



**The Negative Economic Impacts of the  
New Nicotine Tax  
Imposed Only on Vapor Products  
In the Reconciliation Bill  
(HR 5376)**

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for the Vapor Technology Association

December 2021

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**Executive Summary**

*Background*

- The vapor product industry is an important part of the US economy. About \$8.1 billion in vapor sales lead to 133,600 jobs and \$22.1 billion in economic activity.
- About 35,000 of these jobs are held by people working for the over 9,850 independent adult-only, retail vape shops located across the country. Even so, the number of independent adult-only, vape shops has fallen by 27 percent since 2018 as a result of new state and federal taxes and regulations.
- Congress is currently deciding whether to impose a new tax only on vapor products of 2.78-cents per milligram of nicotine, believing that such a tax would “equalize” or create “parity” with cigarette taxes.

*Conclusions*

- Our analysis finds that the bill would not create anything close to parity with cigarette taxes but, rather, would tax vapor products at a much higher rate – up to nine times higher – than the tax on a pack of cigarettes.
- Our analysis also finds that, if passed, the proposed nicotine tax in the Reconciliation Bill:
  - Would lead to a net price increase on vapor products at retail of about 53 percent (21.2 percent for a standard two-pack of closed-system pod products and 73.5% for a standard 60 milliliter bottle of open system e-liquid), while the price of cigarettes and other tobacco products would remain unchanged as they would not be subject to any additional federal tax.
  - Would lead to a reduction of nearly 42,800 full-time equivalent jobs and the loss of \$2.2 billion in wages and benefits.
  - Would negatively impact the size of the overall economy which would fall by about \$7.0 billion.
  - Would result in states and their localities losing \$620.1 million in taxes while the federal government attempts to generate revenues.
  - Would lead to a loss of about 31.9 percent of vapor product sales or 3.7 million milliliters of e-liquid consumed. Of this loss, 61.2 percent would be the result of consumers switching to other tobacco products, including combustible cigarettes. An additional 18.5 percent of these lost sales would move to the black market.

**Table 1  
Economic Impact of Proposed Nicotine Vapor Product Tax Increase**

	<b>Direct</b>	<b>Supplier</b>	<b>Induced</b>	<b>Total</b>
Jobs	-21,331	-8,974	-12,470	-42,776
Wages	-\$869,866,251	-\$636,356,853	-\$707,328,020	-\$2,213,551,124
Economic Output	-\$2,562,607,363	-\$2,205,386,235	-\$2,255,024,480	-\$7,023,018,078
State and Local Taxes				-\$620,087,422

## **Background on the Proposed Nicotine Tax Increase in HR 5376**

The U.S. Senate is currently considering the Reconciliation Bill, known as HR 5376, which was recently passed by the U.S. House of Representatives. As passed by the House, HR 5376 would impose a new tax only on e-cigarettes or vapor products containing nicotine that are manufactured in or imported into the United States in the amount of \$50.33 per 1,810 milligrams of nicotine. The nicotine tax rate would be \$0.0278 for each milligram of nicotine in a vapor product ( $\$50.33 / 1810 \text{ milligrams of nicotine} = 2.78\text{-cents/mg}$ ). In HR 5376, taxes on existing tobacco products, including combustible cigarettes, would remain unchanged.<sup>1</sup>

The proposal claims to equalize the tax on e-cigarettes at the same rate as cigarettes, at least at the Federal level, in an effort to create parity between the products. However, our analysis finds that the bill would not create anything close to parity with cigarette taxes but, rather, would tax vapor products at a much higher rate – up to nine times higher – than the tax on a pack of cigarettes.

The current federal tax on cigarettes is \$50.33 for every 1000 cigarettes, which amounts to a federal tax of \$1.01 for a pack of cigarettes ( $\$50.33 / 1000 = \$0.05033 \times 20 \text{ cigarettes per pack}$ ).

A pack of cigarettes contains approximately 204 milligrams of nicotine (10.2 mg/cigarette x 20 cigarettes per pack). Applying the proposed nicotine tax of 2.78-cents per milligram to cigarettes, means that the tax on a pack of cigarettes should be \$5.41, not \$1.01.

Viewed another way, the federal tax on cigarettes, if applied to their nicotine content, would only amount to less than half a penny per milligram, not the 2.78-cents Congress seeks to impose on e-cigarettes ( $\$1.01 \text{ per pack} / 204 \text{ mg of nicotine per pack}$ ).

As defined in the bill, the proposed tax would be equal to about \$2.22 on the standard closed system nicotine vapor product (such as a two pack of JUUL pods), and an astonishing \$10.01 on the standard average 60 milliliter bottle of nicotine containing e-liquid used in an open system vapor device. The following table shows the significant tax differential on a per unit and as a percentage of the retail price for each of these products and demonstrates that HR 5376 fails to create any parity, but significantly overtaxes e-cigarettes, making cigarettes more financially attractive.

**Table 2**  
**Comparison of Proposed Nicotine Tax to Actual Cigarette Taxes in the United States**

	<b>Cigarettes (pack)</b>	<b>Closed- System Vape (2-pods)</b>	<b>Open-System Vape (60ml)</b>	<b>Cigarette Tax &lt; Closed- System</b>	<b>Cigarette Tax &lt; Open- System</b>
Tax Per Unit	\$1.01	\$2.22	\$10.01	-120.3%	-891.1%
Tax as Percent of US Retail \$	14.4%	21.2%	73.5%	-47.1%	-410.2%
Tax Per Mg of Nicotine	0.5-cents	2.8-cents	2.8-cents	-461.6%	-461.6%

### **The Negative Effect of Recent Taxes and Restrictions on the Vaping Industry**

The nicotine vapor industry is an important segment of the American economy; however, a range of new laws including a ban on most flavored nicotine vapor products, increased age-of-use, and the imposition of taxes and bans at the state and local levels have already led to significant losses in jobs and tax revenues from the sector.

<sup>1</sup> See *Rules Committee Print 117-17 Text Of Hr 5376, Build Back Better Act*, November 3, 2021, found at <https://rules.house.gov/sites/democrats.rules.house.gov/files/BILLS-117HR5376RH-RCPI17-18.pdf>

The first comprehensive analysis of the economic impact of the industry in the country was completed in 2018.<sup>2</sup> At that time, over 166,000 jobs depended on the production and sale of vapor and electronic cigarette products. Those holding these jobs received nearly \$7.9 billion in wages and benefits, while generating almost \$24.5 billion for the US economy. (Table 3)

In 2018, the Federal government received about \$1.9 billion in various tax revenues from the industry’s businesses and employees. State and local governments received about \$1.5 billion in tax revenues from the industry and its employees, and an additional \$909.0 million in state excise and sales tax revenues from adult consumers who purchased nicotine vapor products during that year. (Table 3)

**Table 3**  
**Economic Impact of Nicotine Vapor Industry in the United States (2018)**

	<b>Direct</b>	<b>Supplier</b>	<b>Induced</b>	<b>Total</b>
Jobs	87,581	29,427	48,999	166,007
Wages	\$3,277,220,400	\$2,092,844,100	\$2,527,825,000	\$7,897,889,500
Economic Output	\$9,151,211,700	\$7,272,386,500	\$8,033,914,100	\$24,457,512,300
<b>Federal Taxes</b>				<b>\$1,860,313,877</b>
<b>State and Local Taxes</b>				<b>\$2,359,821,765</b>
Taxes on Businesses and Employees				\$1,450,820,541
Consumption Taxes				\$909,001,224
<b>Total Taxes</b>				<b>\$4,220,135,642</b>

Of the jobs created by the industry in 2018, nearly 87,600 were direct jobs, including people working in the vapor product manufacturing and distribution chain, and most importantly, 58,430 jobs were at small, independent vapor retail stores, or vape shops.<sup>3,4</sup> (Table 4)

**Table 4**  
**Breakdown of Independent Vape Shop Jobs (2018)**

	<b>Jobs</b>	<b>Percent of Jobs</b>	<b>Stores</b>
Direct Jobs	87,574	100.0%	
Vape Shop Jobs	58,429	66.7%	13,481

In 2021, we completed a full review of the current vapor industry to determine the current state of the industry.<sup>5</sup> We found that following the imposition of significant restrictions on the sale of these products at the Federal, state and local levels, the impact of the vapor industry has decreased by about 11.6 percent. Even so, it is still a major contributor to the US economy, and an even larger taxpayer. (Table 5)

While employment is down by about 32,400 jobs in the industry itself (or 24.2 percent), sales are down by just 11.6 percent. At retail, due to higher prices, sales are down by just 9.7 percent. However, this was before the FDA required that most vapor product producers pull their items from the shelves.<sup>6</sup>

<sup>2</sup> *The Vapor Industry Economic Impact Study (2018)*, Prepared for Vapor Technology Association, by John Dunham & Associates, April 29, 2019.

<sup>3</sup> *Ibid.* This includes as many as 3,094 jobs (803 shops) in Florida, 2,832 jobs (614 shops) in Ohio, 2,280 jobs (533 shops) in Pennsylvania, 1,522 jobs (359 shops) in Michigan and 898 jobs (204 shops) in Wisconsin.

<sup>4</sup> 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.

<sup>5</sup> *The Vapor Industry Economic Impact Study (2021)*, prepared for Vapor Technology Association, by John Dunham & Associates, September 20, 2021.

<sup>6</sup> See for example: *FDA Denies Marketing Applications for About 55,000 Flavored E-Cigarette Products for Failing to Provide Evidence They Appropriately Protect Public Health: Action Marks First Marketing Denial Orders for E-Cigarette Products*; Press Release, Food and Drug Administration, August 26, 2021, at: <https://www.fda.gov/news-events/press-announcements/fda-denies-marketing-applications-about-55000-flavored-e-cigarette-products-failing-provide-evidence>

Overall, due to higher state excise and sales tax rates, the amount collected by government's has increased by about \$494.2 million or 11.7 percent.

**Table 5**  
**Current Economic Impact of Nicotine Vapor Industry in the United States (2021)**

	<b>Direct</b>	<b>Supplier</b>	<b>Induced</b>	<b>Total</b>
Jobs	66,364	28,098	39,111	133,575
Wages	\$2,741,178,400	\$2,018,273,300	\$2,243,794,900	\$7,003,246,600
Economic Output	\$8,087,436,700	\$6,879,165,500	\$7,124,240,600	\$22,090,842,800
Federal Taxes				\$1,480,211,544
State and Local Taxes				\$3,234,123,298
Taxes on Businesses and Employees				\$1,351,790,191
Consumption Taxes				\$1,882,333,107
<b>Total Taxes</b>				\$4,714,334,842

A new federal tax on nicotine of 2.78-cents per milligram, as proposed in HR5376 will increase smoking in the United States, as people switch from more expensive vapor products to less expensive cigarettes. Not only will cigarette taxes be substantially lower than vapor taxes under the House bill, but the bill will increase cigarette sales.

In fact, the tax is regressive and a new tax on consumers making less than \$400,000 a year. It would also make cigarette taxes 9 times lower than those on less harmful vapor products.

**The Negative Economic Effects of a New Regressive Tax on Nicotine Vapor Product Sales**

Based on an analysis conducted by JDA, were the Federal government to impose a new tax on the sale of nicotine vapor products in HR 5376, the impact on the economy would be more than \$7.0 billion, with as much as 3.7 billion milliliters in lost sales.<sup>7</sup>

As many as 42,800 jobs would be lost throughout the country – at a time when nearly 2.6 million people are looking for work. Moreover, the jobs lost as a result of the proposed tax would result in a loss of \$2.2 billion wages. Further, state and local governments would lose about \$620.1 million in taxes from the vapor industry and its consumers.

**Table 6**  
**Economic Losses Resulting from a 2.78-cents per MG Tax on Nicotine Vapor Products**

	<b>Direct</b>	<b>Supplier</b>	<b>Induced</b>	<b>Total</b>
Jobs	-21,331	-8,974	-12,470	-42,776
Wages	-\$869,866,251	-\$636,356,853	-\$707,328,020	-\$2,213,551,124
Economic Output	-\$2,562,607,363	-\$2,205,386,235	-\$2,255,024,480	-\$7,023,018,078
State and Local Taxes				-\$620,087,422

Most importantly, a large number of the remaining 9,847 independent adult-only vapor shops would likely be forced to close, since their fixed costs could far outweigh any remaining sales.

<sup>7</sup> Based on a multi-state, multi-market demand model developed for the Vapor Technology Association by John Dunham & Associates, 2021.

These small, often family-owned retailers have already suffered under the regulations imposed on vapor products. Between 2018 and 2021, over 3,630 of these stores have shut their doors, putting almost 23,500 people out of work. These are real people, with real jobs, located throughout the United States.<sup>8</sup>

**Table 7**  
**Losses in Adult-Only Vapor Shops Since 2018**

As of 2021	Jobs	Percent of Jobs	Stores
Direct Jobs	66,364	100.0%	
Vape Shop Jobs	34,957	52.7%	9,847

  

Change from 2018	Jobs	Percent Change	Stores	Percent Change
Direct Jobs	-21,210	-24.2%		
Vape Shop Jobs	-23,472	-40.2%	-3,634	-27.0%

**Nicotine Tax Will Increase Cigarette Smoking and Black Market Sales**

Economists have long known that for all normal goods, such as vapor products, higher prices lead to lower sales. That is the nature of most markets and was first contemplated by the 256th couplet of Tirukkural, which was composed around the year zero.<sup>9</sup>

It was not until 1767 that the phrase "supply and demand" was first used by Scottish writer James Denham-Steuart in his Inquiry into the Principles of Political Economy.<sup>10</sup> Adam Smith popularized the term in his 1776 book *The Wealth of Nations* and brought it to the forefront of economic theory.<sup>11</sup> In effect, higher taxes lead to higher prices which in turn would lead consumers to either:

- 1) Completely stop using nicotine products,
- 2) Switch to another tobacco product, such as cigarettes,
- 3) Continue to vape but purchase their products over the already growing black market.

**Table 8**  
**Shift in Vapor Sales to Combustible Cigarettes or Other Nicotine Products**

	Milliliters	Percent
Current Vapor Sales	11,692,582,699	
Lost Vapor Sales	-3,732,570,585	
Of Which		
Switch to Other Products	-2,283,717,028	61.2%
Quit	-757,711,829	20.3%
Black Market	-691,141,729	18.5%

JDA's modeling suggests that a large portion of consumers would react by purchasing unregulated products over the black market or make their own e-liquids. Overall, the market for vapor products would fall by about 31.9 percent, with 18.5 percent of that shifting to black market sales. Of the remaining 81.5 percent of lost sales, 20.3 percent would be due to vapor users quitting the use of nicotine products

<sup>8</sup> The proposed federal tax on vaping liquids would harm small businesses, resulting in a 31.9 percent reduction in their overall sales. Very few businesses can withstand such a reduction in revenues.

<sup>9</sup> Chendroyaperumal, Chendrayan, *The First Laws in Economics and Indian Economic Thought – Tirukkural*, SSRN, January 29, 2010, at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1545247](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1545247) The citation states: if people do not consume a product or service, then there will not be anybody to supply that product or service for the sake of price.

<sup>10</sup> Steuart, James, *An Inquiry Into the Principles of Political Oeconomy: Being an Essay on the Science of Domestic Policy in Free Nations*, James Williams; and Richard Moncrieffe, 1770.

<sup>11</sup> Smith, Adam, *An Inquiry into the Nature and Causes of the Wealth of Nations*, (London: Methuen and Co., Ltd.), 1904.

entirely, while the remainder, 61.2 percent would result from consumers shifting to other nicotine-based products including combustible cigarettes.<sup>12</sup>

These figures (which reflect a price increase resulting from the tax of 53 percent) are conservative and are not out of line with other studies examining the substitution of vapor products and combustible cigarettes when taxes are imposed.

For example, a study analyzing Minnesota's 2013 tax on e-cigarettes suggested that it led to increased adult smoking and reduced smoking cessation. The analysis suggested that there was cross elasticity of current smoking participation with respect to e-cigarette prices of 0.13.<sup>13</sup> Note that this suggests that a 53 percent increase in the price of vapor products would increase smoking incidence by 6.89 percent. Since about 34.1 million Americans currently smoke cigarettes, this would lead to an increase in the number of smokers of 2.16 million individuals.<sup>14</sup> Since an estimated 8.1 million adults are vapor users, this would mean that more than a quarter of these people would switch to cigarettes.<sup>15</sup>

Still other studies have shown even higher demand elasticities and levels of substitution that are modeled here.<sup>16</sup>

- John Dunham & Associates, 2021

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<sup>12</sup> Quit rates from: *Estimating Consequences of a Ban on the Legal Sale of Menthol Cigarettes*, prepared by Compass Lexecon for Lorillard Tobacco Company, January 19, 2011. On-line at: [https://www.thecre.com/ccsf/wp-content/uploads/2011/03/compass\\_1\\_19\\_2011.pdf](https://www.thecre.com/ccsf/wp-content/uploads/2011/03/compass_1_19_2011.pdf) According to its website, Compass Lexecon is *one of the world's leading economic consulting firms*.

<sup>13</sup> Based on a 40.7 percent increase in price. See: Saffer et al., *E-Cigarettes and Adult Smoking: Evidence from Minnesota*, NBER Health Economics Program, December 2019, at: <https://www.nber.org/papers/w26589>

<sup>14</sup> *Fast Facts and Fact Sheets*, Centers for Disease Control and Prevention, at:

[www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/index.htm?s\\_cid=osh-stu-home-spotlight-001](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm?s_cid=osh-stu-home-spotlight-001)

<sup>15</sup> Villarroel, Maria, et. al., *Electronic Cigarette Use Among U.S. Adults, 2018*, NCHS Data Brief No. 365, April 2020 at: [www.cdc.gov/nchs/products/databriefs/db365.htm](http://www.cdc.gov/nchs/products/databriefs/db365.htm)

<sup>16</sup> Cotti, Chad, et al., *The Effects of E-Cigarette Taxes One-Cigarette Prices and Tobacco Product Sales: Evidence From Retail Panel Data*, *National Bureau of Economic Research Working Paper 26724*, Revised April 2021, at: <http://www.nber.org/papers/w26724>