376
Mean Value: Dep Variable	12.252	0.985	12.363	457.3	5309.3	426.1	5378.4
South							
Cigarette Excise Tax (\$)	0.12191* (0.06448)	0.00886 (0.00511)	0.11233* (0.06009)	-58.65922*** (14.89426)	-589.74752*** (199.96152)	-48.42295*** (16.17320)	-601.62174*** (190.40176)
Chewing Tobacco Tax (Ad Velorem)	-0.00225** (0.00089)	-0.00023*** (0.00007)	-0.00185** (0.00069)	0.15017 (0.27023)	-1.24508 (3.29293)	-0.09075 (0.24501)	-0.48367 (3.67052)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.00036 (0.06334)	0.00240 (0.00535)	-0.01563 (0.04191)	-2.21525 (2.02326)	2.17598 (43.49703)	1.58777 (4.44534)	-10.80145 (25.40399)
Observations	147,519	147,519	147,519	147,519	147,519	147,519	147,519
Households	10,917	10,917	10,917	10,917	10,917	10,917	10,917
Mean Value: Dep Variable	11.524	0.932	11.825	521.2	5604.7	451.3	5790.5
Midwest							
Cigarette Excise Tax (\$)	0.10055* (0.04878)	0.00369 (0.00333)	0.07628*** (0.02287)	-41.76626*** (8.59756)	-459.57014** (156.86378)	-37.68925** (12.76527)	-477.10361*** (144.61175)
Chewing Tobacco Tax (Ad Velorem)	0.00184 (0.00397)	0.00035* (0.00019)	-0.00176 (0.00364)	1.32982*** (0.36270)	11.53105*** (2.05032)	1.02395*** (0.16218)	9.42940*** (2.65344)
Snuff Tax (Ad Velorem)	0.00032 (0.00054)	0.00004 (0.00005)	0.00056* (0.00030)	-0.38577*** (0.10210)	-0.59619 (1.24677)	-0.12425 (0.09932)	-0.59913 (1.20200)
% Pop Under Bar Smoking Ban	-0.00444 (0.04649)	-0.00349 (0.00327)	-0.01369 (0.04641)	-16.77058*** (2.23598)	-223.65823** (76.51564)	-20.16004*** (5.87656)	-209.55597*** (63.08259)
Observations	104,906	104,906	104,906	104,906	104,906	104,906	104,906
Households	7,727	7,727	7,727	7,727	7,727	7,727	7,727
Mean Value: Dep Variable	11.708	0.947	11.930	469.0	5185.0	419.6	5285.8
West							
Cigarette Excise Tax (\$)	-0.00619 (0.07842)	0.00004 (0.00537)	-0.04075 (0.06095)	-2.89207 (32.50411)	-64.00450 (319.06963)	-5.53761 (26.41031)	-51.14661 (330.39605)
Chewing Tobacco Tax (Ad Velorem)	0.00644 (0.00377)	0.00026 (0.00023)	0.00296 (0.00228)	-2.03655* (1.04818)	-21.01351* (11.35974)	-1.69897* (0.90305)	-24.84502* (12.53391)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	-0.06733 (0.23942)	0.00051 (0.01411)	-0.22491* (0.11431)	7.18332 (25.58094)	161.46972 (205.61673)	13.74106 (17.64553)	80.07817 (289.36171)
Observations	60,342	60,342	60,342	60,342	60,342	60,342	60,342
Households	4,379	4,379	4,379	4,379	4,379	4,379	4,379
Mean Value: Dep Variable	11.953	0.968	12.040	464.9	5175.4	418.9	5256.9

Notes: The sample is restricted to household-month observations which reside in the stated region by panel. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F10: NHANES Cigarette characteristics among households purchasing matched cigarettes by state smoking prevalence

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Smoking Prevalence >= 20% (2013)							
Cigarette Excise Tax (\$)	0.12023 (0.10622)	0.00700 (0.00830)	0.09243 (0.08010)	-55.24805*** (15.96637)	-536.79042** (215.85018)	-45.15249** (17.25583)	-552.13071** (200.95328)
Chewing Tobacco Tax (Ad Velorem)	0.00418 (0.00399)	0.00026 (0.00026)	-0.00007 (0.00376)	-0.28955 (0.52655)	-4.16047 (6.13287)	-0.19424 (0.41241)	-6.41530 (4.98032)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.08006 (0.07890)	0.00563 (0.00667)	0.03294 (0.04498)	-6.98418* (3.68492)	18.95490 (46.75959)	1.12105 (4.02840)	-16.61595 (27.74875)
Observations	155,595	155,595	155,595	155,595	155,595	155,595	155,595
Households	11,217	11,217	11,217	11,217	11,217	11,217	11,217
Mean Value: Dep Variable	11.748	0.944	11.982	489.3	5343.0	428.5	5482.8
Smoking Prevalence < 20% (2013)							
Cigarette Excise Tax (\$)	0.09519** (0.03839)	0.00878*** (0.00264)	0.03806 (0.03105)	-38.07736** (15.79629)	-391.74890** (164.57276)	-31.33514** (13.62992)	-438.52137** (167.32064)
Chewing Tobacco Tax (Ad Velorem)	-0.00025 (0.00150)	0.00004 (0.00012)	-0.00202*** (0.00068)	0.23881 (0.23201)	-1.41604 (2.44005)	-0.02230 (0.19468)	-1.74892 (2.37408)
Snuff Tax (Ad Velorem)	0.00071 (0.00063)	0.00003 (0.00005)	0.00129*** (0.00041)	-0.17386* (0.10101)	2.50244** (1.08721)	0.09954 (0.08894)	2.69123** (1.05899)
% Pop Under Bar Smoking Ban	-0.05346 (0.09100)	-0.00254 (0.00637)	-0.10101** (0.04892)	-6.03209 (7.64383)	-102.43582 (102.19279)	-8.50180 (8.84991)	-91.92045 (101.29361)
Observations	200,230	200,230	200,230	200,230	200,230	200,230	200,230
Households	15,101	15,101	15,101	15,101	15,101	15,101	15,101
Mean Value: Dep Variable	11.734	0.952	11.942	488.7	5410.7	438.4	5531.3

Notes: Samples are restricted to households residing in a state with the stated smoking prevalence. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Appendix Table F11: NHANES Cigarette characteristics among households purchasing matched cigarettes by change in state smoking prevalence

	Cigarette Characteristics			Total Estimated Monthly Consumption of:			
	Average Tar Content	Average Nicotine Content	Average CO Content	Cigarettes	Tar	Nicotine	Carbon Monoxide
Smoking Prevalence Change < 3 Percentage Points (1993- 2013)							
Cigarette Excise Tax (\$)	0.15877 (0.10704)	0.00979 (0.00829)	0.11636 (0.09808)	-54.79785*** (17.71954)	-477.52040* (247.09235)	-39.63976* (20.24979)	-480.84010* (236.65611)
Chewing Tobacco Tax (Ad Velorem)	0.00534 (0.00416)	0.00046* (0.00025)	0.00008 (0.00399)	-0.62070* (0.34914)	-5.88663 (5.60529)	-0.25143 (0.45226)	-10.68542** (4.72307)
Snuff Tax (Ad Velorem)	-	-	-	-	-	-	-
% Pop Under Bar Smoking Ban	0.00112 (0.01627)	0.00044 (0.00151)	-0.01142 (0.02357)	-4.29270 (4.09429)	0.82434 (51.74133)	-0.06114 (4.34415)	-2.32079 (42.62963)
Observations	105,572	105,572	105,572	105,572	105,572	105,572	105,572
Households	7,515	7,515	7,515	7,515	7,515	7,515	7,515
Mean Value: Dep Variable	11.896	0.953	12.118	488.3	5387.6	430.1	5517.6
Smoking Prevalence Change >= 3 Percentage Points (1993- 2013)							
Cigarette Excise Tax (\$)	0.08019** (0.03883)	0.00654** (0.00280)	0.04145 (0.03200)	-38.76006** (14.50313)	-421.07271*** (150.60871)	-34.35212*** (12.41299)	-456.15570*** (150.97932)
Chewing Tobacco Tax (Ad Velorem)	-0.00070 (0.00159)	-0.00005 (0.00015)	-0.00167** (0.00078)	0.42950* (0.22864)	0.12931 (2.65898)	0.06257 (0.20630)	0.72542 (2.48890)
Snuff Tax (Ad Velorem)	0.00128* (0.00073)	0.00010 (0.00007)	0.00128*** (0.00042)	-0.23337** (0.09364)	2.29836** (1.06791)	0.10536 (0.08675)	1.95856* (0.99702)
% Pop Under Bar Smoking Ban	0.02845 (0.09813)	0.00511 (0.00850)	-0.05944 (0.05214)	-7.53437 (5.02520)	-53.40717 (89.66258)	-3.41861 (7.89172)	-96.46388 (71.20286)
Observations	249,198	249,198	249,198	249,198	249,198	249,198	249,198
Households	18,744	18,744	18,744	18,744	18,744	18,744	18,744
Mean Value: Dep Variable	11.679	0.948	11.897	488.7	5372.2	435.3	5501.2

Notes: Samples are restricted to households residing in a state with the stated change in smoking prevalence. All models include controls for the gender, race, ethnicity and marital status of the head of household, household size, indicator variables for income categories, and interactions between head of household gender and indicators for age categories, education categories, employment, and household access to the internet. Additionally, all models include state, year and month fixed-effects, as well as state-specific time trends. Robust standard errors clustered by state are in parentheses.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.