GREEN ECONOMY: THE BUSINESS POTENTIAL OF THE TRANSPORTATION SECTOR IN THE CITY OF JAKARTA

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Abstract: This green economy concept becomes an economic system that is more efficient, environmentally friendly and resource-saving technology to reduce emissions. The city of Jakarta as a big city in the world, really needs an important role in the transportation sector. With digitalization, the transportation business has become more and more improved. The existence of online motorcycle taxis, online taxis, and other online acute tools makes the transportation sector have greater benefits, because it can create many jobs and increase the income of MSME actors. The purpose of this study is to analyze the potential of the transportation business in terms of the green economy, so the results are to determine the extent to which this transportation business supports the development of a green city-based economy in Jakarta. The results of this study are based on shift analysis, the transportation sector is included in the Mixed Winner quadrant, name the sector is a sector that can only be increased in its role within the DKI Jakarta Province, while the analysis based on LQ, the transportation business sector is the leading sector in the city of Jakarta. Research suggestions need a green transportation policy in the sustainable development of the city of Jakarta.

Keywords: Green Economy, Transportation, Green City

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1. Introduction

The concept of a Green Economy with a Green GDP indicator can provide new and better hope for the implementation of sustainable development because there is a goal to internalize environmental aspects into economic activities. Green GDP is one of the economic instruments to prevent environmental damage. This green economy concept becomes an economic system that is more efficient, environmentally friendly and resource-saving technology to reduce emissions and reduce the impact of climate change in the long term even though in the short term it requires large costs (Kristianto, A. H.2020).

Urban economic development causes most of the people who live in big cities are immigrants from areas in Indonesia with various purposes. This is commonly known as urbanization. However, the high level of urbanization if not supported by good urban planning will add new problems to the environment. Urbanization is a driver of urban environmental pollution, for example congestion due to heavy city traffic, thereby increasing pollution in urban areas (Helda, et.al, 2018).

On the other hand, the transportation sector plays a very important role in supporting economic development. Advances in transportation will bring about an increase in human mobility, the mobility of production factors and the mobility of processed products that are marketed. The higher the mobility carried out, the faster the distribution movement and the shorter the time

needed to process the material and move it from a place where the material was originally less useful to a location where the benefits become greater. The increase in community productivity is due to the transportation sector being the main driving force for economic progress. A developing economy will be shown by the existence of high mobility supported by adequate and smooth transportation facilities and infrastructure (Rezi, 2014).

The city of Jakarta as a big city in the world, really needs an important role in the transportation sector. With digitalization, the transportation business has become more and more improved. The existence of online motorcycle taxis, online taxis, and other online acute tools makes the transportation sector have greater benefits, because it can create many jobs and increase the income of MSME actors.

In this study, we will analyze the potential of the transportation business in terms of the green economy, so the results are to determine the extent to which this transportation business supports the development of a green city-based economy in Jakarta.

2. Literature Review

Literature Review
1. Green City
A green city is an environmentally friendly city that is built based on a balance between social, economic and environmental dimensions, as well as the dimensions of governance including strong leadership and institutions. The main attributes of a green city are the availability of green open space (RTH) and the role of green communities (Widyasari, 2016). Meanwhile, according to Ernawi (2012) in Lestari (2019), the concept of a green city has a strategic meaning because it is motivated by several factors, including the rapid growth of the city and the implications for the emergence of various urban problems such as congestion, flooding, slum settlements, social inequality, and reduced poverty green open space.
2. Green Economy
Green growth is the acceleration of investment and innovation that will support sustainable development and provide new economic opportunities. The drive to achieve green growth leads to a technology-based economy and consumption patterns that create jobs and economic growth and reduce the impact on the environment (Reilly, 2012, in Kristianto, 2020). The concept of Green Economy (GE) is accepted globally because GE's calculations can prevent environmental degradation and climate change (Stern 2006, in Kristianto, 2020)
3. Public Transportation Business Sector
Public transportation is a means needed to support the activities and mobility of most urban communities, however the progress of an urban area will still require a public transportation. Public transportation aims to provide transportation services that are safe, fast, cheap, and comfortable for the community and because it is mass, it is necessary to have similarities between passengers regarding origin and destination (Nugroho, R. A. 2019)

3. Method

a. Data Collection Method
The data was obtained by using a literature study method, namely a document study that included an inventory of all documents and economic data for the City of Jakarta, and writings, journals, theories, to various types of related laws and regulations. Then it is also accompanied by a field survey method carried out in order to obtain information about the volume of natural resources used in business activities from the business sectors that are

the basis of the economy of the City of Jakarta. The use of these two methods is intended to match the actual conditions in the field.

b. Data Analysis Method

(1) Semi-Green GRDP Calculation

Semi-Green GRDP is obtained by subtracting the value of natural resource depletion from the value of Conventional GRDP (or Brown GRDP). The depletion value is obtained by multiplying the volume of extraction of each type of natural resource by the unit rent or unit price.

$$D = Q \times U$$

Where:
D = depletion value
Q = volume of natural resources taken
U = unit rent

How to calculate unit rent is to subtract the cost of taking per unit from the price of natural resources including the value of profit per unit (reimbursement for investment expenditure) that is acceptable to investors. The value of a decent profit is the same as the interest rate on a bank loan as an alternative cost of invested capital to exploit natural resources in the area concerned. Here's how to calculate unit rent.

(2) Calculation of Green GRDP.

According to Suparmoko (2006) in (Mulya, 2016), Green GRDP is GRDP that includes elements of depletion and degradation of natural resources and the environment. Mathematically, it can be expressed as follows:

Green GRDP = conventional GRDP – SDA depletion value - pollution reduction costs

The inclusion of elements of depletion and environmental degradation into the calculation of GRDP as a step taken to correct the shortcomings of conventional GRDP. According to Suparmoko (2012) in (Mulya, 2016) it is stated that the economy in addition to producing goods and services also produces pollution and damage. The results of extracting natural resources for business activities only show a positive value in the national production balance, but do not show the value of shrinking natural resource reserves and environmental damage.

(3) Green Development Potential Mapping Analysis with LQ & Shiftshare

LQ analysis This technique compares the magnitude of the role of a sector in a region with the magnitude of the role of the sector at the national level. This technique is used to identify the internal potential of the area, namely the base sector and the base sector (non-base). LQ calculation uses the following formula (Warpani, 1984) in Almulaibari (2011)

$$LQ = \frac{\frac{Si}{S}}{\frac{Ni}{N}}$$

Where:
LQ: Location Quotient Value
Si: GRDP Sector I in the City of Jakarta
S: total GRDP in the city of Jakarta

Ni: GDP Sector i in Indonesia
N: total GDP in Indonesia

Meanwhile, Shift Share Analysis is an analysis that basically discusses the relationship between regional growth and regional economic structure. With this analytical approach, the performance or productivity of the economy can be determined as well as to identify superior regional sectors by comparing them with larger regions (Regional or National), this analysis can also be used to show sectors that are developing in an area when compared to the national economy. This tool is also used to see GDP growth from sectors owned by both internal influences (locational factors) and external influences (industrial structure) and this analysis tool is also used to complete the LQ analysis that has been carried out.

4. Result and Discussion

1. Green GDP

Table 1
Degradation of Transportation
Jakarta City (2019-2020)

Field	DKI JAKARTA	
	2019	2020
Pneumonia, TBC	65,465	51,312
Cost of Healthy	1,828,862	1,920,305
Total Effect Pollution / Degradation	119,726	98,535

In calculating green GDP, first determine the value of depletion and degradation factors. For the transportation sector there is only a degradation value, obtained from the impact caused by air pollution due to transportation, namely pneumonia & tuberculosis, multiplied by health costs per capita, then in Table 1 it is found that in 2019 the degradation value was Rp. 119,726 (million) while in 2020 it was Rp. . 98,535 (million),-

Table 2
Green GDP Transportation Sector
Jakarta City (2019-2020)

Field	DKI JAKARTA							
	GDP 2019	Depletion	Degradation	Green GDP 2019	GDP 2020	Depletion	Degradation	Green GDP 2020
Transportation & Warehouse	66,488,047	-	119,726	66,368,320	61,483,626	-	98,535	61,385,091

Table 2 explains the results of Green GDP for the city of Jakarta, from GDP minus the value of depletion and degradation, the result in 2019 the green value of the transportation sector is Rp. 66,368,320 (million), while in 2020 the value of green GDP in the transportation sector is Rp. 61,483,626,-.

2. Analysis Shift Share and LQ Alocation

Table 3
Analysis Shift Share & Transportation Sector LQ
Jakarta City (2019-2020)

Field	DKI JAKARTA		INDONESIA		Proposional	Differential	LQ Location	
	GDP 2019	GDP 2020	GDP 2019	GDP 2020	Shif	Shif	2019	2020
Transportation & Warehouse	66,368,320	61,385,091	463,157,500	393,481,900	- 8,610,669	5,000,961	1.16	1.06

Table 3 describes the analysis of shift share and LQ for the transportation sector in the city of Jakarta, the results obtained are:

a. Shift Share Analysis
The proportional shift value is -8.610,669, the negative value is less than 1, while the differential shift value is 5,000.961, a positive value is more than 1, meaning that in Figure 1 it is included in the Mixed Winner, namely the sector is a sector that can only be increased in its role in scope of DKI Jakarta Province.
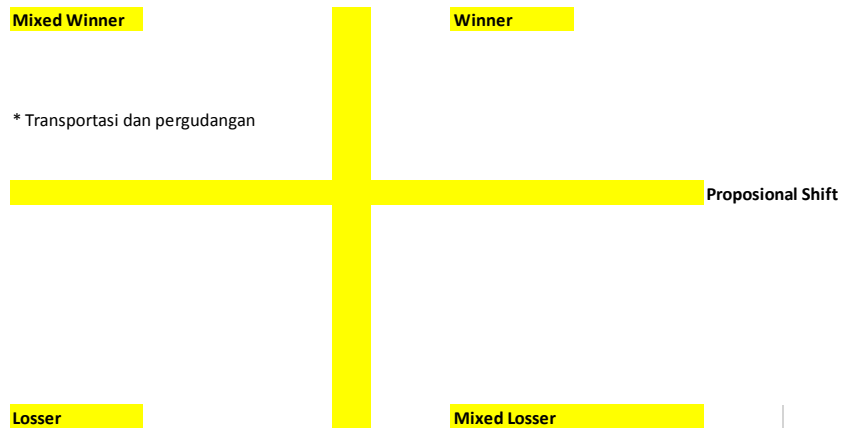

Figure 1: Analysis Shiftshare

b.LQ Location Analysis
From Table 3, the LQ values for 2019 and 2020 are 1.16 and 1.06, the value is more than 1, meaning the transportation business sector is the leading sector in the city of Jakarta.

Discussion
From the results of the analysis above, when viewed from the green economy, the transportation business sector is the leading sector in the city of Jakarta, although it is necessary to have a green transportation policy in the sustainable development of the city of Jakarta.

5. Conclusions

The transportation business sector is the leading sector in the city of Jakarta. For this reason, it is necessary to have a green transportation policy in the sustainable development of the city of Jakarta.

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