Cigarette Excise Tax

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Does the Increase in the Cigarette Excise Tax Affect Cigarette Consumption?

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ABSTRACT (10 PT)

The level of cigarette excise rates is one of the factors of cigarette costs. However, it is unclear how high the cigarette excise rate should be in order to reduce smoking in Indonesia. The aim of this research was to see how effective the cigarette excise tariff policy was at lowering public cigarette usage. The study conducted a quantitative approach, employing survey data collection techniques on a number of smokers as well as in-depth interviews. The data indicated that a 12.5% increase in the cigarette excise charge had a negligible effect on reducing cigarette consumption. The author identified numerous variables that contributed to the tobacco excise tax increase's ineffectiveness as a policy.

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1. INTRODUCTION

Regardless of how much the government preaches about the risks of smoking, the public's cigarette consumption remains unchanged. The affordability of cigarette pricing may be contributing to Indonesia's rising uncontrollable cigarette consumption tendency. Currently, cigarettes are the second highest priority after rice, with six out of ten households in Indonesia incurring expenses to suit their cigarette needs [1]. Due to easy access to cigarettes, this habit has become ingrained in social life. As a result, smoking has developed into a way of life or even a necessity for its current users in Indonesia.

Cigarette spending in Indonesia tends to increase between 2015 and 2020 [2]. Even if there was a COVID-19 pandemic in 2019-2020, it did not convince people to quit smoking. Indeed, many people believe that there is no association between smoking and COVID-19 [3]. Smoking's adverse health consequences have resulted in a rise in the burden of disease financing that must be shared by the government. This has a negative impact on the country's economy, particularly the National Health Insurance (NHI) program for chronic disease health care. Spending on chronic diseases associated with smoking accounts for one-fifth of overall medical expenditures, worsening the NHI deficit [4].

To address the issue of cigarette usage, the government enacts numerous restrictions, one of which is the imposition of a cigarette excise. The implementation of an excise tax with the goal of reducing smoking prevalence undoubtedly has a number of benefits and drawbacks. This policy does not always work in terms of smoking prevalence reduction. Cigarette excise is a policy that is applied and evaluated on a constant basis in order to achieve the government's goal of reducing cigarette use. The implementation of a 12.5 percent cigarette excise tax in 2021 also results in a 4.7 percent increase in the state budget's tobacco product excise

income objective from 2020 to 2021 [5]. Cigarette prices increasing in response to the increase in cigarette excise is also believed to be a step toward public consumption suppression.

The application of cigarette excise on consumers is intended to maintain a reasonable price for cigarettes. Cigarette costs that are cheap or affordable can contribute to an increase in the prevalence of smoking. The government imposes excises and prices on cigarettes not merely to increase revenue, but also to discourage smoking. However, according to the WHO, the excise duty on cigarettes should be at least 70% of the retail price of the cigarettes. Thus, the imposition of a cigarette excise tax, which increases the price of cigarettes, is projected to decrease smoking prevalence in Indonesia [4].

However, cigarettes are inelastic products that lead to addiction, which implies that regardless of the price increase associated with the cigarette excise, cigarette buyers will continue to acquire these goods [6]. Indonesia is currently ranked third in the world in terms of cigarette use, behind China and India [7]. Furthermore, the cigarette excise tax policy does not just focus on consumption control; there are various other factors that must be studied and taken into account when increasing the excise tax policy each year. One of them is concerned with the welfare and long-term viability of tobacco industry workers and small-scale tobacco producers. Around 158,000 Indonesians are reported to work directly in the cigarette industry, while more than 526 thousand family heads rely on tobacco production for their living. If one family head supports at least four family members, the number of persons in Indonesia whose lives are impacted indirectly by tobacco usage is fairly large.

On the one hand, the high frequency of smoking imposes a significant financial burden on the state, but on the other hand, it is a well-known reality that cigarettes have developed into a social need. Smoking has developed into a culture and a source of contention within the industry. This is why the author wishes to assess be policy effectiveness of a 12.5 percent increase in the excise tax on cigarettes in lowering public cigarette consumption.

Frank J. Chaloupka, Lisa M. Powell, 41 Kenneth E.Warner mentioned in their study that excise taxes are a powerful tool for reducing tobacco use, the potential of excise taxes to significantly reduce consumption and save lives remains high [8]. This study is consistent with the findings of Li-Ming Ho et al., who found that when cigarette prices increased by an average of 9.51 percent, average annual cigarette use reduced by 3.56 percent. Additionally, income from tobacco taxes increased by 16.2 percent every year [9].

However, given the unique characteristics of Indonesia in comparison to the research locus of Frank and Li-Ming Ho, it appears that their hypothesis is not fully applicable in Indonesia. According to Prasetyo and Adrison, despite the Indonesian government's continued increase in cigarette excise rates, the complex tax system decreases the impact of cigarette excise hikes in making cigarettes more affordable. Additionally, the absence of a uniform retail selling price (HJE) for all types of cigarettes and a maximum tax burden on cigarettes of only 57 percent of HJE give additional incentives for cigarette makers to contain price rises [10]. Indeed, Murwendah and Vanessa claimed that, in comparison to Thailand, the state levies on tobacco consumption in Indonesia are less diversified, and hence have not been able to considerably lower the prevalence of smoking in the country. Murwendah and Vanessa advocate in this qualitative study that the government consider increasing the maximum tax burden to 70% in order to affect the affordability of cigarette costs in the community [11]. Dwi Budi Santoso and Angga Erlando demonstrate through secondary data analysis that a rise in cigarette pricing does not diminish people's desire to become smokers; rather, it demonstrates that the majority of Indonesians regard cigarettes to be a basic need [12].

The researcher employs Knoepfel's theory of policy effectiveness in assessing the effectiveness of the policy of increasing cigarette excise. Because Knoepfel's theory is centered on behavior modification, it is more applicable for researchers to utilize to ascertain and comprehend changes in cigarette consumption behavior prior to and following the increase in cigarette excise. More precisely, according to Knoepfel's public policy theory, the intended end outcome of a policy as a result of political administration activity is a concrete result. The end result is an effect that is palpable in the community's social environment. This final result can then be used to quantify the effectiveness of policies. As a result, this theory encompasses both impact and outcome aspects. The impact dimension is evaluated quantitatively and qualitatively. While the result dimension includes cost-benefit and cost-utility analysis indicators [13].

2. RESEARCH METHOD

2.1. Participants and recruitment procedure

To complete the three studies on cigarette excise in Indonesia mentioned previously, the author employs a different research approach, namely conducting a direct survey of 394 smokers from diverse locations in DKI Jakarta, Indonesia's capital city. This is where the research is novel; in addition to utilizing a variety of research methods, researchers uncover elements affecting the effectiveness of this cigarette excise

legislation. Quota sampling is used to collect data. Respondents were randomly selected from five cities in the DKI Jakarta province.

2.2. Data Collection

Face-to-face interviews were performed online via the Zoom and Google Meet programs. Each interview was taped and lasted around 60 minutes. Interviews enabled the research team to guide respondents through the questionnaire, including probing for unclear questions in order to achieve valid and reliable responses. The interview began with screening questions and progressed to inquiries about the respondents' characteristics, including their gender, age, domicile, occupation, education, and smoking habits. Then insert the core variable issue, namely the effect of the increase in cigarette taxation on smoking consumption behavior. Additionally, several respondents served as key informants for the in-depth interviews. The questionnaire items that required additional exploration were explored throughout the in-depth interview process. Additionally, researchers attempted to excavate data that had been omitted from the survey.

2.3. Data Analysis

The coding sheets were used to enter the responses to the questionnaires used during the face-to-face interviews. The researcher previously produced a code book to serve as a guide for the study team as they entered data into the coding sheet. Following that, the researcher developed a master file for SPSS input data preparation. All data entered into the coding sheet is sent to the sheet data view in SPSS once it has been cleaned for possible and contingency codes. SPSS next processes the data that has been entered so that it may generate an output that can be analyzed. Naturally, data processing is guided by a data analysis plan that has been developed following the completion of all data collection operations. The quantitative data generated by this survey is then examined and supplemented with information gleaned through in-depth interviews with key informants.

3. RESULTS AND DISCUSSION

3.1. Expected Effects Of The Cigarette Tax Increase

3.1.1 Changes in Smoking Interest

The government implemented a policy of increasing the Ad Naturam excise tax on cigarettes by 12.5% with the primary goal of decreasing interest in cigarette smoking. The government took this measure in response to the World Health Organization's proposal that excise taxes be utilized not only to increase state revenue, but also to reduce smoking prevalence [4]. However, the gain in state revenue is more than offset by the decline in consumer interest. By 2020, the Indonesian tobacco products business will have contributed 10.11 percent of the APBN [14]. Meanwhile, as indicated in Figure 1 below, the change in interest in cigarette usage following the increase in excise taxes was not significant.

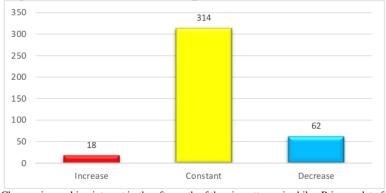


Figure 1. Changes in smoking interest in the aftermath of the cigarette excise hike. Primary data from a 394-smoker survey, (2021).

The majority of smokers, 79.69 percent (314 respondents), stated that their interest in cigarette consumption remained unchanged as a result of the increase in cigarette tax rates. Indeed, 4.56 percent (18 respondents) reported an increase in their intake. These findings demonstrate that the amount of interest in cigarette smoking is not solely determined by price, but also by other variables. One of the reasons is that

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cigarettes contain addictive compounds that create a dependence in smokers, making it difficult to quit [10]. Salaman et.al. research also indicates that smoking can have a beneficial psychological effect on its users' social lives [15]. To explain this reliance, consumer behaviour among smokers demonstrates that there are unique requirements that can only be met by cigarettes [16]. When evaluated at a macro level, economic variables, most notably pricing, account for a relatively tiny portion of the government's solution to achieving a smoke-free society.

3.1.2 Changes in Cigarette Consumption

With reference to the prior debate, it is obvious that if there is no change in interest in cigarettes as a result of price rises, there will be no change in cigarette consumption. Indeed, even during COVID-19, cigarette purchases climbed by 13,1%, despite the fact that smoking increases the risk of death by 3,86%. As illustrated in Figure 2, there is no change in cigarette consumption while the condition of interest is constant.

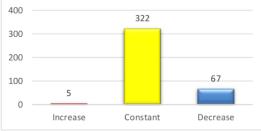


Figure 2. Changes in smoking consumption in the aftermath of the cigarette excise hike. Primary data from a 394-smoker survey, (2021).

A total of 322 respondents (81.72 percent) said that, notwithstanding the increase in the price of cigarettes due to the excise policy, public consumption remained stable. This indicates that, in addition to the dependence component, there is another factor that contributes to this state, namely that the policy of increasing cigarette taxes is still insufficiently effective. This is because the tariff rise is still insufficient to reduce the public's affordability of cigarettes. This is consistent with the findings of interviews, which indicate that the increase in cigarette excise taxes remains less than the increase in average household income.

Even under normal circumstances, Nizamie and Kautsar emphasize that when cigarettes are regarded as a typical good, their use will undoubtedly increase whenever money increases [17]. In contrast to high-income countries, when the average person's income increases, the excise tax must increase to keep the cigarette price increase greater than the average person's income growth [18]. Thus, in Indonesia, the increase in cigarette excise duty should be more than the growth in people's incomes, so that the price element contributes to cigarette use reduction.

The difficulties associated with increasing high cigarette excise taxes come when the government requires consideration of a variety of factors. This is because the cigarette industry has helped in the absorption of labour in Indonesia. In 2021, the Ministry of Business reported that the tobacco industry employed up to 5.98 million people, from the planting phase to distribution [19]. As a result, when the price of cigarettes becomes too high, the government is forced to manage production in order to avoid losses and save on expenditures such as job termination. When this occurs, the government should be held liable for the actions of these employees.

Another issue is that cigarette output increased by 4.3 percent during COVID-19, reaching 235.9 billion sticks [14]. This is another possibility that can be identified based on the study's findings. When the price of cigarettes becomes excessively high owing to dependence, the identification is made by switching to cheaper cigarette brands, rolling cigarettes yourself, or purchasing illegal cigarettes. That is, when smoking becomes unaffordable to smokers owing to "special needs," smokers will seek out many other options, preventing the goal of lowering cigarette consumption from being fulfilled. This demonstrates that Indonesia's current policy of increasing cigarette excise is not the primary solution, but rather necessitates a variety of remedies to the problems that occur as a result of the policy.

3.1.3 Changes in Expenditure Allocation for Cigarette Consumption

The second factor that could account for the increase in cigarette excise rates is that the majority of smokers regard cigarettes as a basic requirement, which means that each smoker typically operates on a set budget. **Figure 3** demonstrates that smokers have a fixed budget before and following the policy of increasing cigarette excise taxes.

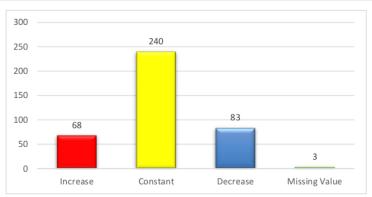


Figure 3. Changes in the allocation of cigarette consumption expenditures following the cigarette excise hike. Primary data from a 394-smoker survey, (2021).

Figure 3 shows that the majority of respondents (60.9 percent) reported no change in the allocation of cigarette consumption expenditures. Surprisingly, up to 68 respondents (17.2%) reported experiencing an increase. This is consistent with the fact that, even during a period of economic disruption caused by COVID-19, smokers maintained a set budget for cigarette spending and even increased it [20]. According to Mankiw's view, when an item is classified as a requirement, it becomes "stretchy" [21]. This implies that cigarettes have become a necessity, such that even if the price of cigarettes rises, smokers will continue to use them regardless of the quantity consumed.

According to the survey findings, the majority of respondents regard cigarettes as a tertiary necessity. In contrast to these findings, figures from the Central Statistics Agency in March 2021 indicate that cigarettes had surpassed food and beverages as a primary requirement, as indicated in **Figure 4** [22].

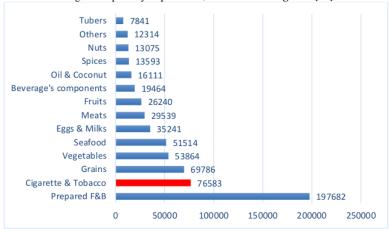


Figure 4. Indonesian Public Expenditure on Average by Commodity Group. Secondary data processed from Central Statistics Agency, (2021), [22].

Following the consumption of food and beverages, the majority of Indonesians spend on cigarettes. **Figure 4** demonstrates that cigarettes conform to the consumptive's paradigm, in which consumption is motivated by individual preferences rather than logical choices based on necessities. Indeed, when other demands are considered, cigarettes, with their bad health consequences, should not be ranked second. This disorder is prevalent among smokers who live in impoverished circumstances. According to Selvin and Erlinger's research, smoking behaviour can exacerbate poverty by diverting limited household money to tobacco goods [23]. Additionally, Peter and Olson argue that money that is insufficient to meet needs exacerbates the challenge when budgeting spending for a particular need [24]. Historically, the World Health Organization discovered in 2009 that income spent on tobacco and its derivative goods is more than income

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spent on other products in impoverished households [25]. This means that until 2021, the reality that cigarettes have become a necessary component of life will remain unchanged.

3.1.4 Changes in the Position of Cigarettes in the Strata of Living Needs

According to a study conducted by researchers, the majority of people regard cigarettes as a tertiary necessity in their hierarchy of life necessities, both before and after the policy of increasing cigarette taxes was implemented. Following the rise in cigarette excise, respondents who identified cigarettes as a primary need decreased by only 4.32 percent, while respondents who identified cigarettes as a secondary need decreased by only 2.03 percent. On the other hand, the proportion of respondents who regard cigarettes as a tertiary necessity has increased to 6.36 percent. This demonstrates that the pricing instrument has a significant influence on how people categorize cigarettes in terms of their life necessities. Nonetheless, the drop in people allocating cigarettes as priority and secondary needs remains small, implying that the policy of increasing the cigarette excise has had little effect on cigarettes' place in the hierarchy of living necessities of cigarette consumers.

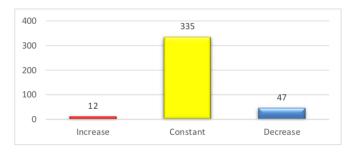


Figure 5. Changes in the position of cigarette in the level of necessities of life according to their intensity following the cigarette excise hike. Primary data from a 394-smoker survey, (2021).

In **Figure 5**, 335 respondents (85.02 percent) indicated that the place of cigarettes in the hierarchy of consumers' necessities of existence tended to remain stable when cigarette costs were increased by excise instruments. Due to the excise policy, public consumption is maintained at a consistent level. This phenomenon implies that despite the price increase, cigarettes remain relatively affordable for the general populace. The Central Statistics Agency says that the Indonesian people's expenditure on cigarettes and tobacco has remained stable, even increasing from 2017 to 2019, when individuals can spend an average of Rp. 69,413 per capita per month on tobacco consumption [2]. This condition demonstrates that cigarettes are inelastic items for cigarette customers, implying that cigarette consumption will continue despite the increase in cigarette taxation. Of course, this is backed by the fact that cigarettes contain addictive chemicals that might result in dependence. This reliance has succeeded in elevating cigarettes to the level of substantial necessities of life, such that their place in the hierarchy of consumer necessities of life has remained relatively stable despite the implementation of the policy of increasing cigarette excise.

Cigarettes are viewed as a tertiary necessity by the majority of people in their hierarchy of life requirements. However, as illustrated in **Figure 4**, government spending on cigarettes has outpaced government investment on fundamental requirements. This means that there is a possibility that cigarettes' position in the hierarchy of living necessities will shift from tertiary to secondary and perhaps primary needs as a result of the government's predominance in spending on tobacco goods relative to addressing basic needs.

3.1.5 Changes in Allocation of Smoking Time

Increased cigarette excise taxes are intended to diminish the intensity of public cigarette use, hence reducing the public's time allocation for smoking. Consumers should spend less time smoking cigarettes if they receive fewer cigarettes.

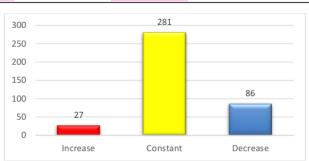


Figure 6. Changes in the smoking time allocation in the aftermath of the cigarette excise hike. Primary data from a 394-smoker survey, (2021).

However, there is no discernible change in the level of people's cigarette consumption, as measured by smoking interest, degree of cigarette consumption, allocation of cigarette spending, and the place of cigarettes in human life strata. The majority of respondents (71.3 percent) have not noticed a difference in the amount of time they spend smoking in their daily lives, according to Figure 6. As a result, the majority of people's time allocation for smoking remains stable.

3.2. Unexpected Effects of The Cigarette Tax Increase

3.2.1. Smokers Seek for Illegal Cigarette (No Excise)

Although the cigarette excise increases the cigarette's price in general, most of the respondents are not considering changing their choice of cigarettes. Among 394 respondents, 205 (52%) of respondents decide to maintain their consumption as present. Though the price may gradually and continuously increase over time, the majority of respondents prefer to increase or find other sources of income, so they could manage their consumption of cigarettes. The primary reason for maintaining the current cigarette is due to the flavor of the cigarette. Respondents believe if they changed their choice into illicit cigar, it would not satisfy their needs. In this sense, cigarettes become a necessity. It could only, and only, be consumed if they fulfill certain standards as mentioned by the respondents (flavor, aroma, ingredients, and so on).

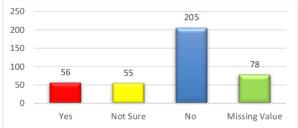


Figure 7. The proportion of smokers who seek illicit cigarettes (without excise duty) in the aftermath of the cigarette excise hike. Primary data from a 394-smoker survey, (2021).

On the brighter side, 56 (14%) respondents considered seeking illicit cigarettes. Primary consideration is the price of the cigarette itself. If the price hikes beyond their financial capability, switching into illicit cigarettes is considered as an option. Though in some cases, some respondents also switch into much more expensive cigarettes. As a simple illustration, if a certain Brand A with basic quality has a price approaching Brand B with premium or higher quality, respondents may switch their choice from Brand A to Brand B. Respondents tend to upgrade their choice of consumption, rather than paying a higher price for the same quality. These phenomena also support the idea that cigarettes become a necessity in respondents' daily needs. Considerations also should be put into the other 55 (13.9%) respondents that are still uncertain of their options. If not carefully maintained, there is always a possibility for them to seek illicit cigarettes.

Based on the data gathered, increasing excise as a part to minimize cigarette consumption should be carefully reviewed. More than half of the respondents firmly decided that they would continue to consume, though the price is "of the roof". Further research needs to be done in different settings, mainly to see correlation, while also regression in order to measure impact of excise through cigarette consumption. Even more, the next part of the data shown certain peculiar finding regarding the respondent's behavior on cigarette

consumption.

3.2.2. Smokers Vary the Type or Brand of Cigarettes Based on Financial Resources

Figure 8 shown the tendency of respondent to make certain adjustments after excise has been applied. Most of the respondents (54%) showed that they switch to a lower price. Though lower price cigarettes may not satisfy their needs, respondents tend to endure the quality of the lower price cigarettes. In this sense, cigarettes are still a necessity. It is better to smoke some, rather than not smoking at all.



Figure 8. The proportion of smokers who make adjustments to the brand and price of cigarettes after the increase in cigarette excise. Primary data from a 136-smoker survey, (2021).

On the other side, 32% of the respondents decide to switch to a higher price. As Illustrated on the previous section, respondents tend to switch into higher prices based on their cost-benefit analysis. If certain Brand A increased their price though maintaining the same quality, while approaching the price of Brand B with higher or premium quality, respondents choose to consume brand B instead. Rather than paying more for getting "the usual", 34% respondents choose to upgrade and "pay more to get more". Paying a higher price for the same cigarettes is considered not benefitting, and it was believed to cause them more loss rather than benefit. In this sense, though more research needs to be done, there might be a positive correlation between excise and cigarette consumption. Hypothetically, with the increase of excise, there might be an increase in cigarette consumption.

Last but not the least, the 14% of respondents also needs to be carefully reviewed. Though the price may change, the respondents seemed to be loyal to a certain brand. This data showed a certain tendency of respondents could be addicted to certain brands, and may provide further challenges than the two. Further research needs to be done, but based on the data, there might be a possibility that these respondents may not stop consuming cigarettes, no matter if excise is applied to the cigarettes' price. Ultimately, these 14% of respondents might be a living proof to show that excise has no impact at all to reduce cigarette consumption.

3.2.3. Cigarette Addiction Has Not Changed

Furthermore, to see whether excise would affect the respondents' consumption on cigarettes, Figure 9 showed the summary on respondents' dependency toward cigarette consumption after excise is applied. About 296 of 394 respondents showed that their dependency remained constant. In this sense, whether excise is applied or not, consumption of cigarettes would still remain the same.

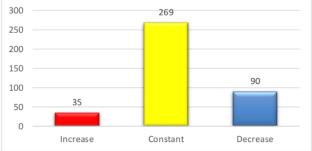


Figure 9. Changes in cigarette dependency following an increase in cigarette excise. Primary data from a 394-smoker survey, (2021).

There are many other factors that may contribute to this constant dependency. Some respondents believed that consuming cigarette is a lifestyle that they needed to regularly consume cigarettes to be accepted by certain social groups. Some believe that there are positive effects after consuming cigarettes, such as relieving stress, increase in focus, et cetera. This finding is consistent with Enjelita and Helga's research, which found that while the majority of participants perceived smoking as a health risk, they reduced their risk perceptions of smoking-related diseases as a result of positive feelings about perceived current benefits of smoking and personal justification for smoking [28]. Some others maintained the habit as part of their addiction, while ultimately, putting cigarettes as their daily necessities and prime commodity. Based on indepth interviews conducted, some respondents allocate more funds for cigarettes rather than dairy products, poultry, or even carbohydrates.

On the positive side, 90 respondents showed a certain decrease of dependency on cigarettes. Respondents simply couldn't afford to purchase cigarettes, which forced them to find other replacements for their addiction. In this sense, there is always a possibility of side effects from regularly consuming cigarettes into not consuming cigarettes at all. Further research needs to be done, to see if the sudden cessation may affect them psychologically or even physically. Increase of excise may reduce cigarette consumption, but may also invite more challenges to recover smokers from their addiction.

In the end, 35 respondents that showed an increase in dependency should be studied furthermore. Certain control variables need to be reviewed, such as age, sex, occupation and so on, to determine whether this increase applicable in general or only shown in certain specific groups. In order to determine the net impact of excise on cigarette consumption, multiple regression analysis needs to be done. The result of the analysis then could be used as a basis to design precise excise policy in reducing cigarette consumption.

3.3 How Effective is The Cigarette Excise Increase in Lowering Consumption?

A policy of increasing the cigarette excise tax rate should have been implemented to reduce cigarette use. The World Health Organization advised that the government increase the excise tax on cigarettes by up to 70% in order to increase the price of cigarettes and progressively reduce smoking consumption [4]. As previously noted, Thailand and the Philippines have both succeeded in making cigarette excise tax policy the major regulator affecting cigarette prevalence [26]. In comparison to Indonesia, the cigarette excise tax rate has changed consistently during the last few years [27], but the affordability index has not changed significantly. Due to these modest changes, the usefulness of the cigarette excise tax is questioned, as it does not influence people's behavior to quit smoking.

Numerous elements can influence the policy effectiveness in Indonesia. According to Knoepfel, policy effectiveness may be quantified in two dimensions: policy impact and policy outcome [13]. For that point, the Knoepfel indicators theory used in this research should be reorganized and compared to actual facts and difficulties other than the price itself in order to explain the increased cigarette excise tax's effectiveness from policy impact dimension.

3.3.1. Quantitative Evaluation

Quantitative evaluation determines if desired changes are visible in all instances when implementation measures are taken [13]. Quantitative evaluation is used to examine or measure the effectiveness of a policy by undertaking substantial evaluative research. Evaluative research is a process of design and evaluation that involves systematic data collection and analysis in order to ascertain the value or benefits of a policy practice. Quantitative evaluation is used to demonstrate that the policy is on track.

This study conducted a quantitative analysis of several indicators, including changes in cigarette consumption, changes in the allocation of spending on cigarettes, changes in the position of cigarettes in the hierarchy of life necessities according to intensity, changes in the allocation of smoking time, and the tendency of smokers to seek illegal cigarettes (no excise). The quantitative evaluation findings were derived from the survey data of 394 respondents, as indicated in **Figure 10.**

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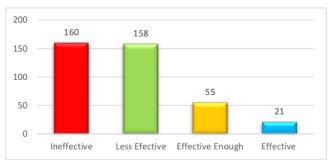


Figure 10. The Cigarette Excise Increase Policy's Impact from Quantitative Indicators. Primary data from a 394-smoker survey, (2021).

As many as 41% of 394 respondents demonstrated ineffective results, 40% (158 respondents) demonstrated less effective results, 14% (55 respondents) demonstrated moderately effective results, and 5% (21 respondents) demonstrated effective results. This suggests that the 12.5% increase in the excise tax on cigarettes has had no effect on reducing cigarette consumption as indicated by quantitative indicators.

In principle, a rise in cigarette excise that increases the price of cigarettes is predicted to lower public consumption, as the theory of demand argues that when the price of an item increases, the quantity requested of the item decreases, provided other factors remain constant [21]. However, the fact is that a rise in cigarette prices has little effect on cigarette consumption reduction since cigarette prices remain cheap in comparison to people's wages. Another critical thing to consider is that the majority of smokers already have an addiction to cigarettes as a result of the addictive compounds included in them. Even if the price increases, smokers will attempt to continue purchasing it, even if it means foregoing other necessities. As a result, one could argue that the demand for cigarettes is inelastic.

The results of these quantitative indicators demonstrate the ineffectiveness of the policy of increasing the cigarette excise tax, as there is no change in the number of cigarettes consumed, the allocation of spending on cigarettes, the position of cigarettes in the hierarchy of necessities of life, and the allocation of smoking time. The vast majority of people make no attempt to seek illegal cigarettes. In other words, nothing changes.

3.3.2. Qualitative Evaluation

A qualitative evaluation was conducted following the rise in the cigarette excise tax on numerous variables, including changes in interest in smoking, adjustment of types or brands of cigarettes to budget allocations, and changes in cigarette addiction. The quantitative evaluation findings were derived from the survey data of 394 respondents, as indicated in **Figure 11.**

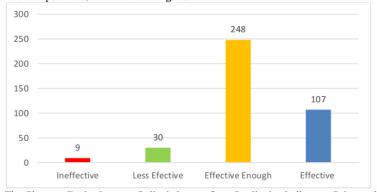


Figure 11. The Cigarette Excise Increase Policy's Impact from Qualitative Indicators. Primary data from a 394-smoker survey, (2021).

As many as 63 percent of 394 respondents had quite effective results, 27% (107 respondents) had effective results, 8% (30 respondents) had less effective results, and 2% (9 respondents) had ineffective results. According to three qualitative indicators, a 12.5 percent increase in cigarette excise duty has a moderate effect on lowering cigarette usage.

The rise in cigarette excise has an effect on only one of the three qualitative indicators: behavioral changes in cigarette brand selection in response to cheaper price. According to **Figure 8**, 54% of respondents indicated a desire to switch to a lower-priced cigarette. While the other two indicators, namely interest in smoking and cigarette dependence, are assumed to be constant. In other words, little change occurred as a result of qualitative indicator measurement. Cigarette prices that remain diversified and affordable are what continue to provide an opportunity for the cigarette excise to fail to curb cigarette consumption.

3.3.3. The Cigarette Excise Increase Policy's Effectiveness from Policy Impact Dimension

The impact of a policy is the total change in the behaviour of a target population, whether expected or not [13]. In connection to the policy of increasing the cigarette excise, the expected changes are related to the positive impacts, such as reducing cigarette consumption and smoking prevalence in the community. Meanwhile, the unexpected changes are attributable to the massive distribution of illegal cigarettes in order to meet consumer demand induced by the increase in smoking due to high excise. The dimensions of policy impact can be quantified through the use of quantitative and qualitative indicators. Evaluating a policy's impact entails a methodical comparison of the consequences that should have occurred based on the plan's assumptions and the actual impacts. Through study of each of these indicators, the effectiveness of the policy in terms of the dimensions of the policy impact can be seen in **Figure 12.**

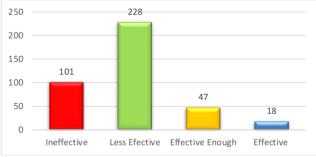
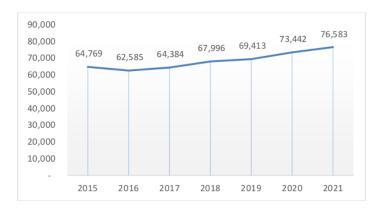


Figure 12. The Cigarette Excise Increase Policy's Effectiveness from Policy Impact Dimension. Primary data from a 394-smoker survey, (2021).

As many as 58% of 394 respondents showed fewer effective results. 26% (101 respondents) showed ineffective results, 12% (47 respondents) showed moderately effective results, and 5% (18 respondents) showed effective results. This means that the policy of increasing the cigarette excise tax by 12.5% has a less effective impact on reducing cigarette consumption.

The findings of this study are compatible with the results of independent measurements of each indicator. The 12.5 percent increase in the cigarette excise tax in 2021 has had no effect on cigarette usage, as prices remain accessible for both workers and non-workers. This remains consistent with the findings of Prasetyo & Adrison [10] and Santoso & Erlando [12] in 2020, adding to the growing body of evidence recommending that cigarette costs be increased even further in order to minimize cigarette consumption.



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Figure 13. Average Public Expenditure on Cigarettes. Secondary data processed from Central Statistics Agency, (2015-2021), [2], [22].

Furthermore, the addictive nature of cigarettes causes smokers to continue prioritizing cigarette requirements above other essential needs. Thus, as illustrated in **Figure 13**, the budget allocation for cigarette consumption tends to increase year after year. In addition, the social milieu makes it harder for smokers to quit.

3.4. Contributing Variables in The Policy Effetiveness

In practice, increasing the excise tax on cigarettes has had no effect on lowering public cigarette consumption. Numerous reasons contribute to the policy's ineffectiveness, including the following:

3.4.1. Price Factor: Cigarette Prices Are Still Affordable

The increase in cigarette excise tariffs is aimed at increasing the selling price of cigarettes in the community so that people are expected to limit their cigarette consumption. Indeed, the public responded to the policy of increasing the cigarette excise tax by altering their cigarette consumption patterns in accordance with their income. Cigarette customers adjust their cigarette consumption according to their financial level. When consumers have a high income, they will purchase cigarettes at a higher price, and vice versa. As a result, the public can control the affordability of cigarettes based on their financial situation.

The average person's income rises faster than the price of cigarettes.

In some low-and middle-income countries, income growth outpaces the price of cigarettes, making cigarettes more affordable. This phenomenon is corroborated by data from the WHO's 2019 Global Tobacco Epidemic Report, which indicates that Indonesia is one of the Asia-Pacific region's countries with the lowest cigarette prices in 2018. This is due to both the regular increases in excise and cigarette prices that Indonesia implements while remaining below the rate of inflation and the increase in the level of people's incomes [12]. Meanwhile, in a number of high-income countries, the overall increase in household income was followed by an increase in cigarette excise, ensuring that the increase in cigarette prices remained greater than the overall increase in household income [27].

The Complexity of the Cigarette Excise Structure

The affordability of cigarettes in Indonesia is further influenced by the intricacy of the country's excise structure, which is primarily intended to benefit small producers. However, this complex structure improves the manufacturing of tobacco goods on the market, allowing for a diverse range of tobacco products at a range of prices. This allows cigarette buyers to select the type of cigarette that is most affordable for them.

Adjusting the community's cigarette consumption pattern also entails reallocating their expenditure needs. This relates to cigarettes' position in the cigarette consumer's hierarchy of life necessities. While the majority of cigarette consumers believe that cigarettes are a tertiary need, the fact that cigarettes include ingredients that induce consumers to develop dependence makes cigarettes an inelastic good for certain people, such that price increases have little effect on general consumption. With this state of dependence, the community's need for cigarettes has the potential to transition to a major need. According to statistics, there has been a shift in the allocation of public expenditure to accommodate their desire for cigarettes, notably in the expenditure sector for basic dietary needs. Thus, it is difficult for people who are habitually smokers to reduce their cigarette usage to the point where excise taxes have no effect on their purchasing power.

According to the pricing factor, increasing cigarette tax rates did not result in a reduction in public cigarette usage. This implies that, despite frequent rises in cigarette tax rates, the selling price of cigarettes has remained affordable for most people. Thus, when considering the price component, this legislation had no effect on lowering the amount of public cigarette consumption.

3.4.1. Non Price Factor

Due to the nature of the dependence induced by cigarettes, cigarettes become a necessary evil.

Apart from the affordability of cigarette pricing, the majority of people remain relatively reliant on cigarette consumption despite the increase in cigarette excise. This is due to the presence of addictive chemicals, which make it difficult for smokers to cut back on their intake even as prices rise. The reaction to the addictive chemicals found in cigarettes has a very active effect on the human central nervous system. Thus, the longer and more frequently someone smokes, the more difficult it is to quit [13].

For the majority of smokers, nicotine has unintentionally been used to control them as a chemical that causes physical and psychological dependence. Because the nicotine in cigarettes has been shown to improve the mood, promote pleasant feelings, and induce calm, smokers tend to increase their daily cigarette consumption. The satisfaction derived from cigarette use subsequently develops into an addiction, which results in uneasiness and anxiety if cigarette consumers stop smoking [26].

Smokers' psychological benefits are deemed to outweigh their expenses or losses.

By and large, smokers believe that smoking has a beneficial effect on mental health. Indeed, there is a nicotine withdrawal phenomenon, which is a state in which a nicotine-dependent body experiences symptoms such as sensitivity, irritability, insomnia, anxiety, and increased appetite when nicotine is not consumed [27]. When smokers abstain from tobacco for an extended period of time, they experience unpleasant symptoms such as sensitivity, irritability, anxiety problems, and even melancholy. Smoking alleviates these symptoms, creating the notion among smokers that smoking has psychological benefits.

The majority of people believe that the psychological and physical benefits of smoking outweigh the costs incurred by consumers. With inexpensive rates, smoking is believed to boost self-esteem, pay attention, give tranquillity, and alleviate tension. In addition, individuals feel that they have not had any negative impacts. In fact, just because an impact has not been felt does not mean it does not exist.

The Social Environment's Influence, Specifically from Parents and Peers

Most cigarette consumers live in a social setting where smoking is prevalent. As a result, people tend to emulate the habits prevalent in their immediate environment. For instance, in a family context where smoking is prevalent, it is natural for young sters to adopt their parents', siblings', or relatives' smoking habits. As a result, smoking habits will persist throughout the social context.

All of these non-price considerations are essentially assumptions or personal beliefs of smokers that can be contradicted by genuine health and psychological data. The government must conduct education on a regular and continual basis in order to eradicate this erroneous mentality.

4. CONCLUSION

The data indicated that a 12.5% increase in the cigarette excise charge had a negligible effect on reducing cigarette consumption. The affordable price of cigarettes; the nature of the dependence caused by cigarettes makes cigarettes a necessity that must be fulfilled; the psychological benefits obtained by smokers are considered to be greater than the costs or losses; and the influence of the social environment, namely from parents and peers who have a smoking habit are some of the ineffective factors of the policy of increasing cigarette excise.

As a fiscal instrument for mitigating cigarette consumption's negative externality, it is proposed that the cigarette excise tax be increased to a level that has a considerable effect on cigarette pricing, with the goal of making cigarettes increasingly unaffordable. Cigarette excise increases are expected to have a significant influence on pricing, increasing it by at least 25%, depending on inflation and consumer income. According to the study's findings, cigarettes are becoming prohibitively expensive for the community, with a minimum price of IDR 50,000.

The findings of this research led to the identification of an intriguing area for further research. First, at what price point in each country do cigarettes become an expensive and unaffordable product for the majority of people? Second, how to simplify the excise tax structure in order to achieve the goal of lowering cigarette consumption; this is obviously tied to the percentage level of cigarette excise included in cigarette costs.

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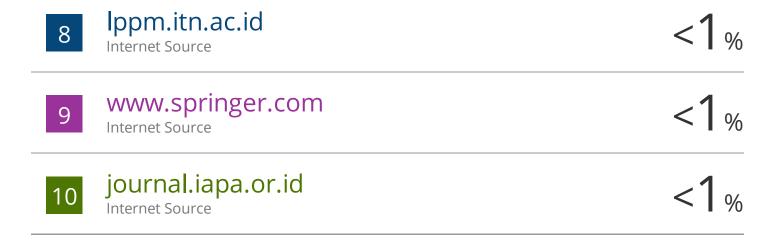


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