COVID-19: THE ISSUE OF POLICIES AND ITS IMPLICATION FOR EASTERN INDONESIA

Yogi Vidyattama*
Faculty of Business, Government and Law, University of Canberra, Canberra, ACT, 2617, Australia. Email: yogi.vidyattama@canberra.edu.au

Muhammad Halley Yudhistira
Department of Economics, Faculty of Economics and Business, Universitas Indonesia, Depok, Jawa Barat, 16424, Indonesia.
Institute for Economic and Social Research, Faculty of Economics and Business, Universitas Indonesia, Kota Jakarta Pusat, DKI Jakarta 10430, Indonesia. Email: m.halley@ui.ac.id

Meila Husna
Institute for Economic and Social Research, Faculty of Economics and Business, Universitas Indonesia, Kota Jakarta Pusat, DKI Jakarta 10430, Indonesia. Email: meila.husna21@gmail.com

*Corresponding Author

ABSTRACT: As in other countries, the incidence of COVID-19 and its infection rate is not the same in every area in Indonesia. In addition, the different local conditions and situations mean the policy action items often need to be adapted to these factors. This study aims to understand the impact of COVID-19 on Eastern Indonesia's economy compared to other places in Indonesia and the contribution of their governments at provincial and district levels in terms of COVID-19 prevention and economic recovery effort. This study shows that remoteness has not excluded Eastern Indonesia from COVID-19 infection. Despite less requirement for the community to stay home, the mobility data shows that other activities such as retail, recreation, grocery shopping and park use still went down as much as in other parts of Indonesia. However, activities in workplaces dropped considerably less and allowed the economies in Eastern Indonesia to grow better than other areas during the pandemic.

KEYWORDS: Indonesia; COVID-19; Remoteness; Inequality.

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1. BACKGROUND

The struggle against COVID-19 dominated the world economy story in 2020 and 2021. It was not only the disease but also the effort to prevent its transmission that affected the movement of any economic wheel around the world. By mid-April 2022, there had been more than 502 million cases around the world and more than 6 million deaths linked to the virus. In 2021, Indonesia was in the thick of its progression too. Although it started later, more than 2 million cases were recorded and linked to almost 60 thousand deaths. Things were worsening at the 2021 midyear point with an upward trajectory of more than 20 thousand cases a day and more than 400 related deaths.

As in other countries, the incidence of COVID-19 and its infection rate was not the same in every area in Indonesia. In addition, the different local conditions and situations meant the policy action items often needed to be adapted to these factors. To do so, the role of local government in delivering suitable public health services for the COVID-19 situation in their area as well as its prevention strategy became crucial (Ahrens and Ferry, 2020). While the central government provided the overarching policy framework in facing COVID-19, the local governments often took the central role in slowing the pace of the contagion and preparing the local health centres and hospitals to avoid being overrun by the disease (Gupta *et al.,* 2020). This was especially so in decentralised countries such as Indonesia where health authorities and service delivery are in the hands of local government. This put a lot of pressure on their financial capacity despite the increasing role of private practice (Booth *et al.*, 2019) and hence their ability to induce activity in the local economy.

This study aims to understand the impact of COVID-19 on the economy of Eastern Indonesia compared to other places and the contribution of its governments at provincial and district levels in terms of COVID-19 prevention and economic recovery. The novelty of COVID-19 means a limitation on data, so the study was not conducted solely based on econometric analysis. Special attention was given to Eastern Indonesia since its remoteness is a protective factor but it has vulnerability and bears a greater risk if the virus is able to escape to the community. In addition, the decentralisation of health services does not appear to have improved the service capacity in Eastern Indonesia (Booth *et al.*, 2019) and its economy should already be affected by the important prevention measures as well as the economic downturn in other areas in Indonesia.

The term Eastern Indonesia itself needs to be clarified. In some official definitions, such as the one for time zoning, it includes Sulawesi, and

sometimes also parts of Kalimantan. In our study, it refers to Maluku, Papua and Nusa Tenggara (Figure 1) following Hill and Vidyattama (2016). They used the definition to capture the area that not only continues to be a small proportion of the Indonesian economy but also has been slipping behind since the data collected in 1975. Therefore, the area has high poverty incidence and low development measured by the human development index. There are some exceptions, such as provincial capital cities, ports, or well-known tourism areas. This includes Ambon City and Jayapura City, which are the provincial capital cities of Maluku and Papua, respectively. It is important to note that slipping behind does not mean that the development level in these districts was going down, but they were not growing as fast as the average value of Indonesia (Vidyattama, 2014).

This study tries to understand the impact and risk of COVID-19 on Eastern Indonesia. After this introduction, the next section describes the analytical strategy in this study with each analytical component outlined. The analysis starts with understanding the various trends/patterns of COVID-19 infection in different regions of Indonesia. This is followed by the national and local governments and the communities' responses, especially in terms of their economic activities. This leads us to the impact on Eastern Indonesia's economy and hence the preparedness of Eastern Indonesia in facing this situation. The last section concludes this article by synthesizing the lessons learned from this pandemic situation in Eastern Indonesia.

2. ANALYTICAL STRATEGY

The first stage of this analysis looks at the pattern of infection rates in different regions. Given the archipelagic nature of Indonesia, the region will be classified by the main island and Eastern Indonesia, which consists of Nusatenggara, Maluku, and Papua. This means this analysis considers the sea as a natural barrier that can reduce the contagion but at the same time can be a hindrance to aid and vaccine delivery. The analysis aims to confirm the existence of a concentration area of the infection and the pattern of leaking from the concentration area. The existence of a concentration area or the early intrusion in a certain area is important for understanding the potential impact of COVID-19 or its prevention measures.

The second stage is to analyse the government's responses. The literature suggests the importance of government intervention on both the health and economic fronts. For a decentralised country like Indonesia, the question is which level of government should take responsibility for handling the

pandemic and its impact. This means it is necessary to look at the response from the central as well as the local government, including the local government's financial capacity.

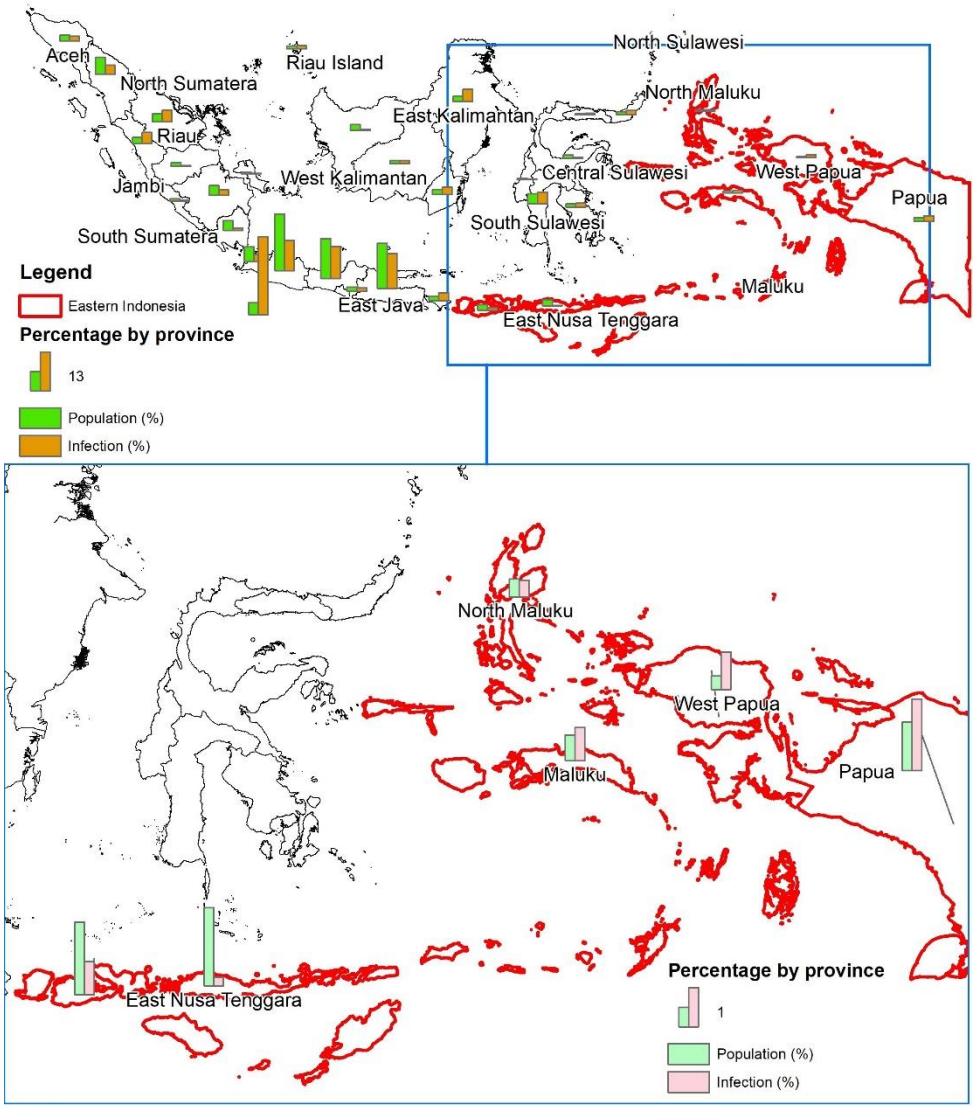

Figure 1. The Area of Eastern Indonesia, the Proportion of Population and COVID-19 Infection for Total Indonesia**.** Source: the proportion of population and infection is calculated by the author from the CEIC Database.

The next stage is to look at the response from the society both to the infection rate and the government policies. This will largely depend on the availability of data. It is reasonable to assume that the response from the community can be seen through its activities. People's activities can be detected through the Google Mobility report that is available at the provincial level (https://www.google.com/covid19/mobility/).

The impact on the economy is mainly measured by gross domestic regional product (GDRP) as the proxy for overall economic activities. We also look at the business confidence through small and medium enterprises' credit growth to help understand the impact. It is important to also have the GDRP data disaggregated by sector to understand how the pandemic and its prevention strategy affect the economy. The downturns in different sectors also have different consequences for society.

The analysis then focuses on the possible impact and preparedness of the Eastern Indonesia province. Some discussion about how the regions, especially their governments, can learn from the experience of other regions as well as their own concludes the analysis.

3. THE SPREAD IN INDONESIA

As discussed in the background, Indonesia has not escaped from the pandemic. It was considered one of the epicentres in mid-2021. In 2020, the cases in Indonesia were concentrated in Jakarta and East Java but then spread across the archipelago to Papua, Sumatra, Sulawesi and Kalimantan. The Ministry of Health provided data through COVID-1919.go.id and infeksiemerging.kemkes.go.id that are compiled in the CEIC Database (CEIC n.d.a). These data show that by the end of August 2021, the total cumulative number of confirmed cases across Indonesia recorded approximately 4 million cases, with the Java area sharing 65.4 per cent of the total number or equivalent to 2.67 million cases. Despite the remoteness of Maluku and Papua in Eastern Indonesia, there were cases of COVID-19 detected in those provinces as early as March 2020.

The cases in Indonesia sharply increased in mid-July 2021 after the new variant, Delta, had run havoc in India in May 2020 (Mahase, 2021). The increasing cases were still concentrated in Java-Bali but spread faster than before in Maluku-Papua. The lack of laboratory facilities meant that it took time to confirm that Delta had spread in Maluku. Delta was also detected in Papua in early August 2021. The two Nusatenggara provinces' experiences were somewhat varied. West Nusatenggara had been cautious since the first wave since it is the direct neighbour of Bali. In addition, West Nusatenggara also has a significant tourism sector. There were a

number of cases but did not increase exponentially while the East Nusatenggara cases surged in July and remained high in August 2021 when the total new cases for Indonesia started to go down.

Despite being the most populated area, Java-Bali still had the highest per capita cases while Eastern Indonesia had the lowest (Figure 2). This is likely due to the main international entrances being located in Jakarta, the northwest of Java, and in Bali. Theoretically, the density and the more urbanized settings in these Islands also increased the potential contagion (Wu, 2021; Khalatbari-Soltani *et al.*, 2020). Although Eastern Indonesia cases were less than half of Java-Bali's per capita figure, this did not mean the health system was not struggling. In addition, the number of cases in Eastern Indonesia was not going down as soon as other places. The positive cases in Eastern Indonesia only started to plunge after mid-August while Java-Bali did in mid-July.

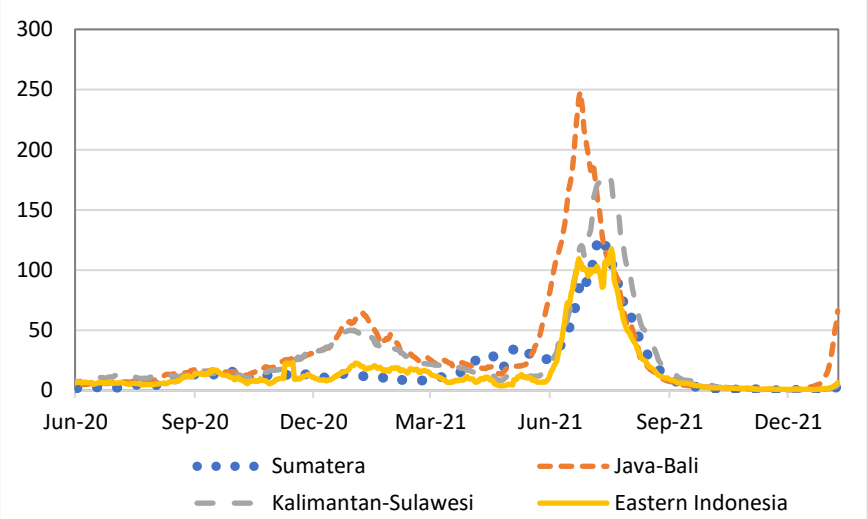

Figure 2. The Proportion of Confirmed Cases (Positive Test) Per Million Population by Region, Seven Days Moving Average. Source: Ministry of Health through CEIC Database.

The distribution of COVID-19 infection in Eastern Indonesia was far from even. This could be exacerbated by a lack of connectivity among districts within the region. Unlike Java-Bali, the districts in Eastern Indonesia are separated not only by distance but also by sea. Therefore, the number of infections in the districts was relatively more independent from

each other and hence, it was necessary to further analyse the pattern in each province.

The reason why the peak in Eastern Indonesia was not immediately going down was due to the cases in West Papua that remained high as well as the late increase of the cases in Eastern Nusatenggara. Although the lack of connectivity among these provinces makes the analysis more difficult, it also shows that the sea barrier and lack of density connecting one place to another could help reduce the contagion of this disease.

With the higher cases per capita in Java-Bali, it is expected that the death toll per capita of Java-Bali was also the highest (Figure 3). The Ministry of Health data on death can also be obtained from the CEIC database. Most regions had peak deaths due to COVID-19 per capita two weeks after the peak of confirmed positive cases. Eastern Indonesia was the exception.

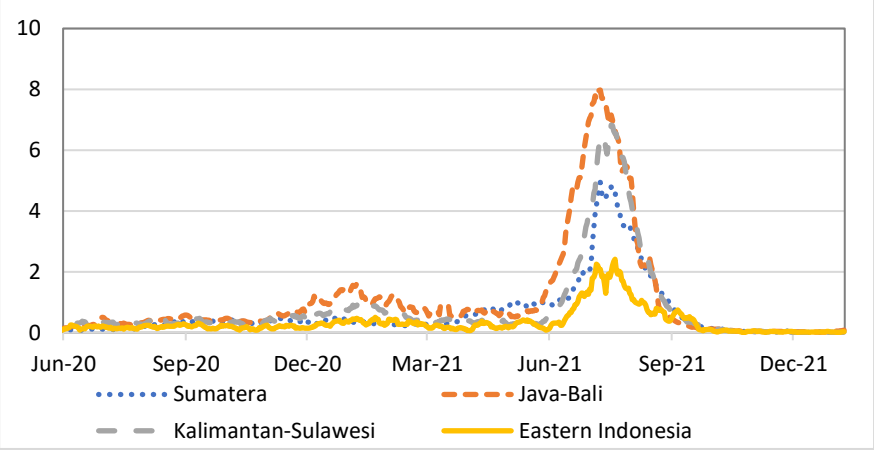

Figure 3. Number of Deaths with COVID-19 Per Million Population by Region, Seven Days Moving Average. Source: Ministry of Health through CEIC Database.

While the deaths per confirmed cases in Java at the peak time was still higher than in other regions, the death rate in Eastern Indonesia decreased even more slowly than the case rate. Therefore, the number of deaths per confirmed case was higher at the end of September 2021 when the death rate in Java-Bali had fallen. This shows that although the low interaction between population centres may reduce the spread of the virus, the lack of infrastructure in each of the population centres means that they still have difficulty to cater for the number of cases, confirming the vulnerability of remote health services.

4. GOVERNMENT RESPONSE

In the early stages of COVID-19, restriction had become an effective policy around the world. This included restriction of movement regarding business activities as well as international travel (White and Hébert-Dufresne, 2020). The neighbouring countries such as Malaysia, Thailand, the Philippines, Australia and New Zealand had various degrees of success with their restrictions but also showed how they could both break the economy by causing business failures, unemployment and public debt, and be broken by relaxing them too fast or miscommunicating with the community (Dyason, 2021; White and Hébert-Dufresne 2020; Li *et al.*, 2020; Hashim *et al.*, 2021; Hapal, 2021; Tantrakarnapa *et al.*, 2020). After the first two confirmed cases on 2 March 2020 in Indonesia, there were pressures and inevitable requests to impose a lockdown strategy amid the rising flow of COVID-19 cases in the neighbouring countries. Therefore, the Government of Indonesia decided to introduce a large-scale social restriction or 'Pembatasan Sosial Berskala Besar' (PSBB). Due to economic considerations, this restriction was not a total lockdown (Anugerah *et al.*, 2021). Instead, several public places became inaccessible, and people's mobility was restricted to prevent the transmission of the virus.

The PSBB policy was implemented from 10 April to 4 June 2020. It was initially applied in several big cities, especially in DKI Jakarta. Central and local governments also had different roles in non-pharmaceutical interventions (NPIs) related to the pandemic, to restrict population mobility. The Law 6/2018 on National Health Quarantine stipulates the right for the central government to announce a national level of restriction, which also means it should bear all costs associated. The same law also accommodates less strict NPIs in the form of large-scale social restrictions that the local government managed. Nevertheless, PSBB allowed local governments to act in restricting people's movements (Andriani 2020; Syuhada *et al.*, 2021). Until April, there were 17 local governments applying the PSBB. From the various regulations that appeared at that time, the provincial governments in Eastern Indonesia took more active roles. This was understandable given they tried to shut access to the islands through ports rather than between districts within the islands. The data indicated there was some success in this approach as the infection rates were relatively under control during the end of 2020 and the start of 2021 periods when there were surges in other areas in Indonesia.

The second wave of the outbreak appeared in the middle of 2021 and led to an extreme upsurge of COVID-19 cases. The Delta variant turned the

health condition of Indonesia upside-down and resulted a new fatality rate. This condition was relatively worse than the initial period of the COVID-19 outbreak in Indonesia. The term PSBB was officially switched to 'Pemberlakuan Pembatasan Kegiatan Masyarakat' (PPKM) from 11 to 25 January and was further extended to 5 April 2021. While the PSBB initiative came from, and therefore overseen by, local government, PPKM was overseen by the central government. However, the restrictions were even less stringent than those under the PSBB policy (Toharudin *et al*., 2021).

The local nature of infection and the concentration of COVID-19 cases increased the significance of the local government's role. However, this also heightened pressure on its capacity and capability, especially in terms of financing (Ahrens and Ferry, 2020). Indonesia has been a decentralised country since 2001 with the main health authority held by more than 500 districts. Disaster and recovery management are also partially handled at the provincial and district levels. In addition to the fiercely contested election in 2019, in which each candidate was endorsed by different heads of district government, these factors contributed to the difficulty in policy communication. There was a competitive atmosphere that hindered integrated government policy communication (Suwarno and Rahayu 2021). Therefore, the involvement of different levels of government was not always well coordinated. Throughout the COVID-19 pandemic, there was variation in restricting mobility policies that represent different roles of each government. This was especially true when some of the provincial and district governments had shown concern since the beginning of the pandemic. On the other hand, there was an indication that the central government was reluctant to implement the national quarantine rule due to economic issues.

The control and regulations from the central government were still crucial. The relaxation after the second wave subsided at the beginning of January 2021, especially given the end of Ramadan month in May had coincided with the arrival of Delta variants in June. Java-Bali was once again the epicentre of the cases since June. Nevertheless, the Eastern Indonesia provinces were more heavily impacted due to the bigger number of cases, especially in the relatively urban areas. For example, the Jayapura hospital bed occupancy rate was more than 96 per cent compared with the number for the whole Papua province was below 60 per cent. A similarly high rate was observed in Sorong – the largest city in West Papua province. Furthermore, the number of cases in Eastern Indonesian provinces remained high well into August, while the Java-Bali provinces had already seen a reduction in their numbers by July. The Nusatenggara provinces,

especially in the East that had been able to manage the previous waves, experienced a high increase in cases even in August. The more relaxed mobility restrictions by the central government and the low vaccine supply in the Eastern provinces were pointed to as some of the explanations, although there were issues of hesitancy and people gathered to conduct protests that contributed to the cases.

Despite differences between local and central government policies on COVID-19 in the early period, there were also small variations in disease management among local governments. The scope of regulations mostly consisted of health protocol implementation strategies, monitoring and evaluation, sanctions, and responsibilities of respective stakeholders including local government itself, societies, and certain particular agents such as health workers and business owners. The notable difference only existed in the elaboration of society as several provinces such as Papua and Papua Barat also included indigenous people in the regulation. Aside from the scope, the variation of regulations in local governments occurred in terms of when the regulations were implemented.

As mentioned earlier, the various actions taken to curb infection affected the local economy and business, and the implementation of lockdowns caused business failures, unemployment and public debt (Dyason, 2021). Therefore, governments were involved not only in announcing and setting restrictions but also in collaborating with local businesses, especially Small and Medium Enterprises (SMEs), to mitigate the impact (Wright, 2020). Local government played a cruicial role in delivering more targeted interventions and assistance (Ahrens and Ferry, 2020). Wright (2020) further notes that this impact on local business also had a direct consequence on local government revenue and put immense financial pressure on local government budgets (Auerbach *et al.*, 2020; Gordon *et al.*, 2020). In Indonesia's case, the central and local governments were allowed to refocus their budget to provide a safety net for households, informal sectors and SMEs. Government regulation number 1/2020 granted the central government to reallocate its budget to address the COVID-19 pandemic. By the end of 2020, almost 600 trillion Rupiah (42 billion US Dollars) had been disbursed to ease the effect of the pandemic under the National Economic Recovery Plan (Penanganan COVID-19 dan Pemulihan Ekonomi Nasional). This allocation was increased to more than 700 trillion Rupiah (49 billion US Dollars) in 2021. Meanwhile, under the Minister of Internal Affairs' Instruction, the local governments were urged to ease the affected economic actors by immediately disbursing existing social safety net funds, optimizing unanticipated expenditure accounts, and reallocating from other sources.

There is an additional issue faced by a decentralised country like Indonesia. As discussed above, the responsibility for managing disaster is shared with the local governments. Further interpretation of the ministry's instruction is for the local governments to provide temporary measures for people who lose their income because of the restriction and for those who are sick and need to isolate. This is an important interpretation since there are groups that could not receive the benefit from the existing mechanism. However, the data from budget realisation show that it was very difficult for the provincial and district governments to provide social donations for the communities during the 2020 COVID-19 pandemic. Therefore, it should be understandable that all levels of government, especially in Eastern Indonesia, were unable to provide adequate social donations.

Given the conditions, the central government launched a program with specific criteria. This program served as a cash transfer mechanism with Village-Fund (Dana Desa) as the source of funding. The cash transfer from Village-Fund, named BLT-Dana Desa, offered a favourable amount of aid and counted 600,000 Rupiah (42 US Dollars) for every household. The program was expected to help vulnerable groups keep their necessities during the hard times. Although there are not many studies to reveal the particular impact of BLT-Dana Desa in Indonesia, similar instruments in other countries have proven to bring a positive impact, especially on the beneficiaries (Varshney *et al.*, 2021) and even the economy (Brum and De Rosa, 2021).

This finding should not come as a big surprise as several factors may limit the ability of the provincial and local governments to increase such spending. Firstly, their budget, known as APBD, is known to be rigid as the budget items are detailed and civil servants argued that alternating the spending items could bring a corruption issue (Vidyattama *et al.*, 2020; Yunan *et al.*, 2023). This issue can be reflected by the 2021 budgets (APBD) where most of the governments allocated a reasonable proportion to this social donation. At the provincial level, it was mostly above 5 per cent while at the district level, it was usually below 5 per cent. Secondly, the fiscal space, defined as the proportion of the budget that has not been spent on routine activities, was relatively small. The small fiscal space was not uniform for all provincial or district governments. It is usually larger for those governments with revenue-sharing schemes and a higher proportion of self-generated revenue, obtained from local taxes and user charges (Vidyattama, 2021). The Ministry of Finance provides the sub-national government budget data at djpk.kemenkeu.go.id/portal/data/apbd.

In addition, COVID-19 affected the capacity of provincial and local governments. This can be seen from the reduction of the self-generated

revenue proportion for most provincial and district governments. The Eastern Indonesia districts and provincial governments seemed to be less affected, except Papua. In 2020, several districts, such as West Manggarai in East Nusatenggara and Dompu in West Nusatenggara, exempted the tax on accommodation, hospitality and entertainment to help businesses. This directly affected their financial capability. Therefore, the central or federal governments need to help local budgets as the need to relieve pressure at the local level could mean higher taxes and spending cuts for local government, which eventually hurts the national economy (Gordon *et al.*, 2020).

At the provincial level, the Eastern Indonesia provincial governments had contrasting results, as Maluku Province had a 13 per cent increase while Papua had a massive 31 per cent reduction in 2020 self-generated revenue compared to 2019 (Figure 4). Most of the Eastern Indonesia districts had reductions in their self-generated revenue but as the proportions of home activities were not as large the percentages were not as big as those in Java-Bali. Nevertheless, as has been discussed, the reduction in retail and recreation activities in Eastern Indonesia did not differ much from other locations in Indonesia.

Another issue that is faced by government response is corruption. The disbursement of the large government assistance was not accompanied by a reliable mechanism. This has allegedly opened the possibilities for amiss practices, such as corruption and illegal fund deduction. One of the highlighted cases was the corruption of the social assistance package by the Minister of Social Affairs (Aqil, 2021). A survey conducted by Indonesia Corruption Watch (ICW) together with SMRC in 2020 found several obstacles in the social assistance distribution. The main obstacle was the illegal fund deduction which accounted for 19.25 per cent of the total complaints. The survey further mentioned several forms of social assistance classified as vulnerable regarding practices such as conditional cash transfers known as PKH and cash transfers from Village-Fund or BLT-Dana Desa.

5. COMMUNITY RESPONSE

The impact of government response depends on community response, especially in terms of the changes in people's activities. It is important to note that this analysis is limited to the economic aspect of people’s activities. It is hard to find a strong correlation between the level of infection per capita and activity at home (the Google Mobility Report) in 2020 at the provincial level. This could be because the relationship can be

both positive and negative. This is because a higher level of infection in the community would motivate people to stay at home (positive relationship). However, staying at home may reduce the level of infection (negative relationship). In addition, the level of development of those locations affected the ability of people to stay at home.

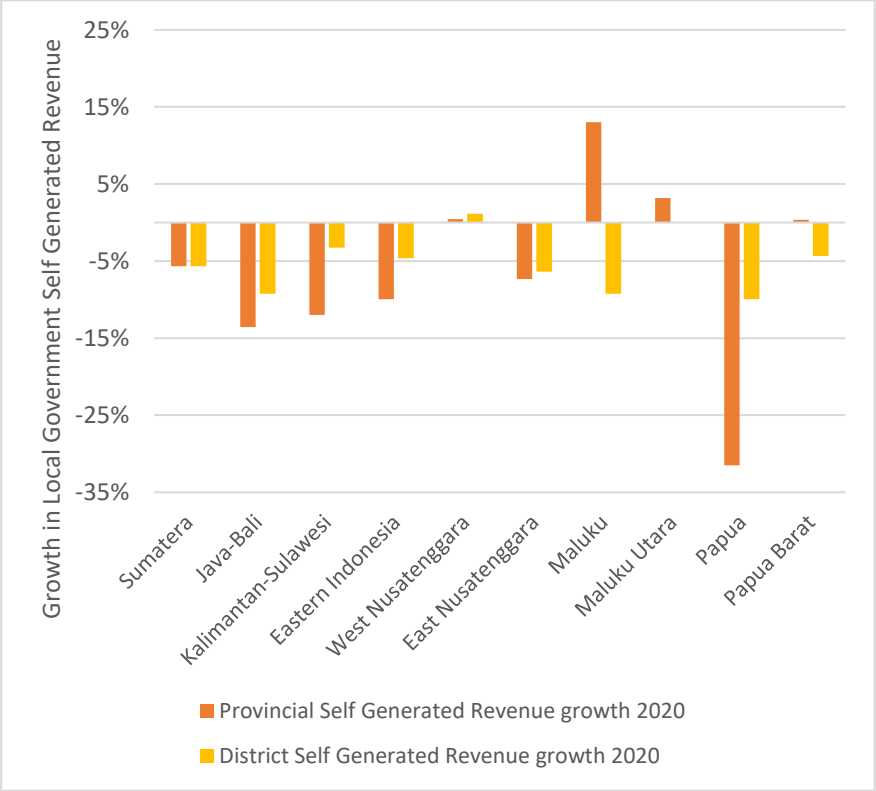

Figure 4. Growth in Local Government Self-Generated Revenue by Region and Eastern Indonesia Provinces. Source: Ministry of Finance.
Notes: Local government self-generated revenue is obtained from local taxes and user charges

Looking at Eastern Indonesia, increased activities at home, or in other words staying at home, was much more difficult than in Java-Bali and, to a lesser extent, other regions in Indonesia (Figure 5). The smallest fall in mobility in Eastern Indonesia was due to the type of occupation that did not allow the ability to work from home and staying at home would likely entail a potentially devastating loss of income. Nevertheless, the trend during 2020 and 2021 in Figure 5 also indicates that the lower infection

rate and hence lower restrictions were also contributing to a lower level of activities at home. In this sense, the remoteness of Eastern Indonesia also contributed to less requirement for the community to stay home. Activities at home dropped in the second half of 2020 until there was a small peak in cases in November. On average, the two Nusatenggara provinces had the highest increase in home activities among Eastern Indonesia provinces in 2020. However, this was because they had the least fluctuating pattern of staying at home and not immediately going back to work (Figure 5). In the case of Papua, there was also an increase in mining activities. Although there were positive cases in those periods, the big mining companies and their miners managed it through shift arrangements. Similarly, North Maluku activities were affected by increasing activities in two industrial estates in the province.

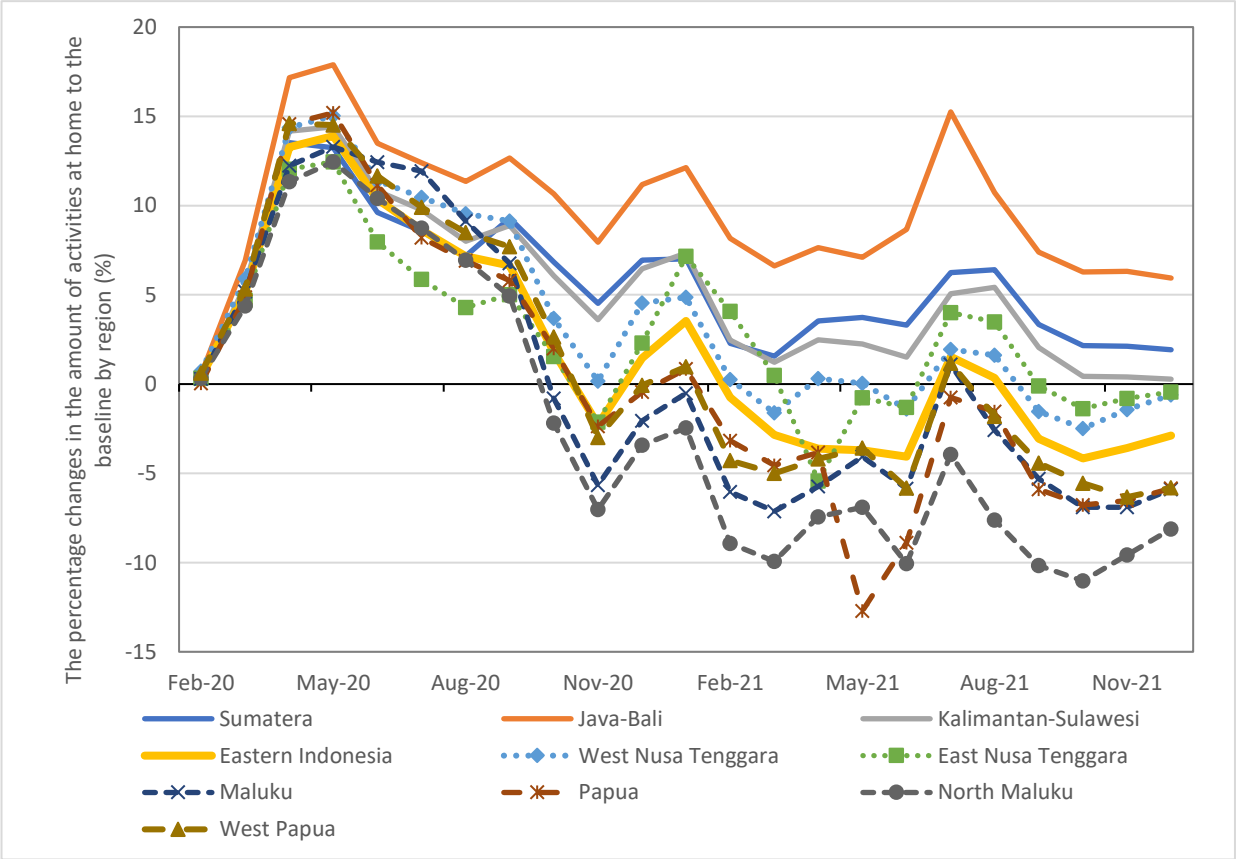

Figure 5. The Changes of Activities at Home by Region and Eastern Indonesia Provinces. Source: Author Calculations from Google Mobility Report.

The Google Mobility report can confirm that a much lower reduction in workplace activities was the reason for the low increase in Eastern Indonesia provinces' home activities. There were only 15 per cent reductions in workplace activities compared to 18 per cent, 19 per cent and 21 per cent for Kalimantan-Sulawesi, Sumatera and Java-Bali, respectively (Table 1). This is also supported by the data that shows the reductions in retail and recreation activities in the Eastern Indonesia provinces were not small. Another concern is that it was more difficult for people in those provinces to switch to private transportation since there was also a low reduction in transit station activities.

Table 1. The Changes in Mobility by Regions in 2020. Source: Author Calculations from Google Mobility Report.

	Changes in people's mobility from baseline					
	Retail and recreation	Grocery and pharmacy	Parks	Transit stations	Workplaces	Residential
Sumatera	-16%	-2%	-11%	-32%	-19%	8%
Java-Bali	-19%	-3%	-15%	-34%	-21%	12%
Kalimantan-Sulawesi	-18%	-3%	-10%	-32%	-18%	8%
Eastern Indonesia	-17%	-3%	-10%	-28%	-15%	6%
West Nusa Tenggara	-16%	-3%	-17%	-38%	-17%	8%
East Nusa Tenggara	-11%	1%	0%	-17%	-10%	5%
Maluku	-22%	-7%	-8%	-32%	-21%	6%
Papua	-22%	-11%	-10%	-26%	-17%	6%
North Maluku	-18%	12%	-11%	-27%	-17%	4%
West Papua	-19%	-4%	-27%	-39%	-19%	7%

Notes: The number is the percentage difference of the average activities from March to December 2020 to baseline, which is the median value from the 5-week period Jan 3–Feb 6, 2020.

Stronger actions were taken by local governments in Papua, especially after two COVID-19 cases were detected as early as March 2020. The average increase in activities at home in 2020 was at 6.3 percent and 6.9 percent for Papua and West Papua, respectively (Table 1). This was higher than other Eastern Indonesia provinces but less than provinces in other

regions, especially in Java-Bali. The reduction of workplace activities in West Papua was relatively high although it was not at the level of Java-Bali. The main reduction in West Papua was in transit station activities. This was a bit different to the Papua province where the reduction of activities was distributed more evenly. The fair distribution of activities reduction was also seen from the two Maluku provinces with one distinction – the activities around grocery and pharmacy increased in North Maluku and by a considerable proportion. This indicated that panic buying may have occurred in North Maluku. There are various caveats in analysing these Google mobility data. Besides the different types of occupation and income levels discussed above, the infrastructure such as electricity, internet connection and distribution network also affected the ability to stay at home. For people in Eastern Indonesia provinces in particular, it was also difficult to switch to private transportation as indicated by the low reduction in transit station activities.

6. ECONOMIC IMPACT

Reductions in activities, resulting from both restrictions and infections, impact economic performance. Furthermore, the economy has been impacted by the low or negative growth of its trading partners, and the decline of international tourists and domestic personal trips, especially in hotels, restaurants, and transportation sectors (Hartono *et al.*, 2021). The implementation of PSBB to prevent virus transmission led to a temporary halt in economics and business activities as the number of cases increased. Often seen as one of Indonesia's engines of growth, a fall in consumption affected the Indonesian economy significantly. Government stimulus by increasing the allowable deficit in the budget was important but the fall in revenue as the economy slowed down limited the ability of the government to help the situation (Olivia *et al.*, 2020). The Indonesian economic data are provided by Statistics Indonesia and can be accessed through the CEIC Indonesia Premium Database (CEIC n.d.b). The Gross Regional Product (GRP) as the most common indicator to measure these macroeconomic activities had -5.32% year-on-year (y.o.y) negative growth as recorded in the second quarter of 2020. Java-Bali was the region that experienced the biggest hit. Other regions followed to endure negative growth.

Eastern Indonesia was the least affected among the regions. Nevertheless, not all of its provinces faced the same challenges in the pandemic. Although it was not continuous, Papua and North Maluku were able to grow at the time of the pandemic (Figure 6). Although growing well in the beginning of the pandemic, West Nusatenggara's GRP dropped at

the end of 2020 when there was a second wave, even though there were not many cases in the province itself, while East Nusatenggara plunged in the first quarter of 2021. Both provinces returned to positive growth afterwards. West Papua was the province most severely affected in Eastern Indonesia.

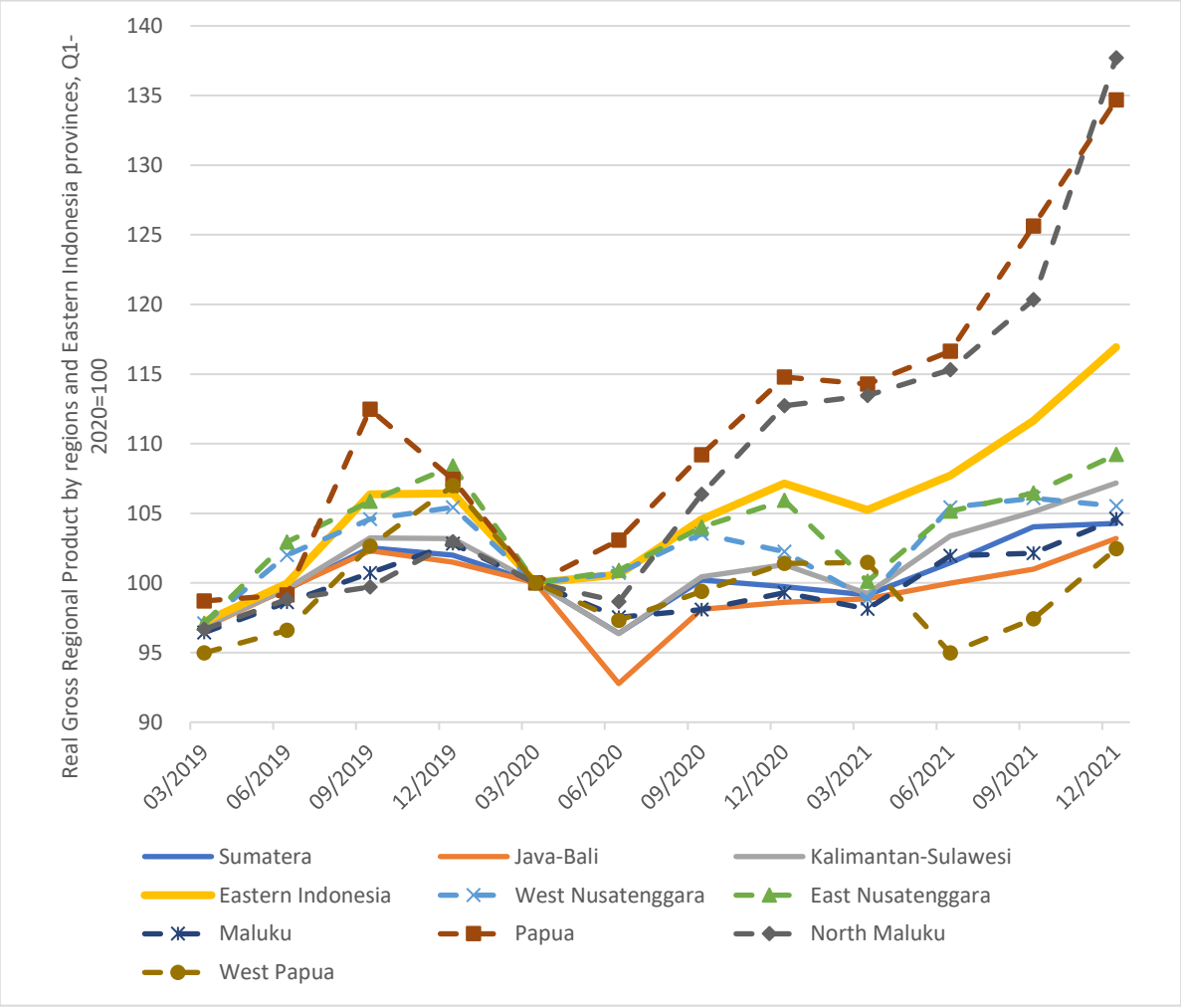

Figure 6. Gross Regional Product by Regions and Eastern Indonesia Provinces, Q1-2020=100. Source: Authors' Calculations from CEIC Indonesia Premium Database.

The impact of the pandemic on different economic sectors also differed. Given the restriction of movement, transportation and storage unsurprisingly recorded the deepest slump among all Gross Domestic Product (GDP) sectors – with a 17% y.o.y decline in 2020. Accommodation and food beverage activity followed as the second sector hardest hit by the outbreak. The negative growth experienced by the manufacturing sector should also be highlighted. The high share of the manufacturing sector in the Indonesian GDP made it one of the main drivers of the overall GDP's negative growth. The Eastern Indonesia provinces also had a big drop in transportation and storage as well as accommodation and food beverage sectors. At 29% and 18%, respectively, the drops in transportation and storage and accommodation and food beverages activity sectors in 2020 were even bigger than the national average. West Nusatenggara province had the biggest drop in both sectors, with a nearly 60% decline. This may reflect the huge drop in the activities at transit stations in this province. East Nusatenggara followed in terms of accommodation and food beverage activity, while Papua province followed in terms of the transportation and storage sector. This shows that although similar, there were differences in how the pandemic affected the Eastern Indonesian economies. The business services sector had a lesser contraction in Eastern Indonesia on average, but this was not the case in East Nusatenggara, where it fell by around 50%.

The mining and manufacturing sector had positive growth in Eastern Indonesia (Figure 7). This mainly happened in North Maluku and Papua provinces while other Eastern Indonesia provinces had slight drops in this sector. In both cases, managing activities in secluded areas, such as special industrial estates and mining areas, became the key to ensuring positive economic growth in the middle of the pandemic. Nevertheless, there is a sense that besides the transportation and storage and accommodation and food beverages activity sectors, the Eastern provinces did not suffer as badly as other regions in 2020. Despite the bigger and longer impact of the Delta variant, most of the sectors in Eastern Indonesia were able to bounce back in 2021.

The enormous burden to the business activities, especially in terms of activities on transportation, retail, and accommodation and food beverage activities meant a direct impact on SMEs. The majority of small enterprises in Indonesia operate in the agriculture sector with transport, restaurant and hotel as the second biggest sector with more than a quarter of small enterprises operating in that sector. In addition, more than half of medium enterprises operate in the transport, restaurant and hotel sectors (Tambunan, 2008). A survey from Statistics Indonesia reported that during

the early period of the pandemic until June 2020, approximately 84.2% of SMEs suffered lower revenue. The channel of transmission was mostly caused by the decrease in demand along with the impact of the pandemic that had started to materialize.

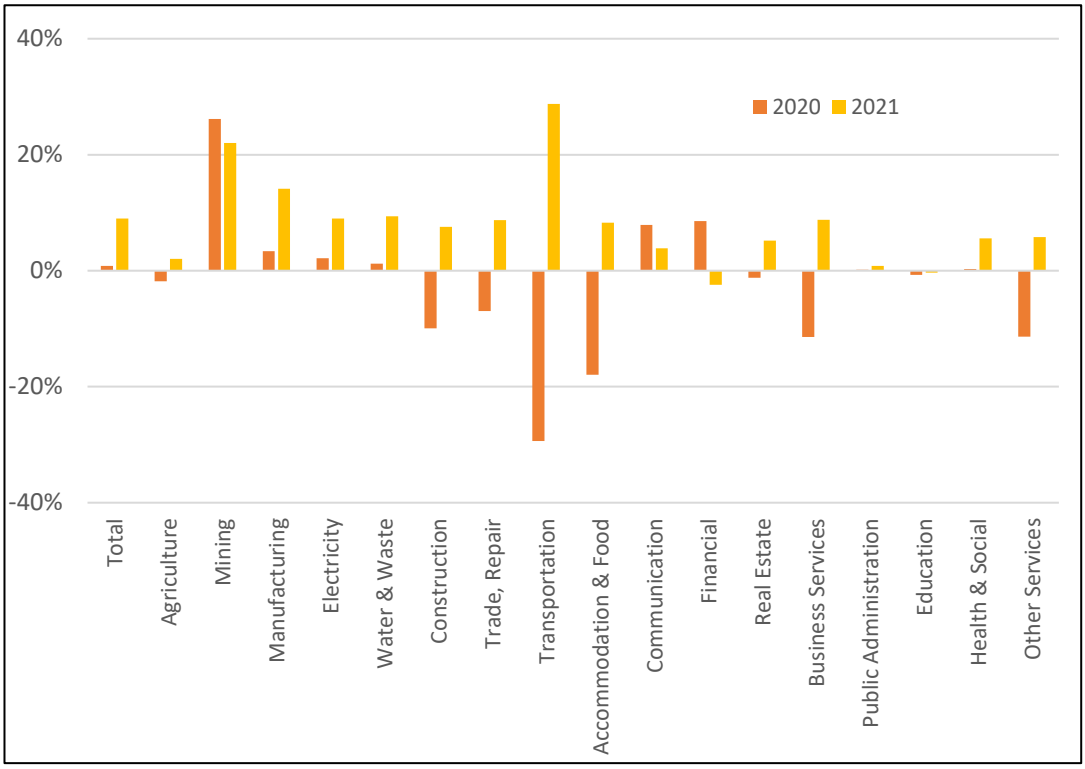

Figure 7. The Sectoral Gross Regional Product Growth in Eastern Indonesia. Source: Author Calculations from CEIC Indonesia Premium Database.

The impact of the pandemic on SMEs can be seen from the lower growth of credit applications by SME groups. Figure 8 shows all regions presented the same pattern of SMEs' credit growth. Eastern Indonesia remarkably still had positive growth in SMEs' credit. These numbers are better than any other area in Indonesia. This shows that there was still some business confidence in Eastern Indonesia provinces in 2020, possibly due to the lower number of infections. However, the picture from Papua and North Maluku indicates that although the seclusion of mining and manufacturing

activities may have helped the overall GDRP to survive the pandemic, the small and medium enterprises were affected more.

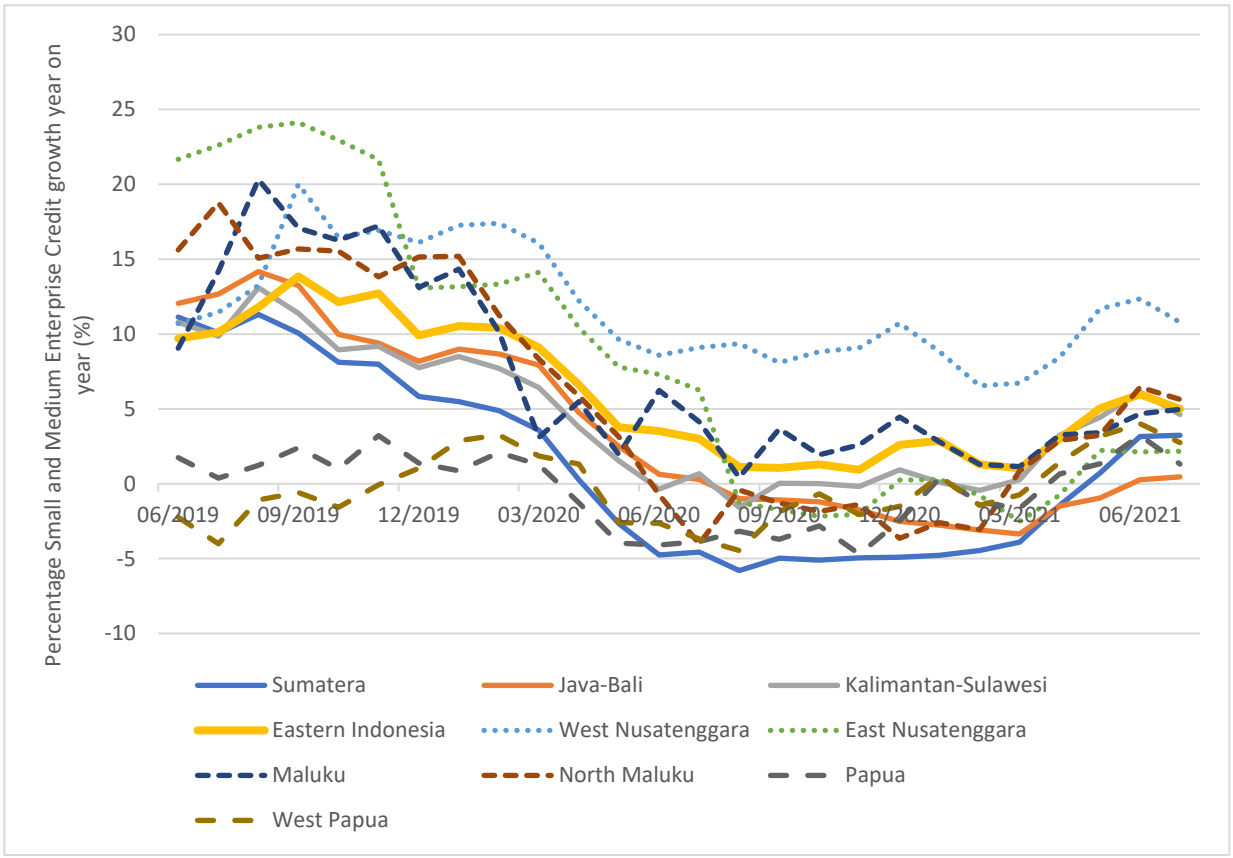

Figure 8. SMEs' Credit Growth by Region 2020 (%-y.o.y). Source: Authors' Calculations from CEIC Indonesia Premium Database.

7. PREPAREDNESS AND FUTURE IMPACT

Another aspect to consider regarding the impact on remote areas is their preparedness in facing the pandemic. The experience so far shows that the health measures and services were particularly important in slowing the pace of infection. Therefore, this section focuses on the preparedness of the health system, especially government delivery of health services such as local hospitals and health care systems (Gupta *et al.*, 2020). In Indonesia, the health services are part of the responsibilities transferred from central

government to district governments in decentralisation. In addition, before the local government decentralisation in 2000, hospitals had been decentralised and privatised earlier so each hospital had its authority to generate additional income (Booth *et al.*, 2019). However, this move was not fully successful as Maharani *et al.* (2015) found that district hospitals still largely depend on government subsidies. Thus, hospital capability is an important aspect of government intervention in Eastern Indonesia.

In general, there has been improvement in the health infrastructure even before COVID-19. Despite Booth *et al.* (2019) finding a lack of health services improvement in Eastern Indonesia after decentralisation, the number of beds per capita increased especially in new provinces since 2010. The proliferation of districts in Indonesia is likely to improve this ratio as well. The high infection rate of COVID-19 may have meant that the increase in hospital beds was not enough. All provinces had increased hospital beds per capita in 2020. Provinces like Jakarta and Maluku had higher increases in 2020 compared to the whole 2010–2019 period, and Papua followed as the third province with the highest increase in hospital beds. This shows how various governments in Indonesia including Eastern Indonesia had stepped up in increasing infrastructure to face the pandemic. Providing infrastructure, measured by hospital beds (available in the CEIC Indonesia Premium Database), is one thing but to produce the outcome the capital needs labour. Despite the improvement of infrastructure such as the number of hospital beds, the remote areas had problems in attracting health staff. The ratio of medical doctors to the population in Java provinces is much higher even compared to Bali. In Eastern Indonesia, Nusatenggara provinces that are relatively closer to Bali have higher ratios than others, while the new provinces – North Maluku and West Papua – have the lowest. This factor can be crucial as seen at the peak of Delta in Papua around July–August 2021.

One particularly important area of preparation in this pandemic was the vaccination rate (CEIC n.d.c). The rates in Java-Bali were much higher than in the rest of Indonesia (Figure 9). The progress in other provinces was not able to catch up. In Eastern Indonesia, West Papua set the early take-up. The take-up rate was even faster than in some provinces in Sumatra and Kalimantan-Sulawesi. This was especially true after a high rate of infection in 2021. However, the increasing rate quickly slowed down. The two Papua provinces' take-up rate became even slower than Eastern Indonesia's average. In contrast, West Nusatenggara had a higher rate of take-up since October 2021. This may also be due to the sparse residential locations in Papua so the early speed was concentrated in certain cities and not followed by the more remote areas.

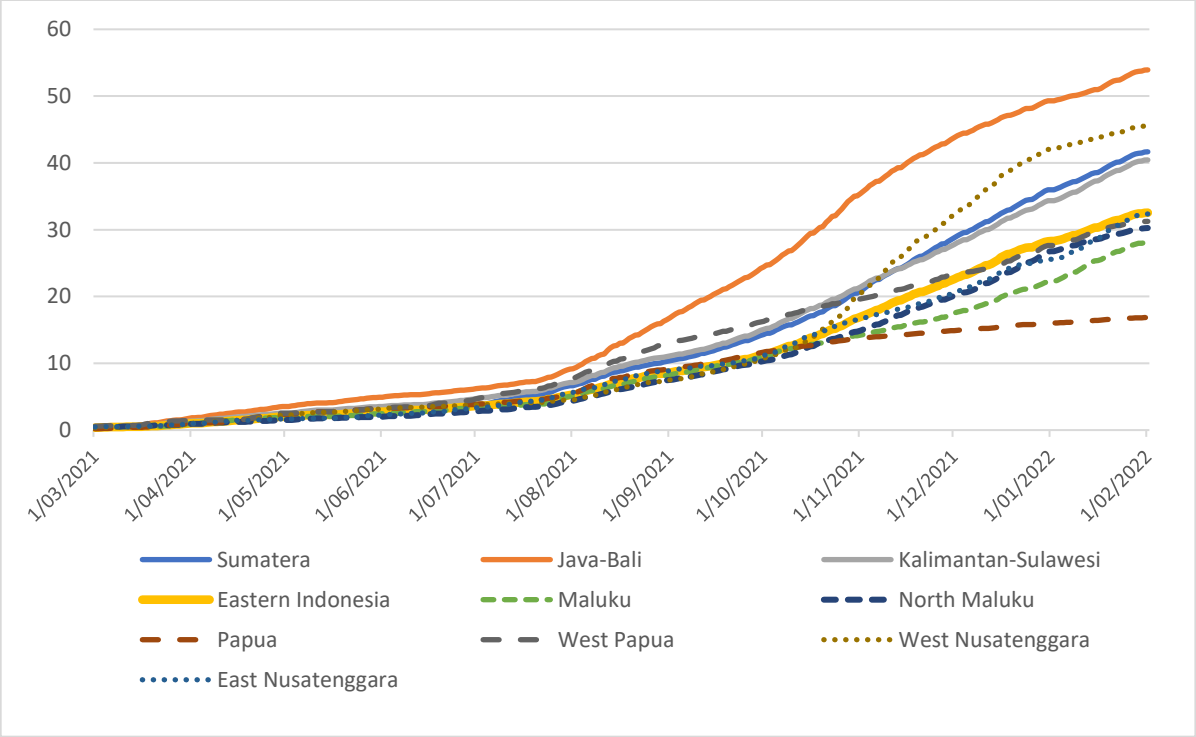

Figure 9. Percentage of People with Double Dose COVID-19 Vaccine (%). Source: Ministry of Health through CEIC Database.

8. CONCLUSION

Aiming to understand the impact of COVID-19 on Eastern Indonesia's economies, this study compares the pattern of COVID-19 infection in Eastern Indonesia to other places in Indonesia. The study then looks at the activities and economic performance in 2020 as the first and second waves of COVID-19 infection hit Indonesia. We look at the contribution of the governments at provincial and district levels in terms of COVID-19 prevention and economic recovery efforts.

One important note in this study is that remoteness did not exclude Eastern Indonesia from COVID-19 as the infection was detected as early as March 2020. Although Java-Bali was still the centre of infection, the infection rates per population within Eastern Indonesia were varied and the low number in Nusatenggara provinces may obscure the issue in Papua and Maluku. The existence of air or sea transport to the regions opened the

possibility for contagion and the decentralisation did not allow the local authorities to close the borders completely. In many cases, better communications and coordination between local government and central government may have helped manage the restriction and hence, infection.

Infection and restriction affected the economic activities, including in Eastern Indonesia. The central government tried to ease the effect of the pandemic under the National Economic Recovery Plan while the local governments were urged to ease the affected economic actors. However, the fiscal capacity of these local governments was hit by the economic downturn and did not have the flexibility needed to act accordingly, especially in Eastern Indonesia. Therefore, the central government provided another cash transfer mechanism with the Village-Fund (Dana Desa) as the source of funding. This flow of funds also faced issues, such as corruption, both at the central and local levels.

While government assistance helped ease the economic pain, it could not prevent the drop in economic activities. This drop was necessary to reduce the number of infections, but its magnitude was not highly correlated to the level of infection itself but instead related to the activities prior to COVID-19. In Eastern Indonesia, it was much more difficult to stay at home than in Java-Bali and, to a lesser extent, other regions in Indonesia. Although the remoteness of Eastern Indonesia meant there was less requirement for the community to stay at home, the mobility data shows that other activities such as retail, recreation, grocery shopping and park use still went down as much as in other parts of Indonesia. It was the activities in workplaces and transit stations that dropped considerably less.

This situation allowed the economies in Eastern Indonesia to grow better than other areas during the pandemic. Besides the first quarter of 2021, the economy on average had positive growth. However, this was not the case for all provinces. North Maluku and Papua were the provinces with high growth while West Papua's economy plunged after being hit by the Delta variant. East Nusatenggara seemed to grow well before the first case was identified. Just like in other parts of Indonesia, the transportation sector as well as accommodation were hit hard by the pandemic. Mining was the main sector that helped the positive growth. Manufacturing was not less important given the amount of employment it draws. As the pandemic hit the two-year mark, there are conflicting images that emerge about the Eastern Indonesian economy. For example, the transportation sector seemed to be able to bounce back in 2021, given fewer restrictions despite a higher infection rate. On the other hand, the credit growth plunged more when the infection rate in certain provinces increased. One more certain thing is that the low density and separation by land and sea made the

economy of one area less dependent on another if it could manage the cases.

This brings us to the issue of the preparedness of Eastern Indonesia to manage COVID-19 in the near future. The data show that there has been additional health infrastructure such as hospital beds, but the case in West Papua also shows that it was still not enough when the infection and hospitalization rates were high. This was especially so given the number of health staff in Eastern Indonesia is much lower than Java-Bali. Hospitalisations can be reduced if the vaccination rate is high. The relatively high vaccination rate also contributed to the ability of certain industrial and mining zones to continue to operate. Unfortunately, this is not the case for Eastern Indonesia. Only West Nusatenggara had double-dose rates above 40%. Moreover, the increases in the vaccination rate stalled in both Papua provinces. This can be an issue for Eastern Indonesia, especially when other areas in Indonesia have already opened.

Some of these lessons can be applicable in a broader context. The main lesson is that while being remote may reduce or delay the impact of external shocks such as pandemics, it is hard to be completely isolated from it in this globalisation era. Nevertheless, there are ways such as border closing to extend the time and learn from the areas that have endured the impact. Despite this, the lower financial, infrastructure and human capital capacity in remote areas means the impact of external shock can still be – and may be even more – devastating in these regions. This knowledge is important in designing development policy not only in developing countries, such as Indonesia, but also in developed countries as they often have remote areas that are less developed. The experience of Eastern Indonesia can be compared with the policy in Western Australia that closed its border for around two years. The lessons from the back end of the pandemic are also important as the infection rate in remote areas stayed high for longer and in the aftermath, still less prepared if there is another pandemic.

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