Economics Development Analysis Journal 9 (3) (2020)

Economics Development Analysis Journal

http://journal.unnes.ac.id/sju/index.php/edaj

Infrastructure Investment and Its Impact to Regional Development

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Article Info

Hisrtory of Article
Received April 2020
Accepted June 2020
Pusblished August 2020

Keywords:
Regional Development; Infrastructure Development Strategies.

Abstract

This study was conducted in eight strategic regional development in Indonesia that represent the characteristics of strategic development regions in Indonesia by applying the quantitative-qualitative mixed-method approach. The results of the study show that infrastructure provides a tendency to improve regional economies with different variations in the short term in terms of quantity (economic growth, quality aspects (Human Development Index), and variations in regional competitive advantage. Infrastructure investment also has a different impact associated with reducing regional inequality. In some regions, investment in infrastructure is followed by an increase in inequality, which is indicated by an increase in the value of the Theil Index while in other growth center regions, regional inequality has declined. The results from the measurement of regional inequality indicate that more regions are decreasing in regional inequality compared to those experiencing an increase in regional inequality. This study found some strategic development regions that are progressing and growing fast, namely the Batam-Tanjungpinang and Makassar-Pare-pare-Mamuju strategic development regions. The study also found the fast-growing strategic development regions namely; Kupang-Atambua; Gorontalo-Mobagu City; Ambon-Masohi, and Sorong-Manokwari. Regional development still requires multiple strategies to optimize the functions of infrastructure that have been and will be in the future

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ISSN 2252-6560

INTRODUCTION

President of Indonesia, Jokowi is known to have more attention in the development of infrastructure. The President's ideas as outlined in nine ideals known as Nawacita view the importance of building connectivity that helps land, air, and sea connectivity to reach the growth centers in Indonesia that had been rolled out in the previous administration. To accelerate regional development, a strategic area-based infrastructure development strategy was implemented with the concept of strategic development areas) by establishing a number of development poles to accelerate the trickle-down effect of infrastructure development impacts. The important issue of infrastructure development in this era is the theme of connectivity that aspires to connect various water, air, and land infrastructures. Efforts to encourage economic growth with polar growth are not something new and were started by Francois Perroux in the 1950s. The focus of infrastructure development on the administration of President Jokowi became pro and contra in the community because of the large amount of investment that must be funded by the government given the very diverse regional characteristics, Indonesia has 16,056 (BPS, 2018) with a coastline length of 99,093 km (Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia, 2018). Geographical constraints become one of the important issues of regional disparity that want to be answered from the provision of infrastructure. Areas that were initially difficult to reach are expected that with connectivity with growth centers, economic activities will increase. Shackles of poverty in rural areas, outermost areas, border areas and areas that need special attention are expected to be solved through the provision of a variety of infrastructure.

Infrastructure has direct and indirect impacts to help regional economic growth. Regions that do not have good connectivity to growth centers will find it difficult to increase economies of scale. Indonesia needs many growth centers at different scales with more even distribution. One of the roles of infrastructure is to open access to and from centers of economic growth. Provision of roads and bridges, for example, will open up opportunities for economic growth through spillover impacts that cause positive agglomeration through the transportation system ((Melo & Graham, 2018); (Shabani & Safaie, 2018)). Infrastructure can be said as an important foundation for the social and economic activities of the community. In other parts, the process of infrastructure development is also part of sustainable development related to the physical material used whether or not it meets environmental safety standards and not merely encourages trading activities/provision of infrastructure materials (Heard, Hendrickson, & McMichael, 2018).

Furthermore, infrastructure can also be the identity of a region because it can display a variety of unique things in the region, as a landmark of a region or region (Raagma, 2002). In the case of infrastructure development in China and Japan, infrastructure development not only meets economic needs but also as the existence of the strength and maintenance of the country's security. Infrastructure has a role not only to connect the two countries but to provide infrastructure scale that connects the wider regional region by involving large financial institutions (Dadabaev, 2018). Infrastructure development cannot be separated from the development process, especially in areas that are planned to leverage various benefits for the surrounding area.The eight growth centers described in this paper represent the dynamics of Indonesia in reaching infrastructure to serve various economic activities. The economic role of the eight strategic development areas includes a major role in advancing the regional economy into a large agglomeration that invites attraction, investment, and sustainable income. The strategic roles of the eight development areas are described in the following table 1.

The impact of providing infrastructure for regional development does not happen instantly but through a long transmission line namely; the ability of entrepreneurship at the local level, the business climate in the area, local government policy, and socio-culture. Infrastructure cannot be a single variable to drive long-term economic growth. Infrastructure is a basic prerequisite that requires other factors to jointly drive regional economic growth.

Table 1. Economic Potential in Strategic Development Areas

Strategic Development Region (SDRs)	Economic Growth Center: Industrial Area	Center of Food Production Area	Center of City Services	Center of Tourism Area
Medan-Tebing Tinggi-Dumai-Pekanbaru	Sei Mangkei, Industrial Area Regency Simalungun	Regency of Serdang Bedagai	City of Tebingtinggi	Rupat Strategic National Tourism Region, Bengkalis Regency
Batam-Tanjung Pinang	Karimun Industrial Area, Regency of Karimun	Regency of Bintan	City of Tanjungpinang	Lagoi Strategic Tourism Area National and its surrounding areas, Bintan Regency
Kupang-Atambua	Kupang Industrial Area, Regency of Kupang	Regency of Kupang	Atambua Center National Strategic Activity, Belu Regency	Kupang Tourism Region, Kupang Regency
Balikpapan-Samarinda-Maloy	Maloy Special Economic Zone, Regency of East Kutai	Regency of Kutai Timur	Samarinda Center National Strategic Activity	Samarinda Tourism Region
Gorontalo-Kotamobagu	Bone Bolango Integrated Agro Industry Area	Regency of Bone Bolango	City of Kotamobagu	Limboto Strategic National Tourism, Gorontalo Regency
Makassar-Pare pare-Mamuju	Makassar II Industrial Area Regency of Maros	Regency of Mamuju	City of Mamuju, Regency Mamuju	Toraja Strategic National, North Toraja Regency
Ambon-Masohi	Fishery Industial Area, Regency of SBB	Regency of Maluku Tengah	City of Bula, Regency of SBT	Ora Island Tourism Region and Its surrounding
Sorong-Manokwari	Sorong Special Economic Zone, Regency of Sorong	Regency of Manokwari	Ayamaru Center of Regional Activity, Maybrat Regency	Raja Ampat National Tourism Region, Raja Ampat Regency

Source: Ministry Data Public Works and Public Housing, processed, 2017.

In the case study in Silesia, the government participated to develop the economy in a professional manner by involving experts from research centers, as well as requiring the city government to form land development plans designed for investment and industrial revitalization plans (Klekotko & Andrzejewska, 2009). In Indonesia, this form is carried out with a spatial plan and the establishment of a medium-term infrastructure investment plan. The difficulty is that spatial execution often deals with land disputes so that infrastructure provision does not always run smoothly (Resosudarmo & Vidyatama, 2006) found that in the case of Indonesia there was a convergence of conditional economic growth whereby Gross Domestic Product per capita from poorer provinces grew faster than richer provinces in 1993-2002. Determinants of these conditions are trade openness, physical investment, and the role of oil

and gas driving economic growth. The study also noted that differences in per capita income between regions in Indonesia were relatively severe. For this reason, this paper contributes to explaining the pattern of physical investment and its relation to efforts to achieve regional prosperity with the perspective of strategic development areas.

Execution of providing infrastructure to support various strategic development areas in Indonesia has an important mission in improving welfare while reducing inequality between regions. Infrastructure support helps guarantee connectivity that connects the various major roles of growth centers. Geographical constraints in Indonesia as an archipelago make infrastructure funding needs relatively large while additional short-term benefits are not necessarily felt by the regions. Infrastructure is not a single variable but its existence is a prerequisite for the development of an area, especially in an effort to facilitate exports, grow new businesses, and open up various employment opportunities. On the one hand, the determination of a number of strategic areas requires a variety of physical investment support while on the other hand certainty is needed for the benefits of infrastructure to support economic progress. For this reason, patterns need to be elaborated in supporting strategic development areas in Indonesia.

RESEARCH METHODS

This study consisted of primary data and secondary data. The research was preceded by collecting secondary data from various official institutions namely the Central Statistics Agency and the Ministry of Public Works and Public Housing of the Republic of Indonesia. Preliminary data studied in this study are data obtained from the Ministry which consists of data on regional infrastructure-based growth center development. The Ministry of Public Works and Public Housing in 2015 established regional-based infrastructure planning. Regions in Indonesia are divided into 35 strategic development areas. This study utilizes data and information that has been routinely collected by the Ministry in the form of e-monitoring data to ascertain the type of infrastructure project, location distribution and amount of funding. There are three big infrastructure investment data that are used include; roads and bridges, water resources, and other public utilities covered by three directorates general of the Ministry of Public Works.

Infrastructure investment data that collected in the 2017 study included 2015 data because the data recapitulation process that has been done requires quite a long time starting from data input, budget preparation, infrastructure project reporting process from regional variations in Indonesia Variation in regional conditions in Indonesia made the difficulties to update the data quickly. In the field survey conducted in 2017, the complete data of e-monitoring results that could be accessed were 2014 and 2015. For this study, it combines several methods to look at the economic impact after infrastructure investment by using GRDP data

In terms of the beneficiaries of infrastructure, that is, the area is excavated data related to the region including regional profile data, regional potential, spatial plan documentation, strategic development master plan, Gross Domestic Product, and others. The basic data used is data at the regency/city level then aggregated in the form of strategic development area data. The aggregation process uses spatial data guidance to determine regional boundaries within a strategic development area. The data that has been collected is sorted, calculated, and juxtaposed to read the pattern of relations between observed variables, especially in relation to the achievement of prosperity in the regions indicated by regional economic growth data and the Human Development Index.

Secondary data retrieval is then followed by conducting limited discussions with a number of local governments. There have been eight discussions in the area with stakeholders, especially institutions related to the provision of infrastructure in the regions. Field observations were also carried out to strengthen the analysis. The things observed were; suitability of infrastructure with *e-monitoring* information, observing developments in infrastructure development that have been carried out in 2015-2017. Another aspect observed was the achievement of target benefits from infrastructure development. Field studies carried out include;

Sorong and its surroundings, Riau Islands, Palangkaraya and its surroundings, Ambon and its surroundings, and Kupang and its surroundings. The determination of the eight strategic development areas in this study is based on the availability of four characteristics and the location of the existing development areas in Indonesia with the following details:

Table 2. Categorization of the Selection of the Eight Strategic Development Areas

No.	WPS	Group	Location
1.	Metro Medan-Tebing Tinggi-Dumai-Pekanbaru	Integrated Growth Center	Sumatra Island
2.	Balikpapan-Samarinda-Maloy		Kalimantan Island
3.	Makassar-Pare Pare-Mamuju		Sulawesi Island
4.	Batam-Bintan-Karimun		Sumatra Island
5.	Ambon-Masohi	Growth Center in the Middle Phase	Maluku Island
6.	Gorontalo-Bolaang Mongodow		Sulawesi Island
7.	Kupang-Atambua	New Growth Region	Nusa Tenggara Island
8.	Sorong-Manokwari		Papua Island

Source: Ministry of Public Works Data and Public Housing, processed, 2017.

Analysis activities are carried out through several stages. The first stage, descriptive analysis using secondary data, namely Gross Regional Domestic Product data, spatial information. At this stage, large potentials were identified in each of the strategic development areas that represented regional characteristics. The economic potential is presented by the Klassen Typology technique. This typology is arranged in two stages, namely regencies/cities on the total strategic development area and then the aggregation of the behavior of each strategic development area to a total of 8 centers measured. This typology is needed to determine an area that is fast developing, advancing, depressed, or lagging.

The second stage of the analysis is carried out by utilizing the grouping of selected data into regional economic analysis. The economic analysis of this region was applied to measure the performance of infrastructure investment. The software used is *Data Envelopment Analysis* (DEA). The method is a method of measuring the performance of multiple inputs and multiple outputs introduced by (A. Charnes, 1977). Performance measurement, in this case, shows the ability of infrastructure investment in efforts to improve the macroeconomic area of the region which is represented by two outputs namely the quantitative aspect (regional economic growth) and the qualitative aspect (Human Development Index). This method is also applied by (Sebayang, 2018) in measuring the performance of the central-regional government transfer budget in the provision of public goods to support the quality of life of a number of regions in Sumatra and Java.

The third stage of the analysis is to measure regional development imbalances. The measuring instrument used is the Theils Index. In the second stage, the results of the calculation of inequality are superimposed with the amount of infrastructure investment to find out the pattern of relations between regional inequality and infrastructure investment. The proposition prepared at this stage is that investment in infrastructure provides benefits in the form of a reduction in disparity and pushes the region forward.

RESULTS AND DISCUSSION

Typology Of regional Growth Centers In Indonesia, Development strategies for the Indonesian archipelagic nation are not easy given the specific characteristics of the region from various aspects (geography, demography, culture, and sociology). Benefit acceptance in various regions occurs with a variety of existing dynamics. A democratic process by directly electing regional heads opens up opportunities for the presence of a number of regional leaders who encourage a more dynamic regional economy. The results of the identification of regional developments using the Klassen

Typology tool in the strategic development area obtained the following results.

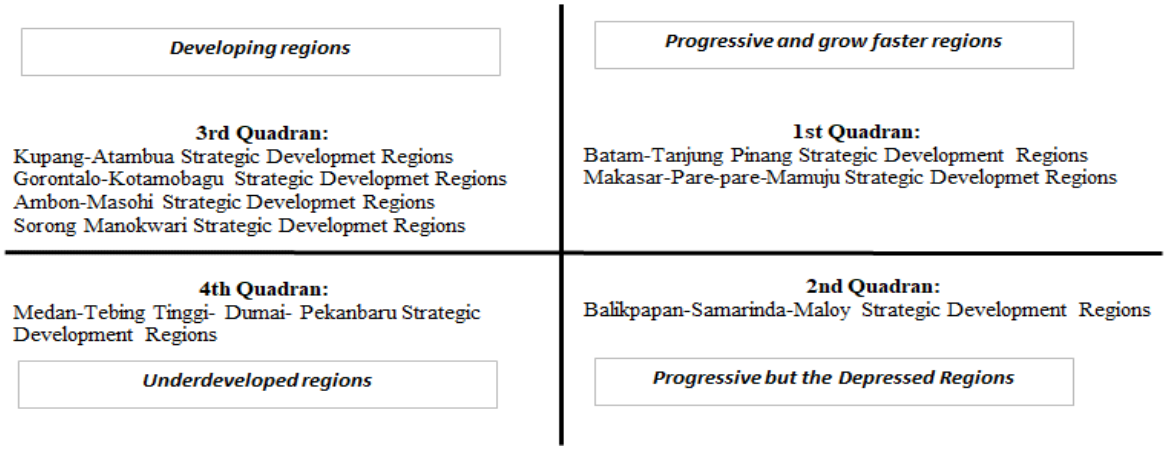

Figure 1. Result of Klassen Typology Measurement in Selected Strategic Development Regions in Indonesia

The current period of infrastructure investment in Indonesia is able to bring a number of regions into the developing and advanced categories. If initially, the foundation of development was in Java, sources of economic power began to emerge in other regions. The mapping results also show that the strategic development area in the fourth quadrant namely Medan-Tebing Tinggi-Dumai-Pekanbaru is still in the backward category when compared to seven other strategic development areas where the GRDP growth in the region is relatively lower than the average of the strategic development regions. One of the problems that appear in the development of infrastructure in Medan-Tebing Tinggi-Dumai was the procurement of land for infrastructure development. Infrastructure development in general required high land acquisition while the process was carried out at several stages. In the initial stage of the development process, land prices was usually still not too high. The influence of the infrastructure development process would be followed by an increase in land prices around the location so that infrastructure development must face land price increases.

Infrastructure Investment Performance For Regional, the regional welfare in this study uses two measures namely the Human Development Index and Regional Economic Growth. Both of these variables represent the quantitative and qualitative aspects of development. Both variables are placed as outputs in the DEA model while infrastructure investment is placed as inputs. Every infrastructure investment for the water resources sector, roads and bridges, and other public utilities is expected to produce optimal development outcomes.

The results of calculations with the DEA model are presented in Table 3 below. Measurements above indicate that the strategic development area of Batam-Tanjungpinang is relatively more efficient than other areas in optimizing the role of infrastructure investment in achieving economic growth and quality of life in their areas. The measurement results also indicate that the Makasar-Pare-pare area, Mamuju is relatively the most inefficient compared to the seven other areas during the period of 2014 and 2015.

This relative efficiency measurement is important to obtain a reference so that areas that have not been efficient in improving performance with various efforts include removing obstacles that occur in the region, especially those related to the provision of land for infrastructure procurement, encouraging pro-active regions to facilitate investment entry, encouraging collective enthusiasm to fill regional economic development and various other efforts that will encourage regional prosperity, in the medium and long run

Table 3. Measurement of Infrastructure Investment Performance in Indonesia's Eight Strategic Development Areas

	Data Envelopment Efficiency Measurement (1-100)	
Strategic Development Regions (SDRs)	2014	2015
Medan-Tebing Tinggi-Dumai-Pekanbaru	80.4	32
Batam-Tanjung Pinang	100	100
Kupang-Atambua	100	48.1
Gorontalo-Kotamobagu	51.5	37.9
Ambon-Masohi	56.6	49.4
Sorong-Manokwari	70.2	41.7
Balikpapan-Samarinda-Maloy	100	74.7
Makasar-Pare-pare-Mamuju	28.7	25.3

Source: Secondary data, processed, 2017

Performance measurement results also have implications for regional benchmarking efforts, especially with limited financial resources. The amount of investment to drive the regional economy is basically a cumulative investment of the past to the present. There are regions that currently receive fewer investment flows but achieve higher development outcomes because the development process has been going on for a long time. The results of benchmarking measurements found a number of problems of relative inefficiency between regions with the results presented in Table 4.

In Table 4, calculation results indicate that investments that have been utilized optimally are the road and bridge infrastructure provided by the Directorate General of Highways. The road is the opening door for the availability of other infrastructure. The variety of public utilities provided by the Directorate General of Human Settlements which is relatively large and varies between places causes difficulties inequitable supply with the same quality standards. For the investment of water resources in Medan-Tebing Tinggi-Dumai-Pekanbaru, it is actually very useful to support food security. Survey results in 2017 showed that many paddy fields that originally relied on rain met their water needs better. Until 2017, infrastructure that supports water security, as well as food security in the region, are; Irrigation Area Development. Sei Batungingging 3600 hectare area (Deli Serdang Regency), Development of the Langau Irrigation Area Network 2000 Ha (Serdang Bedagai Regency), Development of the Paya Lombang Regional Irrigation Network 1558 Ha (Serdang Bedagai Regency), Development of the Area Irrigation System. Consistency in maintaining infrastructure investment performance also still needed in the area. The above findings also indicate that the performance of infrastructure investment in Kupang-Atambua and Balikpapan-Samarinda-Maloy is relatively more efficient in 2014 compared to 2015. The main cause is that a number of infrastructure developments are still ongoing (some work is carried out multiyear) so that the relationship to regional welfare is each area still needs time to operate. The operation of strategic area functions in the regions has also not yet occurred optimally because it is not easy to build the attractiveness of private investment in a short time because it is related to global economic conditions that are also experiencing a decline stage.

Table 4 Results of Relative Efficiency Measurement of Infrastructure Investment Performance with Data Envelopment Analysis Model

Strategic Development Regions	Year	Growth		Human Development Index		Infrastructure Utilized Needed*		Investment
		Actual	Potential	Actual	Potential **	Utilities	Road	Water Resource
Medan-Tebing Tinggi-Dumai-Pekanbaru	2014	4.32	4.32	70.62	95.85	75.77	-	(704.33)
	2015	4.18	4.18	69.11	84.10	80.78	-	96.80
Batam-Tanjung Pinang	2014	6.66	6.66	74.18	74.18	-	-	-
	2015	6.49	6.49	74.51	74.51	-	-	-
Kupang-Atambua	2014	5.25	5.25	62.62	62.62	-	-	-
	2015	5.23	5.23	63.15	85.91	51.89	-	51.89
Balikpapan-Samarinda-Maloy	2014	7.15	7.15	67.08	103.91	48.46	-	62.30
	2015	6.52	6.52	67.59	75.03	62.13	-	62.13
Gorontalo-Kotamobagu	2014	6.53	6.53	67.42	91.41	43.36	-	43.36
	2015	5.91	5.91	67.86	91.31	50.57	-	45.72
Makassar-Parepare-Mamuju	2014	7.16	7.16	61.46	101.20	29.80	-	29.80
	2015	6.05	6.05	61.87	136.22	76.04	-	58.35
Ambon-Masohi	2014	1.99	1.99	74.18	74.18	-	-	-
	2015	0.03	0.03	74.58	74.58	66.28	-	92.59
Sorong-Manokwari	2014	7.52	7.52	67.58	86.83	71.28	-	71.28
	2015	7.40	7.40	68.18	92.73	74.74	-	74.74

Source: Indonesia Statistics Data and *e-monitoring* data of the Ministry of PUPR, processed 2017.
* The intended utilization is when compared to the amount of investment in other locations to create economic growth and the Human Development Index
** Potential calculation is not limited, weights> 100 are assumed to be a maximum of 100 indicating that with existing investments can be followed by optimal benefits in achieving the Human Development Index

The main cause is that a number of infrastructure developments are still ongoing (some work is carried out multiyear) so that the relationship to regional welfare is each area still needs time to operate. The operation of strategic area functions in the regions has also not yet occurred optimally because it is not easy to build the attractiveness of private investment in a short time because it is related to global economic conditions that are also experiencing a decline stage. The difference in investment performance is also strongly influenced by regional position. The Batam region has become the center of old economic activity in Indonesia while other regions will become the center of new economic growth. Efforts to balance the growth of the western region of Indonesia and the eastern region of Indonesia still require investment and great efforts so that prosperity reaches the entire region. Infrastructure investment is the basis for the growth of regional welfare.

Infrastructure Investment And Regional Disparity, in a strategic development area, there is a commitment to cross-regional development not only involving regencies/cities in a particular province but also other regencies/cities. There are times when a strategic area development covers two to three provinces. This regional approach is intended to accelerate the process of spread effect development from various core areas to the surrounding areas. The more growth centers, the prosperity of the region will be achieved in a shorter time. The growth center will help to prevent a buildup of inward migration to Java. The strategic of new economic growth can reduce regional disparities.

The results of calculations using the Theil Index indicate a varied pattern of relationships between infrastructure investment and regional inequality. The strategic development area of Balikpapan-Samarinda-Maloy, Ambon-Masohi area, Medan-Tebing Tinggi-Dumai-Pekan Baru is an area that tends to decrease its regional inequality while in other regions it actually increases its regional inequality. Increasing regional inequality at the beginning of development is something that is natural and needs to be anticipated in the future. Infrastructure investment, especially related to the work of the Ministry of Public Works will attract many economic activities in the future. The government, the community and the business community must ensure that the benefits of this infrastructure can be enjoyed by the people in the region in the form of an increase in per capita income.Many leaps are to support post-investment infrastructure, especially economic secto . The following mapping results of infrastructure investment with the Inequality Theil Index value can be seen in Figure 1. Resolving the problem of regional inequality in Indonesia is heavy work. The execution of massive infrastructures on land, water, and air has just been executed on a large scale. In 2017, a number of infrastructure completion agendas still require additional funding. Based on Ministerial Regulation 13.1/ PRT/M/2015 regarding the Strategic Plan of the Ministry of Public Works and Public Housing 2015-2019, the funding needs for infrastructure development 931.5 billion rupiahs. Infrastructure activities in 2015 can be completed 100% but in 2016 still requires greater funding. In 2016 the state budget allocation can only meet 56.4% of the infrastructure funding needs in 2016 in the Strategic Plan of the Ministry of Public Works and Public Housing and the budget allocation only meets 50.5% of the funding needs in 2017.

That is, infrastructure financing it is also still needed while on the other hand the problem of inequality must also be immediately resolved because the problem of allocating economic resources will affect the ability to optimize existing infrastructure functions. Some areas that have a high Regional Inequality Index are strategic development areas on Kalimantan Island, namely Balikpapan-Samarinda-Maloy. The characteristics of the relatively inclusive industrial estate support inward investment both from within and outside the country. In the short term, the beneficiaries of a new industrial estate can be felt by investors while the indirect benefits will only be felt by the people who take an active role several years later. To overcome the more severe inequality, various economic potentials are encouraged to be more resilient.

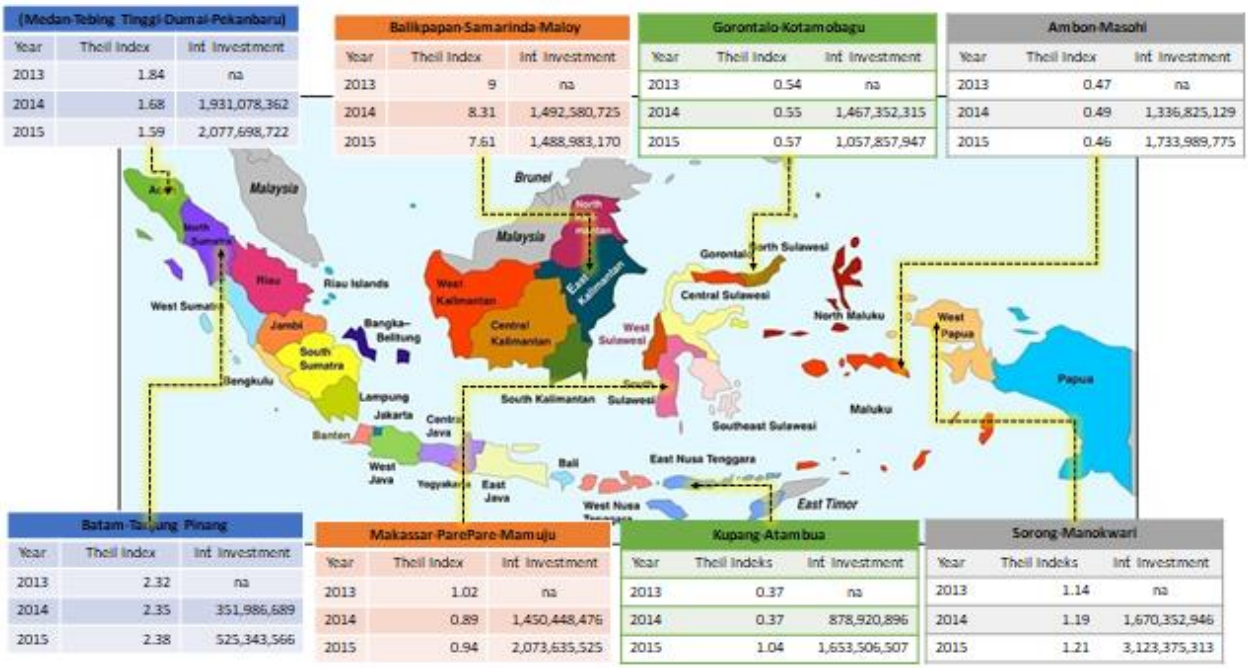

Figure 2. Infrastructure Investment and Theil Index Calculation Results in Eight Strategic Development Areas in Indonesia
Source: Data from the Indonesia Statistics and *E-monitoring* of the Ministry of Public Works and Public Housing, processed, 2017.

Efforts to reduce the problem of regional inequality in the future will depend on the movement of the growth center in the region. Maximum efforts need to be made by decision-makers in the regions. The provision of infrastructure is only a basic prerequisite for developing the region. The synergy of stakeholders who fill the spatial economy will have an impact on the success or failure of the efforts that have been implemented. For example, areas that have been designated as national-scale industrial estates require the attractiveness of private investment in order to enter the provided areas. Built connectivity requires strong and sustainable business relationships. Likewise, areas that are assisted by connectivity as tourism areas require a variety of actual actions to attract tourists to the developed areas. The attractiveness of tourist sites is determined by various driving factors which are a combination of various variables, not just accessibility. Infrastructure is a basic prerequisite, but its success in creating prosperity requires a variety of other prerequisites, especially business actors, the community, and regional leaders.

(Masahisa & Thisse, 2002) stated that the agglomeration benefits manifested in this study from the activities of industrial estates, central tourism zones, agro-industrial centers, and other forms can be achieved if:

The existence of mass products is interpreted as the ability to create internal savings in the production process which is implemented, availability of services on realized inputs, the formation of a highly skilled workforce that produces new ideas. This ability is formed from the accumulation of human resources and direct communication, the existence of modern infrastructure.

Modern infrastructure, in this case, is placed in the fourth aspect. Regional development will not mean to create a strong agglomeration force if it does not fulfill the three things above. The ability of physical infrastructure also needs to be accompanied by the ability of social infrastructure to mobilize various interests of sustainable development. A study conducted by (Saygili & Azim, 2017) showed that a reduction in inequality occurs in Turkey, while regional disparities in infrastructure facilities also occurred and had a significant effect on regional real income growth. Physical infrastructure contributes directly and indirectly rising economic growth. Infrastructure

has become an important instrument for correcting the income gap in Turkey.

In Indonesia, infrastructure is also commonly used as an instrument to manage the income gap, considering that many superior commodities from various regions must be safe and comfortable when shipped and reduce delay times. Studies conducted by (Masnawi, Rustiadi, & Tjahjono, 2011) indicated that an underdeveloped region did not get a good return in business because of differences in infrastructure, an imbalance of the capital-labor ratio so that it gave an impact on low productivity. This regional development imbalance occurs in many countries. Investment and resources often gather in certain regions that naturally attract economic actors also in China (Guohua, 2017); (Liua, Xu, Wang, & Xie, 2017); (Cheong, Li, & Shi, 2018). Regions with geographical superiority were constantly and consistently uniting resources, factors of production, and leading sectors of the economy. These advantages are also marked by different consumption patterns where rich regions tend to have greater public utility needs.

The ability of infrastructure to drive regional progress was also revealed in the study (Habibullah, Dayang, & Hong, 2012) where six regions were shown to have progressed and supported the formation of convergence. Public policy support, in this case, was desired to be more progressive by giving greater freedom to economic actors. This means that convergence occurs that needs to be supported by adequate public policies. National economic performance was followed by the regional economic performance (Patrick & Krieckhaus, 2008). Funding for regional economic development programs by facilitating innovation, providing facilities and equipment, strengthening industrial relations-research institutions, supporting communities, centers of excellence, developing technology, strengthening partnerships and local companies are also needed.

Regional accessibility requires good financial management support. In a case study in seven economic centers in Romania, it was found that the choice of infrastructure financing by utilizing sustainable development programs minimizes negative effects on the environment by taking into account the balance of road, rail and air transportation infrastructure (Iosof, Nitescu, Pintican, Solovastru, & Mircea, 2010). The establishment of a growth center is fundamentally not an inexpensive and easy job. Growth centers need to mobilize various resources including cultural resources because there is no guarantee of success. The power of determination to develop the region requires cooperation without borders and barriers so as to bring prosperity to the people.

Infrastructure financing that was not cheap required a variety of strategies to invite high investment by offering a variety of creative forms of financing ranging from soft loans, concessions, and various forms of public-private partnership. The government's desire to provide infrastructure to all regions was often out of sync with the needs of investors who usually had a business logic approaching markets that generally gathered at the center of growth. In this case, the government needs to open more opportunities for local businesses to encourage the use of infrastructure in each region. This means that the key to the successful use of infrastructure lies in the ability of each region to encourage a variety of long-term productive activities.

CONCLUSION

The results of the discussion above can be concluded that infrastructure investment in Indonesia is beneficial but has not been able to boost large economic capacity in the short term. The infrastructure development process requires a new phase to fill a variety of strong economic activities. The results of the mapping of regional potential are currently more strategic development areas in a fast-growing position, especially areas outside of Java that require the intervention of business power to move resources into sources of prosperity in the regions.

The measurement of investment performance indicates that the old centers of economic growth have relatively achieved better performance because capital accumulation has taken place over a longer period of time. Other centers can make centers with optimal performance as benchmarking regional development strategies. The results of the mapping of inequality patterns and the amount of infrastructure investment indicate that more strategic development areas have experienced a reduction in inequality compared to those

experiencing inequality. Regional disparities that have increased in the era of infrastructure need to be anticipated early on with appropriate public policies for regional progress. Sources of inequality both visible and invisible need to be handled with the best methods including by building partnerships with local governments, the business community, and the community.

Infrastructure is very necessary for regional development. Regions can achieve better levels of welfare and still need a variety of combinations of other factors to achieve a sufficient condition. The important combinations should be explored in further studies including the potential for creative and strong leadership in the post-infrastructure era to complement various economic productivity. Infrastructure requires a variety of supporting factors as a precondition for increasing the added value of a sustainable regional economy.

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