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FEATURED PERSPECTIVES

Are Evolving Regulations Laying the Groundwork for Taxing E-Cigarettes?

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Electronic cigarettes have garnered significant attention among consumers, manufacturers, and government regulators since they were first introduced to the U.S. and European markets less than 10 years ago. Reaction to these devices has ranged from early acceptance as safer alternatives to smoked tobacco to zealous opposition and outright bans by opponents who fear e-cigarettes may renormalize smoking and perpetuate nicotine consumption.

By 2013 e-cigarettes were showing signs of becoming mainstream lifestyle products among a growing number of committed adult consumers, often called ''vapers,'' in Europe and the United States. Estimates of consumption in the key U.S. and U.K. markets reached 5 million and 2.1 million users, respectively.[1] More than 1,000 e-cigarette brands are now available in the U.S. market,[2] mostly owned by small companies importing their products from China and selling online.

This growth has been encountering regulation at all levels of government, which are struggling to identify the appropriate regulatory framework for these products. Opinions have yet to converge on an ideal approach. Indeed, the options under consideration in the debate over the classification of e-cigarettes reflect the contradictory perceptions of what these devices are and for what purpose consumers use them.

To some, e-cigarettes represent a promising tool to help smokers reduce their consumption of conventional cigarettes that burn tobacco. From this perspective, e-cigarettes should be regulated as medical products. An opposing viewpoint holds that regardless of e-cigarettes' potential as cessation aides, they mimic conventional cigarettes, and whereas they deliver nicotine to the user in the form of vapor, they should be considered tobacco products. Yet another dissenting opinion maintains that e-cigarettes are merely electronic devices that should be subject to general consumer safety regulations.

On this decision rests another critical policy question: If e-cigarettes are regulated as tobacco products should they also be taxed as tobacco products? If so, how should the tax be applied? Thus far, these questions have received scant attention in the debate over

[1]According to statistics from the Tobacco Vapor Electronic Cigarette Association, the number of e-cigarette users has gone from 50,000 in 2008 to an estimated 5 million in 2012.

[2]*See* http://www.cabf.org/e-cigarette-brands.

e-cigarette regulation. However, as clarity over regulation sets in and sales of e-cigarettes continue to grow at the expense of cigarettes containing tobacco, which annually generate billions of dollars in excise tax revenue, legislators and regulators will increasingly search for an appropriate fiscal policy to adapt to the changing marketplace.

In the limited number of jurisdictions where e-cigarettes have been subjected to excise taxes, they have first been classified as tobacco products by regulators, either de facto or de jure. However, it is unknown if this designation will be a prerequisite to taxation. E-cigarettes clearly pose regulatory and fiscal policy challenges; the current rules were designed before these products gained widespread consumer acceptance.

This article addresses the status of e-cigarette tax policy and explores the economic and other rationales for subjecting these products to excise taxes. We track the route e-cigarettes have followed through the regulatory labyrinth in the search for insights into the regulators' thinking that could presage the application of excise taxes.

I. Description of E-Cigarettes

Based on our review of different products and formats available, we have developed this description of e-cigarettes: a battery-powered inhaler that vaporizes a nicotine liquid solution into an aerosol mist (''the puff''). By heating the liquid containing nicotine and flavorings, an aerosol is generated. In most cases, the nicotine in the liquid is extracted from tobacco leaves.

In principle there are two types of e-cigarettes. The contained system generally refers to disposable units or cartomizers[3] with rechargeable batteries. In these products the e-liquid is contained in closed components that are not intended to be opened by consumers. In contrast, the open system permits the user to assemble a combination of batteries, atomizers, and coils that he then fills with his own e-liquid.[4]

A. Regulation in Europe

The growing popularity of e-cigarettes in Europe coincides with major revisions to tobacco products regulation. The Tobacco Products Directive (TPD) is the instrument by which the European Union sets the regulatory framework for tobacco products sold in the 28 member states. The size and text of health warnings, as well as tar and nicotine ceilings, are addressed in this directive. Since the TPD was first adopted in 2001,[5] there have been rising concerns over a range of new issues, such as labeling and packaging, additives, flavorings, and Internet sales, to name a few.

A major gap in regulation was that the revision of the TPD was designed to address so-called nicotine-containing products (NCPs). Those NCPs, including e-cigarettes, have generated a great deal of discussion on how to regulate products that do not contain tobacco, but only nicotine derived from tobacco.

The new TPD creates ''two routes to putting e-cigarettes on the market in the EU: as a medicine or as a consumer product subject to the TPD.''[6] Also, a third route is possible since the manufacturer can choose to sell medicinal e-cigarettes: ''If companies choose to make a claim that their e-cigarette helps smokers quit, they will have to seek a medicines license.''

B. Regulation in the U.K.

The United Kingdom is the leading e-cigarette market in Europe in terms of sales volume and customers, with 2.1 million users in 2014.[7] Many e-cigarette companies are based there. It is natural that the United Kingdom has been in the vanguard of e-cigarette regulation. Decisions taken in the United Kingdom have had a significant impact on the debate in the EU and will likely affect policies implemented at the member state level.

The central question for the U.K. regulator is whether to regulate e-cigarettes as medicinal cessation products or tobacco products. The U.K.'s Medicines and Healthcare Products Regulatory Agency (MHRA) gave guidance in June 2013 to regulate e-cigarettes and other NCPs as medicines or medical devices. During the transposition period, the U.K. government indicated that it wants to regulate e-cigarettes and other NCPs and is encouraging companies to voluntarily

[3]Cartridges containing the e-liquid with built-in atomizers.

[4]In both cases, nicotine is consumed through a vaporizing process. The heterogeneity of electrical devices and assembly has generated some product safety concerns, especially for open systems in which the e-liquid is under scrutiny because of the potential risk of ingestion of nicotine liquid that is dangerous. Currently, there is no standard e-cigarette. The cartridge containing liquid comes in different sizes or has different nicotine concentration. The Cooperation Centre for Scientific Research Relative to Tobacco (CORESTA), an industry association, has formed an e-cigarette working group to address issues such as product standards. A set of standards could provide a useful benchmark for regulatory and taxation purposes.

[5]EU presidents of the European Parliament and Council signed on April 3, 2014, the revised tobacco products directive, and the transition period of two years is alleged for member states to incorporate into their national laws. Directive 2001/37/EC of the European Parliament and of the Council of June 5, 2001.

[6]The new rules will not apply to medicinal e-cigarettes (as set out in Directive 2001/83/EC) or medical devices (Directive 93/42/EEC), but will cover all consumer e-cigarettes placed in the EU market.

[7]*See* http://www.ash.org.uk/files/documents/ASH_891.pdf.

submit medicine license applications[8] for e-cigarettes and other NCPs as medicines.

C. Regulation in the U.S.

In the United States, the Food and Drug Administration (FDA) has sought to extend its regulatory reach to e-cigarettes in a succession of approaches. Starting in 2008, the FDA asserted that some e-cigarettes were unapproved drug/device combination products under the Food, Drug, and Cosmetic Act (FDCA) and denied entry into the United States of these products by Sottera Inc. and other manufacturers.

Sottera successfully obtained a preliminary injunction from the U.S. District Court for the District of Columbia barring the FDA from regulating e-cigarettes as drug/device products. The D.C. Court of Appeals affirmed the decision in *Sottera Inc. v. Food & Drug Administration*.[9] In its decision, however, the Court stated that the FDA could regulate e-cigarettes as tobacco products under the Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act), which had been adopted in June 2009, a few months following Sottera's initial filing for an injunction to prevent the FDA from averting its imports of e-cigarettes.

The Tobacco Control Act, which amends the FDCA, grants the FDA the authority to regulate enumerated tobacco products — cigarettes, cigarette tobacco, roll-your-own tobacco, and smokeless tobacco. The law also enables the FDA to assert jurisdiction over other tobacco products that it deems to meet the statutory definition of tobacco products. In April 2014 the FDA issued its proposed deeming rule to expand its jurisdiction to other tobacco products. The proposed rule would deem that e-cigarettes meet the statutory definition of a tobacco product under the Tobacco Control Act and therefore fall under the FDA's purview.[10]

Outside Washington, many local, county, and state jurisdictions have adopted restrictions or bans on the sale or use of e-cigarette products.

Of course, designation of e-cigarettes as tobacco products by the FDA does not imply that taxation of these devices will automatically follow. The FDA is not empowered to levy taxes on tobacco products. However, the classification of e-cigarettes as tobacco products by the responsible regulatory authority — that is, the FDA — would be a precedent for imposing taxes as shown below. Notably, the imposition of excise taxes in those few jurisdictions worldwide that levy taxes on e-cigarettes was preceded by their designation as tobacco products or tobacco substitutes for regulatory purposes.

Several cities and states have regulated e-cigarettes as tobacco products, yet only Minnesota and North Carolina have enacted taxation. Within the United States, legislatures in several other states have debated taxation, and numerous bills have been introduced.[11] For the most part, however, regulatory actions have largely been limited to sales and marketing practices, such as minimum age of purchase requirements and restrictions on where consumers may use e-cigarettes. Detailed product regulation, such as limits on nicotine concentrations and maximum sizes of cartomizers or bottles containing e-liquid, which have recently been debated in the EU, has received scant attention in the 50 states.

Despite all the drafting of regulations, court cases, and parliamentary debate, much ambiguity remains surrounding the classification of e-cigarettes. Ultimately, the designation of these devices as medicinal, tobacco, or consumer products will affect if and how these devices are taxed.

II. Rationale for Selective Taxation

Despite the proliferation of regulations covering the design, sale, and use of e-cigarettes in Europe and the United States, governments have been slow to tax those products. That may be changing. However, before taxation of e-cigarettes becomes widespread, a review of the economic justifications for selective taxation of specific products is in order.

For hundreds of years, governments have used excise taxation as an integral component of their fiscal policy. Below is an analysis of the traditional economic rationale for applying excise taxes on consumer goods and an evaluation of the applicability of these criteria to e-cigarettes.

A. Externalities

Excise taxes are frequently justified for their role in internalizing the costs that consumers of excisable products impose on others.[12] Financial costs inflicted on society by the consumption of tobacco, alcohol, and petroleum products should be reflected in the price paid by the consumer. The generation of these external costs provides the basis for government intervention through taxation.

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[8]This voluntary route will add extra costs linked to the process of medicines approval: ''On the costs side, we have used our estimated annualized cost range of £87,000 to £266,000'' (MHRA (2013)).

[9]*Sottera, Inc. v. Food & Drug Admin.*, 627 F.3d 891 (D.C. Cir., 2010).

[10]*Fed. Reg.*, Vol. 79, No. 80, Apr. 25, 2014, Proposed Rules, p. 23143.

[11]Jennifer Carr, ''The State of Vape: Taxing E-Cigs,'' *State Tax Notes*, Feb. 17, 2014, p. 425.

[12]Sijbren Cnossen, ''Economics and Politics of Excise Taxation,'' in: Cnossen, ed., *Theory and Practice of Excise Taxation: Smoking, Drinking, Gambling, Polluting, and Driving* (Oxford University Press, 2005), p. 3-4.

The consumer of those products is seen to internalize the external costs when the excise tax is imposed on the activity equal to the marginal cost of the harm caused to others.[13] Measuring those marginal costs is often difficult; hence, average external costs are often estimated based on the total external costs divided by the total number of cigarettes smoked, volume of alcohol consumed, or liters of gasoline burned.[14]

Studies by Viscusi,[15] Smith,[16] and others demonstrate the ongoing debate about the level of externalities imposed by established tobacco products that consumers have used for decades and whether the tax revenue generated actually meets or exceeds these costs.

The extremely brief history of e-cigarette consumption makes it difficult to assess with any certainty the degree to which the use of these products generates any costs for the broader society. There are conflicting findings on the health impact of e-cigarettes. Abundant research suggests that using e-cigarettes is less harmful than smoking tobacco products.[17] Allowing for the possibility that e-cigarettes may potentially be injurious to the vaper, it is still undetermined whether any such negative impacts are not merely private, but also impose costs on society. Without proof that e-cigarette consumption creates social costs, there can be no economic justification for government to intervene and compensate for the externalities created by these products through taxation.

Indeed, health consultations in the United Kingdom revealed potential economic benefits for society from the substitution of e-cigarettes for conventional tobacco cigarettes. E-cigarettes might facilitate the reduction of externalities when they are used as cessation aides.[18]

Measuring whether externalities exist is a genuine challenge that should be addressed through further research.

B. Revenue Efficiency, Low Elasticity of Demand

Excise taxes have long been applied to specific commodities and services for their ability to generate government revenue. Tobacco, alcohol, gambling, petroleum products, and telecommunications are seen as particularly efficient generators of tax revenue. First, there are few producers of these products, and volume is high, making collection relatively simple, dependable, and inexpensive. Second, consumer demand is considered less elastic for these products than for other goods because there are no close substitutes.

An increase in the retail price of gasoline, for example, will provoke a smaller decline in the quantity consumed than a comparable increase in the price of restaurant meals (-2.3)[19] or automobile tires (-1.2) or some other product whose demand is more responsive to changes in price.

Prudent government fiscal policy focuses on taxing a select group of products such as gasoline knowing that the higher excise-driven price will lead to a decline in volume that is proportionally lower than the change in price. As a result, tax revenue rises.

Thus, policy planners in ministries of finance and parliamentary committees can raise the level of tax from time to time in order to increase the collection of excise revenue.

There is a limit, however, to the degree to which excise rates can be increased before the tax loses its effectiveness as a source of revenue and, in some cases, generates its own externalities in the form of illicit trade controlled by organized criminals.

For example, several EU member states experienced Laffer curve effects in 2013 when tax rates were increased above revenue-efficient levels, leading to drops in excise tax collections. Higher tax-driven prices encouraged some smokers to shift from highly taxed cigarettes to lower-tax-yielding fine-cut tobacco for hand-rolling cigarettes. Declining incomes during the economic crisis also had a role in softening the demand for duty-paid cigarette sales.

Indeed, the recent growth of the e-cigarette market has been fueled by several factors, including health concerns, public smoking bans, and competitive pricing vis-à-vis conventional tobacco products. In Poland, where in 2013 one of every 10 cigarette smokers used e-cigarettes, growth has coincided with rapid rises in tax and prices on cigarettes and other tobacco products that have been adopted to meet the minimum EU excise rate by 2017. E-cigarettes are substitutes for conventional tobacco products, which can in turn be replaced by other nicotine delivery products, such as

[13]A.C. Pigou, *The Economics of Welfare* (1920).

[14]Cnossen, ''Reform and Coordination of Indirect Taxes in the ASEAN Free Trade Area,'' *Tax Notes Int'l*, Feb. 11, 2013, p. 589 at 606.

[15]W. Kip Viscusi, ''Cigarette Taxation and the Social Consequences of Smoking,'' NBER Working Paper No. 4891, Oct. 1994.

[16]Stephen Smith, ''Restraining the Golden Weed: Taxation and Regulation of Tobacco,'' *FinanzArchiv: Public Finance Analysis*, 2008.

[17]Pasquale Caponnetto, Riccardo Polosa, Cristina Russo, Carmelo Leotta, and Davide Campagna, ''Successful smoking cessation with electronic cigarettes in smokers with a documented history of recurring relapses: a case series,'' *J. Med. Case Rep.* (Dec. 2011).

[18]''The value of the health gains associated with a single successful quit attempt is very substantial — The Department of Health estimates it to be £74,000''; from impact assessment from MHRA.

[19]Patrick L. Anderson, Richard D. McLellan, Joseph P. Overton, and Gary L. Wolfram, ''Price Elasticity of Demand,'' Mackinac Center for Public Policy, Nov. 1997. A 10 percent increase in the price of restaurant meals will generate a 23 percent decline in the quantity purchased.

Excise Yield per 1,000 Cigarettes and Tobacco Tax Revenue

	2012		2013	
	Excise € per 1,000[a]	Revenue € millions[b]	Excise € per 1,000[a]	Revenue € millions[b]
Czech Republic	83.50	1,843	85.22	1,701
France	197.30	11,135	210.27	11,118
Ireland	277.07	1,072	281.46	1,064
Netherlands	176.11	2,502	176.75	2,399
Poland	87.48	4,562	92.86	4,370
Portugal	117.87	1,354	120.46	1,313
U.K.	288.02	11,915	289.91	11,708

[a]Excise yield on weighted average price per 1,000 cigarettes.
[b]All tobacco products.

Source: European Commission Tax Tables.

patches, gums, inhalers, and other cessation treatments. If wide price gaps with combustible cigarettes have driven the demand for e-cigarettes, then closing that gap through taxation could induce consumers to switch back to smoking cigarettes or other cheaper alternatives.

The elasticity of demand for e-cigarettes is not yet well documented, and time is needed for additional research. In perhaps the first study to measure consumer sensitivity to e-cigarette prices, the price elasticity of demand for disposable e-cigarettes was estimated to be -1.2, suggesting that a 10 percent increase in the price of a disposable unit would reduce sales by 12 percent.[20] Demand for refillable or rechargeable e-cigarettes was estimated to be even higher at -1.9.

It is unknown, therefore, how dependable a source of tax revenue e-cigarettes could be. How their recent growth trajectory will respond if prices rise drastically because of high taxation could prove disappointing from a revenue perspective. Prudence suggests that if governments insist on taxing e-cigarettes, they should wade into these waters slowly with low rates of excise lest they destroy the revenue-generating capability of these products in their infancy. More research is warranted to determine how demand for e-cigarettes will respond to tax-driven price increases. Only then can policymakers confidently add e-cigarettes to the list of products that can reliably provide a stable source of excise revenue.

C. Paternalism

A third rationale for taxing selected products is more political in nature. Taxes are imposed by governing bodies as a means of social engineering to reduce consumption of products deemed unhealthy or undesirable.[21] This more paternalistic approach to fiscal policy has emerged as a key driver in attempts to tax sugary drinks[22] and fatty foods,[23] which are the most recent targets of initiatives to change consumer behavior through taxation.

Tax policy is thus co-opted by health advocates seeking to wean consumers off unhealthy diets, liquors, or nicotine addiction. This appears to be the objective of the World Health Organization (WHO), which reportedly seeks to extend regulation and taxation of normal tobacco to e-cigarettes through its Framework Convention on Tobacco Control.[24]

III. Current Taxation of E-Cigarettes

Few tax authorities have extended their excise tax regimes to include e-cigarettes. No single approach to applying the tax has yet emerged as predominant.

[20]Jidong Huang, John Tauras, and Frank J. Chaloupka, ''The impact of price and tobacco control policies on the demand for electronic nicotine delivery systems,'' *Tobacco Control*, 2014, 23:iii41-iii47.

[21]Alex Brill, Sally Satel, and Alan D. Viard, ''Should E-Cigarettes Be Taxed?'' *Tax Notes*, Apr. 14, 2014, p. 267 at 272.

[22]Maria A. Cabrera Escobar, J. Lennert Veerman, Stephen M. Tollman, Melanie Y. Bertram, and Karen J. Hofman, ''Evidence that a tax on sugar sweetened beverages reduces the obesity rate: a meta-analysis,'' *BMC Public Health* (Nov. 2013).

[23]Andrew Leicester and Frank Windmeijer, ''The 'fat tax': economic incentives to reduce obesity,'' *Inst. Fiscal Stud*. (June 2004).

[24]''WHO plans to regulate e-cigarettes in the same way as normal tobacco,'' *Fin. Times*, Apr. 13, 2014.

A. Switzerland

Switzerland levied a tax based on the claim by fiscal authorities that e-cigarettes resemble and replace conventional tobacco cigarettes. Thus, the mixed excise structure and rates for traditional cigarettes were also applied to e-cigarettes. However, e-cigarettes are subject to the food law in Switzerland and products with nicotine cannot be sold; small quantities for personal use may be imported. Consequently, in April 2012, the tax was withdrawn.

B. Italy

In December 2013 the Ministry of Economy and Finance published a decree, effective January 2014, that applied many regulatory and fiscal provisions to e-cigarettes similar to those previously applied to conventional tobacco cigarettes. Among the administrative requirements introduced were authorization before sale of e-cigarette liquid and devices by the Customs and Monopoly Agency. Tax payment procedures, including guarantees and registration of retail prices comparable to those in place for cigarettes that burn tobacco, were also introduced.

Despite classifying e-cigarettes as substitutes for tobacco products, the decree applied an ad valorem excise tax equivalent to the prevailing excise incidence of 58.5 percent on the weighted average retail price of cigarettes. The taxable base for the levy included the nicotine-based e-liquid as well as all electronic devices and components. This generated some confusion among taxpayers since many of the spare parts, such as batteries and USB power cables, can be purchased separately for other applications but became taxable if sold with the e-cigarette device.

On April 2, 2014, the Administrative Tribunal of the Lazio Region (TAR) suspended the tax and all administrative measures concerning taxation and requested the Constitutional Court to rule on the constitutionality of the tax. In its decision, the TAR noted that the decree had not sufficiently defined the taxable base. Thus, the decree erroneously permits the application of a single undifferentiated rate of tax to be applied to various substances and goods with mixed uses.

C. Minnesota (U.S.)

Since October 2012 the Minnesota Department of Revenue has considered e-cigarettes devices that simulate the act of smoking tobacco cigarettes.[25] While the state believes that e-cigarettes fail to meet the definition of a cigarette set forth in the Minnesota statutes, section 297F.01, subdivision 3, it affirms that they do meet the definition of tobacco products in subdivision 19.[26]

The position set forth by the Department of Revenue is that e-cigarettes are subject to the tobacco products tax. The basis of this claim is the presence in the cartomizer of nicotine derived from tobacco. Consequently, e-cigarettes are taxed the same as other smoking tobacco products (for example, cigars and other smoking tobacco) at a rate of 70 percent of the wholesale price (subsequently raised to 95 percent in August 2013).

As was done in Italy, Minnesota applies an ad valorem tax to e-cigarettes. The similarity in fiscal approach ends here, however. The taxable base in this case is the wholesale price. With the notable exception of cigarettes, which are subject to fully specific excise in the 50 states, other smoking tobacco is commonly levied with an ad valorem tax at the wholesale level. The more meaningful difference with Italy lies in the state's position that if the wholesaler, who is also the taxpayer:

> sells the cartridge separately and can isolate the cost of the product, the tax will be imposed only on the nicotine based cartridges or liquid nicotine in a bottle.[27]

The taxable base described in Revenue Notice 12-10 avoids much of the ambiguity in the Italian decree and reduces, but does not eliminate, the application of a single rate of tax to many goods with varied uses. The application of the tobacco products tax on disposable e-cigarettes, wherein the nicotine liquid, cartomizer, and battery are inseparably within an ''all-in'' unit, subjects the combined value of these components to the same rate of excise. This approach places a higher tax burden on some formats of e-cigarettes compared to others.

Whether in Italy or Minnesota, ad valorem taxes on electronics are disincentives to innovation. Development of new features, such as fingerprint recognition for childproofing e-cigarettes or incorporation of chips that enable downloading of data to track consumption patterns, add costs to the devices, which become part of the taxable base. The ad valorem tax multiplies these costs in the form of additional taxes to be passed on to the consumer through higher prices, potentially rendering the devices unaffordable.

D. South Korea

The Korean Ministry of Strategy and Finance declared e-cigarettes to be a tobacco product in 2008. Following this interpretation, months of debate and legislative drafting culminated in an amendment to the Local Tax Act, the legal basis for excise tax on tobacco products. The provision came into force on July 5, 2010, and created a new classification for ''electronic tobacco'' under the smoking tobacco category (article 52).

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[25]Department of Revenue, Revenue Notice 12-10: Tobacco Products Tax — Taxability — E-Cigarettes.

[26]*See* https://www.revisor.mn.gov/statutes/?id=297F.01.

[27]Department of Revenue, *supra* note 25.

Unlike Minnesota, which applies a tax based on value, the reform to the Local Tax Act introduced a specific tax based on the volume of nicotine liquid. The taxable base is clearly defined as a milliliter of nicotine liquid regardless of the strength. This approach is more neutral in that it does not favor one format of e-cigarette over others. It also ensures greater ease of administration because it is indifferent to prices as well as the composition of different product formats.

The excise tax rate in South Korea is currently KRW 400 per milliliter of liquid.

E. North Carolina (U.S.)

In May 2014 North Carolina amended its revenue laws and introduced "vapor products" as a new class of tobacco product. A vapor product is defined as:

> any nonlighted, noncombustible product that employs a mechanical heating element, battery, or electronic circuit regardless of shape or size and that can be used to produce vapor from nicotine in a solution.[28]

The amended definition also included "consumable product," which is "any nicotine liquid solution or other material containing nicotine that is depleted as a vapor product is used." An excise tax of five cents per milliliter of consumable product was introduced.

IV. Should E-Cigarettes Be Taxed?

There is little evidence to justify taxing e-cigarettes based on conventional economic rationale. Despite their growing popularity, e-cigarettes are still a novelty with a commercial track record of less than 10 years. While some studies suggest that e-cigarettes may be unsafe for the vaper,[29] many others assert that e-cigarettes cause no harm to the user. Thus, there is a dearth of empirical studies to support the claim that the use of e-cigarettes imposes social costs on the broader population. To the extent that e-cigarettes help smokers to quit or decrease consumption of conventional tobacco products, one could conclude that this may lead to reducing externalities.

While price appears to be one of several factors driving the growth of e-cigarettes, little is known about the effect that higher tax-driven prices would have on consumer demand. At this early stage in the e-cigarette category's evolution, it is difficult to justify initial rates of taxation above low trial rates.

The decision to tax e-cigarettes should also address two public concerns about their role as nicotine delivery systems and their use by consumers.

First, does the mere presence of nicotine in the e-liquid provide a rationale for taxation? It has been alleged that since nicotine is derived from tobacco, e-cigarettes containing nicotine should be considered tobacco products and taxed accordingly. Yet many products that contain naturally derived nicotine, such as inhalers, gums, and patches, avoid classification as tobacco products and thus taxation because they are considered cessation aides or medicinal products.

Second, it has also been asserted that taxation of e-cigarettes is justified because vaping, or using e-cigarettes, mimics the act of smoking conventional tobacco cigarettes. Therefore, to avoid normalization of smoking and discourage vaping as a gateway to smoking real cigarettes, taxes should be applied. If that logic is pursued to its natural conclusion, then what is to prevent all e-cigarettes from being taxed, whether they are classified as medicinal or tobacco products?

V. Conclusion

Despite the weak economic justification for taxing e-cigarettes, there is an undeniable political reality to be faced. To a degree as yet unknown, the growing demand for e-cigarettes will replace conventional cigarettes in consumers' basket of goods purchased. The substitution of an untaxed product for one that is heavily taxed is not sustainable from the perspective of the national or state treasury. Sooner or later, revenue-hungry governments will demand an alternative source of excise tax collections to replace the revenue stream foregone. As e-cigarettes claim a growing share of consumer expenditure formerly reserved for taxable cigarettes, they will naturally fall into the crosshairs of fiscal policymakers seeking new revenue sources.

Revenue expectations, however, must be realistic. Available evidence suggests that consumer demand for e-cigarettes would respond quite negatively to large tax-driven price increases. There is little evidence to suggest that tax revenue from e-cigarettes could replace tax revenue from conventional cigarettes. ◆

[28]Session Law 2014-3.

[29]Zachary Cahn and Michael Siegel, "Electronic cigarettes as a harm reduction strategy for tobacco control: a step forward or a repeat of past mistakes?" *J. Pub. Health Pol'y* (Feb. 2011), Vol. 32, No. 1, p. 16.