

ANALYSIS OF THE DYNAMICS OF LABOR ABSORPTION IN WEST SUMATRA PROVINCE IN 2018-2020

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ABSTRACT

The study aims to analyze the situation of employment in West Sumatra Province using indicators such as the employment status, sector/business field, and type of work, labor productivity, and labor elasticity during the period 2018-2020. The descriptive quantitative approach was employed, using secondary data from Badan Pusat Statistik (BPS). The data used include the main job status, economic sector, type of work, and constant price GRDP. The statistical data obtained describe the characteristics of the employment situation in the Province of West Sumatra. Information on the results of data analysis is visualized in the form of tables, graphs, and descriptions. Calculations are carried out to determine the value of labor productivity and elasticity. This method is carried out by calculating the ratio between the growth of employment opportunities and the growth of GRDP from different time points. The results of this study indicate that employment status in West Sumatra is dominated by formal workers. The primary and tertiary business sectors absorb more labor than the secondary sector. The agricultural, forestry, hunting, and fishery business workers are very dominant in absorbing labor in West Sumatra Province in 2018-2020. Total labor productivity decreased in 2020 due to a decrease in regional income in several sectors/business fields during the Covid-19 pandemic. Labor elasticity by sector/business field in West Sumatra mostly has a value of less than zero with the water supply, waste management, waste, and recycling sectors having the highest labor elasticity values.

Keywords: *Employment status, sector/business field, type of occupation, labor productivity, and labor elasticity*

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INTRODUCTION

Economic development is aimed at achieving people's prosperity. Economic development is a community determination to try to achieve a better life in increasing the availability and expanding the distribution of various basic goods, increasing living standards economically and socially (Todaro & Smith, 2006). True development is a planned process towards better conditions, economic development can be interpreted as a process that causes an increase in per capita income, which is accompanied by changes in economic structure, improvement of income distribution and reduction of poverty. Economic development has the main goal of reducing poverty which can be achieved through economic growth and or through income redistribution. Economic growth is often seen as an indicator of a region's economic success. Therefore, Indonesia's high economic growth is always highlighted as a parameter of prosperity. However, Indonesia's persistence in pursuing a high rate of economic growth was not accompanied by an improvement in income distribution, besides that it gave birth to the practice of conglomeration. Symptoms arise in the economy, where resources and assets are only concentrated in a small group of people, business ownership accumulates in a few people, business competition grows unfairly and the emergence of an economy with a dualistic face: prosperous vs slum, metropolis vs isolated (Agussalim, 2009).

Inequality in income distribution often arises in the development process. This problem is not only faced by developing countries, even developed countries are inseparable from this problem. The difference lies in the proportion or size of the level of inequality that occurs in society and the level of difficulty in overcoming it which will be influenced by the characteristics of a country (area size, population, natural resources, economic structure and so on). The higher the level of inequality that occurs, the higher the level of difficulty overcoming it. Developed countries show relatively small levels of inequality, whereas developing countries tend to have relatively high levels of inequality and it is relatively difficult to overcome them, so they require special attention (Arsyad, 2010). In the last decade Indonesia has recorded a very impressive pace of economic growth that has even been consistent with an average growth rate of 5.11 percent per year, and in 2017 Indonesia's economic growth was 5.07 percent.

In a simple system of income flow, there are two important subjects, namely the household as the provider of labor and the company as the party that absorbs the workforce. Labor absorption is the number of jobs that have been filled as evidenced by the large number of working people. The absorption of the working population is caused by the demand for labor from the job field. Increased economic growth has a positive effect on the growth of employment.

Like the market for goods and services, employment also has a market, namely the labor market that contains the demand and supply of labor. The demand for labor is caused by several factors, such as the number of requests for products produced by the workforce, changes in the production process, and policies related to the number of workers. Fluctuations in demand are also caused by responses to

the level of education and training of workers, technology, number of companies, and the availability of other input prices. Likewise, the supply of labor from the household is influenced by the number of residents, the number of workers, the number of hours worked, the level of education, and productivity (Mubasysyirah, 2019).

West Sumatra Province has a workforce of 2,772,133 people but the working population is 2,581,524 people in 2020 (BPS, 2021b). This means that not all of the West Sumatra Province's workforce is absorbed by employment. In addition, the Covid-19 pandemic that occurred in 2019 had an impact on the absorption process and the dynamics of employment that occurred in West Sumatra Province. Labor absorption in West Sumatra is dynamic based on the economic sector, type of work, labor status, and labor productivity. The dynamics of this labor absorption can be used to see the quality of human resources and the progress of the Province of West Sumatra so it is interesting to study.

RESEARCH METHOD

The study discusses the situation of employment based on the economic sector, type of work, employment status, labor productivity, and labor elasticity. The data used is secondary data obtained from the Central Statistics Agency. In addition, data were obtained from previous research as a theoretical basis for the problem to be studied (Khosla, 2021). The research location studied is West Sumatra Province with a span of 2018-2020. This year's election aims to look at labor conditions in the province of West Sumatra before and during the Covid-19 pandemic. The years 2018 and 2019 represent conditions before the pandemic and 2020 represents conditions during the Covid-19 pandemic. This study uses quantitative and descriptive analysis methods. Quantitative method is a structured research method using quantitative data and applied in the form of statistical analysis (Malhotra & Miller, 1998). The data used include the main job status, economic sector, type of work, and constant price GRDP. The statistical data obtained describe the characteristics of the employment situation in the Province of West Sumatra. Information on the results of data analysis is visualized in the form of tables, graphs, and descriptions. Calculations are carried out to determine the value of labor productivity and elasticity. This method is carried out by calculating the ratio between the growth of employment opportunities and the growth of GRDP from different time points. In this study, 2018 is used as the starting year and 2020 as the final year.

RESULTS AND DISCUSSION

Employment

a. Job Status

Absorption of labor is one of the processes contained in the labor market. Labor absorption is influenced by the rate of population and labor force growth (Effendi, 2014). One of the parameters of employment is employment status. Job status is a person's position in doing work in an activity or business unit. The category of

employment status consists of seven types, namely self-employed, trying to be assisted by temporary workers/unpaid workers, trying to be assisted by permanent workers/paid workers, workers/employees/employees, freelance workers in agriculture, casual workers in non-agriculture, and family workers/ unpaid (BPS, 2021a). The seven categories can be classified into two types of employment status, namely formal and informal. Categories that include formal employment status are trying to be assisted by permanent workers and workers/employees/employees, in addition to these two categories, they are included in information work status.

The graph of the percentage of the population working by employment status in West Sumatra in 2018-2020 can be seen in Figure 1. The graph provides information that the percentage of the population working in informal work is more than formal work with values in 2018, 2019, and 2020 respectively. by 64.5%; 62.7%; and 66.3%. According to (Wulandari & Marta, 2022), informal workers generally have low education and shorter working hours than formal workers. This opinion is in accordance with West Sumatra education data at the (BPS, 2020b) which is the average length of schooling for males is 9.32 years and females is 9.36 or equivalent to the last education of junior high school. Therefore, it can be seen that the number of informal workers in West Sumatra is influenced by the final education of the workforce.

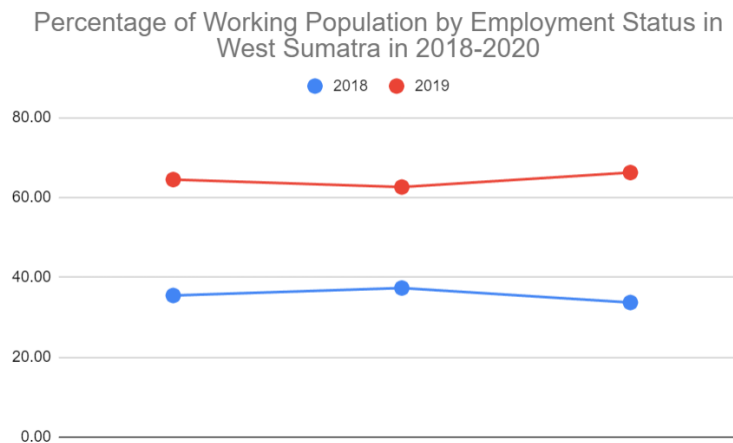


Figure 1.

Graph of Percentage of Working Population by Employment Status in West Sumatra in 2018-2020

The graph of employment status in West Sumatra in Figure 1. shows an inversely proportional pattern between the trend of formal workers and informal workers. The status of formal workers experienced an increasing trend in 2019 by 1.8% but in 2020 it decreased. On the other hand, the status of informal workers decreased in 2019 and then in 2020 increased by 3.6%. The decline in the trend of informal workers in 2019 shows that there is an increase in absorption of the labor force in West Sumatra because according to (Dzhekova, Franic, Mishkov, & Williams, 2018; Spooner & Mwanika, 2018) the decline indicates economic progress and labor

force productivity in a region. This opinion also shows that the absorption of labor in West Sumatra in 2020 has decreased due to the Covid-19 pandemic. Demand for goods and services has decreased in 2020 (Bank Indonesia Provinsi Sumatera Barat., 2021) so that not a few jobs have experienced losses, resulting in termination of employment (PHK), especially in the formal sector. However, the decline in formal workers in 2020 which was accompanied by an increase in informal workers indicated that as many as 3.6% of formal workers in West Sumatra moved to informal worker status. Based on this, it is known that informal work can be a way out for formal workers who are affected by Covid-19 because informal jobs generally do not require high education or skills. This is in accordance with Richardson (1984) opinion which suggests that informal sector jobs can play a very important role in absorbing labor because most of these sectors make it easier for workers to find work. Therefore, the Covid-19 pandemic greatly affects changes in labor absorption in West Sumatra in 2020.

A comparison of the distribution of the dominance of employment status in West Sumatra in 2019 and 2020 can be seen in Figure 2. The map shows that there is a change in the pattern distribution of work status due to the Covid-19 pandemic in West Sumatra. The cities of Bukittinggi, Padang Panjang, and Sawah Lunto experienced a decline in formal workers so that by 2020 these areas will be dominated by informal workers. As previously mentioned, the decline in employment this year is largely the impact of the Covid-19 pandemic. However, there are differences in the pattern of changes in the status of workers in Payakumbuh City. The city experienced a 2.6% increase in formal employment. This increase illustrates the success of the government's program to improve the economy of Payakumbuh City. The main program run by the local government is improving the quality of micro, small and medium enterprises with the aim of realizing competitive MSMEs. According to the Pemerintah Kota Payakumbuh (2020) there are many layoffs of workers from Payakumbuh City who work outside the area so that the workforce returns to Payakumbuh City. Many workers who have been laid off have finally opened micro-scale businesses in Payakumbuh. This is evidenced by the report on the main performance achievements of the Payakumbuh City Cooperative Office which has a target percentage of MSME sector workforce growth of 1.7% but the growth that occurred in 2020 was 5.74% (Pemerintah Kota Payakumbuh, 2020). The existence of government programs to improve the quality of MSMEs can greatly help business actors to develop their businesses. One of the actions taken by the government is Capital Assistance for Micro Enterprises (BPUM). This program has a positive effect on improving the economy of the people of Payakumbuh City significantly (Pemerintah Kota Payakumbuh, 2020).

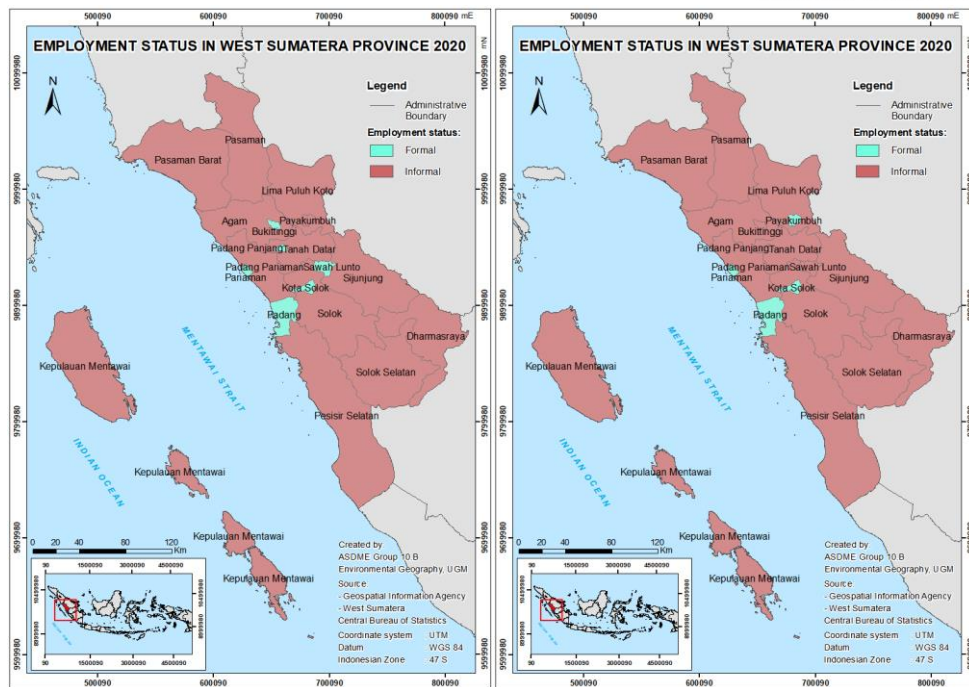


Figure 2.

Comparison of the Employment Status Map of West Sumatra Province in 2019 and 2020

The success of the government's program to improve the economy of Payakumbuh City. The main program run by the local government is improving the quality of micro, small and medium enterprises with the aim of realizing competitive MSMEs. According to the Pemerintah Kota Payakumbuh (2020) there are many layoffs of workers from Payakumbuh City who work outside the area so that the workforce returns to Payakumbuh City. Many workers who have been laid off have finally opened micro-scale businesses in Payakumbuh. This is evidenced by the report on the main performance achievements of the Payakumbuh City Cooperative Office which has a target percentage of MSME sector workforce growth of 1.7% but the growth that occurred in 2020 was 5.74% (Payakumbuh City Government, 2020). The existence of government programs to improve the quality of MSMEs can greatly help business actors to develop their businesses. One of the actions taken by the government is Capital Assistance for Micro Enterprises (BPUM). This program has a positive effect on improving the economy of the people of Payakumbuh City significantly (Pemerintah Kota Payakumbuh, 2020).

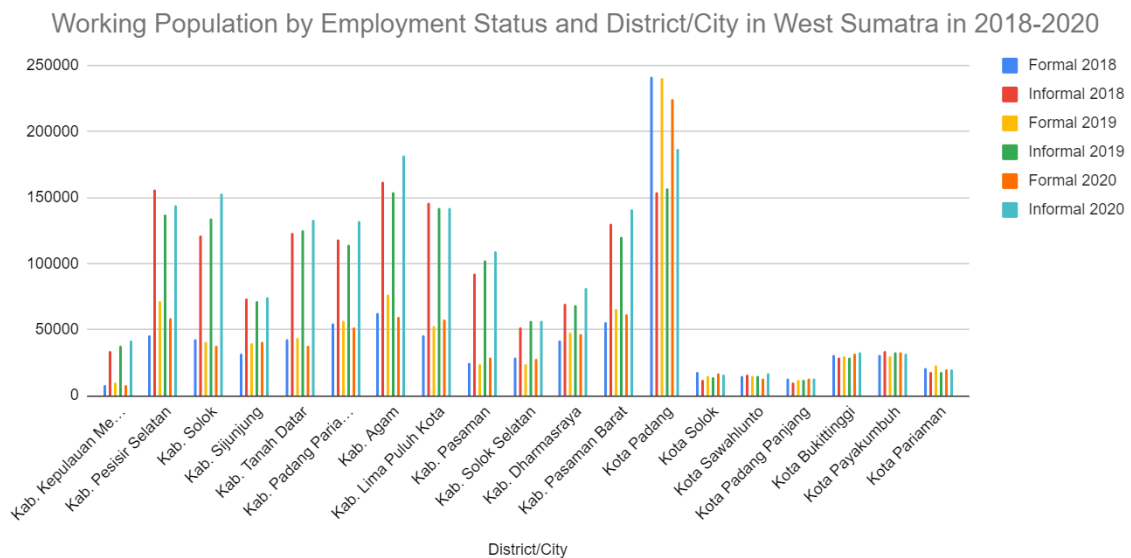


Figure 3.
Graph of the Working Population by Employment Status and District/City in West Sumatra in 2018-2020

Referring to Figure 3 which describes the employment status in West Sumatra in 2018-2020 by district/city, it can be seen that the employment status in the city has a different pattern from the employment status in the district. Overall, the percentage of formal and informal workers in the city has a not too much difference in value, while the percentage of informal workers in the district dominates. The district that has the largest percentage of informal workers is the Mentawai Islands Regency. The high number of informal workers in the Mentawai Islands Regency is influenced by the location of the area that has limitations. According to BPS Sumatera Barat (2021), this district has limited access, availability of health and education facilities/infrastructure. The condition of education in the Mentawai Islands Regency has the lowest score in West Sumatra with an average length of schooling of 7.09 years (Badan Pusat Statistik (BPS), 2021). This value indicates that the average population of the Mentawai Islands Regency has a final elementary education because they cannot finish junior high school. This condition affects the high number of informal workers in the Mentawai Islands Regency. The large number of informal workers is one indication that economic conditions in a region tend to be left behind because most informal workers have low incomes (Čábelková, Abrahám, & Strielkowski, 2015). This is supported by data on average population spending which only reaches 6.28 million rupiah per year and is the lowest average expenditure in West Sumatra Province (BPS, 2021c).

The city of Padang has a higher percentage of the population with formal worker status than informal workers. According to Sofyardi (2020), the workforce in Padang City is dominated by sales profession. Most of the formal workers in the city of Padang are classified as workers/employees. This phenomenon is influenced by

the status of Padang City which is the capital of West Sumatra Province so that most of the economic activities are centered in this city. In 2020 the percentage of formal worker status in Padang City experienced a significant decrease of 5.88%. This decline was certainly influenced by the Covid-19 pandemic which caused the economy of the City of Padang to decline. One of the parameters that describes the decline in the economy of Padang City is the occurrence of deflation 6 times in 9 months during 2020 (BPS, 2021d). This economic downturn has caused several companies to reduce their workforce to prevent losses. Therefore, there is a decline in formal workers in Padang City in 2020.

b. Sector/ Employment

The business field or employment sector is a place for someone who works to carry out various fields of activity from work/business/company/office (BPS, 2020a). The Central Bureau of Statistics classifies the employment sector into 17 categories which are then further grouped into 3 major categories of employment. The three categories include the main occupations of agriculture (agriculture, forestry, and fisheries), manufacturing (processing industry, electricity supply and water supply), and services. The dominance of one sector of employment in an area is closely associated with the level of economic growth in that area. (Tora, Kalangi, & Rompas, 2022) stated that high economic growth will lead to changes in the economic structure. Changes in the economic structure as a result are intended to change from the dominance of the primary sector to the domination of the secondary and tertiary sectors.

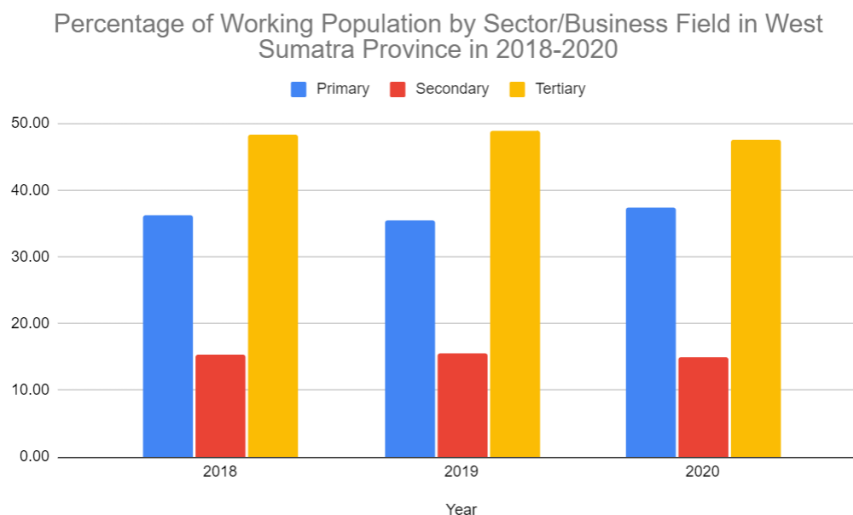


Figure 4.
Graph of Percentage of Working Population by Sector/Business Field in West Sumatra Province in 2018-2020

Based on the time analysis during the period 2018-2020 in the graph of Figure 4, the percentage of the population working in the secondary and tertiary sectors in

West Sumatra increased in 2018-2019 and decreased in 2020. On the contrary, the percentage of the population working in the primary sector actually decreased. from 36.33% in 2018 to 35.47% in 2019 then there was an increase of 2.02% to reach 37.49% in 2020. The difference in the trend of changes in the population working in the primary, secondary and tertiary sectors is closely related to the declining economic conditions due to the Covid-19 pandemic. 19. (Fadhli & Rohmah, 2021; Marginingsih, 2021) stated that the Covid-19 pandemic has caused many companies to go broke and unable to survive. Meanwhile, some of them have to reduce the number of workers by doing Termination of Employment (PHK) to reduce production costs. These conditions forced workers in West Sumatra to enter and switch to the tertiary sector or the primary sector.

The percentage of working population by sector/business field and districts/cities in West Sumatra can be seen in the graph Figure 5 and the distribution is clarified in the map Figure 6. Most districts/cities in West Sumatra in 2020 are dominated by the primary sector and some are dominated by the private sector tertiary. Padang City is the area with the largest number of workers absorbed in the service sector, which is then followed by the manufacturing and agricultural sectors. Total employment in each of these sectors is 16,989 people working in the agricultural sector, 78,228 workers in the secondary sector, and 316,432 workers in the service sector. The dominance of employment in the service sector indicates that economic growth in the city of Padang is already advanced. As stated earlier, the more advanced the economic level of a region will trigger the transformation of the economic structure into the service sector. The fact that Padang City is one of the urban areas that functions as an economic and industrial center in West Sumatra makes Padang City provide more job opportunities for non-primary jobs than the primary sector (agriculture). Wongsawat (2017) also stated that the non-primary employment sector has a greater chance of being absorbed by educated workers who live in urban areas than educated workers in rural areas.

The Mentawai Islands Regency has the largest percentage of employment in the agricultural sector compared to 18 other regencies/cities (Figure 5). In 2020, more than 70% of the workforce or 35,675 workers out of a total of 49,765 workers in the Mentawai Islands are absorbed in the agricultural sector. In the same year, only 4.4% or 2,193 workers worked in the manufacturing sector. The dominance of the workforce which is still centered in the primary sector and the low percentage of workers in the secondary sector indicate that economic growth in the Mentawai Islands is still very low and lagging behind. The Mentawai Islands Regency, which is the outermost area in Indonesia, which is included in the 3T (Lagging, Frontier, Outermost) area has hampered economic development through infrastructure development in this district. Inadequate infrastructure has an impact on the difficulty of developing manufacturing business units that require high accessibility in the Mentawai Islands. This is in line with the research results of Purnamawati & Khoirudin (2019) that there is a positive relationship between the number of business units and employment in the manufacturing sector. The relatively few and

underdeveloped number of business units in the Mentawai Islands has resulted in low demand for labor in the manufacturing sector.

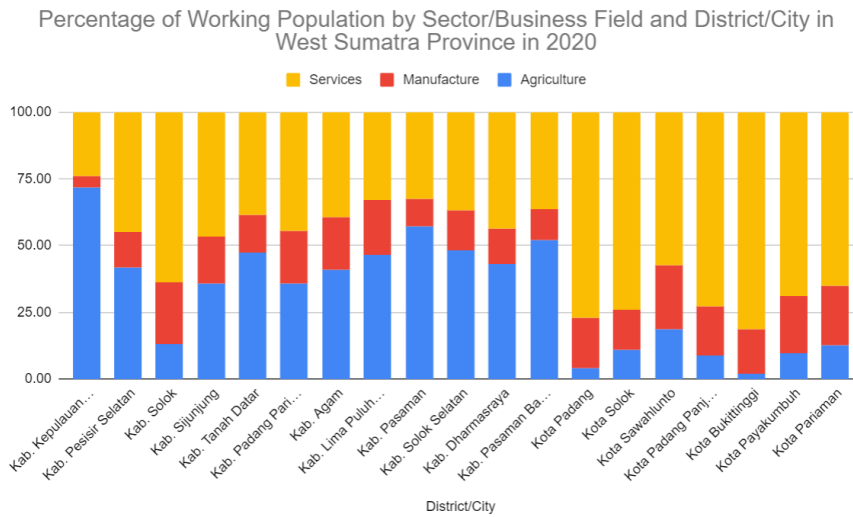


Figure 5.
Graph of Percentage of Working Population by Sector/Business Field and District/City in West Sumatra Province in 2020

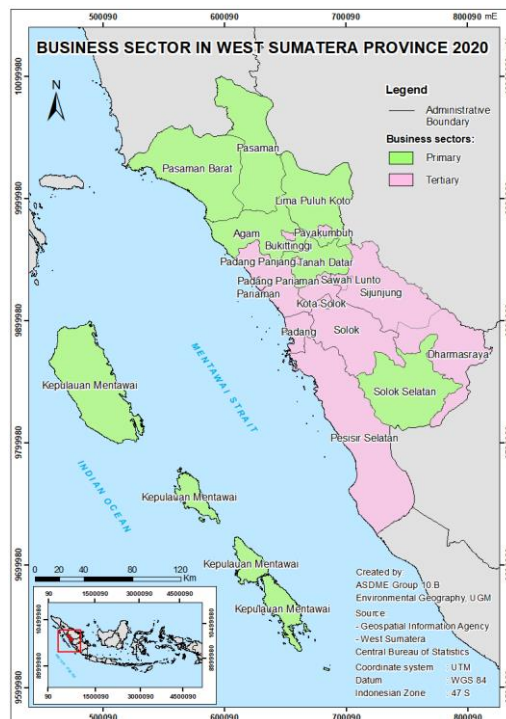


Figure 6.
Distribution Map of the Dominance of the Working Population by Sector/Business Field in West Sumatra Province in 2020

c. Type of Work

Type of work or position is the type of work carried out by someone who is working or temporarily not working. The type of work is the same as the economic sector, which can both be a reflection of how developed the area is. According to Smith (1776) the division of labor is a source of economic growth and the division of labor is limited by the extent of the market. Countries and regions with a dominant tertiary sector can be said to be developed countries and regions because their sources of income do not come from extractive businesses that tend to destroy nature.

The employment situation of West Sumatra Province is a problem that has always been a major concern from time to time. Referring to Figure 7, the type of work of the workforce in West Sumatra Province is very dominant in agriculture, forestry, hunting, and fishery business with a percentage of about 33% of the total workforce. The second highest rank is in production workers, operators of transportation equipment and manual workers with a percentage of about 23%. Furthermore, the third order is the sales force with a percentage of about 20%. The service sector, such as professionals, administration, and leadership, has become a minority type of work since 2018-2020 in West Sumatra Province. It can be concluded that the economy of West Sumatra Province is still dominated by the primary sector or extractive businesses in the form of agriculture and hunting and the secondary sector, namely manufacturing.

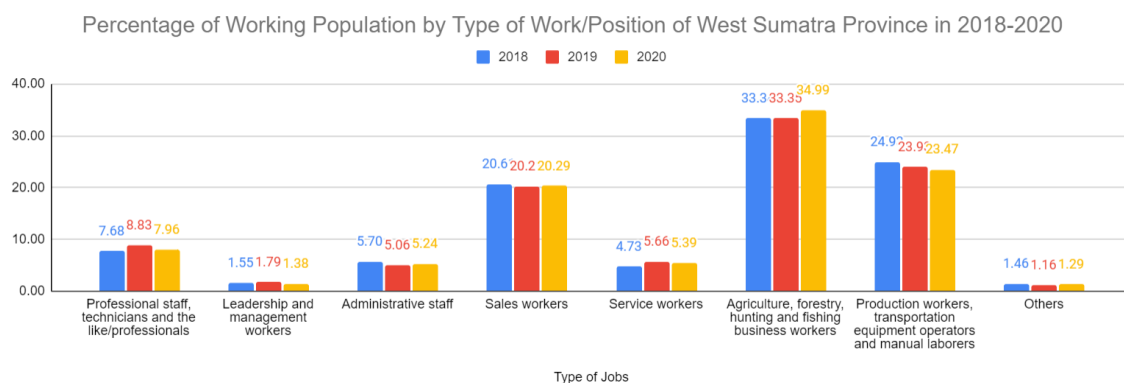


Figure 7.
Graph of Percentage of Working Population by Type of Work/Position of West Sumatra Province in 2018-2020

The dominance of a sector that is the source of the economy in an area is influenced by certain factors and this affects the amount of absorption of its workforce. Previous research by Parahita Lila Lantip (2018) stated that the educated workforce, service sector GRDP, service sector investment, and wages have an influence on service sector employment. It can be seen that the educated workforce on average works in the tertiary or service sector because this sector requires an educated and skilled workforce. Meanwhile, workers whose education level is getting higher, the concentration of working in the primary sector is

decreasing (Kucher et al., 2022). Therefore, the level of education in West Sumatra Province is still relatively low when viewed from the type of workforce.

Since the Covid-19 Pandemic took place in 2020, several types of work such as production personnel, transportation equipment operators, sales personnel, technical professionals and leadership staff have decreased in number. Meanwhile, the extractive sector experienced an increase. This dynamic is caused by the decline in people's purchasing power, especially for secondary and tertiary needs (Mattera, Alba Ruiz-Morales, Gava, & Soto, 2022). This led to a reduction in the number of workers, cuts in working hours, and the closure of several companies. Meanwhile, primary needs such as food originating from agriculture, forestry, hunting and fishing are increasing because people's needs are not decreasing. Therefore, it is possible for some of the workforce from the secondary and tertiary sectors to move to the primary sector.

Labor Productivity

Productivity is an important indicator of economic activity and growth in a region. Productivity can be interpreted as the efficiency of the production process which describes how much output is produced from the available inputs (Kemenaker, 2016). Labor productivity is used as a barometer of how far workers are used effectively in a production process to achieve the expected output (Poirier, Staub-French, & Forgues, 2015; Rizal & Sholehuddin, 2019). Furthermore, labor productivity is also used as an important indicator in measuring economic performance (ILO, 2016) and to measure progress towards achieving the Sustainable Development Goals (SDGs), especially the eighth goal, namely, seeking to increase inclusive and sustainable economic growth, employment opportunities that productive and comprehensive and decent work for all (UN Department of Economic and Social Affairs, 2016). Therefore, the topic of labor productivity is an issue that becomes the main focus and goal of the government, both central and regional.

According to the Regulation of the Minister of Manpower and Transmigration No. 17/MEN/VII/2005 explains that productivity is the ratio between the number of Gross Regional Domestic Product (GRDP) and the number of workers in the same period. The assumption used is that the value of GRDP is the result of all workers who carry out the production process in a certain period (Tregenna, 2009). The higher the value of labor productivity, the more productive the workforce. Table 1 shows the value of GRDP and the number of workers working in West Sumatra Province for the last 3 years. The number of provincial GRDP increased from 2018 to 2019, but then decreased in 2020. This is different from the number of workers working in West Sumatra Province which shows an increasing trend in 2018 to 2020. As a result, the number of labor productivity in West Sumatra Province experienced a decline in 2020 due to the impact of an increase in the number of working people but there was a decrease in the number of GRDP in the same year.

Table 1.
Level of Labor Productivity in West Sumatra Province in 2019-2020

| Year | PDRB (Million Rupiah) | Working Labor (Soul) | Productivity (Million/Person) | Growth (%) |
|------|-----------------------|----------------------|-------------------------------|------------|
| 2018 | 163.996.189 | 2.410.450 | 68,04 | - |
| 2019 | 172.213.791 | 2.460.554 | 69,99 | 2.87 |
| 2020 | 169.458.114 | 2.581.524 | 65,64 | -6.21 |

Source: Data Processing Results (2022)

More clearly, the variation in the value of labor productivity in West Sumatra can be seen in Figure 8 which shows that from 2018 to 2019 there was an increase in labor productivity, but in 2020 it decreased. The decline in GRDP and labor productivity in 2019 to 2020 was due to the Covid-19 Pandemic. The Covid-19 pandemic has caused a decrease in the amount of regional income in several business sectors as a result of various policies to inhibit the spread of the corona virus, including social restrictions and regional quarantine (lockdown). The decline in labor productivity in 2020 shows that the increase in the population of the working force does not always go hand in hand with the increase in the number of GRDP. However, it is also influenced by economic conditions at that time and GRDP growth in each sector of the business field.

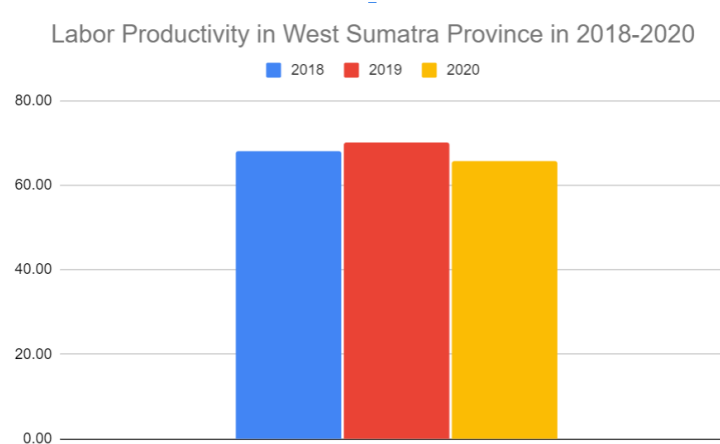


Figure 8.
Graph of Labor Productivity in West Sumatra Province in 2018-2020 (Source: Data Processing Results (2022))

Labor productivity is influenced by various factors, both from the labor factor and the GRDP growth of each business field. In terms of labor, according to Colnago & Dogliotti (2020) labor productivity can be influenced by several factors such as age, level of formal education, work experience, wages, and labor supply. In terms of GRDP, labor productivity is influenced by the economic growth of each business field so that labor productivity by business field is also different. Refer to Figure 9. Labor productivity by business field shows varying numbers during the 2018-2020 period.

For labor productivity by business field, the highest occurred in the transportation and warehousing sector, which peaked in 2018, but decreased in 2019 and 2020. This condition is the impact of the Covid-19 Pandemic. To avoid the spread of the Covid-19 virus, the government made a policy of social restrictions for the community and regional quarantine (lockdown). This policy has restricted human and inter-regional mobility which was previously very massive, resulting in a decrease in the use of transportation services. The Covid-19 pandemic also affected labor productivity in other business fields such as the processing/manufacturing industry which also experienced a decline. The economic consequences that must be borne due to the Covid-19 pandemic include decreased income, increased unemployment, disruption of transportation, services and industrial manufacturing (Pak et al., 2020). The existence of social and regional restrictions policies also has an impact on productivity declines around the tourism business such as accommodation (hospitality), restaurants (food and drink providers), creative economy businesses (souvenirs and souvenir centers) and the transportation sector (Oeliestina, 2021).

However, there are several business sectors that have experienced an increase in labor productivity due to the Covid-19 pandemic, including the Electricity and Gas Procurement sector; Water Procurement, Waste Management, Waste and Recycling which experienced a significant increase in 2020. This is due to the large number of people who are at home due to Covid-19 causing the need for household electricity and water to increase. In addition, the Information and Communications sector also experienced an increase in productivity in 2019 and 2020 as a result of learning at home and Work from Home (WFO), making the need for internet access increase.

The lowest labor productivity occurs in the accommodation and food and drink provision sector. The number of workers working in this sector is relatively large, but only contributes to a relatively small amount of GRDP. In other words, there are many people who work in this sector of employment, but only produce a small amount of output/income so that their productivity is also low. The same thing also happened in the Agriculture, Forestry and Fisheries sectors which can absorb a lot of workers, but contribute to GRDP which is not proportional to the number of workers, causing labor productivity in the agricultural sector to be relatively low.

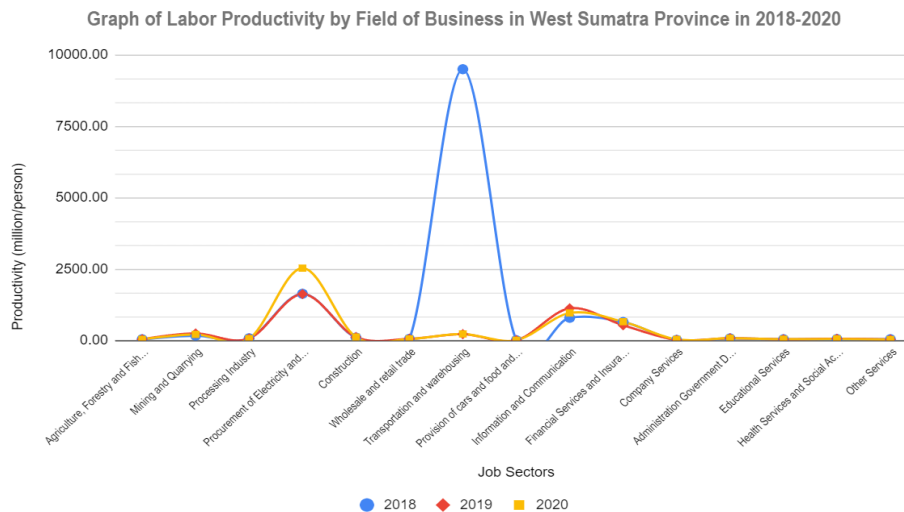


Figure 9.

Graph of Labor Productivity by Business Field in West Sumatra Province in 2018-2020

Labor Elasticity

The labor growth rate and economic growth rate in West Sumatra Province are calculated by equation 3 and equation 4. Of the 15 business fields including 'other services', almost all of them experienced positive labor growth and economic growth for 2018-2020 (Figure 10). The growth of labor in the sector/business field with negative values was experienced by: mining and quarrying; water supply, waste, waste and recycling management; construction; transportation and warehousing; information and communication; and company services. Meanwhile, the economy in the fields of: processing/manufacturing industry; water supply, waste, waste and recycling management; transportation and warehousing, the provision of accommodation and food and drink contracted due to the negative economic growth rate.

The company service sector/field has the largest negative labor growth rate in West Sumatra for 2018-2020, which is -24.79%. The company's services include professional, scientific and technical activities where the workforce in this sector requires a high level of training and can produce specific knowledge and skills available to users (Badan Pusat Statistik (BPS), 2022). In 2018, there were 33,643 people working in this sector, then it decreased to 19,028 people in 2020. Although the growth rate of the workforce is negative, the economic growth rate is positive although not large, namely 0.98% because this sector is not completely dependent on consumer interaction and mobility. The reduced number of workers in this sector can be caused by a decrease in labor demand from companies during the Covid-19 pandemic in 2020 because many adjustments have been made, such as online activities going offline and also the use of other technologies (Hidayatullah, 2021).

The largest negative economic growth rate in West Sumatra is owned by the transportation and warehousing business sector, which is -85.37%. This was caused

by the GRDP from the transportation and warehousing sector which decreased significantly from 2018 of Rp. 819,969,549.7 million to Rp. 17,551,348.06 in 2020. The severe contraction in this sector was also followed by a decrease in the number of workers with a growth rate of -5.87%. . This is due to a new policy during the Covid-19 pandemic in 2020 which led to the implementation of social restrictions both in West Sumatra and throughout Indonesia so that travel using air, sea and land transportation is very limited. Many airlines and transportation companies have suffered heavy losses due to the Covid-19 pandemic, thus making the transportation and warehousing sector the sector/business field that experienced the deepest contraction not only in West Sumatra but also nationally in 2020 (Fauzia, 2020).

Manpower Growth Rate and Economic Growth According to Business Fields in West Sumatra Province in 2018-2020



Figure 10.
Labor Growth Rate and Economic Growth (GRDP) by Business Field in West Sumatra Province in 2018-2020

One of the business fields in West Sumatra that experienced a positive growth rate for both the workforce and the economy during the pandemic was health services and social services. The labor growth rate in this sector is 3.34% and the economic growth accelerated by 8.18% during 2018-2020. Around 20,000 Covid-19 cases were found in West Sumatra until the end of 2020 (Harlina, 2021). Since the pandemic, there has been a change in health awareness behavior among the community, so that the demand for various health products and services has also increased which has caused the workforce in this sector to also increase in order to meet this demand. Economic growth in this sector is supported by increased revenues from hospitals, clinics, and health laboratories for Covid-19 services. The health and social services sectors are not affected by the recession and are predicted to support the Indonesian economy during the pandemic (Kusnandar, 2021).

The labor elasticity of each sector is calculated by equation 2, namely the comparison between the rate of growth of employment opportunities and the rate

of economic growth to determine the absorption of labor in West Sumatra during 2018-2020 by sector/business field. Based on the Decree of the Minister of Manpower and Transmigration of the Republic of Indonesia Number 309 of 2013, elasticity can be grouped into elasticity less than zero (< 0), zero to one (0-1), and more than one (> 1). Elasticity of less than zero (< 0) indicates that employment growth is decreasing and labor productivity is increasing sharply or significantly. Elasticity between zero to 1 (0-1) means that employment opportunities increase, and labor productivity also increases. While the elasticity of more than one (> 1) indicates that employment opportunities are very large but productivity is decreasing.

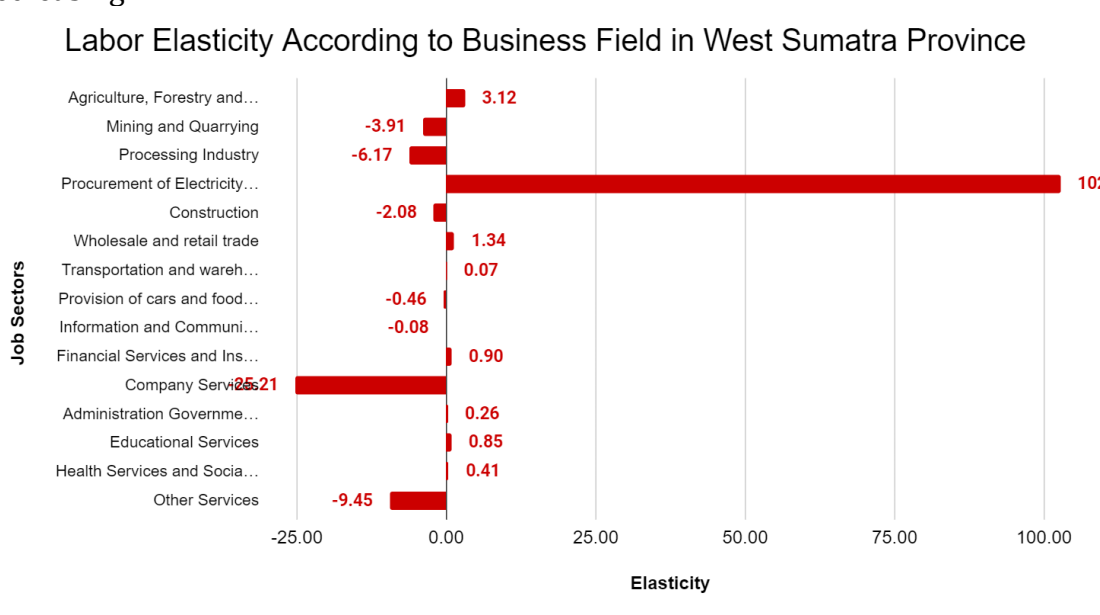


Figure 11.
Labor Elasticity by Employment in West Sumatra Province

Most of the workforce in the province of West Sumatra in 2018-2020 based on their employment status are informal workers who are influenced by low educational conditions. The trend for the status of formal workers increased in 2019 and decreased by 3.6% in 2020, while the status of informal workers has the opposite trend. This fluctuation was influenced by the Covid-19 pandemic in 2020 so that many layoffs occurred in formal workers and switched to informal jobs, with the exception of Payakumbuh Regency which experienced an increase in formal workers due to a local government program to increase community micro-enterprises in the form of BPUM. The area that has the most informal workers is the Mentawai Islands Regency because this area has limited accessibility, health and education facilities/infrastructure. The area with the highest percentage of formal workers is Padang City because this region acts as the capital and economic center of West Sumatra Province.

CONCLUSION

The condition of employment by sector/business field in West Sumatra is generally dominated by the tertiary (services) and primary sectors, while only a small number of workers are absorbed in the secondary sector. This is due to the low distribution of GRDP in the secondary sector which only contributed 8.83% of the total GRDP in 2020. During the period 2018-2020, employment in the secondary and tertiary sectors increased in 2018-2019 and decreased in 2020. In contrast, the percentage of the population working in the primary sector actually increased by 2.02% in 2020. This difference in the trend of employment absorption is closely related to the number of workers who have been laid off due to the declining economy during the Covid-19 pandemic. The city of Padang, which is an urban area with a high level of economic growth, makes the majority of labor absorption in this city absorbed in the tertiary sector. Meanwhile, the Mentawai Islands Regency, which is an underdeveloped area with a low economic level, makes labor absorption still concentrated in the primary sector in 2020.

The type of labor in West Sumatra Province that is very dominant is agriculture, forestry, hunting, and fishery with a percentage of about 33% of the total workforce. This is influenced by the level of education in West Sumatra Province which is relatively low. In 2020 there was a decrease in the number of jobs for production workers, operators of transportation equipment, sales personnel, technical professionals and leadership staff due to the Covid-19 pandemic, while the extractive sector experienced an increase. This dynamic is influenced by the decline in people's purchasing power for secondary and tertiary needs, while primary needs have increased buyer demand.

The number of labor productivity in West Sumatra Province increased in 2019 but decreased in 2020 due to the Covid-19 Pandemic. This decrease shows that the increase in the population of the working force does not always go hand in hand with the increase in the number of GRDP, but is also influenced by economic conditions and GRDP growth in each sector of the business field. The productivity of the transportation and warehousing sector had the highest value in 2018 but there was a significant decline in 2019 and 2020 due to social restrictions to prevent the spread of the Covid-19 virus. The business sectors that experienced an increase in productivity in 2020 were the Electricity and Gas Procurement sector; Water Supply, Waste Management, Waste, and Recycling.

The elasticity of labor by sector/business field in West Sumatra in 2018-2020 mostly has a value of less than zero (<0). Water supply, waste management, waste, and recycling are the sectors with the highest elasticity of labor, which is 102.71, indicating that economic growth creates huge job opportunities in the water supply, waste, waste, and recycling sectors. The lowest elasticity value is owned by the corporate service sector of -25.21 which indicates that the growth of employment opportunities in this sector is decreasing but the productivity of its workforce has experienced a large increase.

REFERENCES

- Agussalim. (2009). Mereduksi Kemiskinan; Sebuah Proposal Baru untuk Indonesia. *Nala Cipta Lentera dan PSKMP UNHAS; Makassar. 2009.*
- Arsyad, L. (2010). *Ekonomi Pembangunan, edisi kelima.* Yogyakarta: UPP STIM YKPN.
- Badan Pusat Statistik (BPS). (2021). *Profil Pendidikan Provinsi Sumatera Barat 2020.* Padang: BPS Sumatera Barat.
- Badan Pusat Statistik (BPS). (2022). *Provinsi Sumatera Barat Dalam Angka Tahun 2022.* Padang: BPS Sumatera Barat.
- Bank Indonesia Provinsi Sumatera Barat. (2021). *Laporan Perekonomian Provinsi Sumatera Barat Februari 2021 .* Padang: Kantor Perwakilan Bank Indonesia Provinsi Sumatera Barat.
- BPS. (2020a). *Keadaan Angkatan Kerja di Provinsi Sumatera Barat Agustus 2020.* Padang: BPS Sumatera Barat.
- BPS. (2020b). *Profil Pendidikan Provinsi Sumatera Barat 2020 .* Padang: BPS Sumatera Barat.
- BPS. (2021a). *Indeks Pembangunan Manusia Provinsi Sumatera Barat.* Padang: BPS Sumatera Barat.
- BPS. (2021b). *Keadaan Angkatan Kerja di Provinsi Sumatera Barat Agustus 2021.* Padang: BPS Sumatera Barat.
- BPS. (2021c). *Laskar Data Sumatera Barat Merangkai Kata Mengurai Makna 2020-2021.* Padang: BPS Sumatera Barat.
- BPS. (2021d). *Statistik Mobilitas Penduduk dan Tenaga Kerja 2021.* Padang: BPS Sumatera Barat.
- BPS Sumatera Barat. (2021). *Perkembangan Pembangunan Provinsi Sumatera Barat 2021.*
- Čábelková, I., Abrhám, J., & Strielkowski, W. (2015). Factors influencing job satisfaction in post-transition economies: The case of the Czech Republic. *International Journal of Occupational Safety and Ergonomics*, 21(4). <https://doi.org/10.1080/10803548.2015.1073007>.
- Colnago, P., & Dogliotti, S. (2020). Introducing labour productivity analysis in a co-innovation process to improve sustainability in mixed family farming. *Agricultural Systems*, 177. <https://doi.org/10.1016/j.agsy.2019.102732>.

- Dzhekova, R., Franic, J., Mishkov, L., & Williams, C. (2018). Tackling the Undeclared Economy in FYR Macedonia: A Baseline Assessment. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2479905>.
- Effendi, R. (2014). Analisis Penyerapan Tenaga Kerja Pada Sembilan Sektor Ekonomi di Sumatera Selatan. *Jurnal Penelitian Dan Pengembangan Akuntansi*, 8(1).
- Fadhli, K., & Rohmah, Z. M. (2021). The Effect of The National Economic Recovery Program on Msme Productivity During The Covid-19 Pandemic. *Jurnal Manajemen Dan Bisnis*, 10(1). <https://doi.org/10.34006/jmbi.v10i1.286>.
- Fauzia. (2020). *Penyebab Ekonomi RI Minus di 2020: Sektor Transportasi dan Pergudangan*. Retrieved from Kompas.Com website: <https://money.kompas.com/read/2021/02/05/123152626/penyebab-ekonomi-ri-minus-di-2020-sektor-transportasi-dan-pergudangan>.
- Harlina. (2021). *Kilas Balik Satu Tahun Covid-19 di Sumatera Barat*. Liputan 6. Retrieved from Liputan6.com website: <https://www.liputan6.com/regional/read/4516063/kilas-balik-satu-tahun-covid-19-di-sumbar>.
- Hidayatullah, S. M. (2021). *Peluang Bangkit Sektor Jasa*. Retrieved from <https://ekonomi.bisnis.com/read/20210223/12/1359746/peluangbangkit-sektor-jasa>.
- ILO. (2016). *Upah dan Produktivitas Untuk Pembangunan Berkelanjutan*. International Labor Organization (ILO), 2016.
- Kemenaker. (2016). *Pengukuran Produktivitas Nasional, Regional dan Sektoral*. Jakarta (ID): Direktorat Bina Produktivitas Kementerian Ketenagakerjaan.
- Khosla, I. (2021). Book Review: Social Research Methods: Qualitative and Quantitative Approaches. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.696828>.
- Kucher, O., Hutsol, T., Glowacki, S., Andreitseva, I., Dibrova, A., Muzychenko, A., Szeląg-Sikora, A., Szparaga, A., & Kocira, S. (2022). Energy Potential of Biogas Production in Ukraine. *Energies, MDPI*, 15(5), 1-22.
- Kusnandar. (2021). *Tak Terpengaruh Resesi, Sektor Jasa Kesehatan dan Kegiatan Sosial Tumbuh 11,62%*. Retrieved from Katadata.com website: <https://databoks.katadata.co.id/datapublish/2021/08/06/tak-terpengaruh-resesi-sektor-jasa-kesehatan-dan-kegiatan-sosial-tumbuh-1162>.

- Malhotra, N. K., & Miller, G. L. (1998). An integrated model for ethical decisions in marketing research. *Journal of Business Ethics*, 17(3). <https://doi.org/10.1023/A:1005711311426>.
- Marginingsih, R. (2021). Financial Technology (Fintech) Dalam Inklusi Keuangan Nasional di Masa Pandemi Covid-19. *Moneter - Jurnal Akuntansi Dan Keuangan*, 8(1). <https://doi.org/10.31294/moneter.v8i1.9903>.
- Mattera, M., Alba Ruiz-Morales, C., Gava, L., & Soto, F. (2022). Sustainable business models to create sustainable competitive advantages: strategic approach to overcoming COVID-19 crisis and improve financial performance. *Competitiveness Review*, 32(3). <https://doi.org/10.1108/CR-03-2021-0035>.
- Oeliestina, O. (2021). Pengaruh Pandemi Covid 19 Terhadap Perekonomian Propinsi Jambi. *Jurnal Apresiasi Ekonomi*, 9(1). <https://doi.org/10.31846/jae.v9i1.340>.
- Pak, A., Adegboye, O. A., Adekunle, A. I., Rahman, K. M., McBryde, E. S., & Eisen, D. P. (2020). Economic Consequences of the COVID-19 Outbreak: the Need for Epidemic Preparedness. *Frontiers in Public Health*, 8. <https://doi.org/10.3389/fpubh.2020.00241>.
- Parahita Lila Lantip, dkk. (2018). Analisis Faktor yang Mempengaruhi Produk Domestik Regional Bruto (PDRB) Sektor Industri di Provinsi Jawa Barat Tahun 2002-2016. *Journal of Sustainable Competitive Advantage*, 8(September).
- Pemerintah Kota Payakumbuh. (2020). *Pemerintah Kota Payakumbuh. 2020. Laporan Kinerja Instansi Pemerintah Kota Payakumbuh (LKjIP) Tahun 2020. Payakumbuh: Pemerintah Kota Payakumbuh. 2020.*
- Poirier, E. A., Staub-French, S., & Forgues, D. (2015). Measuring the impact of BIM on labor productivity in a small specialty contracting enterprise through action-research. *Automation in Construction*, 58. <https://doi.org/10.1016/j.autcon.2015.07.002>.
- Purnamawati, D. L., & Khoirudin, R. (2019). Penyerapan Tenaga Kerja Sektor Manufaktur Di Jawa Tengah 2011-2015. *Jurnal REP (Riset Ekonomi Pembangunan)*, 4(1). <https://doi.org/10.31002/rep.v4i1.1340>.
- Richardson, H. W. (1984). The role of the urban informal sector: an overview. *Regional Development Dialogue*, 5(2).
- Rizal, M., & Sholehuddin, S. (2019). Factors Affecting Labor Productivity of Small Manufacturing Industry. *Jurnal Manajemen Dan Kewirausahaan*, 7(1). <https://doi.org/10.26905/jmdk.v7i1.2691>.
- Smith, A. (1776). *The Wealth of Nations*. Oxford: Oxford University Press.

- Sofyardi, M. (2020). Perencanaan Tenaga Kerja Daerah Kota Padang 2014-2018. *Quantitative Economics Journal*, 6(3). <https://doi.org/10.24114/qej.v6i3.17547>.
- Spooner, D., & Mwanika, J. M. (2018). Transforming Transport Unions through Mass Organisation of Informal Workers: A Case Study of the ATGWU in Uganda. *Global Labour Journal*, 9(2). <https://doi.org/10.15173/glj.v9i2.3347>.
- Todaro, M. P., & Smith, S. C. (2006). *Pembangunan Ekonomi, Edisi 9, Jilid 1*. Jakarta: Erlangga.
- Tora, I., Kalangi, J. B., & Rompas, W. F. I. (2022). Analisis Struktur Ekonomi dan Pertumbuhan Ekonomi di Kabupaten Minahasa Tenggara tahun 2010-2019. *Jurnal Berkala Ilmiah Efisien*, 22(1).
- Tregenna, F. (2009). Characterising deindustrialisation: An analysis of changes in manufacturing employment and output internationally. *Cambridge Journal of Economics*, 33(3). <https://doi.org/10.1093/cje/ben032>.
- UN Department of Economic and Social Affairs. (2016). THE 17 GOALS | Sustainable Development.
- Wongsawat, S. (2017). Predicting factors for quality of life of elderly in the rural area. *International Journal of Arts & Sciences*, 09(04).
- Wulandari, E., & Marta, J. (2022). Analisis Lama Mencari Kerja Dan Lama Mempersiapkan Usaha Tenaga Kerja Terdidik Di Sumatera Barat: Peran Pendidikan Dan Dampak Upah. *Jurnal Kajian Ekonomi Dan Pembangunan*, 4(1), 1-8.