



Strengthening Strategy of National Economic Based On Excelent Comodity of Tropical Plantation

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Abstract

This study is intended to propose a strategy for strengthening the national economy. As for the basis for strengthening, plantation commodities have a high value of sectoral linkages, a high total linkage impact, and a high output and income multiplier impact. This research used Leontief input-output analysis. The input-output data is obtained from the National Input Output Table published by the Central BPS. The results of the analysis show that: (1) The potential of the plantation sector is significant in contributing to output both among the agricultural sector and in national output, (2) The plantation commodity that has the highest direct forward linkage is Tobacco and the highest in the future is rubber, (3) The commodity that has the highest direct and indirect forward linkage is palm oil and backward is tobacco, (4) The plantation commodity that has the highest output multiplier impact is oil palm as well as the highest income multiplier impact, and (5) The leading plantation commodities are Tobacco, Rubber, Palm Oil.

Keywords: leading sector; sectoral linkage; output multiplier; input multiplier.

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INTRODUCTION

The realization of a prosperous society is one of the main goals of national development. Explicitly this purpose has been stated in the preamble to the 1945 Constitution in the fourth century. As an implementation, since the beginning of the first long-term development (PJPI) in 1964-1989 and PJP II (1994-2019), development in the economic sector has been determined to be the main priority of national development. Explicitly, this purpose is also stated in Law No. 9 of 1995 concerning Small Businesses.

The urgency of successful development in the economic field is, among others, because (wikipedia.org, and Hasan and Aziz, 2018): (1) being able to accelerate the process of economic growth (Hasan and Aziz, 2018), (2) creating jobs needed by the community, (3) The creation of an improvement in the level of national income, (4) encouraging changes in the economic structure from an agrarian economic structure to an industrial economic structure. Another role is because the success of development in the economic field will be a driving force for development in other fields, both in the socio-cultural, political, legal, and defense and security fields. Based on these various urgencies, research in the context of economic development is still actually to be carried out.

Even at the international level, the importance of realizing a prosperous world community has explicitly become one of the actual issues that have been ratified by 169 countries (worldtop20.org) as outlined in a joint commitment towards sustainable Development Goals (SDGs).

The SDGs are a sustainable development program in which there are 17 goals with 169 measurable targets with specified deadlines. The SDGs are a world development agenda aimed at the welfare of humans and planet earth, which are expected to be realized in 2030. Indonesia is the 101st country in the SDGs and is

committed to implementing them, as stated in the Presidential Regulation (Perpres) SDGs No. 59 of 2017 (Bakri.co.id).

In line with the national development goals and SDGs, the government has given great attention. In approaching 100 years of Indonesian independence, the government has formulated policies with clear directions. Optimistically, this hope is stated in the vision of Indonesia 2045.

Many hopes continue to be pinned on future economic development. Based on the exclusive summary that was launched by the Ministry of National Development Planning (Kemenpan), Bapenas (2019), several achievements have been explicitly stated to be realized in this vision. The big vision is to realize Indonesia as a Sovereign, Advanced, Just, and Prosperous Country by 2045. To support this vision, there are four pillars to support it, one of which is Sustainable Economic Development.

Explicitly, there are several economic indicators to be realized in 2045. These indicators are: (1) economic growth can reach 5.7 percent per year, (2) increase Indonesia to become a high-income country in 2036, and (3) become the country with the 5th largest GDP by 2045. High and inclusive economic growth will increase the middle-income class to around 70 percent of Indonesia's population by 2045.

Faced with various expectations as well as challenges in the implementation of national development. So one of the fundamental problems that will continue to be faced in development in the economic field is how to continue to spur economic development performance that has an impact on: (1) economic growth, (2) increasing foreign exchange, (3) increasing government revenue, through taxes and excise, (4) employment, (5) increasing people's welfare.

Broadly speaking, there are two strategies for strengthening the

performance of national economic development, namely through macro and micro approaches. According to Nainggolan (2020) and Hayati (2022), the macro approach includes: (1) increasing domestic consumption, (2) increasing business activity, and (3) maintaining economic stability and monetary expansion. These policies are implemented simultaneously with synergy between fiscal policyholders, monetary policyholders, and related institutions.

Meanwhile, according to Hayati (2022), the macro approach, among others, is taken through the Government providing convenience in fiscal policy and monetary policy, both of these policies can be welcomed positively by the public and business actors and can move forward according to the Government's plan to restore the Indonesian economy which has had contractions.

On the other hand, there is also a strategy to strengthen economic development through a mirror approach. According to Hasan and Azis (2018), directly strengthens natural resources, human resources, capital resources, and technological resources.

In addition to these two approaches, Budiharsono (1989) states that there are two types of development approaches in a region, namely the sectoral approach and the regional approach. The two approaches differ in determining their implementation priorities. The sectoral approach prioritizes what sectors should be developed to achieve a national development goal. On the other hand, the regional approach begins with determining which areas need top priority.

This study uses the micro approach proposed by Hasan and Azis (2018) and implements the sectoral approach proposed by Budiharso (1989). Based on the sectoral approach, from the outset, the plantation sector has been the main concern in this research.

Indonesia as a tropical area, there are various plantation commodities that have been growing and developing into important commodities in the country. However, based on BPS data, which is contained in the 2016 National Input Output Table, there are explicitly 12 plantation commodities that stand as separate sectors. The 12 plantation commodities are (1) Tobacco, (2) Sugarcane, (3) Coffee, (4) Cocoa, (5) Cloves, (6) Tea, (7) Annual fruits, (8) Oil Palm, (9) Coconut, (10) Cashew, (11) Rubber, and (12) Plant Fiber. The emergence of these commodities as an independent sector in the Input Output Table shows that these commodities have a significant role in the economy. Based on the diversity of these plantation commodities, it is important to find a strategic approach that can further strengthen the national economy. One of them is important to know which commodities are classified as superior commodities.

The choice of the plantation sector as a booster for national economic development is based, among other things, on two important considerations. First, the development of the plantation sector received serious attention. In line with agricultural development policies, namely Advanced, Independent, and Modern Agriculture, the direction of plantation development policies and programs must refer to these policies. Explicitly, the big target to be achieved by the plantation directorate is to realize the main program aimed at realizing food security, increasing added value, and exports. The programs pursued include: Program to increase food production, a Support program that we format in the way of action (CB)1 to CB 5, and an Agriculture Super Priority Program (SPP). The commitment that the Directorate General of Plantation continues to make is to continue to strive to increase productivity, production, added

value, and exports as well as to contribute to national economic growth.

The second consideration is that plantations are the most promising sub-sector for increasing foreign exchange and improving people's welfare (Dirjenbun, 2021). On the other hand, so far the plantation subsector has shown potential economic development performance, both in terms of: (1) its contribution to the national economy, (2) its growth rate, (3) its foreign exchange contribution, and (4) its contribution to state revenue.

Based on the income of the Directorate General of Plantations (2015, 2021, and 2022) and BPS data, the performance of the plantation subsector shows good results. Based on data from the Central Statistics Agency (BPS), in 2018, the contribution of the plantation sub-sector to the national economy showed an increase of 22.48% when compared to 2014. In the 2014-2019 period, the GDP of plantations reached Rp. 2,192.9 trillion. According to preliminary figures, the GDP of the agricultural sector in the first quarter of 2019 reached Rp. 106.95 billion. In the second quarter of 2022, the GDP of the plantation subsector reached Rp. 110 160.40 billion.

Based on BPS data for 2022. The growth rate of the plantation subsector during the second quarter of 2022 is the highest compared to all plantation subsectors and compared to all other agricultural sectors. Even in the context of all sectors of the national economy, the growth rate ranks 4th (BPS, 2022).

According to the Director General of Plantation (2021), in 2020, the plantation sector will make a positive contribution to economic growth and recovery during the Covid-19 pandemic. Thus, the plantation sector contributes greatly to the national economic recovery (PEN) amidst the Covid-19 pandemic. The magnitude of the growth rate of the plantation sector is 21.85 percent in 2022. The magnitude of the economic growth rate of the plantation

sub-sector in 2022 is expected to spur economic recovery which experienced a 2.75 percent contraction in 2020 (BPS, 2022).

Based on BPS data, agricultural exports from January-November 2020 amounted to 399.5 trillion rupiahs, an increase of 12.63% compared to the same period in 2019 of 349.1 trillion rupiahs. Of the export value, the contribution of plantations reached 90.9% or 363.2 trillion rupiahs and this was at the same time an important contributor to achieving the target of the triple export movement (Gratiexs). Exports of plantation commodities, which surged in January-November, were contributed by palm oil, rubber, cocoa, and coffee commodities (Dirjenbun, 2021). Likewise, according to Astra Agro Lestari (2021), in the same year, 2020, the value of agricultural exports reached Rp 451.8 trillion. Of this amount, almost 94% was contributed by the plantation sub-sector with the main commodity of oil palm (Dirjenbun (2021).

According to Dirjenbun (2021), the contribution of the plantation sub-sector in 2013 reached US\$ 45.54 billion, or equivalent to Rp. 546.42 trillion (assuming US\$ 1 = Rp. 12,000,-) which includes exports of plantation commodities of US\$ 35, 64 billion, excise duty on tobacco products of US\$ 8.63 billion, and export duty (BK) of CPO and cocoa beans of US\$ 1.26 billion. When compared to 2012, the contribution of the plantation sub-sector has increased by 27.78% or an increase of US\$ 9.90 billion (Ditjenbun, 2015).

In the future, the various dominant contributions of the plantation sub-sector are expected to continue to be increased. Through a sectoral approach is important to know which plantation commodities have a major contribution to strengthening development performance in the economy, or what are known as superior commodities.

The research objectives to be achieved are: (1) to describe the potential

of the plantation sector, in terms of the output structure, intermediate demand structure, and value-added structure, (2) to determine the relationship between plantation commodities and other economic sectors, both upstream and downstream linkages, (3) to determine the impact of linkages created by each plantation commodity, and (4) to determine the impact of output and income multipliers created by leading plantation commodities, (5) compiling plantation commodities superior.

To achieve these goals, the Grand theory which is the basis for this research is the Input-Output (IO) Model Theory developed by Wassily Leontief. The input-output model is a new technique introduced by Prof. Wassily W. Leontief in 1951. The input-output model proposed by Leontief is a development of the technique used by Francois Quesnay (1694–1774) in his book *Tableau Economique*. This technique is used to examine the relationship between industries to understand the interdependence and complexity of the economy and the conditions for maintaining a balance between supply and demand (ML Jhingan, 2000).

According to Nasoetion1, Rustiadi, Saefulhakim (2000). This Input Output technique is used to examine the relationship between industries to understand the interdependence and complexity of the economy as well as the conditions for maintaining a balance between supply and demand.

According to Professor J.R. Hicks input is "something bought for the company", while output is "something sold by the company". Inputs are obtained but outputs are produced. So the input is the company's expenses, and the output is the revenue. The sum of the money values of the inputs is the total cost of a firm and the sum of the money values of the outputs is the total revenue.

According to Jhingan (2000), the input-output analysis shows that the economy as a whole contains inter-relationships and interdependencies between industries. An industrial sector produces goods in the form of inputs that will be used further as output (final goods) of other industrial sectors and vice versa so that ultimately the interrelationships between them lead to an equilibrium between supply and demand in the economy as a whole.

The input-output relationship is stated in a matrix in the form of an Input-Output Table. According to BPS (2000), the Input-Output Table is a table that presents information about the transactions of goods and services that occur between economic sectors. The aspect that table I-0 wants to highlight is that each sector has a relationship or dependency with other sectors. As an illustration, the input-output table in this study, the following is an overview of the input table.

Alokasi Output	Permintaan Antara		Permintaan Akhir	Penyediaan		
	Industri 1		Industri S ₂	Impor	Jumlah Output
Struktur Input						
Input Antara	Kuadran I		Kuadran II			
Industri 1	X _{1,1}	X _{1,S₂}	F ₁	M ₁	X ₁
:	:	:	:	:	:	:
:	:	:	:	:	:	:
Industri S ₂	X _{S₂,1}	X _{S₂,S₂}	F _{S₂}	M _{S₂}	X _{S₂}
Input Primer	Kuadran III					
	V ₁	V _{S₂}	Dimensi : 52 X 52 Industri		
Jumlah Input	X ₁	X _{S₂}			

Picture 1. Illustration of National Input Output Table

Source: <https://www.youtube.com/watch?v=B3EpPZ2Lm54&t=453s>

The Input-Output table in Figure 1 is an illustrative table with 52 x 52 sector dimensions. This research uses the Table

Input Output classification of 185 sectors. Therefore, the numbers are denoted by the letter X in quadrant I (X52 X185), as well as Quadrant II (F52, Ms52, X52 F185, Ms185, X185) and Quadrant III (V52, X52 V185, X185).

Based on the Input-Output Table presented in Figure 1, it can be described that the table consists of 3 quadrants. Quadrant I consists of transactions between sectors/activities, namely the flow of goods/services produced by a sector to be used by other sectors (including the sector itself), both raw materials and as auxiliary materials. This means that goods and services are purchased for the needs of the production process whose final results will be resold in the next round. The matrix in quadrant I is a production system and is endogenous, while the matrix outside quadrant I (II, III) is exogenous. Endogenous means not being able to change because of influences from within oneself, change only occurs because of outside influences.

Quadrant II consists of final demand, namely goods and services purchased by the public for consumption (used up) and for investment. Included in this final demand are goods and services purchased by the general public, purchased by the government, used for investment, exported abroad/outside the region, and are no longer in the country/region because they are used up.

Quadrant III contains primary inputs, namely all the power and funds needed to produce a product but outside the intermediate input category. Included in this category are labor, expertise, capital, equipment, buildings, and land. The contribution of each party is calculated according to the remuneration it receives for its participation in the production process. What is listed in quadrant III is the remuneration for the factors of production and therefore is an income that describes the prosperity of the community in an area if all production factors are

owned by the local community. The total amount of such remuneration is equal to the gross value added to the area.

The input-output in this study was chosen because of its several uses, namely: (1) it can estimate the impact of final demand on various outputs of the production sector, added value, imports, demand, taxes, labor needs, and so on, (2) can project economic variables macro (3) provides guidance on sectors that have the strongest influence on economic growth and sectors that are sensitive to the national economy, (4) assesses the level of strength and weakness of the data.

According to Budiharso (1989), the advantages of the IO analysis are (1) it can estimate the structural interdependence between various sectors that make up the economy of a region consistently, (2) can predict the direct and indirect impacts of planned economic activities, (3) can consistently predicts the trend of economic growth in at least 3 to 5 years.

Several previous studies related to plantation commodities, among others, were conducted by Siregar (2018), Rita (2018), and Iyan (2014). Research conducted by Siregar (2018) is more focused on one plantation commodity. Rita's (2017), research focuses on smallholder plantations with an LQ approach, and Iyan's (2014), research aims to determine the leading commodities in the agricultural sector with an LQ analysis approach.

The novelties of the research include: (1) using input-output analysis with the largest sector classification, namely 185 sectors, (2) this study examines 12 plantation commodities at once, (3) the scope of the study is macro, namely in the national economy.

RESEARCH METHODS

This research uses a Descriptive Statistical Analysis approach. According to Supranto (1983), there are two types of economic data analysis. One of them is

descriptive analysis, which is an analysis that concludes without taking into account the uncertainty factors. The uncertainty factor is generally measured by the level of error (level of significance) or error. This study uses Input-Output data from 2016 which was updated in May 2019. The Input-Output Table used is a table of domestic transactions based on basic prices in the classification of 185 sectors. The input-output data source comes from the Input-Output Table published by the Indonesian Central Statistics Agency.

Broadly speaking, there are three analyzes in this study, namely: (1) Descriptive Analysis, (2) Linkage Analysis, (3) Distribution Impact Analysis, and (4) Multiplier impact analysis. Descriptive analysis is used to achieve the first objective, namely to determine the role of the plantation sector in strengthening the national economy in terms of its contribution to meeting the demand for national output and its role as a source of gross value-added creation.

Linkage analysis is used to achieve the second objective, namely to determine the relationship between the plantation subsector (of which there are 12 commodities) and other sectors in the national economy. The value of the correlation analysis includes: (1) forward and backward direct linkages, and (2) backward and forward direct and indirect linkages. Linkage impact analysis is used to achieve the third objective. The calculated impact linkages include (1) the index of sensitivity and (2) the index of spreading power. The multiplier impact analysis is used to achieve the fourth objective, which is to find out the impact of the plantation subsector on the creation of output and income.

The formula for direct forward linkage (F (d+i)i):

$$F(d)j = \sum_{j=1}^n a_{ij}$$

a_{ij}: element of coefisien input

n: number sector

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$$F(d)i = \sum_{i=1}^n a_{ij}$$

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The Formula for direct and direct backward linkage

$$B(d+i)j = \sum_{i=1}^n a_{ij}$$

a_{ij}= coefficient of invers Leontief matric

The Formula for direct and direct forward linkage F (d+i)i

$$F(d+i)j = \sum_{j=1}^n a_{ij}$$

a_{ij}: element of invers Leontief matric

The Formula for index dispersion:

$$\alpha_j = \frac{\sum_i b_{ij}}{(\frac{1}{n}) \sum_i \sum_j b_{ij}}$$

The Formula for index sencivity

$$\beta_i = \frac{\sum_j b_{ij}}{(\frac{1}{n}) \sum_i \sum_j b_{ij}}$$

B_{ij}: element of invers Leointef matric

The Formula for income multiplier effect (MS_j), Budiharso (1989):

$$MS_j = \sum_{i=1}^n V_j \times C_{ij}$$

V_j: salary

C_{ij}= element of Leoentief matric

The Formula for output multiplier effect, Budiharso (1989).

$$MXT_j = \sum_{i=1}^n C_{ij}$$

RESULTS AND DISCUSSION

Result of Descriptive Analysis

1. Contribution to Output

Based on the Input-Output table, the total output of the plantation sector reached 622534121 million rupiah. Based on this output, its contribution to agricultural output is 33 percent. Against national output, its contribution is 3 percent. The role of the output is to meet the intermediate demand and final demand. The need for intermediate demand is to run the production process. On the other hand, final demand needs are used for consumption needs. Based on this contribution, the plantation sector has an important role in meeting the demand for needs both in the agricultural sector and in the needs of national demand. The output data by subsector or each commodity is presented in Table 1.

Tabel 1. Total Output by Commodity

Commodity	Output
Sugarcane	10101559
Tobacco	17999168
Fiber plant	173779
Other Plantations	21870898
Fruits	133367891
Biopharmaceutical Plants	6992925
Rubber	69597787
Coconut	31487782
Palm oil	234036265
Coffee	38673492
Tea	2274570
Cocoa	34841716
Sugarcane	18936537
Tobacco	2179752

Source: analysis of secondary data 2022

Based on Table 1, palm oil produces the highest output, then fruits, rubber, coffee, and cocoa. It means that palm oil is the best in creatin.

Result of Linkage Analysis

1. Direct Linkage

Direct linkages between sectors in an economy are in the form of direct forward linkages and direct backward linkages. Mathematically, the value of this direct

relationship is obtained from the Input Coefficient Matrix (Technology). The direct backward linkage (upstream) shows the effect of a sector on the level of production of sectors that provide intermediate inputs for the sector directly. On the other hand, direct forward linkage shows the amount of output of a sector used by other sectors. The results of the analysis of the direct linkages of the 12 plantation commodities with other sectors, both forward linkages, and backward linkages are presented in Table 2.

Tabel 2. Analysis of Direct linkage

commodity	backward	farwaord
Sugarcane	0.20718	0.2143
Tobacco	0.39104	0.2638
Fiber plant	0.00885	0.1023
Other Plantations	0.13734	0.1177
Fruits	0.51321	0.1420
Biopharmaceutical Plants	0.11268	0.1536
Rubber	0.75151	0.1874
Coconut	0.38148	0.1146
Palm oil	0.48285	0.2363
Coffee	0.54229	0.1517
Tea	0.11806	0.1954
Cocoa	0.43296	0.1368
Sugarcane	0.16658	0.1554
Tobacco	0.01540	0.1064

Source: analysis of secondary data 2022

Based on Table 2, the rubber commodity that has the highest direct forward (upstream) linkage, followed by coffee, fruits, palm oil, and the fifth rank is cocoa. The backward linkage figures show the amount of output that must be provided for these sectors. For example, the value of the backward linkage of rubber commodities is 0.75151. This figure shows that if there is an increase in final demand by one unit, the total rubber output provided for other sectors is 0.75151 units.

The plantation commodities that have the highest direct forward linkage are tobacco commodities, followed by Palm Oil, Sugar Cane, Tea, and Rubber. The interpretation of the direct forward

linkage figure for tobacco commodities of 0.2638 indicates that if there is an increase in the final demand for tobacco commodities by one unit, the number of inputs that must be provided by the input supply sector is 0.2638.

Result of Total Linkage Impact

This impact analysis is an analysis of direct and indirect linkages, both forward and backward. Thus, this total linkage is larger in scope because it involves all sectors of the economy. This relationship shows the multiplier effect caused by a sector both to the front side (upstream) and to the back side (downstream).

The direct and indirect forward link shows the indirect effect of an increase in the final demand for one unit of a particular sector that can increase the total output of all sectors of the economy.

This parameter shows the strength of a sector in driving improvement in all sectors of the economy. On the other hand, the impact of total backward linkage shows that the role of a sector can meet the final demand from all sectors of the economy.

Mathematically, these correlation figures are obtained from the Leontief Inverse Inverse Matrix. The magnitude of the impact of the total forward and backward linkages are presented in Table 3.

Tabel 3. Total Linkage Impact

commodity	Farward	backward
Sugarcane	1.3286	1.3309
Tobacco	1.4323	1.4151
Fiber plant	1.0109	1.1632
Other Plantations	1.1697	1.1826
Fruits	1.5999	1.2165
Biopharmaceutical Plants	1.1173	1.2414
Rubber	2.4920	1.2949
Coconut	1.4954	1.1744
Palm oil	2.3528	1.3522
Coffee	1.6215	1.2225

Tea	1.1280	1.3186
Cocoa	1.5204	1.2127
Sugarcane	1.1837	1.2444
Tobacco	1.0165	1.1661

Source: analysis of secondary data 2022

Based on Table 3, rubber plantation commodities show the highest total forward linkage impact, which is 2.4920. This figure shows that if there is an increase in final demand for the rubber sector by one unit, it can increase the total output of all sectors of the economy by 2.4920 units. The impact of the total forward linkage caused by this rubber commodity is very large because it exceeds the increase in demand.

Based on Table 3 also, oil palm plantation commodities show the highest total backward linkage impact, namely 1.3522. This figure shows if there is an increase in the final demand of all sectors by one unit, the output of the Palm Oil commodity will increase by 1.3522 units.

Spreading Power Index and Degree of Sensitivity Mathematically, this Index is a normalization of the Total Linkage Impact value. The value of the dispersion power index is obtained by normalizing the value of the impact of the total linkage of each sector with the average value of the impact of the total linkage, both forward and backward. Similarly, the way to obtain the value of the Degree of Sensitivity Index is to normalize the value of each Total Backward Linkage Impact with the average value of the total backward and forward linkage impact of all sectors.

IDP shows the relative strength of a sector's final demand in driving growth in total production of all sectors of the economy. On the other hand, IDK Shows the relative contribution of a sector in meeting the final demand in all sectors of the economy. The dispersive power index (IDP) and sensitivity index (IDK) of each plantation commodity are presented in Table 4.

Tabel 4. Value of Index Dispersion and sencivity

commodity	IDP	IDK
Sugarcane	0.0044	0.0044
Tobacco	0.0048	0.0047
Fiber plant	0.0034	0.0039
Other Plantations	0.0039	0.0039
Fruits	0.0053	0.0041
Biopharmaceutical Plants	0.0037	0.0041
Rubber	0.0083	0.0043
Coconut	0.0050	0.0039
Palm oil	0.0079	0.0045
Coffee	0.0054	0.0041
Tea	0.0038	0.0044
Cocoa	0.0051	0.0040
Sugarcane	0.0040	0.0042
Tobacco	0.0034	0.0039

Source: analysis of secondary data 2022

Based on Table 4, rubber plantation commodities show the highest IDP value, which is 0.0083. This figure shows that if there is an increase in final demand for rubber commodities by one unit, then the magnitude of the increase in total production growth in all sectors of the economy is 0.0083. On the other hand, tobacco plantation commodities show the highest IDK value, which is 0.0047. Tabel Output and Income Multiplier Impact Table 5

commodity	Income	Output
Sugarcane	6647505.33	30176049
Tobacco	7338442.22	38192668
Fiber plant	71978.575	488522.72
Other Plantations	10007702	34441958
Fruits	41535276.6	182275440
Biopharmaceutical Plants	2554027.93	9581866.6
Rubber	41857952.3	149975580
Coconut	15177523.5	59710427
Palm oil	117259538	578052232
Coffee	20105770.5	68867434
Tea	1327508.35	5529543.2
Cocoa	15108627.8	66319174
Sugarcane	8671668.43	33681458

Tobacco	955890.588	3334850.3
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Source: analysis of secondary data 2022

Result of the Impact Analysis of Output and Income Multiplier

The multiplier impact analysis essentially tries to see what happens to endogenous variables, namely sectoral output, if there is a change in exogenous variables, such as final demand, in an economy (Nazara, 2005). In this study, two types of multipliers are used, namely: simple output multiplier type I and income multiplier type I.

According to Nazara (2010), it can simply be formulated that the output multiplier in an economy, for example in sector j is the total value of output or production produced by an economy to meet (or as a result) a change in one unit of money in the final demand for the sector. the j. This increase in final demand in sector j will not only increase the output of sector j itself but will also increase other sectors. This increase in the output of other sectors was created due to the direct and indirect effects of the increase in the final demand for sector j.

According to Budiharso (1985), the Type I income multiplier shows the magnitude of the increase in income in a sector due to an increase in the final demand for the sector's output by one unit. The results of the analysis of the impact of output and income multipliers are presented in Table 6.

Tabel 6. Impact of Type I Output Multiplier and Type I Income Multiplier

Commodity	income	Output
Sugarcane	6647505	30176049
Tobacco	7338442	38192668
Fiber plant	71979	488523

Other Plantations	10007702	34441958
Fruits	41535277	182275440
Biopharmaceutical Plants	2554028	9581867
Rubber	41857952	149975580
Coconut	15177524	59710427
Palm oil	117259538	578052232
Coffee	20105771	68867434
Tea	1327508	5529543
Cocoa	15108628	66319174
Clove	8671668	33681458
Cashew	955891	3334850

Source: analysis of secondary data 2022

Based on Table 6, the commodity of Palm Oil shows the largest output multiplier of 578052232 million rupiah. The plantation commodities that show the highest Ti I income multiplier impact are oil palm commodities with a value of 1725953 million rupiah.

Determination Analysis of Leading Commodity

Based on the results of sectoral linkage analysis, analysis of total linkages, analysis of income and output multiplier, several comedies showed the highest performance among other commodities.

Based on the analysis of direct forward linkages, tobacco show the highest value. On the other hand, plantation commodities that have the highest direct backward linkage value is rubber commodities. Based on this direct linkage indicator, these two commodities are considered as superior because they provide the greatest direct effect.

The highest forward linkage means that the sector is the largest in encouraging the upstream sector to provide output. On the other hand, the highest backward

linkage means that the sector is the largest in providing its output for the downstream sector.

2. Based on the analysis of the impact of total linkages, Palm oil show the highest total forward linkage impact. On the other hand, tobacco show as the highest total backward linkage impact. Based on this indicator, the two commodities can be used as superior commodities. Palm oil commodities are the ones with the biggest impact in encouraging growth in the upstream sector, both those that have a direct or indirect relationship with economic activity in oil palm. On the other hand, tobacco commodities are the largest in providing output for the downstream sector, both directly and indirectly.

3. Based on the results of the multiplier impact analysis, palm oil is the only commodity that has the largest impact on the creation of national economic output as well as the one with the highest income multiplier impact. High total output is a determinant of national economic growth, on the other hand, high income is a driver of income for economic actors.

4. Based on the results of sectoral linkage analysis, analysis of the impact of total linkages, income multipliers and output multipliers, those categorized as leading plantation commodities are: (1) oil palm, (2) tobacco, and (3) rubber.

CONCLUSION

The potential of the plantation sector is very important in contributing to output both among the agricultural sector and in national output. The plantation commodity that has the highest direct forward linkage is tobacco and the one with the highest forward linkage is rubber. The commodity that has the highest direct and indirect forward linkage is palm oil and backward is tobacco. The plantation commodity that has the highest output multiplier impact is

Palm Oil as well as the highest income multiplier impact.

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