

# **Cigarette Taxes and Smoking Among Sexual Minority Adults**

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**Online Appendix**

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## **Appendix A: Variable description**

### **A.1 Dependent variables**

Respondents were asked whether they had smoked at least 100 cigarettes in their entire lives. If yes, they were asked whether at the time of the interview they smoked cigarettes every day, some days, or not at all. The second question was different in the first BRFSS waves. In the 1994 and 1995 survey, respondents reported the number of days preceding the interview that they had smoked. In the 1993 survey, respondents were asked whether they were currently smoking, and the number of cigarettes a day they smoked *on average*.

*Current smoker* is an indicator variable equal to one for respondents who, at the time of the survey, smoked every day or some days; zero for those who did not smoke at the time of the survey, or who had never smoked 100 cigarettes in their entire lives; missing for those who answered “Don’t know”, who refused to answer, or with missing raw variables (as specified in the previous paragraph).

For the 1994-1995 waves, this variable has been set equal to one for respondents who had smoked in all of the 30 days preceding the interview, between 1 and 29 days, or for those who reported that they were smoking at the time of the survey, but that they had not smoked in the previous 30 days; zero for former smokers or never smokers; missing for respondents who refused to answer the questions, or who did not provide the number of days they had smoked in the previous month, or with missing raw variables.

For the 1993 waves, this variable has been set equal to one for respondents who had smoked at least 100 cigarettes in their entire lives, and were smoking at the time of the survey, zero for those who had not smoked 100 cigarettes in their entire lives, or for those who had smoked at least 100 cigarettes, but were not smoking at the time of the survey; missing for respondents who refused to answer the questions, or with missing raw variables.

*Daily smoker* is an indicator variable equal to one for respondents who smoked every day at the time of the survey; zero for those who smoked some days, or who did not smoke at the time of the survey, or who had never smoked 100 cigarettes in their entire lives; missing for those who answered “Don’t know”, who refused to answer, or with missing raw variables.

For the 1994-1995 waves, this variable has been set equal to one for respondents who had smoked in all of the 30 days preceding the interview; zero for those who had smoked between 1 and 29 days of the 30 days preceding the interview, or for those who had reported that they were smoking at the time of the survey, but that they had not smoked in the previous 30 days, for former smokers or never smokers; missing for respondents who refused to answer the questions, or who did not provide the number of days they had smoked in the previous month, or with missing raw variables.

For the 1993 waves, this variable has been set equal to one for respondents who had smoked at least 100 cigarettes in their entire lives, and were smoking at the time of the survey, and smoked at least one cigarette a day on average at the time of the survey; zero for those who had not smoked 100 cigarettes in their entire lives, or for those who had smoked at least 100 cigarettes, but were not smoking at the time of the survey, or for those who were not smoking regularly; missing for respondents who refused to answer the questions, or with missing raw variables.

*Quit smoking* is an indicator variable equal to one for respondents who had quit smoking for 1 day or longer in the 12 months preceding the interview; zero for those who had not tried to quit smoking; missing for those who were not smoking, who answered “Don’t know”, who refused to answer, or with missing raw variable.

## **A.2 Sexual orientation and gender identity indicators**

*SOGI states*. From 2014, states could choose to administer a Sexual Orientation and Gender Identity module to their BRFSS survey and release their data to the public use file.

- 19 states included this module in the 2014 BRFSS questionnaire and released their data to the public use file: Delaware, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Montana, Nevada, New York, Ohio, Pennsylvania, Vermont, Virginia, Wisconsin, Wyoming.
- 22 states included this module in the 2015 BRFSS questionnaire and released their data to the public use file: Colorado, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa (only to a random subset of its sample), Kansas, Maryland, Massachusetts, Minnesota, Missouri, Nevada, New York, Ohio, Pennsylvania, Texas, Virginia, West Virginia, Wisconsin.
- 25 states included this module in the 2016 BRFSS questionnaire and released their data to the public use file: California, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kentucky, Louisiana, Massachusetts, Minnesota, Mississippi, Missouri, Nevada, New York, Ohio, Pennsylvania, Rhode Island, Texas, Vermont, Virginia, Washington, Wisconsin.
- 27 states included this module in the 2017 BRFSS questionnaire and released their data to the public use file: California, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Louisiana, Massachusetts, Minnesota, Mississippi, Montana, Nevada, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Texas, Vermont, Virginia, Washington, Wisconsin.
- 29 states included this module in the 2018 BRFSS questionnaire and released their data to the public use file: Arizona (only to a random subset of its sample), Connecticut, Delaware, Florida, Hawaii, Idaho, Illinois, Kansas, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, Nevada, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, Wisconsin

*Male/female* are two indicator variables recording the sex of the respondents. In the 2018 BRFSS survey, the wording of the question could be “What is your sex?” or “What was your sex at birth?”. Missing for those who answered “Don’t know / Not sure”, who refused to answer, or with missing raw variable.

*Non-hetero* is an indicator variable equal to one for respondents who identified as lesbian, gay, bisexual, or something else; zero for those who identified as straight; missing for those who answered “Don’t know / Not sure”, who refused to answer, or with missing raw variable. This variable has only been asked in the non-random and time-varying subset of states that included the SOGI module in their BRFSS questionnaire from 2014 onwards.

*Same-sex household* is an indicator variable equal to one for respondents living in a two-adult household with a same-sex household member; zero for those living in a two-adult household with a different-sex household member; missing for those whose reported number of adults in the households does not match the number of men plus number of women in the households, or with missing raw variables. In addition, households including only two adult women or only two adult men and whose respondents identified as transgender individuals have been classified as same-sex households.

### **A.3 Individual-level controls**

*Age* is a series of indicator variables recording the respondent’s age (in five-year age categories) at the time of the interview. An additional indicator variable has been set equal to one for the respondents who answered “Don’t know”, who refused to answer, or with missing raw variable; zero otherwise.

*Race* is a series of indicator variables recording the respondent’s preferred race: white (Hispanic or not), black or African-American (Hispanic or not), Asian (including Native Hawaiian or other Pacific Islander), American Indian or Alaskan Native, other races or no preferred race or “Multiracial but preferred race not answered”. An additional indicator variable has been set equal to one for the respondents who answered “Don’t know / Not sure”, who refused to answer, or with missing raw variable; zero otherwise.

*Ethnicity* is an indicator variable equal to one for respondents who identified as Hispanic, Latino/a, or with Spanish origin; zero if they did not have Hispanic/Spanish origin. An additional indicator variable has been set equal to one for the respondents who answered “Don’t know”, who refused to answer, or with missing raw variable; zero otherwise.

*Education* is a series of indicator variables recording the respondent’s highest grade or year of school completed: less than a high school degree, high school diploma or GED, some college or technical school, college degree or more. An additional indicator variable has been set equal to one for the respondents who refused to answer, or with missing raw variable; zero otherwise.

### A.3 Smoking-related and other health policies

*Cigarette tax* records the state cigarette tax rate (in \$) in each state over time. These data have been obtained from the Campaign for Tobacco-Free Kids and the Center for Disease Control and Prevention.<sup>3</sup>

*Smoking bans.* The American Nonsmokers' Rights Foundation (ANRF) lists the effective date for all 100% smoke-free state laws.<sup>4</sup> From these data, it is possible to create a series of indicator variables equal to one for all states and time periods covered by a law that prohibits smoking in non-hospitality workplaces, restaurants, or freestanding bars; zero otherwise.

*Tobacco 21* is an indicator variable equal to one for all states and time periods in which the state set the minimum legal sale age for tobacco products at 21; zero otherwise. These data have been obtained from the Campaign for Tobacco-Free Kids.<sup>5</sup>

*ACA pre-expansion.* The Affordable Care Act (ACA) provided states with the option, effective April 2010, to receive federal Medicaid matching funds to cover low-income adults in order to get an early start on the 2014 Medicaid expansion. This indicator variable is equal to one in all states and time periods covered by an early Medicaid expansion to low-income adults through this new ACA option; zero otherwise. These data have been obtained from the Kaiser Family Foundation.<sup>6</sup>

*Medicaid expansion* is an indicator variable equal to one in all states and time period covered by a 'regular' ACA Medicaid expansion (i.e., not a pre-expansion); zero otherwise. These data have been obtained from the Kaiser Family Foundation.<sup>7</sup>

*Private option* is an indicator variable equal to one in all states and time periods in which a state Medicaid program decided to buy private health insurance for its Medicaid population instead of providing coverage directly through the state's Medicaid program (or in which a private option waiver was effective); zero otherwise. These data have been obtained from Families USA.<sup>8</sup>

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<sup>3</sup> TFK source: <https://www.tobaccofreekids.org/assets/factsheets/0275.pdf>. Accessed Oct/1/2019.

CDC source: <https://data.cdc.gov/Policy/The-Tax-Burden-on-Tobacco-1970-2018/7nwe-3aj9/data>. Accessed Oct/1/2019.

<sup>4</sup> Source: <https://no-smoke.org/wp-content/uploads/pdf/EffectivePopulationList.pdf>. Accessed Oct/1/2019.

<sup>5</sup> Source: [https://www.tobaccofreekids.org/assets/content/what\\_we\\_do/state\\_local\\_issues/sales\\_21/states\\_localities\\_MLSA\\_21.pdf](https://www.tobaccofreekids.org/assets/content/what_we_do/state_local_issues/sales_21/states_localities_MLSA_21.pdf). Accessed Oct/1/2019.

<sup>6</sup> Source: <https://www.kff.org/health-reform/issue-brief/states-getting-a-jump-start-on-health/>. Accessed Oct/1/2019.

<sup>7</sup> Source: <https://www.kff.org/medicaid/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/>. Accessed Oct/1/2019.

<sup>8</sup> Source: <https://familiesusa.org/1115-waiver-element-private-option>. Accessed Oct/1/2019.

#### A.4 LGBT policy variables

*SSM legal* is an indicator variable equal to one in all states and time periods when same-sex marriage was legal; zero otherwise. The effective date has been used to code this variable. These data have been primarily obtained from the National Center for Lesbian Rights (NCLR, 2016).

*SSM ban* is a series of indicator variables equal to one in all states and time periods in which same-sex marriage was banned in the state constitution or state statute; zero otherwise. These indicators remain equal to one even in later years after the legalization of same-sex marriage in a given state. When more than one statutory ban was passed in a state, the oldest one has been used to code the state statute ban variable. These data have been primarily obtained from the Freedom to Marry campaign.<sup>9</sup>

*Domestic partnership* is an indicator variable equal to one in all states and time periods in which same-sex domestic partnerships were legal; zero otherwise. This indicator remains equal to one even in later years when\if a state had converted same-sex domestic partnerships into marriages. These data have been primarily obtained from the National Center for Lesbian Rights (NCLR, 2016).

*Civil union* is an indicator variable equal to one in all states and time periods in which same-sex civil unions were legal; zero otherwise. This indicator remains equal to one even in later years when\if a state had converted same-sex civil unions in marriages. These data have been primarily obtained from the National Center for Lesbian Rights (NCLR, 2016).

*Anti-discrimination law* is an indicator equal to one in all states and time periods in which employer discrimination based on sexual orientation was not allowed; zero otherwise. This variable has been set equal to one even if the law covered only sexual orientation, not gender identity, or if a law protecting trans individuals was passed at a later date. Laws protecting only public employees have not been considered. These data have been primarily obtained from the Freedom for All Americans campaign.<sup>10</sup>

*Hate crime* is a series of indicator variables equal to one in all states and time periods in which there was a law specifically addressing hate or bias crimes based on sexual orientation only, or on sexual orientation and gender identity; zero otherwise. Since some states passed these laws after 2009, these variables have not been set equal to one for all states after President Obama signed the Matthew Shepard and James Byrd, Jr. Hate Crimes Prevention Act into law on October 28, 2009. These data have been primarily obtained from the Human Rights Campaign.<sup>11</sup>

*Sodomy law repeal* is an indicator variable equal to one in all states and time periods in which sodomy laws regarding same-sex sexual activities (both oral and anal sex) had been repealed\decriminalized; zero otherwise. This variable has been set equal to one even in cases

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<sup>9</sup> Source: <http://www.freedomtomarry.org/pages/winning-in-the-states>. Accessed Oct/1/2019.

<sup>10</sup> Source: <https://www.freedomforallamericans.org/states/>. Accessed: Oct/21/2019.

<sup>11</sup> Source: <https://www.hrc.org/state-maps/hate-crimes>. Accessed Oct/25/2019.

when a state or federal Supreme Court had found sodomy laws unconstitutional, although sodomy laws were still included in the state statute, since they were inapplicable. The effective date has been used to code this variable. These data have been primarily obtained from the Gay and Lesbian Archives of the Pacific Northwest.<sup>12</sup>

#### **C.4 Additional state-level controls**

The following variables have been derived from data downloaded from the Bureau of Labor Statistics.<sup>13</sup>

*Population* records the estimates (in log) of the civilian noninstitutional population ages 16 and older computed by the Census Bureau.

*Unemployment rate* records the state-month unemployment rates for the civilian noninstitutional population ages 16 and older, not seasonally adjusted.

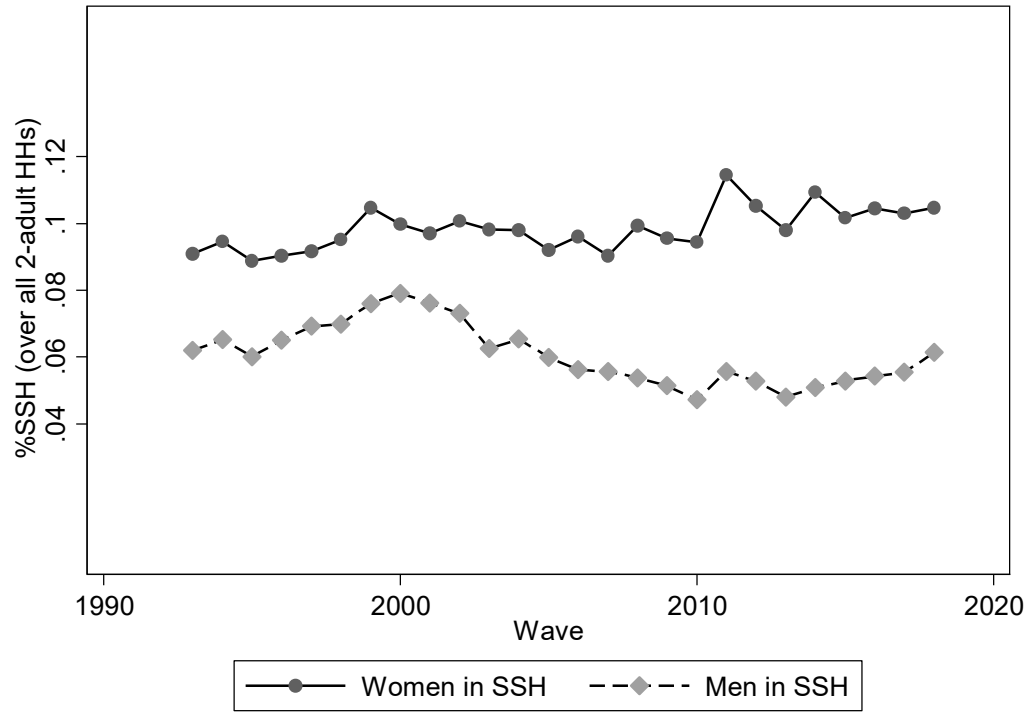
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<sup>12</sup> Source: <https://www.glapn.org/sodomylaws/usa/usa.htm>. Accessed Oct/1/2019.

<sup>13</sup> Source: <https://www.bls.gov/lau/rdscnp16.htm>. Accessed Oct/1/2019.

## Appendix B: Additional BRFSS figures and tables

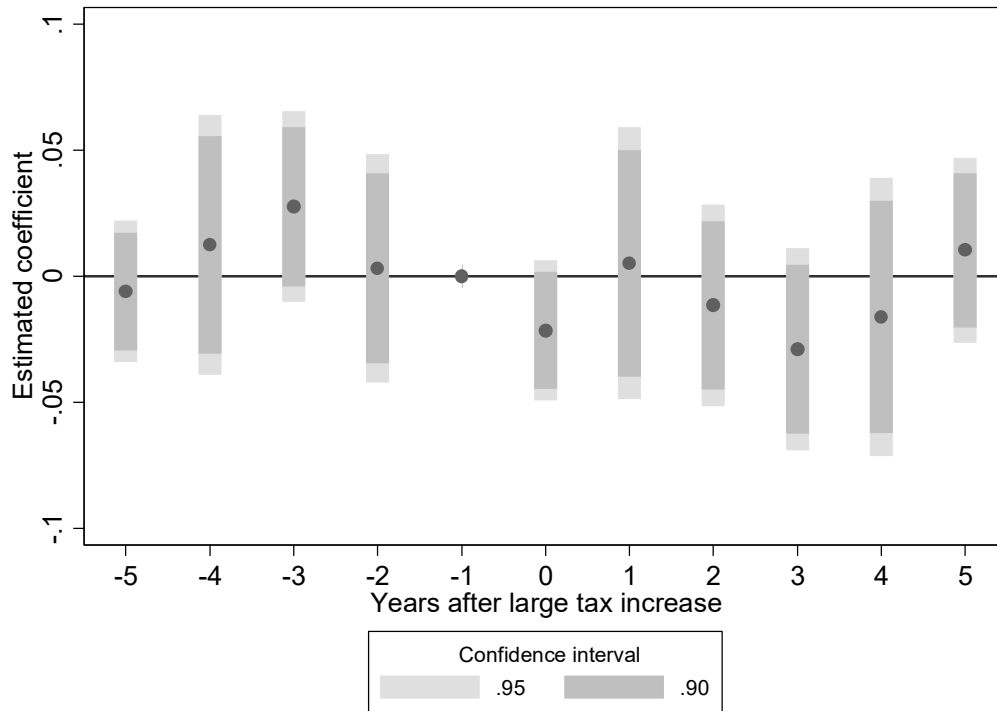
### Figure B1: Percentage of respondent in same-sex households



Source: BRFSS 1993-2018. Weighted statistics. Individuals with missing sex, or with inconsistent number of adults in the households (number of men plus number of women does not equal total number of adults) have not been considered.

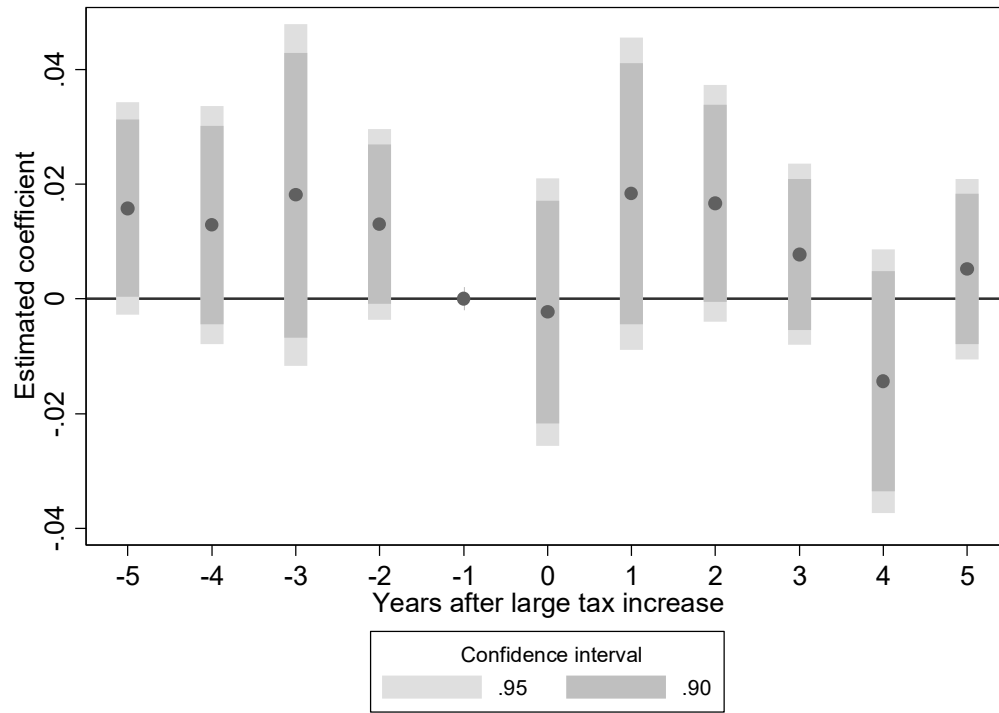


**Figure B2: Event study for daily smoking, men in same-sex households**



Sample: men in same-sex households (respondent's age 25+). Same standard errors, state and year fixed effects, individual controls, state policies and controls as Table 3. Similar results if month fixed effects are also included (not reported). A large tax increase is defined as an increase in cigarette tax equal or higher than 50 cents in a certain calendar year in a given state. If a state had implemented more than one large tax change in the time period considered, only on the first tax increase is considered. First lag (1 in event time) equal to one if a state had implemented a large tax increase in the previous year, second lag (2 in event time) equal to one if a state had implemented a large tax increase for two years, first lead (-1 in event time) equal to one if a state was going to implement a large tax increase after one year, second lead (-2 in event time) equal to one if a state was going to implement a large tax increase after two years. Third and fourth leads and lags are similarly defined. Fifth lag (5 in event time) equal to one if a state had implemented a large tax increase for five or more years, fifth lead (-5 in event time) equal to one if a state was going to implement a large tax increase after 5 or more years. All variables are mutually exclusive. States without large tax increases are always coded as zero. First lead normalized to zero. Source: BRFSS 1996-2018.

**Figure B3: Event study for daily smoking, women in same-sex households**



Sample: women in same-sex households (respondent's age 25+). Source: BRFSS 1996-2018. Same structure as in Figure B2.

**Table B1: Cigarette taxes unrelated to likelihood of being in a same-sex household, age and race.**

Outcome is →	Same-sex vs. different-sex households	Same-sex households				
	(1) Same-sex household	(2) Race = Black	(3) Age 35-39	(4) Age 40-44	(5) Age 45-49	(6) Educ = HS
<i>Women in same-sex households</i>						
Cigarette tax	-0.0022 (0.0015)	0.0061 (0.0049)	-0.0019 (0.0019)	0.0023 (0.0028)	0.0024 (0.0020)	0.0005 (0.0050)
N	1,895,745	143,455	143,455	143,455	143,455	143,455
Mean of dependent variable	0.076	0.188	0.062	0.084	0.105	0.292
Adjusted R-squared	0.037	0.098	0.007	0.005	0.003	0.012
<i>Men in same-sex households</i>						
Cigarette tax	-0.0004 (0.0012)	-0.0038 (0.0065)	0.0041 (0.0047)	0.0005 (0.0053)	-0.0057 (0.0046)	-0.0058 (0.0072)
N	1,394,527	57,511	57,511	57,511	57,511	57,511
Mean of dependent variable	0.041	0.097	0.077	0.095	0.112	0.283
Adjusted R-squared	0.012	0.065	0.010	0.006	0.004	0.014
<i>Controls for:</i>						
State, month, and year FE	X	X	X	X	X	X
Individual controls	X					
State time-varying controls	X	X	X	X	X	X

Sample: column 1 includes individuals in same-sex households and individuals in different-sex households (respondent's age 25+), columns 2-6 only include individuals in same-sex households (respondent's age 25+). Same standard errors, state, year, and month fixed effects, individual controls, state policies and controls as Table 3. In contrast with the estimates in Table 3, the specifications in Columns 2-6 do not include individual controls since such factors are used as dependent variables here. Weighted regressions. Source: BRFSS 1996-2018. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table B2: Effect of cigarette taxes on smoking. Full specification.**

	Women in SSH		Men in SSH	
	Daily smoker	Current smoker	Daily smoker	Current smoker
	(1)	(2)	(3)	(4)
Cigarette Tax	-0.006** (0.003)	-0.004 (0.004)	-0.018*** (0.006)	-0.019*** (0.005)
<i>Individual controls:</i>				
Education = Less than high school	0.032*** (0.012)	0.039** (0.016)	0.066*** (0.011)	0.066*** (0.018)
Education = Some college	-0.035*** (0.005)	-0.037*** (0.004)	-0.055*** (0.009)	-0.038*** (0.009)
Education = College graduate or more	-0.155*** (0.008)	-0.176*** (0.008)	-0.180*** (0.008)	-0.180*** (0.009)
Education = Missing	0.006 (0.063)	0.008 (0.051)	-0.038 (0.036)	-0.057 (0.043)
Age Group: 30 to 34	0.000 (0.007)	-0.001 (0.008)	0.026** (0.010)	0.003 (0.011)
Age Group: 35 to 39	0.020** (0.010)	0.003 (0.011)	0.037*** (0.009)	-0.001 (0.010)
Age Group: 40 to 44	0.006 (0.007)	-0.007 (0.008)	0.020* (0.011)	-0.025* (0.014)
Age Group: 45 to 49	0.001 (0.009)	-0.013 (0.009)	0.048*** (0.010)	0.002 (0.011)
Age Group: 50 to 54	-0.027*** (0.009)	-0.049*** (0.008)	0.028*** (0.009)	-0.032*** (0.009)
Age Group: 55 to 59	-0.046*** (0.008)	-0.072*** (0.008)	-0.021 (0.013)	-0.076*** (0.014)
Age Group: 60 to 64	-0.086*** (0.009)	-0.115*** (0.010)	-0.035** (0.014)	-0.096*** (0.018)
Age Group: 65 to 69	-0.102*** (0.010)	-0.142*** (0.010)	-0.088*** (0.011)	-0.166*** (0.011)
Age Group: 70 to 74	-0.157*** (0.016)	-0.205*** (0.015)	-0.134*** (0.018)	-0.220*** (0.014)
Age Group: 75 to 79	-0.197*** (0.013)	-0.257*** (0.014)	-0.190*** (0.016)	-0.282*** (0.015)
Age Group: 80 or more	-0.234*** (0.014)	-0.305*** (0.016)	-0.219*** (0.017)	-0.318*** (0.017)
Age group = Missing	-0.106*** (0.012)	-0.143*** (0.015)	-0.078* (0.042)	-0.122** (0.051)
Hispanic	-0.122*** (0.016)	-0.134*** (0.020)	-0.128*** (0.010)	-0.095*** (0.013)
Hispanic (missing)	-0.043** (0.018)	-0.052*** (0.019)	-0.024 (0.028)	-0.013 (0.036)
Race = Black (Hispanic or not)	-0.095*** (0.013)	-0.094*** (0.015)	-0.077*** (0.013)	-0.056*** (0.013)
Race = Asian or Pacific Islander	-0.092*** (0.008)	-0.116*** (0.012)	-0.052*** (0.018)	-0.048*** (0.012)
Race = American Indian or Alaskan Native	-0.027 (0.018)	0.004 (0.023)	0.036 (0.030)	0.081*** (0.023)
Race = Other	-0.030** (0.012)	-0.026* (0.014)	-0.039 (0.025)	-0.045* (0.024)

*(continues in the next page)*

Race = Missing	-0.032** (0.015)	-0.040** (0.018)	-0.059*** (0.020)	-0.056** (0.028)
<i>LGBT policies:</i>				
Same-sex marriage legal	0.010 (0.007)	0.013 (0.010)	-0.007 (0.012)	-0.007 (0.015)
Civil unions legal	0.011 (0.007)	0.007 (0.008)	-0.005 (0.015)	0.003 (0.014)
Domestic partnerships legal	-0.007 (0.007)	-0.012 (0.012)	0.025 (0.017)	0.023 (0.016)
Constitutional ban on same-sex marriage	-0.001 (0.007)	0.002 (0.008)	-0.005 (0.010)	0.005 (0.013)
Statutory ban on same-sex marriage	-0.013 (0.008)	-0.017 (0.011)	0.029** (0.013)	0.016 (0.013)
LGBT non-discrimination law	-0.008 (0.005)	-0.003 (0.006)	0.001 (0.012)	0.004 (0.010)
Sodomy law repealed	0.015 (0.009)	0.023** (0.011)	-0.000 (0.015)	0.002 (0.018)
LGB hate crime law	0.005 (0.006)	0.000 (0.007)	-0.020* (0.011)	-0.014* (0.008)
LGBT hate crime law	-0.011 (0.007)	-0.007 (0.009)	0.027* (0.014)	0.034*** (0.010)
<i>State policies:</i>				
Smoke ban workplaces	-0.016** (0.006)	-0.012 (0.007)	-0.004 (0.016)	-0.004 (0.015)
Smoke ban restaurants	-0.009 (0.009)	-0.007 (0.010)	-0.007 (0.020)	0.026 (0.021)
Smoke ban bars	0.025** (0.009)	0.020* (0.011)	-0.001 (0.015)	-0.042** (0.017)
Tobacco 21	0.033*** (0.010)	0.032*** (0.012)	0.051 (0.051)	-0.003 (0.045)
ACA pre-expansion	0.004 (0.007)	-0.004 (0.006)	-0.021 (0.019)	-0.012 (0.019)
ACA expansion	-0.002 (0.009)	-0.010 (0.010)	0.042*** (0.016)	0.031** (0.015)
Medicaid private option	-0.045*** (0.009)	-0.051*** (0.011)	-0.031** (0.015)	-0.021 (0.032)
<i>Additional controls:</i>				
Log(population 16+)	-0.139** (0.054)	-0.176*** (0.052)	-0.202* (0.119)	-0.301** (0.120)
Unemployment rate	-0.001 (0.002)	-0.002 (0.002)	0.002 (0.004)	-0.003 (0.004)
2011-2018 wave	0.036 (0.052)	0.012 (0.057)	0.132** (0.053)	0.019 (0.131)
Constant	2.417*** (0.817)	3.057*** (0.787)	3.382* (1.763)	5.002*** (1.801)
Year FE	X	X	X	X
Month FE	X	X	X	X
State FE	X	X	X	X
Observations	141,517	141,517	56,807	56,807
Adjusted R-squared	0.077	0.084	0.078	0.075

This table replicates the results in Table 3 (Columns 3 and 6) by showing the coefficients associated with the individuals and state controls. Comparison groups: high school graduates (education), age group 25-29, white (Hispanic or not). See also notes in Table 3. State, month, and year fixed effects not reported. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table B3: Cigarette tax effects on daily smoking. Additional specifications.**

	Baseline Table 3, Column 6	Add quadratic state time trends	Add income pc	Additional ind controls	No weights	Logit	Probit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Women in same-sex households</i>							
Cigarette tax	-0.006** (0.003)	-0.004 (0.007)	-0.007** (0.003)	-0.007** (0.003)	-0.005* (0.003)	-0.007** (0.003)	-0.007** (0.003)
N	141,517	141,517	141,379	141,517	141,517	141,517	141,517
Mean of dependent variable	0.165	0.165	0.165	0.165	0.165	0.165	0.165
Adjusted R-squared	0.077	0.078	0.077	0.084	0.076		
Pseudo R-squared						0.095	0.093
<i>Men in same-sex households</i>							
Cigarette tax	-0.018*** (0.006)	-0.024*** (0.008)	-0.019*** (0.007)	-0.016*** (0.006)	-0.007* (0.004)	-0.020*** (0.007)	-0.020*** (0.007)
N	56,807	56,807	56,755	56,807	56,807	56,807	56,807
Mean of dependent variable	0.208	0.208	0.208	0.208	0.208	0.208	0.208
Adjusted R-squared	0.078	0.079	0.078	0.091	0.072		
Pseudo R-squared						0.081	0.080
<i>Controls for:</i>							
State, month, and year FE	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X
State time-varying controls	X	X	X	X	X	X	X

Sample: individuals in same-sex households (respondent's age 25+). Same standard errors, state, year, and month fixed effects, individual controls, state policies and controls as Table 3. Column 2 includes state-specific linear and quadratic time trends. Column 3 includes per capita personal income by state-year among the set of state controls (1993-2018, not available for individuals interviewed in 2019). Column 4 includes additional (potentially endogenous) individual controls: employment status, health insurance status, household income. Column 5 does not include sampling weights. Columns 6-7 estimate non-linear models instead of a linear probability model, reported estimated marginal effect (computed as average of individual marginal effects, same conclusions if computed as marginal effects at the mean). Weighted regressions (except Column 5). Source: BRFSS 1996-2018. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table B4: Cigarette tax effects. Additional extensions and robustness checks.**

	Baseline Table 3, Column 6	Adjust for inflation	Only 30 to 64-year-old either never married or member of an unmarried couple, 1996-2010	Test for nonlinearities	Alternative outcome variable
	(1)	(2)	(3)	(4)	(5)
Outcome is →	Daily smoking	Daily smoking	Daily smoking	Daily smoking	Tried to quit smoking
<i>Women in same-sex households</i>					
Cigarette tax	-0.006** (0.003)	-0.010* (0.005)	-0.005 (0.015)	-0.003 (0.009)	0.047*** (0.007)
Cigarette tax <sup>2</sup>	--	--	--	-0.001 (0.001)	--
N	141,517	141,517	21,893	141,517	30,146
Mean of dependent variable	0.165	0.165	0.175	0.165	0.562
Adjusted R-squared	0.077	0.077	0.060	0.077	0.030
<i>Men in same-sex households</i>					
Cigarette tax	-0.018*** (0.006)	-0.027*** (0.009)	-0.075*** (0.017)	-0.027* (0.016)	-0.008 (0.018)
Cigarette tax <sup>2</sup>	--	--	--	0.002 (0.003)	--
N	56,807	56,807	12,690	56,807	14,985
Mean of dependent variable	0.208	0.208	0.225	0.208	0.515
Adjusted R-squared	0.078	0.078	0.063	0.078	0.039
<i>Controls for:</i>					
State, month, and year FE	X	X	X	X	X
Individual controls	X	X	X	X	X
State time-varying controls	X	X	X	X	X

Sample: individuals in same-sex households (respondent's age 25+, 30-64 in Column 3). Same standard errors, state, year, and month fixed effects, individual controls, state policies and controls as Table 3. Column 2 adjusts cigarette taxes for inflation using the monthly seasonally adjusted consumer price index (all urban consumers, all items). Column 3 includes only individuals in a same-sex household who were never married or were a member of an unmarried couple. Column 4 includes both a linear and a quadratic function of cigarette taxes. Column 5 analyzes whether cigarette taxes affected the probability that a smoker tried to quit in the previous 12 months (non-smokers excluded). Weighted regressions. Source: BRFSS 1996-2018 (Columns 1-2 and 4), 1996-2010 (Column 3). \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table B5: Effect of cigarette taxes on daily smoking. Exclude one state at a time.**

Excluded state	Women in same-sex households	Men in same-sex households		
Alabama	-0.007**	(0.003)	-0.018***	(0.006)
Alaska	-0.006*	(0.003)	-0.017***	(0.006)
Arizona	-0.006*	(0.003)	-0.019***	(0.006)
Arkansas	-0.006*	(0.003)	-0.018***	(0.006)
California	-0.006*	(0.003)	-0.018**	(0.007)
Colorado	-0.007**	(0.003)	-0.017***	(0.006)
Connecticut	-0.006*	(0.003)	-0.019***	(0.006)
Delaware	-0.006**	(0.003)	-0.018***	(0.006)
DC	-0.006**	(0.003)	-0.018***	(0.006)
Florida	-0.007**	(0.003)	-0.017**	(0.006)
Georgia	-0.006*	(0.003)	-0.018***	(0.006)
Hawaii	-0.007**	(0.003)	-0.018***	(0.006)
Idaho	-0.006**	(0.003)	-0.018***	(0.006)
Illinois	-0.009***	(0.003)	-0.021***	(0.005)
Indiana	-0.006*	(0.003)	-0.018***	(0.006)
Iowa	-0.006*	(0.003)	-0.017***	(0.006)
Kansas	-0.007**	(0.003)	-0.017***	(0.006)
Kentucky	-0.007**	(0.003)	-0.017***	(0.006)
Louisiana	-0.006*	(0.003)	-0.018***	(0.006)
Maine	-0.006*	(0.003)	-0.017***	(0.006)
Maryland	-0.006*	(0.003)	-0.018***	(0.006)
Massachusetts	-0.006*	(0.003)	-0.016**	(0.006)
Michigan	-0.006*	(0.003)	-0.020***	(0.006)
Minnesota	-0.006**	(0.003)	-0.016***	(0.006)
Mississippi	-0.006**	(0.003)	-0.017***	(0.006)
Missouri	-0.008**	(0.003)	-0.016***	(0.006)
Montana	-0.006**	(0.003)	-0.018***	(0.006)
Nebraska	-0.007**	(0.003)	-0.018***	(0.006)
Nevada	-0.006*	(0.003)	-0.018***	(0.006)
New Hampshire	-0.006*	(0.003)	-0.017***	(0.006)
New Jersey	-0.007*	(0.003)	-0.018**	(0.007)
New Mexico	-0.006**	(0.003)	-0.017***	(0.006)
New York	-0.007	(0.004)	-0.017**	(0.008)
North Carolina	-0.006*	(0.003)	-0.018***	(0.006)
North Dakota	-0.006**	(0.003)	-0.017***	(0.006)
Ohio	-0.006*	(0.003)	-0.016**	(0.006)
Oklahoma	-0.006**	(0.003)	-0.017***	(0.006)
Oregon	-0.006**	(0.003)	-0.018***	(0.006)
Pennsylvania	-0.007**	(0.003)	-0.017***	(0.006)
Rhode Island	-0.006*	(0.003)	-0.018***	(0.006)
South Carolina	-0.007**	(0.003)	-0.018***	(0.006)
South Dakota	-0.006**	(0.003)	-0.018***	(0.006)
Tennessee	-0.006*	(0.003)	-0.016***	(0.006)
Texas	-0.005	(0.003)	-0.013**	(0.006)
Utah	-0.006**	(0.003)	-0.017***	(0.006)
Vermont	-0.006**	(0.003)	-0.018***	(0.006)
Virginia	-0.007**	(0.003)	-0.017***	(0.006)
Washington	-0.006*	(0.003)	-0.018***	(0.006)
West Virginia	-0.006*	(0.003)	-0.018***	(0.006)
Wisconsin	-0.006*	(0.003)	-0.017***	(0.006)
Wyoming	-0.007**	(0.003)	-0.017***	(0.006)

Reported coefficient of cigarette tax. Same structure as Column 3 Table 3. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



**Table B6: Descriptive statistics. SOGI module.**

	Women		Men	
	Heterosexual	Non-heterosexual	Heterosexual	Non-heterosexual
	(1)	(2)	(3)	(4)
Cigarette tax (in \$)	1.808	1.933	1.813	1.952
Current smoker	0.146	0.285	0.187	0.220
Daily smoker	0.104	0.209	0.130	0.165
Under age 40	0.254	0.491	0.274	0.455
White	0.807	0.710	0.793	0.707
Black	0.093	0.098	0.082	0.134
Hispanic	0.122	0.164	0.125	0.167
Married	0.574	0.331	0.621	0.280
Member of an unmarried couple	0.031	0.160	0.040	0.111
Never married	0.114	0.286	0.159	0.477
High school degree or GED	0.260	0.232	0.280	0.226
Some college	0.348	0.331	0.305	0.303
Bachelor's degree or more	0.286	0.291	0.292	0.317
N	489,663	16,466	365,460	13,969

Weighted means. Sample size (N) refers to cigarette tax. Source: BRFSS 2014-2018. This sample include all relevant respondents (age 25+) from states that administered the SOGI module at least once and released data to the BRFSS public use file. Non-hetero includes respondents whose reported sexual orientation was lesbian, gay, bisexual or other.

**Table B7: Cigarette tax effects among self-identified non-heterosexual adults, 2014-2018. Varying selected states.**

	Daily smoker				Current smoker			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample is →	Full sample	SOGI data in 3+ years	SOGI data in 4+ years	SOGI data in all years	Full sample	SOGI data in 3+ years	SOGI data in 4+ years	SOGI data in all years
<i>Heterosexual women</i>								
Cigarette tax	-0.059 (0.043)	0.074 (0.059)	0.082 (0.059)	0.091 (0.072)	-0.081** (0.037)	0.018 (0.080)	0.035 (0.083)	0.044 (0.114)
N	6,979	6,218	4,627	2,974	6,979	6,218	4,627	2,974
Mean of dependent variable	0.136	0.132	0.131	0.129	0.184	0.179	0.177	0.177
Adjusted R-squared	0.487	0.474	0.519	0.094	0.453	0.427	0.469	0.119
<i>Heterosexual men</i>								
Cigarette tax	0.00008 (0.01967)	0.020 (0.044)	0.030 (0.052)	0.054 (0.042)	-0.011 (0.027)	0.041 (0.069)	0.049 (0.082)	0.098 (0.095)
N	6,129	5,425	4,057	2,688	6,129	6,129	5,425	4,057
Mean of dependent variable	0.139	0.139	0.141	0.190	0.190	0.186	0.190	0.193
Adjusted R-squared	0.242	0.224	0.249	0.141	0.233	0.202	0.221	0.140
<i>Controls for:</i>								
State, month, and year FE	X	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X	X
State time-varying controls	X	X	X	X	X	X	X	X

Sample respondents (age 25+) whose reported sexual orientation is lesbian, gay, bisexual or other. Columns 1 and 5 include all non-heterosexual individuals in any state and year that released SOGI data to the public-use BRFSS (as in Table 6). Columns 2 and 6 include only non-heterosexual individuals in states that released SOGI data in at least three years. Column 3 and 7 include only non-heterosexual individuals in states that released SOGI data in at least four years. Columns 4 and 8 include only individuals in states that released SOGI data in all years from 2014-2018. Same standard errors, state, year, and month fixed effects, individual controls, state policies and controls as Table 3. As in Table 3, only respondents from landline (not mobile phones) interviews have been considered. Weighted regressions. Source: BRFSS 2014-2018 (selected states). \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table B8: Cigarette tax effects among self-identified non-heterosexual adults, 2014-2018. Additional sub-samples.**

	Daily smoker				Current smoker			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sexual orientation is →	Non-heterosexual	Non-heterosexual	Heterosexual	Non-heterosexual	Non-heterosexual	Non-heterosexual	Heterosexual	Non-heterosexual
Sample is →	Only landlines	Landlines + cellphones	Landlines + cellphones	SSH Landlines	Only landlines	Landlines + cellphones	Landlines + cellphones	SSH Landlines
<i>Non-heterosexual women</i>								
Cigarette tax	-0.059 (0.043)	-0.017 (0.023)	0.001 (0.002)	-0.020 (0.036)	-0.081** (0.037)	-0.009 (0.016)	0.003 (0.003)	0.003 (0.069)
N	6,979	16,263	484,954	1,494	6,979	16,263	484,954	1,494
Mean of dependent variable	0.136	0.167	0.099	0.124	0.184	0.230	0.137	0.175
Adjusted R-squared	0.487	0.198	0.065	0.505	0.453	0.201	0.074	0.477
<i>Non-heterosexual men</i>								
Cigarette tax	0.00008 (0.01967)	0.043* (0.023)	0.006** (0.002)	0.031 (0.041)	-0.011 (0.027)	0.038 (0.024)	0.011*** (0.004)	0.035 (0.052)
N	6,129	13,806	361,663	1,283	6,129	13,806	361,663	1,283
Mean of dependent variable	0.139	0.157	0.116	0.129	0.190	0.221	0.160	0.167
Adjusted R-squared	0.242	0.171	0.065	0.212	0.233	0.182	0.078	0.275
<i>Controls for:</i>								
State, month, and year FE	X	X	X	X	X	X	X	X
Individual controls	X	X	X	X	X	X	X	X
State time-varying controls	X	X	X	X	X	X	X	X

Sample respondents (age 25+) whose reported sexual orientation is lesbian, gay, bisexual or other has been counted as non-heterosexual, while respondents whose reported sexual orientation is straight has been counted as heterosexual. Columns 1 and 5 include all non-heterosexual individuals from landline interviews in any state and year that released SOGI data to the public-use BRFSS (as in Table 6). Columns 2 and 6 include all non-heterosexual individuals from landline and cellphone interviews in any state and year that released SOGI data. Column 3 and 7 include all heterosexual individuals from landline and cellphone interviews in any state and year that released SOGI data. Columns 4 and 8 include all non-heterosexual individuals (from landline interviews) in same-sex households in any state and year that released SOGI data. Same standard errors, state, year, and month fixed effects, individual controls, state policies and controls as Table 3. Weighted regressions. Source: BRFSS 2014-2018 (selected states). \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## **Additional references**

NCLR, 2016. Legal Recognition of LGBT Families. Natl. Cent. Lesbian Rights September.