INNOVATION ▼▲ FREEDOM ▼▲ PROSPERITY

International Trade Barrier Index 2023

Study on Global Restrictions on Vapes and Vaping — Impacts on Trade & Public Health

Case Study

Authored by

Tim Andrews

Nele Ball

THOLOS FOUNDATION

Tobacco smoking is widely recognized as a leading preventable death cause, including by international bodies like the World Health Organization (WHO),[1] and scores of national governments and public health agencies. It causes approximately 5 million premature deaths worldwide each year,[2] and is a cause of respiratory illness, cancer and cardiovascular ailments.[3] The economic cost of maintaining this addiction is severe for smokers, and especially so for poorer smokers since they tend to have lower successful quit rates[4] and to lose a greater proportion of their income to tobacco than higher income smokers.[5] Despite knowledge of these harms, smokers struggle to quit their unhealthy habit since nicotine present in tobacco is an addictive stimulant. Public health experts have long recognized that the chemicals present in tobacco, or released during its combustion, rather than nicotine itself, are the driver of tobacco-related harms. "People smoke for the nicotine but die from the tar."[6]

Preceding decades have seen growth in the consumption of alternative nicotine-delivery mechanisms to combustible tobacco cigarettes. These include nicotine patches and gums, Electronic Nicotine Delivery Systems (ENDS), such as vapes or vape pens, and smokeless tobacco. These alternative products help satiate the growing demand for less harmful nicotine products. Eminent public health agencies, including the UK Royal College of Physicians, recommend that smokers who are struggling to quit cold turkey transition to receiving nicotine through ENDS devices, estimating that doing so is 95% less harmful than continuing to smoke tobacco cigarettes.[7] [8] National public health agencies in many other countries, including the United States[9] and New Zealand,[10] have also acknowledged that the relative harms inflicted upon nicotine consumers from cigarette smoking exceed those associated with ENDS; and there is now widespread consensus among tobacco control experts that ENDS represent significantly less harm than combustible tobacco cigarettes with debates focusing on the likely magnitude of the difference in harm.[11] A recent Cochrane review of all published literature on the subject, including randomized-controlled trials, determined that there was moderate-certainty evidence that rates of quitting cigarettes were higher with ENDS than nicotine replacement therapy or ENDS devices without nicotine.[12] Research has also shown that cigarette smokers who transition to ENDS devices for nicotine delivery witness a substantial decrease in tar build-up in their lungs.[13]

1 https://www.who.int/en/news-room/fact-sheets/detail/tobacco

2 Rizzuto D, Fratiglioni L (2014). "Lifestyle factors related to mortality and survival: a mini-review". *Gerontology*. 60 (4): 327–35.

3 Bartal, M. (2001). Health effects of tobacco use and exposure. Monaldi archives for chest disease, 56(6), 545.

4 Peretti-Watel, Patrick, and Jean Constance. ""It's all we got left". Why poor smokers are less sensitive to cigarette price increases." *International journal of environmental research and public health* 6.2 (2009): 608-621.

5 Remler, Dahlia K. "Poor smokers, poor quitters, and cigarette tax regressivity." *American Journal of Public Health* 94.2 (2004): 225-229.

6 Russell MJ. Low-tar medium nicotine cigarettes: a new approach to safer smoking. BMJ 1976;1:1430–3.

7 McNeill A, Brose L, Calder R, Hitchman S, Hajek P, McRobbie H. Ecigarettes: an evidence update: a report commissioned by Public Health England. London, England: Public Health England; 2015.

8 *Nicotine Without Smoke: Tobacco Harm Reduction.* London, England: Royal College of Physicians; 2016.

9 Warner KE, Schroeder SA. FDA's Innovative Plan to Address the Enormous Toll of Smoking. Jama. 2017; Gottlieb S, Zeller M. A Nicotine-Focused Framework for Public Health. N Engl J Med. 201.

10 New Zealand Government. Nicotine e-cigarettes to become legal (media release). 2017. https://www.beehive.govt.nz/release/nicotine-e-cigarettes-become-legal

11 Ken Warner, professor emeritus at the University of Michigan, quoted in Thomas Fuller, "San Francisco bans sale of Juul and other e-cigarettes," *New York Times*, 25 June 2019, https://www.nytimes.com/2019/06/25/us/juul-ban.html

12 Hartmann-Boyce, J., McRobbie, H., Butler, A. R., Lindson, N., Bullen, C., Begh, R., ... & Hajek, P. (2021). Electronic cigarettes for smoking cessation. *Cochrane database of systematic reviews*, (9).

13 Shahab L, Goniewicz ML, Blount BC, Brown J, McNeill A, Alwis KU, et al. Nicotine, Carcinogen, and Toxin Exposure in Long-Term E-Cigarette and Nicotine Replacement Therapy Users: A Cross-sectional Study. Ann Intern Med. [Epub ahead of print 7 February 2017] doi: 10.7326/M16-1107

ENDS/ Smokeless Tobacco are a growing alternative satisfying market demand for less harmful nicotine products. However, governments have responded to the market and uptake in use of these products with taxes, regulations on flavors, restrictions on devices or their components, and, at times, bans.[14] There may also be other non-tariff barriers not faced by combustible cigarettes. Researchers have analyzed how these restrictions distort market signals and can lead to illicit trade. This study surveys restrictions on the international trade of vaping products and their impact on trade/markets, including on the proliferation of illicit trade. The primary potential adverse consequences associated with such restrictions include an increase in combustible cigarette smoking (which could constitute a net increase in harm to public health), as well as substitution of illicit and unregulated products that fund criminal enterprises and that are likely to be more harmful.[15]

14 Center for Tobacco Products. 2018 NYTS Data: A Startling Rise in Youth E-cigarette Use https://www.fda.gov/tobacco-products/youth-and-tobacco/2018-nyts-data-startling-rise-youth-e-cigarette-use

15 Fairchild A, Healton C, Curran J, Abrams D, Bayer R. Evidence, alarm, and the debate over e-cigarettes. *Science.* 2019;366(6471):1318–1320.

Rationale for Restrictions

Public health activists who favor increased restrictions and bans on ENDS products cite the potential of increased cigarette use due to the re-normalization of smoking, which could reduce the motivation of smokers to cease their habit, and the potential of ENDS to act as a gateway to smoking, especially for minors.[16] [17] They cite studies showing that teens who use e-cigarettes later used combustible tobacco cigarettes,18 even though such studies demonstrate no causal link between ENDS use and cigarette use.[19] It's further noted that many governments may be incentivized to ban or restrict ENDS due to the protection of vested interests from competition, including the domestic tobacco industry and pharmaceutical industries.[20] However, this sort of rent-seeking behavior has damaging influence upon liberal democracies. Public health policies ought to be driven by empirical evidence of net harm, not by the self-interests of economic actors.

Contrary to the above arguments, empirical evidence from countries that permit the sale and use of legal ENDS products do not demonstrate a 'gateway' or 'renormalization' effect on cigarette smoking. For example, seven years of data from the United States Centers for Disease Control and prevention (CDC) attest to a consistent downward trend in high school and middle school cigarette smoking rates despite periods of upward, downward and flat ENDS use rates among the same demographic over that time.[21] The data demonstrates no link between cigarette smoking uptake and ENDS uptake among adolescents despite the legal status of ENDS and tobacco cigarettes in the United States over that time; and indeed, demonstrates significant smoking decline despite the legal availability of ENDS alongside age restrictions. A survey by the University of Michigan also demonstrated that the decline in adolescent smoking in the United States since 2010 when ENDS products began entering the market has been fourfold greater than during the 1975-2010 period,[22] a finding that is diametrically opposite to the 'gateway' to smoking theory of legal ENDS availability. Indeed, a review of available studies on the potential link between adolescent cigarette use and e-cigarette use concluded that "a minority of the relatively small number of e-cigarette triers— who haven't also been experimenting with other tobacco products already— will go on to some experimentation with

16 P. Hajek, J.F. Etter, N. Benowitz, T. Eissenberg, H. McRobbie, Electronic cigarettes: review of use, content, safety, effects on smokers and potential for harm and benefit. *Addiction,* 109 (11) (2014), pp. 1801.

17 Bold, K. W., Kong, G., Camenga, D. R., Simon, P., Cavallo, D. A., Morean, M. E., & Krishnan-Sarin, S. (2018). Trajectories of e-cigarette and conventional cigarette use among youth. *Pediatrics*, *141*(1).

18 Bold, Krysten W. et al. "Trajectories of E-Cigarette and Conventional Cigarette Use Among Youth." Pediatrics. December, 2017. http://pediatrics.aappublications.org/content/pediatrics/141/1/e20171832.full.pdf

19 For instance, a 2015 study on school students in Los Angeles, which observed that those who have tried e-cigarettes were 2.7 times more likely to have tried combustible tobacco cigarettes in the following year, noted that the finding demonstrates no causal link between the two. Reasons for this include that individuals who are likely to experiment with products subject to social 'taboo' (underage vaping) are more likely to experiment with other taboo products (underage smoking), with the same students being likely to have tried cigarettes even in a world where ENDS didn't exist. See: Leventhal, Adam M. et al. "Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence." Journal of the American Medical Association. August 13, 2015. https://jamanetwork.com/journals/jama/fullarticle/2428954

20 Basham, Patrick (2019). Regulating e-cigarettes & heated tobacco products: Democratic lessons for Asia. Washington, DC: Democracy Institute.

21 "Youth Tobacco Use." Centers for Disease Control and Prevention. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm

22 Bates, Clive. "Trends in tobacco and nicotine use in the United States." The Counterfactual. April, 2018. https://www.clivebates.com/documents/USTrendsApril2018.pdf

cigarettes."[23] Dr. Nancy A. Rigotti of Harvard Medical School, who co-authored the U.S. National Academies of Sciences Engineering and Medicine (NASEM) report on the public health consequences of e-cigarettes (2018),[24] similarly notes the "enormous amount of ecological data" demonstrating that cigarette smoking among youths has decreased alongside increases in youth ENDS use, making it "hard to argue that there is a gateway there."[25]

It's thus submitted that restrictions on ENDS products must weigh the potential harms of increased ENDS uptake without the restrictions against the potential and likely harms posed by those who would have resorted to ENDS instead remaining cigarette smokers or taking up tobacco smoking instead. Two studies considering ENDS bans in various U.S. states find that cigarette sales increased in the aftermath.[26] [27] Studies on U.S. state-level ENDS flavor bans similarly find that although flavor restrictions led to less ENDS use in the population, it also led to a 17.1-33% increase in cigarette smoking.[28] [29] [30] [31] The substitution effect between ENDS and cigarettes, which indicates that greater difficulty in accessing ENDS, is linked to cigarette uptake and heightened smoking prevalence.[32] This is also confirmed by studies observing changes to the taxation of ENDS,[33] [34] advertising restrictions on ENDS,35 and minimum legal age of sale rules.[36] [37] Conversely, the legalization of ENDS in Canada in 2017 was followed by a decline in cigarette sales even relative to any preceding trends.[38]

23 T. Kozlowski, Lynn and Kenneth E. Warner. "Adolescents and e-cigarettes: Objects of concern may appear larger than they are." Drug and Alcohol Dependence. May 1, 2017. http://www.sciencedirect.com/science/article/pii/S0376871617300236?showall%3Dtrue%26via%3Dihub

24 National Academies of Sciences, Engineering, and Medicine. "Public Health Consequences of ECigarettes." Washington, DC: The National Academies Press. January 23, 2018. https://doi.org/10.17226/24952

25 Rigotti, Nancy A. "The National Academies of Science, Engineering and Medicine Report on E-Cigarettes – Summary and Relevance to Clinicians." E-cigarette Summit. April 30, 2018. https://vimeo.com/268310971

26 Xu Y, Jiang L, Prakash S, Chen T. The impact of Banning electronic nicotine delivery systems on combustible cigarette sales: evidence from US state-level policies. Value Health. 2022;25:1352–9.

27 Liber AC, Cahn Z, Diaz MC, Donovan E, Vallone D, Schillo B. The EVALI outbreak and tobacco sales in the USA, 2014–2020: Tobacco Control; 2021. tobaccocontrol-2021-056807.

28 Buckell J, Marti J, Sindelar JL. Should flavours be banned in cigarettes and e-cigarettes? Evidence on adult smokers and recent quitters from a discrete choice experiment. Tob Control. 2018.

29 Gravely S, Smith DM, Liber AC, Cummings KM, East KA, Hammond D, et al. Responses to potential nicotine vaping product flavor restrictions among regular vapers using non-tobacco flavors: findings from the 2020 ITC smoking and vaping survey in Canada, England and the United States. Addict Behav. 2022;125:107152.

30 Posner H, Romm K, Henriksen L, Bernat D, Berg CJ. Reactions to sales restrictions on flavored vape products or all vape products among young adults in the US. Nicotine Tob Res. 2021.

31 Pacek LR, Rass O, Sweitzer MM, Oliver JA, McClernon FJ. Young adult dual combusted cigarette and e-cigarette users' anticipated responses to hypothetical e-cigarette market restrictions. Subst Use Misuse. 2019;54(12):2033–42.

32 Xu Y, Jiang L, Prakash S, Chen T. The impact of Banning electronic nicotine delivery systems on combustible cigarette sales: evidence from US state-level policies. Value Health. 2022;25:1352–9.

33 H. Saffer, D. Dench, M. Grossman, D. Dave. E-cigarettes and adult smoking: evidence from Minnesota J Risk Uncertain, 60 (3) (2020), pp. 207-228.

34 M.F. Pesko, C.J. Courtemanche, J. Catherine Maclean. The effects of traditional cigarette and e-cigarette tax rates on adult tobacco product use J Risk Uncertain, 60 (3) (2020), pp. 229-258.

35 D. Dave, D. Dench, M. Grossman, D.S. Kenkel, H. Saffer. Does e-cigarette advertising encourage adult smokers to quit? J Health Econ, 68 (2019), Article 102227.

36 A.S. Friedman. How does electronic cigarette access affect adolescent smoking? J Health Econ, 44 (2015), pp. 300-308.

37 M.F. Pesko, J.M. Currie. E-cigarette minimum legal sale age laws and traditional cigarette use among rural pregnant teenagers J Health Econ, 66 (2019), pp. 71-90.

38 Xu Y, Prakash S. The impact of JUUL market entry on cigarette sales: evidence of store level sales declines from Canada. JUUL Labs. https://www.juullabsscience.com/wp-content/uploads/sites/8/2020/09/AHC-The-Impact-of-Juul%C2%AE-Market-Entry-on-Cigarette-Sales-1.pdf. Accessed December 16, 2021.

Such trade-distorting restrictions must also weigh up the benefits of any decrease in legal ENDS use against the harm of individuals substituting illicit products that fund criminal enterprises and constitute a public health threat. For example, a 2019-20 uptake in lung injuries in the United States associated with vaping products was later found to be linked to illegal or home-manufactured devices loaded with cannabis derivatives rather than legal, regulated ENDS products.[39] Freitas-Lemos et al. (2021) note that "increasing demand for contraband or nonconforming vaping products as a result of a ban might increase the prevalence of harmful health effects. Illicitly produced tobacco products are not subject to accepted commercial manufacturing practices that can ensure some level of quality control, and thus may expose consumers to unknown health risks."[40] Recent research finds that smokers are more likely to be interested in buying illicit cigarettes after being notified about the potential imposition of nicotine content restrictions on legal cigarettes.[41] An experimental study observed the preferences of smokers and ENDS users finding that "limiting or banning vaping products from the marketplace or increasing the price of cigarettes may shift preference towards purchasing illegal vaping products."[42] This indicates that benefits from restricting these products must be weighed against the adverse consequences they may bring about in terms of product substitution in both the legal and illicit tobacco/ENDS markets. Individuals are thus less likely to attempt to use or obtain such products when legal, regulated, less harmful alternatives are relatively easier to procure. Thus, it is also important that ENDS products that are legally sold are subject to regulations, such as age restrictions on sale, which minimize any harms they could cause.

Current Bans/Restrictions on ENDS

The World Trade Organization (WTO)43 and the United Nations Conference on Trade and Development (UNCTAD)44 have created comprehensive databases for tracking non-tariff barriers for merchandise trade. The International Classification of Non-Tariff Measures[45] created a taxonomy of 16 measures each with several subcategories that are applied to products by national governments according to their Harmonized System (HS) code, a merchandise labeling system created by the World Customs Organization (WCO). HS codes are also used to track imports and exports of merchandise. ENDS products, being relatively new, have not had a specific HS code making it impossible to track trade volumes in publicly available databases or for UNCTAD and the WTO to track specific non-tariff measures (NTMs) applied to them. Fortunately, the WCO updates the HS system every five years and included two new codes in the 2022 edition: 854340 for

39 Taylor, Joanne, Terra Wiens, Jason Peterson, Stefan Saravia, Mark Lunda, Kaila Hanson, Matt Wogen et al. "Characteristics of e-cigarette, or vaping, products used by patients with associated lung injury and products seized by law enforcement—Minnesota, 2018 and 2019." *Morbidity and Mortality Weekly Report* 68, no. 47 (2019): 1096.

40 Freitas-Lemos, R., Stein, J. S., Tegge, A. N., Kaplan, B. A., Heckman, B. W., Cummings, K. M., & Bickel, W. K. (2021). The illegal experimental tobacco marketplace I: effects of Vaping product bans. *Nicotine and Tobacco Research*, *23*(10), 1744-1753.

41 Hall MG, Byron JM, Brewer NT, Noar SM, Ribisl KM. Interest in illicit purchase of cigarettes under a very low nicotine content product standard. *Nicotine Tob Res.* 2019;21(Suppl 1):S128–S132.

42 Freitas-Lemos, R., Stein, J. S., Tegge, A. N., Kaplan, B. A., Heckman, B. W., Cummings, K. M., & Bickel, W. K. (2021). The illegal experimental tobacco marketplace I: effects of Vaping product bans. *Nicotine and Tobacco Research*, *23*(10), 1744-1753.

43 http://i-tip.wto.org/goods/Default.aspx

44 https://trainsonline.unctad.org/detailedSearch

45 https://unctad.org/publication/international-classification-non-tariff-measures-2019-version

Electronic Nicotine Devices and 382490 for liquids; each code is able to be further expanded to 10 digits to catch even further variations of products. Until the UNCTAD and WTO non-tariff measure databases are updated to catch NTMs applied to these new codes, the authors have mapped the most severe barriers applied to ENDS products from news reports in the table below: Fully illegal (complete prohibitions on imports, sales, and use); Sale ban (where usage is illegal but sales are not); Usage legal with a prescription; and where ENDS are fully legal without restrictions besides labeling and other barriers that would apply to combustible cigarettes.

Restriction Type	Countries	# (Total = 69)
Fully illegal (use and sale ban)	Bangladesh (in process), Brazil*, Cambodia, Costa Rica, Iran, Laos, Lebanon, *Macau, Mauritius, Mexico, Myanmar, Nepal, Nicaragua, North Korea (Democratic People's Republic of Korea), Oman, Panama, Qatar, Saudi Arabia, Syria, Republic of China (Taiwan), Thailand	21
Sale ban (usage legal)	Antigua and Barbuda, Bhutan, Brunei, Chile**, Colombia, Ethiopia, Hong Kong, India, Jamaica**, Kuwait, Seychelles, Suriname, Turkey, Uganda, Uruguay, Venezuela	16
Usage legal with a prescription ONLY, sales illegal	Australia	1
Fully legal (usage and sale)	Argentina, Canada, Egypt, New Zealand, United Kingdom, Japan**[46], Spain, France, Italy, Germany****, Greece, Portugal, United States*****, Netherlands******, Croatia, Czech Republic, Belgium, Bulgaria, Sweden, Iceland, Norway***, China (People's Republic)******, the Philippines, Russia, Ukraine, Finland, Poland, Indonesia, South Africa*******, Denmark, Vietnam********, Pakistan	30

*- possession and sale are illegal

**- licensed medical ENDS products may be sold

***- These countries ban nicotine in ENDS products. However, heat-not-burn tobacco products, such as iQOS, are legally sold in Japan.

****- Vaping and smoking are banned in the state of Hessen.

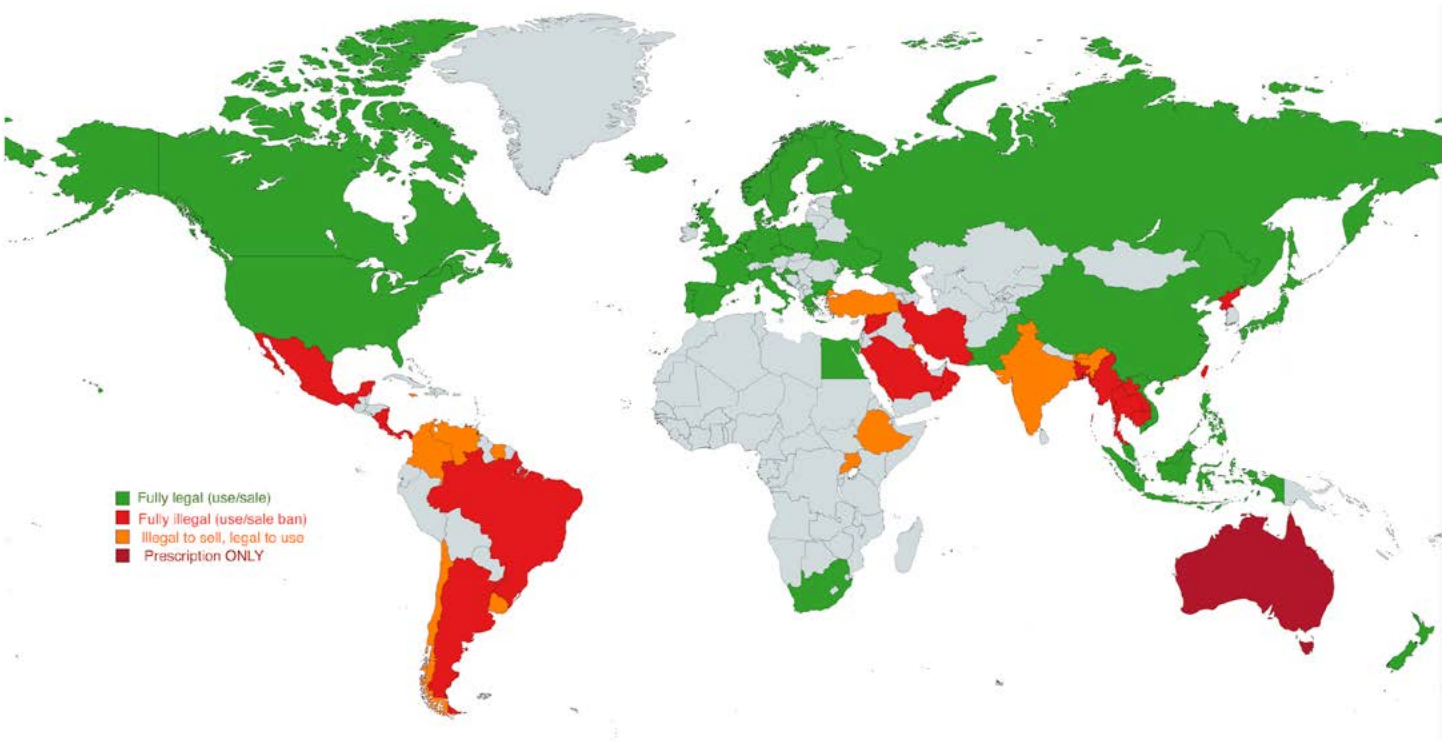
*****- Some states have banned flavored ENDS products besides tobacco flavor.

******- Flavored ENDS products are banned besides tobacco flavor.

*******- Country is contemplating a flavor ban for ENDS.

********- Only the government can legally import ENDS for sale.

Map of current bans/restrictions on ENDS



Map of current bans/restrictions on combustible tobacco cigarettes

(excl. restrictions on smoking in certain indoor areas/public places)

Comparison to non-tariff trade barriers on combustible tobacco cigarettes

Policies that ban the use and/or sale of ENDS/vapes are usually motivated by the precautionary principle of avoiding all possible risks in the product, regardless of whether these risks are scientifically established.46 They prioritize the goal of preventing non-smokers from using the products,[47] and are motivated by concerns about "renormalizing" nicotine use in public spaces.[48] However, in favoring such rationales, these policies are likely to cause a net increase in public health risks and harms by denying current combustible tobacco cigarette smokers access to a less harmful alternative, especially in countries where relatively more relaxed trade barriers are applied to combustible tobacco products.[49] [50] [51] Economists accept that increasing the cost and difficulty of accessing a product relative to the cost and ease of legal access to its close substitute inevitably results in a shifting of consumption towards the substitute product.[52] [53] In the case of legal and regulated ENDS/vapes, the substitute products in the event of a prohibition or ban would include both legal combustible tobacco cigarettes as well as illegal and unregulated ENDS products since both provide delivery of nicotine and imitate the action of smoking. Prohibiting ENDS/vapes in the name of public health is also unjust in that current addicted smokers are denied access to a less harmful product and forced to smoke cigarettes, whilst higher priority is given to hypothetical future smokers.[54] It is thus submitted that countries that ban ENDS/vape usage and/or sale should instead apply regulations and restrictions to these products that are equivalent to or lesser than those applied to combustible tobacco products.

Besides excise taxes on tobacco, a range of other non-tariff restrictions on trade are applied in the name of reducing public health damage from the product. It is submitted that the application of even stricter barriers and restrictions on ENDS/vape products cannot be justified from a public health or morality standpoint as the net result would be the favoring of the more harmful product relative to the less harmful one. Today ENDS products face the most restrictive non-tariff measures making them illegal to import and use in 21 countries, while virtually every country allows a legal pathway to purchase and use combustible cigarettes. In effect, more than 400 million consumers live in markets without access to ENDS devices as a quit aid or an alternative to more harmful cigarettes, serving as a driver to illicit trade and stagnant quit rates.

46 Farsalinos, K. E., & Le Houezec, J. (2015). Regulation in the face of uncertainty: the evidence on electronic nicotine delivery systems (e-cigarettes). *Risk management and healthcare policy*, 157-167.

47 Ibid.

48 Kaufman, N., & Mahoney, M. (2015). Ecigarettes: Policy options and legal issues amidst uncertainty. *The Journal of Law, Medicine & Ethics*, *43*(s1), 23-26.

49 Farsalinos, K. E., & Le Houezec, J. (2015). Regulation in the face of uncertainty: the evidence on electronic nicotine delivery systems (e-cigarettes). *Risk management and healthcare policy*, 157-167.

50 Hall, W., Gartner, C., & Forlini, C. (2015). Ethical issues raised by a ban on the sale of electronic nicotine devices**.** *Addiction, 110(7),* 1061-1067.

51 Campus, B., Fafard, P., Pierre, J. S., & Hoffman, S. J. (2021). Comparing the regulation and incentivization of e-cigarettes across 97 countries. *Social science & medicine*, *291*, 114187.

52 Fletcher, J. M., Frisvold, D., and Tefft, N. (2010a). Taxing soft drinks and restricting access to vending machines to curb child obesity. Health Affairs, 29, 1059–1066.

53 Fletcher, J. (2011). Soda taxes and substitution effects: will obesity be affected?. *Choices*, *26*(3).

54 Hall, W., Gartner, C., & Forlini, C. (2015). Ethical issues raised by a ban on the sale of electronic nicotine devices. *Addiction*, *110*(7), 1061-1067.

The chief measures applied to tobacco products in lieu of a ban include:

- Sanitary and Phytosanitary measures (SPS): These are measures that regulate the content, origin, labeling and concentration of ingredients and chemicals in tobacco products for the purpose of reducing toxic contaminants or additives that could enhance the negative health impacts. Examples include the ban of specific ingredients or products from specific geographic origins associated with lower sanitary standards, product inspections, ingredient or chemical concentration labeling requirements, limits on nicotine content or the concentration of specific chemicals etc. Sanitary measures may also include the requirement to apply for special licenses, permits, or authorizations in order to import specific products or categories of products based on the need for relatively more stringent or extensive SPS standards with respect to them.

- Technical Barriers to Trade (TBT): These include technical regulations and assessment procedures for guaranteeing compliance with the technical regulations, excepting those that fall under SPS measures. Examples include compliance requirements with specific processes or specific restrictions on certain processes in order to import and sell certain products, requirements that specify standards for labeling terminology, the placement of symbols or logos indicating relative health risk, packaging standards, and bans on certain production processes. TBTs can also include inspection and sampling procedures that the relevant authorities will undertake, accreditation requirements for importers and producers, etc.

- Pre-shipment inspections: These are requirements that must be met prior to the import and sale of the product. For instance, pre-shipment inspection rules may mandate that an inspection be conducted at specific customs facilities or by specific government agencies or third parties, that imported products don't pass through a third country or specific third country prior to arrival in the importing country from the country of origin, that specific types of inspections be carried out prior to importation, that inspections only be carried out by officers or agencies holding specific licenses or accreditations, etc.

- Non-automatic import licensing, quotas, prohibitions, quantity control measures and other non-TBT/SPS measures: These include measures that prohibit or restrict imports for reasons that fall outside those to which SPS and TBT pertain, such as, quotas on the import or importation amount of specific products or ingredients within said products, bans on products from specific suppliers or countries of origin, restrictions on licensing or the grant of licenses to import specific products, etc.

- Price controls, including additional taxes, fees and charges or surcharges: These include measures that control or modify the price of the imported products with respect to the price of domestically produced competitor products, price floors or ceilings, and non-tariff fees, taxes and charges that increase the final price of the imported product. Some examples are stamp duty or import license fees, customs inspection fees, etc. These are also known as para-tariff measures.

- Finance measures: These are measures that regulate the cost of and access to foreign exchange required to import specific products and requirements pertaining to the form or terms of payment for the products. The net effect is to raise the prices of the imported product, for instance, through requirements on the advance payment of customs duties or the making of specific monetary deposits prior to product importation or import licensure, or a mandate around using a specific currency exchange rate for specific imported products, etc.

- Competition-affecting measures: These are measures that give special preference or exclusive privilege to certain state or private economic actors to engage in the importation of specific products, thereby limiting competition in the import market for those products. Examples include when only the state agency or a state-owned corporation is allowed to import specific products or sell them once imported, limits on which entities or types of entities can be granted required licenses to import certain products, compulsory requirements for importers to use local distributors, locally-owned retailers, logistics companies, etc.

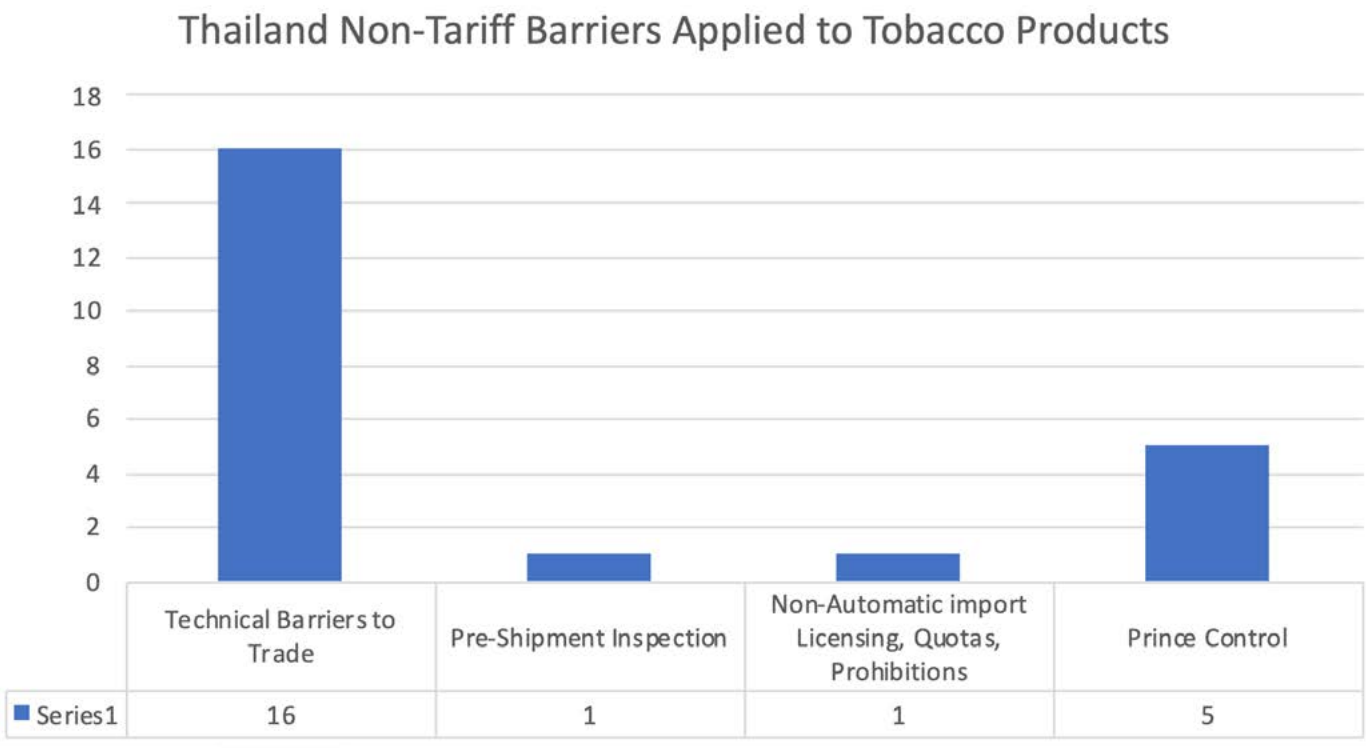
- Investment measures: Importers or sellers of specific products that include imported ingredients may be required to purchase a certain amount of the product's ingredients from local sources or to source specific ingredients entirely from local sources. Another trade-based investment measure includes the requirement to restrict import quantities based on levels of domestic production of the relevant product at the time.

- Distribution restrictions: These include restrictions or specifications pertaining to the distribution channels for certain imported products: for example, a prohibition on the sale of the product through unlicensed retailers or through general retail stores or vending machines rather than specialty stores such as pharmacies. They may also include limitations on the creation of domestic distribution channels by the importer.

- Intellectual property (IP) restrictions: These are restrictions on the use of intellectual property rights pertaining to the branding, marketing, production, importation, sale or resale of specific products. IP legislation encompasses trademarks, patents, copyrights, geographical indicators, industrial designs and trade secrets. Australia and Ireland's plain packaging requirements for tobacco products, which prohibit the use of copyrighted logos and branding, are an example of an IP restriction on tobacco products.

Case Study: Thailand

In Thailand, vape/ENDS sales are banned entirely. However, finished conventional tobacco products can be imported. These final products, including cigarettes, can be sold subject to 23 non-tariff barriers summarized in the table below according to the United Nations Conference on Trade and Development.



Although this may seem like a large number of individual restrictions, the majority of measures labeled as technical barriers to trade are labelling requirements, deadlines and fees associated with customs inspection procedures for imports, and import licensure requirements. For instance, Notification of Ministry of Public Health (No.12) B.E. 2543 prohibits certain words from appearing on packages such as "mild" or "medium" that might be seductive or misleading, while regulation (No.11) B.E. 2549 from the same ministry requires certain photos and warning labels to be printed on each carton.

Applying equivalent standards to vape/ENDS products alongside basic regulations governing nicotine content and other standard safety and sanitary measures would provide Thailand's 15.5 million smokers (constituting a whopping 22.1% of the Thai population)[55] [56] with a viable, legal, less harmful alternative to conventional cigarettes. It would also support a thriving local vape manufacture and retail industry that could constitute a source of economic growth and tax revenue for the Thai government. This may be similar to the

55 https://www.macrotrends.net/countries/THA/thailand/smoking-rate-statistics
56 https://www.worldometers.info/world-population/thailand-population/

thriving ENDS/vape industry in countries like the United Kingdom where the industry's positive economic impact stands at an estimated $3.57 billion USD,[57] as well as less harmful health outcomes for its population of ENDS users.

Conclusion

Tobacco smoking continues to represent a significant public health problem that causes millions of premature deaths in countries worldwide every year. Attempts to curtail smoking and ENDS/vape use among minors and non-smokers are well-intentioned goals for health policymakers and legislators. However, any purported success in these efforts must be weighed against the economic and public health detriments that ENDS/vape restrictions inflict on current adult smokers who are denied a proven, less harmful alternative means of nicotine delivery, a paradigm that forces many to remain smokers or to resort to illicit vaping products. The anti-public health nature of ENDS/vaping bans becomes clearer in light of the absence of evidence that vaping acts as a 'gateway' to smoking, combined with the relatively less restrictive approach that most nations that ban ENDS/vapes apply to the use and sale of more harmful conventional tobacco products. Nations that have legalized ENDS/vapes, or that have kept them legal and at least as accessible as tobacco cigarettes, have not seen increases in smoking prevalence among adults or minors. Instead, they have reaped significant economic benefits from a new and innovative industry while affording smokers an alternative that is proven to improve their health outcomes.[58] For these moral, economic and public health policy reasons, nations that seek to prioritize public health and tobacco control goals ought to legalize and regulate the use and sale of ENDS/vape products with restrictions reduced to at least the equivalent levels for tobacco cigarettes.

57 "As a whole turnover within the UK vape sector grew by 23.4% from 2017 to 2021, an increase of £251m, and stood at £1.325bn last year alone. When indirect economic benefits such as supply chain support and the spending power of vape sector workers is factored in the economic impact more than doubles to £2.8bn." See: UK Vaping Industry Association, "Economic impact assessment of the vaping industry A Cebr report for the United Kingdom Vaping Industry Association" September 2022 https://www.ukvia.co.uk/first-ever-report-into-vapings-impact-on-uk-economy-reveals-flourishing-multi-billion-pound-industry/#:~:text=As%20a%20whole%20turnover%20within,doubles%20to%20%C2%A32.8bn.

58 Research has shown that cigarette smokers who transition to ENDS devices for nicotine delivery witness a substantial decrease in tar build-up in their lungs, and that ENDS are at least 95% less harmful than tobacco cigarettes. See: footnotes 7, 8 and 13.

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