

Impact Of Industrial Area Development on National and Regional Economies In Indonesia: Case Study And Policy Implications Post-Pandemic

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Informasi Artikel		Abstract
E-ISSN : 3026-6874		This study examines the complex consequences of industrial area development on both the national and regional economies of Indonesia, with a specific focus on the interaction between these two domains. This research employs a comprehensive case study methodology to examine the policies crucial for ensuring sustainable economic growth in the aftermath of the pandemic. Industrial expansion's direct and indirect effects on job creation, economic diversification, technological advancement, and resource distribution are all examined in this analysis. Considering the varying degrees of development and infrastructure across Indonesia's regions, the study also identifies the distinct impacts of economic disparities across these areas. The results emphasize the need for tailored policy interventions that consider regional discrepancies and foster fair economic growth post-pandemic. Contributing to the economic recovery of the nation, the study finds sectors of the Indonesian economy with potential for expansion in the post-pandemic period. Employing the shift-share analysis and qualitative descriptive method, help determine if any changes have occurred in the configuration of the economic system during the post-pandemic period. The findings indicate that each of the five provinces, namely Bali, Riau Islands, Banten, East Borneo, and Yogyakarta, possesses distinct competitive advantages that are unique to their respective regions. However, none of the industries in these five areas possesses a significant degree of expertise in any particular industry. The research also emphasizes the lack of dedicated business activities focused on a specific industry.
Vol: 2 No: 3 Maret 2024		
Halaman : 141-161		
<b>Keywords:</b> Industrial development national economy policy implications	area	

Abstrak

Studi ini mengeksplorasi konsekuensi kompleks dari pengembangan area industri pada ekonomi nasional dan regional Indonesia, dengan fokus khusus pada interaksi antara dua domain ini. Penelitian ini menggunakan metodologi studi kasus yang komprehensif untuk memeriksa kebijakan yang penting untuk memastikan pertumbuhan ekonomi yang berkelanjutan setelah pandemi. Dampak langsung dan tidak langsung dari ekspansi industri pada penciptaan pekerjaan, diversifikasi ekonomi, kemajuan teknologi, dan distribusi sumber daya semuanya dipertimbangkan dalam analisis ini. Dengan mempertimbangkan berbagai tingkat perkembangan dan infrastruktur di berbagai wilayah Indonesia, studi ini juga mengidentifikasi dampak yang berbeda dari perbedaan ekonomi di berbagai daerah. Hasilnya menekankan kebutuhan intervensi kebijakan yang disesuaikan yang mempertimbangkan ketidaksesuaian regional dan mendorong pertumbuhan ekonomi yang adil pasca-pandemik. Berkontribusi terhadap pemulihan ekonomi negara, penelitian ini menemukan sektor-sektor ekonomi Indonesia dengan potensi untuk ekspansi di periode pasca-pandemik. Menggunakan analisis shift-share dan metode deskriptif kualitatif, membantu menentukan apakah ada perubahan dalam konfigurasi sistem ekonomi selama periode pasca-pandemik. Temuan ini menunjukkan bahwa masing-masing dari lima provinsi, yaitu Bali, Kepulauan Riau, Banten, Kalimantan Timur, dan Yogyakarta, memiliki

keunggulan kompetitif yang berbeda yang unik untuk masing – masing wilayah. Namun, tidak ada industri di lima bidang ini memiliki tingkat keahlian yang signifikan dalam industri tertentu. Penelitian ini juga menekankan kurangnya kegiatan bisnis khusus yang berfokus pada industri tertentu.

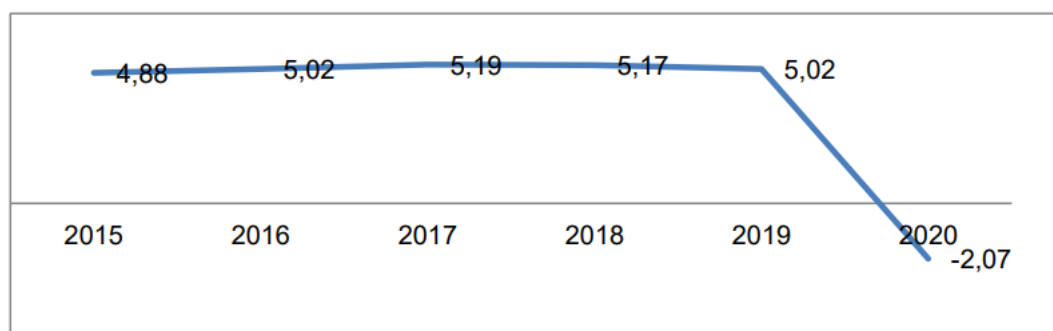
**Kata Kunci :** Ekonomi daerah, Ekonomi nasional, Implikasi kebijakan

## INTRODUCTION

The World Health Organisation (WHO) has declared that the Covid-19 pandemic has reached 220 countries worldwide, including Indonesia. Every facet of life is being impacted by the COVID-19 pandemic. The impacts encompass various dimensions, such as health, economic, educational, and social elements, among others (Irwanti et al., 2021). The Covid-19 infection has significant repercussions, which also exert a profound influence on the community's efforts to combat the infection. The COVID-19 pandemic has become a significant global challenge, affecting countries worldwide. Indonesia, the world's largest archipelagic state with a population exceeding 270 million, is one of the countries dealing with the complex consequences of this global health crisis. It is also the fourth-most populous country in the world 7 (Aisyah et al., 2022). Given the virus's ongoing evolution and disruptive impact, it is crucial to analyze and contemplate the COVID-19 situation in Indonesia. This involves investigating the distinct dynamics, challenges, and reactions influencing the country's progress (Widiawaty et al., 2022).

The Covid-19 pandemic has resulted in several positive effects, including a decrease in daily global emissions, an increase in healthy living behaviours (Le Quéré et al., 2020), the emergence of new technological opportunities, a reduction in information asymmetry, and a more efficient utilisation of subsidies observed in the Chinese state (Okyere et al., 2020). These creative solutions need to make use of advanced technology, environmentally responsible practises, and strong international collaboration (Judijanto et al., 2023). Despite its positive effects, the Covid-19 pandemic has also exerted a significantly larger negative influence. An example of this can be observed at the international economic scale, where the adverse consequences of the Covid-19 pandemic exert a substantial influence on a nation's domestic economy (Pakpahan, 2020). If the population in an area is in a state of poor health, it will have a detrimental impact on the economy. In its 2020 report, the Organisation for Economic Cooperation and Development (OECD) asserted that the pandemic had a significant impact and posed a substantial risk of a severe economic crisis, characterised by its abrupt halt. The decline in stock market, coupled with low levels of public consumption and consumer confidence, has led to uncertain conditions due to the impact on production activities in different countries. This poses a significant threat to the Indonesian economy. The government's implementation of Large-Scale Social Restrictions (PSBB) in April 2020 had far-reaching consequences across multiple domains, including production, distribution, and operational activities, ultimately impacting economic performance. According to data gathered from the Central Statistics Agency (BPS) and Bank Indonesia, the Indonesian economy experienced a significant decline in 2020 compared to the previous year, with a contraction of 2.07 percent (year-on-year) compared to a growth rate of 5.02 percent (year-on-year) in 2019.

Figure 1. GDP Growth Rate (Percent)

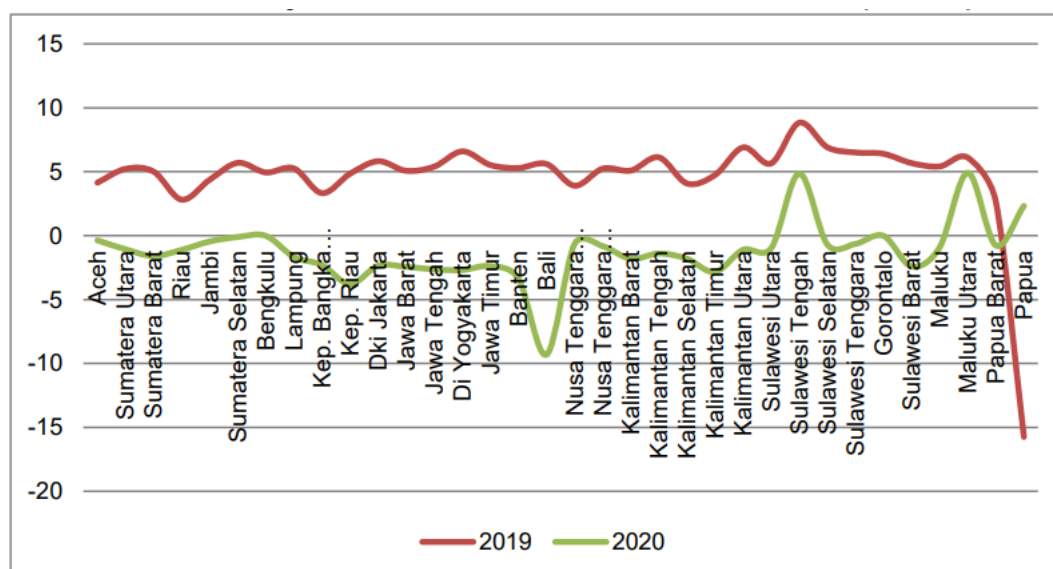


Source: BPS, 2021

The output component observes contractions in domestic demand as a whole. This is evident in various sectors, with the exception of the information and communications sector, which is experiencing growth. Economic performance shocks can originate from both the demand shock side and the supply side. A supply shock. Regarding the demand aspect, it is worth noting that the real daily wages in 2020 have decreased compared to 2019. This aligns with the decreasing performance of the present income index, which is one of the sub-components of the Consumer Confidence Index (IKE). The pandemic has caused a decrease in public income, resulting in a decline in purchasing power. This is evident from the decrease in the durable goods purchasing index. In addition, consumers also exhibit a negative perception of the current job market, as evidenced by a significant decrease in the Job Availability Index. Additionally, the Enterprise World Activity Survey (SKDU) indicated a decline in enterprise activity on the supply side. This was evident in the weighted net balance (SBT) figure, which dropped to a negative level of 12.80 percent in 2020. Simultaneously, there was a decline in the utilization of production capacity. The statement above suggests that the COVID-19 pandemic can be analyzed from two perspectives: the supply side and the demand side.

Meanwhile, at the regional level, it also shows significant impact for some regions. Given the different characteristics of each region, there is, of course, heterogeneity in the impact on the economy of each area. The province of Bali was the most affected by the COVID-19 pandemic with the implementation of the UNFPA policy, thus limiting all aspects of economic activity, including in this case the tourism sector, where growth was contracted to minus 9.31 percent. Then, followed also by the provinces of Kep. Riau (3.80 percent), Banten Province (3.38 percent), East Borneo Province (2.85 percent), and Yogyakarta Province. (2.69 percent).

Figure 2. PDRB Growth Rate By Province (Percentage)



Source: BPS 2021

Over the course of the last half-century, Indonesia has been continuously undergoing a process of urbanisation and industrialization (Elias, Stephen And Noone, 2011). Over the past half-century, the proportion of the economy that contributes to manufacturing has increased, while the proportion that contributes to agriculture has decreased (Elias, Stephen And Noone, 2011). The industrial structure of Indonesia, on the other hand, is plagued by a number of issues, such as the deteriorating competitiveness of Indonesia's manufactured exports, the country's heavy reliance on imports in the field of heavy manufacturing, and the slow accumulation of technology (Puspitawati, 2021). There will be a greater degree of regional complementarity as a consequence of the establishment of the ASEAN Free Trade Area (AFTA), and multinational corporations are rapidly expanding and integrating their production operations. In recognition of the significant growth impact and the significant infrastructure gap that

Indonesia is experiencing, the national long-term development plan for 2011–25 is divided into a series of smaller plans (Curristine et al., 2018). At the moment, industrial development is becoming one of the most important factors that contribute to the expansion of the national economy; however, every region in the country is experiencing a disparity in development, primarily in relation to the infrastructure (Berawi et al., 2017).

The growth of Indonesia's industrial areas has both positive and negative effects on the country's economy as well as the economies of the surrounding regions. The rapid expansion of the industrial sector presents a number of challenges and potential risks, some of which include the deteriorating competitiveness of Indonesia's manufactured exports, the country's heavy reliance on imports in the field of heavy manufacturing, and the gradual accumulation of technological advancements. The research aims to investigate the impact of industrial area development on Indonesia's national and regional economies, considering the different levels of development and infrastructure within Indonesia's various regions.

The COVID-19 pandemic exerted varying yet profound impacts on critical sectors in Indonesia, notably the manufacturing, transportation, creative industries, and SME sectors. These industries encountered distinctive challenges, culminating from a multitude of reasons. As evidenced by reliable sources, the manufacturing sector exhibited commendable resilience, sustaining positive growth despite the economic strains imposed by the pandemic (Deputy Cabinet Secretary for State Documents & Translation, 2021). While experiencing contractions overall, specific segments within manufacturing, such as primary metal processing, chemicals, pharmaceuticals, and traditional medicine, notably showcased promising growth trajectories (Deputy Cabinet Secretary for State Documents & Translation, 2021). Furthermore, projections indicate a continued expansion in the manufacturing sector, positioning it to emerge as a prominent manufacturing center within the ASEAN region.

The purpose of this study is to investigate the myriad of ramifications that the development of industrial areas has on the economies of Indonesia, both on a national and regional scale. This investigation will take into account the various levels of development and infrastructure that are present in the various regions of Indonesia. According to the findings of the investigation, both direct and indirect effects of expanding industrial regions are being examined. The generation of employment opportunities, the diversification of the economy, the advancement of technology, and the distribution of resources are all examples of these different effects. The research also identifies the various effects that have been exerted on the economic disparities that exist between different regions of Indonesia. This is an important aspect of the research. This is done by considering the multiple levels of development and infrastructure in various areas of Indonesia. This study investigates the post-pandemic implications and policies essential for achieving sustainable economic growth. It also sheds light on the interaction between these two spheres, contributing to the overall understanding of the situation.

Conversely, the transportation industry grappled with a substantial decline in travel demand attributed to stringent restrictions and pervasive uncertainties throughout the pandemic (Ekasari et al., 2023). Simultaneously, the creative sector and SMEs encountered significant setbacks owing to the downturn in economic activities and the concomitant decrease in consumer demand (Ekasari et al., 2023). Despite these challenges, there's an optimistic outlook for the creative industry, underpinned by its substantial growth potential anticipated in the future. Therefore, while the impacts on these sectors manifest diversely, they collectively reflect the profound influence of shifting consumption patterns, mobility limitations, and the overarching economic uncertainties that characterized the COVID-19 pandemic in Indonesia.

The Manufacturing, Transportation, Creative Industries, and SME sectors underwent substantial repercussions during and following the pandemic in Indonesia, triggered by a myriad of factors: Relying on Physical Interaction: A significant reliance on physical interaction characterizes most manufacturing and transportation entities, pivotal in their production and distribution processes. However, the imposition of mobility constraints and business closures amid the pandemic acted as impediments to

these fundamental activities. **Interrupted Supply Chains:** The manufacturing sphere bore the brunt of disruptions in the global supply chain network. The closure of factories across diverse nations and logistical limitations significantly disrupted the inflow of essential raw materials and the subsequent distribution of finished goods. **Diminished Demand and Mobility:** The transportation sector encountered a remarkable decline in demand, spanning both passenger and logistical travel, attributed to the imposition of regional closures and stringent travel constraints. **Cancellation of Events and Direct Engagements:** The creative industry, encompassing entertainment, artistic endeavors, and live events, faced substantial setbacks due to widespread event cancellations, the shuttering of entertainment venues, and shifts in consumer preferences favoring home-based entertainment. **Adaptability Challenges for SMEs:** SMEs grappled with restricted market access, limited resources, and the formidable task of transitioning to online business models. Additionally, their sales were significantly hampered by the diminishing purchasing power of consumers. These sectors were intricately entwined with physical engagements, mobility, and direct interactions, all of which were directly influenced by the stringent restrictions enforced amid the pandemic. The recovery of these sectors in the post-pandemic milieu crucially hinged upon their ability to adapt and innovate in surmounting these multifaceted challenges.

The pandemic caused by COVID-19 has had a significant impact on the economy of Indonesia, which has become a major concern for both the central government and the regional governments. This is of utmost significance in the context of the efforts being made to recover the economy from the effects that this impact has had. A comprehensive analysis of the economic sector and an investigation into the influence of the COVID-19 pandemic on its transformation are the objectives of this study. Following this course of action will allow for the identification of the industries that have the potential for growth and competition. With the purpose of facilitating the economic revitalization of both regional and national economies, the purpose of this document is to provide a comprehensive analysis as well as strategic suggestions.

These industries were the most affected during and after the pandemic in Indonesia for several reasons. **Manufacturing:** Most manufacturing industries faced disruptions in the global supply chain due to travel restrictions and factory closures in several countries during the early stages of the pandemic. This led to production halts and decreased demand for manufactured products. However, this sector also became a focal point in economic recovery due to its significant contribution to the national economy. **Transportation:** Restrictions on air, land, and sea travel during the pandemic hindered transportation activities. The decrease in tourism, passenger travel, and logistics demand significantly affected this sector. However, as the economy recovered, the need for transportation increased to support the revitalized economic activities. **Creative Industry:** The creative industry, particularly associated with arts, culture, and entertainment, was impacted by the closure of entertainment venues and the cancellation of live events during the pandemic. This reduced income for businesses in this sector. However, there was also increased digital adoption and exploration of new ways to present creative products, aiding post-pandemic recovery. **SME Industry:** Micro, Small, and Medium Enterprises (SMEs) were highly vulnerable during the pandemic due to limited resources and market access. Many SMEs were forced to close or reduce operations due to decreased demand and challenges adapting to changing circumstances. However, in the post-pandemic period, many SMEs sought to adapt through digital business models and received support from various government programs aimed at economic recovery.

The investigation into Indonesia's intricate industrial area development dynamics is carried out through the utilisation of a comprehensive case study methodology. Desk research, benchmarking, and in-depth interviews are all components of the qualitative methodology that is utilised in this study (Berawi et al., 2017). In order to perform the analysis tool method, the Location Quotient is utilised (Berawi et al., 2017). The investigation will evaluate the direct and indirect effects of the expansion of industrial areas on the generation of employment opportunities, the diversification of the economy, the advancement of technology, and the distribution of resources. This evaluation will be carried out through the utilisation of extensive data sets and analytical tools.



## LITERATURE REVIEW

### *Regional Economic Development*

According to Todaro (Todaro, 2000), development is a physical reality and motivation for people to strive for a better life through a combination of social, economic, and institutional processes. The three core objectives of development are a) increasing the availability and mastery of distribution of various basic needs such as clothing, food, shelter, health, and security protection; b) improvement of living standards, not only increase in income but also increase in employment, improvement of quality of education, and increased attention to cultural and human values; c) the expansion of economic and social options for individuals and nations as a whole, namely through freedom from dependence not only on people themselves or other countries but also on any forces that have the potential to degrade the dignity of human values. According to Sirojuzilam (Sirojuzilam, 2008), economic development is a multidimensional process that involves significant changes (in the context of economic growth) to both the economic and social structures, reducing poverty, inequality, and unemployment. Efficient economic development involves detailed and meticulous planning regarding available natural resources (SDA). With regional economic development planning, the whole region can be seen as an economic unit in which it contains various elements that are interrelated and interact with one another.

Development, as a physical reality, is a driving force for people to seek a better life. This motivation can be achieved through social, economic, and institutional processes. The primary objectives of development include these three points: Increasing the availability and mastery of distribution of various basic needs, such as clothing, food, shelter, health, and security protection. Improving living standards, not only through increased income but also through increased employment opportunities, improved education quality, and increased attention to cultural and human values. Expanding economic and social options for individuals and nations as a whole through freedom from dependence not only on themselves or other countries but also on any forces that have the potential to degrade the dignity of human values.

Economic development is a multidimensional process involving significant changes in the economic and social structure and efforts to reduce poverty and inequality and address unemployment. Efficient economic development requires detailed and meticulous planning regarding the use of available natural resources. Regional economic development planning allows the entire region to be viewed as a monetary unit containing various interrelated elements that interact with one another.

Arsyad (Arsyad, 1999) states regional economic development describes the process of managing available resources by the government and the community, as well as establishing a relationship between local governments and the private sector, with the goal of generating new employment opportunities and fostering economic expansion in a particular region. Arsyad (Arsyad, 1999) identifies the Neo-Classical Economic Theory, the Economic Base Theory, the Local Theory, the Central Place Theory, the Cumulative Causation Theory, and the Industrial Attractiveness Theory are some of the theories that are identified in relation to regional development. The Neo-Classical Economic Theory contains the fundamental ideas that are necessary for regional development. These ideas include equilibrium and the movement of production factors. In accordance with the Economic Base Theory, the demand for goods and services is the primary factor that contributes to the expansion of the economy in a particular region. When it comes to the factors that influence economic growth in a region, the Local Theory places a strong emphasis on the location. The Central Place Theory is based on the assumption that there is a hierarchy or position of a place, and that each central place is supported by several smaller places below it in terms of providing resources. It is demonstrated by the Cumulative Causation Theory that the worsening or increasing inequality of conditions in neighbouring regions can impede the potential for exports and increase the gap between regions. According to the Industrial Attractiveness Theory, the provision of subsidies and incentives has the potential to facilitate the improvement of a society's market position in the direction of industrialization. The planning of regional economic

development makes it possible to view the entire region as a monetary unit that is comprised of a variety of interconnected elements that interact with one another during the planning process. A traditional neoclassical framework is the foundation upon which the theories of regional development are built. This framework is based on the assumption that the most important factors that determine regional development are factors of endowment and productivity. Regional economics, on the other hand, shifts its primary focus from "space" to "territory" when local growth becomes a generator of both static and dynamic advantages for the firms that are located within it. Economies and agglomeration economies, which refer to the economic benefits of size and diversity brought about by the spatial concentration of economic activity, are the foundations upon which the models and theories of regional development are built. Agglomeration economies are a combination of economies and economies. On the other hand, the spatial concentration of people and economic activity can result in diseconomies, which are price increases of less mobile and scarcer factors such as land and labour, as well as congestion problems. This can lead to the dispersion and de-concentration of economic activity, employment, and population in areas that are less congested.

### ***Regional Economic Growth***

Regional and urban economic analysis is essential in regional and urban economic development, as growth is a crucial element in the broader policies of the region. Regional economic growth refers to the increase in community income that occurs in a specific area, represented by an increase in the added value generated within the region. This growth is measured in terms of real value or constant prices and reflects the remuneration for the factors of production operating in the area. The prosperity of a region is not only determined by the amount of added value created within the region but also by the flow of transfer payments or income received from outside the region, as well as the flow of funds leaving the region (Richardson, 1991). Regional economic growth theory is an important part of regional and urban economic analysis because it provides a framework for understanding the factors that contribute to regional economic development. The increase in income is a result of the efficient and effective use of available resources, which in turn leads to increased productivity and economic growth. Efficient planning in terms of the use of available natural resources is essential for achieving regional economic development. This requires a detailed and meticulous approach to regional economic development, taking into account the unique characteristics and needs of each region.

Sirojuzilam (Sirojuzilam, 2008) highlights the fundamental difference between the analysis of national and regional economic growth, putting an emphasis on the movement of factors as a key factor that impacts the differences in the rates of economic growth in different regions. There is a significant relationship between the possibility of labour and capital movements entering and leaving a region and the growth of the regional economy. Regional economic development and growth occur more quickly in regions that have absolute advantages and an abundance of natural resource wealth. Additionally, regions have comparative advantages if they are more efficient than other regions in terms of production and trade activities. According to the theory of regional economic growth, a region is analysed as an open economic system that is connected to other regions through the movement of flows of commodities and factors of production. The development that occurs in one region has an impact on the growth of other regions in relation to the demand that sectors have for other regions, which in turn encourages the development of the region. The level of economic activity in a region can also be reduced by economic development from another region, which can also have an effect on the interrelationships between regions. Tarigan (Tarigan, 2004) states the Classical Economic Theory, the Harrod-Domar Theory, the Neo-Classical Growth Theory, and the Right Track Theory are some of the other theories of regional growth that are identified.

The Classical Economic Theory posits that the free market economic system creates efficiency and leads to the economy in full employment conditions, ensuring economic growth until it reaches a stationary state. The Harrod-Domar Theory explains that in the regional system, factors of production or excessive production can be exported, and vice versa, if there are factors of production or production results that are lacking, it can import. The Neo-Classical Growth Theory, also known as the Solow-Swan

theory, adheres to the idea that in many cases, the market mechanism can create its own balance, and the government only needs to intervene in the market through policy, both monetary and fiscal. The Right Track Theory (Turnpike) states that each region needs to identify sectors or commodities with great potential and can be developed quickly, both because of natural potential and potential sectors that have competitive advantages to be developed.

In conclusion, the theory of regional economic growth is an important component of both urban and regional economic analysis. This is because it serves as a basis for comprehending the elements that are responsible for the growth of the regional economy. For the purpose of achieving regional economic growth and improving the prosperity of the region, it is essential to have efficient planning along with the effective utilisation of the resources that are available. Economies and agglomeration economies, which refer to the economic benefits of size and diversity brought about by the spatial concentration of economic activity, are the foundations upon which the models and theories of regional development are built. Agglomeration economies are a combination of economies and economies. On the other hand, the spatial concentration of people and economic activity can result in diseconomies of price increase of less mobile and scarcer factors such as land and labour, as well as congestion problems. This can lead to the dispersion and de-concentration of economic activity, employment, and population to areas that are less congested.

### **Shift Share**

Nugroho and Dahur (Nugroho, I., & Dahuri, 2016) explain how the calculation of several economic analysis tools for regional development, including Location Coefficient (Location Quotient or LQ), Coefficient of Specialization (CS), Industrial Concentration Index (ICI), shift-share analysis, Input-Output Analysis. Meanwhile, according to Arsyad (Arsyad, 1999), several measures of economic growth can show the relationship between the regional economy and the surrounding environment as a sector that supports regional economic growth, namely: 1) shift-share analysis; 2) Location Quotients (LQ); 3) Growth Ratio Model (MRP); and 4) Overlay. Shift share analysis is commonly used to identify the source or component of regional growth (Budiharsono, 2005).

One method that can be utilised for the purpose of analysing the comparison between changes in the economic structure of the national economy and those of the regional economy is called shift share analysis. This analysis seeks to determine the performance or productivity of the regional economy by comparing it to a larger regional scope or above, both regionally and nationally. Specifically, the analysis will focus on the regional economy. In addition, this analysis can be used to describe data concerning economic performance in three fields that are interconnected with one another, specifically as follows: (Arsyad, 1999). Primary sector: Focuses on the extraction and processing of raw materials, including agriculture, mining, and fishing. Secondary sector: Involves the manufacturing and industrial processes, including production, assembly, and refining. Tertiary sector: Encompasses various services, including finance, education, healthcare, and tourism.

The strengths and weaknesses of a regional economy, as well as the potential opportunities for growth and the challenges that need to be addressed, can be identified through the use of shift share analysis. Policymakers are able to make educated decisions regarding the promotion of economic growth and development in their region if they compare the changes that have occurred in the economic structure of the regional economy with those that have occurred in the national economy.

A process of comparative analysis of changes in aggregate work by sector with changes in the same industry in the economy that is used as a reference is utilised in order to measure the growth of the regional economy. When it comes to analysing the shift-share analysis, regional economists and economic development specialists frequently employ this method in order to investigate the changes that have occurred in employment within a region. Through this analysis, it is possible to determine the sectors of the economy in which a regional economy possesses competitive advantages over the larger economy. The shift-share analysis is a method that divides the change that occurs over time in an



economic variable, such as employment, within the industries that make up a regional economy into a number of different components.

The proportional shift and the differential shift are the two separate components that make up shift-share analysis. A proportional shift is a method of measuring the degree to which an area's economy has changed, grown, or decreased in comparison to the economy of a larger economic region or reference area. With the help of this measurement, we are also able to determine whether or not the regional economy is concentrated in industries that are expanding at a faster rate than the region that is discussed. On the other hand, differential shift can be utilised in order to ascertain the degree to which the competitiveness of regional (local) industries is dissimilar to that of the regional economy that serves as the reference. Therefore, if the differential shift of an industry reveals a positive value, then that industry possesses a higher level of competitiveness in comparison to the same industry in the economy, which serves as a reference (Nugroho, I., & Dahuri, 2016).

The shift-share analysis is a useful tool for analysing regional statistical data, including items such as output, labour, and per capita income, amongst others. It is also possible to use the shift-share method in a descriptive manner to examine the economic structure of a region and the changes that have occurred within it. This is accomplished by putting an emphasis on specific sectors or industrial growth in the region and projecting economic activity in the region using limited data. By utilising shift-share analysis, one is able to provide a description of the process of determining leading commodities. Both differential shift (DS) and proportional shift (PS) components are used in the process of determining which commodities are superior. During the initial stage, this component is utilised as a criterion for evaluating the performance of the commodity. A DS component that is positive demonstrates the benefits that certain commodities have in comparison to other regions that produce commodities that are virtually identical. A positive PS component, on the other hand, indicates that the industry composition in the region is already relatively good in comparison to the national average. Government officials are able to determine the level of specialisation and competitive advantage that a region possesses by utilising this method.

### ***Empirical Studies***

The dynamic nature of shift share analysis renders it a valuable tool for obtaining insightful information about changes and shifts within economic sectors. This analytical approach unveils alterations in economic sectors, providing a comprehensive understanding of the prevailing trends. While shift share analysis is not a novel method, it has been employed in various studies to investigate diverse economic phenomena. For instance, Rahmawati et al. (Rachmawati et al., 2020) conducted a study titled "Shift Share Analysis of Indonesia During the Covid-19 Pandemic," revealing the significant impact of the pandemic on sectoral shifts in Indonesia. This research sheds light on the repercussions of the Covid-19 pandemic, particularly in the provinces under investigation. In essence, shift share analysis serves as a robust tool for unraveling the intricacies of economic changes and their implications, offering valuable insights for policymakers and researchers alike.

In her study titled "Location Quotient (LQ) Analysis and Shift Share After Natural Disasters in Central Java Province," Suryani (Suryani, 2019) identified pivotal and potentially thriving sectors for development within Central Java Province. These include the expansive trade and retail sectors, automobile and motorcycle repair, food and beverage accommodation services, and education services. The advantageous sector exhibited positive growth and transformative shifts in Java Province, attributed to various factors and the capabilities inherent to Central Java Province. Notably, the province leverages its strengths derived from the significant trade and retail sectors, followed by automobile and motorcycle repair, mining and quarrying, education services, and, lastly, real estate. This research underscores the strategic sectors poised for development, shedding light on the diverse factors contributing to the economic landscape of Central Java Province after natural disasters.

In Abidin's seminal work titled "Research on the Application of Shift Share Analysis on the Transformation of the Agricultural Sector in the Regional Economy in Southeast Sulawesi" (Abidin,

2016), the investigation yields profound insights into the intricate dynamics of shift and share within the context of agricultural transformation. The study discerns that the farming sector in Southeast Sulawesi (SULTRA) not only portrays a vivid illustration of transformative shifts but also assumes a pivotal role in steering regional economic growth, as encapsulated by the Gross Regional Domestic Product (GRDP). Within the broader Southeast Asian economic milieu, the agricultural sector emerges as a positive beneficiary of national growth, wielding a competitive advantage despite its comparatively sluggish pace of development. The cumulative data further attests to a significant net shift of Rp144,868,720 million, underscoring the sector's economic significance within the regional landscape.

Therefore, the study's findings illuminate the agricultural sector's multifaceted impact, encompassing a specialization allocation effect and robust linkages with other sectors. Noteworthy is its positive influence on other sectors, acting as a catalyst and exerting leverage in driving regional output growth. Beyond the quantitative analysis, this research enriches our understanding of the nuanced interplay between the agricultural sector and the broader regional economy. It highlights the sector's far-reaching implications and intricate role in fostering sustainable economic development.

## RESEARCH METHODS

This study adopts a descriptive research methodology employing a quantitative approach, utilizing the mathematical tools of economic analysis in the context of regional development. The focal point of this research comprises the economies of five provinces in Indonesia profoundly impacted by the Covid-19 pandemic in 2020, as evidenced by substantial contractions in their respective Gross Domestic Product (GDP). Specifically, Bali Province exhibited a significant contraction of -9.31 percent, followed by Riau Province with -3.80 percent, Banten Province at -3.38 percent, East Borneo Province registering -2.85 percent, and Yogyakarta DI Province with -2.69 percent.

### *Analysis Method*

Conducted with the aim of identifying sectors with untapped potential for further development and, consequently, revitalizing the economy, this analysis employs shift share analysis to scrutinize alterations in the economic structure. Through the application of this analytical framework, the calculations yield insights into the factors influencing shifts and modifications in the economic fabric of various regions in Indonesia. The equation that underpins this shift share analysis serves as a critical tool in unraveling the intricate dynamics of economic evolution within these regions. This analytical approach not only sheds light on the current state of the economy but also offers valuable foresight into strategic areas for future development, contributing to a nuanced understanding of the economic landscape and opportunities for sustained growth in the Indonesian context.

This analysis aims to investigate the economic sectors that have the potential to drive growth and increase the overall economy in Indonesia during the COVID-19 pandemic. By employing shift share analysis, we can gain insights into the elements that can influence shifts and changes in the economic structure of regions in Indonesia (Suarmanayasa et al., 2019). The equation in question can be represented as follows:

Shift Share Analysis =	$\frac{\text{Change in GDP}}{\text{Change in Economic Structure}}$
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The shift-share analysis will provide an overview of the following:

1. Economic sectors that can contribute to growth and increase the overall economy (Suarmanayasa et al., 2019).

2. The impact of the COVID-19 pandemic on the economic structure and growth potential of these sectors.
3. Strategies and policies can be implemented to capitalize on the growth potential of these sectors.

By understanding these aspects, we can identify the key economic sectors that can drive growth and help Indonesia recover from the COVID-19 pandemic more effectively.

$$G_{ij} = E_{ij} \times r_n$$

$$M_{ij} = E_{ij} (r_{in} - r_n)$$

$$C_{ij} = E_{ij} (r_{ij} - r_{in})$$

$$R_{ij} = G_{ij} + M_{ij} + C_{ij}$$

Information:

$E_{ij}$  = Output in sector i area j

$E_{in}$  = Output in national sector i

$r_{ij}$  = Growth rate of sector i in area j

$r_{in}$  = National sector i growth rate  $r_n$  = National economic growth rate

$G_{ij}$  = National growth of sector i in region j (Indonesia) (Regional Growth Effect)

$M_{ij}$  = Industry mix sector i in region j (Indonesia) (Industry Mix Effect)

$C_{ij}$  = Competitive advantage of sector i in region j (Indonesia) (Regional Shares Effect)

i = Economic sectors under study

j = Regional variables studied by Indonesia

$R_{ij}$  = Change in sector i in region j (Indonesia) (Total Effect)

By the following criteria:

$R_{ij} > 0$  : sector i in province j is classified as progressive

$R_{ij} < 0$  : sector i in province j is classified as conservative

$G_{ij} > 0$  : sector i growth in province j is positively influenced by national growth

$G_{ij} < 0$  : sector i growth in province j is negatively affected by national growth

$M_{ij} > 0$  : sector i growth in province j fast

$M_{ij} < 0$  : sector i growth in province j is slow

$C_{ij} > 0$  : sector i in province j can compete well compared to other provincial regions

$C_{ij} < 0$  : Sector I in Province J cannot compete well compared to other provincial regions.

Moreover, Oppenheim (1980), Benda-Alal (1983), Patton (1991), and Field and MacGregor (1993), as cited in Lukman et al. (2017), underscore the significance of proportional shift (PS) and differential shift (DS) components in the analysis of regional economic growth, prioritizing them over regional share components. DS plays a pivotal role in monitoring variations in growth stemming from an activity within the study area compared to the corresponding activity in the reference area. This, in turn, facilitates the determination of the extent of income change, whether positive or negative, arising from these activities. On the other hand, SF is instrumental in gauging alterations in the growth of an

activity within the reference area in relation to the total activities (GRDP) in that specific region. By representing the quantities of PS and DS on a flat plane, with PS values along the horizontal axis and DS values along the vertical axis, an analysis reveals four distinct categories of relative positions across all regions or economic sectors. These categories, as delineated by Freddy (2001) and expounded upon by Lukman et al. (2017), offer a comprehensive framework for understanding the dynamics of regional economic growth.

Table 1. Relative Position of Economic Sectors of the Region

<b>Differential Shift (DS)</b>	<b>Proportional Shift (PS)</b>	
	Negative (-)	Positive (+)
Positive (+)	<i>Considerable potential</i>	<i>Rapidly expanding</i>
Negative (-)	<i>Dejected</i>	<i>Advancing</i>

Adopted from: Freddy (2021)

A location or sector that is experiencing sluggish growth yet demonstrating latent potential is said to be in Category I. This category is characterised by positive proportional shift (PS) and negative differential shift (DS). This classification is suggestive of an area that is experiencing economic downturn or an industry that has unrealized potential. Category II, on the other hand, is characterised by positive PS and positive DS, and it indicates a sector or region that is undergoing rapid and sustained expansion. As we move on to Category III, which is characterised by negative PS and negative DS, it indicates a region or sector that is struggling with depressed conditions, demonstrating weak competitiveness, and playing a minor role in the general context of the region. Last but not least, Category IV, which is characterised by negative PS and positive DS, encompasses a region or sector that is experiencing a moderate growth rate while simultaneously making significant developmental advances. This is a scenario that is comparable to a depressed region that is transforming into a developing industry.

Additionally, a modified approach to shift share analysis is required in order to successfully evaluate the level of economic specialisation that exists within an area. In the year 1972, Estaban Marguillas made improvements to the shift share analysis technique in order to solve difficulties that were related to allocation and specialisation effects According to Soepono cited in Wati & Arifin (Wati & Arifin, 2019). As a result of this alteration, the shift share equation now includes a new component that is designated as  $E_{ij}$ . This component is a regional variable that is equivalent to  $E_{ij}$ . In the event that the national structure and the regional structure are identical ( $E_{ij} = E_{ij}$ ), then the formula for  $E_{ij}$  is  $E_{ij} = E_j (E_{in} / E_n)$ . The equation  $C_{ij} = E_{ij} (r_{ij} - r_{in})$  is transformed into  $C_{ij} = E_{ij} (r_{ij} - r_{in})$  when  $E_{ij}$  is substituted for  $E_{ij}$  in the equation.  $C_{ij}$ , which has traditionally been utilised to determine if a region's economy possesses a competitive advantage or an uncompetitive superiority in sector  $i$  through the application of conventional shift share analysis, is subject to this alteration. It is possible to determine the allocation effect, which was not previously addressed in terms of a regional variable for sector  $i$  in region  $j$  ( $A_{ij}$ ), by employing the formula technique that was proposed by Soepono According to Soepono cited in Wati & Arifin (Wati & Arifin, 2019) following formula:  $(E_{ij} - E_{ij}^*) (r_{ij} - r_{in})$  is the formula for calculating  $A_{ij}$ , where  $(E_{ij} - E_{ij}^*)$  represents the degree of specialisation that sector  $i$  possesses in region  $j$ . If  $r_{ij}$  is greater than  $r_{in}$ , then the value of  $(r_{ij} - r_{in})$  represents the degree to which sector  $i$  has a competitive advantage in region  $j$ .

As a result of the explanation that was shown previously, it is possible to draw the conclusion that  $A_{ij}$ , which functions as an allocation factor, can be explained by providing two separate components. To begin, it is contingent upon the level of specialisation that sector  $i$  possesses in area  $j$ , which is denoted by the equation  $(E_{ij} - E_{ij}^*)$ . Furthermore, it incorporates a competitive edge, which is represented by the symbol  $(r_{ij} - r_{in})$ . Based on this equation, it can be deduced that when an area concentrates its efforts on

particular industries, those industries are inevitably going to have increased competitive advantages. The potential repercussions of such allocations will be elaborated upon in the following table, which we shall refer to as Table 2.

Table 2. Determinants of Competitive Advantage and Level of Specialization of Economic Sectors of the Region

No.	$r_{ij} - r_{in}$	$E_{ij} - E^*_{ij}$	Competitive Superiority	Degree of Specialization
1	$> 0$	$> 0$	$\sqrt$	$\sqrt$
2	$> 0$	$< 0$	$\sqrt$	x
3	$< 0$	$> 0$	x	$\sqrt$
4	$< 0$	$< 0$	x	X

## Results and Discussion

### Analysis of Relative Position

After carrying out computations and conducting shift share analysis to determine the relative positions within sectors or categories in the business field, the results manifest themselves in the form of a summarised form that is provided in Table 3 below:

Table 3. The Positional Status of the Business Field Sector in Regions Impacted by the Covid-19 Pandemic

Venture Field Category	Bali	Kep. Riau	Banten	Kaltim	DIY
Agriculture, Forestry, Plantations, and Fishing	Grow	Grow	Grow	Grow	Rapid Growth
Mining and Excavation	Grow	Grow	Grow	Grow	Grow
Processing Industry	Backward	Inclined Potentially	Inclined Potentially	Inclined Potentially	Backward
Electricity Procurement and Gas	Backward	Backward	Backward	Inclined Potentially	Inclined Potentially
Water procurement, waste management, waste and recycling	Grow	Grow	Grow	Rapid Growth	Grow
Construction	Inclined Potentially	Backward	Backward	Inclined Potentially	Backward
Big trade and retail; repair	Backward	Backward	Backward	Inclined Potentially	Backward



Transportation and warehousing	Backward	Backward	Backward	Inclined Potentially	Backward
Accommodation and dining drink	Backward	Backward	Backward	Inclined Potentially	Backward
Information and Communication	Grow	Rapid Growth	Rapid Growth	Grow	Rapid Growth
Financial services and insurance	Grow	Grow	Grow	Grow	Grow
Real Estate	Grow	Grow	Grow	Grow	Grow
Company service	Inclined Potentially	Backward	Backward	Inclined Potentially	Backward
Government administration, defense and compulsory social security	Grow	Rapid Growth	Rapid Growth	Grow	Grow
Education services	Grow	Grow	Grow	Rapid Growth	Rapid Growth
Health services and social activities	Grow	Grow	Grow	Rapid Growth	Rapid Growth
Other services	Backward	Backward	Backward	Inclined Potentially	Backward

Source: Processed data

The data that is presented in Table 3 offers a comprehensive analysis of the nature of the economic environment in the province of Bali. A number of categories or sectors within the business fields that have undergone development are included in this description. Agriculture, forestry, plantations, and fishing; mining and quarrying; water procurement, waste management, waste and recycling; information and communication; financial services and insurance; real estate; government administration, defence, and mandatory social security; educational services; and health services and social activities. It is evident that significant progress has been made in these areas through the implementation of various initiatives. However, there are indications that certain industries, such as the construction industry and corporate services, have the potential to experience growth in the future. However, there are some industries that are considered to be underdeveloped. This is due to the fact that they have a low level of competitiveness and contribute very little to the economy of the region. The processing industry, the acquisition of electricity and gas, the wholesale and retail trade, the repair industry, transportation and warehousing, the hospitality and food and drink industry, and other service industries are all examples of companies that fall into this category of underdeveloped industries. Among the many industries that are demonstrating rapid growth, there is not a single one that stands out as particularly noteworthy.

It is abundantly clear that the province of Riau Islands has made significant progress in terms of overall economic growth across a variety of different sectors of the economy. The information and communication sector, along with the government administration sector, the defence sector, and the compulsory social security sector, is at the forefront of experiencing rapid expansion. Other sectors that are also experiencing rapid expansion include the defence sector. Additionally, sectors such as Agriculture, Forestry, Plantations, and Fisheries; Mining and Quarrying; Water Procurement, Waste Management, Waste and Recycling; Financial Services and Insurance; Real Estate; Educational Services;

and Health Services and Social Activities contribute to the overall growing landscape. The Processing Industry sector is becoming increasingly recognised as a sector that possesses the potential for further development, and this recognition is growing continuously. On the other hand, industries that are considered to be underdeveloped include the following: the procurement of electricity and gas; construction; wholesale and retail trade; repair; transportation and warehousing; accommodation and food and drink; corporate services; and other services. There are distinct patterns of economic development and potential that can be observed across the various sectors that make up the province of Banten. Across the entirety of the province, these patterns are visible. Particularly noteworthy is the fact that the Information and Communication sector, along with the Government Administration sector, the Defence sector, and the Compulsory Social Security sector, is demonstrating robust and rapid growth. Among the many different types of businesses, the Processing Industry sector stands out as one that has the potential to experience significant growth in the future. The province is experiencing growth in a number of industries at the same time, including agriculture, forestry, plantation, and fishing, to name a few. The mining and quarrying industry, water procurement, waste management, waste and recycling, financial services and insurance, real estate, educational services, health services, and social activities are some of the other industries that are experiencing growth. On the other hand, the following are some of the industries that are considered to be underdeveloped in Banten: the acquisition of electricity and gas; the construction industry; wholesale and retail trade; repair; transportation and warehousing; lodging and food and drink consumption; corporate services; and other services.

A nuanced picture of the expansion and potential of a number of different industries is revealed within the province of East Borneo. There are a number of sectors that are characterised by rapid advancements, such as the Water Procurement sector, Waste Management, Waste and Recycling, Educational Services, and Health Services and Social Activities. There are a number of industries that are currently demonstrating potential for further development. These include the following: the processing industry, the procurement of electricity and gas, the construction industry, the wholesale and retail trade, the repair industry, the transportation and warehousing industry, the accommodation and food and drink industry, the corporate services industry, and other service industries. Agriculture, forestry, plantations, and fishing are among the notable industries that are experiencing positive growth. Other industries that are experiencing growth include mining and quarrying, information and communication, financial services and insurance, real estate, and government administration, defence, and mandatory social security. It is remarkable that the province does not contain any industry that can be classified as being in a backward state. This anomaly may be attributed to the impetus generated by the decision to relocate the national capital to East Borneo, with the construction sector playing a pivotal role in the decision-making process. Given its capacity to implement a labor-intensive system that absorbs a substantial workforce, particularly individuals who are facing layoffs or those who have been adversely affected by the pandemic, the construction sector emerges as a linchpin for economic recovery. This is because the construction sector is resilient to the impact of the pandemic.

It is becoming increasingly apparent that the province of Yogyakarta is experiencing a dynamic landscape of economic sectors, with notable growth becoming apparent in the following areas: agriculture, forestry, plantation, and fishing; information and communication; education services; health services and social activities; and social activities. Within the province, the Electricity and Gas Procurement sector stands out as a noteworthy area that possesses potential that has not yet been utilised to its full potential. During this time period, the industries that are demonstrating positive growth include the Mining and Quarrying sector, Water Procurement, Waste Management, Waste and Recycling, Financial Services and Insurance, Real Estate, and Government Administration, Defence, and Compulsory Social Security. All of these industries are exhibiting positive growth. In contrast, the following industries are classified as underdeveloped: the Processing Industry sector; the Construction industry; the Wholesale and Retail Trade industry; the Repair industry; the Transportation and Warehousing industry; the Accommodation and Food and Drink industry; the Corporate Services industry; and Other Services.

**Analysis of Competitive Advantage and Level of Specialization**

A comprehensive understanding of the many different categories or sectors that are contained within the realm of business is provided by the results that are derived from computations as well as the Analysis of Competitive Advantage and Level of Specialisation. The results are summarised and presented in Table 4, which provides valuable insights into the complex dynamics of competitive advantage and specialisation across these different industries.

Table 4. Competitive Advantage and Level of Business Sector Specialization in Areas Affected by the Covid-19 Pandemic

<b>Venture Field Category</b>	<b>Bali</b>		<b>Riau Islands</b>		<b>Banten</b>		<b>East Borneo</b>		<b>Yogyakarta</b>	
	Competitive Advantage	Specialization	Competitive Advantage	Specialization	Competitive Advantage	Specialization	Competitive Advantage	Specialization	Competitive Advantage	Specialization
Agriculture, forestry, plantations and fisheries	X	X	X	X	√	X	X	X	√	X
Mining and excavation	X	X	X	X	X	X	X	X	X	X
Industry of processing	X	X	√	X	X	X	√	X	X	X
Electricity Procurement and Gas	X	X	X	X	X	√	X	√		X
Water procurement, waste management, waste and recycling	X	X	X	√	X	√	X	X		X
Construction	√	X	X	√	X	√	X	X		X
Big trade and retail; repair	X	X	X	√	X	√	X	X		X
Transportation and warehousing	X	X	X	X	X	√	X	X		X
Accommodation and dining drink	X	X	X	√	X	√	X	X		X
Information and Communication	X	X	√	X	X	X	X	√		X

Financial services and insurance	X	X	X	X	X	X	X	X	X	X
Real Estate	X	X	X	X	X	X	X	X	X	X
Company service	√	X	X	X	√	X	√	X	X	X
Government administration, defense and compulsory social security	X	X	√	X	X	X	X	X	X	X
Education services	X	X	X	X	X	X	√	X	√	X
Health services and social activities	X	X	X	X	X	X	√	X	√	X
Other services	X	X	X	X	X	X	√	X	X	X

Source: Processed data

The information that is presented in Table 4 sheds light on the competitive landscape in Bali Province. It reveals that the only sectors that have a discernible competitive advantage are the construction sector and corporate services, while the other sectors do not have any competitiveness. It is interesting to note that the province does not have any industry that specialises in the subject matter. When we shift our attention to the province of Riau Islands, we find that a similar pattern emerges, in which the only sectors that stand out as competitive leading sectors are the Processing Industry sector, Information and Communication, and Government Administration, Defence, and Compulsory Social Security. It comes as a surprise that none of the industries in Riau Islands Province exhibit any signs of specialisation.

In the province of Banten, there are specific industries that stand out from the rest due to the fact that they possess discernible advantages over their competitors. Agriculture, forestry, plantation, and fishing are particularly noteworthy industries. Other noteworthy industries include water procurement, waste management, waste and recycling, construction, wholesale and retail trade, repair, accommodation and food and drink, and corporate services. In these areas, there is a significant advantage over other competitors. However, in contrast to the patterns that were observed in the two provinces that came before Banten, none of the industries in Banten exhibit any signs of specialisation. This is in accordance with the patterns that were observed in the two provinces.

The province of East Borneo is home to a wide variety of industries, each of which possesses a significant advantage over their competitors. These industries include the Processing Industry, the Procurement of Electricity and Gas, the Procurement of Water, Waste Management, Waste and Recycling, Construction, Wholesale and Retail Trade, Repair, Transportation and Warehousing, Accommodation and Food and Drink, Corporate Services, Educational Services, Health Services and Social Activities, and Other Services. None of the competitive industries exhibit any signs of specialisation, despite the fact that there is a wide variety of highly competitive industries.

In the province of Yogyakarta, we discover that some of the most competitive industries include agriculture, forestry, plantations, and fishing; the acquisition of electricity and gas; information and communication; educational services; health services and social activities; and the provision of services

related to health and social activities. Nevertheless, none of these sectors exhibit any indications of specialisation in their operations. A shift in a number of regional sectors has been brought to light by the investigation. This shift may have been prompted by the pandemic that was caused by the COVID-19 virus, and it presents challenges for the economy. The responses of the government, such as the implementation of the PSBB in April 2020, have an effect on a variety of aspects, including production, distribution, and operational activities, which in turn have an effect on the performance of the sectors in the regions.

The pandemic that was caused by the COVID-19 virus, for example, has resulted in the creation of opportunities for the telecommunications industry, which has led to the acceleration of the development of that sector. As a result of increased internet usage and a configuration shift in traffic using telecommunications networks, the Director General of SDPPI at the Ministry of Communication and Information Technology (2021) highlights substantial employment growth in the telecommunications sector in the year 2020. He attributes this growth to the fact that the sector is experiencing a significant increase in employment. In addition, information and communication technology (ICT) has developed into an indispensable component of people's lives in a variety of spheres, including the economic, social, cultural, educational, and health spheres, amongst others.

## **Conclusion**

Following the examination of the results and subsequent discussion, the conclusion was reached that the Covid-19 pandemic exerted a significant influence on the sectoral dynamics in Indonesia, particularly within the five provinces that were investigated for this research. After delving deeper into the particulars of shift share analysis, it became clear that every industry in these provinces exhibited a wide variety of competitive advantages that were specific to the province. A number of factors, including the impact of government policies, such as the implementation of the PSBB, can be attributed to this variability. These factors include the unique production capabilities and resources of each province. The policies, in turn, have a ripple effect across a variety of aspects, such as production, distribution, and operational activities, and as a result, they shape the overall performance of sectors within the regions.

Furthermore, the findings of the study revealed that there was a significant lack of specialisation across all industries in the five provinces covered by the study. Due to this absence, it appears that specific business activities within these sectors are not being given sufficient attention. This lack of specialisation may also be the result of suboptimal sector management practices, in addition to the direct influence that the Covid-19 pandemic has had. This highlights the significance of comprehensive sectoral strategies, not only for the purpose of overcoming the challenges posed by external factors such as the pandemic, but also for the purpose of improving the overall efficiency and effectiveness of sectoral operations.

## **Suggestions**

It is still extremely important for the government to step in and intervene in order to hasten the recovery of all economic sectors while simultaneously giving priority to healthcare. The implementation of the National Economic Recovery Programme (PEN), which is a current government programme aimed at revitalising sectors that have been adversely affected by the pandemic at both the regional and national levels, is an important initiative in this regard. The pandemic has had a negative impact on certain industries, and in order to strengthen those industries, concerted efforts should be directed towards enhancing the role of locally-based economies within those industries.

It is strongly recommended that local governments, in their pursuit of regional development, strategically capitalise on the inherent potentials that are present in their respective regions. In order to accelerate the economic recovery process, this entails the formulation of targeted plans that prioritise and encourage the growth of competitive and specialised industries. Within the context of the regional



economy, there is a requirement to increase the output share of sectors that are currently competitive but do not require specialised expertise in the medium term. In a similar vein, efforts ought to be directed towards transforming non-competitive but specialised industries into crucial contributors over the course of time. In addition, it is of the utmost importance to outline specific goals for the development of the regional economy and to speed up the process of integrating digitalization across all economic sectors.

## REFERENCES

- Abidin, Z. (2016). *An Application of the Shift Share Analysis for Transformation of the Agricultural Sector in Economic Areas at South East Sulawesi*. <https://api.semanticscholar.org/CorpusID:132576481>
- Aisyah, D. N., Mayadewi, C. A., Budiharsana, M., Solikha, D. A., Ali, P. B., Igusti, G., Kozlakidis, Z., & Manikam, L. (2022). Building on health security capacities in Indonesia: Lessons learned from the COVID-19 pandemic responses and challenges. *Zoonoses and Public Health*, 69(6), 757–767. <https://doi.org/https://doi.org/10.1111/zph.12976>
- Arsyad, L. (1999). *Pengantar Perencanaan Dan Pembangunan Ekonomi Daerah (Pertama)*. BPFE.
- Berawi, M. A., Miraj, P., & Sidqi, H. (2017). Economic corridor of industrial development in Indonesia. *IOP Conference Series: Earth and Environmental Science*, 109(1), 12032. <https://doi.org/10.1088/1755-1315/109/1/012032>
- Budiharsono, S. (2005). *Teknis Analisis Pembangunan Wilayah Pesisir Dan Lautan*. Pradnya Paramita.
- Curristine, T., Nozaki, M., & Shin, J. (2018). *Developing Infrastructure. Realizing Indonesia's Economic Potential*. <https://elibrary.imf.org/Openurl?Genre=Book&Isbn=9781484337141>
- Deputy Cabinet Secretary for State Documents & Translation. (2021). *Industry Minister: Manufacturing Sector Shows Resilience Amid Pandemic*. <https://setkab.go.id/en/industry-minister-manufacturing-sector-shows-resilience-amid-pandemic/>
- Ekasari, K., Kamayanti, A., Sari, P. A., & Soedarso, E. H. (2023). *Research on Indonesian Manufacturing Companies in the Practice of Corporate Social Responsibility During the Covid-19 Pandemic Era*. Atlantis Press International BV. [https://doi.org/10.2991/978-94-6463-026-8\\_14](https://doi.org/10.2991/978-94-6463-026-8_14)
- Elias, Stephen And Noone, C. (2011). *The Growth And Development Of The Indonesian Economy*. Reserve Bank Of Australia, December (Reserve Bank Of Australia). <https://www.rba.gov.au/Publications/Bulletin/2011/Dec/Pdf/Bu-1211-4.Pdf>
- Irwanti, M., Sufa, S. A., Horri, M., Mulyono, A., & Aprilia, I. (2021). Dinamika Public Relations dalam Komunikasi Korporat di Indonesia Pasca Pandemi Covid-19. *Jurnal Ilmu Komunikasi Andalan*, 4(1), 53–54. <https://jurnal.unma.ac.id/index.php/jika/>
- JudiJanto, L., Lubis, M. M., Riyadi, S., Krisprimandoyo, D. A., & Koentjoro, Y. (2023). Economic Innovation for Global Food Crisis: Technology-based Sustainable Solutions Review. *Journal of Business Management and Economic Development*, 2(01), 443–459. <https://doi.org/10.59653/jbmed.v2i01.574>
- Le Quéré, C., Jackson, R. B., Jones, M. W., Smith, A. J. P., Abernethy, S., Andrew, R. M., De-Gol, A. J., Willis, D. R., Shan, Y., Canadell, J. G., Friedlingstein, P., Creutzig, F., & Peters, G. P. (2020). Temporary reduction in daily global CO<sub>2</sub> emissions during the COVID-19 forced confinement. *Nature Climate Change*, 10(7), 647–653. <https://doi.org/10.1038/s41558-020-0797-x>

- Nugroho, I., & Dahuri, R. (2016). *Pembangunan Wilayah: Perspektif Ekonomi, Sosial Dan Lingkungan*. LP3ES.
- Okyere, M. A., Forson, R., & Essel-Gaisey, F. (2020). Positive externalities of an epidemic: The case of the coronavirus (COVID-19) in China. *Journal of Medical Virology*, 92(9), 1376–1379. <https://doi.org/https://doi.org/10.1002/jmv.25830>
- Pakpahan, A. K. (2020). Covid-19 Dan Implikasi Bagi Usaha Mikro, Kecil, Dan Menengah. *Jurnal Ilmiah Hubungan Internasional*, 20(April), 59–64.
- Puspitawati, E. (2021). Indonesian Industrialization and Industrial Policy: Peer Learning from China's Experiences. *South-South Integration and the SDGs: Enhancing Structural Transformation in Key Partner Countries of the Belt and Road Initiative*, April, 1–18.
- Rachmawati, L., Cahyono, H., Nugraha, J., Watjuba, L., & Hanifa, N. (2020). Shift Share analysis Indonesia masa pandemi Covid-19. *Jurnal Ekonomi Modernisasi*, 16(3), 165–178. <https://doi.org/10.21067/jem.v16i3.5042>
- Richardson, H. W. (1991). *Dasar-Dasar Ilmu Ekonomi Regional*. Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.
- Sirojuzilam. (2008). Disparitas Ekonomi Dan Perencanaan Regional, Ketimpangan Ekonomi Wilayah Barat Dan Wilayah Timur Provinsi Sumatera Utara. *Jurnal Industri Dan Perkotaan*, XII, 1643–1664.
- Suryani, A. S. (2019). *Analisis Location Quotient Dan Shift Share Pascabencana Alam Di Provinsi Jawa Tengah*. [http://www.bbc.com/Indonesia/Berita\\_Indonesia/](http://www.bbc.com/Indonesia/Berita_Indonesia/)
- Tarigan, R. (2004). *Perencanaan Pembangunan Wilayah*. Bumi Aksara.
- Todaro, M. P. (2000). *Pembangunan Ekonomi D Dunia Ketiga, Edisi Ketujuh (Y. Sumiharti, Ed.; 7th Ed.)*. Erlangga.
- Wati, R. M., & Arifin, A. (2019). Analisis Location Quotient Dan Shift-Share Sub Sektor Pertanian Di Kabupaten Pekalongan Tahun 2013-2017. *Jurnal Ekonomi-Qu*, 9(2), 200–213. <https://doi.org/10.35448/jequ.v2i2.7167>
- Widiawaty, M. A., Lam, K. C., Dede, M., & Asnawi, N. H. (2022). Spatial differentiation and determinants of COVID-19 in Indonesia. *BMC Public Health*, 22(1), 1030. <https://doi.org/10.1186/s12889-022-13316-4>