

ANALYSIS OF SUGAR EXCISE TAX IMPLEMENTATION: ITS IMPACT ON THE COST STRUCTURE AND COMPETITIVENESS OF THE SOFT DRINK INDUSTRY IN INDONESIA

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Abstract

Due to increasing concerns over public health issues such as diabetes and obesity, the implementation of sugar excise tax on the soft drink industry in Indonesia has attracted enormous attention. This study aims to evaluate how sugar excise taxes affect the prices, consumption patterns, and profitability of the soft drinks industry, as well as the broader socioeconomic impacts. This study uses a mixed approach, involving interviews and qualitative analysis of industry data. The main findings show that if a sugar excise tax is implemented, product prices increase moderately, consumption of high-sugar beverages decreases, and consumers switch to healthier products. The research also emphasizes the problems that the industry faces, as they have to bear additional costs due to the policy. This research shows that while sugar excise may improve public health, supportive policies need to be made to reduce the economic pressure on the soft drink industry in Indonesia.

Keywords: sugar excise, competitiveness, soft drinks, consumption patterns, cost structure

Introduction

Excessive sugar consumption has become a global concern due to its impact on increasing the prevalence of non-communicable diseases such as diabetes and obesity. The World Health Organization (WHO) recommends that sugar consumption should be limited to less than 10% of total daily energy intake to reduce health risks. Unfortunately, Indonesians' sugar consumption significantly exceeds this limit, reaching an average of 20-30 grams per day, mostly from soft drinks and processed foods (Suhardi, 2019).

This increase in sugar consumption contributes to the upward trend in the number of people with diabetes in Indonesia. According to the International Diabetes Federation (IDF), the number of people with diabetes in Indonesia is projected to increase dramatically to 28.57 million by 2045, up 47% from 19.47 million in 2021. This increase reflects a much sharper spike compared to the previous period. In the last ten years alone, the number of people with diabetes jumped 167%, from 7.29 million in 2011 to almost triple in 2021. Compare this to the period 2000-2011, where the increase only reached 29% from 5.65 million in 2000. This surge shows the urgency to curb sugar consumption, especially through effective public policy interventions.

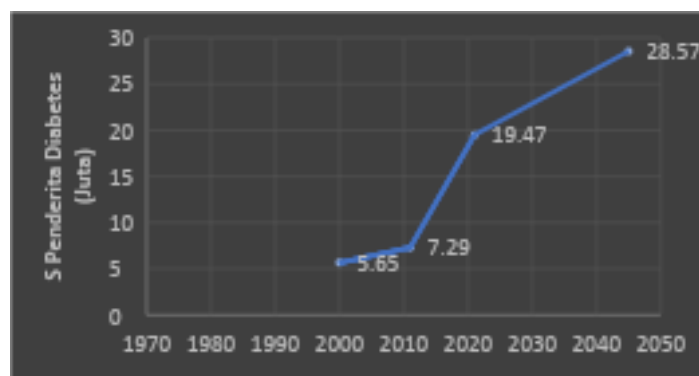


Figure 1. Trends in the number of people with diabetes in Indonesia, source: IDF

Furthermore, the 2023 Indonesian Health Survey (IHS) noted the high consumption of sugary foods and drinks, especially among children and productive age. For example, 50.1% of children aged 3-4 years recorded consuming sugary foods or drinks more than once per day. This proportion remained significant in the 5-9 years age group (47.2%) and 10-14 years age group (42.9%). This consumption pattern represents a threat to the health of Indonesia's young generation, which also has implications for the long-term national health burden.

Table 1. Sugary drink consumption patterns by age group

Kelompok Umur	≥1 kali per hari (%)	1–6 kali per minggu (%)	≤3 kali per bulan (%)
3–4	50,1	45,9	4
5–9	47,2	46,4	6,4
10–14	42,9	52,5	4,6
15–19	35,4	57,2	7,4
20–24	34,8	56,4	8,8
25–29	33,9	57,7	8,4
30–34	34	57,4	8,6
35–39	32,1	59,4	8,5
40–44	32	58,7	9,3
45–49	31,9	59,1	9
50–54	30,7	59,7	9,6
55–59	30	60	10
60–64	31,5	59	9,5
65+	31,5	59,1	9,4

International case studies show that sugar excise taxation can be a strategic solution. For example, in Mexico, a tax on sugar-sweetened beverages in 2014 reduced sugar-sweetened beverage consumption by 7.6% in the first year, with a greater impact on low-income households (Colchero et al., 2016). Similarly, the Soft Drinks Industry Levy (SDIL) policy implemented in the UK in 2018 successfully encouraged product reformulation to reduce sugar content, resulting in sugar sales from soft drinks falling by 29% in the 2015-2018 period (Bandy et al., 2020). Meanwhile, studies in countries with markets similar to Indonesia, such as the Philippines, show that sugar excise taxes affect consumer behavior by shifting their preferences to healthier products (CISDI, 2023).

The plan to implement sugar excise tax in Indonesia is still being debated. The government through the Ministry of Finance has been discussing this policy since 2019, but its implementation has been delayed until 2024 due to the impact of the COVID-19 pandemic which has slowed down the national economic recovery (Tirto.id, 2023). This policy aims to reduce sugar consumption while contributing additional revenue to the state. However, its potential impact on the industry's production cost structure, supply chain, and competitiveness remains a major concern, especially for SMEs that are vulnerable to fiscal policy changes (Lesser et al., 2018). In addition, the main problem lies in the economic implications, especially on the production cost structure and competitiveness of the soft drinks industry. According to Selvi et al. (2020), the implementation of sugar excise could increase production costs, potentially weakening the competitiveness of local products in both domestic and international markets. Hambali (2022) also highlighted the challenge of balancing between public health objectives and the policy's impact on the economic sector, given that the soft drinks industry is an important contributor to the national economy.

Based on this background, the problem formulations to be answered in this study are:

- How does the implementation of sugar excise on the production cost structure of the soft drink industry in Indonesia?
- How does the implementation of sugar excise tax affect the competitiveness of the soft drink industry in Indonesia?

This study aims to analyze the impact of sugar excise implementation on the soft drink industry in Indonesia by focusing on two main aspects:

- 1) **Production Cost Structure.** This study aims to identify how the implementation of sugar excise affects production costs in the soft drinks industry. This aspect includes raw material price adjustments, product reformulation processes to reduce sugar content, and cost implications arising from regulatory changes. This is important to understand the challenges faced by industry players in maintaining operational efficiency.
- 2) **Product Competitiveness.** This study also aims to evaluate the impact of sugar excise policy on the competitiveness of soft drink products in domestic and international markets. This includes an analysis of industry adaptation strategies in responding to excise policies, such as product reformulation, technological innovation, or marketing strategy development.

This paper focuses on the soft drink industry in Indonesia after the implementation of sugar excise. The limitations of this study lie in the data obtained based on industry data literacy as well as interviews with those in the industry, so it may not be able to cover all perspectives.

Considering the complexities and potential impacts, this study is designed to provide an in-depth analysis of the sugar excise tax implementation impacting the soft drinks industry. In particular, this research is expected to make a tangible contribution to the formulation of policies that are balanced between public health objectives and economic needs, as reflected in the title: “Analysis of Sugar Excise Implementation: Its Impact on the Cost Structure and Competitiveness of the Soft Drink Industry in Indonesia”.

Literature Review

Sugar Excise Duty

Excise, based on Law Number 11 of 1995 which has been updated with Law Number 7 of 2021 on Harmonization of Tax Regulations, is defined as a levy imposed by the state on certain goods. These goods have the following characteristics:

1. **Control Consumption:** Consumption of such goods needs to be controlled to reduce negative impacts.
2. **Control of Circulation:** The circulation of goods should be monitored so as not to cause problems in society.
3. **Negative Impact:** The use of goods can potentially have a negative impact on society or the environment.
4. **Justice and Balance:** These levies are necessary to achieve justice and balance in society.

Excise taxes themselves are often considered as Pigovian Taxes. These taxes are imposed on activities that generate negative externalities, with the aim of internalizing the costs incurred by these activities.

Cost Structure

The cost structure in the soft drink industry includes various elements such as raw material costs, labor, and other fixed costs. Cost structure analysis is very important to determine the cost of production and profitability of the company. According to Suhardi (2019), a good understanding of the cost structure can help companies in making strategic decisions, including pricing and production planning. With the sugar excise tax, the cost structure may experience significant changes, especially in raw material costs and product selling prices.

Industry Competitiveness

The competitiveness of the soft drink industry in Indonesia is influenced by various factors, including government policies, product innovation, and marketing strategies. The imposition of excise tax on sugar can have both positive and negative impacts on the competitiveness of this industry. On the one hand, excise tax may encourage manufacturers to innovate by creating healthier and lower-sugar products, thereby increasing their competitiveness in the market. On the other hand, increased costs due to excise may affect selling prices and profit margins, which in turn may reduce product competitiveness in the market (Lesser et al., 2018).

Soft Drink Industry in Indonesia

The soft drink industry in Indonesia has shown rapid growth in recent years. Data from the Ministry of Industry shows that soft drink production increased by almost 300% in a decade, i.e. the range from 2005 to 2014 (Ministry of Industry, 2017). However, with increasing public awareness about health, the demand for healthier products has also increased. Therefore, the industry must adapt to changing consumption patterns and health-related government policies.

Impact of Sugar Excise on Consumption

The implementation of sugar excise tax is expected to reduce the consumption of sugary drinks. Research in Mexico showed that after the implementation of excise taxes, sales of sugar-sweetened beverages dropped significantly (Colchero et al., 2016). This suggests that fiscal policy can be an effective tool in changing people's consumption behavior. In Indonesia, with the increasing prevalence of non-communicable diseases, the implementation of sugar excise tax is a strategic step to encourage people towards a healthier diet.

Method

This study uses a qualitative approach to explore the effect of sugar excise implementation on the cost structure and competitiveness of the soft drinks industry in Indonesia. Lexy J. Moleong (2018) states that qualitative research aims to understand the phenomena experienced by research subjects, such as behavior, perceptions, motivations, and actions, holistically and descriptively in a natural context. This approach allows researchers to explore in-depth information about the impact of sugar excise policies in a broader social and economic context.

The data sources used include literature studies from various literatures, journals, and official reports relevant to the research topic. Literature analysis aims to understand the context of sugar excise policy and its impact on consumer and industry behavior. In addition, in-depth interviews were conducted with representatives from the beverage industry to gain insight into the effect of sugar excise on cost structure and competitiveness.

In this study, data triangulation was used to ensure the validity of information obtained from various sources. According to Sugiyono (2015), data triangulation is a data collection technique that combines various sources and ways to verify the truth of information. By using this approach, researchers can check the credibility of data obtained through interviews with informants and compare it with secondary data from literature and official documents (Bachtar, 2012). This triangulation aims to reduce bias and increase the reliability of the research results, so that the conclusions drawn are more accurate and representative of the phenomenon under study. To be able to formulate conclusions through integration and interconnection, researchers will adhere to the principles of the semipermeable paradigm, intersubjective stability, and creative imagination (Holmes Rolston III, 1987, as cited in Bayumi, 2022, p.71).

Results And Discussion

Research Paradigm and Triangulation Analysis

In this research, the semipermeable, intersubjective testability, and creative imagination paradigms were used as a guiding framework to carry out a comprehensive research process. This approach is supported by data triangulation methods to ensure the validity and reliability of the research findings.

- **Semipermeable:** This paradigm allows researchers to remain open to input and information from various sources. In this study, interviews with various stakeholders, such as regulators, industry practitioners, and academics, became an important foundation for understanding various viewpoints related to sugar excise implementation. For example, an interview with Mr. Djoko K., a Plant Manager of a beverage industry in East Java, provided insights into how sugar excise affects the industry's cost structure and adaptation strategies. He highlighted that this policy will increase COGS and encourage companies to innovate through product diversification and reformulation, although the challenge is more severe for small businesses.
- **Intersubjective Testability:** This research relied on interviews with informants from diverse backgrounds to test and compare perspectives on the sugar excise policy. For example, the interview with Mr. Djoko provided relevant insights into the dynamics of competitiveness in the soft drinks industry. He noted that while the policy has depressed competitiveness in the short term, large companies are better able to respond to changes through innovation. This perspective was compared with the views of small businesses, which pointed out their limited capital and resources in the face of product reformulation. In this way, the research not only delves into specific experiences but also tests conclusions from multiple viewpoints.
- **Creative Imagination:** This paradigm is applied to develop innovative recommendations based on the research findings. From the interview with Mr. Djoko, it was identified that diversification and reformulation are important steps for large industries to survive. However, for small industries, government intervention is needed in the form of reformulation incentives or

technological support to remain competitive. This research also proposes a collaboration strategy between small businesses and large companies to utilize a mutually supportive ecosystem.

Data Triangulation in Research

The triangulation method was applied by combining data from several sources, namely:

- Qualitative Interviews: Interview data with key informants, such as Mr. Djoko K., provided in-depth insights into the structural challenges faced by the soft drinks industry due to sugar excise.
- Official Documents: Policy documents, such as Government Regulation No. 28 Year 2024 and data from Klikpajak (2024), were used to understand the regulatory framework underlying the sugar excise policy.
- Literature Review: Previous studies, such as those conducted by Colchero et al. (2016) and Lesser et al. (2018), provide global context regarding the impact of sugar excise on consumption patterns and industry competitiveness.

The use of triangulation allows the research to identify consistent patterns and enrich the analysis with multiple perspectives.

Production Cost Structure

The imposition of sugar excise, as stipulated in Government Regulation No. 28 Year 2024, has the potential to increase production costs through tariffs of IDR1,500 per liter for packaged beverages and IDR2,500 per liter for concentrated products. This will have a direct impact on COGS, as stated by Mr. Djoko K., a Plant Manager of the beverage industry in East Java. He explained that this increase requires strategic responses, such as product diversification and reformulation of raw materials to lower sugar content. However, these efforts are easier for large companies with sufficient resources than small businesses with limited capital and technology.

Industry Competitiveness

The excise tax on sugar puts great pressure on the competitiveness of soft drink products, especially in the domestic market. Large manufacturers can take advantage of this situation to innovate and create healthier low-sugar products, thus remaining competitive in the market. Conversely, small businesses may have difficulty competing due to limited resources to reformulate. Hambali (2022) emphasized the importance of government support in the form of subsidies or incentives to help SMEs survive in increasingly competitive conditions.

Changes in Consumption Patterns

Sugar excise tax is expected to change people's consumption patterns towards healthier choices. Based on data from the Indonesian Health Survey (IHS, 2023), 50.1% of children aged 3-4 years consume sugar-sweetened beverages every day, a high number and indicating an urgent need for policy intervention. International experience, such as in Mexico, shows that the implementation of excise tax reduced sugar-sweetened beverage consumption by 7.6% in the first year (Colchero et al., 2016). If implemented well, this policy could also have a similar impact in Indonesia.

Discussion

Sugar excise tax is a policy instrument that not only aims to reduce sugar consumption, but also to create broader economic and health impacts. Based on international data and experience, this policy has great potential to reduce excess sugar consumption in Indonesia.

1. Impact on Consumers. The price increase due to excise tax is expected to encourage consumers to switch to healthier alternatives, such as water or natural juices without added sugar. This is relevant to the rising trend of sugar-related diseases in Indonesia, which requires significant changes in consumption behavior.
2. Impact on Industry. Large producers may have an advantage in adapting to this policy through low-sugar product innovation, but small producers require government support in the form of subsidies or incentives to improve competitiveness. Hambali (2022) underlines the importance of collaborative measures between the government and the industry sector to minimize the negative impact on small businesses.
3. Support for Sustainable Development Goals (SDGs). The sugar excise policy is in line with the targets of the SDGs, especially in improving people's health and welfare. By reducing sugar consumption, a reduction in non-communicable diseases and an improvement in people's quality of life are expected (Sánchez-Romero et al., 2020).

Conclusions And Suggestions

Conclusion

The results of this study show that the implementation of sugar excise has a significant impact on the production cost structure, competitiveness, consumption patterns, and socioeconomic impacts on the soft drinks industry in Indonesia. This policy is expected to positively contribute to reducing sugar consumption, which is one of the main factors in the increase of diabetes and obesity cases in society.

The increase in product prices due to sugar excise tax encourages consumers to reduce their consumption of sugar-sweetened beverages and switch to healthier alternatives, such as mineral water or natural juices. However, this impact also poses a major challenge for small and medium-sized enterprises (SMEs) in the soft drinks industry, who face the additional burden of product reformulation and cost structure adjustments.

The study also highlights the importance of supporting policies to help SMEs and mitigate the negative impact of sugar excise tax implementation. Without adequate support, the risk of reduced competitiveness and inequality in the industry will increase. On the other hand, international experience shows that a combination of fiscal policy, consumer education, and incentives for producers can strengthen the success of similar policies.

Suggestions

For future research, it is suggested that researchers explore other aspects of the impact of sugar excise, such as its effect on product innovation and marketing strategies. Further research is also recommended to explore consumer responses to product reformulation due to sugar excise and how this affects their preferences in the long run. In addition, a comparative analysis with other countries that have implemented similar policies could provide additional insights into the effectiveness of sugar excise as a public health policy tool.

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