



THE IMPACT OF EXCISE TARIFF INCREASES ON STATE REVENUE

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Abstract

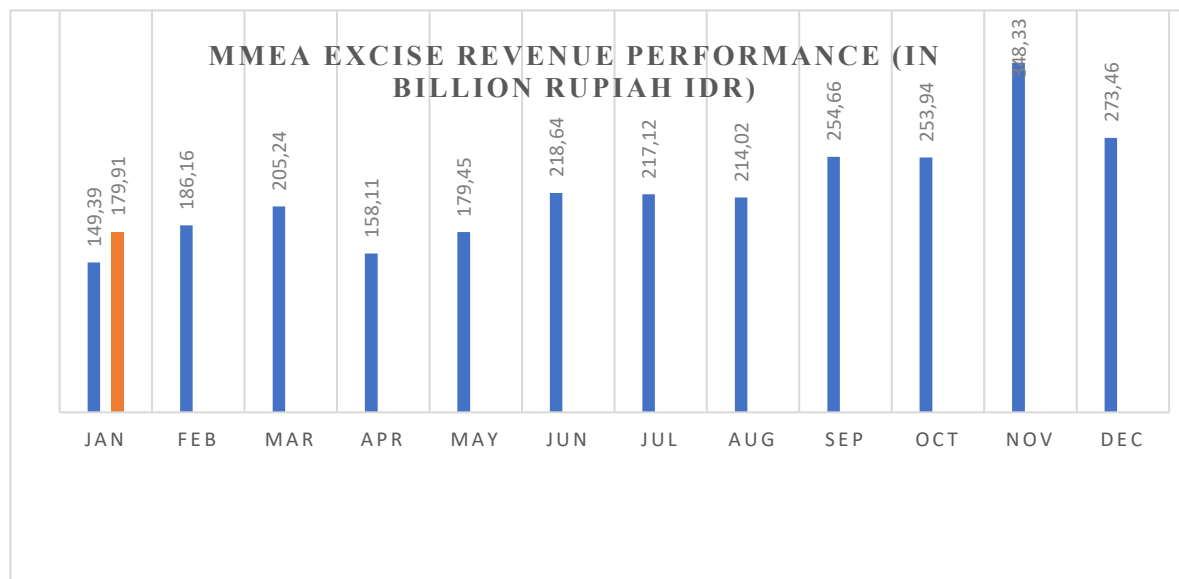
The Indonesian government implemented an excise tariff increase for Beverages Containing Ethyl Alcohol or alcoholic beverages (MMEA) in 2024 to mitigate the erosion of real revenue value caused by inflation and to control the consumption of excise goods. This study analyses the economic and fiscal impact of this policy, with a specific focus on revenue realisation at the Banten Regional Customs Office of the Directorate General of Customs and Excise (Kanwil DJBC Banten). Utilising a Computable General Equilibrium (CGE) model processed through GEMPACK software and the 2016 Indonesian Input-Output Table, the research simulates the effects of an 11.81% domestic tariff increase and a 9.8% import tariff increase. The simulation results indicate that the tariff hike moderates the growth of the MMEA industry to 3.4%, trailing the national economic growth baseline of 5.2%. However, despite this industrial deceleration, the policy significantly enhances fiscal performance, with national excise revenue projected to rise by 25.31%. At the regional level, Banten Regional Customs Office is projected to realise a total revenue of IDR 3.2 trillion in 2024, representing a net increase of approximately IDR 600 billion across Class A, B, and C alcoholic beverages compared to the previous year. These findings demonstrate that the 2024 tariff adjustment effectively achieves the dual policy objectives of restricting the expansion of controlled goods while simultaneously optimising state revenue collection.

Keywords: Alcoholic beverages (MMEA); Banten Regional Customs Office; CGE Model; Excise Tax; State Revenue

INTRODUCTION

In 2024, the government implemented an excise tariff increase for Beverages Containing Ethyl Alcohol or alcoholic beverages (MMEA). Prior to this policy, tariffs for Class B and Class C beverages were last adjusted in 2014, while Class A tariffs were last raised in 2018. According to Elena (2024), this adjustment was necessary to mitigate real value of excise revenue's erosion caused by inflation.

The Banten Regional Customs Office of the Directorate General of Customs and Excise (Kanwil DJBC Banten), as one of a revenue-collecting unit, must assess the impact of this tariff increase on state revenue. Revenue performance data for MMEA in the Banten region from 2021 to 2023 (Graph 1) indicates a 10% upward trend. However, the 2024 tariff hike is expected to affect MMEA production volumes, as manufacturers face increased production costs. Consequently, a comprehensive study is required to analyse how these integrated factors affect overall state revenue. Specifically, Banten Regional Customs Office needs to project the potential revenue implications of this policy.



Graph 1. Trend of MMEA Excise Revenue Realisation at Banten Regional Customs Office (2021–2023)

In his introductory speech for the 2024 Draft State Budget (RAPBN), President Joko Widodo announced a state revenue target of IDR 2,781.3 trillion including tax and excise revenues (Saputra, 2023). Given the magnitude of this target, excise revenue—as a critical component of overall tax revenue requires careful strategic management. This includes revenue planning and the continuous assessment of potential revenue growth against actual realisation. Furthermore, Minister of Finance in 2024, Sri Mulyani Indrawati, stated that tax revenue in the 2024’s RAPBN is projected to grow by 8.9%. This growth target is supported by contribution from taxation, customs and excise, and Non-Tax State Revenue (PNBP), (Directorate General of Taxes, 2023). To achieve these fiscal goals, the adjustment of excise tariffs on Beverages Containing Ethyl Alcohol (MMEA) plays a significant role.

This study simulates the impact of the 2024 MMEA’s excise tariff increases on excise revenue specifically in Banten Regional Customs Office of the Directorate General of Customs and Excise (Kanwil DJBC Banten). The analysis utilises the 2016 Indonesian Input-Output (I-O) Table, adjusted to 2023 baseline values, to model the economic impact of the tariff hike on the alcoholic beverage sector. Additionally, to estimate the specific revenue on Banten Regional Customs Office, the national simulation results are adjusted based on Banten’s proportional contribution to national MMEA excise revenue.

The central research question of this study is whether the 2024 excise tariff increase for alcoholic beverages (MMEA) resulted in a corresponding increase in MMEA excise revenue within the Banten Regional Customs Office of the Directorate General of Customs and Excise.

The objective of this research is to analyse the impact of the 2024 MMEA excise tariff increase on excise revenue realisation at the Banten Regional Customs Office of the Directorate General of Customs and Excise.

LITERATURE REVIEW

Taxation Role

Globally, nations—particularly developing economies—rely on taxation to fund public services and social welfare programmes. Governments require these funds to fulfil their fiscal mandates, which include providing public goods, enforcing regulations, maintaining public security, ensuring financial stability, and redistributing social wealth (H. T. Nguyen & Darsono,



2022). Tax is defined as a mandatory contribution to the state that does not entail a direct counter-performance aimed primarily at financing public expenditures (Mardiasmo, 2013 and Januari & Hanum, 2018).

The International Monetary Fund (2001) identifies taxation as the principal source of government revenue in most nations. Wahyudi and Sanjaya (2017) further emphasise that tax collection is the largest and most critical component of state finance. In a stable and predictable fiscal environment, taxation is viewed as a sustainable revenue source capable of driving economic growth (Egbunike et al., 2018). In the Indonesian context, the President has highlighted that tax revenues are essential for funding fuel and electricity subsidies, village funds (Dana Desa), social assistance, and infrastructure projects such as roads and ports (CNBC, 2023). Without tax collection, government investment in health, education, and infrastructure would be impossible, thereby hindering developmental progress (Piancastelli & Thirlwall, 2020).

Tax to GDP Gap

Despite its importance, tax revenue in lower-middle-income countries, such as Indonesia, remains lower than in high-income countries. This discrepancy is attributed to structural challenges, including a large informal economy that is difficult to tax and a limited tax base. Bachas et al. (2021) note that lower-middle-income countries typically record a Tax-to-GDP ratio of 15–20%, whereas high-income economies often exceed 30%. This gap implies that lower-middle-income nations have significantly fewer resources to fund public consumption relative to wealthier nations. As the World Bank continues to classify Indonesia as a lower-middle-income country (Ristianarko et al., 2021), this disparity indicates a substantial untapped tax potential that has yet to be optimized.

Excise Definition

Under Law No. 39 of 2007 (an amendment to Law No. 11 of 1995 concerning Excise), excise is defined as a state duty imposed on specific goods possessing properties or characteristics determined by law. One such good is Beverages Containing Ethyl Alcohol (MMEA), defined as any beverage containing ethyl alcohol regardless of the concentration, ingredients, or manufacturing process (Law No. 39, 2007). Previous studies have extensively examined excise duties. Indriyati (2018), Sabri et al. (2022), Triono (2017), and Wulandari et al. (2024) found a significant relationship between production variables, excise tariffs, and excise revenue. Beyond tariff rates, Jahratunnisa et al. (2020) argue that local regulations also influence revenue outcomes. Furthermore, excise tariffs impact sectoral output and household income; Tũaño et al. (2021) estimate that tariff increases lead to reduced output and lower carbon emissions, while Firmansyah (2015) notes a potential decline in household income in Central Java. Conversely, Chrisinger (2021) highlights the phenomenon of cross-border purchasing in areas without excise duties. However, Kim (2020) offers a contrasting perspective, finding that excise revenue can be price inelastic.

METHODS

This study employs a Computable General Equilibrium (CGE) model to analyse the impact of the excise tariff increase for MMEA on MMEA excise revenue at the Banten Regional Customs Office. The CGE model is utilised to predict the impact of the tariff hike on production within the beverage sector (used here as a proxy for the MMEA sector). The projected production output is then subjected to the new tariff rates to analyse the net impact on revenue.

Data and Variables

The analysis is conducted using the General Equilibrium Modelling Package (GEMPACK) software and the 2016 Indonesian Input-Output (I-O) Table. GEMPACK is utilised to simulate the condition of the Indonesian economy following an economic shock—



specifically, the increase in excise tariffs for MMEA. The software generates estimates of changes in sectoral production output, which allows for the measurement of potential changes in state revenue resulting from the tariff policy.

Research Model

The CGE model in this study utilises the 2016 Indonesian Input-Output Table to simulate the Indonesian economy. This model is constructed as a short-run CGE model. In constructing the simulation, the study assumes two primary factor markets: capital and labour. The market equilibrium conditions for these factors are defined by equations (1) and (2) as follows:

$$\bar{K} = \sum_{i=1}^{185} K_i, \quad (1)$$

$$\bar{L} = \sum_{i=1}^{185} L_i \quad (2)$$

Where i represents the commodity sector ($i=1,2,\dots,185$), K represents the capital factor, and L represents the labour factor. To establish market-clearing conditions for commodity i , the model incorporates the private investment sector. Let X_i^S denote the quantity of products consumed by the private investment sector. The market-clearing condition for commodity i is expressed in equation (3):

$$Q_i = X_i + X_i^g + X_i^s + \sum_j^7 X_{ij}, \quad i=1,2,3,\dots,185 \quad (3)$$

Where Q_i is the total supply of commodity i ; X_i is household consumption of commodity i ; X_i^g is government consumption of commodity i . In the economy, the utilisation of products is constrained by the budget of the private investment sector, as formulated in condition (4):

$$\sum_{i=1}^{185} P_i^Q X_i^S = S^l + S^g + S^f \quad (4)$$

The left side of equation (4) represents the total expenditure of the private investment sector. P_i^Q is the price of commodity i . On the right side, S^f represents the aggregate savings from the foreign sector. S^f is derived exogenously from the trade deficit. Equation (5) describes the balance of foreign trade:

$$\sum_{i=1}^{185} P_i^{w,e} E_i + S^f = \sum_{i=1}^{185} P_i^{w,m} M_i \quad (5)$$

Where $P_i^{w,e}$ is the world price of exported goods, and $P_i^{w,m}$ is the world price of imported goods valued in foreign currency. $P_i^{w,e}$ and $P_i^{w,m}$ are exogenous variables denoted as P_i^e and P_i^m . P_i^e represents the export price, and P_i^m represents the import value in domestic currency.

Equations (6) and (7) arise from the assumption:

$$P_i^e = \varepsilon P_i^{w,e} \quad (6)$$

$$P_i^m = \varepsilon P_i^{w,m}, \quad i=1,2,3 \quad (7)$$

Where ε represents the exchange rate. The model assumes world prices are exogenous variables, while the exchange rate is calculated endogenously.

Simulation Strategy

To simulate the policy of increasing excise tariffs on Beverages Containing Ethyl Alcohol (MMEA), the study determines the magnitude of the tariff increase (the shock). In the



CGE model, this shock is applied as a percentage increase in domestic taxes and import taxes (proxies for MMEA excise) based on Minister of Finance Regulation (PMK) Number 160 of 2023. These regulatory rates are converted into percentage tariff increases.

Subsequently, economic indicators—specifically domestic production and imported Beverages Containing Ethyl Alcohol (MMEA)—are subjected to this shock. The resulting new values for production and imports are then multiplied by the new Beverages Containing Ethyl Alcohol (MMEA) excise tariff to estimate national state revenue. To estimate the change in revenue specifically for the Banten Regional Customs Office, the national value is adjusted according to Banten’s proportional contribution to national production. The result of this calculation determines as the estimated impact of the excise tariff policy on the Banten Regional Customs Office.

RESULT AND DISCUSSION

This section analyses the impact of the excise tariff increase for Beverages Containing Ethyl Alcohol (MMEA) on MMEA excise revenue. The analysis is conducted in two stages:

1. National Analysis: Estimating the impact of the tariff increase on national MMEA production.
2. Regional Projection: Calculating the potential revenue for the Banten Regional Customs Office (Kanwil DJBC Banten) by applying the national production estimates to regional baseline data.

The Impact of MMEA Excise Tariff Increases on National Production

The analysis utilises the GEMPACK software and the 2016 Indonesian Input-Output (I-O) Table. The simulation applies the following exogenous shocks: (1) an 11.81% increase in domestic excise tariffs; (2) a 9.8% increase in import excise tariffs; and (3) a baseline economic growth rate of 5.2% (consistent with the KEM-PPKF framework). The model assumes a perfect competition market structure and market-clearing conditions. The results of this simulation are presented in Table 1.

Table 1. Simulated Impacts of Excise Tariff on the MMEA Industry
Source: GEMPACK Simulation Results

No.	Variable	Magnitude of Change
1.	Change in MMEA Industrial Output (Quantity)	3.4%
2.	Domestic Excise Revenue	25.31%
3.	Output Price	10.72%

Table 1 indicates that for Beverages Containing Ethyl Alcohol (MMEA) industrial output continues to grow, albeit at a moderated rate of 3.4%. This rate is lower than the baseline economic growth, suggesting that the tariff hike has a deceleration effect on the expansion of the for Beverages Containing Ethyl Alcohol (MMEA) industry.

However, despite the deceleration in production growth, the 25.31% projected increase in excise revenue is significant. This demonstrates that even with a slight slowdown in industrial volume growth, the 11.81% tariff increase effectively drives a substantial rise in total state revenue.

Calculation of Potential MMEA Excise Revenue for Banten Regional Customs Office

Based on the estimated national impact, this study projects the specific revenue implications for the Banten Regional Customs Office. The national projected revenue increase of 25.31% serves as the baseline multiplier to estimate regional performance for 2024. Table 2 presents the 2023 realisation data alongside the 2024 projections for industrial output and revenue.



Table 2: MMEA Excise Revenue for Banten Regional Customs Office

No.	Description	2023 (Actual)	2024 (Projected)	Magnitude of Change
1.	Class A Industrial Output (Volume)	68,052 kL	70,366 kL	2,313 kL
2.	Class A Excise Revenue	IDR 1.02 Trillion	IDR 1.279 Trillion	IDR 258 Billion
3.	Class B Industrial Output (Volume)	44,967 kL	46,496 kL	1,528 kL
4.	Class B Excise Revenue	IDR 1.483 Trillion	IDR 1.859 Trillion	IDR 375 Billion
5.	Class C Industrial Output (Volume)	1,291 kL	1,335 kL	43 kL
6.	Class C Excise Revenue	IDR 103 Billion	IDR 129 Billion	IDR 26 Billion

Source: Banten Regional Customs Office's data and GEMPACK simulation

The projections in Table 2 indicate that the Banten Regional Customs Office is expected to realise total for Beverages Containing Ethyl Alcohol (MMEA) excise revenue of IDR 3.2 trillion in 2024, rising from IDR 2.6 trillion in 2023. Consequently, the 2024 excise tariff policy is projected to generate a revenue increase of approximately IDR 600 billion for the Banten Regional Customs Office.

CONCLUSION

The implementation of the 2024 MMEA excise tariff increase is projected to moderate the growth of the for Beverages Containing Ethyl Alcohol (MMEA) industry to 3.4%. This rate trails the estimated national economic growth rate of 5.2%. However, despite this industrial deceleration, the policy is expected to generate a significant positive fiscal impact, with nominal for Beverages Containing Ethyl Alcohol (MMEA) excise revenue projected to increase by 25.31%.

The Banten Regional Customs Office (Kanwil DJBC Banten), as a vertical unit responsible for excise collection, is projected to mirror these national trends. Specifically, the impact of the 2024 tariff hike on regional production is estimated to result in output increases of 2,313 kL for Class A, 1,528 kL for Class B, and 42 kL for Class C. In terms of revenue realisation, these production figures correspond to projected revenue increases of IDR 258 billion for Class A, IDR 375 billion for Class B, and IDR 26 billion for Class C.

These findings indicate that the 2024 excise tariff policy is on track to achieve its dual strategic objectives. First, the policy successfully fulfills the regulatory mandate to control the consumption of Excisable Goods (BKC) by tempering the expansion of the for Beverages Containing Ethyl Alcohol (MMEA) industry. Second, it simultaneously enhances fiscal performance. Within the jurisdiction of Kanwil DJBC Banten, this manifests as a deceleration of industrial growth accompanied by a substantial optimization of Beverages Containing Ethyl Alcohol (MMEA) excise revenue.

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