

Conference Paper

Analysis of Dynamic Model of Cigarette Consumption Reduces First Goal of SDGs in Indonesia

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Abstract

This research aims to see the extent to which the real conditions of society can be separated from the trap of poverty due to consuming cigarettes. This research uses secondary data which taken from various sources of publication. The variables used are input variables and output variables. Input variables are in the form of community income. Output variables used are average per capita expenditure. Data analysis using Dynamic System Analysis with software of ITHINK[®] Ver. 6.01 from the High Performance System (2000). The result of this research indicate that in the condition of the community consuming 1 cigarette per day shows that groups of community are difficult to escape from the trap of poverty until the end of Medium Term and Long Term Development Plan is poor society, almost poor society and middle to lower society. While middle to middle society, middle to upper society and rich society still have an income balance from the beginning of the research year to the next 20 years. While the result of the scenario of consumption of 2 packs of cigarettes per day show besides poor society, almost poor society and middle to lower society are difficult to escape from the trap of poverty, middle to middle society are in poverty for the next 20 years as well. Therefore the goal of the first SDGs in Indonesia to eliminate poverty is difficult to achieve.

Keywords: Cigarette, Medium Term and Long Term Development Plan, Poverty, SDGs

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1. Introduction

Issues regarding poverty are the focus of development in each country, especially developing countries. Attention to poverty has even become a global problem which is expressly stated in SDGs (Sustainable Development Goals). Therefore, SDGs set the main target are elimination of extreme poverty and starving in 2019. This target is a reference for the progress of a country. Although it has become a global commitment, poverty alleviation efforts are recognized as not a simple problem, because poverty is complex.

The complexity of the problem of poverty requires integrated strategic policies. For example through programs to expand productive employment opportunities, human

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empowerment and ease of accessing various opportunities, socio-economic and education for the community at large. One of strategy for poverty alleviation according to Rinawati (2017) based on social capital in the form of trust, norm and social networking is used by farmers in the process of production and consumption. However, because of various government limitations, poverty alleviation program or policies that are oriented to the problem of poverty require a priority scale.

Indonesia as one of the countries that has agreed to implement the SDGs is committed to the successful implementation of the SDGs through various activities and has taken strategic steps. A number of steps that have been taken by Indonesia until the end of 2016, among others (i) mapping between SDGs targets and goals and national development priorities, (ii) mapping the availability of SDGs data and indicators on each target and goal including proxy indicators, (iii) preparation of operational definitions for each SDGs indicator, (iv) preparation of presidential regulations related to the implementation of SDGs, and (v) preparation of national action plans and regional action plans related to the implementation of the SDGs in Indonesia.

As mandated by the Long Term Development Plan in 2005-2025 and the President's Vision Mission, consider high levels of inequality, the trend of decreasing poverty levels all this time, problems and challenges that will be faced in the next five years, then the main target set is reducing poverty to 7.0 - 8.0 percent in 2019. This research aims to map now and in the next few years the number of poor society from several levels of poverty.

2. Research Method

This research is descriptive research. Descriptive method is a method in examining the status of a group of humans, an object, a set of conditions, a system of thought or a class of events in the present (Nazir 2005; Moleong 2007). The purpose of descriptive research is to make a description, picture or painting systematically, factual and accurate facts, the traits and relationship between the phenomena investigated. The data used are secondary data taken from various sources of publication. The variables used are input variables and output variables. Input variables in the form of community income. Classification of income per day of Indonesians according to World Health Organisation (WHO 2010) classified into (1) Poor society with income of less than 2 dollars, (2) Almost poor society with an average income of 2 dollars, (3) Middle to lower society with an average income of 4 dollars, (4) Middle to middle society with an average income of 6 dollars, (5) Middle to upper society with an average income of 10 dollars, and (6) Rich

society with income of more than 20 dolar. The following are conversions of income in rupiah per day, per month and per year in Table 1.

TABLE 1: Society Classification based on Income.

Classification	\$/day	Rp/day	Rp/month	Rp/year
Poor	1,2	18.750	562.500	6.750.000
Almost Poor	1,6	24.375	731.250	8.775.000
Middle to Lower	3,1	45.000	1.350.000	16.200.000
Middle to Middle	5,2	75.000	2.250.000	27.000.000
Middle to Upper	8,3	120.000	3.600.000	43.200.000
Rich	20,7	300.000	9.000.000	108.000.000

Source: World Health Organisation (WHO 2010)

Output variables used are average per capita expenditure (BPS 2018) namely consumption of food and non-food consists of consumption of carbohydrates, nutrients (fruit, vegetables, milk and eggs), and Tobacco. Non-food consumption consists of expenditures for housing and household facilities, various health insurance goods and services, and expenditure on education. The following are details of the average per capita expenditure per day and per month in Table 2.

TABLE 2: Average per Capita Expenditure per Month.

Type of Expenditure per Capita per Day	Rp/Month
Food	
- Carbohydrates and Nutrition (Grains, Tubers, Fish, Meat, Egg, Vegetable, Nuts, Fruits, Oil and Coconut, Spices, Instant Foods and Drinks)	491.460
- Tobacco (2 sticks)	65.430
Non-Food	
- housing and household facilities, various goods and services	1.093.155
- Health	31.562
- Education	59.070

Source: Central Bureau of Statistics 2018 and National Social Economic Survey 2018

Data analysis using Dynamic System Analysis was conducted using software of *IThINK*® Ver. 6.01 from the *High Performance System (2000)*. This Dynamic System Analysis can describe the prediction of the model in the future (Godet and Roubelat 1998; Hartrisari. 2007)

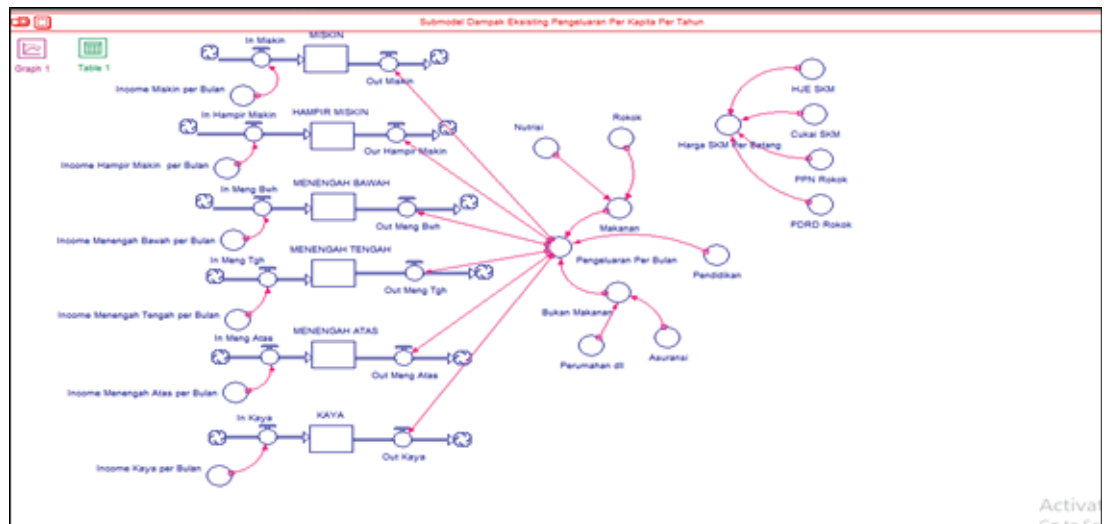


Figure 1: Structure of Dynamic Model of Cigarette Consumption Decreases First Goals of SDGs in Indonesia.

3. Results and Discussion

Based on the result of the Dynamic System Analysis, the impact of consumption of cigarettes per stem per day according to household income classification with existing conditions, meaning if the price of cigarettes in Indonesia is still affordable for poor society, almost poor society, and middle to lower society, with the income of the poor society less than 2 dollars per day or equivalent to Rp. 600,000 per month, then for one period of medium term and long term development plan (20 years), poor society will never escape from poverty, likewise for almost poor society and middle to lower society. The situation is exacerbated when consuming 1 pack of cigarettes per day. Ismaya (2018a and 2018b) explain there is fundamental difference between the theory and the result of research in the community of Kudus against ‘kretek’ cigarette culture in the framework of the concept of health and pain. She found in her research, there are some respondents who despite having a history of liver disease, heart and other chronic diseases, every day still enjoy 10 to 18 cigarettes.

In middle to middle society, middle to upper society and rich society, relatively not affected by consumption of cigarettes 1 stick per day. But in the scenario of consuming cigarettes for 1 pack per day, not only poor, almost poor and middle to lower society who cannot escape from poverty, but also middle to middle society. Of all classes of society according to income, there is an increase in the level of poverty by consuming 1 pack of cigarettes per day.

The infographic of statistics 2018 explains that the role of food commodities in the poverty line was greater than the role of non-food commodities (housing, clothing,

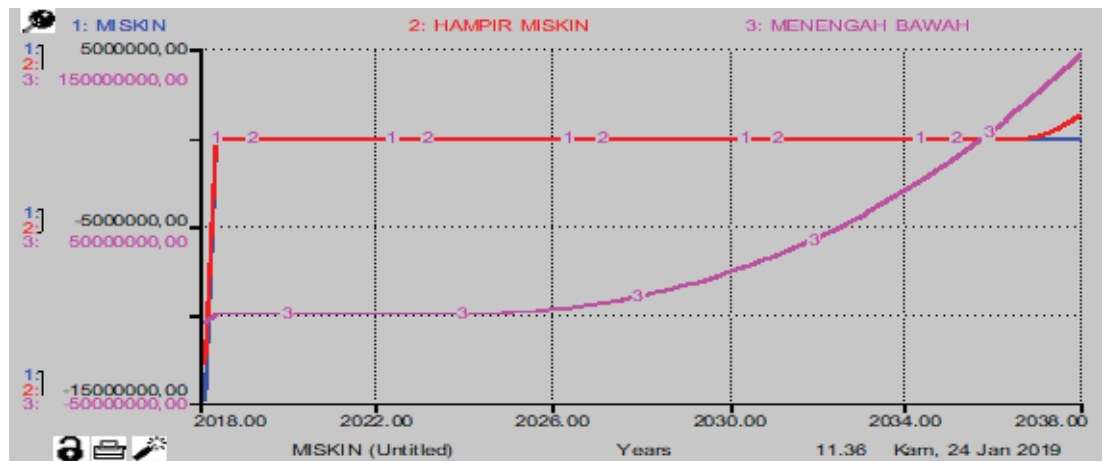


Figure 2: Performance of the Dynamic System Model by Consumption of 1 Cigarette Stick per Day for poor society, almost poor society and middle to lower society.

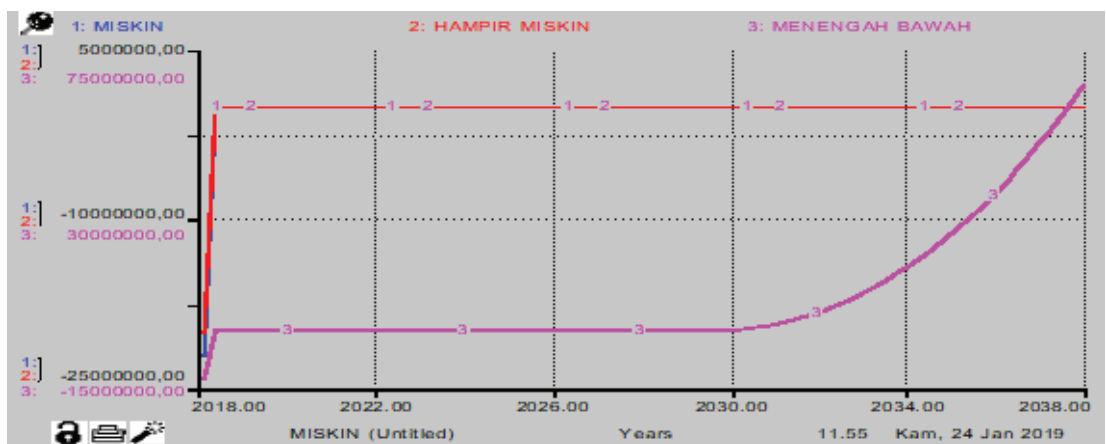


Figure 3: Performance of the Dynamic System Model by Consumption of 1 Cigarette Pack per Day for poor society, almost poor society and middle to lower society.

education and health). The contribution of the Food Poverty Line to the Poverty Line in March 2018 was recorded at 73.48 percent. Types of food commodities that have a large influence on the value of the poverty line in urban and rural areas are rice, filter cigarettes, race chicken eggs, race meat, instant noodles, and sugar. While types of non-food commodities that have a large influence on the value of the poverty line in urban and rural areas are housing, gasoline, electricity, education and toiletries.

Therefore, how to separate cigarettes from the poor society is to increase the price of cigarettes on the market. The result of the University of Indonesia’s Demographic study found that at a price of IDR 10,908 per stick, individuals will reduce cigarette consumption at a price of Rp. 23,204 per stick, individuals will stop consuming cigarettes (Mardanugraha and Widjaja 2018). By increasing the price of cigarettes on the market at that price level, is an effort so that society at every level of income can meet their basic

needs by not buying cigarettes. So that the target of the Indonesian SDGs in point 1 (no poverty) in the future are very likely to be achieved

4. Conclusions

As the first goal of the SDGs is that there is no poverty of any kind in all corners of the world, hence this research has found the extent to which the condition of the society level can be separated from the poverty trap due to consuming cigarettes. This research concluded that the condition of society consuming 1 cigarette per day showed that societies who are difficult released from the poverty trap until the end of medium term and long term development plan are poor society, almost poor society, and middle to lower society. While middle to middle society, middle to upper society and rich society still have an income balance from the beginning of the research year to the next 20 years. While the result of the scenario of consumption of 2 packs of cigarettes per day shows that not only the poor society, almost poor society, and middle to lower society difficult released from the poverty trap, but also middle to middle society trapped in poverty for the next 20 years. Therefore, the goal of the 1st SDGs in Indonesia to eliminate poverty is difficult to achieve.

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