

The Effect of Smoke-Free Laws on Smoking Rates: Evidence from a Difference-in-Differences Analysis

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I. Introduction

Tobacco use is one of the leading causes of disease and death in the United States. Many of which are preventable. According to the Centers for Disease Control and Prevention (CDC), cigarette smoking is responsible for more than 480,000 deaths every year. Smoking is known to cause cancer, respiratory illness, and cardiovascular disease. This does not include the health costs and productivity loss associated with this, which the CDC estimates at over \$600 billion every year. Long-term smoking rates have been decreasing since the 1960's but even today, people continue to smoke, and it remains a relevant public health issue.

A health risk less talked about in the topic of tobacco is secondhand smoking. This also poses serious health risks as there is no safe level of exposure to secondhand smoking. The risks associated are heart disease, lung cancer, and stroke. The World Health Organization notes how harmful secondhand smoking is. It amounts to more than 1.2 million deaths each year around the world. Secondhand smoking exposure mainly occurs indoors in places like bars, restaurants, and workplaces. Because of this, many states and countries have turned to smoke-free indoor air laws as a straightforward way to protect nonsmokers and to help reduce overall tobacco use.

This paper asks a simple but important question for the effectiveness of policy:

Do smoke-free indoor air laws reduce adult cigarette smoking rates?

To answer this I have combined state-level smoking data from the Behavioral Risk Surveillance System (BRFSS) with smoke-free policy data from the CDC. I built a state-year panel covering 1995-2010 and estimated the impact of different types of bans across bars, restaurants, bars, and private worksites. I conducted the estimates using two main methods:

two-way fixed effects regression and event-study analysis. I base these off the year of policy adoption. With these I can compare changes in smoking within a state before and after a ban while using fixed effects to control for differences across states and national time trends.

The main result from my analysis was that comprehensive smoke-free laws and bar-specific bans are associated with meaningful reductions in adult smoking rates typically between 0.5 and 1.5 percentage points within the first several years after adoption. These results are consistent with the idea that smoke-free policies play a role in reducing tobacco use.

II. Data

A. Smoking outcomes

I began by combining the BRFSS smoking data with the CDC smoke-free law database at the state-year level (1995-2010). The outcome variable is the percentage of adults who report smoking every day or some days, which averages about 21.4 percentage points over the sample period. Smoking rates do differ across states from 6% to over 34%. Just as well, the raw time series shows a slow downward trend in smoking over time, consistent with national declines in tobacco use.

On the policy side, states adopt smoke-free laws at different times and in different venues. I organized venues into bars, restaurants and private worksites. I created a ban indicator (smoking is prohibited). The ban = 1 when the CDC's *ProvisionAltValue* codes are greater than or equal to 4. I then define another indicator *comprehensive_ban*, when equal to 1 means the state banned smoking in all three venues in a given year. In the merged panel, some states never adopt comprehensive bans and others go from 0 to 1 at different points between 1990s and 200s.

B. Two-way fixed effects estimates

Table X contains the estimates from the tw-way fixed effects regressions of smoking rates on policy indicators (with state(s) and year(t) fixed effects). The equation with the comprehensive indicator is:

$$\text{smoking_rate}_{st} = \beta \cdot \text{comprehensive_ban}_{st} + \alpha_s + \gamma_t + \varepsilon_{st}$$

The estimated coefficient on *comprehensive_ban* is -0.48 (standard error = 0.16, p = 0.002). From these results, with time and unit fixed effects, states with comprehensive smoke-free laws have decreased smoking rates of about 0.5 percentage points than states without comprehensive bans. The smoking mean across all state-year observations is around 21%. That means smoking rates in comprehensive ban states have about a 2-3% reduction relative to the mean. The R-squared of 0.92 indicates that the model explains a great portion of the variation in smoking rates.

Following that I test a variable called *any_ban* in place of *comprehensive_ban*. *Any_ban* is 1 if at least one of the venues; bars, restaurants, or worksites, is smoke-free. The coefficient on *any_ban* is +0.37 (p=0.06). Here the sign does not make sense and the p-value determines its not a significant result on a 5% level. Interpretations should be wary because *any_ban* is a broad variable that includes full and partial policies. Just as well *any_bans* is built from venue observations. So when each venue = 1, *any_ban* will also = 1. So there is risk of multicollinearity in the policy variables but also possibly with the fixed effects.

So instead of looking broadly across venues, I estimate separate estimates with each venue dummy as the policy variable. *Bar_bans* (full smoking ban) sees an estimated coefficient of about -0.41 percentage point (p=0.01), which suggests that banning smoking in bars alone is associated with a statistically significant reduction in smoking rates. In contrast, the coefficient

for restaurant bans is +0.38(p=0.04) and private worksite bans are +0.30(p=0.06). The estimates are positive and barely significant depending on the p-value used. With 5% only restaurant bans are significant. Comprehensive_bans showed a strong negative and statistically significant effect on smoking. Again, issues of multicollinearity might appear while also taking into account early adoption timing.

C. Event-study for bar bans

Recognizing the need for dynamic effects, beyond the single average effect I have estimated, I conducted an event-study centered on the first year in which a state banned smoking in bars (adoption year). For each states that ever adopts a bar ban, I computed its adoption year and defined a specific event time variable. The equation is $k = year - adoption_year$. The year margins are $k = -5$ to $k = +5$. I estimated a regression with dummies for each event time. $k = -1$ (year before adoption) was the omitted category. Therefore the equation looked as follows:

$$smoking_rates_{st} = \sum_{k=-1} \delta_k 1[event_time = k] + \alpha_s + \gamma_t + \varepsilon_{st}$$

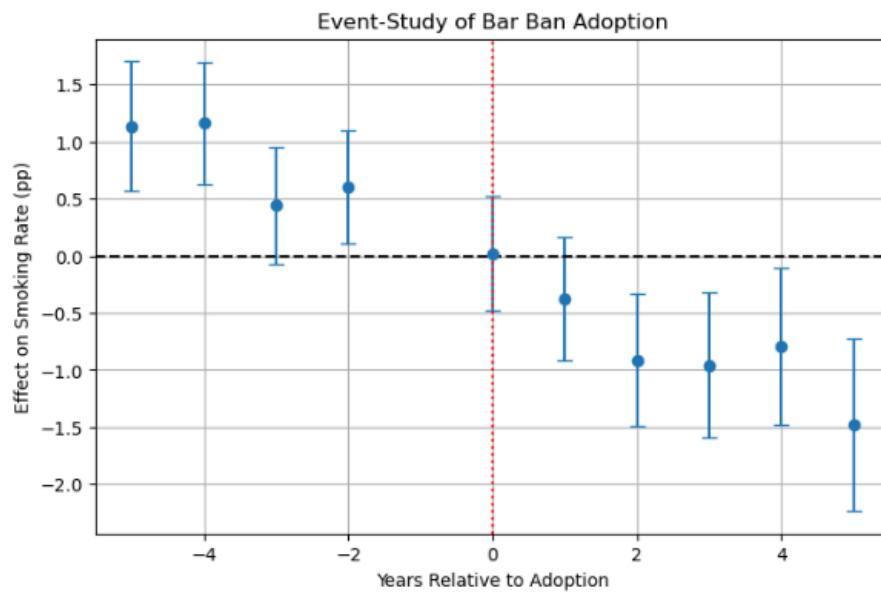
The pre-treatment coefficients ($k=-5$ to $k=-2$) are small and mostly positive (0.4 to 1.2 percentage points) relative to the -1 year. Several are statistically significant which indicates that treated states could sometimes have higher smoking rates years before adopting bar bans. This pattern does not show evidence of a downward pre-trend in smoking. Instead it suggests that any bias from pre-trends would work against producing a decline in smoking rates, rather than artificially contributing to one.

We see that around the year of adoption, the estimated coefficient at $k=0$ is 0.02 percentage points. Very near 0, meaning no sudden drop in smoking when the law is adopted. What we see over time though is a increasingly negative coefficient. By $k=+2$

and $k=+3$ the effects of bans are -0.9 to -1.0 percentage points and statistically significant at the 1% level. Five years after adoption we see a -1.5 percentage point effect. Since there are no observe strong downward pre-trends, the results support the parallel trends assumption.

D. Event-study for worksite bans

I conduct another event-study, this time for private worksite bans. Adoption year is based off the first year that Private_Worksites =1. The results are a bit noisier than bars. Several coefficients in the pre-treatment are positive and significant meaning that future treatment states have higher smoking rates. Around and after adoption ($k=-1$ to $k=+3$) the coefficients are close to 0 showing little short-run effect.



More details in Appendix A

Similarly to bar bans, worksite coefficients become more negative and statistically significant. These results though come 10+ years after adoption with -1 to -1.8 percentage point effect. While worksite restriction in smoking may contribute to lower smoking rates in the long

run, I have to consider overlaps with other policies and general declines. Year fixed effects could have trouble controlling for state level changes like cigarette tax, etc. and state fixed effects cannot control for state level *changes*. For example an increase in the cigarette tax in a specific state. While evidence is weaker for workplace smoking bans, it does not contradict that stronger restrictions are associated with reduced tobacco use over time.

III. Limitations

Given the results for the fixed-effects regression and event-study estimates we see stronger smoke-free indoor air laws are associated with lower smoking rates. The comprehensive ban showing a 0.5 percentage point reduction in smoking for states that restricted it in bars, restaurants, and private worksites. The bar ban event study supports this with a mid-term decline of about 1-1.5 percentage points within 5 years of adoption, with a relatively strong parallel trends assumption. This translates into about a 7 percent reduction in the share of people who smoke (1.5 pp decline from a base of 21%). Therefore this policy can be seen as beneficial, especially with cost-effective law implementation.

There were several limitations of the analysis that mean the results should be taken more suggestive than definitive for causal effect. The policy variables are a little coarse. The ban code was based on the CDC determination of complete ban but others like any_ban I do not distinguish between stronger and weaker bans. Just as well, measurement error is possible causing noisy estimates and or estimates near zero. Second, much of the comparison relied on the fixed effects assumption. That is that timing of the laws were random with respect to state-specific trends. What could happen is states have within states responses to the smoking-rate, public health attitudes, etc. Similarly, the effects then of smoking laws could be

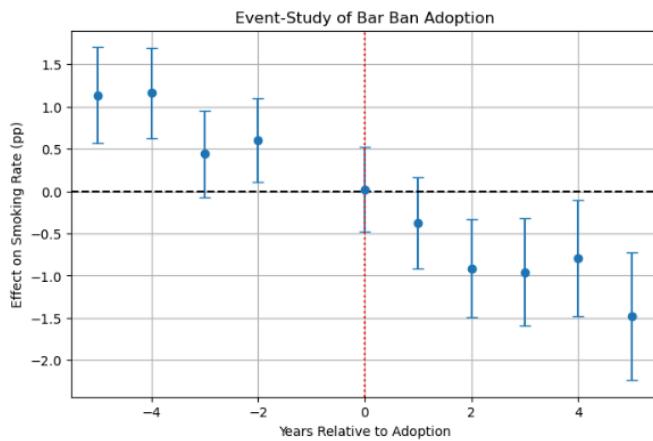
overstated, when things like anti-smoking campaigns could have some unknown influence. I also discussed the risks of multicollinearity and endogeneity of policy timing. The small and positive coefficients we saw on restaurants and worksite bans in the venue specific regression could be due to this. Finally, it is important to mention while credible, BRFSS data is from self-reported smoking.

IV. Conclusion

I have used a state-year panel combining BRFSS smoking outcomes with CDC smoke-free law data to study the impact of smoking bans on smoking rates. Two-way fixed effects models suggest that comprehensive bans and bar-specific bans are associated with reduced smoking. The Event study for bar bans shows valid pre-trends and a post-adoption decline in smoking. The evidence for private worksite bans is weaker but doesn't lose support for lower smoking rates due to restrictions.

APPENDIX

Appendix A



While the plotted pre-treatment coefficients appear to decline visually, this does not represent a meaningful downward trend in actual smoking levels. Instead, these coefficients are simply measured relative to the reference period ($k = -1$), which happens to be a slightly high value. As a result, earlier years appear somewhat elevated. The magnitudes are small and inconsistent, and they do not indicate a systematic decline before bar-bans were adopted. If anything, treated states were smoking *more* before adoption, which biases against finding a post-treatment decline.

Appendix B: Descriptive Statistics

	year	smoking_rate
count	876.000000	876.000000
mean	2002.591324	21.394977
std	4.593622	4.007173
min	1995.000000	5.800000
25%	1999.000000	19.275000
50%	2003.000000	21.800000
75%	2007.000000	23.825000
max	2010.000000	34.100000

Appendix C: Full statsmodel output for comprehensive bans

OLS Regression Results

Dep. Variable:	smoking_rate	R-squared:	0.923
Model:	OLS	Adj. R-squared:	0.916
Method:	Least Squares	F-statistic:	134.3

Date: Wed, 10 Dec 2025 Prob (F-statistic): 0.00
 Time: 20:04:39 Log-Likelihood: -1298.8
 No. Observations: 844 AIC: 2738.
 Df Residuals: 774 BIC: 3069.
 Df Model: 69
 Covariance Type: nonrobust

	coef	std err	t	P> t	[0.025	0.975]
Intercept	25.6124	0.337	75.971	0.000	24.951	26.274
C(state)[T.AL]	-1.1250	0.416	-2.703	0.007	-1.942	-0.308
C(state)[T.AR]	-0.0071	0.419	-0.017	0.987	-0.830	0.816
C(state)[T.AZ]	-4.8682	0.418	-11.644	0.000	-5.689	-4.047
C(state)[T.CA]	-8.4039	0.445	-18.905	0.000	-9.276	-7.531
C(state)[T.CO]	-4.6946	0.419	-11.202	0.000	-5.517	-3.872
C(state)[T.CT]	-6.0411	0.422	-14.322	0.000	-6.869	-5.213
C(state)[T.DC]	-5.4252	0.425	-12.760	0.000	-6.260	-4.591
C(state)[T.DE]	-2.1190	0.425	-4.981	0.000	-2.954	-1.284
C(state)[T.FL]	-3.8188	0.416	-9.174	0.000	-4.636	-3.002
C(state)[T.GA]	-3.4522	0.420	-8.213	0.000	-4.277	-2.627
C(state)[T.GU]	5.3979	0.536	10.074	0.000	4.346	6.450
C(state)[T.HI]	-6.5755	0.426	-15.422	0.000	-7.412	-5.738
C(state)[T.IA]	-3.0539	0.445	-6.870	0.000	-3.926	-2.181
C(state)[T.ID]	-5.6411	0.422	-13.374	0.000	-6.469	-4.813
C(state)[T.IL]	-2.8917	0.417	-6.930	0.000	-3.711	-2.073
C(state)[T.IN]	1.0000	0.416	2.402	0.017	0.183	1.817
C(state)[T.KS]	-4.6702	0.416	-11.217	0.000	-5.487	-3.853
C(state)[T.KY]	4.1375	0.416	9.940	0.000	3.320	4.955
C(state)[T.LA]	-1.0875	0.416	-2.613	0.009	-1.905	-0.270
C(state)[T.MA]	-5.9724	0.422	-14.159	0.000	-6.800	-5.144
C(state)[T.MD]	-5.5605	0.417	-13.326	0.000	-6.380	-4.741
C(state)[T.ME]	-2.6545	0.432	-6.139	0.000	-3.503	-1.806
C(state)[T.MI]	-1.2327	0.416	-2.961	0.003	-2.050	-0.415
C(state)[T.MN]	-5.3807	0.418	-12.870	0.000	-6.201	-4.560
C(state)[T.MO]	0.4437	0.416	1.066	0.287	-0.373	1.261
C(state)[T.MS]	-0.8313	0.416	-1.997	0.046	-1.648	-0.014
C(state)[T.MT]	-4.8778	0.417	-11.706	0.000	-5.696	-4.060
C(state)[T.NC]	-1.0000	0.416	-2.402	0.017	-1.817	-0.183
C(state)[T.ND]	-4.0875	0.416	-9.820	0.000	-4.905	-3.270
C(state)[T.NE]	-4.2341	0.417	-10.161	0.000	-5.052	-3.416
C(state)[T.NH]	-3.6375	0.416	-8.739	0.000	-4.455	-2.820
C(state)[T.NJ]	-5.9571	0.419	-14.214	0.000	-6.780	-5.134
C(state)[T.NM]	-3.5182	0.418	-8.415	0.000	-4.339	-2.697
C(state)[T.NV]	0.6992	0.419	1.668	0.096	-0.124	1.522
C(state)[T.NY]	-3.9926	0.423	-9.428	0.000	-4.824	-3.161
C(state)[T.OH]	-0.0071	0.419	-0.017	0.987	-0.830	0.816
C(state)[T.OK]	0.0562	0.416	0.135	0.893	-0.761	0.873
C(state)[T.OR]	-5.0466	0.417	-12.111	0.000	-5.865	-4.229
C(state)[T.PA]	-1.8355	0.417	-4.399	0.000	-2.655	-1.016
C(state)[T.PR]	-11.7052	0.425	-27.531	0.000	-12.540	-10.871
C(state)[T.RI]	-3.5226	0.445	-7.924	0.000	-4.395	-2.650
C(state)[T.SC]	-1.4250	0.416	-3.423	0.001	-2.242	-0.608
C(state)[T.SD]	-3.7827	0.416	-9.085	0.000	-4.600	-2.965
C(state)[T.TN]	0.1375	0.416	0.330	0.741	-0.680	0.955
C(state)[T.TX]	-4.0813	0.416	-9.805	0.000	-4.898	-3.264

C(state)[T.UT]	-12.8575	0.432	-29.793	0.000	-13.705	-12.010
C(state)[T.VA]	-3.6875	0.416	-8.859	0.000	-4.505	-2.870
C(state)[T.VI]	-15.7076	0.476	-33.023	0.000	-16.641	-14.774
C(state)[T.VT]	-4.5522	0.420	-10.830	0.000	-5.377	-3.727
C(state)[T.WA]	-5.2210	0.420	-12.421	0.000	-6.046	-4.396
C(state)[T.WI]	-2.9139	0.416	-6.999	0.000	-3.731	-2.097
C(state)[T.WV]	2.0250	0.416	4.865	0.000	1.208	2.842
C(state)[T.WY]	-2.5375	0.416	-6.096	0.000	-3.355	-1.720
C(year)[T.1996]	1.3158	0.236	5.583	0.000	0.853	1.778
C(year)[T.1997]	0.9433	0.235	4.020	0.000	0.483	1.404
C(year)[T.1998]	0.7837	0.235	3.340	0.001	0.323	1.244
C(year)[T.1999]	0.5817	0.235	2.479	0.013	0.121	1.042
C(year)[T.2000]	0.3471	0.235	1.479	0.139	-0.113	0.808
C(year)[T.2001]	0.7729	0.233	3.320	0.001	0.316	1.230
C(year)[T.2002]	0.8262	0.233	3.549	0.000	0.369	1.283
C(year)[T.2003]	0.1239	0.233	0.532	0.595	-0.333	0.581
C(year)[T.2004]	-0.9314	0.235	-3.958	0.000	-1.393	-0.469
C(year)[T.2005]	-1.3757	0.235	-5.865	0.000	-1.836	-0.915
C(year)[T.2006]	-1.9915	0.237	-8.412	0.000	-2.456	-1.527
C(year)[T.2007]	-2.1735	0.239	-9.108	0.000	-2.642	-1.705
C(year)[T.2008]	-3.2822	0.241	-13.636	0.000	-3.755	-2.810
C(year)[T.2009]	-3.7325	0.245	-15.249	0.000	-4.213	-3.252
C(year)[T.2010]	-4.2068	0.250	-16.853	0.000	-4.697	-3.717
comprehensive_ban	-0.4774	0.156	-3.060	0.002	-0.784	-0.171

==

Omnibus:	17.201	Durbin-Watson:	1.461
Prob(Omnibus):	0.000	Jarque-Bera (JB):	25.481
Skew:	0.185	Prob(JB):	2.93e-06
Kurtosis:	3.767	Cond. No.	57.8

Appendix D: full statsmodel output for any ban

OLS Regression Results

Dep. Variable:	smoking_rate	R-squared:	0.922	
Model:	OLS	Adj. R-squared:	0.915	
Method:	Least Squares	F-statistic:	133.2	
Date:	Wed, 10 Dec 2025	Prob (F-statistic):	0.00	
Time:	20:23:14	Log-Likelihood:	-1301.9	
No. Observations:	844	AIC:	2744.	
Df Residuals:	774	BIC:	3075.	
Df Model:	69			
Covariance Type:	nonrobust			
coef	std err	t	P> t	[0.025 0.975]
Intercept	25.3435	0.381	66.482	0.000 24.595 26.092
C(state)[T.AL]	-0.9423	0.429	-2.199	0.028 -1.784 -0.101
C(state)[T.AR]	0.0950	0.438	0.217	0.828 -0.765 0.955
C(state)[T.AZ]	-4.7135	0.442	-10.670	0.000 -5.581 -3.846
C(state)[T.CA]	-8.8813	0.418	-21.259	0.000 -9.701 -8.061
C(state)[T.CO]	-4.5925	0.438	-10.485	0.000 -5.452 -3.733
C(state)[T.CT]	-6.2500	0.418	-14.960	0.000 -7.070 -5.430
C(state)[T.DC]	-5.5461	0.425	-13.055	0.000 -6.380 -4.712
C(state)[T.DE]	-2.3875	0.418	-5.715	0.000 -3.208 -1.567

C(state)[T.FL]	-3.8188	0.418	-9.141	0.000	-4.639	-2.999
C(state)[T.GA]	-3.4029	0.435	-7.831	0.000	-4.256	-2.550
C(state)[T.GU]	5.4790	0.538	10.191	0.000	4.424	6.534
C(state)[T.HI]	-6.7324	0.425	-15.848	0.000	-7.566	-5.898
C(state)[T.IA]	-3.5313	0.418	-8.453	0.000	-4.351	-2.711
C(state)[T.ID]	-5.8500	0.418	-14.003	0.000	-6.670	-5.030
C(state)[T.IL]	-2.7529	0.435	-6.335	0.000	-3.606	-1.900
C(state)[T.IN]	1.3654	0.460	2.971	0.003	0.463	2.267
C(state)[T.KS]	-4.7000	0.418	-11.250	0.000	-5.520	-3.880
C(state)[T.KY]	4.5029	0.460	9.799	0.000	3.601	5.405
C(state)[T.LA]	-1.0875	0.418	-2.603	0.009	-1.908	-0.267
C(state)[T.MA]	-6.1813	0.418	-14.796	0.000	-7.001	-5.361
C(state)[T.MD]	-5.6500	0.418	-13.524	0.000	-6.470	-4.830
C(state)[T.ME]	-3.0125	0.418	-7.211	0.000	-3.833	-2.192
C(state)[T.MI]	-0.9199	0.455	-2.023	0.043	-1.813	-0.027
C(state)[T.MN]	-5.5000	0.418	-13.165	0.000	-6.320	-4.680
C(state)[T.MO]	0.4437	0.418	1.062	0.288	-0.376	1.264
C(state)[T.MS]	-0.4659	0.460	-1.014	0.311	-1.368	0.436
C(state)[T.MT]	-4.9375	0.418	-11.819	0.000	-5.758	-4.117
C(state)[T.NC]	-0.6574	0.455	-1.446	0.149	-1.550	0.235
C(state)[T.ND]	-4.0875	0.418	-9.784	0.000	-4.908	-3.267
C(state)[T.NE]	-3.9740	0.450	-8.829	0.000	-4.858	-3.090
C(state)[T.NH]	-3.6375	0.418	-8.707	0.000	-4.458	-2.817
C(state)[T.NJ]	-6.1063	0.418	-14.616	0.000	-6.926	-5.286
C(state)[T.NM]	-3.3635	0.442	-7.614	0.000	-4.231	-2.496
C(state)[T.NV]	0.5500	0.418	1.317	0.188	-0.270	1.370
C(state)[T.NY]	-4.2312	0.418	-10.128	0.000	-5.051	-3.411
C(state)[T.OH]	0.0950	0.438	0.217	0.828	-0.765	0.955
C(state)[T.OK]	0.2161	0.426	0.507	0.612	-0.620	1.053
C(state)[T.OR]	-5.1063	0.418	-12.223	0.000	-5.926	-4.286
C(state)[T.PA]	-1.9250	0.418	-4.608	0.000	-2.745	-1.105
C(state)[T.PR]	-11.8261		0.425	-27.838	0.000	-12.660 -10.992
C(state)[T.RI]	-4.0000	0.418	-9.575	0.000	-4.820	-3.180
C(state)[T.SC]	-1.0596	0.460	-2.306	0.021	-1.962	-0.158
C(state)[T.SD]	-3.6526	0.426	-8.573	0.000	-4.489	-2.816
C(state)[T.TN]	0.4115	0.442	0.932	0.352	-0.456	1.279
C(state)[T.TX]	-3.7159	0.460	-8.086	0.000	-4.618	-2.814
C(state)[T.UT]	-12.9118		0.433	-29.838	0.000	-13.761 -12.062
C(state)[T.VA]	-3.6875	0.418	-8.827	0.000	-4.508	-2.867
C(state)[T.VI]	-15.6952		0.477	-32.870	0.000	-16.633 -14.758
C(state)[T.VT]	-4.7313	0.418	-11.325	0.000	-5.551	-3.911
C(state)[T.WA]	-5.1716	0.435	-11.901	0.000	-6.025	-4.319
C(state)[T.WI]	-2.9438	0.418	-7.046	0.000	-3.764	-2.124
C(state)[T.WV]	2.3904	0.460	5.202	0.000	1.488	3.292
C(state)[T.WY]	-2.1721	0.460	-4.727	0.000	-3.074	-1.270
C(year)[T.1996]	1.3168	0.237	5.567	0.000	0.852	1.781
C(year)[T.1997]	0.9434	0.235	4.006	0.000	0.481	1.406
C(year)[T.1998]	0.7908	0.236	3.358	0.001	0.329	1.253
C(year)[T.1999]	0.5889	0.236	2.500	0.013	0.127	1.051
C(year)[T.2000]	0.3543	0.236	1.504	0.133	-0.108	0.817
C(year)[T.2001]	0.7745	0.234	3.315	0.001	0.316	1.233

C(year)[T.2002]	0.8054	0.234	3.446	0.001	0.347	1.264
C(year)[T.2003]	0.0875	0.234	0.374	0.708	-0.371	0.546
C(year)[T.2004]	-0.9944	0.236	-4.217	0.000	-1.457	-0.531
C(year)[T.2005]	-1.4683	0.235	-6.246	0.000	-1.930	-1.007
C(year)[T.2006]	-2.1588	0.236	-9.146	0.000	-2.622	-1.695
C(year)[T.2007]	-2.4055	0.237	-10.168	0.000	-2.870	-1.941
C(year)[T.2008]	-3.5475	0.237	-14.958	0.000	-4.013	-3.082
C(year)[T.2009]	-4.0487	0.238	-17.025	0.000	-4.516	-3.582
C(year)[T.2010]	-4.5807	0.239	-19.148	0.000	-5.050	-4.111
any_ban	0.3654	0.191	1.909	0.057	-0.010	0.741
Omnibus:	20.298	Durbin-Watson:	1.436			
Prob(Omnibus):	0.000	Jarque-Bera (JB):		29.002		
Skew:	0.234	Prob(JB):		5.04e-07		
Kurtosis:	3.779	Cond. No.		69.9		

Appendix E: bar regression

OLS Regression Results

Dep. Variable: smoking_rate R-squared: 0.923
 Model: OLS Adj. R-squared: 0.916
 Method: Least Squares F-statistic: 133.7
 Date: Wed, 10 Dec 2025 Prob (F-statistic): 0.00
 Time: 20:23:15 Log-Likelihood: -1300.5
 No. Observations: 844 AIC: 2741.
 Df Residuals: 774 BIC: 3073.
 Df Model: 69
 Covariance Type: nonrobust

coef	std err	t	P> t	[0.025	0.975]	
Intercept	25.6211	0.338	75.828	0.000	24.958	26.284
C(state)[T.AL]	-1.1250	0.417	-2.697	0.007	-1.944	-0.306
C(state)[T.AR]	-0.0281	0.420	-0.067	0.947	-0.853	0.797
C(state)[T.AZ]	-4.8850	0.419	-11.658	0.000	-5.708	-4.062
C(state)[T.CA]	-8.4713	0.448	-18.917	0.000	-9.350	-7.592
C(state)[T.CO]	-4.7156	0.420	-11.224	0.000	-5.540	-3.891
C(state)[T.CT]	-6.0706	0.423	-14.348	0.000	-6.901	-5.240
C(state)[T.DC]	-5.4426	0.426	-12.772	0.000	-6.279	-4.606
C(state)[T.DE]	-2.1569	0.427	-5.051	0.000	-2.995	-1.319
C(state)[T.FL]	-3.8188	0.417	-9.156	0.000	-4.637	-3.000
C(state)[T.GA]	-3.4775	0.422	-8.250	0.000	-4.305	-2.650
C(state)[T.GU]	5.4059	0.537	10.068	0.000	4.352	6.460
C(state)[T.HI]	-6.5978	0.427	-15.434	0.000	-7.437	-5.759
C(state)[T.IA]	-3.1213	0.448	-6.970	0.000	-4.000	-2.242
C(state)[T.ID]	-5.6706	0.423	-13.402	0.000	-6.501	-4.840
C(state)[T.IL]	-2.9044	0.418	-6.945	0.000	-3.725	-2.083
C(state)[T.IN]	1.0000	0.417	2.398	0.017	0.181	1.819
C(state)[T.KS]	-4.6744	0.417	-11.205	0.000	-5.493	-3.855
C(state)[T.KY]	4.1375	0.417	9.921	0.000	3.319	4.956
C(state)[T.LA]	-1.0875	0.417	-2.608	0.009	-1.906	-0.269
C(state)[T.MA]	-6.0019	0.423	-14.185	0.000	-6.832	-5.171
C(state)[T.MD]	-5.5731	0.418	-13.327	0.000	-6.394	-4.752
C(state)[T.ME]	-2.6025	0.448	-5.812	0.000	-3.482	-1.723

C(state)[T.MI]	-1.2369	0.417	-2.965	0.003	-2.056	-0.418
C(state)[T.MN]	-5.3975	0.419	-12.881	0.000	-6.220	-4.575
C(state)[T.MO]	0.4437	0.417	1.064	0.288	-0.375	1.262
C(state)[T.MS]	-0.8313	0.417	-1.993	0.047	-1.650	-0.013
C(state)[T.MT]	-4.8863	0.418	-11.702	0.000	-5.706	-4.067
C(state)[T.NC]	-0.9744	0.417	-2.336	0.020	-1.793	-0.155
C(state)[T.ND]	-4.0875	0.417	-9.801	0.000	-4.906	-3.269
C(state)[T.NE]	-4.2425	0.418	-10.160	0.000	-5.062	-3.423
C(state)[T.NH]	-3.6375	0.417	-8.722	0.000	-4.456	-2.819
C(state)[T.NJ]	-5.9781	0.420	-14.228	0.000	-6.803	-5.153
C(state)[T.NM]	-3.5350	0.419	-8.436	0.000	-4.358	-2.712
C(state)[T.NV]	0.9600	0.448	2.144	0.032	0.081	1.839
C(state)[T.NY]	-4.0263	0.425	-9.475	0.000	-4.860	-3.192
C(state)[T.OH]	-0.0281	0.420	-0.067	0.947	-0.853	0.797
C(state)[T.OK]	0.0562	0.417	0.135	0.893	-0.762	0.875
C(state)[T.OR]	-5.0550	0.418	-12.106	0.000	-5.875	-4.235
C(state)[T.PA]	-1.8481	0.418	-4.420	0.000	-2.669	-1.027
C(state)[T.PR]	-11.7226		0.426	-27.508	0.000	-12.559 -10.886
C(state)[T.RI]	-3.5900	0.448	-8.017	0.000	-4.469	-2.711
C(state)[T.SC]	-1.4250	0.417	-3.417	0.001	-2.244	-0.606
C(state)[T.SD]	-3.7869	0.417	-9.077	0.000	-4.606	-2.968
C(state)[T.TN]	0.1375	0.417	0.330	0.742	-0.681	0.956
C(state)[T.TX]	-4.0813	0.417	-9.786	0.000	-4.900	-3.263
C(state)[T.UT]	-12.8658		0.432	-29.752	0.000	-13.715 -12.017
C(state)[T.VA]	-3.6363	0.418	-8.709	0.000	-4.456	-2.817
C(state)[T.VI]	-15.7090		0.477	-32.962	0.000	-16.645 -14.773
C(state)[T.VT]	-4.5775	0.422	-10.860	0.000	-5.405	-3.750
C(state)[T.WA]	-5.2463	0.422	-12.446	0.000	-6.074	-4.419
C(state)[T.WI]	-2.9181	0.417	-6.995	0.000	-3.737	-2.099
C(state)[T.WV]	2.0250	0.417	4.855	0.000	1.206	2.844
C(state)[T.WY]	-2.5375	0.417	-6.084	0.000	-3.356	-1.719
C(year)[T.1996]	1.3161	0.236	5.574	0.000	0.853	1.780
C(year)[T.1997]	0.9436	0.235	4.014	0.000	0.482	1.405
C(year)[T.1998]	0.7840	0.235	3.335	0.001	0.322	1.245
C(year)[T.1999]	0.5821	0.235	2.476	0.014	0.121	1.044
C(year)[T.2000]	0.3475	0.235	1.478	0.140	-0.114	0.809
C(year)[T.2001]	0.7728	0.233	3.313	0.001	0.315	1.231
C(year)[T.2002]	0.8248	0.233	3.536	0.000	0.367	1.283
C(year)[T.2003]	0.1213	0.233	0.520	0.603	-0.337	0.579
C(year)[T.2004]	-0.9379	0.236	-3.977	0.000	-1.401	-0.475
C(year)[T.2005]	-1.3767	0.235	-5.848	0.000	-1.839	-0.915
C(year)[T.2006]	-2.0078	0.237	-8.454	0.000	-2.474	-1.542
C(year)[T.2007]	-2.1961	0.240	-9.165	0.000	-2.667	-1.726
C(year)[T.2008]	-3.3086	0.242	-13.679	0.000	-3.783	-2.834
C(year)[T.2009]	-3.7650	0.246	-15.286	0.000	-4.249	-3.282
C(year)[T.2010]	-4.2380	0.253	-16.770	0.000	-4.734	-3.742
Bars	-0.4100		0.163	-2.514	0.012	-0.730 -0.090
Omnibus:	18.700		Durbin-Watson: 1.456			
Prob(Omnibus):	0.000		Jarque-Bera (JB):	28.464		
Skew:	0.192		Prob(JB):	6.59e-07		
Kurtosis:	3.813		Cond. No.	58.3		

Appendix F: restaurant regression

OLS Regression Results

Dep. Variable:	smoking_rate	R-squared:	0.922		
Model:	OLS	Adj. R-squared:	0.915		
Method:	Least Squares	F-statistic:	133.3		
Date:	Wed, 10 Dec 2025	Prob (F-statistic):	0.00		
Time:	20:23:16	Log-Likelihood:	-1301.6		
No. Observations:	844	AIC:	2743.		
Df Residuals:	774	BIC:	3075.		
Df Model:	69				
Covariance Type:	nonrobust				
coef	std err	t	P> t	[0.025	0.975]
Intercept	25.33350.378	66.937	0.000	24.591	26.076
C(state)[T.AL]	-0.9356 0.428	-2.186	0.029	-1.776	-0.096
C(state)[T.AR]	0.1042 0.437	0.239	0.812	-0.753	0.962
C(state)[T.AZ]	-4.7034 0.440	-10.679	0.000	-5.568	-3.839
C(state)[T.CA]	-8.8813 0.418	-21.265	0.000	-9.701	-8.061
C(state)[T.CO]	-4.5833 0.437	-10.491	0.000	-5.441	-3.726
C(state)[T.CT]	-6.2500 0.418	-14.965	0.000	-7.070	-5.430
C(state)[T.DC]	-5.5458 0.425	-13.059	0.000	-6.380	-4.712
C(state)[T.DE]	-2.3875 0.418	-5.717	0.000	-3.207	-1.568
C(state)[T.FL]	-3.8188 0.418	-9.144	0.000	-4.639	-2.999
C(state)[T.GA]	-3.3945 0.434	-7.829	0.000	-4.246	-2.543
C(state)[T.GU]	5.4817 0.537	10.199	0.000	4.427	6.537
C(state)[T.HI]	-6.7322 0.425	-15.853	0.000	-7.566	-5.899
C(state)[T.IA]	-3.5313 0.418	-8.455	0.000	-4.351	-2.711
C(state)[T.ID]	-5.8500 0.418	-14.007	0.000	-6.670	-5.030
C(state)[T.IL]	-2.7445 0.434	-6.330	0.000	-3.596	-1.893
C(state)[T.IN]	1.3789 0.457	3.015	0.003	0.481	2.277
C(state)[T.KS]	-4.7000 0.418	-11.254	0.000	-5.520	-3.880
C(state)[T.KY]	4.5164 0.457	9.875	0.000	3.619	5.414
C(state)[T.LA]	-0.8034 0.440	-1.824	0.069	-1.668	0.061
C(state)[T.MA]	-6.1813 0.418	-14.800	0.000	-7.001	-5.361
C(state)[T.MD]	-5.6500 0.418	-13.528	0.000	-6.470	-4.830
C(state)[T.ME]	-3.0125 0.418	-7.213	0.000	-3.832	-2.193
C(state)[T.MI]	-0.9073 0.453	-2.004	0.045	-1.796	-0.019
C(state)[T.MN]	-5.5000 0.418	-13.169	0.000	-6.320	-4.680
C(state)[T.MO]	0.4437 0.418	1.063	0.288	-0.376	1.264
C(state)[T.MS]	-0.4524 0.457	-0.989	0.323	-1.350	0.445
C(state)[T.MT]	-4.9375 0.418	-11.822	0.000	-5.757	-4.118
C(state)[T.NC]	-0.6448 0.453	-1.424	0.155	-1.534	0.244
C(state)[T.ND]	-4.0875 0.418	-9.787	0.000	-4.907	-3.268
C(state)[T.NE]	-3.9622 0.448	-8.837	0.000	-4.842	-3.082
C(state)[T.NH]	-3.6375 0.418	-8.710	0.000	-4.457	-2.818
C(state)[T.NJ]	-5.8458 0.437	-13.381	0.000	-6.703	-4.988
C(state)[T.NM]	-3.3534 0.440	-7.614	0.000	-4.218	-2.489
C(state)[T.NV]	0.5500 0.418	1.317	0.188	-0.270	1.370
C(state)[T.NY]	-4.2312 0.418	-10.131	0.000	-5.051	-3.411
C(state)[T.OH]	0.1042 0.437	0.239	0.812	-0.753	0.962
C(state)[T.OK]	0.2220 0.426	0.522	0.602	-0.613	1.057
C(state)[T.OR]	-5.1063 0.418	-12.226	0.000	-5.926	-4.286

C(state)[T.PA]	-1.9250	0.418	-4.609	0.000	-2.745	-1.105	
C(state)[T.PR]	-11.8258		0.425	-27.846	0.000	-12.660	-10.992
C(state)[T.RI]	-4.0000	0.418	-9.578	0.000	-4.820	-3.180	
C(state)[T.SC]	-1.0461	0.457	-2.287	0.022	-1.944	-0.148	
C(state)[T.SD]	-3.6467	0.426	-8.570	0.000	-4.482	-2.811	
C(state)[T.TN]	0.5164	0.457	1.129	0.259	-0.381	1.414	
C(state)[T.TX]	-3.7024	0.457	-8.095	0.000	-4.600	-2.805	
C(state)[T.UT]	-12.9113		0.433	-29.846	0.000	-13.761	-12.062
C(state)[T.VA]	-3.6875	0.418	-8.829	0.000	-4.507	-2.868	
C(state)[T.VI]	-15.6932		0.477	-32.876	0.000	-16.630	-14.756
C(state)[T.VT]	-4.7313	0.418	-11.329	0.000	-5.551	-3.911	
C(state)[T.WA]	-5.1632	0.434	-11.908	0.000	-6.014	-4.312	
C(state)[T.WI]	-2.9438	0.418	-7.049	0.000	-3.764	-2.124	
C(state)[T.WV]	2.4039	0.457	5.256	0.000	1.506	3.302	
C(state)[T.WY]	-2.1586	0.457	-4.720	0.000	-3.056	-1.261	
C(year)[T.1996]	1.3166	0.236	5.568	0.000	0.852	1.781	
C(year)[T.1997]	0.9432	0.235	4.006	0.000	0.481	1.405	
C(year)[T.1998]	0.7909	0.235	3.359	0.001	0.329	1.253	
C(year)[T.1999]	0.5889	0.235	2.501	0.013	0.127	1.051	
C(year)[T.2000]	0.3543	0.235	1.505	0.133	-0.108	0.816	
C(year)[T.2001]	0.7743	0.234	3.315	0.001	0.316	1.233	
C(year)[T.2002]	0.8047	0.234	3.444	0.001	0.346	1.263	
C(year)[T.2003]	0.0866	0.234	0.370	0.711	-0.372	0.545	
C(year)[T.2004]	-0.9952	0.236	-4.221	0.000	-1.458	-0.532	
C(year)[T.2005]	-1.4696	0.235	-6.255	0.000	-1.931	-1.008	
C(year)[T.2006]	-2.1680	0.236	-9.174	0.000	-2.632	-1.704	
C(year)[T.2007]	-2.4155	0.237	-10.194	0.000	-2.881	-1.950	
C(year)[T.2008]	-3.5577	0.238	-14.977	0.000	-4.024	-3.091	
C(year)[T.2009]	-4.0591	0.238	-17.041	0.000	-4.527	-3.592	
C(year)[T.2010]	-4.5917	0.240	-19.160	0.000	-5.062	-4.121	
Restaurants	0.3789	0.186	2.032	0.043	0.013	0.745	
Omnibus:	20.158	Durbin-Watson:	1.437				
Prob(Omnibus):	0.000	Jarque-Bera (JB):		28.811			
Skew:	0.232	Prob(JB):		5.54e-07			
Kurtosis:	3.777	Cond. No.		69.2			

Appendix G: Private Worksites regression

OLS Regression Results

Dep. Variable: smoking_rate R-squared: 0.922
 Model: OLS Adj. R-squared: 0.915
 Method: Least Squares F-statistic: 133.2
 Date: Wed, 10 Dec 2025 Prob (F-statistic): 0.00
 Time: 20:23:18 Log-Likelihood: -1301.9
 No. Observations: 844 AIC: 2744.
 Df Residuals: 774 BIC: 3075.
 Df Model: 69
 Covariance Type: nonrobust
 coef std err t P>|t| [0.025 0.975]
 Intercept 25.71800.338 76.058 0.000 25.054 26.382
 C(state)[T.AL] -1.2739 0.425 -2.998 0.003 -2.108 -0.440

C(state)[T.AR]	-0.2493	0.421	-0.593	0.553	-1.075	0.576	
C(state)[T.AZ]	-5.0619	0.420	-12.065	0.000	-5.886	-4.238	
C(state)[T.CA]	-9.1790	0.445	-20.604	0.000	-10.054	-8.305	
C(state)[T.CO]	-4.9368	0.421	-11.739	0.000	-5.762	-4.111	
C(state)[T.CT]	-6.5478	0.445	-14.698	0.000	-7.422	-5.673	
C(state)[T.DC]	-5.8433	0.452	-12.937	0.000	-6.730	-4.957	
C(state)[T.DE]	-2.6853	0.445	-6.028	0.000	-3.560	-1.811	
C(state)[T.FL]	-4.1165	0.445	-9.240	0.000	-4.991	-3.242	
C(state)[T.GA]	-3.7429	0.422	-8.874	0.000	-4.571	-2.915	
C(state)[T.GU]	5.4858	0.538	10.203	0.000	4.430	6.541	
C(state)[T.HI]	-6.8319	0.428	-15.967	0.000	-7.672	-5.992	
C(state)[T.IA]	-3.8290	0.445	-8.595	0.000	-4.704	-2.955	
C(state)[T.ID]	-5.9803	0.423	-14.131	0.000	-6.811	-5.150	
C(state)[T.IL]	-3.0929	0.422	-7.333	0.000	-3.921	-2.265	
C(state)[T.IN]	1.0000	0.418	2.394	0.017	0.180	1.820	
C(state)[T.KS]	-4.7186	0.418	-11.292	0.000	-5.539	-3.898	
C(state)[T.KY]	4.1375	0.418	9.904	0.000	3.317	4.958	
C(state)[T.LA]	-1.3853	0.445	-3.110	0.002	-2.260	-0.511	
C(state)[T.MA]	-6.3115	0.423	-14.914	0.000	-7.142	-5.481	
C(state)[T.MD]	-5.7058	0.419	-13.626	0.000	-6.528	-4.884	
C(state)[T.ME]	-3.2358	0.434	-7.463	0.000	-4.087	-2.385	
C(state)[T.MI]	-1.2811	0.418	-3.066	0.002	-2.101	-0.461	
C(state)[T.MN]	-5.7978	0.445	-13.014	0.000	-6.672	-4.923	
C(state)[T.MO]	0.4437	0.418	1.062	0.288	-0.376	1.264	
C(state)[T.MS]	-0.8313	0.418	-1.990	0.047	-1.651	-0.011	
C(state)[T.MT]	-5.2353	0.445	-11.752	0.000	-6.110	-4.361	
C(state)[T.NC]	-1.0000	0.418	-2.394	0.017	-1.820	-0.180	
C(state)[T.ND]	-4.1992	0.422	-9.956	0.000	-5.027	-3.371	
C(state)[T.NE]	-4.3310	0.418	-10.356	0.000	-5.152	-3.510	
C(state)[T.NH]	-3.9353	0.445	-8.834	0.000	-4.810	-3.061	
C(state)[T.NJ]	-6.4040	0.445	-14.375	0.000	-7.279	-5.530	
C(state)[T.NM]	-3.7119	0.420	-8.848	0.000	-4.536	-2.888	
C(state)[T.NV]	0.4569	0.421	1.087	0.278	-0.369	1.282	
C(state)[T.NY]	-4.5290	0.445	-10.166	0.000	-5.404	-3.655	
C(state)[T.OH]	-0.2493	0.421	-0.593	0.553	-1.075	0.576	
C(state)[T.OK]	-0.0926	0.425	-0.218	0.827	-0.927	0.741	
C(state)[T.OR]	-5.2738	0.427	-12.359	0.000	-6.111	-4.436	
C(state)[T.PA]	-2.2228	0.445	-4.990	0.000	-3.097	-1.348	
C(state)[T.PR]	-11.9049		0.427	-27.901	0.000	-12.742	-11.067
C(state)[T.RI]	-4.2978	0.445	-9.647	0.000	-5.172	-3.423	
C(state)[T.SC]	-1.4250	0.418	-3.411	0.001	-2.245	-0.605	
C(state)[T.SD]	-3.9800	0.427	-9.327	0.000	-4.818	-3.142	
C(state)[T.TN]	0.0631	0.420	0.150	0.881	-0.761	0.887	
C(state)[T.TX]	-4.0813	0.418	-9.769	0.000	-4.901	-3.261	
C(state)[T.UT]	-13.0168		0.436	-29.863	0.000	-13.872	-12.161
C(state)[T.VA]	-3.6875	0.418	-8.827	0.000	-4.508	-2.867	
C(state)[T.VI]	-15.7186		0.477	-32.926	0.000	-16.656	-14.782
C(state)[T.VT]	-5.0290	0.445	-11.289	0.000	-5.904	-4.155	
C(state)[T.WA]	-5.5117	0.422	-13.068	0.000	-6.340	-4.684	
C(state)[T.WI]	-3.2415	0.445	-7.276	0.000	-4.116	-2.367	
C(state)[T.WV]	2.0250	0.418	4.847	0.000	1.205	2.845	

C(state)[T.WY]	-2.5375	0.418	-6.074	0.000	-3.358	-1.717	
C(year)[T.1996]	1.3179	0.237	5.572	0.000	0.854	1.782	
C(year)[T.1997]	0.9464	0.235	4.019	0.000	0.484	1.409	
C(year)[T.1998]	0.7925	0.236	3.365	0.001	0.330	1.255	
C(year)[T.1999]	0.5906	0.236	2.508	0.012	0.128	1.053	
C(year)[T.2000]	0.3560	0.236	1.511	0.131	-0.106	0.818	
C(year)[T.2001]	0.7761	0.234	3.322	0.001	0.317	1.235	
C(year)[T.2002]	0.8095	0.234	3.465	0.001	0.351	1.268	
C(year)[T.2003]	0.0873	0.234	0.374	0.709	-0.372	0.546	
C(year)[T.2004]	-1.0075	0.236	-4.266	0.000	-1.471	-0.544	
C(year)[T.2005]	-1.4768	0.235	-6.274	0.000	-1.939	-1.015	
C(year)[T.2006]	-2.1803	0.238	-9.180	0.000	-2.647	-1.714	
C(year)[T.2007]	-2.4288	0.239	-10.174	0.000	-2.897	-1.960	
C(year)[T.2008]	-3.5750	0.240	-14.899	0.000	-4.046	-3.104	
C(year)[T.2009]	-4.0804	0.241	-16.908	0.000	-4.554	-3.607	
C(year)[T.2010]	-4.6155	0.244	-18.945	0.000	-5.094	-4.137	
Private_Worksites	0.2978	0.155	1.924		0.055	-0.006	0.602
Omnibus:	21.743	Durbin-Watson:	1.438				
Prob(Omnibus):	0.000	Jarque-Bera (JB):		32.736			
Skew:	0.231	Prob(JB):		7.79e-08			
Kurtosis:	3.847	Cond. No.		64.3			

Appendix H: Event Study for Bar Ban

OLS Regression Results

Dep. Variable:	smoking_rate
R-squared:	0.950
Model:	OLS
Adj. R-squared:	0.938
Method:	Least Squares
F-statistic:	78.54
Date:	Wed, 10 Dec 2025
Prob (F-statistic):	1.03e-130
Time:	20:10:50
Log-Likelihood:	-391.91
No. Observations:	307
AIC:	905.8
Df Residuals:	246
BIC:	1133.
Df Model:	60
Covariance Type:	nonrobust

	coef	std err	t	P> t	[0.025	0.975]
Intercept	23.5438	0.386	60.994	0.000	22.783	24.304
C(event_time_str, Treatment(reference='-1.0'))[T.-2.0]	1.096	0.6019	0.251	2.398	0.017	0.108
C(event_time_str, Treatment(reference='-1.0'))[T.-3.0]	0.955	0.4430	0.260	1.704	0.090	-0.069
C(event_time_str, Treatment(reference='-1.0'))[T.-4.0]	1.698	1.1608	0.273	4.256	0.000	0.624
C(event_time_str, Treatment(reference='-1.0'))[T.-5.0]	1.707	1.1364	0.290	3.925	0.000	0.566
C(event_time_str, Treatment(reference='-1.0'))[T.0.0]	0.524	0.0200	0.256	0.078	0.938	-0.484
C(event_time_str, Treatment(reference='-1.0'))[T.1.0]	0.162	-0.3791	0.275	-1.380	0.169	-0.920

C(event_time_str, Treatment(reference='-1.0'))[T.2.0]	-0.9103	0.298	-3.054	0.003	-1.498
-0.323					
C(event_time_str, Treatment(reference='-1.0'))[T.3.0]	-0.9570	0.323	-2.963	0.003	-1.593
-0.321					
C(event_time_str, Treatment(reference='-1.0'))[T.4.0]	-0.7923	0.351	-2.257	0.025	-1.484
-0.101					
C(event_time_str, Treatment(reference='-1.0'))[T.5.0]	-1.4794	0.385	-3.838	0.000	-2.239
-0.720					
C(state)[T.AZ]	-5.0062	0.451	-11.098	0.000	-5.895
C(state)[T.CA]	-6.3471	0.533	-11.918	0.000	-7.396
C(state)[T.CO]	-5.0000	0.433	-11.539	0.000	-5.853
C(state)[T.CT]	-5.9757	0.424	-14.099	0.000	-6.811
C(state)[T.DC]	-5.2729	0.451	-11.689	0.000	-6.161
C(state)[T.DE]	-1.3225	0.432	-3.062	0.002	-2.173
C(state)[T.GA]	-2.9700	0.422	-7.033	0.000	-3.802
C(state)[T.HI]	-6.4006	0.446	-14.350	0.000	-7.279
C(state)[T.IA]	-0.9304	0.533	-1.747	0.082	-1.979
C(state)[T.ID]	-5.2666	0.424	-12.426	0.000	-6.101
C(state)[T.IL]	-3.2632	0.474	-6.886	0.000	-4.197
C(state)[T.KS]	-5.4902	0.538	-10.201	0.000	-6.550
C(state)[T.MA]	-6.0848	0.424	-14.357	0.000	-6.920
C(state)[T.MD]	-6.2882	0.474	-13.269	0.000	-7.222
C(state)[T.ME]	-0.5471	0.533	-1.027	0.305	-1.596
C(state)[T.MI]	-2.7902	0.538	-5.184	0.000	-3.850
C(state)[T.MN]	-5.0729	0.451	-11.246	0.000	-5.961
C(state)[T.MT]	-4.7506	0.503	-9.450	0.000	-5.741
C(state)[T.NC]	-2.1402	0.538	-3.976	0.000	-3.200
C(state)[T.NE]	-4.6935	0.503	-9.336	0.000	-5.684
C(state)[T.NJ]	-6.1900	0.433	-14.286	0.000	-7.043
C(state)[T.NM]	-3.5062	0.451	-7.773	0.000	-4.395
C(state)[T.NV]	4.5529	0.533	8.549	0.000	3.504
C(state)[T.NY]	-3.5809	0.427	-8.383	0.000	-4.422
C(state)[T.OH]	-0.2200	0.433	-0.508	0.612	-1.073
C(state)[T.OR]	-6.0221	0.503	-11.979	0.000	-7.012
C(state)[T.PA]	-1.8507	0.474	-3.905	0.000	-2.784
C(state)[T.PR]	-11.3395	0.451	-25.137	0.000	-12.228
C(state)[T.RI]	-0.9471	0.533	-1.778	0.077	-1.996
C(state)[T.SD]	-5.1569	0.538	-9.581	0.000	-6.217
C(state)[T.UT]	-13.3649	0.503	-26.584	0.000	-14.355
C(state)[T.VA]	-4.5649	0.503	-9.080	0.000	-5.555
C(state)[T.VI]	-16.1735	0.538	-30.050	0.000	-17.234
C(state)[T.VT]	-4.8609	0.422	-11.511	0.000	-5.693
C(state)[T.WA]	-5.5972	0.422	-13.254	0.000	-6.429
C(state)[T.WI]	-3.7569	0.538	-6.980	0.000	-4.817
C(year)[T.1996]	1.3191	0.647	2.037	0.043	0.044
C(year)[T.1997]	1.8157	0.602	3.017	0.003	0.630
C(year)[T.1998]	1.8719	0.560	3.341	0.001	0.768
C(year)[T.1999]	2.0060	0.501	4.004	0.000	1.019
C(year)[T.2000]	1.7053	0.459	3.713	0.000	0.801
C(year)[T.2001]	2.2927	0.457	5.017	0.000	1.393
C(year)[T.2002]	1.6632	0.401	4.146	0.000	0.873
C(year)[T.2003]	1.1179	0.362	3.091	0.002	0.406
C(year)[T.2004]	0.7485	0.316	2.366	0.019	0.125
C(year)[T.2005]	0.3018	0.274	1.101	0.272	-0.238
C(year)[T.2006]	-0.0842	0.247	-0.341	0.733	-0.571
C(year)[T.2007]	-0.1164	0.226	-0.515	0.607	-0.562
					0.329

C(year)[T.2008]	-0.9421	0.214	-4.395	0.000	-1.364	-0.520
C(year)[T.2009]	-1.0852	0.203	-5.353	0.000	-1.484	-0.686
C(year)[T.2010]	-1.3574	0.206	-6.598	0.000	-1.763	-0.952

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Omnibus:	0.466	Durbin-Watson:	1.981
Prob(Omnibus):	0.792	Jarque-Bera (JB):	0.595
Skew:	0.038	Prob(JB):	0.743
Kurtosis:	2.798	Cond. No.	1.30e+16

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