



The Impact of Income Tax Facility Policies on Investment in Specific Business Sectors and Tax Allowances: The Case of Indonesia

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Abstract. Government Regulation Number 78 of 2019 in Indonesia, which provides income tax facilities (tax allowance) for investments in specific business sectors or regions, is evaluated in this study for its effects on community welfare and regional economic growth. The study uses a quantitative methodology to assess the effects of economic and geographic factors on changes in open unemployment rates and economic growth before and after the policy's implementation. It examines the disparate impacts of the 2019 tax allowance policy on provincial unemployment rates, economic growth, and regional investment distribution. The analysis includes data on domestic and foreign investments, unemployment, and economic growth from 34 provinces. Spatial analysis revealed that West Java had the highest foreign investment before the policy, while West Sulawesi had the lowest. This distribution remained unchanged after the policy. Maluku experienced the highest economic growth following the policy, while Bali had the lowest. Between 2019 and 2021, twelve provinces, mostly in Sulawesi, saw economic growth rates above the national average of 2.6%, while 22 provinces, primarily in Papua and Nusa Tenggara-Bali, had growth rates below this average. Banten had the highest unemployment rate before the policy, and Bali the lowest. After the policy, West Java had the highest unemployment rate, while West Sulawesi had the lowest. The results imply that Indonesia's tax allowance policy has affected regional investments, economic growth, and unemployment rates.

Keywords: Investment, Unemployment, Economic Geography.

1 Introduction

Regulations can be used to pursue efforts to create a favourable investment climate. Through regulation, key aspects of the promotion of the investment climate can be addressed, and various interests in relation to investment activities can be balanced and

integrated. Above all, the existence of regulations designed to encourage and facilitate investment provides legal certainty for capital owners to invest and operate their businesses. The government has taken measures to attract domestic and foreign investors by implementing policies that provide incentives and facilities for investors (Law No. 23 of 2014) in order to accelerate the development process through investment.

Article 278 of Law No. 23 (2014) on Regional Government, as amended by Law No. 9 of 2015, states that (1) Regional government administrations shall involve the participation of the community and the private sector in regional development. (2) In order to encourage the participation of the community and the private sector referred to in paragraph (1), regional government administrators may provide incentives and/or facilities to the community and/or investors, which shall be regulated by regional regulations. This gives the local governments the discretionary power to carry out their activities, such as the freedom to make regulations and the freedom to adapt the existing national regulations to the local conditions (Soekarwo, 2003). This study aims to examine the state of investment development before and after implementing policies to incentivize and facilitate investment in provinces across Indonesia and its impact on economic growth and community welfare.

The government has introduced a new regulation, Government Regulation No. 78 of 2019, which provides tax incentives for investment in certain economic sectors and/or regions, with the aim of strengthening regional development, accelerating economic growth and improving public welfare. The objective of this policy is to encourage and expand foreign direct investment (FDI) activities by fostering economic growth, business sector development, legal certainty, and creating a more conducive business climate in sectors and/or regions of high national priority. Additionally, the policy aims to promote equity and accelerate the development of specific sectors and regions. Given the existing regulatory framework, theoretical models, and empirical data, studying investment patterns across Indonesian provinces and their impact on public welfare is a compelling avenue of inquiry. Welfare is measured in terms of economic growth and the open unemployment rate. This research aims to analyze how investment development and public welfare levels have evolved before and after the implementation of incentive policies and investment facilitation under Government Regulation No. 78 of 2019.

2 Literature Review

2.1 Regional Economic Development Theory

Economic development can be defined as an endeavor to foster growth and address issues pertinent to the functioning of business activities (Porter, 1997). New Regional Development, as articulated by Pike et al., characterizes regional economic development as a multifaceted process involving both qualitative and quantitative alterations within the economic framework of a region, which harmonizes social, environmental, and institutional dimensions to realize sustainable and inclusive well-being (Angelidou,

M, 2018). New Regional Development, as articulated by Pike et al., characterizes regional economic development as a multifaceted process involving both qualitative and quantitative alterations within the economic framework of a region, which harmonizes social, environmental, and institutional dimensions to realize sustainable and inclusive well-being (Martin, 2020). (As Blakely, 1994) asserts, the central objective of regional economic development is the creation of prosperity through the mobilization of human, financial, capital, physical, and natural resources to facilitate the production of valuable goods and services. It is anticipated that the role of economic development will exert a beneficial influence on the course of activities, particularly in terms of enhancing employment prospects and augmenting fiscal revenues (Malizia, 1994). The primary objective of regional economic development is to create employment opportunities within sectors that improve the overall quality of life for society, utilizing existing human capital, natural resources, and institutional infrastructure (Blakely, 1994).

The regional development paradigm has undergone a series of shifts over time, aligning with evolving social and political dynamics at the global, national, and regional levels. The failure of traditional top-down regional development policies has prompted a rethinking of economic development strategies, with an increasing emphasis on bottom-up approaches to development, or what is known as local economic development. A similar transition occurred with regard to the development policy of the tin mining sector in Indonesia. Previously, the sector was dominated by the central government, which held the management authority. However, this changed when the local government assumed responsibility for the industry. The new approach to development, as proposed in this model, represents a departure from the traditional paradigm of economic growth. Rodríguez-Pose (2002) offers a summary of the key contrasts between this new model and the traditional approach in Table 1.

Table 1. Differences between Traditional Development and Local Economic Development

Traditional Development Policies	Local Economic Development
A top-down approach where decisions about regions are intervened by the central government	Promotion of development in all areas with initiatives from below
Governed by central government administration	The concept of decentralization encompasses a range of approaches to governance, including vertical cooperation between different levels of government and horizontal cooperation between communities and private bodies.
Development based on sectoral approach The advancement of substantial industrial undertakings has the potential to catalyze a cascading effect on other economic activities.	Development based on a regional approach Maximize the development potential of each region to progressively stimulate the adjustment of local economic systems to the changing economic environment

Financial support, incentives and subsidies as key factors in attracting economic activity	The establishment of crucial conditions conducive to the advancement of economic activities.
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Source: (Rodríguez-Pose, 2002)

This perspective proposes that long-term economic growth can be driven by the type of economic activity (primary, secondary, and services), contingent on the productive unit's adherence to competitive market standards. As production becomes more adaptable, these units can be implemented in various forms, which may yield different outcomes. Theories of economic growth and development tend to prioritize the role of natural resources, while other crucial factors are frequently overlooked. Theories of location emphasize the spatial elements that influence regional economic development. In contrast, theories of infrastructure focus on the significance of infrastructure and the necessity for investment in projects such as industrial parks, roads, airports, and communication networks. In the absence of adequate capacity, the mere presence of natural resources is insufficient to enhance the attractiveness of the business sector. Consequently, theories of regional economic growth and development must integrate both resources and capacity (Bradshaw, 2002). Blakely (1994) underscores the pivotal role of government in regional economic development, identifying several factors that influence regional growth and prosperity. These include natural resources, labor, capital investment, entrepreneurship, transportation and communication infrastructure, industrial composition, technology, export markets, international economic conditions, local government capacity, public spending, and development assistance. Robinson (1989) outlines two contrasting approaches to regional economic development: the corporate center approach and an alternative approach. The key differences between these approaches are presented in Table 2.

Table 2. Regional Economic Development Policy Approach

Dimension	Corporate Center Approach	Alternative Approach
Public and private sector	Positioning of market decisions by the private sector	Positioning of market decisions by the private sector
	The government must create an atmosphere that encourages private investment the public sector	The public sector is responsible for directing private investment decisions so that economic development outcomes are as desired.
Public sector planning	Objectives influencing tax growth and expansion	Objectives affecting the creation of direct benefits for low-income communities and ethnic minorities
	The planning process is relatively inaccessible to low-income groups and ethnic minorities	The planning process is relatively accessible to low-income groups and ethnic minorities
Public sector intervention	Public resources are provided to accommodate private sector needs	Public resources are conditionally provided to ensure the development of specific alternative economies

Dimension	Corporate Center Approach	Alternative Approach
	Interventions aim to spur growth	Interventions aim to generate direct benefits for low-income and ethnic minority communities
	Targeting the growth of sectors such as the services sector, high-tech sector, and tourism sector	Targeted growth of sectors and expected sectors to fulfil economic needs
	Targeting the growth of industry branches	Targeting the establishment of locally owned industries
	Concentration on projects in the central business district and surrounding areas	Decentralization of project sites
	Emphasis on creating employment opportunities for high-skilled workers	Emphasis on local labor needs, including the unemployed, unskilled labor, and manual labor

Source: (Robinson, 1989)

The corporate center approach is an approach that emphasizes urban real estate development and industrial attraction. In contrast to the corporate center approach, the alternative approach seeks to spur economic development activity in underdeveloped regions. Bradshaw (2002) states that regional economic development undergoes 3 phases of development as shown in Table 3 below:

Table 3. Development Phase of *Regional Economic Development*

Aspect	First Phase	Second	Third
Site assets	Provide discounts to attract outside business	Lower taxes and incentivize all businesses	Building regional collaboration
Business focus	Companies from outside	Helping all local companies	Create a better context for relationships between companies
Human Resources	Creating jobs for local people	Develop training programmed	Leveraging labor force training to build businesses
Community base	Physical resources	Social and physical resources	Environmental quality leadership and development

Sources: (Bradshaw, 2002)

The first phase of regional economic development emphasized business attraction. In this phase, companies from outside the region are targeted. In this phase, the local government also offers certain incentives. The second phase of regional economic development continues to focus on business attractiveness, but adds strategies to maintain

and expand businesses and grow new ones. In this phase, local governments offer incentives to businesses that have lost their competitive edge and provide loans for business expansion and assistance in establishing new markets so that businesses can expand locally and globally. Local governments also establish small business units to help small businesses establish and grow. In the third phase of regional economic development, local governments focus on utilizing their resources to support the growth of specific industry clusters. Local governments seek to link technology, human resources and capital to enable firms to compete, so they strengthen the links between schools and universities and the industrial sector by, among other things, providing specialized certification programmed. The core strategy in the third phase is for local governments to help the business sector to expand financially and respond to existing competitive advantages. In this phase, labor skills are critical to a firm's ability to embrace technological change with a range of financing options that include access to low-interest credit, Bradshaw (2002).

Local economic development involves efforts by sub-national governments (local governments) and community-based organizations to stimulate or sustain business activity and employment (Blakely & Blakely, 2002). This process underscores the significance of proactive initiatives to manage and influence economic changes at the local level. The primary goal, according to Blakely & Blakely (2002), is to promote "endogenous development" by creating employment opportunities in sectors that can improve community welfare, using available human, natural, and institutional resources (Krumholz, 1999). Key drivers of local economic development include: economic disparities between regions and cities within a country (Saville, 2017; Eberts, 2005); efforts to reinvent regional identity and enhance competitiveness within both the national and global economy (Cecilia, 2002); empowering communities to take ownership of and determine their economic future (Bradshaw, 2002); and the role of local governments in economic development, policy formulation, and implementation, a consequence of the decentralization of power from national to local governments in some developing countries (Deweese, Lobao, & Swanson, 2003).

Local economic development is a critical factor in achieving sustainable economic growth at the local level. In his review of sustainable development literature, Lindsay (2003) highlights the crucial roles of entrepreneurship, motivation, and community support in fostering entrepreneurial activities. Networks, both within and beyond the community, are essential for entrepreneurs, as they provide access to information and facilitate knowledge sharing (Lindsay, 2003). Lindsay further concludes that effective economic development requires the establishment of supportive institutional and policy frameworks at both national and local levels, ensuring a comprehensive approach that addresses the community's social, cultural, economic, and environmental needs. Similarly, Beer (2002) argues that local economic development strategies aim to enhance an area's economic performance and overall well-being. These strategies are typically focused on reducing unemployment, improving business competitiveness, stimulating economic activity, upgrading infrastructure, attracting investment, and enhancing the quality of life for the community.

The implementation of local economic development involves creating or enhancing an enabling environment that fosters business growth within a region. The focus is on economic revitalization and poverty reduction through entrepreneurship, with small and medium-sized enterprises (SMEs) serving as a key driver of this process. However,

despite their potential, SMEs often struggle due to institutional challenges and a lack of a supportive environment for business activities. Therefore, strengthening the business environment is a strategic measure to achieve the goals of local economic development.

2.2 Direct Impact of Investment on Economic Growth

The main idea underlying investment liberalisation policies in several developing countries is that investment inflows can promote economic growth. This is because investment is a combination of capital stock, knowledge, and technology and has a significant impact on economic growth (Mello, 1997), (Dunning, 1992). Investment can affect economic growth in the form of direct and indirect effects. Some studies found different findings on the relationship between investment and economic growth. (Silvia, D. & Nguyen, 2017), (Okafor, E. I., Ezeaku, H. C. & Izuchukwu, 2015), (Odili, 2015) found a negative relationship between capital investment and exchange rate while (Ugwuegbu, S. U., Okore, A. O. & John, 2013); (Olusuyi, E. A., Samuel, O., Oluyomi, O. D. & Akinbobola, 2016); (Mounkaila, 2017) found a positive and significant relationship between investment and economic growth.

2.3 Impact of Investment on Unemployment

Research conducted by (Kato, 2012) found that the impact of investment on employment in Tanzania is positive. In other words, investment has been able to create jobs during the period 1990-2008. The same finding was also made by (Schmerer, 2012) who wanted to know the impact of investment on labor creation. The result found that investment has given positive impact in reducing unemployment rate.

3 Method, Data, and Analysis

3.1 Economic Geography Analysis

The economic geography dimension analysis method was used to analyses the location of growth areas and the location of underdeveloped areas in the Province of Bangka Belitung Islands in 2004-2013. This analysis uses Geographic Information System (GIS) analysis. The unit of analysis of this research is districts/cities in the Bangka Belitung Islands Province with observation years 2016-2018 (before PP 78/2019) and 2019-2021 (after PP 78/2019). The unit of analysis is 38 provinces throughout Indonesia.

Geographic Information System (GIS) is defined as a tool or medium for entering, storing, retrieving, manipulating, analyzing, and displaying geographic (geospatial) data, which is crucial for supporting decision-making in the planning and management of natural resources, the environment, transportation, urban development, and administrative issues (Burrough & McDonnell, 1998). Arnoff (1989) defines GIS as a computer-based information system that inputs, manages, manipulates, and analyzes data

to provide descriptions. According to Murai (1999), GIS is an information system used to input, store, retrieve, process, analyze, and produce geo-referenced or geospatial data, aiding decision-making in planning and managing land use, natural resources, the environment, transportation, urban facilities, and other public services. GIS has found widespread use in various scientific fields, including management science, business, environmental planning, market analysis, natural resource management, land information, transportation, urban planning, property management, decision-making systems, and land mapping (Pandey & Darshana, 2014). GIS is also valuable for: (1) identifying the location of industries and (2) analyzing spatial clustering in specific areas (Kuncoro, 2013). Some of the procedures involved in GIS analysis are outlined in Table 4.

Table 4. Key Procedures and Activities in Geographic Information System

Procedures	Activities
Obtaining data	▪ Numbering maps and documents, including data coding, data verification and error correction. ▪ Describes existing data sets, especially those from industry surveys published by BPS. ▪ Organising primary surveys. ▪ Interpret or classify data obtained from surveys.
Data processing preparation	▪ Organise digital data structures to select spatial models (by object, network and field) ▪ Transform/convert to a regular or common coordinate system
Basic data or database construction (data storage and data recall)	▪ Modelling the data concept ▪ Define the structure of the data base ▪ Establishing up-to-date procedures ▪ Sending data to the data base ▪ Data calls based on location. ▪ Invoke data by class or attribute.
Spatial/location/region research and analysis	▪ Find the most suitable location based on criteria. ▪ Search for patterns, clusters, pathways and interactions ▪ Modelling and simulating physical and social phenomena.
Graphical display (visualization and interaction)	▪ Creating a map ▪ Digging for data ▪ Creating a three-dimensional view ▪ Creating reports

Source: Jones dalam Kuncoro (2013)

Geographic Information Systems (GIS) is a valuable system for governments, the general public and companies to explain events, predict income and conduct strategic planning (ESRI, 1996) The software used to analyses GIS is ArcGIS version 10.

3.2 Economic Dimension Analysis

The following analytical tools are employed to ascertain whether the Province of Bangka Belitung Islands displays indications of growth with development or growth without development:

1. Average count, which is a set of quantitative data by adding up all data divided by the amount of data available. Mathematically, the average formulation is:

$$X = \frac{\sum_{i=1}^n x_i}{n} \quad (1)$$

The equation represents the calculation of the average, which is derived by summing all individual data points and dividing the total by the number of data points (n). This analysis was conducted by determining the average values of economic growth, poverty rate, unemployment rate, and income distribution inequality, using the economic exploitation index and the Human Development Index, for the Bangka Belitung Province over the period from 2004 to 2013.

2. Mean difference test analysis. The mean difference test analysis was calculated using the following formula:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s^2}{n_1} + \frac{s^2}{n_2}}} \quad (2)$$

4 Result and Discussion

4.1 Spatial Analysis of the Impact of Investment Policy

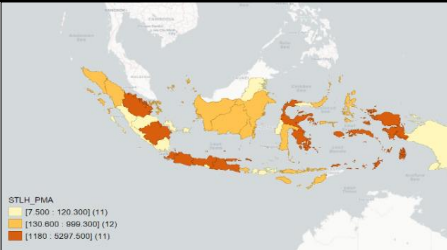
The background of how spatial differences in investment have impacted community welfare throughout Indonesia's regions must be established before a detailed discussion can begin, particularly in light of the implementation of Government Regulation No. 78/2019. The analysis that follows offers a thorough look at the changes in the distribution of investments and how they affect unemployment and economic growth before and after the policy is put into place.

Foreign Investment

A country receives foreign investment when people, businesses, or other entities from other nations invest there with the intention of growing their operations or turning a profit. It can boost capital flows, technology transfer, and job creation, making it a major contributor to economic growth. Government Regulation No. 78/2019 in Indonesia offers tax incentives for investments made in specific industries or geographical areas with the goal of luring more foreign direct investment into the nation. It is anticipated that with this tax facility, foreign investment will be dispersed more fairly throughout Indonesia's regions, improving both the welfare of those living in previously

underdeveloped areas and the country's overall economic growth. The outcomes of the geographic visualization comparing the two periods before and after the regulation's implementation are shown below.

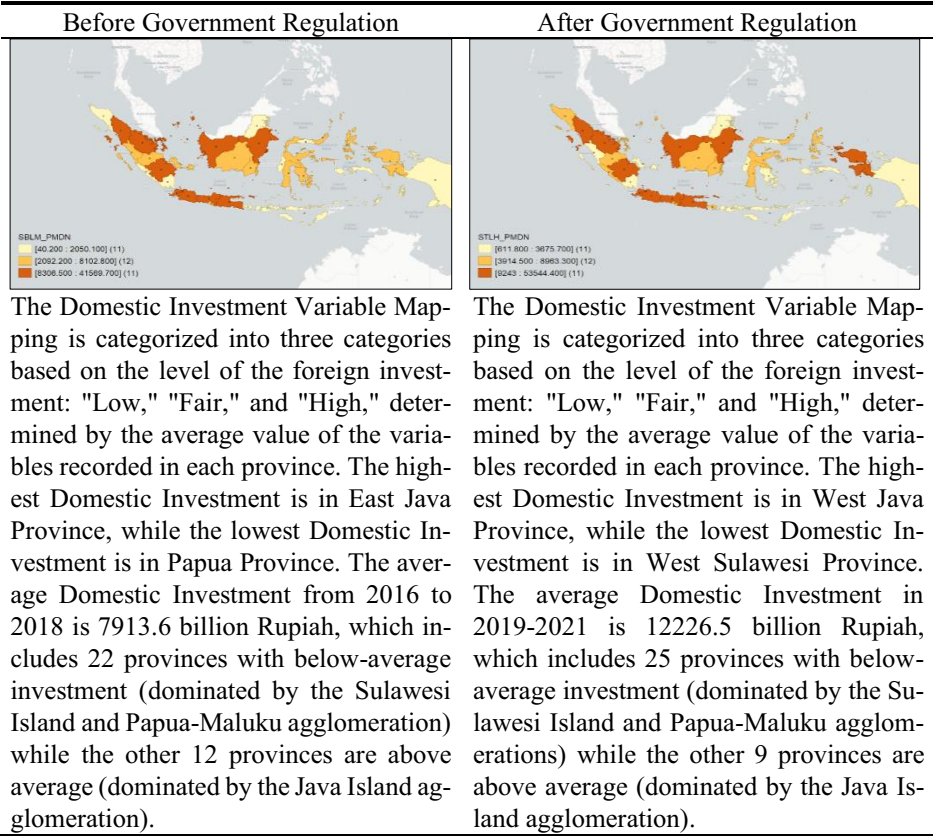
Table 5. Foreign Investment Indicator

Before Government Regulation	After Government Regulation
	
The Foreign Investment Variable Mapping is categorized into three categories based on the level of the foreign investment: "Low," "Fair," and "High," determined by the average value of the variables recorded in each province. The highest Foreign Investment is in West Java Province, while the lowest Foreign Investment is in West Sulawesi Province. The average Foreign Direct Investment in 2016 - 2018 is 887.4 million dollars which includes 23 provinces with below-average investment (dominated by the Sulawesi Island agglomeration and Papua-Maluku) while 11 other provinces are above average (dominated by the Java Island agglomeration).	The Foreign Investment Variable Mapping is categorized into three categories based on the level of the foreign investment: "Low," "Fair," and "High," determined by the average value of the variables recorded in each province. The highest Foreign Investment is in Prov. West Java, while the lowest Foreign Investment is in West Sulawesi. The average Foreign Direct Investment in 2019-2021 is 862.4 million dollars, which includes 23 provinces with below-average investment (dominated by the Sulawesi Island agglomeration and Papua-Maluku) while the other 11 provinces are above average (dominated by the Java Island agglomeration).

Domestic Investment

A domestic investment is one that is made within the nation by domestic people, businesses, or entities in order to grow and develop their enterprises. It is essential to the stability of the national economy because it boosts output, generates jobs, and stimulates regional economic development. In an effort to promote more domestic investment, the Indonesian government, through Government Regulation No. 78/2019, offers tax benefits for investments made in specific industries and geographical areas. In order to expedite inclusive and equitable economic growth, this policy is intended to make sure that investment is not only distributed to areas in need but also concentrated in economically developed regions. The outcomes of the geographic visualization comparing the two periods before and after the regulation's implementation are shown below.

Table 6. Domestic Investment Indicator



Economic Growth

A country's ability to produce more goods and services results in an increase in its gross domestic product (GDP) over a given time period, which is known as economic growth. Good economic growth is a sign of increased employment, welfare, and the fight against poverty. Government Regulation No. 78/2019 in Indonesia aims to promote economic growth by offering tax breaks for investments made in specific areas and industries. This policy seeks to increase economic growth, particularly in areas that were previously underdeveloped, by luring in more foreign and domestic investment. This will lead to more equitable growth throughout Indonesia. The outcomes of the geographic visualization comparing the two periods before and after the regulation's implementation are shown below.

Table 7. Economic Growth Indicator

Before Government Regulation	After Government Regulation
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The Economic Growth Variable Mapping is categorized into three categories based on the level of the foreign investment: "Low," "Fair," and "High," determined by the average value of the variables recorded in each province. The highest economic growth was in Central Sulawesi Province, while the lowest economic growth was in North Maluku Province. The average economic growth in 2016 - 2018 was 5.4%, which included 15 provinces with below-average economic growth (dominated by the Sumatra Island agglomeration) while the other 19 provinces were above average (dominated by the Java Island and Sulawesi Island agglomerations).



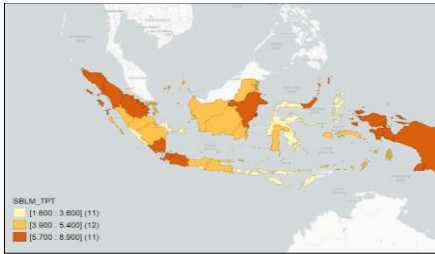
The Economic Growth Variable Mapping is categorized into three categories based on the level of the foreign investment: "Low," "Fair," and "High," determined by the average value of the variables recorded in each province. The highest economic growth is in Maluku Province, while the lowest economic growth is in Bali Province. The average economic growth in 2019-2021 is 2.6%, which includes 22 provinces with below-average economic growth (dominated by the Papua and Nusa Tenggara-Bali Island agglomerations) while 12 other provinces are above average (dominated by the Sulawesi Island agglomeration).

Unemployment Rate

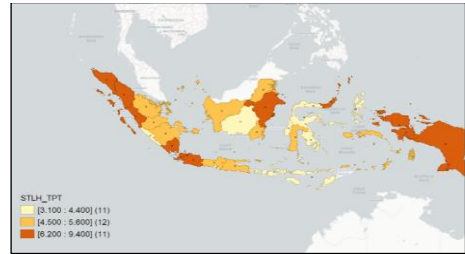
A percentage of the labor force that is actively looking for work but is unable to find suitable employment is considered unemployed; as a result, they are not participating in profitable economic activity. A high rate of open unemployment could be a sign of systemic issues in the economy, such as an imbalance in the supply and demand of labor or a deficiency of investment in projects that generate jobs. Government Regulation No. 78/2019 in Indonesia attempts to lower the open unemployment rate by offering tax incentives to encourage investment in specific industries and geographical areas. In particular in areas with high unemployment rates, it is anticipated that increased investment will result in the creation of more jobs that can accommodate the labor force and lower the unemployment rate. The outcomes of the geographic visualization comparing the two periods before and after the regulation's implementation are shown below.

Table 8. Unemployment Rate Indicator

Before Government Regulation	After Government Regulation
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The Unemployment Rate Variable Mapping is categorized into three categories based on the level of the foreign investment: "Low," "Fair," and "High," determined by the average value of the variables recorded in each province. The highest unemployment is in Banten Province, while the lowest unemployment is in Bali Province. The average unemployment in 2016 - 2018 is 5.0% which includes 20 provinces with unemployment below the average (dominated by the Nusa Tenggara - Bali Island agglomeration) while 14 other provinces are above the average (dominated by the Papua Island and Sumatra Island agglomerations).



The Unemployment Rate Variable Mapping is categorized into three categories based on the level of the foreign investment: "Low," "Fair," and "High," determined by the average value of the variables recorded in each province. The highest unemployment is in Prov. West Java, while the lowest unemployment is in West Sulawesi Province. The average unemployment in 2019-2021 is 5.4% which includes 17 provinces with unemployment below the average (dominated by the Nusa Tenggara-Bali Island agglomeration) while the other 17 provinces are above the average (dominated by the Papua Island, Sumatra Island and Java Island agglomerations).

4.2 Statistics Test of 4 Indicator Variables

The analysis of the significant changes in four important indicator variables—foreign investment, domestic investment, economic growth, and unemployment rate—before and after the implementation of Government Regulation No. 78 of 2019 was done using a Wilcoxon and Paired T-test before moving on to the discussion. This test attempts to evaluate how the policy affects the economic dynamics in different Indonesian regions.

Table 9. Wilcoxon and T-Test Summary

Variables	Alpha	P-Value	Parameter Significant
Foreign Investment	0.05	0.146	Not Achieved
Domestic Investment	0.05	0.000	Achieved
Economic Growth	0.05	0.000	Achieved
Unemployment	0.05	0.002	Achieved

The results of statistical tests performed on four variables that are thought to be impacted by Government Regulation No. 78 of 2019 indicate that there is insufficient impact of the regulations' implementation on foreign investment. However, following

the enactment of Government Regulation No. 78 of 2019, economic growth and the unemployment rate have a significant impact on the domestic investment variable.

5 Conclusion

The spatial analysis revealed that, prior to the implementation of Government Regulation Number 78 of 2019, West Java Province had the highest level of foreign investment, while West Sulawesi Province had the lowest. Meanwhile, after the implementation of Government Regulation number 78 of 2019, the highest Foreign Investment is in West Java Province. The lowest foreign investment remains the same in West Sulawesi Province. Domestic investment before the implementation of the policy was highest in West Java Province, and the lowest was in West Sulawesi Province. Before policy implementation, the highest economic growth was in Central Sulawesi Province, while the lowest economic growth was in North Maluku Province. 15 provinces with economic growth below the average (dominated by the Sumatra Island agglomeration) while the other 19 provinces are above the average (dominated by the Java Island and Sulawesi Island agglomerations). After policy implementation, the highest economic growth was in Maluku Province, while the lowest economic growth was in Bali Province. The average economic growth in 2019-2021 is 2.6%, which includes 22 provinces with below-average economic growth (dominated by the Papua and Nusa Tenggara-Bali Island agglomerations) while 12 other provinces are above average (dominated by the Sulawesi Island agglomeration). Before the policy implementation, the highest Open Unemployment was in Prov. Banten, while the lowest unemployment was in Bali Province. The average unemployment in 2016 - 2018 was 5.0% which included 20 provinces with Open Unemployment below the average (dominated by the Nusa Tenggara - Bali Island agglomeration) while 14 other provinces were above the average (dominated by the Papua Island and Sumatra Island agglomerations). After policy implementation, the highest Open Unemployment is in Prov. West Java, while the lowest unemployment is in West Sulawesi Province. The average unemployment in 2019 - 2021 is 5.4% which covers 17 provinces with. Unemployment is below average (dominated by the Nusa Tenggara - Bali Island agglomeration) while the other 17 Provinces are above average (dominated by the Papua Island, Sumatra Island and Java Island agglomerations).

This study found that investment has encouraged access to labor and influenced economic growth. However, the government needs to encourage investment to be directed towards investment that is orientated towards job creation. Investment should be encouraged with a sectoral approach that affects people's welfare. Investment also has a positive impact on income inequality when it has a positive impact on economic growth that spreads to all sectors of the economy. In addition, what needs to be criticized is that investment must benefit the poor who work in the non-formal sector. It should also integrate a mix of capital stock, knowledge, and technology and have a significant impact on economic growth.

Implication/Limitation and Suggestions

The inability to assess the long-term effects of Government Regulation No. 78/2019 beyond 2021 is one of the limitations of this study. The observed impacts may not fully capture the future trajectory of investments and economic outcomes, as the analysis mainly covers the period before and after the implementation of the policy. Furthermore, the study has limitations in terms of data availability and the geographical scope of the provinces under consideration. Future research could focus on deeper analysis of the sectors most affected by policy and their contribution to employment and poverty reduction. A more granular approach to sectoral investments, especially those targeted at rural and underdeveloped areas, could provide better insights into optimizing policy impact.

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Reference

- Arnoff, S. (1989). *Geographic Information System: A Management Perspective*,. WDL Publications.
- Angelidou, M., Psaltoglou, A., Komninos, N., Kakderi, C., Tsarchopoulos, P., & Panori, A. (2018). Enhancing sustainable urban development through smart city applications. *Journal of Science and Technology Policy Management*, 9(2), 146-169.
- Beer, A. (2002). *Local Economic Development and Community Economic Development in International Context: Background to a Study and Preliminary Findings. Adelaide: School of Geography, Population and Environmental Management. Flinders University.*
- Blakely, E. J. (1994). *Planning Local Economic Development: Theory and Practice*. Sage Publications.
- Blakely, E. J. and T. K. B. (2002). *Planning Local Economic Development: Theory and Practice*. (3rd Editio). SAGE Publication.
- BPS Provinsi Kepulauan Bangka Belitung. (2021). Pangkal Pinang: BPS Provinsi Kepulauan Bangka Belitung
- Bradshaw, B. and. (2002). *Planning Local Economic Development: Theory and Practice* (3rd Ed). SAGE Publication.
- Burroughs, P.A., and McDonnell, R. A. (1998). *Principles of Geographical Information Systems, Oxford*. Oxford University Press.

- Cecilia, W. (2002). Developing Indicators to Inform Local Economic Development in England. *Urban Studies*, 39(10), 1833–1863.
- Deweese, S., Lobao, L., & Swanson, L. (2003). Local Economic Development in an Age of Devolution: The Question of Rural Localities. *Rural Sociology*, 68(2), 182–206.
- Dunning, J. . (1992). The Global Economy, Domestic Governance, Strategies of Transnational Corporations: Interactions and Policy implications. *Transnational Corporations*, 1(3), 7–46.
- ESRI. (1996). *Using ArcView SIG. The Geographic Information System for Everyone*. Environmental Systems Research Institute, Inc.
- Kato, M. A. (2012). The Impact Of Foreign Direct Investment On Employment Creation In Tanzania. *International Journal of Business Economics & Management Research*, 2(1).
- Krumholz, N. (1999). Equitable Approaches to Local Economic Development. *Policy Studies Journal*, 27(1), 83–95.
- Kuncoro, M. (2013). *Mudah Memahami dan Menganalisis Indikator Ekonomi*. UPP STIM YKPN.
- Lindsay. (2003). *Sustainable Economic Development: An Indigenous Perspective*. Auckland,.
- Malizia, E. . (1994). A Redefinition of Economic Development. *Economic Development Review*, 12(2), 83–84.
- Martin, R., & Sunley, P. (2020). Regional economic resilience: evolution and evaluation. *Handbook on Regional Economic Resilience*, 10–35.
- Mello, L. De. (1997). Foreign Direct Investment in Developing Countries: A Selective Survey. *The Journal of Development Studies*, 34(1), 1–34.
- Mounkaila, N. . (2017). Impact of foreign direct investment on economic growth in Nigeria. *IOSR Journal of Economics and Finance*, 8(2), 28–33.
- Murai, S. (1999). *Geography Information System Work Book: Fundamental Technical Course*. National Space Development Agency.
- Odili, O. (2015). Exchange rate volatility, stock market performance and foreign direct investment in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 5(2), 172–184.
- Okafor, E. I., Ezeaku, H. C. & Izuchukwu, O. (2015). A disaggregated analysis on the effects of foreign investment inflows on exchange rate: Evidence from Nigeria. *Journal of Human Social Science: E Economics*, 15(1), 40–48.
- Olusuyi, E. A., Samuel, O., Oluyomi, O. D. & Akinbobola, T. O. (2016). Interactive effects of exchange rate volatility and foreign capital inflows on economic growth in Nigeria. *3rd International Conference on African Development Issues*, 139–145.
- Pandey, J. dan Darshana, P. (2014). *Introduction Geographical System, The Energy and Resources Institute*.
- Robinson, C. J. (1989). Municipal Approaches to Economic Development: Growth and Distribution Policy. *Journal of the American Planning Association*, 283–295.
- Rodríguez-Pose, A. (2002). ‘The Role of the ILO in Implementing Local Economic Development Strategies in a Globalised World’, ILO. International Labour Office.
- Saville, J. F. (2017). “The Hum of Your Valvèd Voice”: Walt Whitman’s Soul and His Democratic Soul Politic. In *Palgrave Studies in Nineteenth-Century Writing and*

- Culture* (pp. 171–219). https://doi.org/10.1007/978-3-319-52506-8_5
- Silvia, D. & Nguyen, C. (2017). Foreign direct investment inflows, price and exchange rate volatility: New empirical evidence from Latin America. *International Journal of Financial Studies*, 5(6), 1–17.
- Ugwuegbe, S. U., Okore, A. O. & John, O. O. (2013). The impact of foreign direct investment on the Nigerian economy. *European Journal of Business and Management*, 5(2), 25–33.

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