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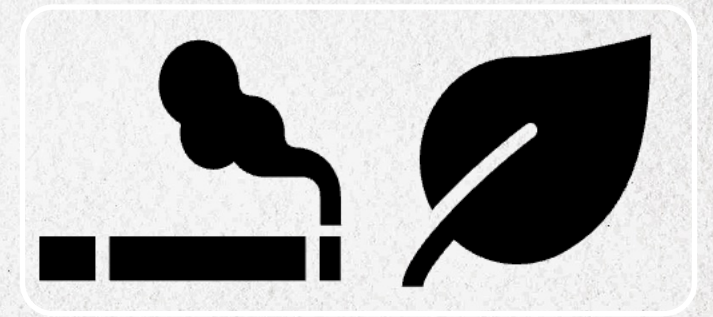
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# Poland's Menthol Cigarette Ban: Small Effects with Large Policy Implications

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# Support

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# Conflict of Interest Statement

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- No conflict of interest to report
- Co-authors of these studies have worked for organizations (American Cancer Society Inc and the World Health Organization) that have adopted positions on the public policies being studied.
- I and co-authors opinions expressed here are my own and do not represent those of my employers, my co-authors, or their employers.





# European Union Menthol Ban

- In May 2020 menthol cigarette sales ended across the EU.
- All other flavors except menthol had been removed in May 2016





# Menthol Ban Evaluation

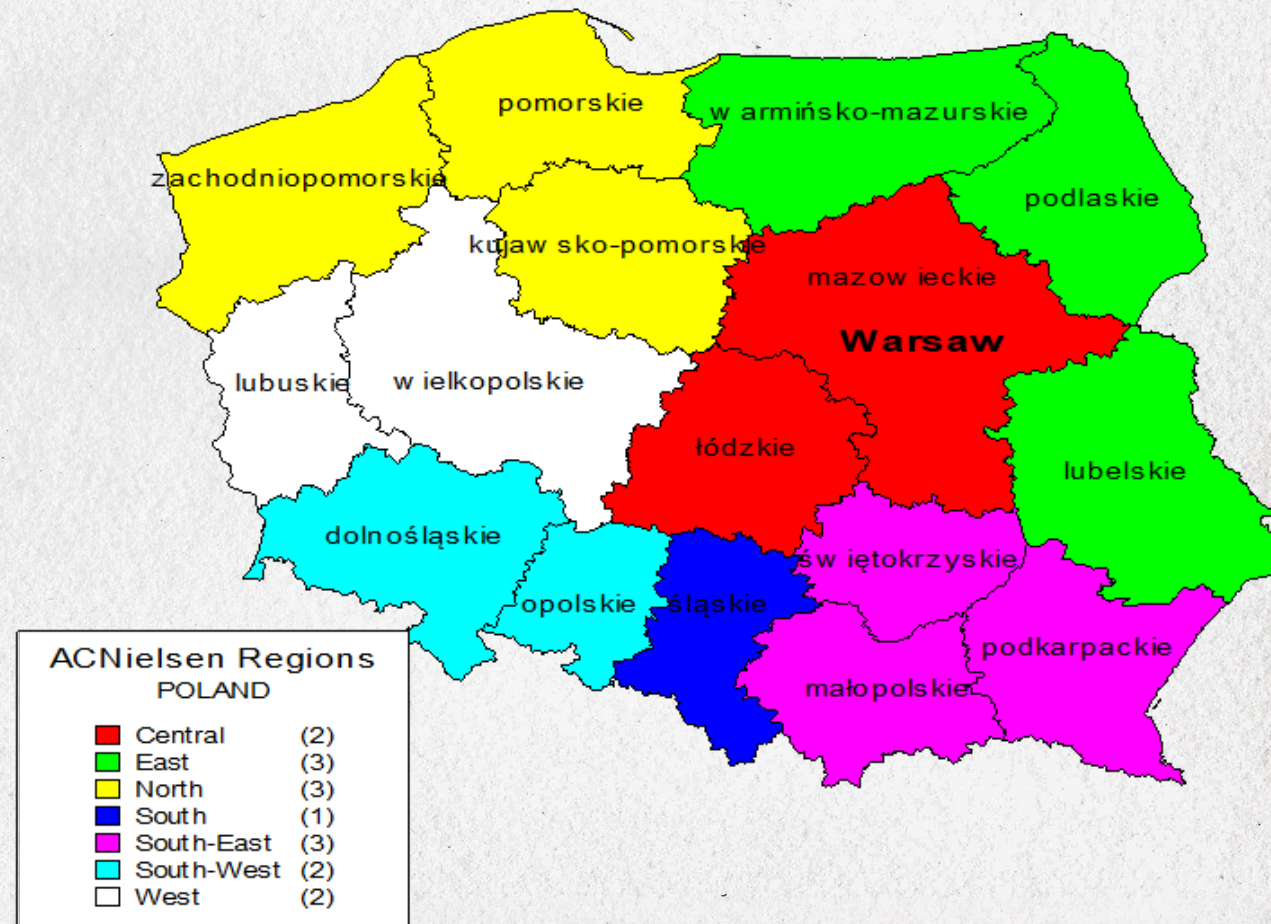
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- In Poland, menthol cigarette sales shares were 28%, the highest of any EU country.
- Prior analyses of the effects of menthol cigarette sales bans have come from areas with low menthol cigarette sales shares or small areas with legal access to menthol cigarettes elsewhere.
- **OBJECTIVE:** measure whether cigarette sales declined after the the May 2020 menthol ban



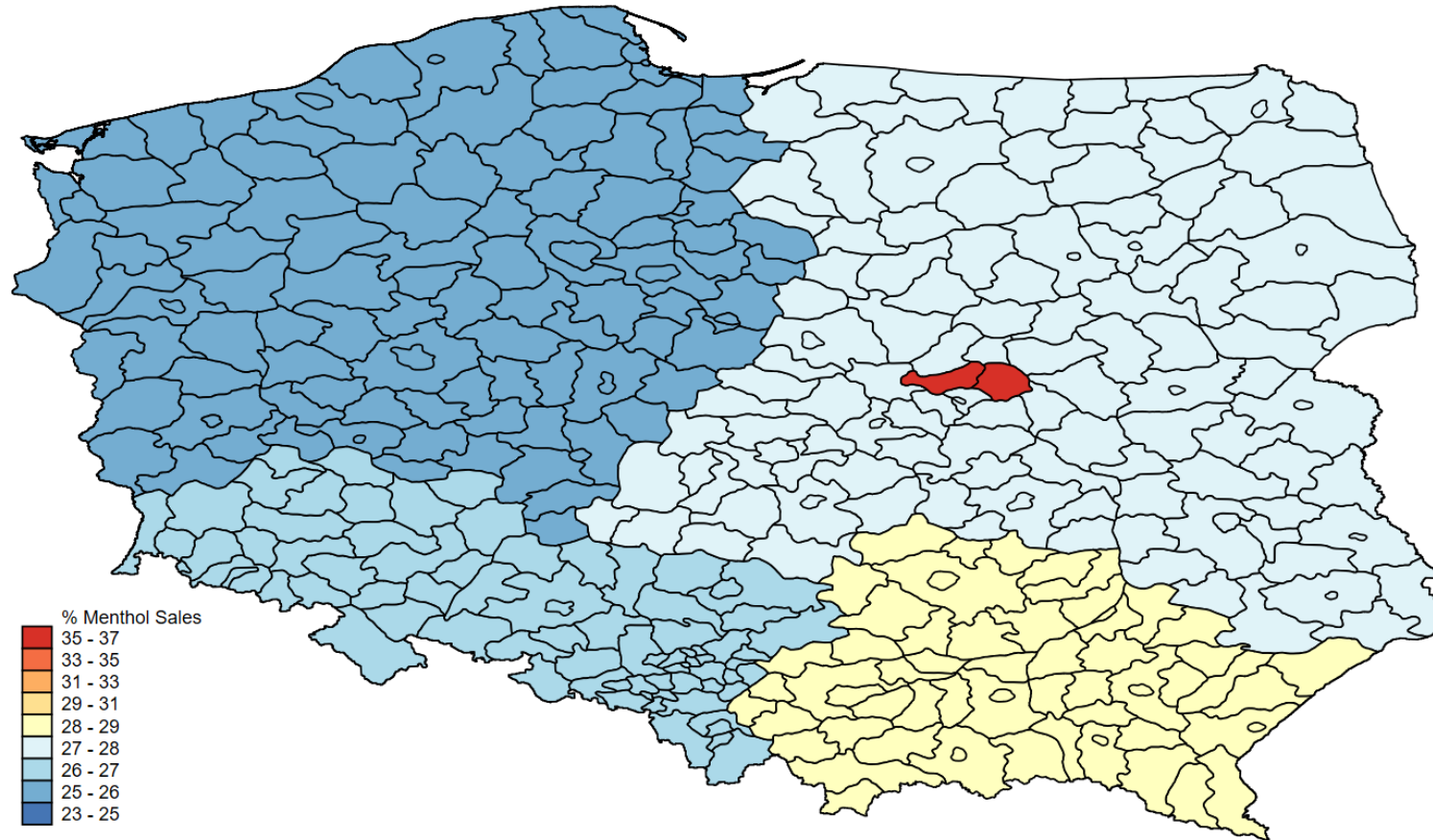
# Data Detail

- Monthly NielsenIQ data (May 2018—April 2021)
- Sales of Cigarettes and Roll-Your-Own Tobacco
- 8 regions (Warsaw City, Central, West, East, North, South, South-East, and South-West)
- Split by flavor (standard and menthol)





## Menthol Cigarette Sales Share (May 2018)





## Statistical Analysis

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A **bite-style regression model** controlling for pre-ban menthol share, climate, border opening status, and Apple movement data





# Per Capita Cigarette Sales by Nielsen Region (May 2018—April 2021)

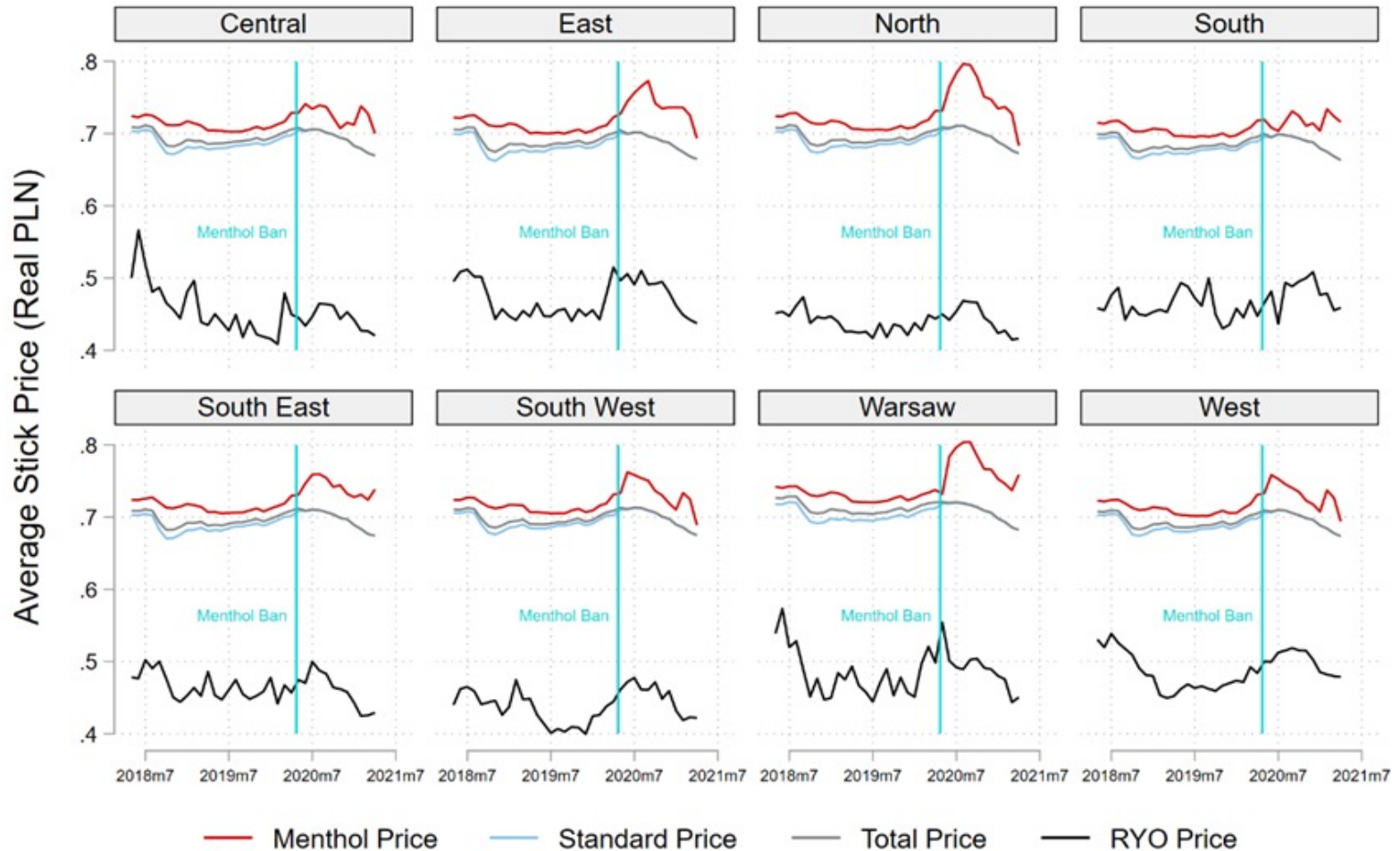
- After ban
  - Menthol sales are replaced by standard cigarettes
  - RYO sales continue growing after the ban
- Was this menthol to standard replacement enough to stop any loss in total cigarette sales?





# Regional average cigarette price (Real PLN per stick, May 2018—April 2021)

- Prices dropped across all remaining legal categories





# Fully-Adjusted Regression Results for Per Month Per Capita Total Cigarettes and Roll-Your-Own Tobacco

	Cigarettes	Cig + Price	RYO	RYO + Price
Post	12.87*	15.83**	2.312*	2.320*
Pre-Menthol Share # Post	-15.02***	-16.86***	-2.285*	-2.288*
Time Trend	0.0908	0.0314	0.0883***	0.0881***
Heating Degree Days	-13.15***	-14.26***	-0.574***	-0.575***
EU Border Open	8.446***	4.528**	0.0103	0.00536
Non-EU Border Open	-6.766*	-7.371*	-1.110*	-1.110*
Walking Volume	3.695***	4.939***	0.222	0.222
Employment Rate	0.865*	1.380***	0.105	0.107
Average Price (PLN Real)		-7.594***		-0.118
Constant	-15.29	154.1	13.38	13.64
Mean Menthol Ban Effect Size	-2.15	-1.032	0.0272	0.0326
Mean Menthol Ban Effect P-Value	0.199	0.561	0.798	0.841

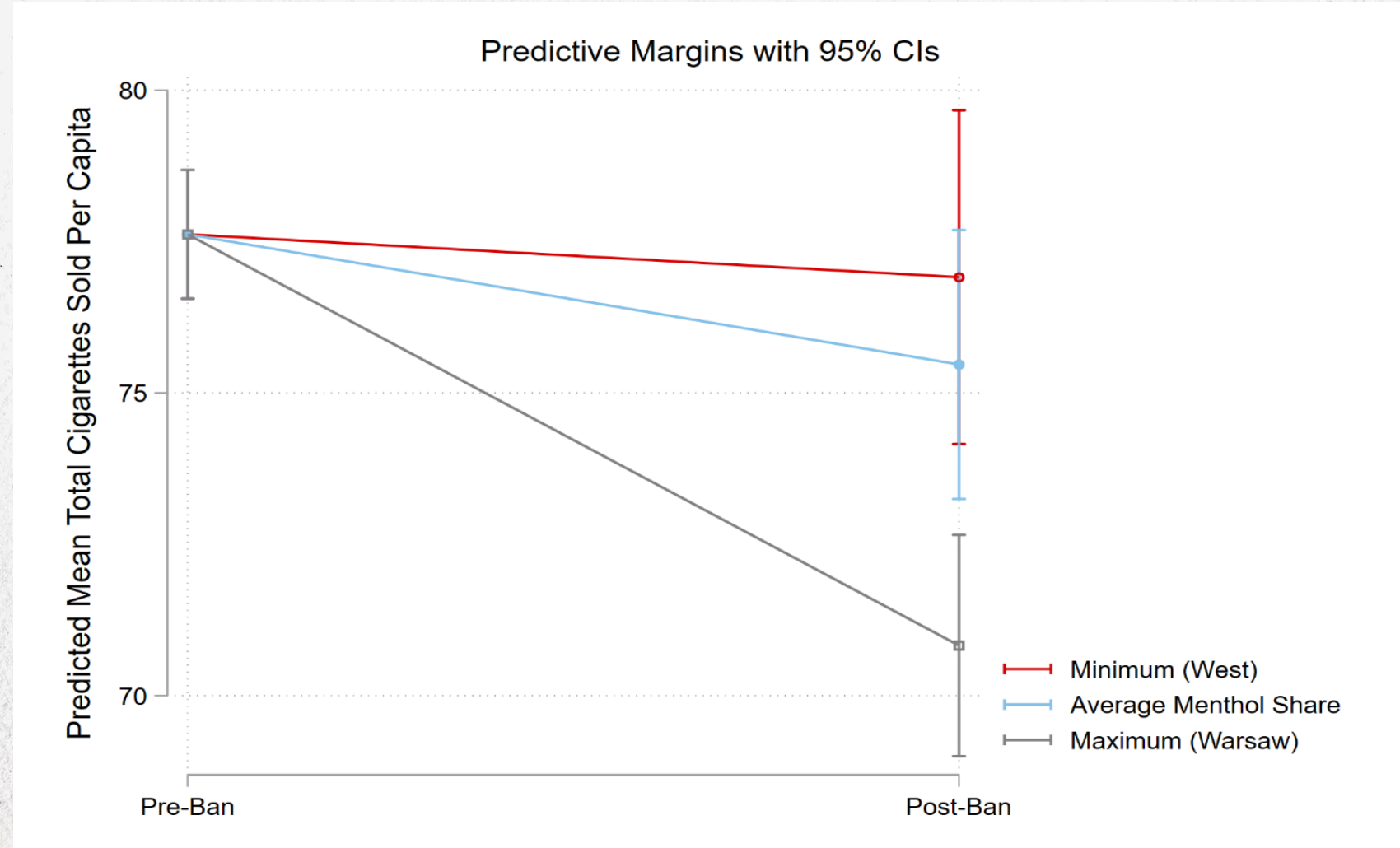
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$





# Change in Cigarette Sales by Pre-Ban Menthol Share

- Only Warsaw saw a significant decline in cigarette sales





## Results Translated:

- EU Menthol Ban did not significantly decrease total cigarette sales in Poland
- Regions with more menthol share at baseline saw larger declines post ban
- Cigarette prices fell after the ban, potentially to stop early sales declines
- EU border closures decreased sales in regions with such a border
- Non-EU border closures increased sales in regions with such a border





# QUESTIONS

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