ECONOMIC POLICIES FOR THE 21ST CENTURY

The Fiscal Effects of Tobacco Harm Reduction:
A Case Study of Indiana

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Executive Summary

Policymakers are limiting the use and development of electronic nicotine delivery systems (ENDS or e-cigarettes) by imposing additional regulations and excise taxes on the growing industry. Making ENDS more expense for or unavailable to consumers is misguided because switching to ENDS from combustible cigarettes leads to improved health outcomes for cigarette smokers. Over time, this will lower the substantial amount of state funds that are spent on public healthcare programs such as Medicaid.

Section 1 of this paper lays out the regulatory and tax landscape faced by ENDS on the state and federal levels. As a case study, Section 2 focuses on Indiana's unique ENDS regulations, and Section 3 explores the state's tobacco-related revenues and expenses. Indiana's experience shows why the conclusion is reached in Section 4 that placing additional taxes and regulations on ENDS is inadvisable and harmful to both cigarette smokers’ long-term health outcomes and states’ finances.

The Fiscal Effects of Tobacco Harm Reduction:
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Section 1: ENDS Regulatory and Tax Landscape

Electronic nicotine delivery systems (ENDS), such as e-cigarettes, e-liquid, and vaping devices, have rapidly grown in popularity since they entered the U.S. market in 2007. Bonnie Herzog, an analyst with Wells Fargo Securities, projects that the industry's 2016 U.S. sales will reach $4.1 billion, up from $3.5 billion in 2015.[1]

ENDS work by heating up, or "vaporizing," e-liquid. E-liquid contains a mixture of propylene glycol, vegetable glycerin, and additional artificial or natural flavors. It can also contain nicotine that is either synthetic or derived from tobacco. Or, e-liquid can be nicotine free. Unlike cigarettes, ENDS do not burn tobacco, which means that the more than 400 toxins and 43 known carcinogens in cigarette smoke are not released.

Though ENDS differ from combustible tobacco products, their increasing use among Americans has led policymakers on both the state and federal level to respond with new regulations and excise taxes.

Under the 2009 Family Smoking Prevention and Tobacco Control Act, the FDA was granted the authority to regulate tobacco.[2] Hookahs, cigars, pipe tobacco, and ENDS were not previously covered under this authority. On May 5, 2016, the U.S. Food and Drug Administration released final regulations that deemed ENDS as tobacco products, giving itself authority to regulate these products.[3] Throughout this paper, these regulations may be referred to as the "deeming" regulations. It is noteworthy that the Tobacco Control Act makes no mention of ENDS, as the technology was only in its infancy when the law was passed.

The FDA maintains that it can regulate ENDS as "tobacco products" even if they are not made or derived from tobacco.[4] From page 257 of the FDA's regulations:

> The definition of "tobacco product" includes any product made or derived from tobacco, including any component, part, or accessory of a tobacco product. An e-liquid made or derived from tobacco meets this definition and, therefore, is subject to FDA's chapter IX authorities. E-liquids that do not contain nicotine or other substances derived from tobacco may still be components or parts and, therefore, subject to FDA's tobacco control authorities, if they are an assembly of materials intended or reasonably expected to be used with or for the human consumption of a tobacco product and do not meet the definition of accessory.

The FDA also claims authority to regulate ENDS that do not contain nicotine. From page 222:

> Nicotine-free e-liquid that is intended or reasonably expected to be used with or for the human consumption of tobacco products in most cases would be a component or part of a tobacco product and, therefore, within the scope of this rule.

To summarize, here is how the FDA extended its tobacco regulatory authority to all ENDS, regardless of whether they are derived from tobacco:

- The FDA has the authority to regulate tobacco products under the 2009 Family Smoking Prevention and Tobacco Control Act.
- Since e-liquid can contain nicotine that is derived from tobacco, this type of e-liquid falls under the FDA's regulatory authority.
- Components and parts (tanks, cartridges, pods, wicks, atomizers) of devices reasonably expected to be used with tobacco-derived e-liquid also fall under the FDA's authority.
- These regulated components and parts can be used to vape e-liquid that contains tobacco-free nicotine and e-liquid that does not contain any nicotine at all.
- Therefore, tobacco-free nicotine and nicotine-free e-liquid also fall under the FDA's tobacco authority, as they can be used with deemed tobacco components and parts.

This line of argument is why all newly-deemed tobacco products that were not commercially marketed on February 15, 2007 (a date known as the predicate date) are required to gain FDA approval to remain on the market. Tobacco products that were available on the predicate date are exempt from the FDA's pre-market approval process.

Newer tobacco products will be able to stay on the market if producers can show that they are "substantially equivalent" to products that were commercially available on the predicate date. Virtually no ENDS were available to American consumers at that time, so each currently available vaping product will have to go through the FDA's other path to market: the pre-market tobacco product application process.

The FDA estimates that these applications will take an average of 1,713 hours to complete and cost "around $117,000 to around $466,000."[5] These burdens are too high for nearly all ENDS producers, so the FDA estimates that over 99 percent of ENDS will fail to gain approval within the two- to three-year approval window provided by the FDA.[6] A major reason for this is that the ENDS industry, especially when it comes to e-liquid producers, is made up of hundreds of small, often local, companies.

On August 8, 2016, the FDA's deeming regulations went into effect. Under these new rules, stores that sell ENDS are prohibited from giving advice to customers. They cannot provide samples, help assemble devices, or make any claims about ENDS' differences from traditional cigarettes. This finishes the assistance-based business model that characterizes the industry's "vape shops."

Since they were finalized, the FDA's deeming regulations have received substantial attention because the existing research on ENDS points to the conclusion that they are much less harmful than combustible cigarettes.

Throughout the deeming regulation, the FDA repeatedly acknowledges that it recognizes ENDS "may not pose as much harm as smoke emitted from combustible tobacco products." The FDA states that it "agrees" that using ENDS is "potentially" less hazardous than using cigarettes, for both first-hand and second-hand exposure.

The FDA also admits that nicotine exposure is "not responsible for the high prevalence of tobacco-related death and disease in this country." The health risks from smoking come from the many carcinogens that are released by burning tobacco, whereas inhaling standard amounts of nicotine, while highly addictive, is about as harmful to adult health as consuming caffeine.[7] However, the FDA did not need to prove harm to regulate ENDS as tobacco products. As stated on page 220 of the deeming regulation:

The Tobacco Control Act does not require that FDA make a finding that a product is harmful in order to deem it to be subject to chapter IX of the FD&C Act; FDA is authorized to deem any product that meets the definition of a 'tobacco product' pursuant to section 901 of the FD&C Act.

Multiple studies have found that the growing popularity of ENDS is beneficial for public health because the vast majority of users are or were cigarette smokers. Because ENDS are relatively new, the long-term health effects are still unknown. However, the lack of combustion[8] is why the British Royal College of Physicians found that ENDS are at least 95 percent safer than traditional cigarettes.[9] The organization recommends that ENDS be promoted by the government as a less-harmful alternative to smoking.

Given that ENDS are less harmful than cigarettes, they should be promoted in the United States to help current smokers quit. Over one-third of current ENDS users reported cigarette smoking cessation or reduction, and smokers attempting to quit without professional help were 60 percent more likely to report success if they used ENDS.[10] Furthermore, the use of ENDS reduced cigarette consumption even in smokers not intending to quit.[11] Overall, ENDS should be viewed as a legitimate harm reduction strategy for current smokers.[12]

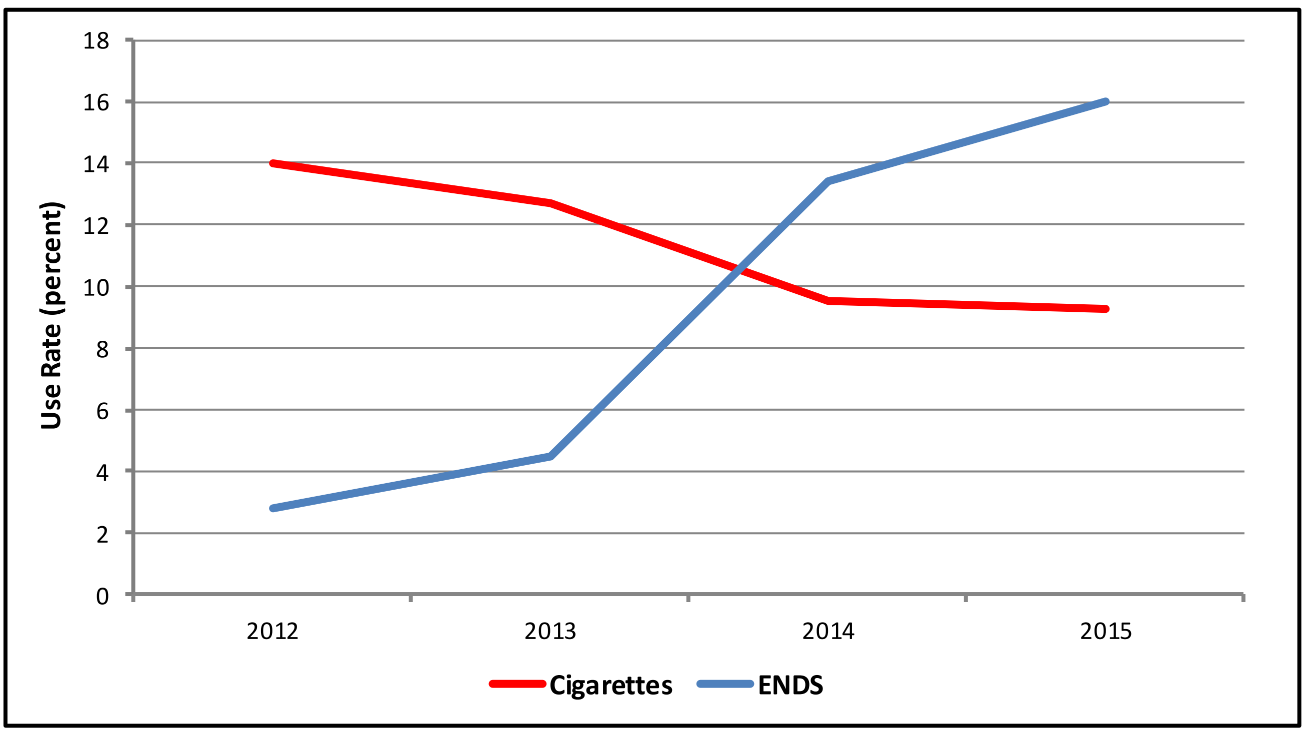
Even if ENDS allowed some cigarette smokers to move to a less-harmful habit, there would be cause for concern if they also served as a "gateway" to future cigarette use. However, there is little data to conclude that ENDS make smoking cigarettes more popular or serve as a gateway to tobacco consumption.

The Centers for Disease Control and Prevention's data on ENDS versus cigarette use show that there is little support for the argument that people transition from ENDS to cigarettes. Only 0.4 percent of people who have never smoked tobacco are current vapers, using the device either every day or some days. Among adults who have never smoked cigarettes, a meagre 3.4 percent have ever even tried ENDS.[13] These findings are echoed by those in the United Kingdom and European Union.[14]

ENDS use among high school students has many in the public health community worried. But there is no reason to believe that an increase in teenage ENDS use leads to an increase in teenage smoking. It is likely that the opposite is true: between 2013 and 2015, cigarette use among high schoolers fell by nearly one-third. During this same time, e-cigarette use by middle and high-school students nearly quadrupled, as can be seen in Figure 1.

Figure 1

Cigarette and ENDS Use Rates Among High School Students, 2011-2015



Source: "Tobacco Use Among Middle and High School Students—United States, 2011-2015," Centers for Disease Control and Prevention, April 15, 2016.

Furthermore, according to the National Institute on Drug Abuse, only 29 percent of 12th-grade students who used ENDS reported using e-liquid that contained nicotine (or were unsure if the e-liquids contained nicotine).[15] This means that the majority of high school students who use ENDS are not exposing themselves to nicotine.

In addition to the FDA's actions, state governments are also responding to ENDS' increasing popularity. As of January 1, 2016, four states and the District of Columbia levied excise taxes on vapor products. By the end of 2016, three more states will have started taxing ENDS. Additionally, at least 23 other states considered excise taxes on vaping products during 2015, and at least 17 states did so during 2016.[16]

The District of Columbia has a 70 percent wholesale tax on ENDS,[17] and Minnesota levies a 95 percent wholesale tax.[18]

On November 8, 2016, California voters approved Proposition 56, which creates a new $3.37 wholesale tax on ENDS.[19] Pennsylvania also passed a 40 percent wholesale tax on other tobacco products (including ENDS) that went into effect on October 1, 2016.[20] However, the Pennsylvania tax is being reconsidered by the state legislature.

Another type of ENDS excise tax is based on the quantity of e-liquid instead of the wholesale cost. Kansas has a $0.20 per milliliter tax on e-liquid,[21] North Carolina and Louisiana both have $0.05 per milliliter taxes on e-liquid,[22] and West Virginia has a $.075 per milliliter tax on e-liquid.[23] For reference, retail e-liquid is sold in bottles that are usually between 10 milliliters and 30 milliliters.

Section 2: Indiana's Vaping Regulations.

While other states have focused on taxing ENDS, Indiana is the only state that has passed regulations on production. In May 2015, then-Indiana Republican governor Mike Pence signed House Bill 1432.[24] The bill was intended to "protect public health and safety" in the absence of federal regulations concerning e-liquid products. Pence's signature came before the FDA released its finalized deeming regulations.

The provisions in the Indiana bill, which was set to go into effect on July 1, stipulate that in order to secure the five-year permit required to sell their products in Indiana, e-liquid manufacturers must display warnings, use specific materials in the manufacturing room that are meant to limit contamination risks, list their ingredients (including if the e-liquid contains nicotine), print a quick response (QR) code on the label that is tied to the e-liquid batch number, and use tamper-evident and child-proof packaging. These regulations seem reasonable, but there is more.

Approved manufacturing facilities must also comply with the expensive requirements of 24-hour, third-party surveillance of their facility, and remote 30-day storage of the video footage. Though some of the regulations in HB 1432 are uncontroversial, this requirement for surveillance is the first of its kind for e-liquid production.

The bill only places these specific requirements on e-liquid and exempts e-cigarettes, even though all types of ENDS are covered by the FDA's deeming regulations.[25] The state defines e-cigarettes as powered vaporizers that resemble traditional cigarettes and use sealed, non-refillable cartridges that hold no more than four milliliters of liquid. The market for ENDS has rapidly moved towards e-liquid from e-cigarettes,[26] as e-liquid use in personal vaping devices allows greater control and customization. E-liquid manufacturers are also more diverse than the e-cigarette market, which is primarily controlled by four large national companies.[27]

The most problematic aspect of the bill is the requirement that e-liquid manufacturers work with a security firm that must inspect their products before they can reach consumers. It is difficult to see how these requirements have anything to do with producing safe e-liquid. They include having:

- An employee who has been a certified locksmith by the Associated Locksmiths of America for at least one year.
- An employee who has worked at the firm for at least one year and holds an Architectural Hardware Consultant certification from the Door and Hardware Institute.
- An employee who has worked at the firm for at least a year and holds a Rolling Steel Fire Door Technician certification from the International Door Association or the Institute of Door Dealer Education and Accreditation.
- One year of experience operating a security monitoring station with ownership control and use of a redundant offsite backup security monitoring station.

- One year of experience operating a facility with authority to modify commercial hollow metal doors, frames, and borrowed lights.

The requirements that workers with the proper certifications must be at the same company for the previous year or hold the certification for a predetermined amount of time stop security companies from hiring new employees or training existing employees to meet Indiana's requirements and approve e-liquid manufacturers.

The requirement to work with a security company was the first of its kind in the United States. For more information on HB 1432's passage and its continued legal challenges, see the Appendix.

While Indiana's law may be unique, states limiting ENDS growth through other means, primarily excise taxes, is not. In what follows, I evaluate the state revenue motivations for limiting e-liquid competition and potentially imposing a tax on ENDS. By using Indiana as a case study, I conclude that applying undue tax and regulatory burdens to the growing ENDS market is an undesirable policy that will harm states' budgets and their residents' health.

Section 3: State Tobacco Products Revenue

As ENDS have grown in popularity, cigarette smoking rates have declined. This trend leads to decreases in revenue for states that rely on tobacco-related excise taxes to fund their budgets. While fewer people smoking cigarettes is unquestionably a desirable goal that will save taxpayers money in public healthcare spending over the long term, some state policymakers may worry about the short-term revenue loss.

The United States has seen an impressive decline in adult smoking rates, a major factor behind declining state tobacco revenues. The U.S. adult smoking rate declined from 24.1 percent to 15.1 percent from 1998 to 2015.[28]

While the trend of overall decreases in smoking rates and the corresponding loss of tobacco excise tax revenue results from a combination of several factors, ENDS' increased use is one of the reasons for lower smoking rates.[29] According to the Centers for Disease Control and Prevention, "nearly one in four recent former cigarette smokers (22.0%) currently used ENDS." This influence is especially clear in the declining rate of cigarette smoking among high school students, as was shown in Figure 1.

Tobacco tax revenue is not the only way that states receive income tied to cigarette smoking. The Master Settlement Agreement (MSA), a November 1998 agreement between cigarette manufactures and U.S. states, created perpetual annual payments to states from cigarette manufacturers.[30] In exchange for these payments, states agreed to give up any future legal claims against tobacco companies' past sales and marketing actions that were covered in the lawsuit.

The payments, funded by "participating manufacturers," are designed to offset healthcare costs connected to tobacco-related illnesses. While the base annual amounts were set to incrementally increase from 2000 until 2018, the adjustments account for inflation, original participating manufactures' profits, and how many cigarettes were sold by the original participating manufactures (with 1997 levels as the baseline). The declining U.S. smoking rate has led to volume adjustments that have consistently lowered the payouts to states below the base amounts.

Since the late 1990s, states, including Indiana, have become reliant on tobacco taxes and MSA revenue to fund their expenditures. Though tobacco tax revenue is supposed to offset increased public healthcare expenditures from cigarette smoking and fund programs that deter young people from starting to smoke cigarettes, states have instead chosen to use their tobacco tax revenues to pay for other government expenses. The rest of this section focuses on changes in Indiana's tobacco revenue because the state could consider placing an excise tax on ENDS in 2017.

Indiana's inflation-adjusted tax revenue[31] from tobacco products has been declining since 2008, as can be seen in Table 1 and Figure 2. During that time, the state's tax rate per 20-pack of cigarettes has remained at $0.995, so fewer smokers should mean less revenue.[32] Even with this recent decline, Indiana's inflation-adjusted tax revenue from tobacco products grew by 254 percent over the past 17 years; from $124 million in 1998 (1.0 percent of total tax collections) to $439 million in 2015 (2.5 percent of total tax collections).[33] This increase was due to increases in tobacco tax rates, not increased use.

Tobacco use continues to decline, which means that excise taxes are not a stable long-term funding mechanism for state budgets. This reality poses problems for Indiana because the state is more reliant on tobacco tax revenues than the average state, which receives 1.9 percent of total tax collections from tobacco taxes.

Table 1

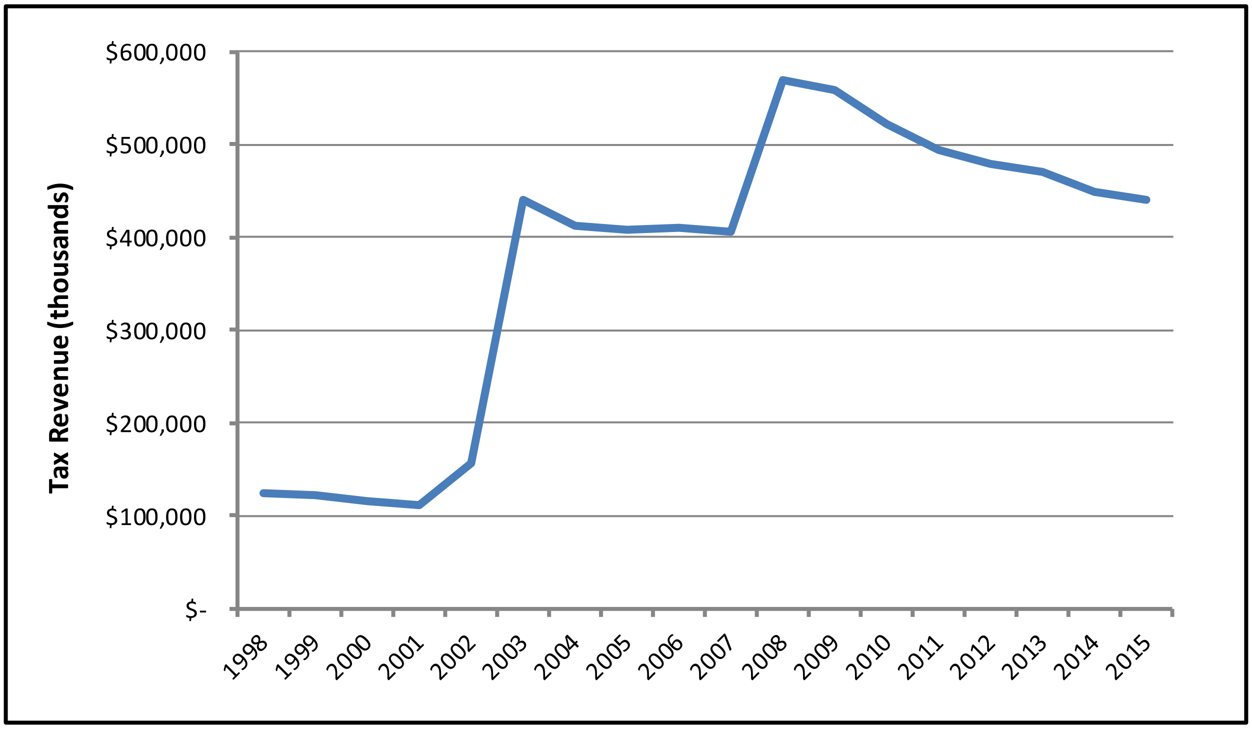
Indiana Tobacco Products Tax Revenue, 1998-2015 (thousands)

Year	Tobacco Products Tax Collections	Tobacco Products Tax Collection (inflation-adjusted)	Percent of Total Tax Revenue
1998	$ 90,484	$ 123,884	1.0%
1999	$ 89,894	$ 121,301	0.9%
2000	$ 88,334	$ 116,293	0.9%
2001	$ 85,338	$ 110,216	0.8%
2002	$ 123,215	$ 157,031	1.2%
2003	$ 352,375	$ 440,376	3.1%
2004	$ 338,716	$ 413,259	2.8%
2005	$ 343,078	$ 406,983	2.7%
2006	$ 355,525	$ 410,738	2.6%
2007	$ 360,530	$ 406,341	2.5%
2008	$ 519,871	$ 568,562	3.4%
2009	$ 510,585	$ 558,774	3.4%
2010	$ 484,686	$ 521,816	3.5%
2011	$ 470,248	$ 494,134	3.1%
2012	$ 465,200	$ 479,741	2.9%
2013	$ 461,637	$ 469,649	2.7%
2014	$ 447,561	$ 448,935	2.7%
2015	$ 439,264	$ 439,264	2.5%

Source: "2015 Annual Survey of State Government Tax Collections," United States Census Bureau.

Figure 2

Inflation-adjusted Indiana Tobacco Products Tax Revenue, 1998-2015



Source: "2015 Annual Survey of State Government Tax Collections," United States Census Bureau.

Compared to the rest of the United States, there has been a slightly lower decline in Indiana's adult smoking rate. From 1998 to 2010, Indiana's adult smoking rate declined from 26.0 percent to 21.2 percent.[34]

Starting in 2011, the CDC's methodology for determining state-level adult smoking rates changed, so state-level results from 2011 on are not comparable with earlier data. As seen in Table 2 and Figure 3, from 2011 to 2015, Indiana's adult smoking rate declined from 25.6 percent to 20.6 percent.[35]

Table 2

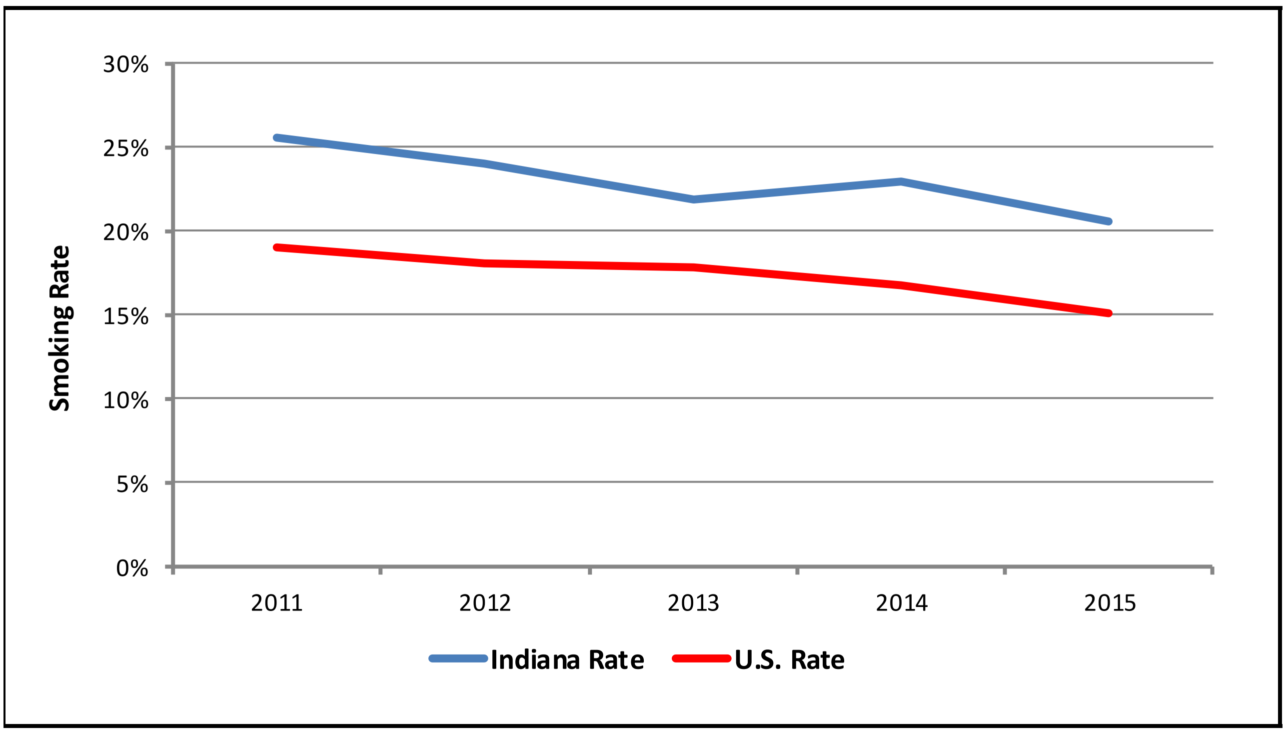
Adult Smoking Rate, 2011-2015

Year	Indiana Rate	U.S. Rate
2011	25.6%	19.0%
2012	24.0%	18.1%
2013	21.9%	17.8%
2014	22.9%	16.8%
2015	20.6%	15.1%

Source: "Early Release of Selected Estimates Based on Data From the National Health Interview Survey, 2015," Centers for Disease Control and Prevention, May 2016. "State Tobacco Activities Tracking and Evalution System," Centers for Disease Control and Prevention, Accessed July 20, 2016.

Figure 3

U.S. and Indiana Cigarette Adult Smoking Rates, 2011-2015



Source: "Early Release of Selected Estimates Based on Data From the National Health Interview Survey, 2015," Centers for Disease Control and Prevention, May 2016. "State Tobacco Activities Tracking and Evalution System," Centers for Disease Control and Prevention, Accessed July 20, 2016.

Indiana's high school smoking rate was 11.2 percent in 2015.[36] Though the CDC does not track ENDS use among high school students on the state level, ENDS use among U.S. high school students increased from 1.5 percent to 16.0 percent from 2011 to 2015. Over that time period, cigarette use among high school students declined from 15.8 percent to 9.3 percent, as was seen in Figure 1.[37]

The decline in cigarette smoking rates and sales volume lowers MSA payments. The MSA's stated purpose is to decrease youth smoking rates and promote public health.[38] But there are no restrictions on how states can spend their MSA funds, leading to some states' decisions to securitize their payments (borrow against anticipated future MSA payments) in order to gain early access to funds. Indiana did not do this, but its MSA payments are primarily directed towards the state's general budget instead of smoking cessation and prevention programs. Table 3 and Figure 4 show Indiana's MSA payment levels from 1999 to 2015, along with total U.S. MSA payments.

Table 3

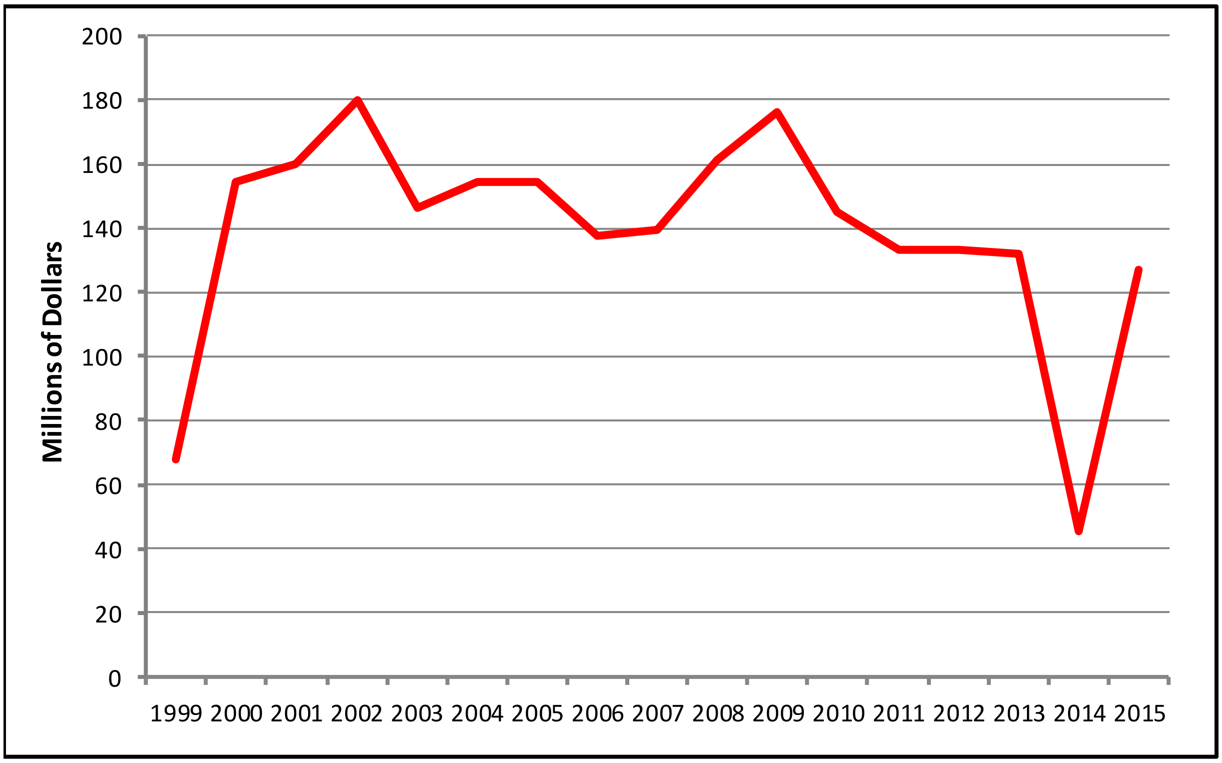
Indiana Master Settlement Payments and Percentage of total U.S. Payments, 1998-2015 (millions)

Year	Indiana Payments	Indiana Payments (Inflation-adjusted)	U.S. Payments	U.S. Payments (inflation-adjusted)	Percent of U.S. Total
1998	$ -	$ -	$ 1,413	$ 1,934	0.0%
1999	$ 50	$ 68	$ 4,272	$ 5,765	1.2%
2000	$ 117	$ 155	$ 7,969	$ 10,491	1.5%
2001	$ 124	$ 160	$ 8,695	$ 11,229	1.4%
2002	$ 141	$ 180	$ 9,401	$ 11,981	1.5%
2003	$ 117	$ 146	$ 7,496	$ 9,368	1.6%
2004	$ 127	$ 155	$ 7,342	$ 8,957	1.7%
2005	$ 130	$ 154	$ 7,545	$ 8,951	1.7%
2006	$ 119	$ 137	$ 7,040	$ 8,133	1.7%
2007	$ 124	$ 140	$ 7,298	$ 8,225	1.7%
2008	$ 147	$ 161	$ 8,218	$ 8,987	1.8%
2009	$ 161	$ 176	$ 8,848	$ 9,684	1.8%
2010	$ 135	$ 145	$ 7,509	$ 8,085	1.8%
2011	$ 127	$ 133	$ 7,167	$ 7,531	1.8%
2012	$ 130	$ 134	$ 7,270	$ 7,498	1.8%
2013	$ 130	$ 132	$ 8,759	$ 8,911	1.5%
2014	$ 45	$ 46	$ 7,097	$ 7,118	0.6%
2015	$ 127	$ 127	$ 7,097	$ 7,097	1.8%
Total	$ 2,051	$ 2,349	$ 130,436	$ 149,946	1.6%

Source: "Actual Annual Tobacco Settlement Payments Received By the States," Campaign for Tobacco-Free Kids, April 27, 2016.

Figure 4

Inflation-adjusted Indiana Master Settlement Payments, 1999-2015



Source: "Actual Annual Tobacco Settlement Payments Received By the States," Campaign for Tobacco-Free Kids, April 27, 2016.

As Table 4 shows, the Centers for Disease Control and Prevention recommended that Indiana spend $78.8 million a year on tobacco control programs from 2008 to 2013. From 2008 to 2013, Indiana's tobacco control program spending was only 16.5 percent of the CDC's recommendation. In other words, during that time period, Indiana's entire tobacco control program spending over six years did not even reach one year's recommended level. This is below the U.S. average of 17.6 percent of CDC's recommended spending from 2008 to 2013, showing that this misuse of tobacco revenue extends far beyond Indiana. For 2014 onwards, CDC recommends that Indiana spend $73.5 million a year on tobacco control programs.

Table 4

Indiana Spending on Tobacco Control Programs Compared to CDC Recommendations, 2008-2013 (millions)

Year	CDC Reccomendation	State Spending	Percent of Reccomendation
2013	$ 78.8	$ 11.3	14.3%
2012	$ 78.8	$ 10.6	13.5%
2011	$ 78.8	$ 9.4	11.9%
2010	$ 78.8	$ 12.2	15.5%
2009	$ 78.8	$ 18.9	23.9%
2008	$ 78.8	$ 15.7	20.0%

Source: "Best Practices for Comprehensive Tobacco Control Programs," Centers for Disease Control and Prevention, 2007. "State Tobacco Activities Tracking and Evalution System," Centers for Disease Control and Prevention, Accessed July 20, 2016.

As Table 5 and Figure 5 show, Indiana's total tobacco revenue, including taxes and MSA payments, has declined from 2009's peak level and stood at $567 million in 2015. Indiana's total inflation-adjusted tobacco revenue was 1.7 times greater during 2009's peak ($735 million) than it was in 2000 ($271 million), the first year Indiana received MSA annual payments.[39] Policymakers have become reliant on now-falling tobacco revenue, which is not primarily used to lower cigarette use.

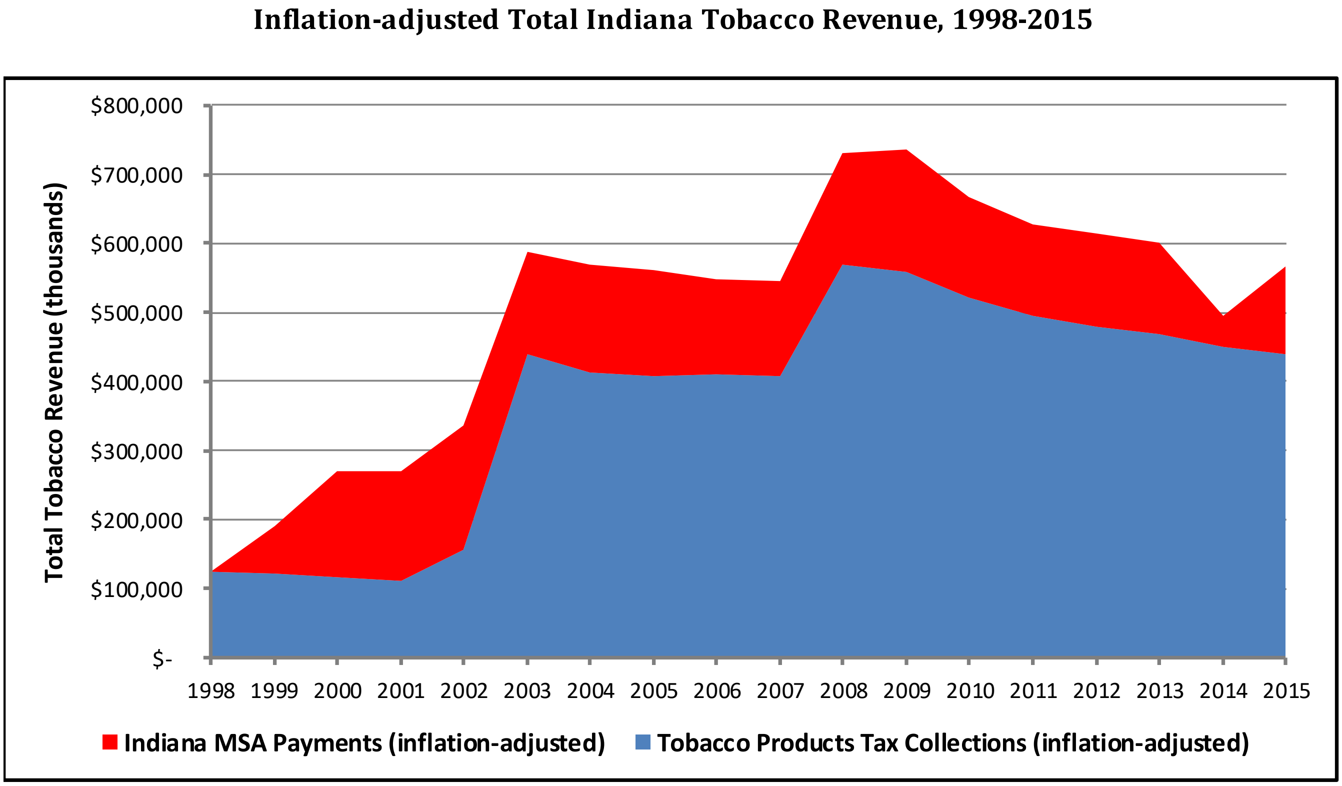
Table 5

Indiana Tobacco Revenue, 1998-2015 (inflation-adjusted, thousands)

Year	Tobacco Products Tax Collection	Indiana MSA Payments	Total Tobacco Revenue
1998	$ 123,884	0	$ 123,884
1999	$ 121,301	$ 68,008	$ 189,309
2000	$ 116,293	$ 154,559	$ 270,853
2001	$ 110,216	$ 160,019	$ 270,235
2002	$ 157,031	$ 180,080	$ 337,111
2003	$ 440,376	$ 146,219	$ 586,595
2004	$ 413,259	$ 154,705	$ 567,964
2005	$ 406,983	$ 154,215	$ 561,198
2006	$ 410,738	$ 137,481	$ 548,219
2007	$ 406,341	$ 139,531	$ 545,872
2008	$ 568,562	$ 161,205	$ 729,767
2009	$ 558,774	$ 176,195	$ 734,970
2010	$ 521,816	$ 145,019	$ 666,835
2011	$ 494,134	$ 133,451	$ 627,584
2012	$ 479,741	$ 133,548	$ 613,289
2013	$ 469,649	$ 131,748	$ 601,397
2014	$ 448,935	$ 45,539	$ 494,475
2015	$ 439,264	$ 127,300	$ 566,564
Total	$ 6,687,298	$ 2,348,824	$ 9,036,121

Source: "Actual Annual Tobacco Settlement Payments Received By the States," Campaign for Tobacco-Free Kids, April 27, 2016. "2014 Annual Survey of State Government Tax Collections," United States Census Bureau.

Figure 5



Source: "Actual Annual Tobacco Settlement Payments Received By the States," Campaign for Tobacco-Free Kids, April 27, 2016. "2015 Annual Survey of State Government Tax Collections," United States Census Bureau.

The MSA's structure creates perverse incentives for states. The more people who quit smoking, the fewer cigarettes are sold, and the lower annual MSA payments fall below their base amounts. The same perverse incentives accompany cigarette excise taxes. Fewer state residents smoking cigarettes translates into lower tobacco excise tax revenue.

In order to make up this lost revenue, states can increase other taxes or cut government spending. States can also make it more difficult for cigarette smokers to quit by levying taxes on ENDS or regulating the market in ways that constrain consumer choice and access to ENDS, as Indiana policymakers chose to do.

As Indiana's revenue from tobacco products continues to decline, and as ENDS use increases in popularity, it is likely that the state will consider applying its 24 percent excise tax on the wholesale price of tobacco products to ENDS. Indiana currently levies a $0.995 tax on a 20-pack of cigarettes, and moist snuff (chewing tobacco) is taxed at 40 cents per ounce. Currently, no excise tax is placed on ENDS.[40]

In 2015, Indiana SB 384 was introduced, which would have created a $0.0083 per milligram of nicotine per milliliter of consumable material tax.[41] As with the state's tobacco revenues, the proceeds from this bill would have been deposited in the state's general fund instead of going to tobacco-prevention programs.

Considering that the FDA released its final regulations that deemed ENDS as tobacco products, and that the agency says that more regulations on ENDS are coming, it is unlikely that many states will follow Indiana's lead and regulate the production of vaping products. The more likely trend is more states taxing ENDS, while leaving regulation of production to the FDA.

While these excise taxes on various ENDS bring in additional revenue in the short term, they could cost states substantial sums of money in the long term. As shown in Table 6, Medicaid expenses from cigarette smoking cost Indiana taxpayers over $450 million in FY 2014.

Table 6

Medicare Costs to Indiana Taxpayers from Cigarette Smoking, FY 2014

Indiana Medicaid Spending	$ 9,129,913,143
Percent of Medcaid Spending Attributable to Smoking	15.20%
Indiana Medicaid Spending Attributable to Smoking	$ 1,387,746,798
Federal Medical Assistance Percent	66.92%
Indiana Burden from State Medicaid Payments	$ 459,066,641

Source: "Total Medicaid Spending FY 2014," Kaiser Family Foundation. Xin Xu et al., "Annual Healthcare Spending Attributable to Cigarette Smoking: An Update," American Journal of Preventive Medicine, December 10, 2014. "Federal Financial Participation in State Assistance Expenditures," Department of Health and Human Services, Novermber 30, 2012. "Federal Spending in the States," The Pew Charitable Trusts, March 3, 2016. "2014 Internal Revenue Service Data Book," Internal Revenue Service.

Medicaid costs in Indiana during FY 2014 were just over $9.1 billion.[42] Research has shown that about 15 percent of Medicaid spending is directly attributable to smoking-related health problems.[43]

Since Indiana received 67 percent of its FY 2014 Medicaid spending from the federal government in Federal Medical Assistance,[44] Indiana's state burden from its smoking-related Medicaid costs was $459 million in FY 2014. The state spent $17.3 billion in state funds that year, meaning that its smoking-related Medicaid costs accounted for 2.7 percent of overall state spending.[45]

Section 4: Conclusions and Recommendations

While cigarette smoking is proven to lead to negative health outcomes that in turn burden taxpayers, the justification for taxing ENDS is far from clear. Though the long-term health effects are unable to be studied because the industry is less than a decade old, preliminary research and the substantial differences between ENDS and combustible tobacco products point to the conclusion that using ENDS is substantially safer than smoking cigarettes.[46]

As a harm-reduction strategy, states should not make it more expensive to switch from cigarettes to ENDS.[47] Basic economic theory shows that placing additional costs on making the switch from cigarettes to ENDS through taxation will only lower successful cigarette quit rates.

The British Royal College of Physicians finds that ENDS are at least 95 percent safer than combustible cigarettes.[48] Yet policymakers continually try to regulate the industry as if ENDS and combustible cigarettes pose the same public health threats. If anything, ENDS have the potential to improve health outcomes by making it easier for people to quit smoking cigarettes.[49]

Beyond excise taxes, regulations that keep harm-reduction products out of the hands of consumers deserve scrutiny. More options and increased innovation are unquestionably desirable, especially when it comes to tobacco harm reduction.

A few years ago, all that was available to smokers who wanted an alternative nicotine delivery system were relatively-ineffective nicotine patches, gum, and poorly designed e-cigarettes. Now, because the ENDS industry was allowed to grow outside of an overly-restrictive government tax and regulatory environment, consumers can customize everything from their nicotine levels and wattage, to flavors and air flow.

It is one matter to use regulation to ensure consumers know what is in the products that they purchase or to keep nicotine out of the hands of minors. It is another matter to establish regulations that limit competition and stifle a dynamic market. Government policies that tax and regulate ENDS and combustible tobacco in the same ways will have negative effects on cigarette smokers who are looking for alternative, safer nicotine delivery systems.

The guiding policy when it comes to public health should be harm reduction. States should welcome ENDS' encouraging effects of lowering cigarette consumption. Indiana policymakers can change the law to acknowledge this reality. When doing so, they need to also consider the detrimental effects of applying excise taxes on ENDS. Placing an excise tax on ENDS is imprudent from a harm-reduction approach to public health and from a fiscal standpoint, as smoking-related state Medicaid costs constrain Indiana's budget. Though specific situations differ by state, these same health and fiscal realities apply to every state that is considering ENDS excise taxes.

Appendix: Further Information on Indiana's E-liquid Regulation

Indiana's e-liquid regulation is an example of a law that was passed in the name of public safety but protects a politically-favored company. For months, the only security company that met all the law's requirements was Mulhaupt's, based in Lafayette, Indiana. As an investigation by the *Indianapolis Business Journal* revealed, there is reason to believe that the law was specifically written so that only one Indiana-based firm could comply.[50] The Federal Bureau of Investigation is even probing for possible corruption surrounding the law's design and implementation.[51]

The e-liquid industry is decentralized and primarily comprised of small, local producers that mix their own e-liquid. Before the law went into effect, there were about 200 e-liquid producers in Indiana alone. Out of these 200 companies and the thousands of others nationwide, Maulhaupt's only decided to contract with six e-liquid companies. The companies are Cloudtown of Cleves, Ohio; DB Vapes of Indianapolis, Indiana; DNM Ventures of Fort Myers, Florida; Licenses E-Liquid Manufacturer of Fort Wayne, Indiana; VapeINg of Lafayette, Indiana; and Vapor Bank of Evansville, Indiana.[52]

This low number of approved security companies makes it so that many reputable e-liquid companies cannot sell their products in Indiana, even if they comply with all other aspects of the law. It is surprising that there is only one approved security company given that the bill requires the ATC to approve no less than three independent testing laboratories to which manufacturers can send their products during ATC audits. No such minimum was written into the bill for approved security companies, even though these companies are necessary to getting manufacturers' e-liquid approved for sale in Indiana.

All e-liquid companies that could not meet Indiana's manufacturing requirements and reach an agreement with an approved security firm were supposed to be banned from doing business in Indiana come July 1, 2016. And the state's vapor shops were set to only be allowed to sell approved e-liquid after that date.

On June 2, 2016, a Marion County, Indiana Superior Court judge ruled that the bill's implementation date could stand without any changes to the law. This ruling left e-liquid companies with less than two weeks to wait for a federal ruling or injunction on another ongoing lawsuit over Indiana's requirements. No ruling or injunction came, as the U.S. District Court for the Southern District of Indiana upheld the law's provisions on June 30, 2016, finding that "the Act does not violate the Dormant Commerce Clause, Equal Protection Clause, or Indiana Constitution."[53]

This ruling differed from the conclusion reached by the U.S. District Court for the Southern District of Indiana on August 19, 2016.[54] The District Court issued an injunction against the ATC's enforcement of unapproved e-liquid sold by one company, GoodCat, based in Naples, Florida. There are separate cases against Indiana, brought by other manufacturers, which may also receive an injunction against state enforcement.

The injunction was issued because the Commerce Clause in the U.S. Constitution prohibits states from placing unfair burdens on interstate commerce. In Commerce Clause cases, courts evaluate the overall effect of laws on intrastate and local economic activity to determine the constitutionality of a law.

The court found that Indiana's security regulation had a considerable effect on Indiana's vaping market. As the ruling stated, "Prior to the Act taking effect, 164 of the 177 businesses (more than 90 percent) selling e-liquids in Indiana were out-of-state businesses… Fast-forward to present, and two-thirds of the permittees producing e-liquids for sale in Indiana have Indiana addresses."[55] This is a major change in the market that the court noticed.

These forced changes in the market do not contribute to increased consumer or product manufacturing safety. According to court filings, the state of Indiana has "no position on how a rolling steel fire door protects against tampering or adulteration of e-liquid during the manufacturing process."[56] The Architectural Hardware Consultant requirement is equally unrelated to e-liquid product safety. Though one justification is that, as the U.S. District Court for the Southern District of Indiana Richard Young wrote, "Mulhaupt's vice president, Michael Gibson, serves as the president-elect of the Door and Hardware Institute, which is the certifying organization identified in the statute for the Architectural Hardware Consultant certification."[57]

The six firms approved to work with Maulhaupt's all joined the case on Indiana's side as intervenors, as their economic interests will be harmed if Indiana's law is overturned. Allowing more e-liquid manufacturers to sell their products in Indiana would limit profit opportunities for the firms that gained state approval.

GoodCat is not the only firm facing a delay in enforcement. On July 1, 2016, the day the law was set to go into effect, the Indiana Alcohol and Tobacco Commission decided that it would not enforce the law for another sixty days when it comes to existing inventory manufactured after July 1, 2015. The ATC terms this period "educational enforcement." During this period, any e-liquid manufactured before July 1, 2015 was subject to confiscation, along with any non-approved e-liquid manufactured after June 30, 2016. But other e-liquid could remain on the market.

After the sixty-day non-enforcement period, which ended on September 1, 2016, the ATC's enforcement arm, the Indiana State Excise Police, was supposed to take enforcement actions over the sale and production of all unapproved e-liquid. However, the ATC has delayed full enforcement and effectively allowed another period of limited enforcement. If this second delay is continued, the enforcement deadline could extend until after the Indiana legislature is back in session in January 2017.

There is growing concern in the state legislature over the bill's effects. When talking about the bill's creation of a monopoly, State Republican Senator Ron Alting, one of the architects of the bill, told the *Lafayette Journal & Courier* on that, "I know how [the effect of the bill] looks… that's not how this was supposed to work out." Alting vowed to work with Senate leadership to "get this fixed quick."[58]

Though Pence has kept quiet about the law, Democratic gubernatorial candidate John Gregg made vaping an issue while campaigning. Though Gregg lost on November 8, 2016, he vowed to review the law if he was elected. He told the *Indianapolis Business Journal* on June 24, 2016, "Recent media reports about this apparent monopoly are more than a little disturbing. While everyone supports oversight and reasonable safeguards on the industry, the Legislature should re-evaluate this law and the system it created to ensure greater fairness, competition and transparency."[59] Republican Governor-elect Eric Holcomb has not publicly stated what he will do about HB 1432.

Indiana's unique e-liquid law goes far beyond promoting public safety. Giving one company the government-granted power to determine which products can come to market is clearly an anti-competitive decision that will limit customer choice and the growth of small businesses. The effects of the regulation on Indiana vapers, cigarette smokers, taxpayers, local jobs, and small businesses are major, and these consequences need to be considered when the Indiana legislature meets next year.

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