THE RELATIONSHIP BETWEEN INDONESIA FARMERS' TERMS OF TRADE AND GROSS DOMESTIC PRODUCT

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Indonesia has grown becoming one of G20 countries joining other strong countries such as United States of America, China, United Kingdom and etc. It depicts the resilience of Indonesia's ecnomomy. The world bank data (2019) revealed that Indonesia had Gross Domestic Product (GDP) of US$ 1.15 trillion in 2018. Indonesia has grown consistently amid global uncertainty because of the ongoing trade dispute between USA and China. This was depicted by the average of Indonesia's growth which reach 5.46 from 2010 until 2018 (World Bank 2019).
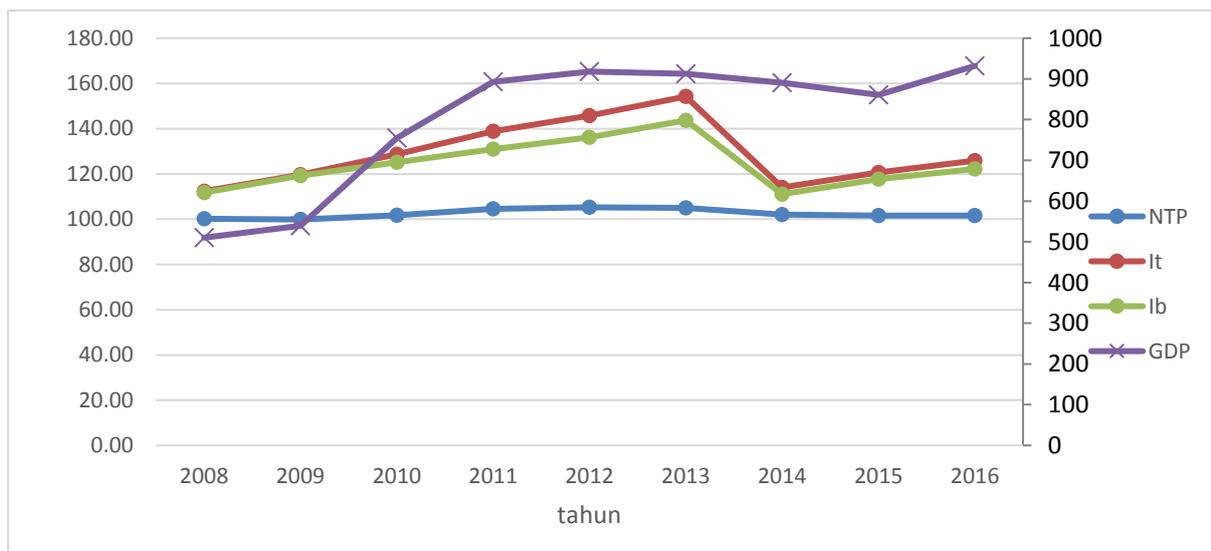
One of factors which support stability of Indonesia's economic growth is agricultural sector. Agricultural sector has strategic role in terms of creating job for people, obtaining foreign exchange reverses and providing food and fiber. Badan Pusat Statistik (2019) showed that labor of agricultural sector reached 30.46% of total Indonesia labor force. The agricultural activity mostly is conducted in rural area and dominated by on farm acticity. Therefore, farmers' welfare always become the main purpose of the development of agricultural sector (Rachmat 2013).

Based on those facts, it is belived that the economic development has already met many accomplishments including self-sufficiency program led by ministry of agriculture since last decades. However, the poverty problem has not resolved yet, especially poverty in rural area. Dillon et al (1999) and Simatupang (2008) stated that the development activity has already increase agricultural production, but it still can not increase income and welfare of farmers in rural area. with the orientation of agricultural development towards improving welfare, measuring instrument is needed in order to examine the agricultural develoment (Rachmat 2013).

Farmers' terms of trade or better known as *Nilai Tukar Petani* (NTP) is instrument to examine the level of farmer's welfare. Badan Pusat Statistik (2017) defines NTP as the ratio between price index received by farmers (IT) and price index paid by farmers (IB). IT measures the average of price change of agricultural products within a period at the producer level. IB measures the average of price change of a good package and cost production services and the addition of capital goods and households consumption in rural areas. In other words, IB is

agregation of package types of goods and production cost of services and addition of capital goods and household consumption of goods and services in rural areas. NTP is used in order to examine the level of farmers' income and used as policy background to improve the level of farmers' income. Then how the NTP can depict the movement of economic indicator including Gross Domestic Product is important in terms of making appropriate policy.

BPS (2019) revealed that NTP from 2008 until 2016 tended to be stagnant, where the average NTP was 102.42. It was caused by IT index and IB index having a tendency to move together. Picture 1 showed that both IT and IB indexes had two turning points, each of which occurred in 2012 and 2014. The household consumption index component had the largest contribution to the IB index movement. The stagnation of farmers' welfare depicted by the NTP tended to be not in line with Indonesia's GDP shift. Picture 1 showed that Indonesia's GDP had increased, where it grew an average of 82.3% from 2008 to 2016. One of factors contributed to the GDP is household consumption.

Keterangan: NTP (%), It (%), Ib (%), GDP (US$ billion),
Source: BPS 2019

Based on theory, NTP has characteristics that tend to decrease. Rachmat (2000) stated that the decreasing tendency was caused by factors such as: 1) income elasticity of agricultural products is inelastic, while non-agricultural products tend to be more elastic; 2) technological changes at different rates benefit manufacturing products; 3) differences in market structure, where the market structure of agricultural products tends to be more competitive than of manufacturing products. The manufacturing products lead to a monopoly or oligopoly market.

The different movement between NTP and GDP was also caused by differences in terms of calculation concept. NTP is expressed in the form of an index based on the Laspeyres index, where the quantity in the measurement period does not change. Rachmat (2013) stated that the quantity is always weighted at the beginning of the observation point (Q0) and the development of the index value only depends on changes in prices. It reflects that NTP calculation does not accommodate productivity changes. Meanwhile, GDP is calculated based on the multiplication of the total goods and services produced by the domestic ecomomy at the current price. Thus, the farmers' welfare will increase if the increasing rate of IB is greater than the increasing rate of IT.

Therefore, GDP growth caused by price increase is also not directly responded by improving the farmers' welfare. It is expected that the price increase especially in agricultural commodities is caused by the inability of production to meet domestic needs. Thus, the increase in prices of agricultural commodities is generally due to production scarcity. In addition, the market structure faced by farmers is also a factor explaining the gap between the two indicators. Farmers tend to face non-competitive market, thus, they can not receive the prevailing prices in the market. Farmers only act as price takers, while other marketing institutions enjoy price increase. In other words, the price could not be transmitted perfectly in a commodity marketing channel.

The explanation above indicates that Indonesia's economic growth tends to be exclusive. It means that economic growth depicted by GDP increase can not be enjoyed equally by Indonesian people especially for farmers. The economic inequality is reflected by the gini ratio index, where Indonesia has an average gini index of 3.97. the gini index or gini coefficient is a statistical measurement to measure income distribution or less comonly, wealth distribution among a population. The cofficient ranges from 0 (0%) to 1 (100%), with 0 representing perfect equality and 1 representing perfect inequality.

In order to improve farmers' welfare, special policies are needed which can increase income and reduce household expenditure of farmers. Both policies are based on NTP framework calculations. Rachmat (2013) proposed policies could be implemented by the government in order to increasing farmers' income such as: 1) Implementing intensification through an integrated farming system by maximizing the use of limited land. It is conducted in order to diversify farmers' income; 2) Developing farmer-processor-exporter partnership in a marketing system. It is conducted as a solution to improve commodity grade, market certainty and the price received by farmers and imrpove inefficient marketing system; 3) developing

capital access intruments and insurance for agricultural sector; and 4) Provisioning infrastructure both related to roads, electricity etc.

On the household expenditure, Rachmat (2013) proposed policies which can increase famers' purchasing power. It is based on the existence of a negative relationship between farmers' expenditure on NTP, thus, the efforts to increase NTP could be implemented through reducing prices or the cost of IB elements. Several policies which have been implemented by the government in order to increase farmers' purchasing power such as: 1) Provisioning rice assistance for the poor (raskin) which directly suppresses household expenditure for food; 2) Developing 9-year cumpolsory education program; 3) Health insurance program in the form of BPJS Kesehatan; and 4) Fertilizer and interest credit subsidy program. Those policies is expected to improve farmers' welfare depicted by NTP.

Sumber

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