

The effect of changes in labor absorption on structural economic transformation in Riau province before and during the COVID - 19 pandemic

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Abstract. Riau, as a province with a population of more than 50%, including the labor force, certainly has an impact on the dynamics of labor absorption. This study aims to analyze the shift in labor absorption and its effect on the structural transformation of the economy in Riau Province during the pre-pandemic (2018–2019) and during the pandemic (2020) as well as the employment challenges faced by Riau Province using quantitative descriptive methods. The measurement of employment conditions uses secondary data obtained from the publications of the Central Statistics Agency. The results of the analysis show that employment in Riau Province has begun to shift (structural transformation) from the primary sector, such as agriculture, to the secondary sector, such as industry, and tertiary sectors such as trade and services, especially in urban areas such as Dumai City and Pekanbaru in the pre-pandemic period. In addition, it can be seen that the COVID-19 pandemic has affected structural transformation changes, marked by an increase in the primary sector workforce and a decrease in the secondary and tertiary sector workforce during the 2020 pandemic.

Keywords: Labor Force, Labor Absorption, Structural Economic Transformation, Riau, Pandemic

1 Introduction

As a country with the 4th largest population in the world, it is certain that Indonesia has a large workforce [1]. This is evidenced by the results of the 2020 Population Census shows that the percentage of the productive age population (15–64 years) in Indonesia reaches 70.72 percent [2]. This large percentage of the productive age population certainly has an impact on the dynamics of changes in the number of workers and employment in the primary, secondary, and tertiary sectors.

Riau Province is one of the provinces that has experienced an increase in the number of the workforce. The increase in the number of the workforce in Riau Province is due to an increase in the population, both from births, deaths, and migration. In 2020, the number of the workforce in Riau Province will reach 3.2 million while the total population will reach 6.39 million, indicating that more than 50% of Riau's population is included in the workforce [3]. In addition, this province has abundant natural resource potential and is a leading potential, such as mining, agriculture, forestry, marine, industry, and services. The province is also bordered by neighboring countries that are more economically developed such as Singapore and Malaysia [4]. This encourages economic development in Riau Province which is increasingly rapid, thus opening up opportunities for job seekers and increasing the workforce [5].

Rapid economic development can lead to changes in the structure of the economy which is reflected in structural transformation. Structural economic transformation is a change in the economic structure from a traditional sector with low productivity to an economic sector with a higher productivity, the process of which is characterized by: 1) a decline in the market from the primary sector, 2) an increase in the secondary sector (industrial) market, 3) a market sector tertiary (services) tends to be constant, but its contribution increases in line with economic growth, 4) shifts in labor, and 5) shifts in investment from the primary sector to the secondary sector and to the tertiary sector [6]. This sectoral transformation will cause a shift in the absorption of labor.

Labor absorption is the acceptance of workers to carry out their duties properly or the existence of a situation that describes the availability of workers or job opportunities to be filled by job seekers [7]. The absorption of the working population is due to the demand for labor so that the absorption of labor can be referred to as labor demand. The more the population, the growth of the workforce will increase so that the absorption of labor will also be greater. The ideal condition of an economic growth on labor growth is when economic growth is able to influence the growth of a larger workforce [7]. The existence of economic growth that has an impact on sectoral transformation causes a shift in the absorption of labor. One of the shifts

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in the workforce can be seen from the main job fields. The aim of this study is to analyze labor absorption and its influence on the structural transformation of the economy in Riau Province in the pre-pandemic period (2018 – 2019) and during the pandemic (2020).

The existence of economic growth that has an impact on sectoral transformation causes a shift in labor absorption. One of the shifts in the workforce can be seen from the main job fields. The shift can also describe the quality of human resources (the existing workforce). In addition, the condition of the region and the natural potential that exists in an area can also affect the shift in labor absorption. Riau Province with abundant natural resource potential is able to absorb workers in the primary sector (agriculture, forestry, and fisheries) by 39.17% in August 2020 which is the highest number compared to other sectors [8]. The shift in labor absorption that may occur in Riau Province is to the tertiary sector such as trade and services. This is due to the influence of the economy in neighboring countries so that Riau Province, especially Pekanbaru City is famous as a trade and service city [9].

The condition of employment in Riau Province before the pandemic was dominated by the tertiary and primary sectors, with an upward trend in the tertiary sector and a decline in the primary sector. The Covid-19 pandemic in 2020 has an impact on the absorption of workers in Riau Province. In general, the workforce in the tertiary sector experienced a decline in 2020, which initially experienced an increase in the workforce in this sector. The decrease in labor absorption will affect the structural transformation in Riau Province which will also have an impact on economic conditions associated with income. The pandemic is responsible for the decline in economic activity, namely by closing financial markets, corporate offices, businesses, and so on so that company revenues decline [10].

Based on the explanation above, the formulation of the problem raised in this study is about how the

absorption of labor by main occupation affects the structural transformation of the economy in Riau Province in the pre-pandemic period (2018 – 2019) and during the pandemic (2020). Furthermore, the aim of this study is to analyze the shift in labor absorption and its effect on the structural transformation of the economy in Riau Province in the pre-pandemic period (2018 – 2019) and during the pandemic (2020) as well as the economic and labor challenges faced by Riau Province. in the future. The results of this study are expected to help provide an overview of labor conditions and help overcome employment problems in Riau Province.

2 Methodology

2.1 Study Area

Riau Province has an area of 87,023.66 km². Riau Province stretches from the slopes of Bukit Barisan to the Malacca Strait, located between 01°05'00'' South Latitude to 02°25'00'' North Latitude and between 100°00'00'' East Longitude to 105°05'00'' East Longitude (Fig.1). It consists of 10 regencies and 2 cities, namely Kuantan Singingi, Indragiri Hulu, Indragiri Hilir, Pelalawan, Siak, Kampar, Rokan Hulu, Bengkalis, Rokan Hilir, Meranti Islands, Dumai City, and Pekanbaru City which is the capital of Riau Province. Riau Province consists of two regions, namely urban and rural areas. To the north, Riau Province is bordered by the Malacca Strait and North Sumatra Province, to the south by Jambi Province and West Sumatra Province, to the west by North Sumatra Province and West Sumatra Province, and to the east by the Riau Islands and Malacca Strait. Based on the results of the 2020 Population Census, Riau Province is recorded to have 6.39 million inhabitants.

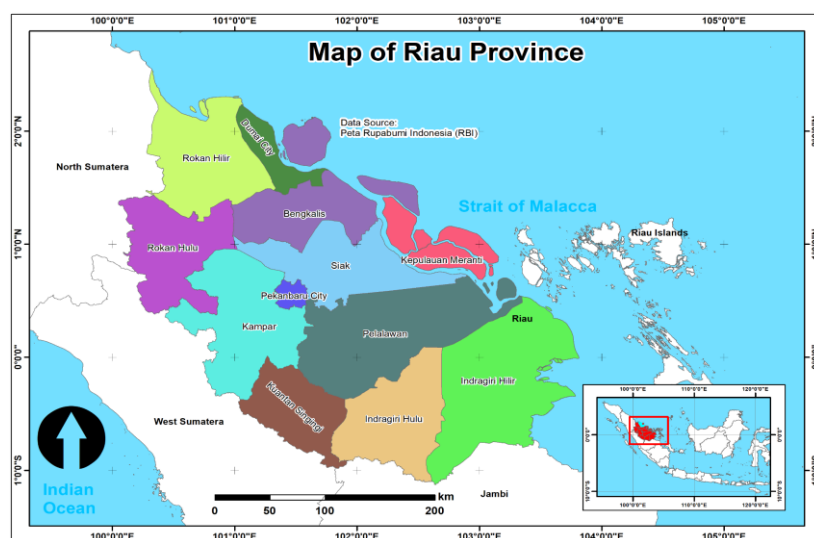


Fig. 1. Map of Riau Province Administration (Source: Data Processing 2022)

2.2 Data

The data sources used in this analysis are secondary data sources originating from:

- a. The Central Statistics Agency (BPS) (The publication of the State of the Workforce in Riau Province in 2018, 2019, and 2020)
- b. Riau Province in Figures 2019, 2020, and 2021
- c. Publication of books and journals to support the research conducted.

The data collection method used in this analysis is literature study, namely recording, studying, observing, and analyzing data originating from the publications of the Central Statistics Agency, supporting journals, and other references. The data collected is data that is an indicator of employment in Riau Province. One indicator of employment conditions is the absorption of labor by employment. The year selection is adjusted to the latest data and data availability, namely 2018 - 2020. In addition, the year was chosen to find out the labor conditions in Riau Province before the pandemic, namely 2018 and 2019 and during the pandemic, namely 2020.

2.3 Quantitative Research

Quantitative research methods are research based on the postpositivist paradigm which is carried out by collecting and analyzing quantitative (numeric) data using measurement and observation [11]. Descriptive research methods in analyzing only up to the level of description, namely analyzing and presenting facts systematically so that it can be easier to understand and conclude [12]. This study uses a quantitative research method, namely at the stage of description of the analysis of the processing results and the calculation of statistical data presented in the form of maps, graphs, and tables, so that it becomes a narrative that can explain the results of this research clearly. The results of the data analysis are used to determine the transformation of the economic structure that occurred in Riau Province due to a shift in labor absorption [6]. Initially, the absorption of labor was dominated by the primary sector, but now it has begun to shift to the secondary and tertiary sectors. This causes the transformation of the economic structure.

3 Result and Analysis

3.1 Labor Absorption on Structural Economic Transformation in Riau Province

Riau Province has employment absorption conditions that include the primary, secondary, and tertiary sectors. Each sector is different from the main job field. Based on the BPS classification, there are 17 main industrial categories as shown in table 1. The seventeen main industrial categories can be classified into 3 economic classes, namely the primary sector, secondary sector and tertiary sector [13]. The primary sector includes industry 1 (Agriculture, Forestry, and Fisheries) and 2 (Mining

and Quarrying). The secondary sector includes industry category 3 (Manufacturing); 4 (Electricity and Gas Supply); 5 (Water Supply, Waste Management, Garbage, and Recycling); and 6 (Construction). Meanwhile, the tertiary sector covers other industrial categories. Districts in Riau Province have different numbers and weights of employment based on the employment sector.

Riau Province has a dominance in the tertiary sector, although almost all districts/cities have dominance in the Agriculture, Forestry, and Fisheries sectors, but the service sector is more dominant. Riau Province underwent an economic transformation described [14], namely changes in economic structure that focused on modernization, namely changes in the primary sector (agriculture, fisheries and mining) to secondary (industrial) and tertiary (services). The transformation of the economic structure does not necessarily have a bad impact, this transformation is expected to become a job opportunity by increasing labor productivity, using new resources, as well as with technological advances [15].

Table 1. Main Industry Category

No	Main Industry (17 Categories)
1	Agriculture, Forestry, and Fishing
2	Mining and Quarrying
3	Manufacturing
4	Electricity and Gas Supply
5	Water Supply, Water Management, Waste, and Recycling
6	Construction
7	Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles
8	Transportation and Storage
9	Accommodation and Food Service Activities
10	Information and Communication
11	Financial and Insurance Activities
12	Real Estate Activities
13	Business Services Activities
14	Public Administration and Defence, Compulsory Social Security
15	Education
16	Human Health and Social Work Activities
17	Other Services Activities

Source: BPS Publications (Keadaan Angkatan Kerja Provinsi Riau Tahun 2018)

Based on tables 2, 3, and 4, employment in several districts is dominated by the primary sector, such as the districts of Indragiri Hilir, Indragiri Hulu, Kampar, Rokan Hilir, Rokan Hulu, and Pelalawan. Trends in each district in Riau Province vary based on socio-economic conditions, some have decreased or increased. Districts with increasing primary sectors such as Bengkalis, Rokan Hilir, and Meranti Islands. Meanwhile, the Kuantan Singingi district experienced a downward trend. The fluctuating trend is experienced by the districts of Indragiri Hulu, Indragiri Hilir, Pelalawan, Siak, Kampar, and Rokan Hulu. The variation in trends in each district is influenced by several factors, one of which is the geographical location and the Covid-19 pandemic. The existence of a geographical location such as the Meranti Islands which are near the sea causes sectors such as fisheries to become dominant, while in

areas such as Indragiri Hilir which has a dominance in plantations because it is a lowland, namely coconut plantations. The existence of the COVID-19 pandemic has been proven to cause a decline in the trade sector, limited mobility has made the service sector in Pekanbaru and Dumai City experience a decline. This will also have an impact on the decline in the welfare of the population due to restrictions on outdoor activities of the population, where the majority of Indonesians rely on daily wages [16].

Table 2. Number of Labor by Employment in Riau Province in 2018

Regency / City	Primary	Secondary	Tertiary
Kuantan Singingi	82570	11900	44485
Indragiri Hulu	111432	22449	54978
Indragiri Hilir	185686	31161	89229
Pelalawan	100127	27216	80396
Siak	84050	39922	80674
Kampar	160173	41665	150632
Rokan Hulu	136930	31931	107628
Bengkalis	88804	35670	108617
Rokan Hilir	150337	29701	95841
Kepulauan Meranti	30902	16217	37715
Pekanbaru	26377	83712	370773
Dumai	18394	29975	79528

(Source: Statistic Data Processing, 2022)

Table 3. Number of Labor by Employment in Riau Province in 2019

Regency / City	Primary	Secondary	Tertiary
Kuantan Singingi	75384	12514	56700
Indragiri Hulu	89596	24052	82470
Indragiri Hilir	151747	45665	130558
Pelalawan	116602	23502	79082
Siak	84353	42038	79677
Kampar	152617	40923	151655
Rokan Hulu	166187	27596	110829
Bengkalis	100565	36211	95279
Rokan Hilir	144290	27598	108423
Kepulauan Meranti	34229	14334	36603
Pekanbaru	30345	83624	400231
Dumai	18662	29384	92554

(Source: Statistic Data Processing, 2022)

Table 4. Number of Labor by Employment in Riau Province in 2020

Regency / City	Primary	Secondary	Tertiary
Kuantan Singingi	78014	14059	60358
Indragiri Hulu	91495	23430	89719
Indragiri Hilir	169366	47693	130225
Pelalawan	124817	21919	76304
Siak	88134	31703	79842
Kampar	157039	34025	163652
Rokan Hulu	166277	27715	107683
Bengkalis	102790	35812	100203
Rokan Hilir	153439	18631	89825
Kepulauan Meranti	37031	10070	39538
Pekanbaru	28815	87121	391681
Dumai	20797	27950	85834

(Source: Statistic Data Processing, 2022)

Each district/city in Riau province has a different sector dominance every year, but basically the primary sector dominates every year. Spatially, this can be seen in Figure 1. The tertiary sector is the next dominant sector, in 2018 Pekanbaru City, Dumai, Meranti Islands Regency, and Bengkalis have dominance in this sector. In 2019 the regencies/cities with the dominance of the tertiary sector are the cities of Pekanbaru, Dumai, and the Meranti Islands Regency, meanwhile in 2020 it will increase to 4 Cities/Regencies which is the same as in 2019 with the addition of the Kampar Regency. The cities of Pekanbaru and Dumai are cities in Riau Province, this causes the agricultural sector to be not the main sector and tends to be in the secondary and primary sectors, this is also influenced by land use and a significant increase in population in the city. This is confirmed by research conducted [17], which identified the tertiary and secondary sectors that dominate Pekanbaru City as a result of the status of the provincial capital and rapid economic growth.

Meanwhile, for 2 other regencies such as Bengkalis and Kampar, which once had dominance in the tertiary sector from 2018 to 2020. However, in 2019, the tertiary sector in Bengkalis Regency experienced a decline in contrast to the condition of the primary sector which experienced a slight increase. However, this condition shows the potential and tendency of the government to increase the tertiary sector which has an impact on shifting employment as a result of the transformation of the economic structure [6]. Meanwhile, Kampar Regency has a primary sector that tends to fluctuate and a tertiary sector that has increased from 2018 to 2020, this can be an indication of an economic transformation in Kampar Regency.

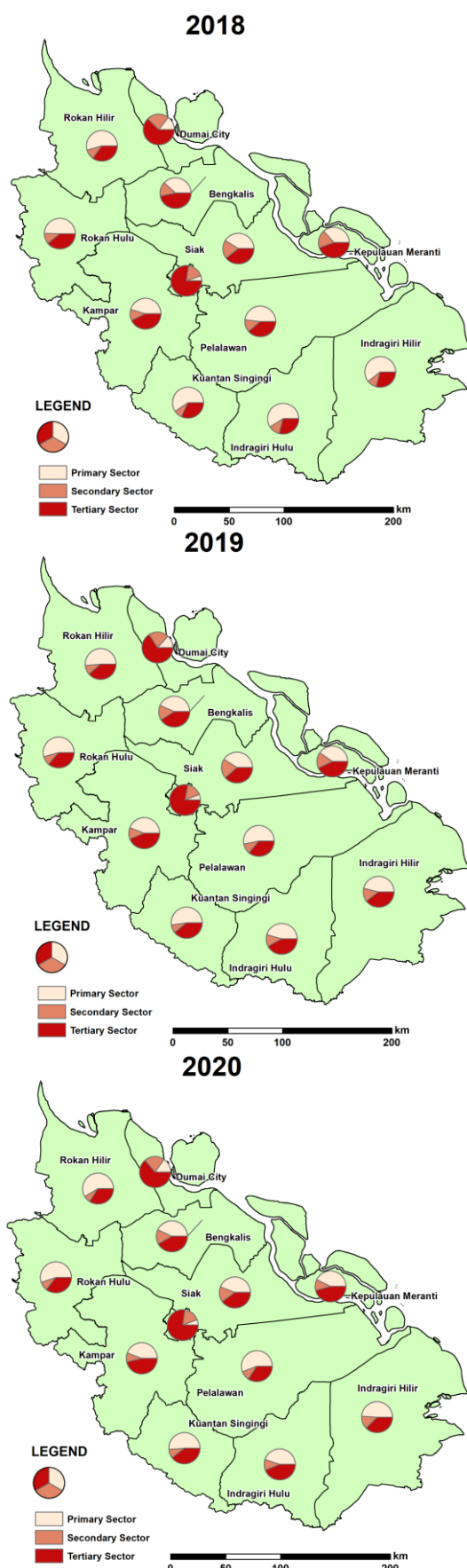


Fig. 2. Map of the Distribution of Employment in the Primary, Secondary, and Tertiary Sector of Riau Province in 2018 – 2020 (Source: Data Processing, 2022)

3.2 The Effect of Changes in Labor Absorption in Riau Province Before and During the Covid - 19 Pandemic

Employment absorption shows how much labor is absorbed in economic sectors. This number can indicate how big the potential of the economic sector is. The greater the number of workers absorbed in an economic sector, it can be said that the sector has a major contribution to regional (domestic) and national economic growth [6]. Population growth will be directly proportional to the increase in the number of workers. As technology advances and human needs develop, employment will shift from the primary sector to the secondary sector and then to the tertiary sector. This is often referred to as structural transformation and this transformation is starting to happen in Riau Province.

Initially, the workforce in Riau Province was mostly absorbed in the primary sector such as activities, fisheries, plantations, and mining. However, over time, employment began to shift to primary sectors such as industry and tertiary sectors such as trade and services. This can be seen in Figure 1 where the number of workers in the primary sector in 2019 was lower than in 2018 or before the pandemic, while the tertiary sector experienced an increase. Naturally, the economic phase of Riau Province has indeed moved towards the secondary and tertiary sectors from the primary sector due to economic growth.

The existence of economic growth also has an impact on changes in the structure of the economy. Residents in Riau will have to work in sectors with higher productivity and greater income or from the traditional sector to the modern sector. This is in accordance with what Kuznet explained that the economy in an area in the long term will experience changes in the economic structure or a shift in labor absorption from the agricultural sector to the industrial and service sectors [15]. An increase in the contribution of the industrial and service sectors in the absorption of labor can have an impact on increasing per capita income. This increase is closely related to the accumulation of capital and an increase in human resources so that the quality and welfare of the population can increase for the better [6].

The availability of natural resources is one of the factors that triggers the shift in labor. Regions rich in natural resources tend to experience a slower shift compared to areas that are poor in natural resources. The city of Pekanbaru, which is the capital of Riau Province, has experienced a shift in the workforce as indicated by the higher absorption of labor in the tertiary sector compared to the primary and secondary sectors (Fig.2). This is because in these areas few natural resources are found and the characteristics of urban areas support population activities in the tertiary sector such as trade and services. Besides that, the tertiary sector tends to have wider employment opportunities compared to the primary sector so that a shift in labor absorption also has an impact on the wider employment opportunities owned by the population.

The Covid-19 pandemic in 2020 had an impact on the absorption of workers in Riau Province. In general, the labor force in the tertiary sector experienced a decline in 2020, from the initial increase in the labor force in this sector, as shown in Figure 3. The COVID-19 pandemic played a role in accelerating the structural transformation of the economy in Indonesia. Riau Province which is already running. The Covid-19 pandemic has resulted in a decrease in economic activity and many residents have lost their jobs, which has an

impact on employment. The existence of Large-Scale Social Restrictions (PSBB) which was implemented to suppress the spread of the virus had an impact on a significant decrease in economic activity such as closing financial markets, company offices, businesses, and so on so that company revenues decreased [10]. This condition certainly causes many companies to terminate employment to reduce company expenses so that the number of unemployed people increases.

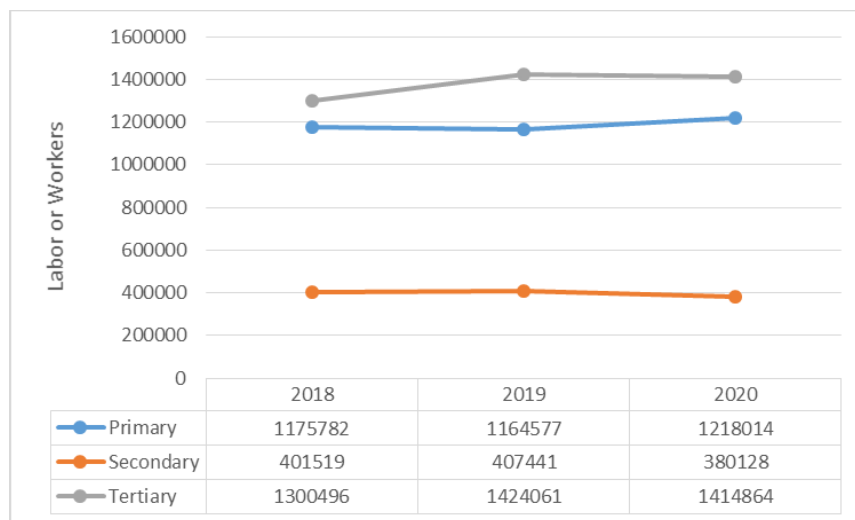


Fig. 3. Trends in Labor Absorption by Employment Sector in Riau Province (Source: Statistic Data Processing, 2022)

3.3 The Challenges of Riau's Economic and Labour in The Future

Economic conditions and employment in Riau Province underwent a structural transformation in which there was a shift from the primary sector to the secondary and tertiary sectors. This is explained [14] who see that there is a change in the economic structure that focuses on modernization, namely a change in the sector from primary (agriculture, fisheries and mining) to secondary (industry) and tertiary (services). This transformation is expected to have a negative impact, this transformation is expected to become a job opportunity with increasing labor productivity, capital stock, use of new sources and technological advances [15]. The absorption of labor in Riau Province in the future tends to be dominated by sectors that have fast economic growth/GDP due to this structural transformation [6]. This of course must be balanced with the quality of the workforce which is also getting higher, both in terms of education and skills so that labor productivity will also increase.

Economic transformation will occur along with technological advances. Technological progress is the main driver of globalization as well as a major component in globalization [18]. [19] classifies the phenomenon of globalization into two types, namely the globalization of values related to the development of information and economic globalization related to trade, finance, production. Economic globalization is characterized by an extraordinary increase in trade activity on a global scale. Global trade occurs due to

export and import activities. Export and import activities are carried out based on the fulfilment of market needs. In addition to meeting needs, export and import activities are a challenge. This is because import activities are able to hamper the economy of the community, especially producers, improving product quality is one of the keys to maintaining the existence of products in global trade.

Economic globalization has a positive impact on the economy due to the wider scale of trade. However, it is necessary to know the negative impact caused by globalization, namely environmental degradation. Environmental degradation and damage to natural resources are caused by exploitation. [20] stated that in pursuing economic growth and development in the era of globalization, natural resources and the environment have been sacrificed. Therefore, a balance is needed in economic activities and development that minimizes environmental damage. This is one of the challenges for Riau Province to always preserve nature while prioritizing economic growth and development.

4 Conclusion

Initially, most of the workforce in Riau Province was absorbed in the primary sector, such as in agriculture and mining activities in 2018. However, over time the absorption of this workforce began to shift to the primary sector such as industry and tertiary sectors such as trade and services, especially in urban areas such as Dumai City and Pekanbaru in 2019. This indicates that

in Riau Province a structural transformation has begun. In addition, it can be seen that the COVID-19 pandemic has influenced structural transformation changes, marked by an increase in the primary sector workforce, and a decrease in the secondary and tertiary sector workforce during the pandemic in 2020. However, the number of workers in the tertiary sector is still larger than in other sectors. An increase in the contribution of the industrial and service sectors in the absorption of labor can have an impact on increasing per capita income. This increase is closely related to the accumulation of capital and an increase in human resources so that the quality and welfare of the population can increase for the better. Economic and labor conditions in Riau Province which are undergoing a structural transformation will have challenges going forward, one of which is globalization.

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