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# Is the Digital Economy Driving the Economic Growth of the Sumatra Region During the Pandemic?

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**Abstract:** Digitalization has an essential role during the pandemic because it helps facilitate various economic activities. This study aims to analyze the economic digitization of financial technology on economic growth in the Sumatra region (North Sumatra, West Sumatra, and South Sumatra) in January 2020-June 2021. We also used macroeconomic indicators in the form of inflation, foreign direct investment (FDI), and domestic investment (DI) as a control to explain economic conditions. The analysis results using the Panel Vector Autoregression (P-VAR) showed that fintech contributed positively to economic growth. This result was supported by maintained inflation stability that created a conducive investment climate, thereby attracting FDI. We recommend that the regional government take advantage of existing fintech and that "prudent" policies on inflation management must always be adequately prioritized to support the acceleration of economic growth in the Sumatra region, especially North Sumatra, West Sumatra, and South Sumatra.

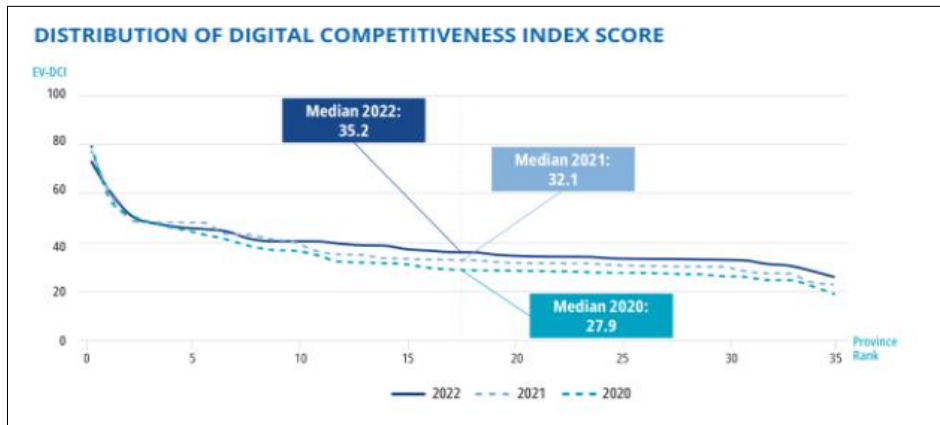
**Keywords:** Digital Economy; Financial Technology; Inflation; Investment; Economic Growth

**JEL Classification:** E22; O11

## Introduction

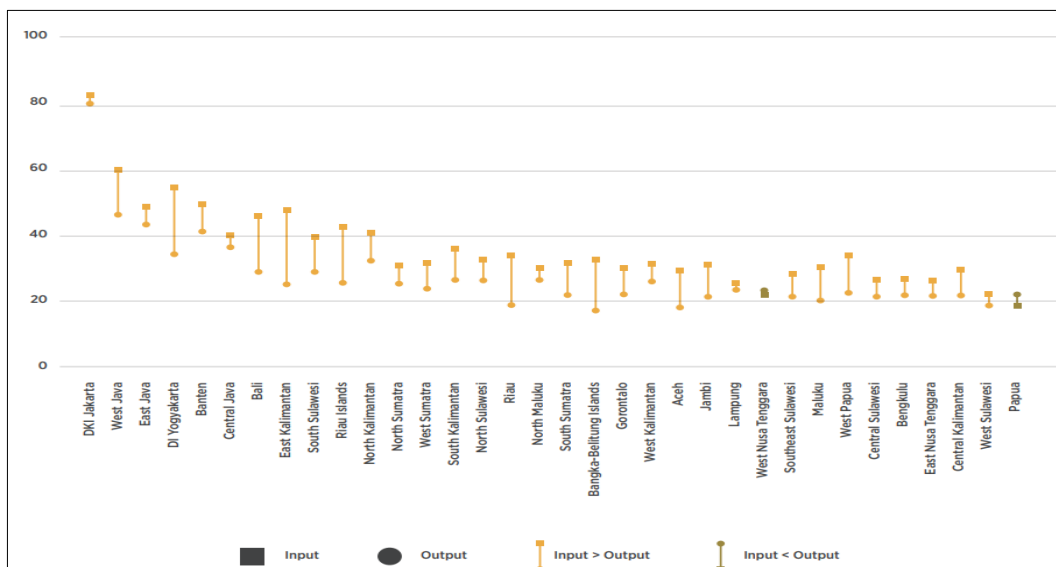
All levels of society in Indonesia increasingly need the development of digitalization. Moreover, the Coronavirus that has hit Indonesia since 2020 has caused restrictions on activities outside in almost all regions. The government then utilizes digital technology to urge work, school, worship, and even shopping activities from home. Communication and transactions must also be carried out online to minimize mobility activities to avoid spreading the virus. The increase in digital activity in Indonesia during this pandemic is reflected, among other things, in the increase in digital competitiveness in the distribution of the East Ventures Digital Competitiveness Index (EV-DCI 2022) score. Figure 1 below shows that the national median increased from 27.92 in 2020 to 32.05 in 2021. This increase indicates that digital competitiveness in most provinces in Indonesia is getting better and more evenly distributed.

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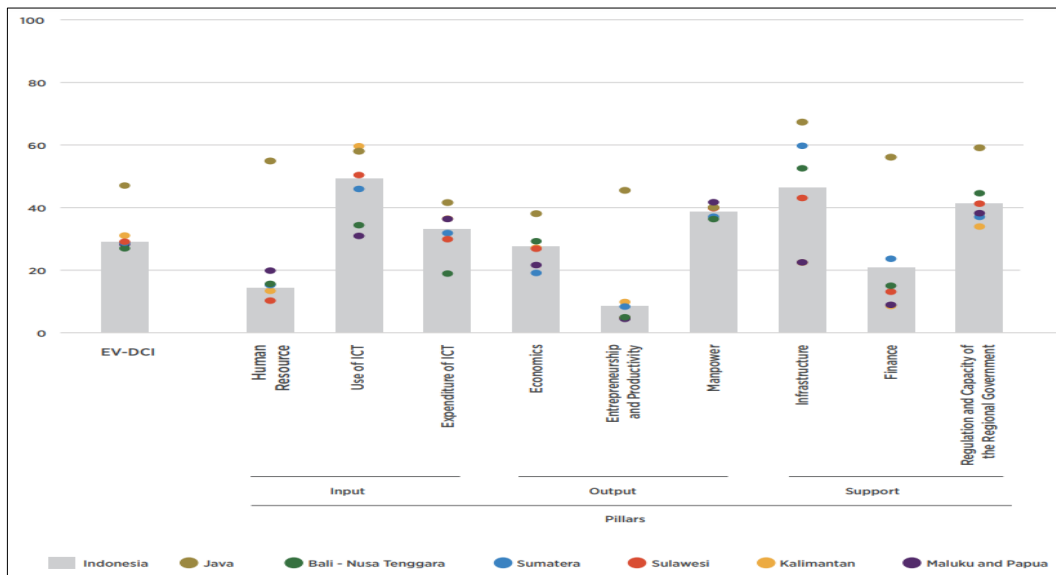
**Figure 1** EV-DCI Score Distribution of Indonesia 2020-2022  
Source: East Ventures Digital Competitiveness Index, 2022

Moreover, the digital transformation trend is a trigger for the growth of the digital economy, primarily supported by the high penetration of the internet in Indonesia. Amid the pandemic, the digital economy sector grew positively, even reaching 11 percent (Indonesia Ministry of Communication and Informatics). In addition, digitalization can increase efficiency from upstream to downstream and encourage investment. The following Figure 2 presents data on mapping the digitization index of various provinces in Indonesia. This index is divided into two sub-indices, namely input and output. Furthermore, it can be seen that almost all provinces have a higher input sub-index score than the output sub-index score. The input score, which is greater than the output, indicates that the distribution of skills and the use of digital technology in Indonesia is getting better but has not been matched by the ability to optimize the benefits of the digital economy.



**Figure 2** Province Digitization Index in Indonesia 2020  
Source: East Ventures Digital Competitiveness Index, 2022

Thus, if the digital competitiveness of all provinces in Indonesia is mapped based on Figure 3 below, it can be seen that the regional scores of the provinces on Java Island lead in all pillars forming digital competitiveness. However, in certain pillars, the distribution of the scores is more evenly distributed, such as in the pillars of ICT use and employment. However, there are still significant gaps, such as in the entrepreneurship and productivity pillars and the HR pillar.



**Figure 3** Province Digital Competitiveness in Indonesia  
Source: East Ventures Digital Competitiveness Index, 2022

From the distribution of digital competitiveness in various provinces in Indonesia, regions with high digital competitiveness tend to be centered on Java Island. The next row is followed by provinces located in Sumatra and Kalimantan Islands, followed by provinces with low digital competitiveness from Eastern Indonesia.

Based on these facts, this paper then wants to analyze the second-highest area after Java, namely Sumatra Island. This idea emerged because Sumatra has the potential to become the second region in the development of the digital economy; besides that, there are still relatively few empirical studies that comprehensively discuss how the digital economy affects economic growth during the pandemic, especially on Sumatra Island.

Many studies have tried to focus on explaining technological factors. From the existing literature, we have understood technology to influence economic growth through several main channels. Two of these are the positive technology impact triggered by investment in new technology, primarily reflected in research and development spending (Romer, 1990; Grossman & Helpman, 1991a; Rivera-Batiz & Romer, 1991; Jones, 1995; Tahir et al. 2015), and technology transfer through economic integration, which in turn can create positive externalities and affect economic growth, such as technology transfer through trade (Grossman & Helpman, 1991b) and technology transfer through FDI or multinational companies (Rivera-Batiz & Romer, 1991; Baldwin et al. 2005; Ramondo &

Rodriguez-Clare, 2010). This literature generally views technology as positively related to economic growth.

In the banking literature, technology is seen as a solution to reduce the information asymmetry between agents (e.g., borrowers and lenders) in providing financial services (Jaffee & Russell, 1976; Stiglitz & Weiss, 1981). In particular, fintech, through the use of machine learning, is seen as significantly reducing this information asymmetry (Jagtiani & Lemieux, 2018). Machine learning algorithms enable quick and easy assessment of borrowers' credit scores, using big data from social media and other sources. Some fintech companies use blockchain to track investment and financing opportunities and store information, allowing partners to track each other and provide an element of trust (Cai, 2018). Unlike traditional banks, it also means that fintech lenders do not incur any risk (The Economist, 2015).

This transformative feature makes lending and financing more accessible and flexible. Reducing lending and financing barriers should encourage economic activity regarding easy access to funds and new investment products, such as digital coins (Aprilia & Wulansari, 2017). This new technology used by the fintech industry will further drive financial development. In this case, economic theory has pondered the role of development finance on economic growth. Besides, endogenous growth theory states that the effect of financial development on economic growth depends on the risks posed by new opportunities (Devereux & Smith, 1991; Obstfeld, 1994).

Furthermore, regarding the purpose of this paper, which is to analyze the influence of the digital economy during the pandemic on economic growth in the Sumatra region, we chose a proxy variable of interest in the form of financial technology (fintech), which is an innovation in financial services (Harahap et al., 2017). Bank Indonesia Regulation Number 19/12/PBI/2017, concerning the implementation of fintech, explains that fintech is the use of technology in the financial system that produces new products, services, technology, and/or business models and can have an impact on monetary stability, financial system stability and/or efficiency, mootness, security, and reliability of the payment system. Every year, the existence of fintech contributes significantly to changes in people's lifestyles dominated by users of information technology and the demands of a fast-paced life. Especially during the current pandemic, it helps effectively, efficiently, and economically for online lending and borrowing transactions. In addition, we used macroeconomic indicators in the form of inflation, the realization of Domestic Investment (PMDN), and Foreign Direct Investment (PMA). In this regard, inflation is used to consider that inflation symbolizes the movement of prices for goods and services in general and affects the costs arising from the side of fintech providers (Umaru & Zubairu, 2012). Meanwhile, direct investment and foreign direct investment are employed to capture the investment climate conditions both from within and outside the country during the pandemic (Afrilita & Wardani, 2019; Narayan, 2019; Wang et al., 2021).

## Research Method

### Research Model Specification

This study focused primarily on analyzing the effect of financial technology (as a proxy for the digital economy) with variable control in the form of macroeconomic indicators (inflation, direct investment/DI, and foreign direct investment/FDI) on the gross regional domestic product (GRDP) in the Sumatra region (North Sumatra, West Sumatra, and South Sumatra) during the COVID-19 pandemic in the period January 2020-June 2021. This study used Vector Autoregressive (VAR) because the purpose of this study is to find out how the impact of digital economic shocks on economic growth in the Sumatra region and help explain the transmission mechanism that occurs from the development of the digital economy. The economic models in this study are:

$$GRDP = f(Fintech, Inflation, FDI, DI) \quad (1)$$

Furthermore, a simple VAR model with two variables can be written with the following equation.

$$y_{it} = b_{10} - b_{12}z_{it} + \gamma_{11} y_{t-1} + \gamma_{12}z_{t-1} + \epsilon_{yit} \quad (2)$$

$$z_{it} = b_{20} - b_{21}y_{it} + \gamma_{21} y_{t-1} + \gamma_{22}z_{t-1} + \epsilon_{zit} \quad (3)$$

Notes:

$y_{it}$  and  $z_{it}$  are assumed to be stationary.  $\epsilon_{yit}$  and  $\epsilon_{zit}$  are *white noise disturbances with a standard deviation of  $\sigma_y$  and  $\sigma_z$* .  $\{\epsilon_{yit}\}$  and  $\{\epsilon_{zit}\}$  are white noise uncorrelated disturbances.  $\epsilon_{yit}$  and  $\epsilon_{zit}$  are innovations or shocks to  $y_t$  and  $z_t$ . Equations (2) and (3) have a reciprocal structure because  $y_t$  and  $z_t$  influence each other. Thus, using matrix algebra, it can be written as follows.

$$\begin{bmatrix} 1 & b_{12} \\ b_{21} & 1 \end{bmatrix} \begin{bmatrix} y_t \\ z_t \end{bmatrix} = \begin{bmatrix} b_{10} \\ b_{20} \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} \\ \gamma_{21} & \gamma_{22} \end{bmatrix} \begin{bmatrix} y_{t-1} \\ z_{t-1} \end{bmatrix} + \begin{bmatrix} \epsilon_{yit} \\ \epsilon_{zit} \end{bmatrix}$$

Thus, the equation of the VAR model in this study can be written as follows.

$$\text{Log\_GRDP}_{it} = \alpha_0 + \alpha_1 \text{Fintech}_{it} + \alpha_2 \text{Inflation}_{it} + \alpha_3 \text{Log\_FDI}_{it} + \alpha_4 \text{Log\_DI}_{it} + \epsilon_{it} \quad (4)$$

Where  $i$  indicates the province,  $t$  indicates the period. GRDP is the total Gross Regional Domestic Product (GRDP).  $\alpha_0$  is constant.  $\alpha_{1,2,3,4}$  are coefficients that estimate each potential effect of exogenous variables on endogenous variables described in this study. Then, fintech is the number/unit of fintech. While inflation is the amount of inflation, FDI is the amount of foreign investment, and DI is the amount of domestic investment.  $\epsilon_t$  is an error term that substitutes all variables omitted from the model but still impacts the compiled model.

### Data Sources and Types

This study used panel data in North Sumatra, West Sumatra, and South Sumatra during the COVID-19 pandemic, namely January 2020-June 2021. The following Table 1 presents a list of variables used in this study in more detail.

**Table 1** Research Data

Variables	Source	Unit	Period
GRDP	Statistics	Rupiah	2020M01-2021M06
Fintech	Indonesia	Unit	2020M01-2021M06
Inflation		Percent	2020M01-2021M06
FDI		Rupiah	2020M01-2021M06
DI		Rupiah	2020M01-2021M06

### VAR Analysis Stages

#### Stationarity Test

One important concept that must be considered by using time series or panel data is whether the data are stationary. If the estimate is made using non-stationary data, the validity and stability of the data need to be reconsidered since the regression results from non-stationary data will be dubious or called blunt regression (Gujarati, 2003; Wardhono et al., 2016). Stationarity can be done using the unit root test. This study employed the unit root test with Augmented Dickey-Fuller (ADF).

$$\Delta Y_{it} = \delta Y_{it-1} + \mu_{it} \quad (5)$$

The ADF test assumes that  $t$  is correlated, so it is formulated that:

$$\Delta Y_{it} = \alpha_0 + \alpha_1 Y_{it-1} + \sum_{i=1}^k \beta_i \Delta Y_{t-i} + \mu_t \quad (6)$$

Notes:

$\Delta$  is the first difference of the variables used in the study. At the same time,  $t$  is the trend variable, and  $k$  is the length of the lag used. The hypotheses for this test are  $H_0: \delta = 0$  (there is a unit root),  $H_1: \delta \neq 0$  (there is no unit root).

#### Optimum Lag test

The lag test is used to find the lag optimum to get the best SVAR model. Lag testing determines the length of the period of influence of a variable on the variable itself and other variables. Determination of lag in this study used the minimum AIC value to provide additional variable intervals to reduce the degrees of freedom (Widarjono, 2009).

### Model Stability Test

A stable condition is met in this test if all the roots lie in a unit circle. In other words, a stable condition is met when the absolute root value is less than one. The VAR stability test was carried out by calculating the roots of the polynomial function (Gujarati, 2003).

### Impulse Response Function (IRF)

IRF is used to determine the effect of the standard deviation of the variable shocks on the current and future values. The shock of a variable affects the variable itself and all endogenous variables through the lag structure in the VAR model. IRF is also a method that functions to analyze the response of endogenous variables to shocks of certain variables. IRF can be used to measure the magnitude (in percentage), orientation, and length of response between variables and evaluate the transmission mechanism's speed (Widarjono, 2009).

VAR also uses VD to test which variable shocks have the most influence on the variation of the variable of interest. VD separates the variation of the endogenous variable into several shock components. In contrast to IRF, VD describes the proportion of the contribution of endogenous variables (in the form of percentages) in the SVAR model to shocks.

## Result and Discussion

### Research Data Overview

This study used panel data in three provinces located on Sumatra Island with the assumption mentioned at the outset that these three provinces have relatively high digitalization competitiveness. Before describing the data processing results, we first describe the conditions of each research variable in each province.

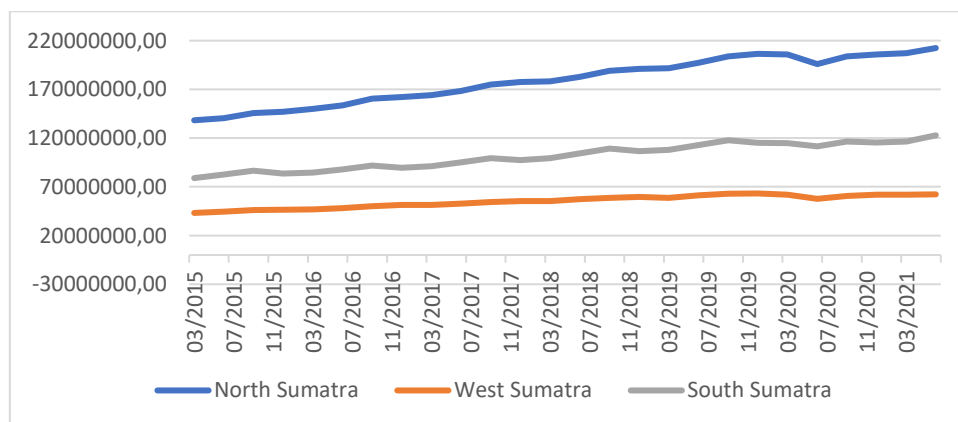
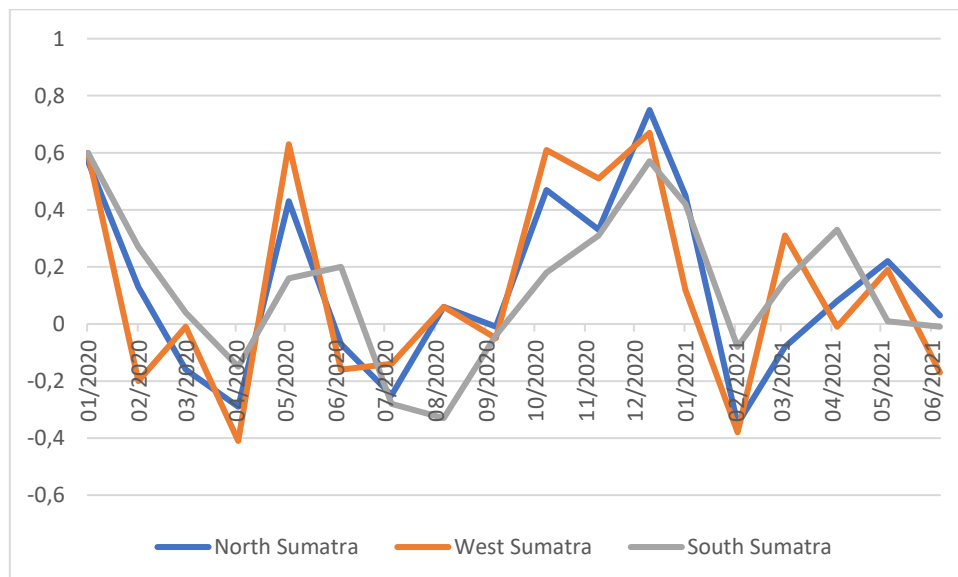


Figure 4 GRDP (Million Rupiah)  
Source: Statistics Indonesia, 2021

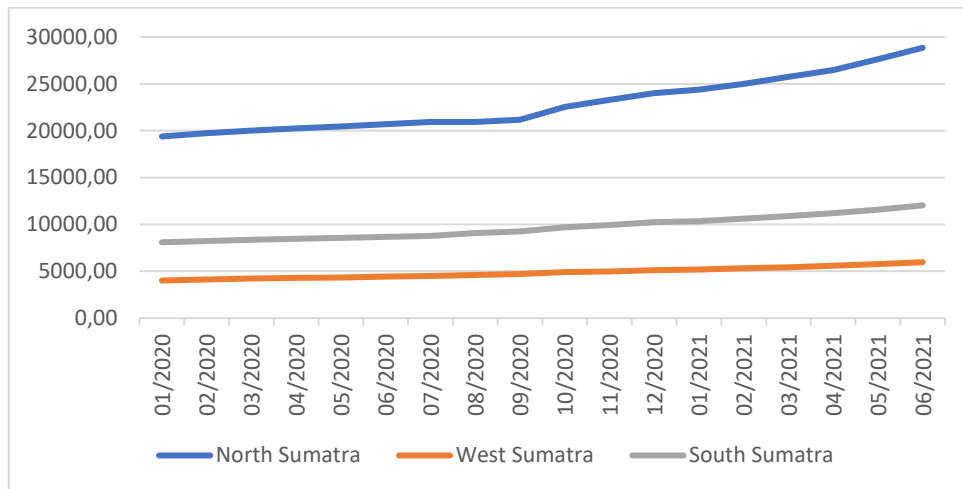
Figure 4 is a plot of the amount of GRDP from 2015Q1-2021Q2, where the red box indicates the observation period that we used in this study because we wanted to focus on analyzing economic growth during the pandemic (2020-2021). From Figure 4, among other things, it can be seen that the overall pattern shows that GRDP had an increasing trend in all provinces until it finally declined around the beginning of 2020. This condition was partly due to the COVID-19 pandemic, affecting various economic activities both in general and sector. Furthermore, it can be observed again that starting mid-2020, there has been an increase in the GRDP trend in the three provinces. The data plot further supports the urgency to conduct further research focusing on the conditions or period of the pandemic. Such research will help analyze more persistently what determination and how much influence it has on accelerating economic growth, perhaps even finding new engines as a source of economic growth to mitigate the risk of a pandemic.



**Figure 5 Inflation (Percent)**  
Source: Statistics Indonesia, 2021

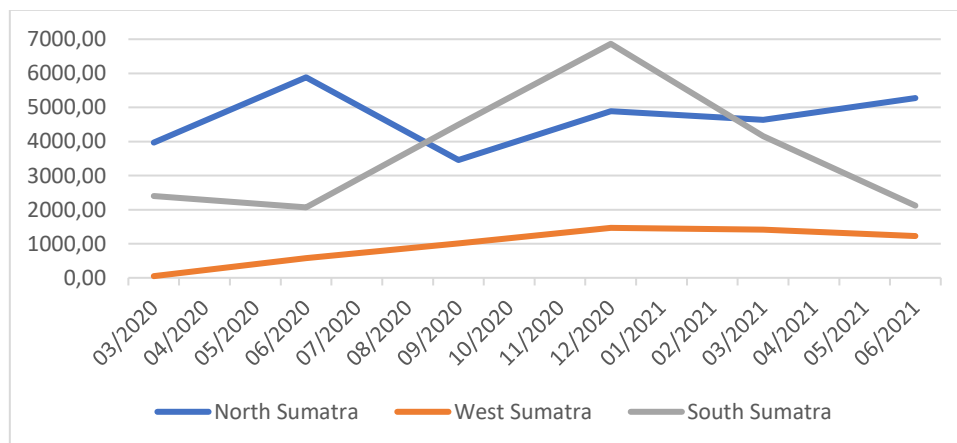
Figure 5 is a plot of inflation during the pandemic, from January 2020-June 2021. From the figure, it can be seen that the movement of inflation in the three provinces was uniform, meaning that the increase and decrease had the same direction, and the gap was not significant. In addition, the amount of fluctuation was still relatively controlled. The existence of these conditions indicates that inflation conditions during the pandemic in the three provinces are still relatively stable.





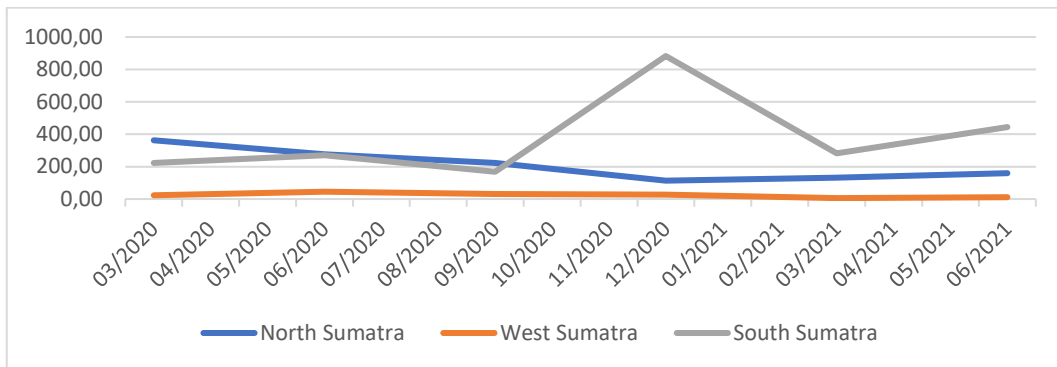
**Figure 6** Accumulated Number of Lender Accounts (Unit of Entity)  
Source: Statistics Indonesia, 2021

Figure 6 is a plot of the accumulation of the number of lender accounts (entity units) that we used as financial technology proxies during the pandemic, namely from January 2020-June 2021. From the figure, the movement of the number of lenders in the three provinces increased. This condition can be an early indication of a shift in transactions, for example, before the pandemic, which was more traditional or face-to-face to use more technology after the pandemic, applied to economic transactions in financial product services. The existence of pandemic also further causes various groups to receive a lower income than usual or even experience termination of work due to the effects of restrictions on social activities so that in the end, the increase in existing fintech will be needed by the community, for example as capital to do new businesses and so on.



**Figure 7** Domestic Investment (Billion Rupiah)  
Source: Statistics Indonesia, 2021

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**Figure 8 FDI (Million USD)**  
Source: Statistics Indonesia, 2021

Figures 7 and 8 show direct investment (DI) and foreign direct investment FDI plotting during the pandemic from January 2020 to June 2021. From the three provinces, it can be observed that South Sumatra had a large proportion of DI and was especially the most significant proportion of FDI compared to the other two provinces. Then, it was followed by North Sumatra, which tended to be larger in DI, and South Sumatra, which tended to be smaller in DI and FDI than other provinces. Overall, the fluctuating movement, significantly increased during the pandemic, is quite interesting to analyze further because, of course, there are pull factors why investors from inside and outside the country invest their funds in these provinces.

### Test Results

#### Stationarity Test

Based on the unit root test results in Table 2, it can be seen that the GRDP variable was stationary at the first difference, while fintech was stationary at the second difference. Then, inflation, FDI, and DI were stationary at the level.

**Table 2** Result of Stationarity Test

Log GRDP	Prob.
Level	0.4740
1 <sup>st</sup> Difference	0.0651*
Fintech	<b>Prob.</b>
Level	1.0000
1 <sup>st</sup> Difference	0.9708
2 <sup>nd</sup> Difference	0.0426**
Inflation	<b>Prob.</b>
Level	0.0143**
Log FDI	<b>Prob.</b>
Level	0.0912*
Log DI	<b>Prob.</b>
Level	0.000***

Notes:

\*\*\*, \*\*, and \* each show a significance level of 1%, 5%, and 10%.

### Optimum Lag Test

The optimum lag selection was to get the best VAR model used in the study. VAR estimation is very sensitive to the lag length used. Determining the proper lag also has implications for freeing the model from autocorrelation and heteroscedasticity problems (Gujarati & Porter, 2009). This lag test determines the length of the influence period of a variable on its past and other endogenous variables. In this study, the lag determination used the Akaike Information Criterion (AIC) to provide additional variable intervals to reduce the degrees of freedom. Therefore, the optimal interval would be found in the model specifications providing the minimum AIC value (Widarjono, 2009). From the lag test results in Table 3, it can be seen that the minimum AIC value was at lag 1.

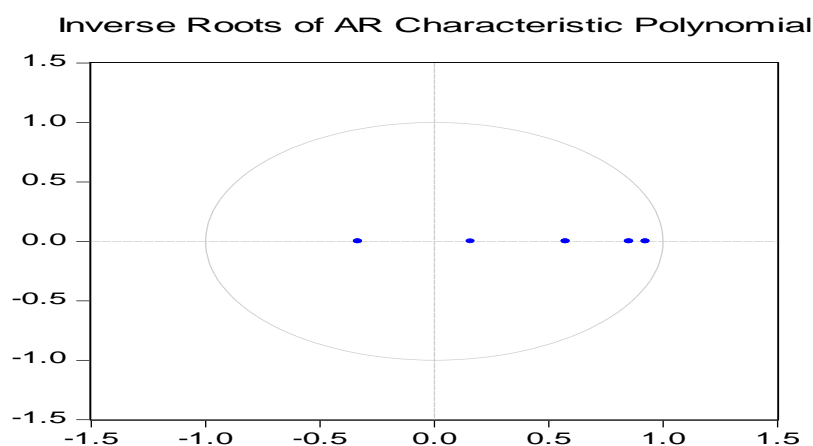
**Table 3** Result of Optimum Lag Test

Lag	LR	FPE	AIC	SC	HQ
0	NA	0.084673	11.72039	11.92113	11.79522
1	233.2405*	.000655*	6.850976*	8.055418*	7.299980*

Notes: \*indicates each smallest lag value.

### Model Stability Test

In order to test the stability of the VAR model, a stability test was carried out using the inverse root of the polynomial characteristics. The number of roots tested is the number of research variables multiplied by the number of lags used. In this regard, this study used five variables multiplied by the number of lags, namely 1, so that the number of roots was  $5 \times 1 = 5$ . From the stability test results in Figure 9, it can be seen that the VAR estimation was stable so that the VAR model could be continued for IRF analysis.



**Figure 9** Result of Model Stability Test

### Impulse Response Function (IRF)

The following IRF shows how the influence of the standard deviation of innovation on the values of current and future endogenous variables. The shock of the first endogenous

variable affected the variable itself and other endogenous variables through the VAR model. Under the objectives of this study, the following shows the respective effects of fintech shocks, inflation, PMA, and PMDN on economic growth in the Sumatra region (North Sumatra, West Sumatra, and South Sumatra) as proxied by GRDP for the period January 2020-June 2021.

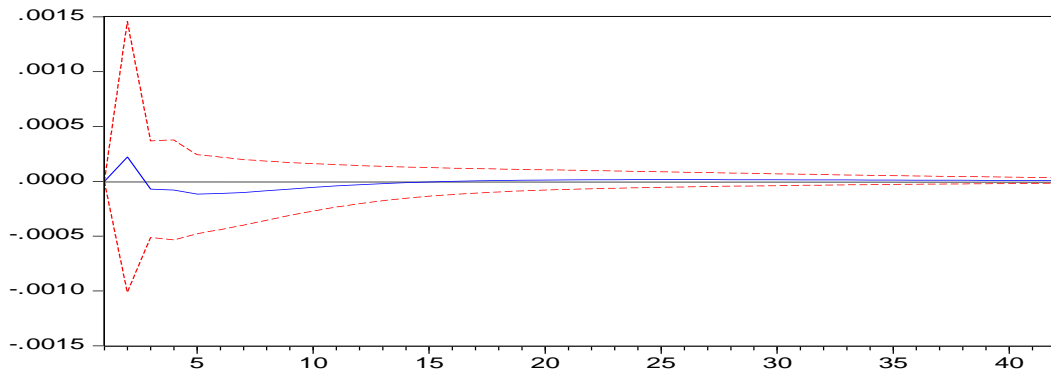


Figure 10 GRDP Response to Fintech

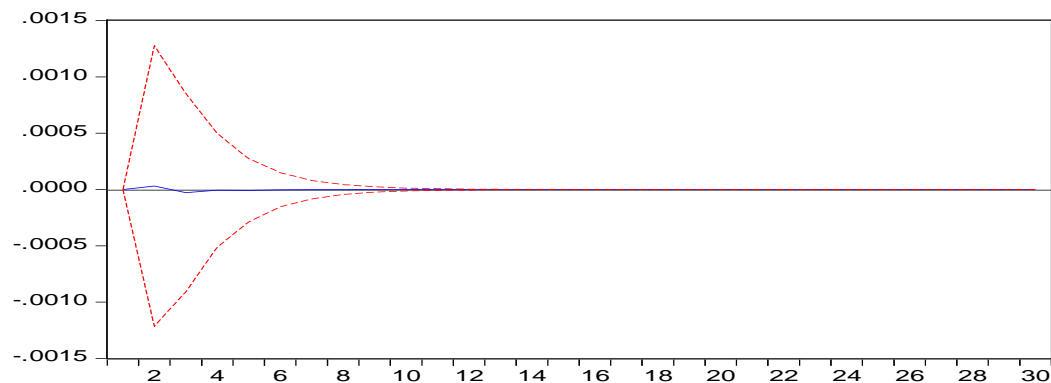


Figure 11 GRDP Response to Inflation

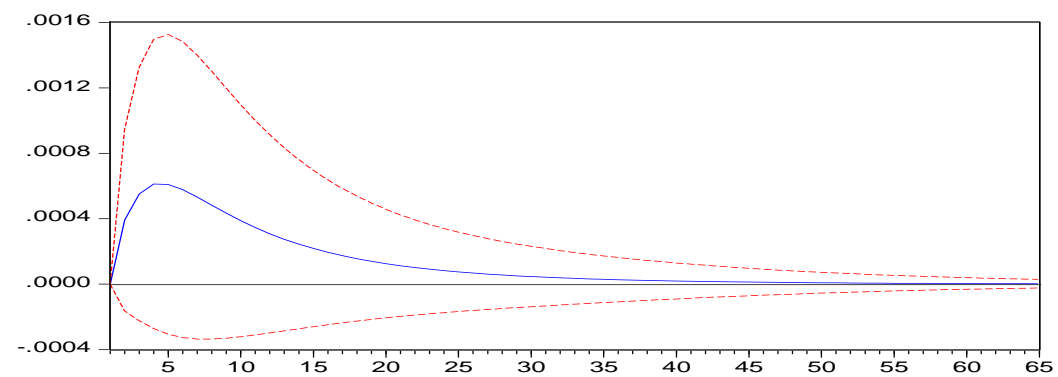
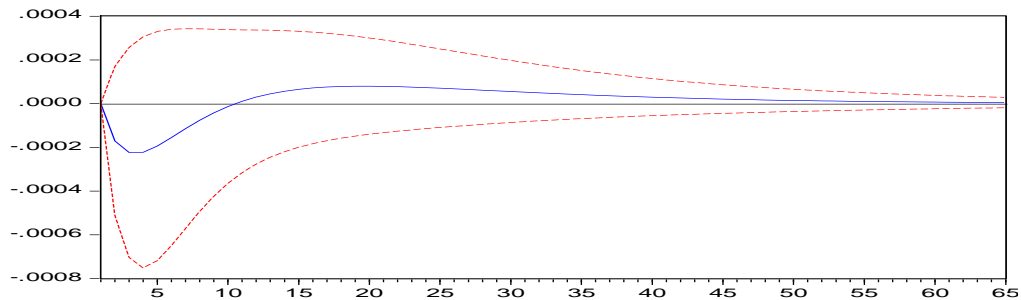


Figure 12 GRDP Response to FDI



**Figure 13** GRDP Response to DI

Figure 10 illustrates the GRDP response to one standard deviation of changes in the fintech shock. The figure shows that GRDP responded positively to fintech shocks of up to 0.002 percent from the 1<sup>st</sup> to the 3<sup>rd</sup> period. Next, in the 4<sup>th</sup> to 11<sup>th</sup> period, a slightly negative response reached -0.00007 percent. It can be seen that GRDP reached a convergent condition, which means that it returned to neutral to its original balance point starting from the 12<sup>th</sup> period, or it can be said that there was no longer any influence of fintech shocks on GRDP. Figure 11 shows the GRDP response to one standard deviation of changes in inflation shocks. From this figure, it can be seen that GRDP tended not to respond to inflationary shocks during the current pandemic.

Next, from Figure 12, it can be seen that GRDP responded positively to shocks caused by FDI starting in the first period, where it peaked in the fifth period reaching 0.006 percent. Then, the response began to shrink until, in the 47<sup>th</sup> period, the movement was towards the original equilibrium, or there was no longer any influence of FDI on GRDP. Finally, from Figure 13, it can be seen that GRDP responded negatively to PMDN shocks from the first period to its peak in the fourth period reaching -0.002 percent. Furthermore, starting from the 10<sup>th</sup> period, there was a positive response. Then, there was no effect of PMDN on GRDP starting from the 55<sup>th</sup> period.

### Variance Decomposition (VD)

The VD results in Table 4 provide information about the contribution of each variable to the GRDP panel variable for the Sumatra region (North Sumatra, West Sumatra, and South Sumatra) during the pandemic period of January 2020-June 2021.

**Table 4.** Result of Variance Decomposition

Period	Fintech	Inflation	FDI	DI	GRDP
1	0.000000	0.000000	0.000000	0.000000	100.0000
2	0.214893	0.047586	0.671054	0.126930	98.93954
3	0.216249	0.044856	1.817314	0.313689	97.60789
4	0.232041	0.046112	3.177927	0.490789	96.05313
5	0.278166	0.045353	4.492479	0.620241	94.56376
6	0.318958	0.044666	5.651245	0.699231	93.28590
7	0.352957	0.044692	6.616921	0.738702	92.24673
8	0.376650	0.045846	7.398261	0.752920	91.42632
9	0.391953	0.048332	8.019705	0.753930	90.78608
10	0.400853	0.052078	8.509487	0.750257	90.28733

In the first period, GRDP was heavily influenced by the GRDP shock itself by 100 percent. Meanwhile, in the first period, fintech, inflation, PMA, and PMDN had not yet given a shock to GRDP. Furthermore, from periods 2 to 10, the proportion of GRDP shocks was still significant at around 90 percent. Meanwhile, fintech shocks, inflation, PMA, and PMDN had an increasing contribution with consecutive values in the 10th period, reaching 0.40 percent, 0.05 percent, 8.5 percent, and 0.75 percent, respectively.

## **Discussion**

In general, from the results of the VAR analysis series, we can explain that the digital economy represented by fintech has proven to have a positive impact on economic growth in the Sumatra region (North Sumatra, West Sumatra, and South Sumatra) in January 2020–December 2021 period. These results support our hypothesis. Previously, the digitalization of the economy could become an alternative to boost the economy, especially during the current pandemic. In this case, fintech will help reduce the economic and social impact of the pandemic.

Moreover, the financial system plays a significant role in channeling funds from excess parties to those in need so that economic activities can run effectively and efficiently (Matthews et al., 2013). The financial market can be done through direct financing or indirect financing. The essential difference between the two types is the existence of intermediary financial institutions in indirect financing that shape disbursing funds. The role of intermediary financial institutions is crucial in this flow of funds since they can reduce transaction costs, have a risk-sharing system, and prevent adverse selection and moral hazard by providing symmetrical information. Thus, owners and borrowers of small amounts of funds can participate in financial markets, thereby increasing overall efficiency in the economy (Matthews et al., 2013; Wardhono et al., 2018). The efficiency in question allows limited resources for productive activities and can significantly boost economic growth.

Integrating technological elements into fintech will subsequently have a more significant impact on the economy. Previously, the formal financial system itself had reduced information asymmetry between financial actors. Moreover, coupled with the presence of technology (especially information technology), it would further push financial services to a higher level and increase the efficiency of financial services. The development of information technology today increasingly allows unlimited data access and encourages the creation of added value from previously unoptimized data. The abundance of accurate and real-time data will significantly reduce the potential for asymmetric information (Wardhono, 2014; Ilman et al., 2019).

Therefore, having fintech in strategic partnerships with financial institutions, retailers, and the government sector in all jurisdictions will help democratize financial services by providing essential financial services fairly and transparently to economically vulnerable populations due to the pandemic conditions. As more and more global economic and financial systems continue to move online, cyber defense or security to protect user data needs to be a future concern. Hence, fintech providers must also realize the importance

of security in designing their products. In addition, given the increasing dependence on technology, we believe that digital transformation will still be the primary focus that will highlight policies in every region and even in every country. Therefore, in addition to local governments needing to recognize the potential of their regions, they must also know the importance of providing efficient, effective, and sustainable banking services, which include adopting a more holistic approach to digital transformation, including utilizing fintech.

Next, we can explain that the inflation variable, an indicator of the development of prices for goods and services, was not too influential on economic growth in this study. The regional government has prudently maintained the level of inflation so that in the January 2020-June 2021 period, there were no volatile movements, meaning that inflation was in a stable condition. Furthermore, the stability of the inflation rate is a good signal for investors, captured in this research model that FDI had a positive impact on economic growth. This positive impact is under our explanation at the beginning that digital competitiveness in these three regions (North Sumatra, West Sumatra, and South Sumatra) is relatively high. It is also supported by IRF results that the digital economy's contribution by fintech has proven to increase economic growth. Therefore, when competitiveness is high, fintech development is high, and price conditions (inflation) are maintained; thus, the owners of capital will have more preferences to invest in the region. This research model also captures that FDI contributed more to economic growth. We assume that foreign investors tend to have much more significant capital during a pandemic. Their country may have experienced less contraction in its economy to invest. Meanwhile, for domestic investors, we suspect that the Indonesian economy, in general, is still experiencing contraction due to the pandemic, causing investors to reduce their preferences to invest.

## Conclusion

The development of the digital economy proxied by fintech in the Sumatra region (North Sumatra, West Sumatra, and South Sumatra) in the January 2020-June 2021 period with VAR panel regression has proven to have a positive contribution to economic growth. These results were supported, among other things, by the maintained condition of price stability as reflected by inflation. In addition, this condition has also created a favorable investment climate, where it is proven that FDI has contributed to increased economic growth. Therefore, it is hoped for the regional government that this fintech development trend can be utilized optimally as an alternative to encourage economic growth and as an alternative to minimize the impact of the pandemic on economic activities. In addition, macroeconomic indicators in the form of inflation need to be appropriately maintained since they reflect the stability of the regional economy, which also impacts the costs of fintech providers and the decision of investors to invest their funds. The existence of security in fintech also needs to be a concern for the government and fintech providers because the increasingly sophisticated digitalization era also poses many threats, such as cyber security and cybercrime.

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