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THE STUDY OF TAXATION ON FREON

Doni Habibur Rahman
Custom and Excise Main Office of Soekarno Hatta, Indonesia
donihabiburrahman8@gmail.com

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ABSTRACT

Background: Freon consumption has a devastating impact that causes global warming. According to IPCC data, there was an increase in the earth's surface temperature of about 0.74 °C ± 0.18 °C. While in BMKG data, there has been an increase in temperature in Indonesia with an average of 0.03 ° C every year with the meaning that in the last 30 years there has been an increase of 0.9 ° C. So instruments are needed to control the consumption of freon in the form of excise.
Aim: This study aims to find out if freon meets its characteristics to be designated as taxable goods.
Method: The data used in this study is the result of interviews with 7 sources from regulators, academics, and practitioners.
Findings: The results showed that freon qualified and characteristics as a taxable item although there are things that must be studied further. The study also addressed the possibility that excise subjects would seek to find far smaller freons scoring potential global warming or even attempt to avoid excise duty with illegal freons.

KEYWORDS

freon; global warming; taxable goods; taxes on freon

INTRODUCTION

Freon, also called *chlorofluorocarbons*, is one of the few simple aliphatic compounds that contain hydrogen, chlorine, and bromine compounds (Hohener et al., 2003). Based on Indonesian Wikipedia sources and britannica.com, Freon has the nature of having no color, no smell, is not flammable, and destroyed. Based on the type of fluid, freon can be divided into 4: CFC *(chlorofluorocarbon)*, HCFC *(hydrochlorofluorocarbon)*, HFC *(hydrofluorocarbon)*, HC *(hydrocarbon)*. The use of freon on a wide variety of electronics has a negative impact on the environment (Kim, Kim, Joshi, Fedorov, & Kohl, 2012). Especially the impact on the depletion of the ozone layer and global warming (Diffey, 2003). According to the Natural Resources Defense Council in the forestry and environmental media publication ForesterAct (NRDC and ForesterAct, 2016) mentions that global warming is the occurrence of an increase in the average temperature on the earth's surface. The Intergovernmental Panel on Climate Change (IPCC) said that there was an increase in the earth's surface temperature of about 0.74 °C ± 0.18 ° C. While in BMKG data, there has been an increase in temperature in Indonesia with an average of 0.03 ° C every year with the meaning that in the last 30 years there has been an increase of 0.9 ° C.

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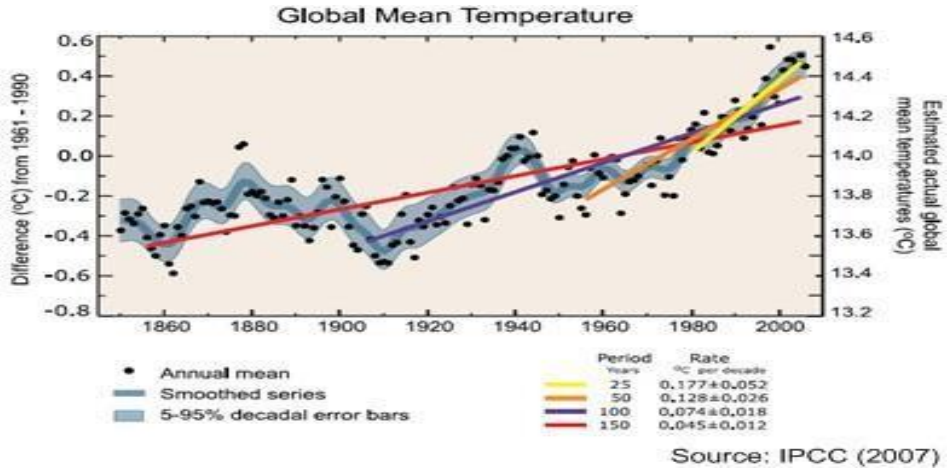


Figure 1. Changes in Temperature Globally
Source: IPCC (2007)

Today, freons R32 and R410A are widely used types of freons. The R32 type is considered the most "green" and environmentally friendly type of freon.

Jenis Freon	ODP	GWP	Cooling Index	Flammability
R220.05	0.05	1810	100	Tidak
R410A	0	2090	92	Tidak
R32	0	675	160	Rendah

Catatan istilah :

- ODP adalah Ozone Depletion Potential alias Potensi Perusakan Ozone
- GWP adalah Global Warming Potential alias Potensi Pemanasan Global
- Cooling Index adalah angka index pendinginan
- Flammability adalah Tingkat mudah terbakar.

Table 1. Comparison of Freon R32 with Other Jenis
Source: National Electric Company Website

From the picture above, it can be known that the type of freon R410A has a high global warming potential with a score reaching 2,090 while R32 has a global warming potential of 675. So because of the impact of global warming, freon consumption must be reduced and limited. Excise in Law number 39 of 2007 on changes to Law number 11 of 1995 on Excise mentions that excise is a state levy imposed on certain goods that have the nature or characteristics of their consumables that need to be controlled, the distribution needs to be supervised, the use of them can cause negative impacts on society or the environment or, and It is necessary to impose state levies for the sake of fairness and balance, taxed under the law.

In terms of the imposition of excise and taxes on freon, there have been several previous studies, namely:

1) Luc Nijs (2016): Based on his book entitled "NEOLIBERALISM 2.0: Market and Financing Globalizing Market A Pigouvian Approach 21st Century Market" mentioned

that Pigouvian tax can be applied to goods that have negative externalities. One of the items subject to such taxes is freon;

2) Henrik Gaverud (2004): Based on his research entitled Benefit From Environment Taxation "A Case Study of the US Tax on Ozone-Depleting Substance" mentioned that the use of freon is very limited because it can have an impact on ODS (Ozone Depleting Substance). So as to compensate for the impact of these negative externalities, freon is subject to environmental taxes;
3) Sergio Sastre (2016): Based on his research entitled Tax on Fluorinated Green House Gases in Spain mentioned that the tax imposed on F-Gas aims to overcome the impact resulting from the use of such gases by some industries. One type of F-Gas is freon with HFC type. Taxes imposed on the freon in the form of specific tax rates;
4) M. Hekkenberg and Anton J.M. Schoot Uiterkamp (2007): Based on his research entitled "Exploring Policy Strategies for Mitigating HFC Emissions From Refrigeration and Air Conditioner" mentions that the increase in demand and use in refrigeration using both refrigerators and air conditioners can have an impact on climate change. Therefore, useful instruments are needed to reduce the use of HFCs or more sophisticated technologies so that the resulting impact is smaller; and
5) W.T. Tsai (2006): Based on her research entitled "Energy and Environmental policies relating to hydrofluorocarbons (HFCs) emissions mitigation and energy conservation in Taiwan" mentions that restrictions and arrangements related to the use of HFCs must be done considering it can have an impact on global warming. The arrangement can be realized in several ways including the latest technologies that reduce the impact on global warming, providing economic incentives to those who find HFCs more environmentally friendly.

METHOD

The method of data collection is done in 2 ways, namely through interviews with sources to obtain relevant data according to research topics and through literature studies in the form of Excise Law, books related to excise. Sources from this study include 3, namely:

1) Regulators consisting of:
   a. BKC's Sub-Directorate of Excise Potential and Compliance Headquarters of the Directorate General of Customs and Excise as a unit that discusses potentially taxable objects. This sub-directorate is represented by Mr. Yusman;
   b. Fiscal Policy Agency (BKF) as a regulatory body, framer, and recommendation in the framework of state revenue. The unit referred to in the BKF is the State Revenue Policy Center represented by Mr. Sarno;
   c. Ministry of Industry as a ministry that manages the field of industry in Indonesia. Echelon 1 is referred to by the Directorate General of Metal, Machinery, Transportation, and Electronics Industries represented by Plt. Director of Electronics and Telematics Industry;
   d. The Ministry of Environment and Forestry is represented by Mrs. Dyah Aryanti as the Head of The Section in the Sub-Directorate of Control of Ozone-Depleting Materials. The plan to impose excise duty on freon is one of the efforts to reduce the negative externality impact of global warming.

2) Academics: The sources used are academics who have competence and capabilities in this theme, namely:
   a. Mr. Surono: Mr. Surono is one of the Widyaiswara in Pusdiklat Customs and Excise with a specialty in taxes. He is the author of Technical Tax I STAN and also a former Customs and Excise officer;
   b. Mr. Permana Agung: Mr. Permana Agung is one of the lecturers at PKN STAN. He is very good in the field of customs and excise because he has served as Director-General of Customs and Excise.
3) Practitioner: The Association of The Combined Electronics and Household Electrical Appliances Industry (GABEL) represented by Mr. Daniel Suhardiman as General Secretary of the GABEL Association.

RESULTS AND DISCUSSION

Freon's Tax Plan

The plan to tax freon begins with a study that freon has a devastating impact on the environment by causing the destruction of the ozone layer and resulting in global warming. As it is also known that many people use products that use freon such as air conditioners and refrigerators in general. Even from previous data, it is proven that there was an increase in sales of air conditioners and refrigerators in the span of 2012 to 2019. Here are the results of interviews with sources related to the tax plan on freon:

No	Sources	Responses
1	DJBC	"One of the environmental issues of freon use related to global warming and climate change is the increased effects of greenhouse gases in the atmosphere. These greenhouse gases consist of carbon dioxide (CO2), nitrogen dioxide ($_{N2O}$), methane (CH4), and freon (SF6, HF, and PFCs). "
2	BKF	"I agree because the impact can cause global warming even though it has to go through several stages"
3	Widyaiswara Pusdiklat BC	"Freon types HCF and CFC are chemicals that are classified as ozone-depleting substances. Indonesia is one of the countries that ratified the Vienna convention and the Montreal Convention relating to the prohibition of the use of BPO. Indonesia's commitment has been implemented by starting to limit the use of R22-type freon since the beginning of 2015"
4	KLHK	"In general, agree because it is included in the criteria of goods that are taxed although it must be studied more deeply, especially in terms of in

		terms of incriminating entrepreneurs and of course through a rigorous process based on studies from several institutions"
5	GABEL Association	"Never agree because it's so burdensome for us as entrepreneurs."
6	Mr. Permana Agung	"Agree because of the negative impacts caused by freon that can cause global warming, but must be calculated the costs and benefits"
7	Ministry of Industry	"I don't agree with raw materials, but agree to the freon used in the treatment"

Table 2. Tax Plan on Freon
Source: Source interview

From the above interview, it can be concluded that the majority of sources agree to the imposition of excise duty on freon because of the impact of global warming so that public consumption of freon must be controlled. However, the GABEL Association said it disagreed with the plan to impose excise duty on freons because it would burden them. The imposition of taxes on freon according to GABEL will have an impact on the rising price of electronics that use freon such as air conditioners and refrigerators so that it will reduce people's purchase of these 2 products. This can have an impact on declining sales of air conditioners and refrigerators. Meanwhile, the interview with the Ministry of Industry stated that it does not agree if the excise is imposed on freon which is an industrial raw material or used in industrial production processes. However, according to sources from the Ministry of Industry agreed if the tax is imposed on freons that are sold in general and used as a helper material in the maintenance of refrigeration equipment and refrigerators. This happens in the case of the addition of freon and maintenance carried out to cooling equipment and refrigerators if consumers feel that cooling equipment and refrigerators are not working optimally. Then from the source, Mr. Permana Agung is in harmony with the impact of this freon which resulted in *global warming* so as to interfere with the life (*well being*) of humans.

Fulfillment of Tax Aspects against Freon

According to Cnossen

According to Cnossen (2005), there are 3 characteristics of goods that can be determined as taxable goods, namely:

1) Selectivity in coverage: According to practice, there are similarities between excise and VAT and PPn which are both indirect taxes. Indirect taxes mean that the taxes levied are intended to be delegated to consumers (buyers). In addition to the equation, there are also things that distinguish between excise and VAT and PPn which lies in the object and tariff. Here are the results of interviews with sources related to the fulfillment of aspects of *selectivity in coverage:*

Tabel 3. Selectivity in Coverage

No	Sources	Fulfillment of Aspects
1	Widyaiswara BC	Possible

2	KLHK	It is possible because of environmental issues.
3	DJBC	It is possible because of environmental issues.

From the results of the above interview, the fulfillment of the aspect of selectivity in coverage means that excise duty is levied on freon which can cause negative impacts in the form of global warming. While in the future if there is a freon that does not have a negative impact, then it cannot be taxed.

2) *Discrimination in* intent: In this aspect, Cnossen explains that the government imposes excise duty on freons for the specific purpose of:
   a. To increase state revenue: Because excise is one of the taxes on goods so excise also has one of the tax functions, namely ***Budgetair.*** The budgetair function is considered very important, namely as one of the support of state revenue. Currently, the majority of Indonesia's excise revenues are still dominated by receipts from tobacco products (BKC HT).
   b. To compensate for the cost of negative externalities: Negative externality costs are costs suffered by others as a result of consuming these items.
   c. To control consumption: Excise duty is one of the government's instruments in limiting consumption from the public. According to Cnossen (2005,5) explained that the large elasticity of cigarette and liquor demand in consumers with a young age is twice the elasticity of consumers with adulthood. The occurrence of price increases in cigarettes and liquor can reduce consumption of both products significantly. If the government imposes taxes on freon, it is expected to reduce the consumption of freon use by the community.

   Here are the results of interviews with sources related to the fulfillment of 3 objectives in the aspect of discrimination in intent*:*

Table 4. Fulfillment of Aspects of Discrimination in Intent

Sources	**Responses**
BKF	"Can meet but in terms of receipts is the last thing the reason freon is taxed"
DJBC	"All three can be achieved because the imposition of freon tax does meet the 3 objectives above"
Widyaiswara BC	"It can be achieved even though it will be difficult to convey to the community, it must be by earmarking"
Mr. Permana Agung	"This goal can be achieved for a strong reason that can impact global warming so that it interferes with *well being"*

Source: Interview

From interviews with sources, it can be concluded that these three goals can be achieved. However, further studies must be carried out, especially the cost and benefit of the imposition of taxes on freon so as not to be rejected when submitted to the DPR.

3) *Some Quantitive Measurement:* In this aspect, explaining that related to the existence of state revenues, there will be consequences that must be done by the government in terms of supervision. Such supervision can be done administratively or field-to-field. One example of supervision from the administrative side can be done by ensuring the excise subject has a Principal Number of Taxable Goods Entrepreneurs (NPPBKC). From the field, side can be done with market operations to ensure that no state revenue is lost.

Legal Aspects of The Excise Law

In Law number 39 of 2007 on Excise, it is mentioned that excise can be imposed on goods with certain properties and characteristics, namely, their consumption needs to be controlled, their circulation needs to be supervised; its use can have a negative impact on society or the environment; or its use of the need for the loading of state levies for the sake of fairness and balance, taxed under this law.

Consumption needs to be controlled

One of the concepts of tax collection that applies globally is the existence of restrictions on the consumption of a product. The state collects the excise duty that the country wants a reduction in the consumption of certain goods. The purpose of reducing consumption is for several reasons including negative impacts on society or the environment, and also there is an impact on health.

Its circulation needs to be monitored.

Based on these second characteristics are directed against taxable goods that have a direct impact on people's lives. One of them is that it can cause unrest in society from the side of social life. Taxable goods that are in accordance with these characteristics are MMEA (drinking containing ethyl alcohol) and EA (ethyl alcohol) which can have a negative impact on people's social life for example from the impact caused by drinkers who will later get drunk and do negative actions beyond their control.

Its use can have a negative impact on society or the environment.

One of the purposes of tax is because the object if used can cause negative impacts both for the community and the environment so the use and use of the object must be limited so that the negative impact can be minimized.

Its use needs to be the loading of state levies for the sake of justice and balance.

What is meant by this characteristic is the state levy, in this case, is that excise can be imposed on goods that have high value and can be included in the category of luxury goods.

However, these goods are not basic goods so as to create a balance of levies between people who have high incomes and people who have low incomes.

Here are the results of interviews on interviews in fulfillment of freon as BKC based on the nature and characteristics in the Excise Law:

Table 5. Fulfillment of Freon Sebagai BKC Berdasarkan Sifat and Karakteristik D in The Excise Law

No	Sources	Responses
1	DJBC	"Freon certainly meets the characteristics and traits of numbers 3 and 4"
2	BKF	"Can fulfill all four or all of these characteristics "
3	Widyaiswara BC	"Can meet characteristic number 3"
4	KLHK	"It can meet characteristic number 3 because it has the potential for damage to the ozone layer and increased global warming ."
5	Mr. Permana Agung	"It should meet characteristic number 3 because the use of freon can have a negative and disruptive impact on *well-being* human life."
6	Ministry of Industry	"Can meet characteristic number 3"

Source: Source: Source interview

From the interview can be concluded that freon meets all the properties and characteristics of objects that can be taxed in the Excise Law. Fulfillment of these characteristics and properties, especially number 3 where the use of freon can have a negative impact on society and the environment in the form of global warming so that it interferes with the life (well being) of the community.

Excise Tariff

According to the Excise Law article 5 paragraph (3) mentions that there are 2 types of tariffs, namely advalorum tariff (in percentage) and specific tariff (rupiah tariff in each unit of taxable goods).

Advolarum Rate

Advalorum tax rate is an excise levy calculated based on the amount of a certain percentage multiplied by the base price. The advantages in this tariff are: fair in its loading, providing opportunities for small industries, avoiding monopolies in business.

Specific Tariffs

A specific tariff is an excise levy that can be obtained by multiplying the excise rate in rupiah units by a certain number of specific units. In specific tariffs, there is an advantage that encourages small industries to compete.

In the selection of tariffs, interviews are conducted to sources with the following results:

Table 6. Freon Excise Tariff

No	Sources	Responses
1	BKF	"Regarding these tariffs, it should reflect on other countries that apply levies on either taxes or excise duty on freon"
2	Widyaiswara BC	Specific tariffs
3	DJBC	"You can use both tariffs, but More priority specific tariffs because of course there must be a benchmark for the use of freon and levies"
4	Mr. Permana Agung	Depending on the DJBC judging by the advantages and Lack of each

Source: Source interview

Based on the interview it can be concluded that the most appropriate rate of excise is imposed on freon is a specific tariff. This is because the consumption of freon can use the size of tons or kg so the rate used with Rp xxx per ton. However, according to DJBC both tariffs can be used or use a combination of the two tariffs.

CONCLUSION

Based on research on the study of the imposition of taxes on freon, it can be concluded as follows:

1) The use of freon can negatively impact the environment by causing the potential for *global warming* with a minimum score of 600 (R32).″ Global warming can disrupt *the well-being* of society. So, if it can negatively impact the environment or society then the government's obligation is to be able to control consumption. One of the financial instruments that can be used is taxes;
2) Of the 7 sources conducted the majority of interviews agreed with the imposition of excise duty on freon although there was a disagreed opinion, namely from GABEL assessing that if freon is taxed it will negatively affect the sale and business of electronics and also the Ministry of Industry which assesses that excise does not agree if imposed on freon used for industry and also for production raw materials, however, agree if the taxed freon is a freon used as a helper material such as used in the maintenance of refrigeration equipment and refrigerators; and
3) The fulfillment of freon as a taxable item can be seen from the fulfillment of several aspects, namely the BKC aspect according to *Cnossen*, legal aspects according to Law number 39 of 2007 on Excise.

REFERENCES

Diffey, Brian. (2003). Climate change, ozone depletion and the impact on ultraviolet exposure of human skin. *Physics in Medicine & Biology*, *49*(1), R1.

Gåverud, Henrik. (2004). *Benefits from environmental taxation: a case study of the US tax on ozone depleting substances*.

Hekkenberg, M., & Uiterkamp, Anton J. M. Schoot. (2007). Exploring policy strategies for mitigating HFC emissions from refrigeration and air conditioning. *International Journal of Greenhouse Gas Control*, *1*(3), 298–308.

Kim, Yoon Jo, Kim, Sarah, Joshi, Yogendra K., Fedorov, Andrei G., & Kohl, Paul A. (2012). Thermodynamic analysis of an absorption refrigeration system with ionic-liquid/refrigerant mixture as a working fluid. *Energy*, *44*(1), 1005–1016.

Nijs, Luc. (2016). *Neoliberalism 2.0: Regulating and financing globalizing markets: A Pigovian approach for 21st century markets*. Springer.

Sastre, Sergio. (2016). La fiscalidad del vehículo eléctrico en España. *Documentos-Instituto de Estudios Fiscales*, (28), 1–42.

Tsai, Wen Tien. (2006). Human health risk on environmental exposure to Bisphenol-A: a review. *Journal of Environmental Science and Health Part C*, *24*(2), 225–255.