The Study of Youth Tobacco Use Control

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Problem and Background

Smoking by youth and young adults can cause serious and potentially deadly health issues immediately and into adulthood. Young people who smoke are in danger of:
- addiction to nicotine
- reduced lung growth
- reduced lung function
- early cardiovascular damage

SMOKING AND YOUTH

Problem and Background

- Preventing tobacco use among the youth population is critical.

- Tobacco tax increases are one of the most effective ways to reduce smoking and other tobacco use.

- So, whether higher tax burden will result in a decrease in tobacco sales and uses among youth?

Research Design

- Explore the relationship between the tax burden on tobacco and the use of youth tobacco use (controlling for state and year)

- Use different graphs and tables to visualize the topics regarding youth tobacco sales, legislations of youth access, tax burden on tobacco, youth tobacco use pattern.
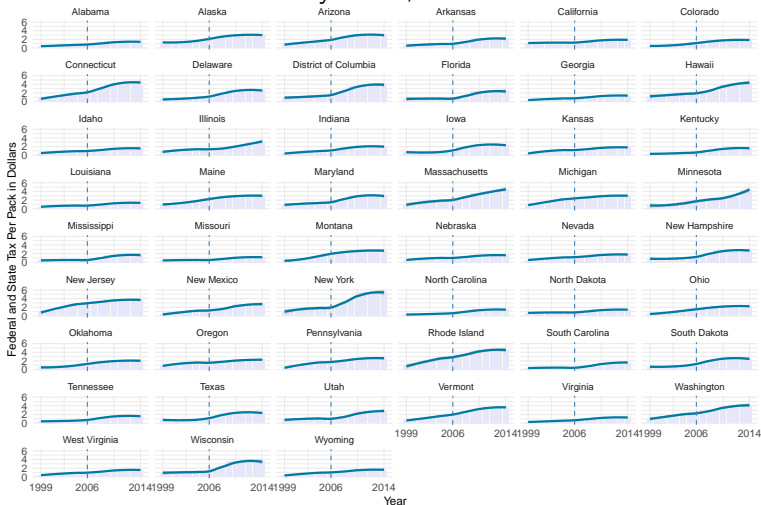
CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

Methods and Tools

- For data processing: package"tidyverse"
- For visualizations: package"ggplot2", "kableExtra"
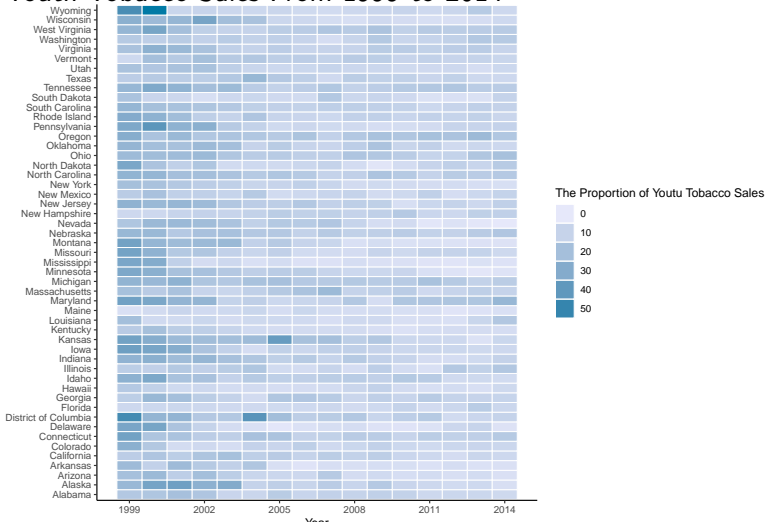- For statistical analysis: package"plm", "stargazer", "gplots"

Results

- Tax Burden on Tobacco by State, 1999 - 2014

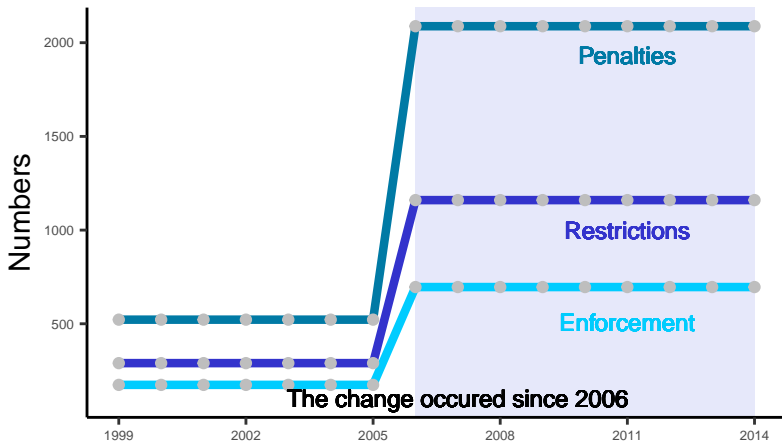Source: Centers for Disease Control and Prevention

Results

- Youth Tobacco Sales From 1999 to 2014

The Proportion of Youtu Tobacco Sales

0
10
20
30
40
50

Results

- Legislation to youth access

Provisions to cut youth's access through cigarette sales

Results

Table 1: Descriptive statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Year	918	2,005.5	5.2	1,997	2,001	2,010	2,014
Sales_pct	909	14.7	10.2	0.0	8.0	18.2	72.7
Tax_pct	918	32.1	10.4	10.5	24.0	39.6	57.8
Tax_dollar	918	0.9	0.8	0.02	0.3	1.3	4.3

Results

Table 2: Fixed Effects Results

	Dependent variable:		
	Sales to Minors in percentage		
	(1)	(2)	(3)
Tax/Retail Price	−0.067	−0.171***	−0.124**
	(0.063)	(0.060)	(0.060)
Tax per Pack	−3.666***	−6.479***	−5.181***
	(0.833)	(0.826)	(0.820)
Constant	20.188***		23.376***
	(1.433)		(1.485)
Observations	909	909	909
R^2	0.117	0.251	0.188
Adjusted R^2	0.115	0.206	0.187
F Statistic	59.974*** (df = 2; 906)	143.455*** (df = 2; 856)	210.200***

Note:	*p<0.1; **p<0.05; ***p<0.01

Limitations

- Unable to find datasets on other factors that may contribute to youth tobacco use

- Not enough covariates that we could include in the regression model - limited internal validity

Next Steps

- To explore the effect of legislation for youth access to tobacco

- To explore the amount of tax that can encourage quitting among youth smokers