

# The Impact of Tobacco Flavor Bans on Cross-Border Sales

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## Executive Summary

The federal government, numerous states, and many localities have implemented policies banning the sale of flavored tobacco products. The most comprehensive policies ban the sale of all flavored tobacco products without exemptions for certain flavors, products, or retailers. A common argument against implementing flavor bans includes the concern that these policies will increase cross-border sales. Most of the empirical evidence on cross-border effects of comprehensive tobacco flavor bans come from research on Massachusetts, which became the first state in the US to ban the sale of all flavored tobacco products in June 2020. With the exception of an unpublished, tobacco industry-sponsored, short brief, the evidence from peer-reviewed journals is clear and compelling – the Massachusetts flavor ban did not lead to statistically significant increases in cross-border sales. Research also shows that menthol cigarette bans in Canada did not increase the use or purchasing of illicit menthol cigarettes. A review of the evidence indicates that claims about cross-border sales are greatly exaggerated.

## Introduction

The federal government, numerous states, and many localities have implemented policies banning the sale of flavored tobacco products. The most comprehensive policies ban the sale of all flavored tobacco products without exemptions for certain flavors, products, or retailers.

In 2009, as part of the Family Smoking Prevention and Tobacco Control Act, Congress banned characterizing flavors in cigarettes except for menthol. In February 2020, the United States Food and Drug Administration (FDA) prioritized enforcement against flavored cartridge/pod-based e-cigarette products, except for menthol and tobacco flavor.

Massachusetts became the first state in the US to ban the sale of all flavored tobacco products - including menthol cigarettes and flavored e-cigarettes in 2019.<sup>1</sup> The only exception to the Massachusetts law is that flavored tobacco products can still be sold at licensed smoking bars where consumption must occur on-site. Moreover, in 2020, New Jersey, New York, and Rhode Island enacted bans on the sale of flavored e-cigarettes. In January 2021, California banned nearly all flavored tobacco products; the only exemptions from the policy are loose leaf tobacco, premium cigars, and hookah tobacco. Other state flavor bans have been limited to specific products.

There have been significant local level efforts to ban flavors in tobacco products. According to The Campaign for Tobacco-Free Kids, more than 365 localities have enacted laws restricting flavored tobacco sales in some manner, with more than 125

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<sup>1</sup> Massachusetts' flavor ban became effective 11/27/2019 for e-cigarettes and 06/01/2020 for all other products.

localities prohibiting the sales of all flavored tobacco products, including menthol, without exception (CTFK, 2023).

Evidence to evaluate the effects of tobacco/vaping flavor bans on tobacco/vapor use is growing. A recent Surgeon General's report (2020) concluded that "Prohibiting flavors, including menthol, in tobacco products can benefit public health by reducing initiation among young people and promoting cessation among adults". Additional evidence can be found in a report that summarized evidence on the effects of flavor bans on the use of flavored and other nicotine products and estimated the effect of a comprehensive tobacco flavor ban on tobacco use and tobacco tax revenues in the United States (Chaloupka, 2020). Based on empirical evidence, the report concluded that a comprehensive flavor ban would increase cessation among flavored product users and reduce initiation among potential flavor users. Moreover, the report concluded that many continuing users would switch to non-flavored products, while others would obtain flavored products online, from jurisdictions where flavored products remain available, or from illicit vendors. The report estimated that a national comprehensive flavor ban would reduce overall tax paid cigarette sales by 9.6% with a corresponding reduction in cigarette tax revenue, and the ban would decrease other tobacco sales and other tobacco sales revenues by 10.5%. While the report concluded that a comprehensive flavor ban would lead to modest reductions in tax revenues, it would lead to large economic benefits from reductions in health care costs associated with decreased tobacco consumption (Chaloupka, 2020). Indeed, the report concluded that Medicaid would save nearly \$4 billion in the first year after the comprehensive flavor ban went into effect and there would be a \$10.4 billion reduction in smoking

attributable lifetime health care spending among menthol smokers due to the flavor ban.

A common argument against implementing flavor bans includes the concern that these policies will increase cross-border sales. The remainder of this paper reviews the emerging evidence on the effects of flavor bans on cross border sales.

### **Impact of Tobacco Product Flavor Bans on Cross Border Sales**

Most of the empirical evidence on cross-border effects of comprehensive tobacco flavor bans come from research on Massachusetts, which became the first state in the US to ban the sale of all flavored tobacco products in June 2020. Asare and colleagues (2022a) were the first to examine changes in menthol and nonflavored cigarette sales in Massachusetts from January 2017 to July 2021 and compared these changes to sales in states without flavor bans. Using Nielsen Retail Scanner Data and a difference-in-difference design, the researchers examined temporal changes in cigarette sales in Massachusetts before and after the comprehensive flavor ban went into effect. The temporal changes were then compared to changes in cigarette sales in 27 states that did not have state or local flavor bans. The analyses controlled for product prices, state level factors, seasonality, and state fixed effects. The study found that after the flavor ban, the adjusted 4-week sales of cigarettes in Massachusetts compared to the control states decreased by 372.27 packs per 1000 people for menthol cigarettes but increased by 120.25 packs per 1000 people for non-flavored cigarettes. Overall, the adjusted 4-week sales of all cigarettes in Massachusetts compared to the control states decreased by 282.65 packs per 1000 people.

A tobacco industry-supported organization, the Reason Foundation, reevaluated the effect of the Massachusetts flavored tobacco ban using proprietary MSAi retailer to wholesaler shipment data<sup>2</sup> provided to them by Reynolds American Inc. Services Company. The findings from this research are not peer reviewed and are available online in a paper (Rich, 2022). The report is very short (1.5 pages) and does not contain information that would typically be found in a peer-reviewed publication such as descriptive statistics on the data, detailed discussion of the methods employed, diagnostic and specification tests of the regressions, tables of results, etc. The cigarette data used in this analysis, shipments, is different than the data used in Asare et al. (2022), which used retail sales data. In addition, Rich (2022) included an additional 15 states and Washington DC, which were not included in the Asare et al. (2022) paper. Further, the difference-in-difference design is different than Asare et al. (2022), with Massachusetts and its bordering states being evaluated as treatment groups. The paper concludes that when border states are assigned as a treatment group, the flavor ban in Massachusetts led to an 80.57 and 119.88 pack per 1000 people increase in bordering states menthol and non-menthol sales, respectively. Moreover, the study concludes that when Massachusetts and border states are assigned as a treatment group, the flavor ban in Massachusetts led to an increase of 191.95 total packs per 1000 people increase in Massachusetts and bordering states sales.

A follow-up study published by Asare and colleagues (2022b) estimated changes in cigarette sales in Massachusetts and its bordering states associated with

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<sup>2</sup> Typically industry cigarette sales data track wholesaler to retailer shipments. The paper states they use retailer to wholesaler data, which implies they are tracking returns from retailers to wholesalers. This is possibly a typo in the paper or a mistake in understanding on the researcher's part.

Massachusetts' comprehensive menthol flavor ban to assess whether the increase in cigarette sales in border states offset the decrease in cigarette sales in Massachusetts, as was found by Rich (2022). Asare and colleagues (2022b) used monthly cigarette sales data from January 2017 to June 2021 that they acquired from required filings from manufacturers and importers to the US Department of Treasury. The study used a spatial lag regression to compare changes in cigarette sales in Massachusetts and its bordering states with changes in cigarette sales in 40 states and the District of Columbia before and after the comprehensive flavor ban went into effect. The results suggest that following the implementation of the ban, compared with the comparison states, monthly cigarette sales per 1000 persons decreased in Massachusetts by 350.02 packs and increased in bordering states by 9.51 packs per 1000 persons, yielding a net decrease of 340.51 packs per 1000 persons in Massachusetts and neighboring states. This translates into total monthly cigarette sales declines of 2.45 million packs in Massachusetts and an increase of 0.13 million packs in bordering states, for a net decrease of 2.32 million packs. The findings from this study contradict those of Rich (2022), are consistent with Asare and colleagues' earlier work (2022a), and demonstrate that any initial increases in cigarette sales in bordering states were not sustained and do not outweigh the decrease in cigarette sales in Massachusetts.

A study by Ali and colleagues (2022) used retail scanner data from Information Resources, Inc. (IRI) to compare cigarette sales in Massachusetts border states to 28 non-border states before and after the Massachusetts ban went into effect. The study used a difference-in-difference methodology and controlled for state and time fixed effects, cigarette prices, tobacco control policies, COVID-19 cases and deaths and related

closures, and state demographic characteristics. The study concluded that sales of menthol, non-flavored, and overall cigarettes trended upward in border states, but these increases were not statistically different from sales patterns in non-border states. The study concludes that laws prohibiting the sale of flavored tobacco products have no significant impact on cross-border sales in neighboring states.

A study published by the Massachusetts Tobacco Cessation and Prevention Program (Kingsley et al., 2022) used Nielsen scanner data for the period June 2017 – June 2021 to examine tobacco sales in Massachusetts and four bordering states: NH, NY, RI, and VT. The study found that in the year after the ban, overall tobacco sales in Massachusetts decreased by 25.4% as compared with the previous year. Total sales of tobacco products in NH, NY, RI, and VT decreased by 1.8% in the year after the ban was enacted compared with the previous year. Individually, NY, RI, and VT saw a decrease of 22.1%, 4.1%, and 4.8% in total tobacco sales in the year after the ban was enacted compared with the previous year, respectively. New Hampshire, on the other hand, saw a 10.5% increase in total tobacco sales in the year after the ban was enacted compared with the previous year. Much of the increase was driven by a menthol cigarette sales increase. However, preliminary data from July – September 2021 suggested that menthol sales in NH are trending downward and the initial increase in menthol sales has not been sustained.

Other evidence on the effects of menthol cigarette bans on illicit cigarette purchasing come from Canada. In May 2015, the Canadian Province of Nova Scotia became the first jurisdiction in the world to ban menthol cigarettes. Using data on the number of illicit cigarettes seized in Nova Scotia for the period 2007/2008 – 2017/2018,



Stoklosa (2018) found no statistically significant differences in the number of cigarettes seized before and after the menthol ban went into effect, suggesting there was no surge in organized cross-border distribution. Another study by Chung-Hall and colleagues (2023) examined the impact of menthol cigarette bans in Canada on the use and purchase of illicit cigarettes among menthol and non-menthol smokers in Canada. Using data from the ITC Four-Country Smoking and Vaping Survey in 2016 and 2018, the study concluded that the menthol cigarette bans in Canada did not increase the use or purchasing of illicit menthol cigarettes in Canada.

To summarize, claims that flavor bans will increase cross-border sales are not supported by the evidence. A growing body of literature is rapidly emerging on the effects of tobacco flavor bans on cross-border tobacco purchases. A preponderance of the evidence from North America comes from research on Massachusetts, which became the first state in the US to ban the sale of all flavored tobacco products in 2020. **With the exception of an unpublished, tobacco industry-sponsored, short brief, the evidence from peer-reviewed journals is clear and compelling – the Massachusetts flavor ban did not lead to statistically significant increases in cross-border sales.**

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