

Roadmap of Excise on Cigarette Policy Package in Indonesia: an Analytical Hierarchy Process Approach

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Abstract: On national budget, the revenue from excise is keeping to increase as the consumption level of cigarette tends to increase as well. The need of high revenue to satisfy the expenditure will tend to force the government to keep this industry to be existed. However, the potential loss of the state revenue caused by the illicit products is threatening. This study attempts to address this policy problem by providing policy recommendations based on in-depth analysis and evaluation of the policy alternatives. The Analytical Hierarchy Process employed to obtain quantitative measurement of the analysis. As the need of the state revenue to satisfy the national budget, thus the high excise revenue will be required, whilst on the other side the consumption of cigarette needs to be controlled. This confirms that the increase in excise rate will affect in curbing the cigarette consumptions. As several stakeholders will be impacted in the reduction its economic output to the overall economy, thus the Government of Indonesia need to shift this impacted industries to other sectors which will obtain a better output. Finally, this paper recommends an integrated roadmap of excise policy package for controlling the cigarette consumptions in order to satisfy and ensure the national budget, curbing the cigarette consumption and managing the cigarette industries. The proposal comprises of: increasing the excise tariff, encountering the illicit cigarette, simplifying the cigarette industry structure, non tariff policy, introducing new potential excised objects, and shifting the impacted sectors.

Keywords: *Excise, related stakeholders, roadmap*

1. Introduction

To fulfill its task and function, the government has to secure its revenue sources, one of those are from excise. As the demand on state budget increases, it is expected that excise revenue moves up in parallel. In the state budget 2009, it is anticipated that the state revenue from excise will rise up to 54.5 trillion rupiahs or 1% of GDP. This calls for appropriate excise policy that is capable to satisfy the state objective of meeting its budget demand. Article 2 of The Law No 39 year 2007 on the amendment of The Law No 10 year 1995 on Excise stipulates that Excise be imposed on goods with the following characteristics: its consumption needs to control, its circulation needs to supervise, its consumption ensue a negative impact to community or environment, and its consumption needs an imposition of state levy for the purpose of justice and balance. Article 4 of the same law stipulates that the Objects of the Excise are the followings: ethyl alcohol or ethanol, alcoholic beverages including alcoholic concentrate and tobacco products.

State Budget 2008 – 2009 (Trillion Rupiahs)

Items	2008		2009	
	Proposed Budget	As % of GDP	Proposed Budget	As % of GDP
A. Total Revenues and Grants	895.0	20.0	848.6	15.5
I. Domestic Revenue	892.0	19.9	847.6	15.4
1. Tax Revenue	609.2	13.6	661.8	12.1
a. Domestic Tax	580.2	12.9	642.2	11.7
- Income Tax	305.0	6.8	319.6	5.8
- VAT	195.5	4.4	233.6	4.3
- Land and Building Tax	25.3	0.6	23.9	0.4
- Duites on Land and Building	5.4	0.1	7.2	0.1
- Excise	45.7	1.0	54.4	1.0
- Others	3.4	0.1	3.5	0.1
b. International Tax	29.0	0.6	19.5	0.4
2. Non Tax Revenues	282.8	6.3	185.9	3.4
II. Grants	2.9	0.1	0.9	0.0

Source: Ministry of Finance

At 2006, there are approximately 4,000 cigarette companies operating in Indonesia, six of which hold more than 75% of total national production of cigarette; three of the biggest cigarette companies pay more than 77% of total excise revenue. More than 3,900 cigarette companies are being operated in a very traditional way with the production of hand-made cigarette and a workforce of 2 to 10 employees. Aggregated annual production of these cigarette companies stands at less than 6 million sticks of cigarettes, which are mostly served to local market. These companies have to face with companies that accounts for the production of more than 2 billion cigarette sticks per year and a workforce of more than 10,000 workers. The current cigarette excise is determined based on 4 components: minimum selling price (Harga Jual Eceran/HJE), excise tariff, Company Production Layer (Golongan Pengusaha Pabrikasi/GPP), and tobacco product type (Jenis Hasil Tembakau/JHT). The calculation method was so designed to regulate competition among those companies, which possess very different characteristic in terms of financial support, number of workers and total production per annum. On the flip side, however, this policy renders the excise calculation and industry structure very complex. Thus, this paper attempts to provide a sound policy recommendations based on an in-depth analysis which is employing Analytical Hierarchy Process (AHP) to obtain quantitative measurement of the analysis.

2. Methodology

All related information and data including regulations and law are collected until 2009. Data was collected from the related stakeholders such as Ministry of Finance, Ministry of Industry, Ministry of Farming, tobacco companies and anti tobacco NGO. Criteria for evaluation will be employed such as economic efficiency, operational feasibility, financial feasibility, and political viability. The policy analysis also identifies and assesses key players, interest groups, and institutions that may have significant influence on the success of the policy alternatives. The Analytical Hierarchy Process (AHP) method employed to obtain quantitative measurement of the analysis.

Research Questions: The study was conducted to answer several research questions as follows:

- What are the main stakeholders of cigarette industry in Indonesia?
- What are the policy alternatives to manage the cigarette industry in Indonesia?
- Which policies are prioritized by the stakeholders of cigarette industry in Indonesia?

3. Background

Roadmap of Tobacco Industry: At 2007, the Minister of Industry introduced a Roadmap of Tobacco Industry. The Minister, whose ministry was mandated to foster the productivity of the industry in Indonesia, considered that the tobacco-related industry must follow the strategy. The strategy was crafted in 3 time-spans: short term, medium term and long term. This roadmap will give guidance on how to manage the tobacco industry in the future based on national interest as well as priority. In the short term, starting from year 2007 to year 2010, first priority will be given to the workforce aspect, state revenue the second priority and health the third priority. This means that in the wake of the financial crisis in 1997-1998, whose impact was predicted to last until 2010, the government will pay more attention to employment issue over that of state revenue and health. In the medium term, from 2010 to 2015, state revenue will receive first priority, followed by health aspect and the workforce aspect. The government was confident that in 2010 the impact of the financial crisis would be revamped and forecast the demand for increased state revenue as the need of the government expenditures increase - excise is considered as one priority mechanism to bridge the fiscal gap. In the meantime, however, the fact that health aspect will become second priority mean that excise tariff will need to move up to a moderate notch and that non tariff regulation be more intense to guarantee consideration on health aspect from tobacco industry in terms of advertisement, smoking venue, etc. The long term strategy of 2015 – 2020 will see health aspect as the first priority, and the second and third priority go to workforce and state revenue respectively. In this term, the production of cigarette will be tightly controlled and some of the industry will be prepared to shift to the other industry. The total volume of cigarette production will be pegged at the ceiling level of 260 billion cigarette sticks per year. Product market will be geared toward export market over domestic one.

Stakeholders of Cigarette Industry: The cigarette industry has a very wide impact to the economy and the actors behind and related to this industry. The related and interest of each stakeholder can be depicted below:

- **Ministry of Labour:** their main priority is on the unemployment level, and the cigarette industry is thought as the industry which absorbs many workers, particularly the hand rolled cigarette and the farmers.
- **Ministry of Health:** healthy level of the community is the main interest. Their priorities are the increase in excise tariff to the highest level, the push on production, limitation in advertising and non smoking area.
- **Ministry of Industry/ Trade:** their main interest is the total investment on the industry in Indonesia. As the cigarette industry is concerned as the sunset industry, their priority is on how to provide policy which is hit the industry in the short run; meanwhile the complementary industry must be prepared. Their most concern today is how they can succeed in performing the roadmap of tobacco industry.
- **Ministry of Farming:** their main interest is the level of productivity of the farming sectors, its export level and investment on the sectors. Currently, their consideration is to find the substitution of the plantation which can shift the tobacco or clove. However, they will also try to lobby to export tobacco and clove to abroad. In the short run, they will still persist to maintain the cigarette industry, but in the long run, they will prepare for shifting the plantation to the other.
- **Local Government:** the next local election is the ultimate achievement for the head of local government as they can strongly prove their success by increasing the GDP and local budget. The revenue from excise and the workers which are absorbed by the companies will be the hard in contrary for this stake. In the short run, they will maintain the worker as their priority, but as the earmarking fund is distributed, in the medium run, they will concern more on the excise revenue and how to utilize it effectively.
- **Ministry of Finance:** the main interest is how to satisfy the budget to finance its expenditure. Since excise is one of the stable and important sources of revenue, the increase of excise tariff will be the highest priority. Due to the capability to stipulate excise tariff is lying on them, they will eager to have a blue print for the excise policy. This blue print will guide them in determining the excise tariff policy in the future without any hard opponent from the other stakeholders.
- **Cigarette Industry:** their interest is to maintain their industry and profit. They will strongly argue to the low level of excise tariff with many incentives which should be provided by government such as tax cut as the labour intensive industry and for their export level.
- **Anti Tobacco NGO:** their interest is to increase the healthy level of the people by reducing the cigarette consumption. They proposed a highest level of excise tariff, with many restrictions which should be applied. In the short run, they will ask for the roadmap for excise policy. They requested the roadmap due to their interest to intervene to satisfy their proposal. They asked for the significant diminishing of cigarette consumption by obtaining all the potential policy that can be applied such as: restricted area to smoke, content level of cigarette, advertising regulation and ban for young smoker.

Policy Alternatives: Due to concern on the need of providing comprehensive and deep policy package, the below policies package is proposed.

Simplify the Tobacco Industry Structure: The impact of the tier excised system in Indonesia resulted in the gap of price and tax. On the factories level, the tier system gives incentive to the big companies to buy or contract the small companies to produce cigarette and take advantages from the small excise and cheaper price. On the consumer level, cigarette of one tier will substitute to the other tier. For instance, the increase on the one brand cigarette will reduce the consumption of the impacted brand, yet it will shift the consumption to the other brand with lower price. When Government of Indonesia increased taxes on white cigarettes but not on kreteks, sales of kreteks rose while white cigarette sales declined (Yurekli and de Bayer, 2000). Today, as there are more than 4,000 companies with three tiers tobacco companies, the cost of administration is high. The customs and excise administration has to assign their officer spread on all over the province or districts which the cigarette industries lay. Some of them are on the very rural area, which is very hard to supervise and this means that the cost of supervise is high. The simplification of the industry structure will reduce those cost, both the administration and the potential of losing from the tax. Simplifying the industry also recommended by Barber (2008) in order to reduce the potential tax avoidance by companies. The several actions can be conducted as follows:

- **Providing barrier to entry:** This process can be conducted by rejecting the proposal of establishing new cigarette company on all level of bureaucracy such as local government (i.e. from the lowest level on the village, sub district to the higher level such as district either

provincial government). This can be carried out by refuted the application for new and renewable of the Excised Goods Producer Identification Number (Nomor Pokok Pengusaha Barang Kena Cukai – NPPBKC) from Customs and Excise authority.

- **Tightening requirements for Cigarette Company to operate and no transfer of permit:** The requirements can be carried out by settling the minimum prerequisites such as: minimum capital, minimum production per year, minimum management and system i.e. minimum board of management, accounting and accounting system as well as the safety and healthiness of the production system management. Otherwise in case the cigarette company is closed, the permit cannot be transferred to other company or entities.
- **Bundling/merging the small cigarette company to be a bigger cigarette company:** The process of bundling of the small cigarette can be facilitated by the local government in order to meet the requirements of capital, minimum production, and management.

Shifting of the related industry: Study by Blecher (2009) in South Africa shows that when the cigarette consumption and manufacturing increased very sharply, the employment level is standstill. This means that the industry can increase their production without employ more workers. And while the consumption is very aggressive increased, in contrary the employment decreased sharply. All this informed that the consumption has very little influence to the employment. Some of the high influence of the employment include the centralization of manufacturing (for instance British American Tobacco have centralized all manufacturing in Africa to three locations in South Africa, Nigeria and Kenya) and the increased in mechanization of cigarette manufacturing. In Indonesia, typically the cigarette industries are divided into two big categorizes which are the machine made cigarette and the hand rolled cigarette. The machine made cigarette means the companies tends to high capital investment and the hand rolled cigarette means the companies account more on the man workers. Indonesia has her own farming both for the tobacco as well as the clove as those two materials are essential part of the kretek cigarette, the cigarette which is very unique which probably only found in Indonesia. Therefore, Indonesia both imports and exports its tobacco and clove. This means that Indonesia cannot easily earn more revenue from exports and reduces its expenditure by declining its imports. And mostly the final products of cigarette intended to sell in domestic area in Indonesia. Since the characteristic of consumer in Indonesia are preferred more on kretek cigarette, the value of imported cigarette is relatively small, even though the Ministry of Industry still concern more by asking to the Ministry of Finance to stipulate a high import tariff on cigarette. This is also the prominent reason why the smuggling of cigarette in Indonesia are relatively small due to the small market for the white cigarette, and from the price, the cigarette in Indonesia is relatively cheaper than cigarette on the other countries. Based on the above situations, it is needed to concern on the shifting of the impacted sectors as the excise is increased. The shifting can be conducted on the gradual and step by step approach to the related sectors. The several steps can be proposed: capital and technology assistance, improvement of the human capital, the improving of tobacco, clove and cigarette export through promotion, trade mission, and diplomatic channel, and the use of earmark fund in assisting the shifting process.

Increase the Excise Tariff

Rationale for Government Interventions: There are at least two reasons of the government interventions on the cigarette sectors, what it is called as externalities, as follow: Firstly, market failures on the cigarette consumption. The market failure of the cigarette consumption is the social costs which are related with the smoking habit of the smoker. Those social costs are such as the health care costs which are incurred to the government budget, higher insurance costs and other events like fire hazards and damages to property caused by fire as the result of the smoking habits. Secondly, the asymmetric information to the smokers, mostly the youth, the poor and the cigarette initial user. If a consumer has insufficient information about a product, s/he cannot maximize his/her utility function. As the smokers does not well informed, they usually will underestimate the impact of the cigarette consumption, and the risk of becoming addicted.

Impact of the increase on cigarette price: The increase on cigarette price through the increase on excise will provide two advantages, both economically and health. World Bank on their report concluded

that the increase in the cigarette of 10 percent will reduce the global demand by 4-8 percent, and can prevent for at least 10 million death related with tobacco. Therefore, the increase of cigarette price is considered as the most effective way to curb the damage on the health as the use of tobacco. Meanwhile, World Bank predicted that the increase by 10 percent of the tax on cigarette will increase the total state revenue by 7 percent on average. The study showed that the increase of the excise will not reduce the state revenue from the excise on cigarette. By imposing high excise tariff as the reduction on the quantity of the cigarette sold, however the levied tax is higher.

Impact to the responsive group: The increase in cigarette price will delimit the capacity of the group which is more responsive to the price such as teenager, youth and poor to buy cigarette. This will eventually reduce the potential of the starting to smoke habit to the youth, reduce the cigarette consumption and encourage the smoker to stop. Adioetomo et al. (2001) showed that in case of increase in price, the lower the incomes level the higher of their reduction on the cigarette consumption. For the poor the increase of 10 percent price of cigarette will reduce 6.7 percent of its consumption, yet the high income level will impact only 3.1% of their cigarette consumption. Considering the above situation, it is needed to increase on excise tariff which is purposed: to simplify excise policy to support of controlling the cigarette consumption, to give a direction of the excise policy in the future, to synergize the stakeholder on the excise policy formulation and to ease the state revenue projections.

Add New Potential Excise Object: Due to only three objects of excised goods, mainly source is excise on cigarette. It is expected with new excise objects the pressure to the cigarette industry will be diminished. As there is a little pressure on excise on cigarette, the Government of Indonesia will relax in applying policy in excise to the cigarette industry without any worries on the diminishing of the excise revenue to finance its expenditures. Given the two steps that are recommended to add new potential excised objects, as follows:

Provide proper research and projections: There is a study in Ministry of Finance which mentioned that there are three kinds of goods which potentially can be imposed by excise. They are tire, cement, and non alcoholic soft drink. The characteristics of the mentioned goods which therefore considered appropriate to be the new excise objects are as follows:

Cement

Environment Factor: the major factor of imposing excise on cement is the environmental factor. In this regards, excise is utilized to compensate the negative impact of social and health of the community which is rose as the establishment of cement industry. The other views are the efficient use of natural resource as well as the alternative source for state revenue.

Demand Elasticity Factor: the study shows that the demand elasticity of cement is -0.80673 . This means that for every increase of 10 percent of price of cement will only increase the price by 8.0673%. Hence, cement has an inelastic demand which means that the increase of price will not impact too much to the demand of cement. The other concern about cement is that recently, Government of Indonesia is strongly encouraging the development of the capital in Indonesia. Imposing excise or additional tax to cement is concerned will impact to the investment of capital and therefore will harm the national growth. This is the reason cement is still far to be imposed by excise.

Soft Drink

Environment Factor: in its process to finished goods, soft drink resulted wastes both the liquid and solid. Then, the soft drink industry usually utilizes soil water as their raw material, as well as raw sugar. The use of soil water means they utilize the natural resources which need to supervise their use to reduce the potential inefficiency. The use of raw sugar will effect on the obesity in the long run. The obesity is the main factor of several threats to health such as carcinogenic cancer. In Indonesia, the phenomenon of obesity takes effect right now. The study by Ministry of Health shows that 4.7% of populations or 9.8million people are experiencing obesity right now and the prevalence of overweight is almost 17.5% of population or 76.7million people.

Demand Elasticity: the elasticity of soft drink is -0.82 or inelastic. This means that for every increase in price of soft drink the demand will diminished by 8.2%. This result was also supported by the fact that

soft drink is not a primary need of the people. Therefore the increase of price of soft drink will not affect too much to the community.

Provide a strong legal basis: Introducing new excised objects will be strongly supported by the stakeholders of cigarette sectors, however, it will face a strong defy from the related industries. As the recommendation of the study says that the objects are deserved to be excised, thus strong legal basis will be required as well. For some reasons, in Law No 39 year 2007 stipulated that the introduction of new excised objects needs approval from the legislature.

Encounter Illicit Products: In Indonesia, since the illicit problems mostly come from domestic industries, the handling should be paying more attention on the local. Below are the several actions that can be done by the Government of Indonesia to curb the potential illicit products, as the complementary of several actions above:

The use of earmarking fund to provide anti illicit products operation: As the revenue from excise is earmarked, the use of some of the earmarked fund can be used to combat the illicit products. The article 66A section (1) point e of Law No 39 year 2007 on amendment of Law No 11 year 1995 on Excise mentioned that one of the utilizes of the excise earmarking fund is to encounter the illegal excised products. As the fund is mandated to the local government, both on the provincial and district level, the implementation of combating the illegal products can be arranged under the command of the governor incorporated with the head of districts level. The assistances can be supported by the police officers and the customs and excise officers.

Introducing a method to distinct the legal and illegal product: Nowadays, many ways have been implemented to distinct the legal and illegal products. The use of excise stamp is the most common and old fashioned way, which its technology always developed. The technology has made the stamp as safe as money. Mentioned the new ink inventions which can easily distinguish the imitate stamp, hologram inside the stamp, and the different type of paper. These still be supported with a very strict and discipline the stamp distribution management by the customs and excise authority. Hence, those all things are still considered not too successful in tracing the existence of the cigarette. The new invention has been made to support more traceable stamp. The WHO suggested on the implementation of track and trace of stamp like what has been implemented in Turkey. Some ideas are also come across such as: the use of bar code, the small chip inside the stamp, and pack marking etc. At the end, the use of the new technology actually can be implemented as long as this will not increase the cost of cigarette very much. The WHO found that the use of the trace and track will cost less than US dollar 2 cents per pack.

Non tariff policy: As the economists believe that increasing tax is the most effective way to control the tobacco consumption vis a vis production, they also recommend several other tools in curbing the demand. The recommended ways which are the non tariff policy can be mentioned such as:

Restrictions on Smoking: Regarding the restriction on smoking, the Government of Indonesia has implemented some actions previously, yet it was cancelled out due to the regime changing. The regulation on tar and nicotine contents on cigarette had been stipulated and imposed in 1999; however, the rule was cancelled out in 2003 as the president was changed. The interdiction on smoking on the open and public room actually had been introduced in several regional governments, yet on the implementation level, the rule does not take effect due to the minimum space to smoke provided by the office and mall provider, as well as the public smoking room provided by the government. The rule also does not give a strong punishment to the smoker who broke the rule. As the result, the rule has been stipulated and implemented, hence the result does not significantly take effect on the smoker and the community tend to ignorant as they met the smoker on the public space. The Government of Indonesia, both the central and local, should consider the result of the study which invented that the restriction on smoking will reduce significantly on the smoking habit, mostly on youth. In Western populations, comprehensive restrictions on smoking lead to 5 -15% reductions in population smoking rates and to the changes in social norms regarding smoking behaviour, especially among youth. Smoking bans in workplaces generally reduce quantity smoked by 5-25%, and prevalence rates up to 20%. The no smoking policies seem to be most effective when strong social norms against smoking help to make smoking restrictions self-enforcing.

Health Information and Counter Advertising: The health information and counter advertising are purposed to obtain adequate information to the smokers, old and young, and non smokers on the

potential damage to the health of consuming cigarette. Nowadays, the information about the impact of cigarette only can be found in the hospitals and health centres. The distribution of information on health impact of cigarette is conducted by the Ministry of Health, however due to the limit of the budget they cannot conduct the premises on very often ways. The most targeted objects are the youth, mostly on the junior and senior high school students, which they have no such adequate information, cannot measure the impact of cigarette, economic and social, and will be the loyal and long run smoker ahead in future. The Government of Indonesia has implemented such actions about the health information, as mentioned above by Ministry of Health, as well as stipulated rule which enforced the cigarette producers to print out the impacts of cigarettes consumption on their pack, and limitation on the advertising of cigarettes. However, the actions seems do not take much effect as the consumption of cigarette tend to increase year by year, and the advertising expenditures of the cigarette companies still increases. This is due to instable policy which for some reason always changing without any plausible reasons. For instance, the regulation which enforced the cigarette companies to print out the warning of the impact of the cigarette to the health. As the previous government stipulated on this issue, yet the next government did not continue it with the print out of the picture of the victims of cigarette. There is still much to be done in health education: new evidence about the harmful effects of tobacco use needs to be disseminated.

Restriction on Tobacco Industry Advertising and Promotion: Previous study on analyzing advertising and promotion bans provides more direct evidence on the impact of advertising (Chaloupka and Warner, 2000, Saffer, 2000). The study found that partial bans have little impact on smoking behaviour, given that the tobacco industry can shift its resources from the banned media to those that are not banned. To summarize, economic research has demonstrated that demand side interventions are highly effective in reducing the demand for tobacco products. The Government of Indonesia has started the implementation of the restriction on the advertising on cigarette since 2000 by restricted the advertising of cigarette for television even it was finally loosen up by the replacing government that the advertising on television is allowed since 9.30 pm until 05.00am. At the same time, the Government of Indonesia started to implement an obligation to cigarette companies to stamp a warning about the health effect of cigarette consumption on their product and on their advertising.

4. Policy Criteria

Economic Efficiency: This term is used in economics, for maximizing the aggregate individuals' welfare as that welfare would be construed by the individuals themselves or in economic jargon - maximize the sum of individual utilities. The above is defined Bardach (2005) in defining the economic efficiency. That is accord to what Patton and Sawicki (1993) stated that the economic efficiency criterion asks that the benefits to be gained in the use of resources (costs) be maximized – the result of being the maximization of satisfaction by society. This means that this criterion evaluates the policy alternatives based on economic perspective. The first concern is how the policy can be benefited to the community and then, the evaluation analyzes the cost for implementing the policy.

Operational Feasibility: This criterion measures whether option outcomes achieve their purpose. The basis of the operational feasibility criterion is the reliability of the course of actions and its effectiveness on attaining the purposes and the results identified for the alternatives.

Financial Feasibility: This criterion assesses the financial feasibility of the policy and the projects following the implementation of the policies. This criterion also takes into account the ability of the government to finance the policy and its implication as well as the investment feasibility for the private investors.

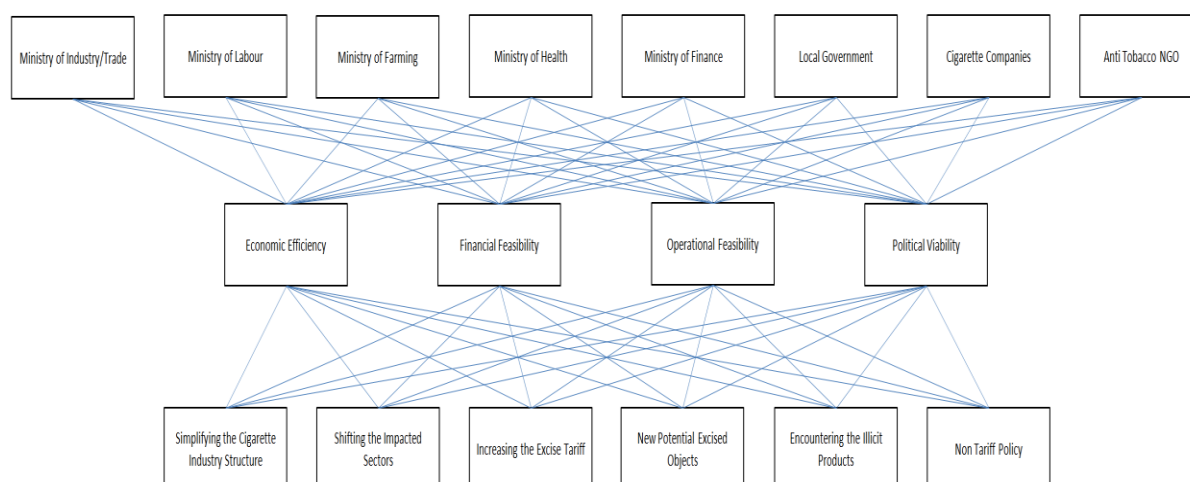
Political Viability: This criterion measures policy or program outcomes in terms of impact on relevant stakeholders. The criterion considers the alternatives on the basis of its acceptability or can be made acceptable to the stakeholders. The measurements in the political viability are often subjective and less quantifiable, but the support from the relevant stakeholders to the success of the policy alternatives will be much demanded.

Policy Evaluation and Analysis

Results of AHP analysis: In this study, the AHP analysis can be explained by the graph below. On the first level are the stakeholders which have concern on the policy on cigarette. This study cannot portray all the

related stakeholders however the prominent stakes are represented on the analysis. On the government side, the Ministry of Industry/ Trade, Ministry of Farming, Ministry of Labour, Ministry of Finance and Ministry of Health are representing the central government. Thus are local government, the anti tobacco NGO and the cigarette companies. The analysis on this stage was done by valuing the stakeholders weight based on the Roadmap of Tobacco Industry on the long term pace, which will be point out more on the health, then labour and state revenue on third priority. As posted on the table, the results of the calculation shows that the highest value of the eigenvector are on Ministry of Health and anti tobacco NGO, second place on the Ministry of Industry/ Trade, Ministry of Labour, Ministry of Farming and Cigarette companies, and the third position are Ministry of Finance and Local Government as their main concern on revenue.

Hierarchy of Policy Evaluation under AHP Approach



On the second level are the criterion for evaluation which consisted of economic efficiency, operational feasibility, financial feasibility and political viability. The criterion of evaluation by then was compared each other based on the stakeholder analysis calculation above. The result of the calculation can be drawn below:

First and Second Steps of AHP Process

Stakeholder Criterion	Min. of Labor (0.1250)*	Min. of Trade/ Industry (0.1250)	Min. of Farming (0.1250)	Min. of Health (0.1607)	Min. of Finance (0.0893)	Local Govt. (0.0893)	Cigarette Comp (0.1250)	NGO (0.1607)	Eigen-vector
Economic Efficiency	0.2143	0.2778	0.26316	0.1667	0.2941	0.3571	0.3571	0.2500	0.2642
Operational Feasibility	0.3571	0.1667	0.21053	0.4167	0.2353	0.1429	0.3571	0.4167	0.3041
Financial Feasibility	0.2857	0.2222	0.21053	0.1667	0.2941	0.2857	0.2143	0.2500	0.2353
Political Viability	0.1429	0.3333	0.31579	0.2500	0.1765	0.2143	0.0714	0.0833	0.1963

*= the value in the parenthesis is the eigenvector of the related

The next step is comparing the criterion of evaluation with the proposed policy option as mentioned in chapter V, i.e. simplifying the cigarette industry structure, shifting the impacted sectors, increasing the excise tariff, introducing new potential excised objects, encountering the illicit cigarette and non tariff policy. The below is the result of the eigenvectors as the criterion compared with the policy alternatives.

Third Step of AHP Process

Criterion Policy Alternatives	Economic Efficiency (0.2642)*	Operational Feasibility (0.3041)	Financial Feasibility (0.2353)	Political Viability (0.1963)	Eigenvector
Simplifying the Cigarette Industry Structure	0,1250	0,1667	0,1613	0,1290	0.1470
Shifting of the Impacted Sectors	0,1563	0,1333	0,1290	0,1290	0.1375
Increasing the Excise Tariff	0,2188	0,2333	0,1613	0,2258	0.2110
Introducing New Potential	0,1875	0,1000	0,1935	0,0968	0.1445

Excised Objects							
Encountering the Illicit Cigarette	0,2188	0,1667	0,1613	0,2258	0.1908		
Non Tariff Policy	0,0938	0,2000	0,1935	0,1935	0.1691		

*= the value in the parenthesis is the eigenvector of the related

As the result of the matrix calculation, the eigenvectors of the policy based on the sequencing of the priority are:

Policy Alternatives Based on Rank

Rank	Policy Alternatives	Eigenvector
1	Increasing the Excise Tariff	0.2110
2	Encountering the Illicit Cigarette	0.1908
3	Non Tariff Policy	0.1691
4	Simplifying the Cigarette Industry Structure	0.1470
5	Introducing New Potential Excised Objects	0.1445
6	Shifting of the Impacted Sectors	0.1375

5. Analysis

Economic Efficiency: By increasing the tax rate gradually will impact on the increase of the state revenue and will be reducing the cigarette consumption to the targeted consumer who they are very responsive to the price, which are the young smoker and the poor. As the state revenue increase the earmarking fund will be increasing as well which will provide fund to finance the following other actions. By simplifying the tax system to specific tariff will reduce the administrative as well as the supervising cost by the government. The revenue will be well predicted as the tariff is following the development of the consumption and industry as well as the inflation rate. Since the earmarking fund increase as the result of the increasing of the state revenue, the operation of encountering illicit product will be satisfied financed. This is intended to reduce the potential impact as the tariff is increased, as the consumers' habit is to shift their consumption to the lower price products and at the lowest level they will buy the illicit product since they do not have to pay for excise. In the future, the increase of excise tariff will provide confidence on the government in targeting the excise revenue. As the state budget can be projected, this can be reduced the potential opponent of the policy such as legislators as well as the local government. On the other hand, even though the cigarette industries will suffer from the increase of the excise tariff, yet they will pass it on to the consumer and the effect is reduction on the domestic consumptions. However, as the government has projected the potential excise tariff and the revenue in the future, the cigarette company will have such confidence on how they can adopt the projection into their business. The further government role on the lobbying on the export market is very crucial on this premise. This is due to make well the cigarette industry, as they suffer from the reduction of the domestic consumption. The lower price of the cigarette and the different taste of the cigarette can be used as the advantages of the cigarette from Indonesia on the export market.

Operational Feasibility: The roadmap excise policy by gradually determined increase excise tariff will be useful to the related stakeholders in determining their future action and synchronize it with roadmap of tobacco industry. The industry will prepare to face the situation and set up the future plan to handle the potential gain and losses. The operation of encountering the illicit products will be supported very much as the state revenue increased. The potential fund from earmarking can be used to set up the tools and structure of the operation. Otherwise, the operation will also gain support from the legal cigarette companies due to the illicit products are potentially will reduce their market share. However the big impediment will be coming from the wide spread of location of the industry and most of them located in the rural and mountainous area which will create difficulties in enforcing the illicit products. The gradual process of shifting the related sectors by mapping the cigarette and tobacco industry, as well as the farming diversification will be on the Ministry of Farming concern. The diversification can be done on the area which tobacco and clove relatively does not productive in the economic terms. The previous study found that some area which is planted by tobacco can be more productive if the farmer shift to other

plants such as potato or sugar cane. Yet the other problem in this kind of farming, the paradigm on the farmer itself which still thinking that farming their field with tobacco, economically will be more productive. This will result in substitution of the farming of tobacco. Otherwise, the market of tobacco is considered very large with the high demand from the cigarette industries. The role of the Ministry of Farming and the Ministry of Trade to widen up the potential market to the substitution product of tobacco will be needed. This must be supported with well functioning education to the farmer on how to shift their farm and how to handle the product post harvesting.

The plan to introduce excise on several products will face a strong reactions against the plan, mostly from the related industry. However, the most potential to be imposed by excise is soft drink due to the stakeholders i.e. Ministry of Industry seems to agree with the proposal and the association of soft drink producers like to accept the plan. In the introducing the excise, the dead weight loss of the community must be the most concern, in order to meet the Ramsey's law as the tax is intended to reduce the negative excess to community. The Ministry of Health altogether with the anti tobacco NGO can be the initiator in both supervising the cigarette advertising and the design of the suitable cover of pack of cigarette. Part of the earmark fund can be used to heal the poor who impacted disease by cigarette, though the ideas that currently bit strong is by punishing the poor whom their family member is smoker will not receive any fund assistance from the government. The main concern of the local government is on the earmarking revenue. As that fund assured to be increased, the local government will strongly support the roadmap of excise and will take part on the anti illicit products. Their strong knowledge on the territorial aspect of the cigarette companies and its marketing area will be the very potential in encountering illicit products. Their close relationships with the companies' owner as well as the peasant will be the strong point on the shifting process.

Financial Feasibility: Implementing roadmap on excise policy will not need any big fund since it will need on the deep research and the strong political of the Government of Indonesia. The potential cost is on the socialization process to the related stakeholders about the policy in the future. The operation on encountering illicit product can be satisfied by the increase in earmarking fund as the excise revenue increased. The other requirements on the successful of the operation are the supervision by the central government to the local government of the certain attainment on the operation, the effective use of the fund (not misallocated for any other budget such as procuring the new car or house for the local governor etc.), evaluation of the actions and the result of the operation. If the processes of simplifying the industry structure as well as the shifting of the impacted sectors are successful, the cost of excise administration will be reduced. This will be favourable for the Customs and Excise authority due to the fulfilment of their task will be easier. The new excised objects are not too easy on the implementation since it will need a strong administration support and system. Though this can be just following the existing system, however the shifting in the paradigm will be very different. The need of stamping system, projection of the revenue and the proper tariff will demand a strong research. But the implementation of the new excised object can be carried out in the stages. The cost of preparation, system set up and educating the officer is likely the prominent cost of the implementation.

The cost of the health information and the counter advertising will be borne on the Ministry of Health budget. Since they have conducted these actions for several years until recently, they need to improve of way they do. They can be incorporated with the local government via their agency in the province and districts level. They can also introducing the counter advertising of cigarette on the more candid way rather on the serious manner. This is in the purpose to gather the interest of the young potential smoker to come to the action. The potential redundancy of the cost will come on the process of shifting of the related sectors as the result increase in the excise tariff. The government can do shift the current impacted tobacco farmer and meanwhile the new tobacco farmer will fulfil the empty space of the left supply of tobacco in the market, regardless they know that the other farmers have left to plant tobacco. This is the given characteristic of sectors in cigarette which always be incentive due to the high price and stable or relatively increase the demand of raw material of cigarette. Setting up the trace and track machinery on the cigarette companies will face big problem, as the price is relatively expensive. The cigarette companies will strongly deny the plan if they have to pay the investment cost, on the other hand it is impossible for the government to provide fund for the investment. This will need a deep and further consideration to digest the problem.

Political Viability: Though will tend to increase the tariff gradually, but the roadmap excise policy will provide certainty and predictable policy in the future. And such impacted sectors such as the tobacco and

clove farmer, the cigarette industries and its marketing channel can prepare their business and adjust with the probable situation. This will minimize the potential opponent of the policy. Therefore, due to the roadmap of tobacco industry has been stipulated and implemented; all the related sectors will accept that the increase of excise tariff is one of the effective ways to maintain the consumption level of cigarette. The illicit products are figured as the common enemy of the stakeholders, thus encountering it will be strongly supported by the stakeholders. The reduction of illicit products in the market will be expected to increase the production of cigarette as well as reduce the potential state revenue losses. Policy package on non tariff regulation will be strongly supported by Ministry of Health and Anti tobacco NGO, but will face disagreement from cigarette industries and Ministry of Industry and Ministry of Labour. The disagreement raised due to the highly direct impact on the marketing process of the cigarette, which will influence the cigarette industries' revenue in the very short term period. The non tariff policy will cut down the accessibility of cigarette industry to their target market. Thus they will fight that this policy should not be implemented in the short run.

By simplifying the cigarette industry structure, the related sector, in this term is cigarette industry will be strongly against the policy in the short run. But the other stakeholders will be likely to implement this policy in the medium term as the process and preparation of the industry will take several times. The Ministry Industry/Trade and Ministry of Farming will not defend very much in case the policy will not be implemented soon. Introducing new excised objects will be strongly supported by the stakeholders of cigarette sectors; however it will face a strong counter from the related industries. Therefore a strong research and projection will be needed to support the argument. As the result of the study recommended that the objects are deserved to be excised, thus strong legal basis will be required as well. The legal basis may not just the decree of Minister or even President. Therefore the change of several related law perhaps will be needed which means the role of legislature will be necessitated. The policy package of shifting the impacted sectors will likely be supported by the major of stakeholders since the impact of the increase of excise tariff will potentially reduce the cigarette consumptions. The grounding of the shifting should be prepared from the medium term to smooth the process.

6. Conclusion

The followings are the conclusion under the Roadmap of Excise on Cigarette Policy Package in Indonesia that has been evaluated using the four criteria by employing Analytical Hierarchy Process method:

Short Term Policy Package:

Increasing the Excise Tariff

- Increasing the excise tariff gradually by applying the specific tariff which is taking into account the macroeconomic situation and the cigarette industry condition.
- Simplifying the excise specific tariff Simplifying the excise administration and supervision.

Encountering the Illicit Cigarette

- The use of earmarking fund to provide anti illicit products operation.
- Introducing a method to distinct the legal and illegal product.

Medium Term Policy Package:

Non Tariff Policy

- Restrictions on Smoking.
- Health Information and Counter Advertising.
- Restriction on Tobacco Industry Advertising and Promotion.
- Determine the content on the cigarette.

Simplifying the Cigarette Industry Structure

- Providing barrier to entry
- Tightening requirements for cigarette company
- Bundling/merging the small cigarette company

Longer Term Policy Package:

Introducing New Potential Excised Objects

- Prepare proper research and projections.
- Potential Excised Objects:
 - Tire
 - Soft Drink
- Provide a strong legal basis.

Shifting of the Impacted Sectors

- Capital and technology assistance.
- Improvement of the human capital.
- The improving of tobacco, clove and cigarette export
- The use of earmark fund in assisting the shifting process.

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