

The Economic and Social Externalities of the Existence of the Cigarette Industry

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Abstract—This study aims to determine the economic and social externalities of the existence of the cigarette industry in Indonesia. This research is exploratory research with descriptive approach. The interview method is used to obtain information from respondents who are randomly selected or judgment sampling. The existence of the cigarette industry has an impact on increasing the income of employees and the community. In addition, it creates positive perceptions of the community related to the availability of employment and the creation of business fields, while negative perceptions are the waste generated by the factory, to the feeling of jealousy from the people who are not absorbed as employees of cigarette factories.

Keywords—cigarette industry; economic externalities; social externalities; positive perceptions; negative perceptions

I. INTRODUCTION

In a modern economy, every activity is related to other activities. If all the links between activities and other activities are carried out through a market mechanism or through a system, then the interrelationship between these various activities does not cause problems. However, there are also many interrelationships between activities that do not go through market mechanisms so that various problems arise. The connection of an activity with other activities not through a market mechanism is what is called externality.

In general, it can be said that the externality is a side effect of an action of a certain party against another party, both beneficial and adverse. The impact of an activity or economic transaction can be positive (positive external effects, external economic) or negative (negative external effects, external diseconomic). In reality, both negative and positive effects can occur simultaneously.

In general, it can be said that externalities are the effects of the actions of a person or party on the welfare or condition of another person / party [1]. Traditionally, externalities have been concluded by Pigou as impacts on production or welfare that have no price or that have a partial price [2].

The important thing that needs to be realized by companies is the fact that the existence of the company is inseparable from the support of the community, so it is very ironic if the company's business activities actually harm society. For this reason, various social problems arising from the rapid

development of industry require special attention and special handling from industrial companies that carry out their business activities in the midst of the community environment. Thus the need for corporate social responsibility or currently known as Corporate Social Responsibility (CSR).

Various opinions put forward his theory of the notion of externalities. Externalities can be interpreted as a direct effect of a person's or a company's activity on the welfare of others or other companies both in production and consumption, which in this case is not regulated by market prices [3]. Furthermore, externalities are a side effect of an action of a certain party against another party, both beneficial and adverse [4].

Externalities as benefits and / or costs that cannot be calculated directly in the process of producing goods / services. Externalities occur when the activity of a single entity influences the welfare of other entities that occur outside the market mechanism (non market mechanism) [5]. Unlike the influence transmitted through the market price mechanism, externalities can affect economic efficiency. In this case the externality is a consequence of one's inability to make a property right. Furthermore, externalities occur when the utility of an individual does not only depend on the goods and services consumed by the individual concerned, but also is influenced by the activities of other individuals. So that for example an individual utility function is influenced by the number of goods and services consumed by individuals A ($x_1, x_2, x_3, \dots, x_n$), and also influenced by individual activity B namely y_1 , then the utility function A becomes; $U_A = U_A(x_1, x_2, x_3, \dots, x_n, Y_1)$ [6].

Hyman states that externalities are costs or benefits of market transactions that are not reflected in prices. When externalities occur, third parties other than buyers and sellers of an item are affected by their production and consumption. The costs or benefits of these third parties are not considered by both the buyer and seller of an item that produces or uses a product so as to produce externalities. Furthermore, Hyman stated that the market price that occurred did not accurately describe both the marginal social cost (MSC) and the marginal social benefit (MSB). While according to Fisher (1996) said that externalities occur if one activity of economic actors (both production and consumption) affects the welfare of other economic actors and events that occur outside the market mechanism. So that when externalities occur, the private

choices of consumers and producers in private markets generally do not produce something that is economically efficient. Based on the above understanding it can be explained that in the theoretical perspective, externalities occur because of differences between marginal social and private costs of goods / service.

The problem of externalities as a result of how to produce and consume can be seen as benefits or costs that have no market. Thus the benefits or costs cannot be transferred between the parties concerned through market exchanges. The main characteristic of market exchange is the existence of private property rights and the right holders can make private contracts, namely voluntary exchange on the basis of these rights. A worker has the right to work or time unemployed. He wants to work for someone else with or without compensation (wages) as much as he wants for the time he gives. Instead a producer has the right to money to hire workers or buy machines. If both parties want to implement a private contract by giving up their respective rights to obtain rights from the other party, the labor market will occur.

On the other hand, in the case of pollution, the market exchange system cannot work because each party does not recognize its ownership rights to environmental goods. For example, there is an angler group that conducts activities on a lake every week. Once upon a time found fish in the lake all died. After investigating it turned out the cause turned out to be a substance that was disposed of by a chemical plant near the lake. Angler groups bear the plant's external costs as much as losing their pleasure and the value of the fish they get. The fishing group cannot ask for compensation to the factory because they do not have rights to the lake. If for some reason the factory managed to have ownership rights over the lake, and managed to find out that the fishing group was willing to pay a certain amount of money so that the lake could be cleaned again so that the water life could recover, the factory could calculate the amount of cleaning water and make a comparison between the amount of the cost of cleaning water with the results to be obtained from the fishing group. If the cleaning costs are greater than the income, the plant is better off continuing its production activities without having to clean the lake; if the income is greater than the cost of cleaning the water, the factory will clean the water so that life on the lake appears again. If this happens then both parties, feel fortunate. Here market exchanges can work, each party wants to give up its rights. So pollution problems can be solved as long as the market exchange system can work. The thing that drives exchanges is profit motivation. The factory will bear the previous external costs borne by the fishing group, in other words the factory wants to internalize external costs such as other costs, for example labor or capital. Reksohadiprodjo and Brodjonegoro (1992).

External effects or externalities can be positive or negative. Historically, external terms in economic and external economies have been used to indicate whether the affected party suffered losses or benefited from these externalities. Examples of the emergence of lake pollution above are in the form of economic or negative externalities. Economic or positive externalities are not difficult to find. A person who maintains a beautiful landscape provides economic or positive

externalities for those who pass it. In general, when positive externalities occur, the market lacks goods that give rise to positive externalities [7].

One other type of externality is also important. There are types of externalities called pecuniary externalities that do not cause problems such as pollution. Employee externalities arise when external effects are spread through the price affected. Suppose the company enters an area and causes an increase in land rent. The increase in price / rent of this land will have a negative effect on those who rent or want to buy land and cause diseconomies external.

When entrepreneurs make decisions about what and how many items to produce, they usually consider the price of the item and the costs to be paid for inputs used such as: labor, raw materials, machinery and energy. Such costs are referred to as private costs from companies that will determine the profits of the company. When a company is assumed to be looking for maximum profits, the company will try to minimize costs. The company will also make adjustments (reallocation of input use) if the prices of inputs used change [8].

But in many cases the production process has other types of costs, which although it describes the true cost of production for the community, but does not appear in the calculation of company profits. This fee is referred to as external costs. Called external because even though these costs are real to some members of the community, these costs are not calculated by the company in determining the amount of goods that must be produced. In other words, these costs are external from the point of view of the company, but internal from the point of view of society as a whole.

Saudi, et al. identified various positive and negative externalities that occurred from sea transportation activities in the port of Maassar. The results of his research indicate that activities at the port have benefits and disadvantages. Some benefits can be obtained such as the economic improvement sector, beauty improvement, informal sector development, transportation, lighting improvements and tourism. On the other hand, perceived losses such as water quality, air, land pollution, increased noise and also crime [9].

According to Sankar, the importance of analyzing externalities in an industry is to determine the performance of a company or industry in making an impact on society and the surrounding environment, both positive and negative impacts. There are two kinds of externalities, namely positive and negative externalities. Positive externalities occur when activities carried out by a person or industry provide benefits to other individuals or environments [10].

II. METHOD

This type of research is exploratory research with a descriptive approach. Exploratory research is carried out to dig deep information and provide an explanation and description of a phenomenon that is happening with the support of a limited theoretical foundation. This is done to reveal facts and information or put forward a completely new proposition, or because of the limitations of theoretical support to underlie and background the research conducted.

The object of the research is the impact of the economic and social externalities of the existence of the cigarette industry in Indonesia, namely in Semarang Regency, Central Java Province. The data used is a combination of primary data and secondary data. Primary data was obtained from interviews with 40 employee respondents and 30 community respondents randomly selected as well as judgment sampling. Secondary data includes economic and social, namely time series data (time series) from 2010 to 2017 for the district level obtained from the Central Statistics Agency.

To find out the external impact of the existence of the cigarette industry on economic and social aspects, descriptive analysis and descriptive statistics were used (mean, mode, median, standard deviation). This analysis is intended to determine the level of welfare of the population due to the existence of the cigarette industry carried out by employers and other impacts both positive and negative. Data were analyzed and compared before and after the cigarette industry.

To find out the impact of the existence of MPS on Regency Regional Original Revenue and Culture and people's lifestyles, it is conducted by using descriptive analysis and rough calculation of the multiplier effect and the contribution of the cigarette industry to the regional economy. Multiplier effect (number multiplier) is the amount that arises due to a successive increase in a production result. In this study, a multiplier effect is used to show how much the effect / ability of the MPS to improve the regional economy. The multiplier effect can be obtained from the formula:

$$\text{Multiplier Effect} = \frac{1}{\text{MPS}} \quad (1)$$

where MPS: Marginal Propensity to Save or the amount of additional income used to increase savings. The assumption used in calculating the multiplier effect is that in the long run, Marginal Propensity to Save (MPS) = Average Propensity to Save (APS).

With known multiplier values, this study can estimate the contribution of the cigarette industry to the regional economy (GRDP). The calculation is done using the following formula:

$$= \text{employee sample expenditure average} \times \text{total employees} \times 12 \text{ months} \times \text{multiplier} \quad (2)$$

Likewise, to find out the impact of the existence of the cigarette industry on the economic and social aspects of the community at the provincial level, it was carried out using descriptive analysis and descriptive statistics.

To compare the cigarette industry with other businesses in the industrial sector that are equal, in terms of: Total labor absorption; Employee income; Working hours; The requirements for the level of workforce education are compared using simple statistics, namely the Average Difference Test. By using data that amounts to more than 30 observations each, it can be done a different test average of the two samples using the formula:

$$z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad (3)$$

where:

\bar{X} : the average value of the variable compared to the cigarette industry sample in a location.

S_i^2 : standard deviation from the cigarette industry sample in a location..

n_i : the number of samples from the cigarette industry in a location.

To obtain conclusions and policy recommendations for decision makers in connection with the role of the tobacco industry in the economic and social aspects of society, it will be carried out by descriptive analysis and cross-check with quantitative data and other findings in the field.

III. RESULTS AND DISCUSSION

The economic aspects of income for employees of the cigarette industry can be seen from the employment history, whether before working in the cigarette industry had worked elsewhere or this was their first job. As many as 42.5 percent of respondents have never worked in other places, meaning that there are additional jobs and for the region the impact of reducing unemployment. While 57.5 percent of respondents had worked in other places, meaning they moved for better economic reasons or because of closer distances. Working in a factory located near the house will be efficient in terms of distance and transportation costs.

The reason for respondents choosing to work in cigarette factories can be divided into two types. The first reason is economic reasons, where as many as 70 percent of respondents are to help husbands find additional income for families. The second reason is non-economic reasons, where 30 percent of respondents, namely the location of the factory close to the place of residence, the unavailability of other jobs around the residence, factory entry requirements are quite easy especially in terms of education, invited by you, and the desire to gain experience new.

Furthermore, the average monthly income earned by employees is Rp. 1,773,625, - The employee's income can be said to be quite high when compared to Semarang Regency's minimum wage in 2015 which was only Rp. 1,419,000,-. The average expenditure of employees is Rp. 1,398,500, - and the average savings held by employees is Rp. 375,125, -

The results of this study are in line with the findings of Rahmadhani who stated that the existence of industry, had a positive externality on the economy of the community, with increasing income as a result of changes in the livelihoods of some people to the industrial sector and trade sector. In addition, there are wide open employment opportunities for the community so that more and more people depend on their income for industry. Likewise, with the level of education, most people are able to improve their children's formal education as a result of increasing their income [11].

In general, respondents have a proportion of income allocated to consumption / expenditure (APC) of 0.79 while those allocated for saving (APS) are 0.21. By assuming APS = MPS (Marginal Propensity to Save), the expenditure multiplier

is 4.73. 4.73 multiplier means that every Rp. 1000, - additional spending encourages economic activity in the amount of Rp. 4.730, -

Furthermore, as many as 100 percent of respondents stated that the wages received could be used to fulfill primary needs such as food, drink and shelter. Furthermore, as many as 97.5 percent of respondents stated that the wages received could be used to meet secondary needs such as clothes, television, mobile phones and home appliances. Then as many as 90 percent of respondents stated that the wages received could be used to meet tertiary needs such as motorbikes, refrigerators, and air conditioners.

When viewed from the aspect of welfare, as many as 97.5 percent of respondents felt more prosperous after working in a factory. Various reasons stated by respondents include the adequacy of needs, having regular salary received making respondents feel more comfortable, with these salaries the respondent's household needs can be more fulfilled and respondents can also save.

This study shows that 72.5 percent of respondents now can also help their extended families such as biological parents / in-laws, siblings, grandparents, and other siblings. The remaining 27.5 percent said they did not or could not help large families. The reason given is that because their large families have an average income of their own, another reason is because the respondents claimed that the salary received was only enough to meet their own needs.

The existence of cigarette factories in Semarang Regency certainly has an impact on social aspects. As many as 87.5 percent of respondents said that the neighbors' lives got better with this factory. Generally, they say that the existence of a factory can reduce unemployment and open new business opportunities around it such as stalls and boarding houses. 12.5 percent of respondents answered no better. Those who answered were no better, the majority stated because of the location of their residence far from the factory and the rarity of the residents around their homes who were employees of the factory.

Mutual cooperation in the neighborhood where employees live is still very good. All respondents or 100 percent stated this. This can be seen from the many activities in the community such as voluntary work, *tahlilan*, *pengajian*, *arisan* and sports activities such as volleyball which is followed.

For the activity of the respondents in community activities, 72.5 percent participated in community activities around their homes. The activities that are followed include voluntary work, family gathering and sports. These activities are generally carried out at night after employees leave the factory. As many as 27.5 percent of respondents said that they did not take part in community activities in their neighborhood, the reason given was that there was no time and was tired when they returned home.

Furthermore, the results of the study were not in accordance with the findings of Sandra in Kuantan Singingi District, Riau Province where the social conditions before and after the industry experienced changes as a result of differences in interests which caused social inequality between the residents

of origin and immigrants. Changes in social conditions occur as social processes experienced by members of society as well as all elements of culture and social systems where all levels of people's lives are voluntary or influenced by external elements. This social inequality arises because of the inability to understand or accept forms of social differences in society in the presence of industries in their environment. Social inequality occurs because of differences in social interests in the community such as in terms of relationships, so that jealousy arises towards each other [12].

Regarding the views related to women who are married choose to work outside the home, 97.5 percent of respondents answered well because they can help their husbands to make a living to ease the family burden. As many as 2.5 percent of respondents answered neutral because it depends on the people, it doesn't matter as long as they follow the applicable rules.

In general, cigarette industry employees feel comfortable with their work environment. As many as 95 percent of employees feel a pleasant working atmosphere and 5 percent say the atmosphere is normal. The nice thing for employees is because of the work environment that makes them have many friends, and a harmonious relationship between them. The pleasant working atmosphere is also supported by quite complete factory facilities.

The existence of cigarette factories also has an impact on the growth of economic activities or the businesses of surrounding communities, both those who have opened businesses and those who plan to open new businesses. This study shows that as many as 22.7 percent of respondents have a business or have relatives who open a business around the factory. The large number of respondents who have businesses around the factory shows that the existence of a factory has opened up business opportunities and of course it will also have an impact on increasing community income and reducing unemployment in the region.

Businesses run around the factory include boarding houses, food stalls, grocery stalls, and others. The average business is a main business. As many as 10 percent of respondents said that the results of the business had helped meet the needs of life as 51-75 percent, 10 percent said that the results of the business helped meet the needs of 26-50 percent, 80 percent said that the results of the business helped meet the needs of 0-25 percent. The low percentage of fulfillment of business results to the necessities of life shows that the business has not been able to be relied on to fulfill life needs, which means that the business prospect is not good.

The existence of the cigarette industry in an area will certainly have an impact on the social aspects of the lives of the surrounding community. To find out the social impact of the tobacco industry on the community, interviews were conducted with the people who lived around the factory. The average distance of an employee's house from the factory is 1.8 km.

As many as 97.7 percent of respondents said that there were benefits felt by the community with the emergence of factories. Many reasons were stated, the first reason was that the existence of a factory would provide jobs and reduce unemployment in the area. Second, the existence of factories

encourages other economic activities such as the presence of new businesses such as stalls, shops, boarding houses and so on which then encourage the creation of new jobs for the community.

As many as 93.2 percent of respondents said that there was an increase in people's welfare with the existence of factories. The increase in welfare can be seen from the ability of the community to fulfill their daily needs, especially those who work in cigarette factories and those who have businesses after the cigarette factory.

As many as 93.2 percent of respondents said that the presence of a cigarette factory did not disturb the peace / comfort. As much as 6.8 percent said it was disturbed by traffic conditions around the factory, both traffic noise and density due to the departure and return of employees.

As many as 97.7 percent of respondents said that the existence of the cigarette industry provided motivation in improving environmental infrastructure. Repair of environmental infrastructure by cigarette companies such as repairing damaged roads and repairing waterways. 2.3 percent said that the existence of cigarette factories did not provide motivation for improving environmental infrastructure.

The public's view of the performance of the agricultural sector with the existence of the cigarette industry is quite good. In general, they stated that there was no decrease in these activities. 88.6 percent of respondents to agricultural activities did not decline with the existence of this factory. The effect of agricultural activities on the existence of this factory is not affected because the area around the factory is not an agricultural area, so agricultural activities are not very influential.

IV. CONCLUSION

The existence of the cigarette industry at the research location has an impact on increasing the income of employees and the community. The average income of these respondents is far above the district minimum wage. From the figures of the average income, expenditure, and savings of all respondents, obtained an expenditure multiplier of 4.73. This shows that if the respondent makes an expenditure of one unit of money, the economic activity in the area will increase more than four times as much, i.e. 4.73 units of money. In addition, the existence of cigarette factories has provided additional income for the community, because the existence of the cigarette industry has stimulated the emergence of various new business fields.

The existence of the cigarette industry also raises some perceptions from the general public. The perceptions that arise consist of positive perceptions and negative perceptions. Positive perception is related to the availability of jobs and the creation of business fields, while negative perceptions are seen from the development of facilities in the community, waste generated by factories, to feelings of jealousy from people who are not absorbed as employees of cigarette factories.

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