

No. 22-338

IN THE
Supreme Court of the United States

R.J. REYNOLDS TOBACCO COMPANY;
AMERICAN SNUFF COMPANY; AND
SANTA FE NATURAL TOBACCO COMPANY,
Petitioners,

v.

COUNTY OF LOS ANGELES; COUNTY OF LOS
ANGELES BOARD OF SUPERVISORS; AND HILDA L.
SOLIS, HOLLY MITCHELL, SHEILA KUEHL, JANICE
HAHN, AND KATHRYN BARGER, each in her official
capacity as a member of the Board of Supervisors,
Respondents.

On Petition For A Writ Of Certiorari To The United
States Court Of Appeals For The Ninth Circuit

**BRIEF OF THE VAPOR TECHNOLOGY
ASSOCIATION AS AMICUS CURIAE IN
SUPPORT OF PETITIONERS**

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INTEREST OF *AMICUS CURIAE*

The *Amicus Curiae*¹ Vapor Technology Association (VTA) is a national non-profit industry trade association whose members are dedicated to developing and selling high quality electronic nicotine delivery systems (ENDS), also known as e-cigarettes or vapor products², that provide adult consumers with an alternative to smoking combustible cigarettes. VTA's membership includes manufacturers of ENDS devices and e-liquids, distributors, suppliers, and vape shop retailers that manufacture and/or sell a variety of vapor products, including open-system and closed-system vapor products and flavored vaping products. Since its founding, VTA has been engaged on critical regulatory issues confronting the vapor industry, advocating for science-based regulations and strict enforcement against non-compliant companies and products.

VTA has constructively engaged with federal regulators, including the U.S. Food & Drug Administration (FDA) and U.S. Congress, on myriad issues and specifically on the issue of flavored ENDS regulation. In 2018, when the FDA published its Advance Notice of Proposed Rulemaking, Regulation

¹ All parties have been notified and consented to the filing of this brief as required by Rule 37. No counsel for any party authored this brief in whole or in part, and no person or entity other than amicus, its members, or its counsel made a monetary contribution intended to fund the preparation or submission of this brief.

² Herein we refer to ENDS products as e-cigarettes and vapor products as those terms are used interchangeably. See, *Wages & White Lion Invs. LLC v. U.S. Food & Drug Administration*, 14 F.4th 1130, 1134 (5th Cir. 2021) (discussing the interchangeability of the terms).

of Flavors in Tobacco Products, 83 Fed. Reg. 12294 (Mar. 21, 2018) (hereafter, “Flavor ANPRM”), VTA submitted substantive comments to the FDA detailing all of the scientific studies examining the role that flavors play in both initiation and, as importantly, discontinuation of the use of tobacco products.

In 2019, when the Trump Administration announced its intention to ban all flavored vapor products, VTA shared information with the Administration on the role that flavored vaping plays in assisting adult smokers trying to quit and also commissioned an economic analysis, by John Dunham & Associates, which demonstrated that the proposed national flavor ban would shut down the majority of the almost 13,000 small businesses whose adult customers relied on flavored vaping. Am.App.9a. As a more sensible option, VTA endorsed raising the age to purchase all tobacco products to 21 which the Administration endorsed and Congress passed in December 2019. Further Consolidated Appropriations Act, 2020 Pub. L. No. 116-94, 133 Stat. 2534, 3123. VTA also advocated for implementing various other time, place and manner restrictions³ on flavored vapor products at the federal and state level. VTA also participated in FDA’s other rulemaking processes regarding tobacco product standards, including its ongoing tobacco product standard process which purports to ban menthol in cigarettes.

With this background on the issue of flavors, Amicus Curiae offer additional context that may

³ *21 & Done. A Comprehensive Plan to Address Underage Use of E-Cigarettes*, Vapor Technology Association, October 21, 2019, available at <https://vaportechnology.org/wp-content/uploads/2019/10/21-and-done-final-combined.pdf>.

assist the Court in assessing the importance of granting the Petition for a Writ of Certiorari (the “Petition”).

SUMMARY OF ARGUMENT

The question presented in the Petition merits consideration by this Court not only for the reasons set forth therein, but because determination of the proper preemptive scope of the Tobacco Control Act in this specific context – a blanket flavor ban – will have a dramatic impact on an entire network of companies in the independent nicotine vapor products industry that did not exist when the Tobacco Control Act was passed. This new network of companies sell less harmful ENDS products, which do not contain tobacco but, because they contain nicotine were deemed by FDA regulation to be tobacco products and are thus defined as “tobacco products” under the Food Drug & Cosmetic Act, 21 U.S.C. §387a (2009) (FDCA). While Congress and the FDA have refused to implement blanket flavor bans, the growing patchwork of local and state flavor bans portends a proverbial death by a thousand cuts, that will be no less painless to the thousands of small business owners (and their tens of thousands of employees) who will be forced to close unless authority over tobacco product standards and premarket review is properly reserved to the federal government.

The question presented is of even greater import when one considers that FDA is currently and actively exercising its statutory and regulatory authority to conduct a scientific assessment – through its exclusive tobacco product standard and premarket review authorities – of how flavored tobacco products should be regulated. Science must be the driving

force behind any tobacco product standard and that is particularly true here, where renowned tobacco-control experts have directly challenged US policies seeking to ban flavored vaping products. Moreover, local and state flavor bans frustrate the fundamental purpose of the TCA in that they prevent companies from selling flavored e-cigarettes, even when approved by the FDA as “appropriate for the protection of public health” through pursuant to the FDA’s exclusive and statutorily prescribed authority. For these additional reasons, the Ninth Circuit’s reading of the TCA’s preemption and savings clauses would neuter if not undermine the TCA.

ARGUMENT

Granting the Petition is of exceptional importance for two reasons. First, today the “substantial effect on the Nation’s economy” created by the sale of tobacco products is of even greater significance than when it was originally recognized by Congress in the Tobacco Control Act. *See* Family Smoking Prevention and Tobacco Control Act of 2009, § 2(10), 123 Stat. 1776, 1777, *codified at* 21 U.S.C. § 387 (TCA). Pet.App.89a. Vapor products, also known as e-cigarettes, were not regulated under the TCA when it was passed but were subsequently made subject to the TCA in 2016 upon the implementation of the Deeming Rule. *Deeming Tobacco Products To Be Subject to the Federal Food, Drug, and Cosmetic Act, as Amended by the Family Smoking Prevention and Tobacco Control Act; Restrictions on the Sale and Distribution of Tobacco Products and Required Warning Statements for Tobacco Products*, 81 Fed. Reg. 28973 (May 10, 2016), effective August 8, 2016. Between the passage of the TCA in 2009 and the Deeming Rule, a new, independent distribution chain of ENDS companies, including manufacturers, distributors, suppliers, and

retailers, has steadily grown outside of the traditional tobacco products manufacturing and distribution chain, offering their customers non-combustible nicotine vapor products as alternatives to smoking cigarettes. *Wages & White Lion*, 14 F.4th at 1134 (“by the time the FDA got around to issuing the Deeming Rule, manufacturers were widely marketing e-cigarettes through the United States. To avoid an overnight shutdown of the entire e-cigarette industry, the FDA delayed enforcement of the Deeming Rule”). This independent vapor industry now comprises more than 10,000 companies across the United States and is responsible for generating more than 130,000 jobs and more than \$22 billion in economic output for the U.S. economy. Am.App.1a.

While the Ninth Circuit ruling may not cause an “overnight shutdown” of the entire industry, a review and resolution of the question presented by this Court is urgently necessary to prevent the same outcome over time. Apart from the adverse impact that the unchecked proliferation of local and state flavor bans would have on the traditional combustible tobacco products industry, a recent economic study demonstrates that the independent nicotine vapor products industry would be devastated by unrestricted flavor bans given their unique and substantial reliance on the sale of flavored vapor products to adult consumers. Am.App.1a. Importantly, the potential shutdown of close to 10,000 businesses, loss of tens of thousands of jobs, billions of dollars of wages and benefits, billions of dollars of economic output to the US and state economies makes this issue exceptionally important for this Court’s consideration.

Second, since the passage of the L.A. County Ordinance – which makes it illegal to “sell or offer for

sale,...any flavored tobacco product,” L.A. Cnty. Code § 11.35.070(E) (“L.A. County Ordinance”) – leading tobacco-control scientists have squarely challenged the notion of banning e-cigarette flavors and have sounded the alarm that *decreasing* availability of *flavored* vaping products is harming the ability of adult smokers to quit smoking cigarettes. Instead of blanket bans, these tobacco-control scientists endorse alternative time, place and manner restrictions for the sale of flavored vaping products.

For years the FDA has been (and is currently) implementing its ongoing, science-based regulatory scheme pertaining to flavored tobacco products, including the implementation of tobacco product standards regarding flavors and a premarket review process for e-cigarettes. *Wages & White Lion*, 14 F.4th at 1134 (“the FDA required e-cigarette manufacturers to submit premarket tobacco applications (“PMTAs”). The PMTA process is “onerous,” to put it mildly”) (citation omitted). As set forth herein, the fundamental purpose of the TCA is the premarket review process through which FDA must make a determination of which tobacco products may or may not be sold, and that determination must be based on a scientific review which assesses whether the product in question is “appropriate for the protection of public health.”

Not only is the premarket review process the centerpiece of the TCA’s requirements for protecting the public health, Congress expressly found that the FDA, not the states, had the “relevant scientific expertise” to conduct the premarket review and, thus, the responsibility to make the decision of which products would or would not be sold. Congress gave FDA “broad authority” to make these decisions, *Id.* at 431, so it is not surprising that, along with

establishing tobacco product standards, Congress included premarket review in the TCA's preemption clause. FDCA, 21 U.S.C. §387p(a)(2)A. Thus, permitting local and state governments to implement non-science-based blanket sales bans which directly interfere with the fundamental purpose of the TCA and which would overrule FDA's decision that a specific product is appropriate for the protection of public health, is not only unlawful, but is dangerous from a public health perspective.

I. THE QUESTION PRESENTED IS EXCEPTIONALLY IMPORTANT FROM AN ECONOMIC PERSPECTIVE.

A. The independent nicotine vapor products industry is a significant part of the U.S. economy.

Economists at John Dunham & Associates (JDA) have been studying the economics of the independent vapor products industry for years. In 2018, JDA conducted its first economic impact assessment of the independent nicotine vapor products industry, which it then updated in 2021. Am.App.3a. JDA found that the nicotine vapor products industry is an "important, dynamic part of the U.S. economy which reaches into all corners of the United States." Am.App.1a. Specifically, JDA explained that the vapor industry is responsible for "directly employing 66,364 Americans and generating \$2.74 billion in wages, and \$8.09 billion in economic activity nationally." Am.App.1a.

However, applying its model for examining the full economic impact of such industries when direct, indirect and induced job creation is taken into consideration, JDA concluded that the "nicotine vapor products industry is significant in that it generates 133,573 jobs paying \$7,003,246,000 in wages and benefits. Am.App.5a-7a. Further, the nicotine vapor

products industry accounts for about \$22.09 billion in economic output or about 0.10 percent of GDP.” Am.App. 7a; see also Table 1, Am.App. 7a.

The small business component of the vapor product industry is also very significant and is often overlooked as regulators and lawmakers focus their attention on the largest tobacco companies in the industry. According to JDA, the majority of companies in the industry are small businesses. Of the 10,527 vapor industry firms JDA identified in the 2021 Study, 9,847 of them are small retail vape shops and small vape shop manufacturers. Am.App.7a-8a. JDA also found that small shops generate a significant number of the overall industry’s 133,000 jobs, as they explained, “about 53,212 jobs are held by people working for the 9,847 independent retail and blending vape shops located across the country.” Am.App.8a.

Further, JDA assessed the fiscal impact of the vapor products industry and found that, in addition to sales and consumption taxes, vapor businesses generate billions of dollars in revenue for federal and state/local governments. Of the myriad business taxes paid by firms and their employees, the vapor industry provides, “\$1.48 billion to the federal government and \$3.23 billion to state and local governments including income taxes, property taxes, profits taxes, etc.” Am.App.9a. Table 3 of the Appendix breaks down all of the taxes generated by industry both at the federal and state/local levels. Am.App.8a-9a.

Given the enormous growth and presence of the e-cigarette or vapor products industry today, determining the proper test for TCA preemption is of even greater importance than it was when Congress passed the TCA with its preemption language.

B. Refusal to grant certiorari and reverse the Ninth Circuit ruling could result in severe economic repercussions for the U.S. economy, small businesses and workers.

If local and state laws banning flavored tobacco product sales are not checked, as Petitioners are requesting, their impact on the e-cigarette industry will severely hurt the U.S. economy. This Court recognized in *Engine Manufacturers* that, “if one State or political subdivision may enact such rules, then so may any other; and the end result would undo Congress’s carefully calibrated regulatory scheme.” *Engine Mfrs. Ass’n v. S. Coast Air Quality Mgmt. Dist.*, 541 U.S. 246, 255 (2004). Here, not only will the “end result” undo Congress’s tobacco product regulatory scheme, but it will literally upend an entire industry built on thousands of small businesses and tens of thousands of American workers, and scuttle hundreds of millions of dollars in wages and benefits earned, and billions of dollars in economic output.

This danger is neither hypothetical nor academic. The court below already has recognized that hundreds of local jurisdictions have imposed restrictions on flavored tobacco products. Pet.App.14a. Moreso, this Court’s need to address this issue has been accelerated due to the passing of the California state-wide flavor ban pursuant to a referendum on November 8, 2022.⁴

⁴ Wiley, Hannah, *California voters approve ban on sale of flavored tobacco products*, Los Angeles Times, November 8, 2022, <https://www.latimes.com/california/story/2022-11-08/2022-california-election-prop-31-ban-flavored-tobacco-results>.

To understand what is at stake, JDA recently completed its analysis⁵ which examined what would happen if local and state flavor bans, like the Ordinance at issue, were permitted to proliferate throughout the country. JDA's assessment is deeply concerning.

JDA reports the while the nicotine vapor products industry currently generates more than \$22 billion in economic output, "were all states and localities allowed to ban the sale of flavored vapor products, the impact on the economy would be \$16,449,776,269." Am.App.10a. This \$16.5 billion loss in economic output would follow the "loss of nearly 99,160 jobs, [and] \$5,258,906,715 in wages in benefits," which otherwise would have been paid to those workers employed in the vapor industry and the industries supported and induced by the vapor industry. Am.App.11a.

For perspective, JDA also notes that the impact on small vape businesses, which rely heavily on the sale of flavored vapor products, would be disproportionate:

"Importantly, the independent vapor segment of the market would cease to exist in any meaningful way and the impact might even be larger since the vast majority of the 9,847 independent vapor shops in the country (which currently generate 53,212 full-time equivalent jobs) would likely have to close. No business can continue to exist were it to lose nearly three-quarters of its revenue. Fixed costs, such as rent, insurance, electricity and

⁵ *The Economic Impact of a Sales Ban on Flavored Vapor Products on the Economies of the United States and the States Comprising the Ninth Circuit*, prepared for the Vapor Technology Association by John Dunham & Associates, November 9, 2022, see Appendix A (Am.App.).

interest still must be paid, and represent at least 23.0 percent of a retail store's operating budget.”

Am.App.11a-12a.

Similarly, JDA explains that its report focuses only on the vapor products industry and, therefore, understates the economic repercussions for the US economy since, “the full impact of any blanket ban on all flavored tobacco products would be larger when losses of traditional combustible tobacco products are calculated.” Am.App.9a-10a.

Such adverse economic impacts make the question presented of exceptional importance and underscore the need for product standards and decisions on which products may be sold (as opposed to how, where or when they may be sold) to be set at a national level as intended by Congress in the TCA.

C. Even if sales bans were limited to the Ninth Circuit, the impact on the affected states' economics, and particularly California, will be severe.

The economies within the states covered by the Ninth Circuit's ruling would be severely impacted as more and more sales bans proliferate throughout the Ninth Circuit. “Looking at the nine states in a vacuum, the total loss in jobs would be over 14,030 [full time equivalent] positions, paying \$801.0 million in wages and benefits.” Am.App.13a. Thus, “collectively” the economies of Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, and Washington “would be over \$2.5 billion smaller

than they would be if flavored vapor products continue to be sold.”⁶ Am.App.3a;13a.

Further, JDA examined the economic impact on the economies of each state comprising the Ninth Circuit and found that lost economic output ranged from \$22.1 million (Alaska) to \$1.457 billion (California). Am.App.13a-20a; Tables 7a-7i. Moreover, in addition to lost jobs and economic output, there would be “reductions in taxes paid by businesses and workers” such as income taxes, profits taxes, social security payments, and even property taxes.” Am.App.21a. Again, the loss for each state is dependent on the size its industry and the lost taxes to the federal treasury and each state’s treasury are laid out at Table 8 of JDA’s report. Am.App.21a.

In light of California’s recent passage of the ballot referendum, and the impending enforcement of that new law, this Court has even more reason to grant the Petition. California has a substantial number of companies in the nicotine vapor products industry by far is the largest of all the states within the Ninth Circuit. According to JDA’s economic impact report, “In the state of California, where the majority of e-liquid manufacturers of the independent vapor products industry are based, total job loss would be approximately 6,925 FTE positions, paying \$445,565,776 in wages and benefits, and the economic output of the California economy would be diminished

⁶ Interestingly, because of cross-border trade, the overall US economy would not be as severely impacted as the states within the Ninth Circuit, but we would still see the loss of “10,925 FTE jobs across the entire US economy and the overall loss to the US economy would be \$2.1 billion.” Am.App.12a.

by \$1,497,332,882 if flavored vapor products could not be sold.” Am.App.15a.

Given this is the now-certain future of a California, now is the time for this Court to take up and resolve this important issue.

II. THE QUESTION PRESENTED IS EXCEPTIONALLY IMPORTANT FROM A SCIENTIFIC AND PUBLIC HEALTH PERSPECTIVE.

Taking up the question presented is also exceptionally important because leading tobacco-control scientists, based on a growing body of research, have warned against e-cigarette flavor bans. There can be little question that local and state legislative bodies are not ideally situated to assess rigorous scientific questions associated with whether flavored vapor products should be sold. To be sure, Congress not only reserved that responsibility to the FDA but also found that FDA is the entity suited to make the requisite scientific determinations of which products should be sold. Such decisions need to be based on science and not upon the whims or vagaries of the political process.

A. Leading tobacco control scientists warn against flavored e-cigarette bans and recommend time, place and manner restrictions.

In September 2021, fifteen of the past presidents (including the immediate past president) of the staunchly anti-tobacco Society for Research on Nicotine and Tobacco (SRNT) published a seminal analytical essay in the American Journal of Public Health, in which they directly challenge US policies regarding vaping and popularized misconceptions

regarding harm to youth and adults.⁷ The significance of this essay is its clarion call for a rebalancing of e-cigarette policy, particularly on flavors, and its summation of the current science demonstrating the importance of recognizing and embracing the harm reduction potential of vaping products.

First, the 15 past presidents of SRNT state, “Many, including this article’s authors, believe that vaping can benefit public health, given substantial evidence supporting the potential of vaping to reduce smoking’s toll.” *Id.* at 1662. Even more directly they state:

“While evidence suggests that vaping is currently increasing smoking cessation, the impact could be much larger if the public health community paid serious attention to vaping’s potential to help adult smokers, smokers received accurate information about the relative risks of vaping and smoking, and policies were designed with the potential effects on smokers in mind. That is not happening.”

Id.

Second, these highly respected tobacco-control scientists raise the striking concern that efforts to restrict adult access to flavored vaping products is hampering public health objectives of reducing adult smoking:

⁷ David J. K. Balfour, Neal L. Benowitz, Suzanne M. Colby, Dorothy K. Hatsukami, Harry A. Lando, Scott J. Leischow, Caryn Lerman, Robin J. Mermelstein, Raymond Niaura, Kenneth A. Perkins, Ovide F. Pomerleau, Nancy A. Rigotti, Gary E. Swan, Kenneth E. Warner, and Robert West, 2021: Balancing Consideration of the Risks and Benefits of E-Cigarettes, *American Journal of Public Health* 111, 1661-1672, <https://doi.org/10.2105/AJPH.2021.306416>

“To date, the singular focus of US policies on decreasing youth vaping may well have reduced vaping’s potential contribution to reducing adult smoking. Those policies include ... decreasing adult access to flavored e-cigarettes that may facilitate smoking cessation and convincing the public—including smokers—that vaping is as dangerous as smoking.”

Id. at 1666.

Third, instead of flavor bans, these scientists explain the need for balanced policies: “Policies regarding flavors reflect the more general issue considered in this article: the need to create a balance between the sometimes-conflicting goals of preventing youth vaping and supporting adults’ smoking cessation attempts, particularly for smokers unable or unwilling to quit otherwise.” *Id.* at 1664. So, to right the imbalance and correct the wrongfooted priorities on the issue of flavored vapor products, these tobacco-control leaders endorse limiting the “retail sale of flavored e-cigarettes to adult-only outlets such as vape shops.” *Id.* at 1666. Such restrictions they say would protect both youth and adults. *Id.*

Given that the Ordinance indiscriminately bans less harmful flavored vaping products along with all other flavored tobacco products, this Court may wish to consider both the concerns raised these experts and the alternative place and manner restrictions they have endorsed. As Petitioners’ thoughtful explication of the TCA’s preemption, savings and preservation clauses makes clear, localities and states can implement numerous regulatory options, other than blanket bans, without running run afoul of the TCA or public health concerns. Pet.30.

B. The question of whether adult smokers will have continued access to less harmful flavored vapor products can only be decided by the FDA, as Congress intended and prescribed in the TCA.

Given the myriad concerns raised by the fifteen past presidents of SRNT about the importance of flavored vapor products to national public health concerns, whether American smokers will be able to choose a less harmful flavored vaping alternative to cigarettes is a question that, as Congress dictated, can only be decided by the FDA on a scientific basis. Unless this Court grants the Petition, and reverses the Ninth Circuit ruling, the FDA's on-going tobacco product standard process for flavored tobacco products and the outcomes of its Congressionally mandated premarket review process will be completely usurped by a patchwork of state and local flavor bans.

1. In 2016, the FDA published the "Deeming Rule"⁸ which first deemed electronic nicotine delivery systems (ENDS) as "tobacco products" subjecting them to the comprehensive requirements of the FDCA. 21 U.S.C. §387a-387p. A central question which has occupied considerable attention by the FDA and federal regulators is how flavored ENDS and other tobacco products should be regulated. In the Deeming Rule, FDA explained that it was not banning flavored ENDS products and that it would evaluate the flavors pursuant to its premarket review

⁸ Deeming Tobacco Products To Be Subject to the Federal Food, Drug, and Cosmetic Act, as Amended by the Family Smoking Prevention and Tobacco Control Act; Restrictions on the Sale and Distribution of Tobacco Products and Required Warning Statements for Tobacco Products, 81 Fed. Reg. 28973 (May 10, 2016), effective August 8, 2016.

process. *Id.* at 29055; see, *Wages & White Lion Inv. LLC v. FDA*, 41 F.4th 427, 432 (5th Cir. 2022) (“the Deeming Rule subjected e-cigarette manufacturers to the TCA’s prior authorization requirement—manufacturers of “new tobacco product[s]” must submit premarket tobacco product applications (“PMTAs”). See 21 U.S.C. § 387j(a)(2)”).

Premarket review is one of the specific areas for which local and state action is expressly preempted under the TCA. FDCA, 21 U.S.C. §387p(a)(2)A (preempting “any requirement...relating to tobacco product standards, premarket review,” etc.). Pet.App.124a. As Petitioners’ correctly point out, the Ninth Circuit’s interpretation of the TCA’s preemption and savings clauses would make the Congressionally mandated premarket review process a nullity as the L.A. County Ordinance would ban products which the FDA fully authorized as “appropriate for the protection of public health.” Pet.14. This would be an absurd result.

In *Wages & White Lion*, a case specifically examining the FDA’s decision on a company’s flavored ENDS PMTA, the 5th Circuit explained, “In determining whether a product is appropriate for the protection of the public health (referred to as the ‘APPH’ standard), FDA must consider ‘the risks and benefits to the population as a whole.’” *Id.* § 387j(c)(4).” *Wages & White Lion*, 41 F.4th at 432. The court went on to explain that the public health evaluation is a fundamental purpose of the TCA. *Id.* at 431 (“The TCA’s purpose sounds in ... protecting public health”). Most importantly for this analysis, Congress found that only the FDA, not local or state legislative bodies, has the relevant scientific experience to evaluate the numerous premarket review requirements set forth in the TCA:

“Congress also found that FDA had the relevant ‘scientific expertise to . . . evaluate scientific studies supporting claims about the safety of products[] and to evaluate the impact of labels, labeling, and advertising on consumer behavior in order to reduce the risk of harm and promote understanding of the impact of the product on health.’ TCA § 2(44), 123 Stat. at 1780.” *Id. To that end, Congress gave FDA broad authority to regulate tobacco products, requiring that most ‘new tobacco products’ receive authorization from the FDA prior to marketing. 21 U.S.C. § 387j(a)(2)(A).”*

Id. (emphasis supplied).

For the foregoing reasons, little credence can be given to the Ninth Circuit’s dismissive downplaying of the FDA’s exclusive premarket review authority as a “limited exception”, particularly when the “appropriateness for the protection of public health” standard of the premarket review process is, in fact, *the* fundamental purpose of the TCA, simply cannot be accepted. Pet.App.19a. And, for this reason alone, no sound reading of the preemption and savings clauses could allow a local or state authority to reject or supplant entirely a scientific decision that a flavored e-cigarette is appropriate for the protection of public health, particularly when Congress placed that decision making authority, which is the prerequisite to selling the product, solely within the province of the FDA.

2. This is especially true for, specifically, the flavored e-cigarette category of tobacco products which the FDA has made clear it is reviewing because of their potential for advancing public health (as the 15 past presidents of SRNT have argued they do). In 2018, long before the passage of the L.A. County

Ordinance, the FDA initiated its “flavors in tobacco products” regulatory process by publishing its advance notice of proposed rulemaking – the Flavor ANPRM – in which it explained, “The [Food Drug & Cosmetic] statute also authorizes the Agency to issue additional product standards, including to address flavors in tobacco products (see section 907(a)(3)) and preserves FDA’s authority to act with respect to menthol (section 907(e)(3)).” *Id.* at 12295.

The FDA made clear its authority and intentions related to regulating flavors in “noncombusted” products (i.e., ENDS and other non-combustible nicotine products):

“FDA explained that it did intend to consider the issues surrounding the role of flavors in tobacco products, including the role flavors play in youth and young adult use, as well as the existence of preliminary data that some adults may use flavored noncombusted tobacco products to transition away from combusted tobacco use. See 81 FR 28973 at 29014 and 29055.”

Id. Importantly, the FDA wanted to examine the scientific data that examined adults’ use of flavored non-combustible products to “transition away from” smoking. *Id.*

VTA, and many other stakeholders, participated extensively in the Flavor ANPRM review process. For its part, VTA provided a comprehensive response to each of the questions sought to be addressed by the FDA, supported by a complete set of all the published research that examined the relevant questions pertaining to flavors and ENDS products.⁹ VTA’s

⁹ See, VTA Comments in Response to FDA’S ANPRM: Regulation of Flavors in Tobacco Products, July 19, 2018,

response also underscored the unique role that flavored vapor products can play in helping adult smokers transition away from cigarettes and why noncombusted flavored vapor products should be treated differently than combustible tobacco products. *Id.*

Since then, FDA has moved forward with two tobacco product standards related to flavors. On May 4, 2022, FDA published its Proposed Tobacco Product Standard for Menthol in Cigarettes, 87 Fed. Reg. 26454 (May 4, 2022), seeking to limit menthol in cigarettes. That same day, FDA published its Tobacco Product Standard for Characterizing Flavors in Cigars, 87 Fed. Reg. 26396 (May 4, 2022), seeking to limit characterizing flavors in cigar products. Importantly, the FDA noted that these two new proposed tobacco product standards involving flavors arose out of the Flavor ANPRM which the agency initiated in 2018. *See, e.g.*, 87 Fed. Reg. at 26455 (FDA “issued two advance notices of proposed rulemaking (ANPRMs) to solicit data and information about menthol cigarettes”).

In other words, in addition to managing a complex scientific premarket review process, FDA has been evaluating the science related to the core question of whether flavored tobacco products meet the standard set forth in the Tobacco Control Act (e.g., “appropriate for the protection of public health”) through a comprehensive regulatory process. While FDA has not yet issued a tobacco product standard relating to flavored ENDS products, it has been evaluating the central question of whether flavored vapor products

meet the same standard as part of FDA's exclusive authority over the pre-market review process.

Thus, the question of whether some or all flavored tobacco products should be available to adult consumers must continue to be evaluated pursuant to the FDA's ongoing federal scientific review process, and state and local efforts to impose parochial or prohibitionist policies should be curbed. Ultimately, in evaluating the complex interaction between the TCA's preemption, preservation and savings clauses, the following question must be reconciled: if the FDA, pursuant to the exclusive authority granted it by Congress, determines that *any* flavored tobacco product meets the TCA's standard for market authorization, what reading of the statute could countenance an outcome in which every town, village, city, county or state could simply replace that judgment and ban outright the sale of a product that is "appropriate for the protection of public health"?

CONCLUSION

The Court should grant certiorari and reverse the decision below.

November 14, 2022

Respectfully submitted,

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APPENDIX

**The Economic Impact of a Sales Ban on
Flavored Vapor Products on the Economies of
the United States and the States Comprising
the Ninth Circuit**

Prepared for the Vapor Technology Association
by
John Dunham & Associates

November 9, 2022

Executive Summary. John Dunham & Associates (JDA) was asked by the Vapor Technology Association to analyze the impact on the U.S. and state economies of flavor sales bans covering all non-tobacco flavored vapor products. JDA's analysis builds on the economic impact study that it previously conducted in 2021 which assessed the full economic impact of the vapor products industry. This report examines the impact of a national flavor ban on the U.S. economy, the impact of a ban limited to the Ninth Circuit jurisdictions on the U.S. economy, and the impact of a ban on the economies of the nine states comprising the Ninth Circuit.

The nicotine vapor industry is an important, dynamic part of the U.S. economy which reaches into all corners of the United States, directly employing 66,364 Americans and generating \$2.74 billion in wages, and \$8.09 billion in economic activity nationally. When we assessed the full economic impact of this industry, we determined that it creates more than 133,000 jobs, paying over \$7.0 billion in wages and benefits, while generating more than \$22

billion in economic output. In addition, there are 11,920 full-time equivalent jobs created by vapor product sales at traditional retailers like supermarkets, convenience stores, drug stores, and department stores.

Because sales of flavored vapor products are such a large part of the industry's sales to adult consumers, particularly in the independent vapor product distribution chain, a flavor ban would have a devastating effect on the vapor sector if such a ban were implemented nationally, or via a complete patchwork of state or local bans, and it would have a dramatic impact even if limited to the states comprising the Ninth Circuit.

A national flavor ban implemented federally, or implemented state by state or municipality by municipality, would cause the loss of 99,158 full-time equivalent (FTE) jobs, the loss of \$5,258,906,715 in wages and benefits, and the loss of \$16,449,776,269 to the U.S. economy.

More importantly, if all states and localities were allowed to ban flavored vaping products, the independent vapor segment of the market would cease to exist in any meaningful way since the vast majority of the 9,847 independent vapor shops in the country (which currently generate 53,212 full-time equivalent jobs) would likely have to close. No business can continue to exist were it to lose 74.6 percent of its revenue.

Further, if the scope of the Ninth Circuit ruling was limited to the nine states comprising the Ninth

Circuit, over 14,030 FTE positions would be lost.¹ Collectively, the economies of these nine states would be over \$2.5 billion smaller than they would be if flavored vapor products continue to be sold.

At the same time, while some sales and jobs would shift to states outside of the Ninth Circuit, a flavor ban limited to the nine states comprising the Ninth Circuit would still result in the loss of 10,925 FTE jobs across the entire US economy and the overall loss to the US economy would be \$2.1 billion.

Vapor Industry Economic Impact Study: In 2021, John Dunham & Associates (JDA) conducted the 2021 Vapor Industry Economic Impact Study of the Vapor Industry which estimated the economic contributions made by the nicotine vapor industry (which includes e-liquids, coils, box mods and other nicotine vapor products) to the U.S. economy.² (The 2021 study followed up and expanded upon a similar study we first conducted in 2018.)

JDA's research was funded by the Vapor Technology Association. This study used standard econometric models first developed by the U.S. Forest Service, and now maintained by IMPLAN Inc. Data

¹ Note that due to data limitations, the model does not include US territories that might be covered under a Ninth Circuit ruling.

² The *2021 Economic Impact Study of the Vapor Industry*, Prepared for the Vapor Technology Association, John Dunham & Associates, September 20, 2021, at <https://vaportechnology.org/vaping-impact/> (hereinafter, the "2021 Study").

came from industry sources, government publications and Data-Axle.³

The study measures the number of jobs in the nicotine vapor industry; the wages paid to employees, the value added and total output. In addition, it measures the economic impact of the suppliers that support the vapor industry, as well as those industries supported by the induced spending of direct and supplier industries.

Industries are linked to each other when one industry buys from another to produce its own products. Each industry in turn makes purchases from a different mix of other industries, and so on. Employees in all industries extend the economic impact when they spend their earnings. Thus, economic activity started by the nicotine vapor industry generates output (and jobs) in hundreds of other industries, often in states far removed from the original economic activity. The impact of supplier firms, and the “Induced Impact” of the re-spending by employees of industry and supplier firms, is calculated using an input/output model of the United States. The study calculates the impact on a national basis, by state, by Congressional district, and by state legislative districts.

³ Data-Axle is the leading provider of business and consumer data for the top search engines and leading in-car navigation systems in North America. Data-Axle gathers data from a variety of sources, by sourcing, refining, matching, appending, filtering, and delivering the best quality data. Data-Axle verifies its data at the rate of almost 100,000 phone calls per day to ensure absolute accuracy.

The study also estimates taxes paid by the industry and its employees. Federal taxes include industry-specific excise and sales taxes, business and personal income taxes, FICA, and unemployment insurance. State and local tax systems vary widely. Direct retail taxes include state and local sales taxes, license fees, and applicable gross receipt taxes. Retailers pay real estate and personal property taxes, business income taxes, and other business levies that vary in each state and municipality. All entities engaged in business activity generated by the industry pay similar taxes.

Economic Impact of the Vapor Products Industry. The nicotine vapor industry is an important and dynamic part of the U.S. economy. The vapor industry (as defined in this study) includes manufacturers of e-liquids, coils, box mods and other nicotine vapor products, wholesalers, and retailers that sell vapor products such as vape stores, tobacco shops, convenience stores, supermarkets, gasoline stations, pharmacies and drug stores, warehouse clubs and supercenters. The vapor industry reaches into all corners of the United States, directly employing 66,364 and generating \$2.74 billion in wages. Vapor businesses directly generate \$8.09 billion in economic activity nationally. See Table 1.

Other firms are related to the vapor industry as suppliers. These firms produce and sell a broad range of items including e-liquid, coils, batteries, and all of the merchandise needed to maintain vapor businesses. In addition, supplier firms provide a broad range of services, including personnel services, financial services, advertising services, consulting

services or transportation services. Finally, a number of people are employed in government enterprises responsible for the regulation of the industry. All told, we estimate that the industry is responsible for 28,098 supplier jobs. These firms generate about \$6.88 billion in economic activity.⁴

An economic analysis of the vapor industry will also take additional linkages into account. While it is inappropriate to claim that suppliers to the industry's indirect firms are part of the industry being analyzed,⁵ the spending by employees of the industry, and that of indirect firms whose jobs are directly dependent on the vapor industry, should be included. This spending - on everything from housing, to food, to education and medical care - makes up what is traditionally called the "induced impact," or multiplier effect, of the vapor industry. For 2021, the induced impact of the industry generates 39,111 jobs and \$7.12 billion in economic impact, for a multiplier of 0.88.⁶

Total Economic Impact. When direct, indirect and induced job creation are taken together, the total

⁴ Throughout this study, the term "firms" refers to physical locations. One manufacturer, for example, may have facilities in 5 or 6 locations throughout the country.

⁵ These firms would more appropriately be considered as part of the indirect firm's industries.

⁶ Often economic impact studies present results with very large multipliers – as high as 4 or 5. These studies invariably include the firms supplying the induced industries as part of the induced impact. JDA believes this is not an appropriate definition of the induced impact and thus limits this calculation only to the effect of spending by direct and indirect employees.

impact of the nicotine vapor products industry is significant in that it generates 133,573 jobs paying \$7,003,246,000 in wages and benefits. Further, the nicotine vapor products industry accounts for about \$22.09 billion in economic output or about 0.10 percent of GDP. Table 1 presents a summary of the total economic impact of the nicotine vapor industry in the United States.⁷

Table 1. Economic Impact of the Vapor Industry.

	Jobs	Wages	Economic Impact
Direct	66,364	\$2,741,178,400	\$8,087,436,700
Indirect	28,098	\$2,018,273,300	\$6,879,165,500
Induced	39,111	\$2,243,794,900	\$7,124,240,600
Total	133,573	\$7,003,246,600	\$22,090,842,800

Small Business Impact. The majority of the vapor products industry is made up of small businesses. Our study found that the independent businesses of the vapor industry total 10,527 firms. The majority of those firms are independent retail vape shops and blending vape shops (which also manufacture e-liquids). Table 2 identifies the breakdown of firms within the industry.

⁷ The 2021 Economic Impact Study of the Vapor Industry, Prepared for Vapor Technology Association, John Dunham & Associates, September 20, 2021, at : <https://vaportechnology.org/vaping-impact/>.

Table 2. Distribution of Firms by Type

Firm Type	No.	% of Total
Vape shop	8,328	81.19%
Blending vape shop	1,519	14.81%
E-liquid manufacturer	208	2.03%
Wholesaler	140	1.36%
Component manufacturer	45	0.44%
Coil manufacturer	7	0.07%
Online retail	10	0.10%
Total	10,257	100.00%

Of the 66,364 direct jobs generated by the industry, about 53,212 jobs are held by people working for the 9,847 independent retail and blending vape shops located across the country.

Fiscal Impact. Another important part of an impact analysis is the calculation of the contribution of the industry to the public finances of the country.

Table 3. Fiscal Contribution of the Nicotine Vapor Industry.

Tax Type	Federal	State/Local	Total
Individual Income	\$536,380,600	\$139,348,000	\$675,728,600
Social Security/ Insurance	\$724,359,100	\$11,879,300	\$736,238,400

9a

Property		\$499,667,200	\$499,667,200
Business/ Employee Paid Sales		\$544,313,900	\$544,313,900
Corporate Income	\$70,087,700	\$30,681,800	\$100,769,500
Personal & Business	\$149,384,100	\$125,900,000	\$275,284,100
Federal Excise	\$0		\$0
State Excise		\$905,923,800	\$905,923,800
State Sales		\$681,311,700	\$681,311,700
Other State and Local		\$295,097,600	\$295,097,600
Total	\$1,480,211,500	\$3,234,123,300	\$4,714,334,800

As set forth in Table 3 above, in the vapor industry, the taxes paid by firms and their employees provide \$1.48 billion to the federal government and \$3.23 billion to state and local governments including income taxes, property taxes, profits taxes, etc. These figures also include state and local sales and excise taxes that are paid by consumers when they purchase vapor products. These sales-based taxes total \$1.88 billion. (See Table 3).

Impact of a National Flavor Ban. When previously analyzing the effect of a national flavor ban in 2019, JDA determined that the majority of the nearly 13,000 small vape shop retailers would close.⁸ Based on this updated analysis in 2022, were all

⁸ *The Economic Impact of a Ban on Flavored Vapor Products*, John Dunham & Associates, November 21, 2019, available at <https://vaportechnology.org/vaping-impact/>.

states and localities allowed to ban the sale of flavored vapor products, the impact on the economy would be \$16,449,776,269, with \$6,029,469,895 in direct sales losses. Because our analysis applies to only nicotine vapor products, the full impact of any blanket ban on all flavored tobacco products would be larger when losses of traditional combustible tobacco products are calculated.

Based on a survey of the 3 largest distributors in the independent vapor distribution chain, 93.6 percent of sales nicotine vaping products are of menthol flavored (7.9%) and other flavored (85.7%) vapor products, and just 6.4 percent are tobacco flavors. These data should be more representative of the total market than scanner data (which are discussed below) since well more than half of all vapor sales are of open-systems (or e-liquids) and are made at dedicated vapor and tobacco retailers.

Using these breaks, were all states and localities allowed to ban both flavored products, adults who prefer these products will react in one of three ways: (1) stop vaping altogether and return to smoking cigarettes or another tobacco product; (2) switch to vaping tobacco flavored products; or (3) seek their favored flavors from states or jurisdictions where they are still available, from the black market or make them at home.

JDA's modeling suggests that a large portion of consumers would react by purchasing unregulated products over the black market or make their own flavored e-liquids. However, government sponsored research (that does not include this option) concludes

that there would be a large shift toward tobacco flavored products. Based on these data it would be likely that the current 6.4 percent share of tobacco flavored products would increase to about 25.4 percent of pre-ban sales. Overall, sales would fall to roughly \$2,057,967,509, resulting in a net sales loss of \$6,029,469,895. See Table 4.

Table 4. Projected Losses with Total Flavor Ban

Flavor Type	Current Sales %	Post Ban %	Current Sales	Post Ban Sales
Flavored	85.7%	0.0%	\$6,927,698,881	\$0
Menthol	7.9%	0.0%	\$641,333,786	\$0
Tobacco	6.4%	100.0%	\$518,404,738	\$2,057,967,509
Total	100.0%	100.0%	\$8,087,437,404	\$2,057,967,509

Based on this changed behavior, JDA's model estimates that a total U.S. flavor ban would lead to a loss of nearly 99,160 jobs, \$5,258,906,715 in wages in benefits, and about \$16,449,776,269 in economic activity.

Table 5. Impact of a National Flavor Ban

Current	Direct	Supplier	Induced	Total
Jobs	66,357	28,089	39,109	133,555
Wages	\$2.7 billion	\$2.0 billion	\$2.2 billion	\$7.0 billion
Output	\$8.1 billion	\$6.9 billion	\$7.1 billion	\$22.1 billion
<i>Change</i>	Direct	Supplier	Induced	Total
Jobs (Lost)	(49,178)	(20,824)	(29,156)	(99,158)

Wages (Lost)	(\$2.1 billion)	(\$1.5 billion)	(\$1.7 billion)	(\$5.3 billion)
Output (Lost)	(\$6.0 billion)	(\$5.1 billion)	(\$5.3 billion)	(\$16.4 billion)

Importantly, the independent vapor segment of the market would cease to exist in any meaningful way and the impact might even be larger since the vast majority of the 9,847 independent vapor shops in the country (which currently generate 53,212 full-time equivalent jobs) would likely have to close. No business can continue to exist were it to lose nearly three-quarters of its revenue. Fixed costs, such as rent, insurance, electricity and interest still must be paid, and represent at least 23.0 percent of a retail store's operating budget.

Impact of a Flavor Ban Limited to the Ninth Circuit. Applying our model to the states which comprise the Ninth Circuit only, we found that the overall cost of the ban in these nine states would be the loss of 10,925 FTE positions across the entire US economy.⁹ These jobs would have paid \$702,261,072 in wages and benefits. The overall cost to the US economy would be \$2,108,722,133. These losses take into account the impact of increased cross-border sales from states where flavored vapor products are not banned; in addition, they also account for lost sales that had previously been purchased by consumers in other states from outlets in the states comprising the Ninth Circuit.

⁹ *The 2021 Economic Impact Study of the Vapor Industry*, Prepared for: Vapor Technology Association, John Dunham & Associates, September 20th, 2021, at: <https://vaportechnology.org/vaping-impact/>

Table 6 below shows the economic impact on the U.S. if all flavored vapor products are banned only in the states comprising the Ninth Circuit.

Table 6: Impact of the US Economy of a Flavor Ban Limited to Ninth Circuit States

Current	Direct	Supplier	Induced	Total
Jobs	66,357	28,089	39,109	133,555
Wages	\$2.7 billion	\$2.0 billion	\$2.2 billion	\$7.0 billion
Output	\$8.1 billion	\$6.9 billion	\$7.1 billion	\$22.1 billion
<i>Change</i>	Direct	Supplier	Induced	Total
Jobs (Lost)	(5,125)	(2,473)	(3,327)	(10,925)
Wages (Lost)	(\$263 million)	(\$212 million)	(\$227 million)	(\$702 million)
Output (Lost)	(\$830 million)	(\$600 million)	(\$678 million)	(\$2.1 billion)

State by State Losses. Looking at the nine states in a vacuum, the total loss in jobs would be over 14,030 FTE positions, paying \$801.0 million in wages and benefits. The economies of these nine states would be over \$2.5 billion smaller than they would be if flavored and menthol vapor products continue to be sold.¹⁰ Tables 7a – 7i below show the economic impact on the economy of each state within the Ninth Circuit if all these states and/or their local governments were authorized under Ninth Circuit precedent to ban flavored vapor products.

¹⁰ Prepared for the Vapor Technology Association by John Dunham & Associates, 2022. See methodology section,

Alaska. In the state of Alaska, total job loss would be approximately 162 FTE positions, paying \$7.8 million in wages and benefits, and the economic output of the Alaska economy would be diminished by nearly \$22.2 million if flavor vapor products could not be sold. See Table 7a.

Table 7a: Impact on the Alaska economy of a Ninth Circuit flavor ban				
Current	Direct	Supplier	Induced	Total
Jobs	134	38	61	233
Wages	\$5,030,787	\$2,720,745	\$3,440,583	\$11,192,115
Output	\$10,668,899	\$10,659,993	\$10,576,612	\$31,905,505
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(93)	(27)	(43)	(162)
Wages (Lost)	(\$3,488,854)	(\$1,890,550)	(\$2,387,694)	(\$7,767,098)
Output (Lost)	(\$7,413,445)	(\$7,407,256)	(\$7,339,952)	(\$22,160,653)

Arizona. In the state of Arizona, total job loss would be approximately 3,080 FTE positions, paying \$149.9 million in wages and benefits, and the economic output of the Arizona economy would be diminished by over \$463.0 million if flavor vapor products could not be sold. See Table 7b.

Table 7b: Impact on the Arizona economy of a Ninth Circuit flavor ban				
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15a

Current	Direct	Supplier	Induced	Total
Jobs	1,516	655	911	3,082
Wages	\$59,711,548	\$41,889,909	\$48,296,757	\$149,898,214
Output	\$179,951,524	\$132,241,005	\$150,823,443	\$463,015,971
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(908)	(392)	(524)	(1,825)
Wages (Lost)	(\$33,405,920)	(\$25,091,780)	(27,807,172)	(\$86,304,872)
Output (Lost)	(\$107,789,779)	(\$79,211,492)	(\$86,837,579)	(\$273,838,850)

California. In the state of California, where the majority of e-liquid manufacturers of the independent vapor products industry are based, total job loss would be approximately 6,925 FTE positions, paying \$445,565,776 in wages and benefits, and the economic output of the California economy would be diminished by \$1,497,332,882 if flavored vapor products could not be sold. See Table 7c.

Table 7c: Impact on the California economy of a Ninth Circuit flavor ban				
Current	Direct	Supplier	Induced	Total
Jobs	6,015	3,254	4,289	13,559
Wages	\$349.3 million	\$289.5 million	\$300.3 million	\$939.2 million
Output	\$1.11 billion	\$877.4 million	\$944.4 million	\$2.93 billion

16a

Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(3,173)	(1,717)	(2,035)	(6,925)
Wages (Lost)	(\$150.4 million)	(\$152.7 million)	(\$142.5 million)	(\$445.6 million)
Output (Lost)	(\$586.4 million)	(\$462.8 million)	(\$448.0 million)	(\$1.497 billion)

Hawaii. In the state of Hawaii, total job loss would be approximately 240 FTE positions, paying \$11.7 million in wages and benefits, and the economic output of the Hawaii economy would be diminished by over \$36.2 million if flavor vapor products could not be sold. See Table 7d.

Table 7d: Impact on the Hawaii economy of a Ninth Circuit flavor ban				
Current	Direct	Supplier	Induced	Total
Jobs	191	62	104	357
Wages	\$8,248,442	\$4,153,542	\$5,772,213	\$18,174,197
Output	\$22,031,808	\$13,617,410	\$19,013,608	\$54,662,826
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(128)	(42)	(67)	(237)
Wages (Lost)	(\$5,172,842)	(\$2,795,402)	(\$3,708,632)	(\$11,676,875)
Output (Lost)	(\$14,827,766)	(\$9,164,739)	(\$12,216,195)	(\$36,208,699)

Idaho. In the state of Idaho, total job loss would be approximately 620 FTE positions, paying \$26.4 million in wages and benefits, and the economic output of the Idaho economy would be diminished by just over \$99.0 million if flavor vapor products could not be sold. See Table 7e.

Table 7e: Impact on the Idaho economy of a Ninth Circuit flavor ban				
Current	Direct	Supplier	Induced	Total
Jobs	481	218	269	968
Wages	\$19,599,260	\$12,404,705	\$13,526,744	\$45,530,709
Output	\$66,479,906	\$41,915,296	\$46,175,688	\$154,570,890
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(321)	(145)	(156)	(622)
Wages (Lost)	(\$10,312,117)	(\$8,262,588)	(\$7,850,755)	(\$26,425,461)
Output (Lost)	(\$44,281,270)	(\$27,919,150)	(\$26,799,798)	(\$99,000,218)

Montana. In the state of Montana, total job loss would be approximately 333 FTE positions, paying nearly \$15.6 million in wages and benefits, and the economic output of the Montana economy would be diminished by almost \$51.9 million if flavor vapor products could not be sold. See Table 7f.

Table 7f: Impact on the Montana economy of a Ninth Circuit flavor ban				
Current	Direct	Supplier	Induced	Total
Jobs	207	89	125	421

18a

Wages	\$8,840,845	\$4,963,950	\$6,101,658	\$19,906,453
Output	\$24,163,040	\$20,986,697	\$20,336,550	\$65,486,288
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(165)	(71)	(98)	(333)
Wages (Lost)	(\$6,851,068)	(\$3,951,588)	(\$4,774,726)	(\$15,577,381)
Output (Lost)	(\$19,235,161)	(\$16,706,611)	(\$15,913,945)	(\$51,855,717)

Nevada. In the state of Nevada, total job loss would be approximately 890 FTE positions, paying \$42.4 million in wages and benefits, and the economic output of the Nevada economy would be diminished by over \$147.5 million if flavor vapor products could not be sold. See Table 7g.

Table 7g: Impact on the Nevada economy of a Ninth Circuit flavor ban				
Current	Direct	Supplier	Induced	Total
Jobs	672	279	357	1,307
Wages	\$29,706,673	\$18,844,667	\$19,229,908	\$67,781,247
Output	\$92,583,535	\$61,787,851	\$63,533,144	\$217,904,530
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(469)	(195)	(223)	(887)
Wages (Lost)	(\$17,224,163)	(\$13,158,200)	(\$12,033,654)	(\$42,416,017)
Output (Lost)	(\$64,646,017)	(\$43,143,075)	(\$39,757,647)	(\$147,546,739)

Oregon. In the state of Oregon, total job loss would be approximately 1,210 FTE positions, paying \$61.8 million in wages and benefits, and the economic output of the Oregon economy would be diminished by nearly \$181.0 million if flavor vapor products could not be sold. See Table 7h.

Table 7h: Impact on the Oregon economy of a Ninth Circuit flavor ban

Current	Direct	Supplier	Induced	Total
Jobs	813	372	497	1,683
Wages	\$33,210,088	\$25,815,377	\$27,457,876	\$86,483,341
Output	\$91,122,511	\$76,654,288	\$83,471,289	\$251,248,088
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(588)	(269)	(355)	(1,212)
Wages (Lost)	(\$23,541,572)	(\$18,662,724)	(\$19,632,888)	(\$61,837,184)
Output (Lost)	(\$65,875,246)	(\$55,415,726)	(\$59,683,511)	(\$180,974,484)

Washington. In the state of Washington, total job loss would be approximately 1,850 FTE positions, paying \$103.4 million in wages and benefits, and the economic output of the Washington economy would be diminished by over \$300.9 million if flavor vapor products could not be sold. See Table 7i.

Table 7i: Impact on the Washington economy of a Ninth Circuit flavor ban

20a

Current	Direct	Supplier	Induced	Total
Jobs	1,284	472	698	2,454
Wages	\$58,317,380	\$36,809,622	\$43,638,924	\$138,765,926
Output	\$151,774,396	\$115,040,782	\$132,520,298	\$399,335,476
Change	Direct	Supplier	Induced	Total
Jobs (Lost)	(973)	(358)	(520)	(1,851)
Wages (Lost)	(\$42,988,308)	(27,895,398)	(\$32,517,462)	(\$103,401,168)
Output (Lost)	(\$115,019,036)	(87,181,238)	(\$98,747,250)	(\$300,947,524)

A ban on these products in the states comprising the Ninth Circuit would encourage consumers to react in some combination of four different ways. Some, though likely very few, would stop consuming any vapor products. A larger percentage would switch from flavored vapor products to unflavored (or *tobacco flavored*) products. Some consumers would stop vaping and return to smoking combustible cigarettes or begin to consume other flavored products such as cigars or moist snuff. Finally, the models and data from other states that have banned these products suggest that many consumers would simply turn to sources outside of the jurisdiction of the nine states. These could be other states, Federal jurisdictions such as military bases, or simply purchase their products on-line.¹¹

¹¹ The lower impact in the nine states suggest that many consumers who reside in other states currently purchase these flavored vapor products from sources in the states comprising the Ninth Circuit. A ban would eliminate these sales as well.

Fiscal Impact on U.S. and State Economies.

Not only would a ban lead to losses in employment and economic output, but taxes at both the state and federal levels would fall as well. Lost job and corporate activity would lead to reductions in taxes paid by businesses and workers. This includes reductions in income taxes, profits taxes, social security payments, and even property taxes. Table 8 outlines the estimated federal and state tax losses resulting from the bans examined in this report.

Table 8: Estimated fiscal impacts of a flavor ban

Jurisdiction	Federal Tax Differential	State Tax Differential
Alaska	(\$1,306,032)	(\$1,353,332)
Arizona	(\$17,400,828)	(\$15,703,817)
California	(\$93,004,827)	(\$82,834,190)
Hawaii	(\$2,246,365)	(\$3,464,653)
Idaho	(\$5,530,267)	(\$6,516,876)
Montana	(\$2,744,112)	(\$2,371,124)
Nevada	(\$9,413,609)	(\$10,547,088)
Oregon	(\$11,843,372)	(\$7,888,585)
Washington	(\$22,310,368)	(\$37,959,963)
United States	(\$140,590,266)	(\$96,915,324)

Small Business Closures. Finally, while large national companies and integrated tobacco companies that also produce vapor products will be impacted, smaller companies, including adult-only vapor retailers in the nine states comprising the Ninth Circuit will bear most of the brunt of the economic losses. Due to the fact that a large portion of their

inventory comprises flavored vaping products, it is likely that all of these small businesses would have to close following a ban on flavored vapor products. Table 9 sets forth the number of specialty vape shops in each of the states comprising the Ninth Circuit.

Table 9: Specialty Vape Shops in the Ninth Circuit (2021)

Jurisdiction	Specialty Vape Shops
Alaska	15
Arizona	192
California	609
Hawaii	32
Idaho	78
Montana	26
Nevada	101
Oregon	101
Washington	202

Demand Model Methodology. JDA's Regulatory Assessment Model (RAM) is an updated version of a multi-market demand model first developed by the American Economics Group (AEG) under contract with Philip Morris. It was completely rebuilt by Dr. Hyeyeon Park in 2001, and its structure was updated by JDA in 2019. The model was presented to the National Conference of State Legislatures, Senior Fiscal Analysts Seminar in Portland Maine, on September 4, 1999, where it was well received. In fact, at that time many state fiscal analysts asked if the model could be made available to them as a forecasting tool. The results from the model were also presented to the Tax Foundation

Excise Tax Seminar, held in Jacksonville, Florida, on January 12, 2001, as part of a larger discussion on the economic impact of tobacco taxes.

Since then, the RAM model has been modified to work with nearly any product or market. It is designed to measure product sales in a multi-state market structure with differential pricing.

The general methodology is a two-stage estimation of the demand equation linked to a non-linear programming model of import and export patterns. Data for the model comes from the 2021 Economic Impact Model of the Vapor Industry, as well as from the US Census Bureau, the Bureau of Economic Analysis, US Department of Labor and JDA research. Caliper Corporation was used to estimate distances between states.

Estimates on what sales should be in each state are developed first. In this case, both demand and prices come directly from the Impact model. If cross-border sales were observable, the calculations would be complete; however, since they are not, the model must estimate them through non-linear programming techniques that solve the 51 demand functions simultaneously.

The model adjusts the cross-price elasticities between states to balance the actual sales with expected demand. Demand elasticities are calculated

using a logarithmic demand curve with a base of -0.671 which is an average for vapor products.¹²

Once the linear program model balances, the model can be *shocked* with either new prices or demand values. By rebalancing the model following the shock, it is possible to calculate demand response estimates across all states (as well as cross-border sales changes).

Revenue and job impacts can then be estimated through linear extrapolation.

Explanation of Economic Impact Terms

Direct Impact Categories: The direct impacts of this study were divided up into the categories of the vapor industry. The vapor industry (as defined in this study) includes manufacturers of E-liquids, coils, box mods and other vape products, wholesalers, and retailers that sell vapor products such as: Vape shops, convenience stores, supermarkets, gasoline stations, pharmacies and drug stores, warehouse clubs and supercenters, and discount tobacco stores.

What is Meant by the Term *Direct Impact*? Direct Impacts are those jobs, wages or economic output solely attributable to the industry defined for the study; in this case manufacturers of E-liquids, coils, box mods and other vape products, wholesalers, and retailers that sell vapor products such as; vape shops, convenience stores, supermarkets, gasoline stations,

¹² See: Gallaway, Michael, et. al., *Short-run and long-run industry-level estimates of US Armington elasticities*, North American Journal of Economics and Finance, March 2003.

pharmacies and drug stores, warehouse clubs and supercenters, and discount tobacco stores. These are the jobs that one can count. If one were to go to a manufacturing facility and count the number of people working there, that would be the direct employment (although there may be many more people working than there are jobs since many people work only part time). JDA uses direct employment at manufacturing facilities, offices, retail locations and other sites that are defined to be part of the industry to calculate all of the other effects presented in the study. For example, if a company facility employs 500 people, JDA then uses the IMPLAN model to calculate how much in wages and output those 500 employees create.

What is Meant by the Term *Indirect*? Indirect is the term used in economic impact studies to define those effects that result from firms in the defined (or Direct) industry purchasing goods and services from other industries. JDA defines these as supplier impacts in its models. For example, when an e-liquid manufacturer pays rent on its warehouse to their landlord, or when they hire a trucking company to deliver products, or purchasing vapor products from a lab or warehouse, they are creating indirect effects in the real estate sector or trucking sector of the economy.

In the case of wholesalers, retailers and others that handle products through a supply chain, the value of the goods moving through a warehouse or a store are not counted as indirect impacts; only those goods and services used to provide the wholesale or retail service are included. When a wholesaler pays

an electric bill for its facility, or a retailer buys paper for its store, indirect impact is created. Whereas, when a vapor product wholesaler buys e-liquid from a manufacturer, this transaction is not considered in the supplier impact.

What is Meant by the Term *Induced*? Induced effects are the response by the economy that occur through re-spending of income received by payments made to employees and business owners measured in the direct and supplier parts of the economy. When people work for a retail location selling vapor products or for firms that supply goods and services to the industry, they receive wages and other payments. This money is recirculated through their household spending inducing further local economic activity. Economists call these induced impacts the multiplier effect of an activity or industry.

Examples of induced effects are the jobs created in a diner located outside of a vape component factory or retail store where people purchase sandwiches for lunch, or at the gas station where they purchase fuel for their commute, or even in neighborhoods, where workers purchase houses, go to restaurants or visit the movie theater.

What is Meant by the Term *Job*? Jobs are a measure of the annual average of monthly jobs in each industry as defined by the Quarterly Census of Employment and Wages put out by the Bureau of Labor Statistics. Jobs in our models are derived independently and do not match jobs reported by government entities in that the model defines the industry differently, and because it includes

proprietors and other employees not eligible for unemployment benefits, and data from more firms and facilities than are surveyed by the government.

Jobs are measured in full-time equivalent units.

What is Meant by the Term *Economic Output* or *Economic Impact*? JDA uses output in its models as a general measurement of economic impact because it is the broadest and most comparative measure. Output can basically be considered similar to final sales; however, it differs due to the fact that it also includes adjustments in inventories and does not include certain taxes. In general, output represents the value of industry production for the model year calculated in terms of producer prices. Output differs depending on the industry being measured. In the case of the vapor industry, output is similar to gross sales for vapor product manufacturers. For retailers and wholesalers, output does not represent sales, but rather is similar to the accounting measure of gross margin. Simply put, output in the case of retailing can be seen as total sales revenue minus the cost of goods sold. This is similar to the wholesale or retail markup on a product.

What is Meant by the Term *Taxes Paid*? This economic impact study measures the vapor industry's total tax contributions. The model includes information on income received by the Federal, state and local governments, and produces estimates for the following taxes at the Federal level: Corporate income; payroll, personal income, estate and gift, and excise taxes, customs duties; and fines, fees, etc. State and local tax revenues include estimates of: Corporate

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profits, property, sales, severance, estate and gift and personal income taxes; licenses and fees and certain payroll taxes.

The model represents taxes paid during the model year.