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ĐÁNH GIÁ TÁC ĐỘNG CỦA THUẾ TIÊU THỤ ĐẶC BIỆT LÊN TIÊU DÙNG BIA Ở VIỆT NAM VÀ ĐỀ XUẤT CHÍNH SÁCH GIAI ĐOẠN 2026 – 2030

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Tóm tắt

Mức thuế tiêu thụ đặc biệt tại Việt Nam đối với bia rượu, đặc biệt là với mặt hàng bia đang được cân nhắc sửa đổi tăng lên mức mới trong tương lai. Mục đích là để giảm lượng tiêu thụ bia, một trong những nguyên nhân dẫn tới tỷ lệ mắc ung thư gan cao tại Việt Nam. Bài nghiên cứu đã sử dụng phương pháp Bình phương tối thiểu (OLS) để đánh giá sự hiệu quả của thuế tiêu thụ đặc biệt đến mức tiêu thụ bia tại Việt Nam trong giai đoạn từ 2006 đến 2023. Kết quả nghiên cứu cho thấy mức thuế tiêu thụ đặc biệt hiện tại ít có tác động hiệu quả đến việc giảm lượng tiêu thụ bia tại Việt Nam. Kết quả hồi quy tuyến tính đã đưa ra lời giải thích phù hợp cho điều này: Việt Nam có nền văn hóa sử dụng bia lâu đời và khó bỏ, và sức mua tương đương của người tiêu dùng Việt Nam tăng cũng làm tăng nhu cầu tiêu thụ bia, giúp người dân chi trả cho đồ uống này dễ dàng mặc dù thuế tiêu thụ đặc biệt tăng làm giá bán tăng. Từ kết quả nghiên cứu, một số thảo luận, khuyến nghị đã được đưa ra để hỗ trợ quá trình sửa đổi mức thuế tiêu thụ đặc biệt cho phù hợp cùng các biện pháp phi thuế khác nhằm đạt hiệu quả cao hơn trong việc giảm lượng tiêu thụ bia tại Việt Nam và bảo vệ sức khỏe của người Việt.

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ASSESSING THE IMPACT OF EXCISE TAX ON BEER CONSUMPTION IN VIETNAM AND POLICY RECOMMENDATIONS FOR THE PERIOD 2026 – 2030

Abstract

The excise tax rate on alcoholic drinks in Vietnam, particularly for beer, is being considered for an increase in the future. The objective is to reduce beer consumption, which is one of the leading causes of the high liver cancer rate in Vietnam. This study applied the Ordinary Least Squares (OLS) regression method to assess the effectiveness of the special consumption tax on beer consumption in Vietnam from 2006 to 2023. The research results indicate that the excise tax rate has had little effect in reducing beer consumption in Vietnam. The linear regression results provided some possible explanations for this: Vietnam has a long-standing and deep-rooted beer drinking culture, and Vietnamese consumers' growing purchasing power parity makes it easier for people to afford beer despite a higher excise tax that increases retail prices. Based on these findings, several discussions and policy recommendations have been proposed to provide insights for the adjustment of the excise tax rate along with non-tax measures to better achieve the goal of reducing beer consumption in Vietnam while protecting public health.

Keywords: excise tax, beer consumption, impact analysis, policy recommendations, Vietnam

1. Introduction

Beer consumption in Vietnam has witnessed a significant rise over the past two decades, positioning the country as the third-largest beer consumer in Asia and among the top 10 globally. As one of the fastest-growing beer-consuming countries in the world, Vietnam also ranks among the top nations with the highest liver cancer rates. According to (World Cancer Research Fund, 2022), Vietnam ranked 7th globally in terms of new liver cancer cases in 2022, with 24,502 new cases recorded that year alone. The average standardized age (ASG) for liver cancer in Vietnam in 2022 was approximately 20.2 years old. Due to these alarming figures, the Vietnamese government has frequently adjusted excise tax rates on beer as part of its fiscal and public health policies. Excise taxes serve as a key regulatory tool, influencing not only government revenue but also consumer behavior and industry dynamics. However, the extent to which these tax adjustments have impacted beer consumption remains a critical area of investigation.

This study uses a quantitative method to analyze the impact of excise tax on beer consumption in Vietnam from 2006 to 2023, utilizing a time-series dataset spanning 18 years. By applying the Ordinary Least Squares (OLS) regression model, the research examines the relationship between excise tax rates and beer consumption, while controlling for other economic factors. The findings will provide insights into how tax policy influences consumer demand and whether tax increases have effectively curbed beer consumption in Vietnam. Based on the findings, our study will also provide some recommendations for the excise tax structure based on the results that we find out.

The study shall seek to address the two following research questions:

- 1) Does excise tax actually reduce beer consumption in Vietnam?
- 2) To what extent should the government raise the excise tax on beer for the period 2026-2030 in order to effectively control excessive beer consumption?

Our study is structured into five main parts. The first two parts present the Theoretical Framework and Literature Review, providing the foundation for understanding the relationship between excise tax and beer consumption. The next part outlines the Methodology, detailing the data sources, model specifications, and econometric techniques employed for the analysis. Part 4 focuses on the Empirical Results, interpreting the regression outcomes and their implications. The paper concludes with a discussion and policy recommendations, highlighting practical insights and suggesting measures to effectively control beer consumption in Vietnam.

2. Theoretical Framework

2.1. Excise tax

According to (Tax Foundation, 2023), excise tax is an indirect selective consumption tax applied to targeted products or activities, typically on goods considered socially undesirable, such as alcohol, tobacco, or harmful substances. This tax is added on top of broad-based taxes like value-added tax (VAT) or sales taxes with the aim to generate government revenue while encouraging less harmful consumption and production. Excise tax can be applied per unit (absolute or specific taxes) or as a percentage of the price (ad-valorem or relative taxes), and can be levied at various stages, including production, wholesale, or sale to consumers.

In Vietnam, excise tax is applied on 11 types of goods and 6 types of services. Currently, there is no Special Excise Tax Law for 2024, so the excise tax rates for goods and services in 2024 must still be implemented according to the provisions of the Special Excise Tax Law 2008 (as amended and supplemented by Law No. 70/2014/QH13, Law No. 71/2014/QH13, Law No. 106/2016/QH13, and Law No. 03/2022/QH15). According to the Special Excise Tax Law 2008, the excise tax rate for beer now is 65%.

However, the Excise Tax is set to be revised according to National Resolution 25/CQ-CP. The Government has generally agreed on the new content regarding the hybrid tax calculation method for alcoholic beverages, ensuring alignment with the Prime Minister's Tax System Reform Strategy until 2030 and Vietnam's commitments upon joining the WTO. Specifically, the draft Law on Special Consumption Tax (expected to be submitted to the National Assembly for discussion in the October 2024 session and passed in the May 2025 session) proposes a continuous increase in the excise tax rate on alcoholic beverages from 2026, reaching up to 100% by 2030. The draft law (Hân, 2024) suggests two excise tax options for beer:

Table 1. Proposed Special Consumption Tax Law for beer from 2026 to 2030

Year	Option 1	Option 2
2026	70%	80%
2027	75%	85%
2028	80%	90%
2029	85%	95%
2030	90%	100%

Source: Hân, 2024

The first option could potentially limit beer consumption, helping to control risk factors for diseases caused by beer. This option would also help increase state budget revenue if the beer industry's revenue remains unchanged. However, adjusting the excise tax on beer will impact the business and production activities of enterprises in the alcohol and beer industry due to reduced consumption. According to this plan, the selling price of alcohol and beer in 2026 will increase by 10% compared to 2025, and in the following years, the price will rise by 2-3% annually compared to the previous year. This is to ensure that product prices increase in line with inflation and rising incomes in the coming years (Ministry of Finance, 2024).

However, the government leans more towards the second option, as in addition to having similar benefits as option 1, this option brings more revenue to the state budget. According to the second option, the selling price in 2026 will increase by approximately 20% compared to 2025, and in the following years, the price will continue to rise by 2-3% annually to ensure that product prices increase in line with inflation and rising incomes. With the second option, the affordability of alcoholic beverages, particularly beer and spirits, will be reduced more significantly. This will have a stronger impact on lowering alcohol consumption rates and mitigating the harmful effects associated with alcohol abuse (Ministry of Finance, 2024).

2.2. Beer industry in Vietnam

According to a report by (Vietdata, 2023), as of 2022, Vietnam's beer consumption reached 3.8 million liters per year, accounting for 2.2% of the global market. With this result, Vietnam has become the leading country in the ASEAN region and the third-largest beer consumer in Asia, after China and Japan. According to a WHO report, in 2016, beer accounted for 91% of recorded alcohol per capita consumption. The market concentration in Vietnam is very high, dominated by four major brands: Sabeco, Habeco, Heineken, and Carlsberg. Heineken Vietnam owns the Vung Tau brewery—the largest in Southeast Asia—

producing 1.1 billion liters per year, while Sabeco operates 26 breweries with a capacity of 2.2 billion liters, exporting to 30 countries (WHO, 2018). The alcohol and beer industry is also one of the major contributors to the state budget. According to (Vũ Khuê, 2024), the industry's contribution to the state budget is approximately 60 trillion VND per year, with special consumption tax alone accounting for over 40 trillion VND per year. Among this, the beer industry contributes up to 75%.

According to data from (Euromonitor, 2023), the sales volume growth of beer in Vietnam was 19.2% in total in the period from 2017 to 2022. The sales volume of Vietnam's beer industry peaked in 2019 at approximately 4,900 million liters. In the following two years, it experienced a decline to over 4,300 million liters in 2023. This decline may be attributed to the impact of COVID-19 and increasingly stringent government regulations on alcohol consumption while driving (KPMG, 2023). Additionally, another reason for this decrease is the rising cost of raw materials (malt, rice, aluminum cans), which have increased by 20-40%, leading to higher production costs. As a result, sellers have had to raise prices, and consumers have borne the burden of these cost increases. In the near future, the beer industry's sales volume is expected to continue declining due to the aforementioned reasons, and the government is also revising policies to increase the special consumption tax on this product in the following years, from 2025 onwards.



Figure 1. Total Beer Sales Volume, 2006 – 2023.

Source: Author's compilation from (Euromonitor, 2023) and (KPMG, 2024).

However, in Vietnam, the situation regarding smuggling, counterfeit, and unregulated alcohol and beer remains complicated, especially with homemade craft liquor that is currently outside government control. According to the 2018 WHO Report, between 2015 and 2017, Vietnam's per capita alcohol consumption was 8.3 liters of pure alcohol per year. Of this, recorded consumption was 3.1 liters per capita per year, while unrecorded consumption—mainly from illicit and homemade alcohol—was 5.3 liters per year, making up a staggering 63.85% of total alcohol consumption.

Reason for application of Excise tax on beer and alcoholic beverages in Vietnam:

Excessive alcohol consumption can lead to many serious diseases, particularly liver cancer. In Vietnam, according to (WHO, 2025), liver cancer is among the top four deadliest diseases for Vietnamese men. The statistics show that for every 100,000 men, 37 develop liver cancer due to alcohol consumption. In response to this situation, therefore, the government has enacted several laws and regulations, including raising the special consumption tax on alcoholic beverages to reduce alcohol consumption and ultimately protect public health.

Raising excise taxes was also a policy proposed by The World Health Organization (WHO). Currently, taxes in Vietnam only make up about 30% of the retail price, which is much lower than in many other countries, and below the recommended level of 40% to 85% by WHO. Increasing the tax will bring Vietnam closer to this level (Hân, 2024).

In addition to taxation, the government also introduced many alcohol control policies and regulations, in recognition of excessive alcohol consumption or trades in unrecorded alcoholic drinks. The effective implementation of these measures have significantly contributed to curbing excessive alcoholic drink consumption in Vietnam (Tuyết, 2020). The key regulations could be outlined in the following table:

Table 2. Major regulatory frameworks and enforcements controlling beer consumption in Vietnam.

No.	Year	Regulatory Measures	Description	Reference
1	2014	Decision 244/QĐ-TTg approving the National Policy on Prevention and Control of Alcohol Abuse until 2020.	Aimed to reduce alcohol abuse through public awareness, stricter enforcement, and education campaigns.	(thuvienphapluat, 2014b)
2	2019	Law 44/2019/QH14 on Prevention and Control of Harmful Effects of Alcoholic Beverages	Enforced strict bans on sales to minors, alcohol advertising, and consumption in certain public areas. Effectively raised public awareness about alcohol-related harms, leading to a reduction in consumption and a noticeable decline in alcohol-related traffic accidents.	(LuatVietnam, 2019), (Vietnamplus, 2020)
3	2020	Decree 100/2019/NĐ-CP on administrative penalties in road traffic and railway transport.	Imposed heavier penalties for driving under intoxication, significantly reducing alcohol consumption among drivers.	(thuvienphapluat, 2019) (Tuyết, 2020)

			Significantly reduced drinking, intoxicated driving and enhanced compliance with traffic laws.	(KPMG, 2024),
4	2023 - present	Strengthening implementation of Decree 100/2019/ND-CP	Strict and widespread fines of intoxicated driving to reduce traffic accidents. Significantly reduced beer consumption.	(Dung, 2024), (KPMG, 2024)

Source: Author's compilation

2.3. Application of Excise tax on beer and alcoholic beverages in Vietnam

Previously, before January 2010, the Excise tax on beer was differentiated based on the type of beer, such as bottled beer, canned beer and draft beer. However, as Vietnam was seeking to join WTO, it is mandated that the country “*apply a single ad-valorem rate to all beer products*” within three years of joining WTO. In 2008, in compliance with this requirement, the Law on Excise Tax No. 27/2008/QH12 introduced a unified tax rate for all types of beer, set at 45% from 2010, to 2012, and increased to 50% from 2013. Subsequently, the excise tax on beer was further increased to 55% in 2016, 60% in 2017, and finally 65% from 2018 until now. In the future, for beer products, the National Assembly has proposed a plan to gradually increase the excise tax rate from the current 65% to 90-100% by 2030 (Giang, 2024).

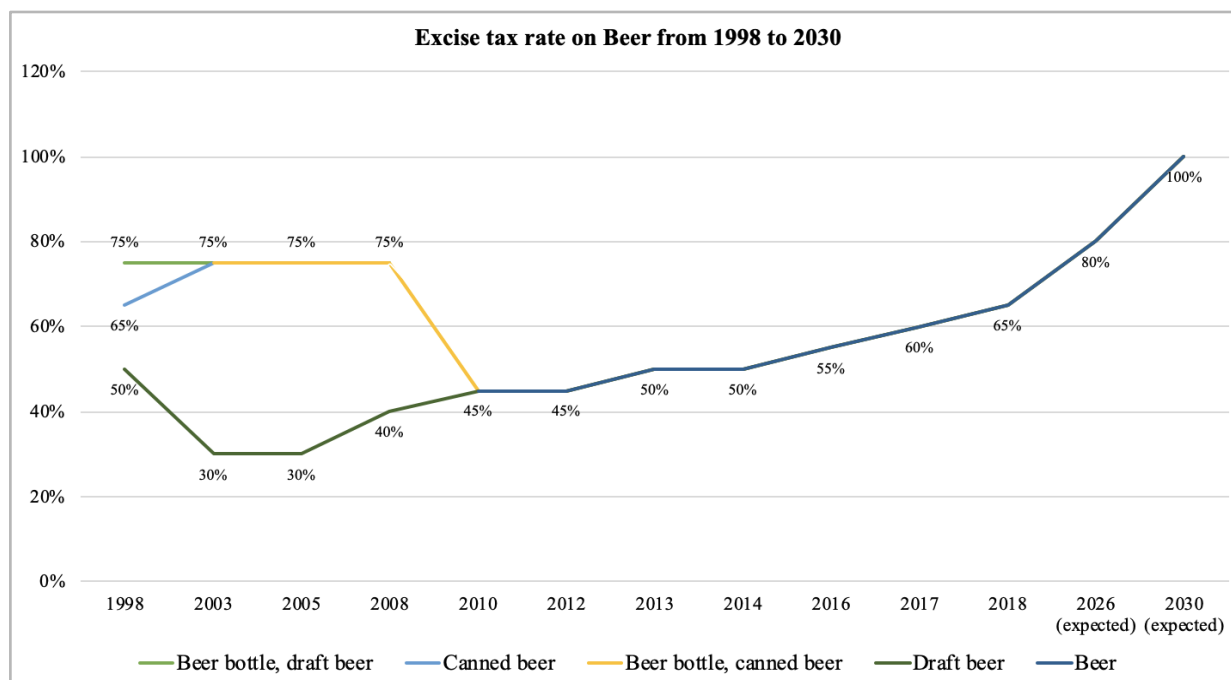


Figure 2. Vietnam's excise tax rate on Beer, 1998 - 2030.

Source: Author's compilation of Laws on Special Consumption Tax

3. Literature Review

3.1. *About the impact of excise tax on the consumption of some products*

In their study, (Chaloupka et al., 2019) affirmed that excise tax is the most effective measure to reduce the consumption of tobacco, alcohol, and sugary beverages in some countries like the US and Ukraine. (Royo-Bordonada et al., 2022) also showed that after 3.5 years of implementing an excise tax on sugary beverages in Spain, consumption on sugary beverages decreased by 16.7%, based on data collected from 12,500 households across Spain. In the US, (Saffer et al., 2022) affirmed that increasing the excise tax leads to a reduction in alcohol purchases among heavy drinkers. To be specific, heavy drinkers (based on pre-period purchases) reduce their purchases by about 5.4%, other drinkers (also based on pre-period purchases) reduce their purchases by about 3.9%, and other-income drinkers (based on pre-period income) reduce their purchases by about 4.8%.

However, in Vietnam, for tobacco products, another product category subject to Special Consumption Tax (SCT), (Pham, 2024) argued that the roadmap for increasing the excise tax rate to 75% was not truly effective, as it did not have a strong enough impact on reducing tobacco consumption. The main reason is that tobacco prices remained too low, making tobacco expenditures significantly lower compared to the rising income levels of smokers. Similarly, with alcoholic beverages consumption, (Phan et al., 2020), through their qualitative study, argued that the 65% tax rate applied to beer has not effectively reduced consumption among the population.

(Nguyen, 2020) calculated the price elasticity of demand for alcoholic drinks by studying beer consumption of households in different geographical regions in Vietnam. The paper found that demand for beer is elastic to its own price, meaning that price increases shall lower demand in the short-run, suggesting the effectiveness of increasing excise tax in curbing consumption. However, the impact of price in the long run could be offset by the growing income of consumers, as they could afford more even when beer is charged at a higher price. Furthermore, raising excise tax would be more effective in reducing consumption of alcohol than that of beer.

In November 2024, in response to proposed changes to beer excise tax, *Vietnam Alcohol - Beer - Beverages Association* published a report evaluating the economic impacts of the two proposed tax options, along with another option (Option 3) proposed by the Association itself (VBA, 2024). The report found that all three options shall lead to a reduction in value added (VA) of both the domestic beer industry and the national gross value added (GVA). However, all three taxation can only minimally reduce people's consumption behavior, as they still choose to use beer (due to preferences or cultural factors), but will more likely switch to cheaper, lower quality or informal beer products because of the price increases.

3.2. About other factors affecting beer consumption

(Colen et al., 2010)'s quantitative research indicates that the relationship between income and beer consumption follows an inverted U-shape: initially, beer consumption increases as income rises, but at higher income levels, beer consumption declines. The authors also demonstrated that globalization affects alcohol consumption. Specifically, in traditional beer-drinking countries, the share of beer in total alcohol consumption declines with trade liberalization and increasing globalization, while the opposite occurs in non-beer-drinking countries. The authors also suggest that religion has an impact on beer consumption. Countries with a high share of Muslims consume less beer, while beer consumption is higher in countries with a larger share of Catholics and Protestants.

In Vietnam, there have been few in-depth studies on the macro factors influencing beer consumption. However, according to (Vietnam Briefing, 2018), culture is the key factor contributing to the high beer consumption in the country. Vietnamese people, especially the young, mostly agree that drinking alcoholic beverages is a way to observe social etiquette, demonstrate proper workplace manners, build and maintain social and business relationships, and celebrate various occasions. This mindset has existed in Vietnamese society for generations. Similar to previous research, the paper also argues that Vietnam's expanding working age population could afford beer more over time due to their growing income.

3.3. Research Gap

Previous research overseas on excise taxes primarily measured the impact on items such as tobacco and sugary drinks. There are very few studies specifically on the beer industry worldwide. The majority of studies utilized qualitative methods or synthesized information from previous research, and have not measured the impact of specific factors on beer consumption. In Vietnam, the number of in-depth studies on this topic is even fewer. While studies like (Nguyen, 2020) and (VBA, 2024) measured excise tax effectiveness through calculating the impact of price increases on beer consumption, the author has yet to find a quantitative study that directly evaluates the effect of excise tax, especially when also taking into account Vietnam's beer long-standing drinking culture and non-tax regulations. Moreover, in response to new proposed excise tax routes, it is necessary to reevaluate the impact for a better informed decision regarding this issue.

4. Methodology

4.1. Research Methodology

This paper employs a time-series dataset spanning 18 years, from 2006 to 2023. The analysis utilizes the ordinary least squares (OLS) regression model to assess the effect of independent variables on beer consumption.

In order to measure the volume of beer consumption, the author utilized the actual sales volume according to annual reports on beer in Vietnam published by (Euromonitor, 2023).

Lagged consumption was calculated based on this dataset using the sales volume of the immediate preceding year.

To measure the impact of excise tax on consumption, the author shall use the dummy variable *dumtax*, whose value equals 1 if there is an increase in excise tax on beer in that surveyed year, and equals 0 if the excise tax remains unchanged. Although it may not measure the magnitude of tax increases, using the dummy variable helps improve the validity of the result. Since excise tax policy only changes occasionally, measuring its impact with a dummy variable is more likely to produce a meaningful result while helping to avoid multicollinearity. Alongside *dumtax*, other factors influencing beer consumption according to the theoretical framework and literature review were also included in the model.

Table 3. List of variables and sources.

Variables	Meaning	Unit	Expected sign	Reason	Data Source
ct	Actual beer sales volume in Vietnam in year t	millions of liters			(Euromonitor , 2023).
ct1	Lagged beer sales in Vietnam in year t-1	millions of liters	+	Beer consumption in Vietnam is deeply ingrained in social habits, causing consistent consumption levels year after year (Litt, 2024), (Huynh, 2018).	(Euromonitor , 2023).
pppg	Annual growth in purchasing power parity (GDP per capita, PPP) of Vietnam	USD	+	Growing purchasing power helps Vietnamese consumers afford more beer over time and remain unbothered by the price increases (Vietnam Briefing, 2018), (Alpuerto, 2022). This factor was measured in annual growth amount to reduce the possibility	Author's calculation based on (World Bank Group, 2025).

Variables	Meaning	Unit	Expected sign	Reason	Data Source
of multicollinearity.					
dumtax	Dummy variable for excise tax on beer (<i>dumtax</i> = 1 if there is an increase in excise tax on beer in year t, = 0 if there is no increase).	(no unit)	-	Beer demand in Vietnam is price elastic; an increase in excise tax raises the overall retail price for beer and discourages consumption (Nguyen, 2020), (VBA, 2024).	Author's calculation based on Law on Special Consumption Tax in Vietnam.
dumregu	Dummy variable for regulatory measure on beer (<i>dumregu</i> = 1 if year t has an introduction/ implementation of a beer control measure, = 0 if otherwise).	(no unit)	-	Introducing national regulatory measures in the years 2014, 2019, 2020 and strictly enforcing existing measures in 2023 helped reduce excessive beer consumption. (Tuyet, 2020), (Dung, 2024), (Vietnamplus, 2020), (KPMG, 2024).	Author's calculation based on <i>Table 2</i> in <i>Theoretical framework</i> .

To produce results for a more straightforward interpretation, the regression function shall also utilize the log-log form. After deriving the regression function, the model shall be tested for the possibility of multicollinearity, autocorrelation and heteroskedasticity, and rectify the issues if necessary.

4.2. Research model

Based on the theoretical framework, literature review and methodology, the following model could be devised for impact evaluation:

$$\log ct = \beta_0 + \beta_1 \log pppg + \beta_2 \log ct1 + \beta_3 \text{dumtax} + \beta_4 \text{dumregu} + \mu$$

In which:

β_0 : intercept of the regression equation

β_1 - β_4 : the regression coefficients

logct: Actual beer sales volume in Vietnam in year t, in logarithm.

logct1: Actual beer sales volume in Vietnam in year t-1, in logarithm.

logpppg: Annual growth in purchasing power parity (GDP per capita, PPP) of Vietnam, in logarithm.

dumtax: dummy variable for excise tax on beer.

dumregu: dummy variable for regulatory measures on beer.

μ : the error term of the model.

5. Empirical Result

5.1. Descriptive Statistics

The study utilizes a time-series dataset of each given variable spanning 18 years. The detailed statistics describing the variables is presented below:

Table 4. Descriptive statistics of the variables in the model.

Variable	Obs	Mean	Std. Dev	Min	Max
logct	18	8.026169	.4046002	7.196087	8.498581
logct1	18	7.953856	.4504147	7.083388	8.498581
logpppg	18	6.267354	.5534226	5.378329	7.497318
dumtax	18	.3333333	.4850713	0	1
dumregu	18	.2222222	.4277926	0	1

After the variable descriptive analysis, the author proceeds to generate a correlation matrix to assess the relationships between the variables in the model. The correlation coefficient ranges from -1 (a perfect negative correlation) to +1 (a perfect positive correlation), with 0 meaning no linear relationship.

Table 5. Correlation matrix.

	logct	logpppg	logct1	dumtax	dumregu
logct	1.0000				
logpppg	0.0403	1.0000			
logct1	0.9774	-0.1322	1.0000		

dumtax	0.0548	0.1786	0.0217	1.0000	
dumregu	0.4083	-0.1698	0.4755	-0.378	1.0000

5.2. Regression result

Running the regression and test commands in Stata 14, we have the following results:

. reg logct logpppg logct1 dumtax dumregu

Source	SS	df	MS	Number of obs	=	18
Model	2.74628622	4	.686571556	F(4, 13)	=	243.62
Residual	.03663638	13	.002818183	Prob > F	=	0.0000
Total	2.7829226	17	.16370133	R-squared	=	0.9868
				Adj R-squared	=	0.9868
				Root MSE	=	.05309

logct	Coef.	Std. Err.	t	P> t 	[95% Conf. Interval]	
logpppg	.1791106	.0344787	5.19	0.000	.1046239	.2535974
logct1	.9240722	.0336843	27.43	0.000	.8513018	.9968427
dumtax	-.0170305	.0299041	-0.57	0.579	-.0816344	.0475735
dumregu	-.0564599	.0381714	-1.48	0.163	-.1389242	.0260044
_cons	.422486	.2715436	1.56	0.144	-.1641483	1.00912

. estat durbinalt

Durbin's alternative test for autocorrelation

lags(p)	chi2	df	Prob > chi2
1	0.020	1	0.8871

H0: no serial correlation

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of logct

chi2(1) = **0.06**

Prob > chi2 = **0.8025**

. vif

Variable	VIF	1/VIF
dumregu	1.61	0.621695
logct1	1.39	0.720179
dumtax	1.27	0.787856
logpppg	1.06	0.947424
Mean VIF	1.33	

The statistics for R^2 and Adjusted R^2 are both over 98%, which means the model explains 98% of the variation in beer consumption. The F-statistic = 224.87 ($p = 0.0000$) also indicates the overall statistical significance of the model. As for defect tests, the statistics for Prob > chi2 in both the Durbin's alt and Breusch-Pagan tests are both greater than 0.05, indicating no occurrence of autocorrelation and heteroskedasticity in the model at the significance level of 5%. In addition, Mean VIF = $1.33 < 5$ means that multicollinearity is not present in the model.

Looking at the regression results, whenever there is an increase in excise tax, the demand for beer tends to fall by a marginal 0.02%. However, this result may be insignificant with high P-value, meaning that raising excise tax could reduce beer consumption but only to a minimal extent. This begs the question of why beer excise tax is not highly effective in reducing beer consumption.

In the model, lag consumption *logct1* is found to be the most significant variable: when last year's beer consumption increases by 1%, this year's beer consumption increases by nearly 1%, suggesting the strong persistence of beer drinking habits over time. This accurately reflects the beer consumption status quo in Vietnam, a country with a strong love for beer (Amoros, 2022), as well as a long-established, deep-rooted beer drinking culture (Litt, 2024), (Vietnam Briefing, 2018). In addition, repeated consumption of beer causes addiction due to the high content of ethanol (Rodríguez, 2024). The difficulty of drinkers in quitting drinking could be another factor that keeps beer consumption from decreasing even when prices increase, or excise tax increases leading to increased retail price.

Another reason for the limited effectiveness of excise tax could be that, compared to the average income of workers, the average retail price of beer, which is inclusive of excise tax, remains relatively low and affordable (Phan et al., 2020). This is coupled by the fact that the purchasing power of Vietnamese people also grows over time, so a marginal increase in price does not deter them from using the product. The regression results accurately show this: as the purchasing power parity growth of Vietnamese consumers increases by 1%, the demand for beer grows by approximately 0.18%.

In addition, while the taxation method produced limited success, non-tax regulatory methods produced better results: When there is new regulation introduced in year t , the demand for beer tends to fall by 0.056%, compared to the coefficient of tax at 0.017%. This suggests that non-tax and tax methods should be used alongside for an effective control of the

excessive consumption situation. However, due to the high P-value, policymakers should carefully consider when interpreting this result.

6. Discussion and Policy Recommendations

6.1. Discussion

According to the above regression results, it can be seen that current excise tax policies have minimal impact on the consumption of beer in Vietnam. This can be attributed to the ineffective use of current excise tax rate, the deep-rooted drinking culture in Vietnam, and the uncontrolled production of unlicensed beer.

First, although there has been a rise in the rate of excise tax of beer since 2016, the effect on people's beer consumption was minimal. To explain this, while the excise tax rate increased from 55% to 65% in the past ten years (thuvienphapluat, 2024a), the living condition and purchasing power of Vietnamese people also grew fast (WorldBank, 2025). This has offset increases in beer price, making it affordable for their disposable income, therefore proving that the tax rate of 65% for beer is not high enough for the current economic context.

Second, Vietnam's strong beer-drinking culture is another reason why excise tax has little impact. Beer is deeply ingrained in social gatherings, from casual meetups to business dinners, and has ever since been considered a standard part of socializing rather than a discretionary expense (BlueWeave Consulting, 2024). This cultural norm creates unresponsiveness to regulatory changes, as past drinking behavior strongly influences future consumption. This can also be reflected through the regression model: last year's beer consumption is the most significant predictor of this year's demand. This persistence suggests that once people develop a beer-drinking habit, they are unlikely to change it just because of a price increase. (Alpuerto, 2022) also contended that Vietnam's expanding working age population is also adding to the annual increases in consumption.

Third, Vietnam has a significant informal alcohol market, including both home-brewed beer and smuggled foreign alcohol. According to (WHO, 2018), over 70% of the alcohol consumed in Vietnam is unrecorded, including rice wine, home-brewed beer, alcohol smuggled from neighboring countries such as China or Laos, meaning it is not taxed or regulated. For beer specifically, traditional "bia hoi" (fresh beer) is widely produced and consumed without strict regulation. Moreover, a study by (Euromonitor, 2023) reported that illegal alcohol sales in Vietnam grew by 15% from 2020 to 2022, partly due to rising excise taxes on legal alcohol. The lack of strict monitoring means that when the price of taxed beer increases, many consumers can easily switch to cheaper, untaxed alternatives (Phan et al., 2020). This undermines the effectiveness of excise tax policies, as only part of the total beer market is subject to tax regulations.

From the above reasons, it is likely that only a strong and immediate increase in the excise tax rate may effectively change consumers' mindset and achieve the primary objectives of tax, especially to mitigate health problems among consumers.

6.2. Policy Recommendations

6.2.1. Increasing the excise tax rate

In light of the minimal impact of current special consumption tax policies on beer consumption in Vietnam, as discussed earlier, it is vital to consider policy adjustments that effectively reduce consumption and enhance government revenue. Following recent recommendations by WHO to raise the excise tax rate by at least 10% (Le, 2024), the Vietnamese government has proposed amendments to the *Law of Special Consumption Tax* with the aim to impose higher taxes on alcohol, beer, and tobacco (Tran, 2024). The amendments included two tax hike options through a phased approach commencing from 2026 to 2030, the detailed plan for which has been illustrated in *Theoretical Framework*. In this part, the author will evaluate the two options based on their economical and social impacts to relevant stakeholders.

First, on the economic side, it is suggested that, although the two options will have a negative effect on beer production businesses, Option 1 would offer a more gradual effect, allowing breweries, especially small-and-medium sized enterprises (SMEs) to adjust to the tax increase. This approach helps mitigate potential negative impacts on the industry, such as reduced profit margins and possible layoffs among beer producers. However, due to its lower rate of tax increase, it may result in a more modest rise in the government revenue in the short term. In contrast, Option 2 proposed a steeper initial tax hike, which could lead to a more significant and immediate increase in the government revenue, while simultaneously straining breweries more as a result of deeper decline in sales volume.

Second, on the social side, a gradual tax increase under Option 1 may lead to a slower change in consumer behavior. While the intent is to reduce beer consumption for health benefits, the modest annual price increases might not be substantial enough to deter habitual consumers, especially those who are heavy drinkers, and may rely on a long-term strategy to significantly shift public consumption patterns. For Option 2, a more aggressive tax hike is likely to result in a more immediate reduction in beer consumption, but there is a risk that consumers may turn to cheaper, unregulated alcoholic beverages (Phan et al., 2020), which could result in exacerbating issues related to illicit alcohol production and consumption, as well as other health problems.

(VBA, 2024) argued that a steep increase in alcohol excise tax prevents consumers from purchasing legal products with tax burdens, thus, they may turn to cheaper and unrecorded alternatives. These unintended consequences cause not only negative competitiveness for the official alcohol business, but also serious health risks and loss of tax revenue. The study also pointed out that special considerations should be given to the implementation of excise tax increases on alcoholic beverages for less negative impact on the national beer industry and other industries in the economy. Other policymakers are also

concerned that the beer industry has been experiencing a dual impact from both the global economic situation causing high costs and decreased consumption and recent policy changes creating additional compliance cost burdens for beverage businesses (Tuyết, 2024).

However, the author contends that Option 2 would be more suitable for the current socio-economic context in Vietnam, meaning higher tax rates of 80%, 85%, 90%, 95%, 100% each year in the period from 2026-2030. By increasing quickly and strongly in the first year of implementation (from 65% to 80%), this solution could bring about an immediate effect in reducing use, especially considering the minimal impact of taxation according to the above analysis. Otherwise, if it increases gradually, taxation shall produce little result. Users will have time to adapt and respond more to the slow tax increase, due to their growing purchasing power over time. Both our current research and the official impact analysis by the Ministry of Finance (Chinhphu, 2024) support this conclusion. Although such a sudden tax hike could result in losses to the value added to the national economy, it is better to change the deeply-rooted habit soon to reduce humanitarian losses resulting from disease and mortality, thereby reducing pressure and overload on the health system. Option 1 by the government and Option 3 proposed by (VBA, 2024) could minimize the impact on the economy, beer enterprises and workers, yet does not ensure against the widespread humanitarian losses to the national economy caused by excessive alcoholic drinks and related traffic accidents.

6.2.2. Other non-tax measures

Taxation alone, nevertheless, may not suffice. The use of non-tax regulatory measures, which could produce more effectiveness according to the regression analysis, must also be strengthened to effectively control excessive beer consumption situations in Vietnam. One notable measure is to strictly implement administrative sanction on driving under alcohol influence, according to Law on Prevention of Alcohol Harm No. 44/2019/QH14 and Decree No. 100/2019/ND-CP on. Past data have shown that this enforcement has resulted in a sustained and strong decline in revenue for alcohol and beer companies as people are more cautious about consuming alcohol before or while driving (Phan et al., 2020).

Similarly, according to the Law on Prevention of Alcohol Harm, the control of alcoholic beverage purchases can be enforced by requiring a personal ID to prove that the buyer is above the legal drinking age of 18. The authority may strengthen this regulation by requiring that sellers or other outlets like restaurants or supermarkets to ask for relevant personal identity documents where date-of-birth is presented to prove that buyers are permitted to consume alcohol or beer (Vu, 2019). In addition, with regard to the Decree 24/2020/ND-CP elaborating some Articles of the Law on Prevention Alcoholic Harm (Tilleke & Gibbins, 2020), stricter measures to restrict the consumption, advertising, and trading of alcoholic beverages should be further reinforced. For example, local governments could impose tighter controls over beverages being placed or sold in locations like healthcare facilities, educational institutes, or other public places and events to promote mutual compliance among them.

Furthermore, the widespread production and distribution of unregistered and counterfeit alcohol remains a challenge that taxation alone may fail to solve. Strengthening the effects of the aforementioned laws requires more frequent market inspections, stricter penalties for violators, and improved tracking systems to monitor alcohol production and sales (Thanh, 2023). Additionally, authorities should enhance inter-agency coordination, leverage digital solutions such as QR code tracking for legal alcohol, and intensify public awareness campaigns to reduce demand for illicit products.

Beside legal enforcements, educational and communication efforts are vital measures to influence the behavior of beer consumers. Public education campaigns and programs on the harmful effects of excessive alcohol consumption should be introduced to raise awareness and shift social attitudes towards responsible drinking. Advertisements on alcoholic products on multiple platforms like television, social media or billboards should also be limited or replaced with health-related contents to further increase the awareness of people on how to develop a healthy, non-alcohol lifestyle.

These non-tax regulations measures, when combined with taxation regulations, can contribute to a more comprehensive and sustainable movement in reducing beer consumption and mitigating its negative social and health impacts.

6.3. Limitations

Despite the achieved result in both quantitative and qualitative analysis, it is unavoidable for the current study to avoid several limitations.

Firstly, using aggregate consumption data presents a significant limitation, as it does not show the responses of individual beer consumers to the implemented excise tax, such as decreased consumption among price-sensitive individuals, or substitution effects towards alternative beverages. Consequently, the conclusions are based on simplified representation of consumer behavior that neglects which groups are most affected. This makes it difficult to fully understand the tax's real impact.

Secondly, using excise tax as a dummy variable had its limitation. It can only capture whether an excise tax increase on beer happens or not in a year, but does not account for the magnitude of the increase. This means it cannot measure how different levels of tax hikes impact beer consumption. As a result, the analysis may overlook changes in consumer response to small versus large tax increases and fail to quantitatively measure the effects of different tax hike levels (Option 1 or Option 2).

Furthermore, the sample size for the study remains limited. Due to inconsistency of excise tax before 2006, the quantitative analysis could not account for data in previous years to ensure consistent results, which limited the number of observations to 18. Future research could expand the sample size for more informed policy proposals.

Another difficulty in carrying out this research is the lack of official statistics. Existing data on beer output, consumption, etc. show large differences between sources, inconsistent classification criteria, and measurement methods. (VBA, 2024) also met with this problem in

their study. The author managed to navigate this difficulty by comparing and contrasting the data with retail audit insights of (KPMG, 2024). Future research could draw on official datasets provided by the General Statistics Office and auditing insights for a more robust analytical result and conclusion on the issue.

7. Conclusion

Through analysis of related macro factors, this study yields results quite similar to previous research, indicating that excise tax has minimal impact in reducing beer consumption in Vietnam. The main reasons for this situation are, first and foremost, Vietnam's long-established drinking culture, where alcohol consumption is deeply ingrained in social habits. Furthermore, the pre-tax price of beer is already significantly affordable for the average income and purchasing power parity of consumers. As a result, increasing the excise tax and raising beer prices does not have a substantial impact on reducing consumption. To effectively control consumption, therefore, increasing excise taxes strongly and immediately according to Option 2 proposed by the government will produce greater effectiveness in curbing consumption. Alongside tax increases, non-tax regulations (including administrative fines, controlling underage drinking, regulating unregistered alcohol and educational efforts) must also play a crucial role in regulating beer uses.

Despite the author's efforts, this study still has to meet with several limitations, including negligence of micro factors affecting beer demand, negligence of the magnitude of tax increases, limited sample size, and difficulty in obtaining official statistics. Future research could account for these factors to produce more comprehensive results.

Ultimately, while excise tax remains a crucial tool for reducing beer consumption, its effectiveness hinges on complementary non-tax measures and other well-informed policy designs. The author thus calls for coordination of both methods to maximize the effectiveness while limiting the consequences for different stakeholders in the economy.

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