



Working Paper 2025.1.6.3

- Vol. 1, No. 6

ĐÁNH GIÁ TÁC ĐỘNG CỦA THUẾ SSB LÊN MỨC ĐỘ TIÊU THỤ NƯỚC GIẢI KHÁT Ở MỘT SỐ NƯỚC CHÂU ÂU

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Tóm tắt

Nghiên cứu được thực hiện nhằm đánh giá tác động của thuế đối với đồ uống có đường (SSB) đến mức tiêu thụ nước giải khát tại các quốc gia châu Âu. Nghiên cứu sử dụng mô hình hồi quy dữ liệu bảng và phân tích dữ liệu thu thập từ các nguồn thứ cấp, bao gồm 24 quốc gia trong giai đoạn 2016–2023. Kết quả cho thấy việc áp dụng thuế SSB có ảnh hưởng đáng kể đến mức tiêu thụ nước giải khát tại các quốc gia được quan sát. Hơn nữa, hiệu quả của thuế SSB có sự khác biệt tùy thuộc vào các yếu tố như GDP hoặc mức thu nhập, mức giá của đồ uống có đường, quy mô dân số và chính sách y tế hiện có của từng quốc gia. Cuối cùng, nghiên cứu đưa ra các khuyến nghị chính sách nhằm tối ưu hóa việc thiết kế và thực thi thuế SSB, góp phần thúc đẩy hành vi tiêu dùng lành mạnh hơn và giảm thiểu các vấn đề sức khỏe cộng đồng tại các quốc gia châu Âu.

Từ khoá: các quốc gia châu Âu, thuế SSB, nước ngọt, mức tiêu thụ

ASSESSING THE IMPACT OF SSB TAX ON CONSUMPTION OF SOFT DRINK AMONG EUROPEAN COUNTRIES

Abstract

The research is conducted to assess the impact of the sugar-sweetened beverage (SSB) tax on the consumption of soft drinks across European countries. The study employs a Panel Data Regression Model and analyzes the data collected from secondary sources spanning 24 countries from 2016 to 2023. The findings reveal that the implementation of SSB taxes significantly affected soft drink consumption in the observed countries. Furthermore, the effectiveness of the SSB tax is found to vary depending on factors such as GDP or income

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levels, the price level of sugary drinks, population and the existing health policies of individual countries. Finally, the study provides policy recommendations for optimizing the design and implementation of SSB taxes to promote healthier consumption behaviors and mitigate public health concerns in European countries.

Keywords: European countries, SSB taxes, soft drinks, consumption

1. Introduction

The rising prevalence of non-communicable diseases (NCDs) such as obesity, diabetes, and cardiovascular illnesses has emerged as a significant global public health concern. In 2021 following WHO (World Health Organization), at least 43 million people were killed by NCDs, equivalent to 75% of deaths worldwide not associated with pandemics. They impact individuals across all age groups, regions, and countries which are often linked to older populations, with approximately 18 million deaths from NCDs occurring in individuals under the age of 70. Among the primary contributors to this trend is the excessive consumption of sugar-sweetened beverages (SSBs). They are defined as liquids sweetened with various types of added sugars, including brown sugar, corn sweetener, corn syrup,... It is well-known that SSBs are not only high in added sugars but also low in nutritional value, offering little to no essential nutrients while contributing significantly to daily caloric intake.

In response to this uprising problem, a paper published by Hunt and his colleagues in Summer of 2019 proposed that SSBs, such as sugary drinks, should be viewed as a “sin” worthy of taxation and also offered recommendations regarding the ideal level of applied taxes. Numerous health organizations, including the World Health Organization (WHO), have also endorsed SSB taxes as a practical policy tool to reduce consumption and encourage healthier dietary habits. By 2022, WHO released its first tax guide for SSBs in which over 85 countries have adopted some form of SSB taxation. By increasing the price of SSBs, these taxes aim to discourage consumption and generate revenue that can be allocated toward public health initiatives. On a global scale, the adoption of SSB taxes has gained momentum, with countries employing diverse approaches. Tax designs vary widely, in which SSB excise tax encompassing specific taxes based on volume, ad valorem taxes based on price, or hybrid models combining these methods (Libby & Kate, 2023). Tax rates and bases are also tailored to the socio-economic and public health priorities of each country. For instance, the United Kingdom announced in March 2016 and implemented in April 2018 a two-tiered tax levied on soft drinks manufacturers: “Drinks with ≥ 8 g sugar/100 mL (high tier) are taxed at £0.24/L, drinks with ≥ 5 to < 8 g sugar/100 mL (low tier) are taxed at £0.18/L”. While several nations have reported positive outcomes from SSB taxation, including reduced consumption, and improved health outcomes (Anne & colleagues, 2022), the optimal tax structure remains a contentious issue. In Vietnam, the proposal to introduce an SSB tax is under active discussion, with the Ministry of Finance proposing a 10% excise tax on SSBs containing more than 5g of sugar per 100ml, as reported by VietNamNet. But it still raises debates among experts over the appropriate tax base and rate to address public health challenges effectively while considering the country’s unique socio-economic conditions & standards.

This paper, therefore, aims to assess the impact of SSB taxes on the consumption of soft drinks in 24 European countries from 2016 to 2023, where diverse taxation systems have been implemented. By analyzing this context, the paper seeks to derive insights and lessons applicable to Vietnam's ongoing efforts to design and implement an effective SSB tax policy. The remainder of the paper is organized as follows: Section 2 reviews the relevant empirical literature, Section 3 outlines the research methodology, Section 4 presents the findings and discussion, and Section 5 offers policy recommendations and concludes the study.

2. Literature review

Many empirical studies have examined the impact of sugar-sweetened beverages (SSB) taxes on the consumption of soft drinks. Roberto *et al.* (2019) analyzed the effects of a beverage tax in Philadelphia, United States, and found that in the first twelve months of tax implementation, sales of taxed beverages reduced by 51%. Similarly, Powell and Leider (2020) reported that in the first year of tax implemented in Seattle, Washington, the volume sold fell by 22% on average. In a European context, the World Health Organization and National Institute for Food and Nutrition Science (2015) presented that, since the tax came into effect in Hungary, the consumption of sugar-sweetened beverages and energy drinks declined by 20% and 28% respectively, between 2012 and 2014. Furthermore, Royo-Bordonada *et al.* (2019) found that in Barcelona, self-reported regular SSB consumption dropped by 39% in low-income neighborhoods within a year of the tax, highlighting the tax's role in adjusting consumer behavior.

Moreover, the implementation of SSB taxes increases the price of sugar-sweetened beverages, contributing to a rise in HICP, which in turn leads to a decrease in consumption. Zhong *et al.* (2021) found that such taxes are widely used as price levers to decrease the SSB consumed. Le Bodo *et al.* (2017) also reported a decline in consumption due to price increase from SSB taxation. In the systematic review of Andreyeva *et al.* (2022) about implemented SSB taxes worldwide, SSB were linked with higher prices and lower sales of taxed beverages.

Additionally, several studies have investigated the relationship between macroeconomic factors and soft drink consumption. Firstly, GDP per capita has been widely analyzed for its influence on consumption patterns, especially with beverage consumption. Philippa Nantamu (n.d) examined the relationship between GDP per capita and consumption of the beverage categories in more than 100 economies, concluding that an increase in GDP per capita in both developed and developing countries would increase the consumption of sugar sweetened beverage categories. Similarly, research by Adam (2003) and Nazir *et al.* (2021) suggests that individuals in higher-income regions tend to consume greater amounts of added sugars and fats compared to those in lower-income regions.

Thirdly, Mata *et al.* (2012), in a study on consumption and population, suggested a strong connection between these two factors. Specifically, based on Maslow's hierarchy of needs, food and beverages fulfill physiological needs—one of the fundamental categories that drive human behavior. This suggests that as the population increases, the total demand for food is expected to grow as well. Supporting this, Adrian Stancu (2014) projected that domestic food consumption will continue to increase in response to population growth. While Jane *et al.*

highlighted a decline in SSB consumption among certain demographic groups, their findings also indicate that overall consumption levels remain significantly high. Given that SSBs belong to the broader category of food and beverage consumption, their demand is inherently linked to the overall patterns. As food and beverages are essential to meeting basic human needs, any increase in food consumption is likely to encompass SSBs as well. Therefore, as the population grows and overall food consumption rises, the consumption of SSBs is also expected to increase.

In summary, previous studies provide robust evidence on the impact of SSB taxes on soft drink consumption, as well as the influence of macroeconomic factors such as GDP per capita, price indices, and population. However, there remains a gap in empirical research specifically assessing the combined effects of these variables on SSB consumption across European countries. This study aims to fill this gap by providing empirical evidence on the impact of SSB taxes on soft drink consumption in Europe, offering valuable insights for policymakers in designing effective public health and fiscal policies.

3. Theoretical Framework on SSB tax

The implementation of sugar-sweetened beverage (SSB) taxes can be theoretically justified by the classical principle of externality-correcting taxes, as introduced by Pigou (1920). Imposing an excise tax in such cases can help recover a portion of the costs associated with these externalities and incorporate them into the product's price. According to Pigouvian theory, internalizing externalities to address market inefficiencies requires setting the excise tax at a level equivalent to the cost of the negative externality. This correction mechanism aligns private incentives with social welfare by reducing consumption to an efficient level where marginal social costs equal marginal social benefits.

In the case of SSBs, negative externalities arise from increased risks of non-communicable diseases (NCDs), such as heart disease, diabetes, and certain cancers, which elevate morbidity and mortality rates (Unicef, 2022). Excessive consumption of sugar-sweetened beverages (SSBs) leads to both internalities—costs that individuals impose on their future selves, such as long-term health risks—and externalities, which include societal burdens like increased public healthcare expenses and reduced economic productivity (World Bank, 2020). These substantial costs are not accounted for in the market prices of SSBs, resulting in inefficient consumption levels. By introducing an SSB tax, it is possible to correct this market failure by discouraging excessive consumption and aligning it with the efficient level, where the marginal social benefit equals the marginal social cost. This adjustment enhances social welfare and supports a more balanced allocation of societal resources (Allcott *et al.*, 2019).

Moreover, empirical evidence supports the effectiveness of such policies. Research in European countries demonstrates that framing SSB taxes around their dual objectives—tackling public health challenges such as obesity and NCDs and addressing fiscal concerns like revenue generation—can increase public support (WHO, 2022). This aligns with the behavioral economics perspective that strategic communication highlighting the societal benefits of SSB taxation can foster acceptance. Therefore, SSB taxes represent a practical application of

Pigouvian theory in mitigating both fiscal and health-related externalities, offering a pathway to more equitable and efficient market outcomes.

4. Research design

4.1. Research Methodology

The research utilized panel data from 24 European Union countries spanning six years from 2016 to 2023. The initial analysis used 3 methods to examine the relationship between the independent and dependent variables, including POLS, FEM and REM. Then, the model was subjected to a series of diagnostic tests to identify potential issues. These tests detect multicollinearity using the variance inflation factor (VIF), heteroskedasticity using the Breusch-Pagan test, and autocorrelation using the Wooldridge test. Subsequently, FGLS is used to remedy heteroskedasticity and autocorrelation.

4.2. Research Model

Based on the literature review and theoretical framework, this study develops the following model to examine the impact of the SBB tax on soft drink consumption among European countries:

$$\ln Cons = \beta_0 + \beta_1 \ln SSB + \beta_2 \ln GDPpc + \beta_3 \ln HICP + \beta_4 \ln Pop + \varepsilon_{it}$$

In which:

β_0 : the intercept of the regression model.

$\beta_1 - \beta_4$: the variables' regression coefficients.

lnCons (Dependent variable): Natural logarithm of soft drink consumption in million liters

lnSSB: Natural logarithm of the tax rate on sugar-sweetened beverages.

lnGDPpc: Natural logarithm of the gross domestic product per capita.

lnHICP: Natural logarithm of the harmonized indices of consumer prices.

lnPop: Natural logarithm of the population.

ε_{it} : The error term for country i in year t . This accounts for any omitted variables or factors that influence the dependent

4.3. Data source

This study used secondary data sourced from World Bank, Eurostat, UNESDA, and WHO. The analysis focused on a single dependent variable: soft drink consumption. Four independent variables were included in the model: the natural logarithm of Sugar-Sweetened Beverages (SSB) taxes, the natural logarithm of Gross Domestic Product (GDP) per capita, the

natural logarithm of the Harmonized Index of Consumer Prices (HICP), and the natural logarithm of population. A table summarizing the variables is presented below.

Variables	Meaning	Unit	Expected Sign	Source
lnCons	Natural logarithm of soft drink consumption	Million liters		UNESDA
lnSSB	Natural logarithm of SSB tax rate	€/L	-	WHO
lnGDPpc	Natural logarithm of gross domestic product per capita	USD	+	World Bank
lnHICP	Natural logarithm of harmonized indices of consumer prices		-	Eurostat
lnPop	Natural logarithm of population	People	+	Eurostat

5. Result

5.1. Descriptive statistics of data

This study utilizes data on soft drink consumption over six years from 2016 to 2023 across 24 European countries, resulting in a total of 144 observations. Complete data for both the

dependent and independent variables were obtained. A statistical overview of the data is presented in the table below.

Table 1. Descriptive statistics results

Variables	Obs	Mean	Std. Dev.	Min	Max
SSB	192	0.029518	0.067383	0.000000	0.320000
lnGDPpc	192	10.295624	0.558493	8.932067	11.573030
lnHICP	192	4.718205	0.129833	4.527209	5.284320
lnPop	192	16.036924	1.243348	13.016191	18.250590
lnCons	192	6.744212	1.260962	4.089332	9.357924

Source: Authors' calculation

To preliminarily test the relationship between the variables, a correlation matrix was created. The correlation coefficient varies from -1, signifying a perfect negative correlation, to +1, indicating a perfect positive correlation; a value of 0 suggests no linear correlation.

Table 2. Variables correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)
(1) SSB	1.0000				
(2) lnGDPpc	0.371***	1.000			
(3) lnHICP	-0.133*	-0.074*	1.000		
(4) lnPop	0.005	0.106	-0.036	1.000	
(5) lnCons	-0.050	0.134*	0.023	0.967***	1.000

*** $p < 0.001$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' calculation

5.2. Estimated result

Based on the regression model established above, the authors performed a regression analysis, with the results presented in Table below.

Table 3. POLS results

lnCons	Coef	Std. Dev.	t	P > t 	95% Conf. Interval	
SSB	-1.3178***	0.149	-3.72	0.000	-0.588	-0.000
lnGDPpc	0.1394***	0.050	3.27	0.001	0.018	0.214
lnHICP	0.5092***	0.199	2.98	0.003	0.259	1.044
lnPop	0.9759***	0.021	54.82	0.000	0.936	1.018
const	-12.7064***	1.192	-13.19	0.000	-15.557	10.842
Breusch Pagan test for heteroskedasticity				Prob > chi2	0.6957	
Wooldridge test for autocorrelation				Prob > F	0.0000	

Significance: *** $p < 0.001$, ** $p < 0.05$, * $p < 0.1$

In the POLS model, all variables were statistically significant at the 1% level and had the correct signs as expected. Model evaluation showed that the model did not have heteroskedasticity but did have autocorrelation. The team continued to test for multicollinearity of the independent variables and did not detect this error.

Variables	VIF	1/VIF
SSB	1.18	0.849644
lnGDPpc	1.18	0.850811
lnHICP	1.02	0.980644
lnPop	1.01	0.986261
Mean VIF	1.10	

The authors continued processing the data with Fixed Effects Model (FEM), and the results showed that FEM is more suitable than POLS. The group then performed Random Effects Model (REM) regression and conducted the Hausman test, which subsequently indicated that REM is more appropriate than FEM (Prob>chi2 = 0.0834).

The Breusch-Pagan and Wooldridge tests revealed that the REM model had both heteroscedasticity and autocorrelation errors. The authors proceeded to remedy these using Generalized Least Squares (GLS). The results of the four models are shown in the table below.

	(1 - OLS)	(2 - FEM)	(3 - REM)	(4 - GLS)
	lnCons	lnCons	lnCons	lnCons
<hr/>				

SSB	-1.318*** [-3.72]	0.133 [0.94]	0.0652 [0.45]	-0.259* [-1.96]
lnGDPpc	0.139*** [3.27]	0.192*** [3.69]	0.171*** [3.52]	0.104*** [3.44]
lnHICP	0.509*** [2.98]	0.116** [2.15]	0.132** [2.53]	0.196*** [3.24]
lnPop	0.976*** [54.82]	0.409** [2.01]	0.943*** [19.45]	1.015*** [48.99]
_cons	-12.71*** [-13.19]	-2.346 [-0.71]	-10.76*** [-12.81]	-11.51*** [-22.59]
N	192	192	192	192
R-sq	0.943	0.380		

t statistics in brackets
*p<0.1, ** p<0.05, ***p<0.01

Source: Authors' calculation

The results of model (4) show that the variable SSB has a negative correlation with the dependent variable, consistent with the findings of Roberto *et al.* (2019), Powell and Laidler (2020),... The coefficient is statistically significant at the 1% level in the POLS model but only at the 10% level in the GLS model.

The variables lnGDPpc and lnPop have a positive correlation with soft drink consumption, with coefficients statistically significant at the 1% level. These findings are also consistent with studies of prescribed studies.

lnHICP also has significance in the model, but with the sign contrast to expected. Trying to dig deeper into these discrepancies, the authors have conducted the same methodology but changed the model, replacing HICP by CPI code 01 (food and non-alcoholic beverages). The data is retrieved from Eurostat. Results are as following:

	(1 - OLS) lnCons	(2 - FEM) lnCons	(3 - REM) lnCons	(4 - GLS) lnCons
SSB	-1.308*** [-3.69]	0.131 [0.93]	0.0621 [0.43]	-0.270** [-2.07]
lnGDPpc	0.140*** [3.29]	0.183*** [3.45]	0.163*** [3.32]	0.101*** [3.36]
lnCPI	0.523*** [3.05]	0.128** [2.30]	0.142*** [2.67]	0.200*** [3.29]
lnPop	0.976*** [54.88]	0.405** [1.99]	0.943*** [19.38]	1.014*** [49.27]

_cons	-12.78*** [-13.20]	-2.237 [-0.68]	-10.73*** [-12.73]	-11.48*** [-22.70]
N	192	192	192	192
R-sq	0.943	0.383		

t statistics in brackets
*p<0.1, ** p<0.05, ***p<0.01

Hausman test: Prob>chi2 = 0.0878

Notably, in the finalized model, the significance of variable SSB is improved, with the p-value of 0.038.

6. Discussion

The findings confirm that the implementation of SSB taxes has a statistically significant negative correlation with soft drink consumption, which means its application can lower consumption, giving additional empirical evidence. The correlation has aligned with the initial intention of the government when applying it. However, the significance level varies across models—while the impact is significant at the 1% level in the OLS model, it is only significant at the 10% level in the GLS model. This suggests that while the SSB tax plays a role in reducing consumption, its effect may be subject to country-specific factors.

The diminishing level of significance may originate from data defects, given that the observations span only 8 years. During this period, three countries started implementing SSB taxes (Ireland in 2018, Latvia in 2020, and Portugal in 2017), while other countries had already implemented such taxes before 2016—the first year of the dataset. If the data extended further into the past, allowing for the observation of changes in the dependent variable following the introduction of SSB laws, the correlation between the variable SSB and the dependent variable would likely be more evident.

The positive correlation between GDP per capita (lnGDPpc) and soft drink consumption aligns with prior studies, suggesting that as income levels increase, so does the demand for soft drinks. As higher disposable income may allow consumers to absorb the price increase from taxation without significantly altering their consumption habits.

Similarly, the variable lnPop, which represents population size, shows a strong positive correlation with soft drink consumption. This is expected, as a larger population naturally leads to higher aggregate consumption.

The results on the impact of lnHICP (and also CPI) went against expectations. Although it was anticipated that rising overall price levels would reduce soft drink consumption, the coefficient in the GLS model does not align with this expectation. The authors suggest that the impact of inflation of this industry in European countries has been offset by other factors. These discrepancies can be addressed by changing the independent variable from Country's total annual consumption to Consumption per capita.

7. Conclusion and Implications

7.1 Conclusion

In summary, the model reveals that SSB taxes have a statistically significant negative correlation with soft drink consumption, confirming their role in reducing consumption. However, the effectiveness of the tax varies across models and is influenced by country-specific factors such as income levels and existing health policies. Additionally, GDP per capita and population size are positively correlated with soft drink consumption, while the impact of inflation deviates from expectations, suggesting the influence of broader economic conditions. These findings provide valuable insights into the effectiveness of SSB taxes and highlight the need for tailored policy approaches to maximize public health benefits.

7.2 Implications for SSB taxes in European countries

7.2.1 Strengthening and Expanding SSB Taxes

The negative correlation between SSB taxes and soft drink consumption confirms their effectiveness in reducing intake, aligning with public health objectives to combat obesity, diabetes, and other diet-related diseases. Given this impact, governments should consider maintaining or expanding SSB taxation, particularly in countries with high soft drink consumption.

However, the varying significance levels across models suggest that the tax's effectiveness is influenced by country-specific factors, including legislative, fiscal, economic, and health contexts. While most countries impose the tax at the industry level, differences in tax structure may affect outcomes. Therefore, policymakers should tailor SSB tax policies to local conditions and regularly monitor their impact to ensure effectiveness. Possible adjustments include:

- Expanding tax coverage to include all sugar-sweetened beverages.
- Increasing tax rates to enhance the deterrent effect.
- Adopting tiered taxation based on sugar content, as seen in Portugal (e.g., €8.22/hl for <80 g sugar/l; €16.46/hl for ≥80 g sugar/l), Ireland (16.26€/hl for 5–8 g sugar/100 ml 24.39€/hl for >8 g sugar/100 ml) to encourage industry reformulation.

7.2.2 Enhancing Public Support and Addressing Industry Opposition

Given the role of NGOs and academic institutions in shaping public discourse on SSB taxation (WHO, 2022), governments should actively engage with these stakeholders to strengthen public support for SSB taxation and counter industry opposition. Public awareness campaigns, backed by scientific evidence, can help build societal acceptance and prevent misinformation. Moreover, international organizations and researchers serve as crucial sources of data on SSB taxation effectiveness (Thow *et al.*, 2022). Policymakers should leverage this evidence to strengthen policy design, communicate anticipated outcomes, and enhance

credibility. Collaborating with global health institutions can further aid in addressing legal challenges from industry actors, ensuring long-term policy sustainability.

7.2.3 Business Strategy Adjustments

For the soft drink industry, SSB taxes create strong incentives for reformulation. As many countries apply tiered taxes based on sugar content, manufacturers may consider reducing sugar levels to avoid higher tax rates while meeting the growing consumer demand for healthier options. To mitigate the impact of declining sales in traditional soft drinks, companies can diversify product portfolios by introducing low-sugar or sugar-free beverages or adjust pricing strategies to absorb tax costs without significantly reducing demand, particularly in high-income markets where consumers are less price-sensitive. By adapting to these fiscal and market dynamics, businesses can align with evolving consumer preferences while minimizing the financial impact of taxation.

7.2.4 Managing Consumption Trends

The positive correlation between GDP per capita and soft drink consumption suggests that as incomes rise, demand for sugary beverages also increases. Similarly, population size is strongly associated with higher aggregate soft drink consumption. This presents a significant challenge for policymakers, particularly in developing economies, where rising incomes and population growth may accelerate consumption.

To mitigate this risk, governments should complement taxation with targeted public awareness campaigns and subsidies for healthier alternatives to encourage healthier consumption patterns. A successful example is the GULP (Give Up Loving Pop) campaign in the UK, initiated by Food Active in 2015. This initiative raised awareness of the health risks associated with excessive sugar intake through school-based programs and community engagement, reinforcing the impact of the UK's Soft Drinks Industry Levy (SDIL). Additionally, research has shown that education and behavioral interventions significantly enhance the effectiveness of fiscal policies. For instance, a study by Colombo, L., and Galmarini, U. (2022) on tobacco taxes found that a combination of taxation and public health campaigns resulted in a more pronounced reduction in tobacco consumption than taxation alone. Therefore, integrating SSB taxes with public health initiatives can maximize effectiveness, ensuring that both low- and high-income consumers reduce soft drink intake while having access to healthier alternatives.

7.3. Implications for Vietnam

Taxing sugary beverages has become a common global strategy, with many countries reporting positive outcomes. By July 2022, at least 108 nations had imposed excise taxes on SSBs, with 105 specifically targeting carbonated drinks—the most widely consumed type (WHO, 2023). Given this trend, evaluating international tax policies and their applicability to Vietnam is crucial for developing an effective public health strategy.

The Vietnamese government has proposed introducing a 10% excise tax on soft drinks that contain more than 5g of sugar per 100ml, in line with national standards. Proponents of the

tax argue that higher prices will discourage excessive sugar consumption, leading to healthier dietary habits. However, critics caution that consumers may shift to unregulated alternatives with potential food safety risks, potentially undermining the policy's intended benefits. Moreover, some experts question whether taxation alone can significantly improve public health, as sugary beverages are just one of many contributors to obesity and related health issues (Lao Dong, 2024). Despite these concerns, Associate Professor Dr. Truong Tuyet Mai, Deputy Director of the National Institute of Nutrition (Ministry of Health), stresses that public health initiatives require a long-term vision and taxing sugary drinks represents an important first step toward broader taxation on products that pose health risks. This aligns with global efforts to use fiscal policies as a means to encourage healthier consumption patterns (Quoc Hoi, 2024).

Vietnam, as a developing country, faces additional challenges in promoting consumer awareness regarding the health risks of excessive sugar intake. In this context, taxation, combined with public education campaigns, can be an effective tool for behavioral change. Increasing the price of sugary beverages through taxation may serve as both a deterrent to overconsumption and an incentive for manufacturers to reformulate products with lower sugar content (Quoc Hoi, 2024).

However, international experiences highlight that the success of such policies is not guaranteed. Countries like Denmark and Norway have encountered significant challenges in implementing excise taxes on sugary beverages (Sai Gon, 2024). To maximize the potential benefits while minimizing unintended consequences, Vietnam must adopt a carefully planned approach, ensuring a gradual implementation that allows businesses and consumers to adapt while maintaining a balance between public health objectives and domestic industry sustainability.

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APPENDIX A. LIST OF SAMPLE COUNTRIES

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|-------------------|-----------------|--------------|
| 1. Belgium | 9. Spain | 17. Austria |
| 2. Bulgaria | 10. France | 18. Poland |
| 3. Czech Republic | 11. Croatia | 19. Portugal |
| 4. Denmark | 12. Italy | 20. Romania |
| 5. Germany | 13. Latvia | 21. Slovenia |
| 6. Estonia | 14. Hungary | 22. Slovakia |
| 7. Ireland | 15. Malta | 23. Finland |
| 8. Greece | 16. Netherlands | 24. Sweden |
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