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Article

Economic Recovery Strategy: The Role of MSMEs Credit Access and Optimization of Regional Fiscal Stimulus in Islamic Economics Framework

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ABSTRACT

This paper aims to analyze the determinants of economic recovery in North Sumatra using district-based panel data from 2020-2022 using the Random Effect Model. Several variables derived from the implications of fiscal and monetary policies such as MSME credit access, inflation, the effectiveness of income spending, poverty, unemployment rate, and human development index were used to analyze economic recovery as proxied by GRDP per capita. Our findings indicated that the position of MSMEs' credit and relative poverty have a significant positive effect on economic recovery in North Sumatra. Conversely, the unemployment rate and human development index have a significant negative effect on economic recovery in North Sumatra. Inflation and the effectiveness of income spending have an insignificant effect on economic recovery in North Sumatra. These findings recommend that the government and the central bank should support increased access to MSME credit in terms of regulations, the availability of bank financial institutions, and allocations. In addition, it is crucial to maintain the effectiveness and increase indirect budget allocations for social fund posts that can be integrated with Islamic Social Funds such as Zakat, Infaq, and Shadaqah to address poverty and unemployment challenges to improve the community's quality of life and accelerate economic recovery in North Sumatra.

Keywords: Economic Recovery; Credit Access; Fiscal Policy; Monetary Policy.

JEL Classification: E62, O16, Z12

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INTRODUCTION

The year 2022 marked a crucial period for economic development and recovery in Indonesia. As mobility and activities resumed their pre-pandemic levels, Indonesia exhibited positive signs

of economic growth. However, risks stemming from global uncertainty and scary effects, affecting households and businesses, continue to pose challenges to the acceleration of national recovery. Since the onset of the COVID-19 pandemic in early 2020, economic recovery has been a key strategic focus. The decline in economic activity, driven by restrictions on movement, led to slowdowns in various sectors. As a result, Gross Domestic Product (GDP) per capita, a key indicator of population welfare and economic health (Pascual et al., 2020), dropped from IDR 59.07 million to IDR 56.9 million (BPS, 2020), contributing to a decline in Gross Regional Domestic Product (GRDP) across several Indonesian provinces.

GRDP per capita, often used to measure economic health (Pascual et al., 2020), serves as a proxy for economic recovery in this study. Identifying key variables that significantly impact GRDP per capita is essential for understanding the factors driving regional economic recovery (Kira, 2013; Ademuyiwa & Adetunji, 2019; Putra et al., 2020).

Since 2020, all regions in Indonesia have undoubtedly experienced a crisis or economic downturn, including the island of Sumatra. As the largest contributor to GDP, the economic growth rate of North Sumatra Province decreased by 1.07% in 2020 with a GDP per capita of IDR 55.18 million. However, the province demonstrated a rebound in the following year, achieving an economic growth increase of 2.61%. In fact, North Sumatra recorded the highest economic growth (5.02% y-o-y) in Sumatra and exceeded national economic growth in the 3rd Quarter of 2024 (BPS, 2024). This significant increase suggests the presence of compelling factors within North Sumatra that have facilitated regional economic recovery.

Inconsistent GDP per capita growth in a country can hinder progress in crucial sectors, such as healthcare and education. Furthermore, it can contribute to an increase in crime rate and ultimately lead to diminished economic growth (Aziz & Azmi, 2017). Therefore, analyzing the factors that can facilitate economic recovery is urgent in all countries (Basak et al., 2022), including Indonesia. These factors cannot be separated from the role of fiscal and monetary stimulus measures carried out by the state or regional governments.

Yunanto & Medyawati (2015) stated that monetary and fiscal policies play a crucial role in steering regional economic recovery. Monetary policy facilitates the creation and distribution of liquidity, whereas fiscal policy governs resource allocation and expenditure (Moreira & Mendonça, 2021). Both policies serve as crucial countermeasures to mitigate the severity of economic downturns and constitute fundamental strategies for economic recovery (Borio, 2021). In the context of Islamic Economics, monetary policy is aimed at realizing economic growth without causing inequality and social injustice, such as emphasizing price stability and prioritizing policies that specifically address the needs of economically disadvantaged individuals (Putra and Solehudin 2022; Wisandani, Iswati, and Ismal 2017). Meanwhile, fiscal policy in Islamic economics places great emphasis on optimizing state spending to realize people's welfare through a productive economy, empowering the economy of marginalized groups, and sound financial management (Tahir 2013). However, unlike in Indonesia, the Islamic Economic Framework employs zakat, infaq, shadaqah, and waqf (social funds) as primary instruments of fiscal policy (Yusoff, 2006). Thus, monetary and fiscal authorities in Islam will continue to operate in accordance with the priorities of the interests of society and other objectives to realize an inclusive socio-economy (Khan and Mirakhor 1989; Siddiqui 2008).

Various programs are undertaken by the central government, regional governments, the business world, and the community to restore the economy through social assistance, community empowerment, and empowerment of micro and small economic businesses (Dahliah & Nur, 2021). While public debt allocation is a critical factor in economic recovery in many nations, it has largely been overlooked by researchers (Mwaniki, 2016). Credit allocation to MSMEs constitutes a significant impact on monetary policy and can stimulate economic recovery. Based on a report published by Bank Indonesia, credit disbursed to MSMEs in North Sumatra in the first quarter of 2022 reached IDR 64.8 trillion, with annual growth of 12.9% (yoy), this amount increased from the previous quarter of 10.8% (yoy). This increase has a positive impact on economic recovery. Micro, Small, and Medium Enterprises (MSMEs) constitute a crucial pillar of economic recovery because these businesses can increase the productive capacity of society (Anouze & Alamro, 2020). During the economic crisis period, MSMEs experienced major challenges related to capital availability and market demand. Sufficient credit allocation is a positive program for MSMEs, thereby contributing to an increase in GDP per capita (Mwaniki, 2016; Al-Afeef, 2020).

Another monetary issue that has garnered significant attention in numerous countries is the problem of inflation (Aziz & Azmi, 2017; Sujianto & Azmi, 2020). Ademuyiwa & Adetunji (2019) stated that GDP per capita considers price changes that occur due to inflation. If commodity prices change from one period to the next, while actual output remains constant, then nominal GDP will also change. This means that the inflation rate affects the level of GRDP per capita (Sujianto & Azmi, 2020). Inflation in North Sumatra in December 2020 reached 0.5%. This amount is substantial when considering cumulative annual inflation. Inflation and economic growth have a positive relationship, when the inflation rate is low and tends to be insignificant, economic growth experiences a decline (Rouksar-Dussoyea et al., 2017). At a certain level of inflation, positive results on GRDP per capita can be observed (Samuel & Nurina, 2015), particularly for inelastic goods, such as necessities, where an increase in the price of goods does not cause a decrease in purchases. This causes the level of GDP per capita to continue to increase. Most of the people's consumption is for inelastic goods. Therefore, despite the occurrence of inflation, economic growth can be sustained, thus, inflation has a significant positive contribution to GRDP per capita (Semuel & Nurina, 2015; Ademuyiwa & Adetunji, 2019).

Economic recovery is characterized by increased activity in both the services and goods sectors (Alkhateeb et al., 2017; Sujianto & Azmi, 2020). Fiscal policy plays a key role in driving this growth, particularly through effective government spending. Fouladi (2010) and Najmuddin & Rizkiyani (2022) emphasize government spending as a significant fiscal tool, with its effectiveness boosting economic activities in both sectors (Akpan et al., 2016). By increasing economic activity, government spending contributes to higher GDP per capita (Alkhateeb et al., 2017; Pascual et al., 2020). Strategic allocation of government expenditure, particularly during a crisis, helps mitigate severe economic decline (Fouladi, 2010). According to the Bank Indonesia report for North Sumatra in the first quarter of 2022, personnel, capital, and goods spending saw a decline. This reduction was due to the government's focus on accelerating economic recovery through the National Economic Recovery Program (PEN) and prioritizing the health sector. Such targeted spending is expected to positively impact GRDP per capita (Akpan et al., 2016).

Aziz & Azmi (2017) stated that analyzing the factors affecting GRDP per capita is crucial to

sustainably prevent social and political instability through fiscal policy. Job loss has an impact on reduced living standards and psychological stress (Mosikari, 2013), thus excessive levels of unemployment can reduce GDP per capita due to low purchasing power (Agboli, 2015). During the crisis period due to the COVID-19 pandemic and the global political crisis, the Central Statistics Agency (BPS) reported that the unemployment rate in Indonesia rose from 5.23% to 7.07% in August 2020. Subsequently, the unemployment rate began to decline, reaching 5.83% in February 2022. In North Sumatra, the unemployment rate reached 6.91% in August 2020 and subsequently decreased to 5.47% in February 2022. Despite this decline, the rate remains notably elevated compared to pre-crisis levels. This elevated unemployment rate has a significant impact on the reduction of per capita income (Mosikari, 2013; Al-Afeef, 2020). Therefore, the higher the unemployment rate, the lower the GDP per capita of a region (Iuga et al., 2013; Rouksar-Dussoyea et al., 2017).

In addition to the unemployment rate, the number of poor people is a significant factor in reducing a region's GDP per capita. Poverty is characterized by low income, and insufficient to meet basic life necessities (Syera, 2017; Aderounmu et al., 2021). Based on poverty theory, a low number of poor people has an impact on the decline of GDP per capita. However, an alternative theoretical framework posits that the number of poor people is influenced by purchasing power and the average income of the community (Škare & Družeta, 2016; Rahmawati & Intan (2020). This concept is referred to as relative poverty. It implies that an increase in individual income, leading to enhanced purchasing power, consequently, increases the average poverty line (Putra et al., 2020). The increase in the poverty line has an impact on changing the category of poor, resulting in an increased number of individuals categorized as poor. Communities that were previously considered above the poverty line may now be reclassified as poor. This causes GRDP per capita to remain high despite an increase in the number of poor people (Okoroafor, 2013; Athirah & Selvatranam, 2015).

The final factor influencing the GDP per capita value is the human development index (HDI). Human capital plays a crucial role in regional development, if a country has quality human resources, it will contribute to faster economic recovery during a crisis (Fadillah & Setiartiti, 2021). Appiah et al. (2019) and Taqi et al., (2021) demonstrated that the human development index is positively correlated with GDP per capita. The higher the HDI value, the better the quality of life of the people in a region (Teker & Güner, 2016; Bieth, 2021). Based on data from the Central Statistics Agency (BPS), 34 regions in North Sumatra exhibited an increase in HDI values during the crisis period. This suggests that human development in North Sumatra is relatively well-managed

Previous studies have investigated the factors that drive economic recovery. However, studies specifically examining the success of a region's strategy in controlling GRDP per capita, as a proxy for economic recovery during a crisis in a regional context, remains limited. While GRDP per capita commonly serves as a proxy for long-term economic growth, other metrics more frequently employed to measure economic recovery include household consumption, poverty rate, MSME competitiveness, and credit growth (Cifuentes-Faura 2022; Muin 2022; Prasetyo 2020). This gap underscores the need for researchers to explore factors contributing to successful economic recovery in North Sumatra, a region renowned for its relatively strong economic performance since the onset of the crisis. This study also attempts to elaborate on study recommendations using an

Islamic Economics Framework that can encourage successful economic recovery.

LITERATURE REVIEW

Gross regional domestic product (GRDP) is the value of goods and services produced in a specific region during a given year (Sujianto & Azmi, 2020; Hidayat et al., 2020). It serves as a key indicator of regional income and output for the economy of a region (Nwabueze, 2009; Iuga et al., 2013; Kira, 2013). GRDP per capita not only plays a crucial role in assessing the economy of a region but also provides accurate information regarding ongoing economic recovery and future projections (Anghelache et al., 2020). GRDP per capita is considered the best single measure of community welfare (Syera, 2017). Therefore, a consistent GDP per capita value reflects that economic recovery is progressing effectively (Feriyanto et al., 2020).

Numerous factors influence the value of GRDP per capita (Basak et al., 2022). Identifying key variables that robustly explain GRDPper capita growth remains a significant challenge (Agboli, 2015). This is due to data availability, diverse country characteristics, varying time periods, and other potential factors (Aziz & Azmi, 2017). Therefore, exploring the impact of monetary and fiscal policy on GDP per capita growth is expected to be able to explain the success of the North Sumatra government's strategy in minimizing the decline in GDP per capita during the crisis period while simultaneously increasing the level of economic growth.

Access to Credit for MSMEs and its Impact on Economic Recovery

The financial sector is crucial for regional economic recovery (Gordon & Nazari, 2018). An efficient banking sector plays a significant role, as banks provide credit to individuals, businesses, and governments to stimulate economic activity (Begum et al., 2019). Credit allocation to the private sector is vital for increasing economic activity and boosting GRDP per capita (Alkhateeb et al., 2017).

A study by Mwaniki (2016) in Kenya, and similar studies in Nigeria (Akpansung & Babalola, 2011; Emecheta & Ibe, 2014), demonstrated that bank credit positively impacts GDP per capita. In economic recessions, credit allocation becomes even more critical (Mwaniki, 2016). Expansionary policies used by central banks to increase the monetary and credit base further contribute to recovery (Hameed, 2012). Allocating credit to MSMEs facilitates their growth and sustains their businesses, ultimately supporting GRDP per capita (Tahir et al., 2015; Begum et al., 2019; Al-Afeef, 2020).

Impact of Inflation on Economic Recovery

Inflation refers to a sustained increase in the general price level within an economy (Sujianto & Azmi, 2020) and is often seen as a monetary phenomenon (Hameed, 2012). It typically occurs when economic conditions deteriorate, as evidenced by rising prices for essential commodities (Karlina, 2017). The relationship between inflation and economic recovery, measured by GDP per capita, is complex and varies across studies. Several studies suggest a positive correlation (Semuel & Nurina, 2015; Ademuyiwa & Adetunji, 2019), while other studies reveal an inverse relationship (Aziz & Azmi, 2017; Rouksar-Dussoyea et al., 2017; Sujianto & Azmi, 2020). This discrepancy can be attributed to the demand for elasticity of goods. Despite rising inflation, the demand for inelastic goods, such as necessities, remains stable, allowing economic growth to persist. Semuel & Nurina (2015) identify aggregate demand and supply as key drivers of inflation.

Inflation is a macroeconomic problem (Sujianto & Azmi, 2020; Cruz et al., 2022).

Nevertheless, inflation has a significant positive contribution to GRDP per capita (Ademuyiwa & Adetunji, 2019). Hameed, 2012) emphasizes that the amount of money in circulation due to inflation has a major impact on GRDP. While a low inflation rate may not significantly affect GRDP, it generally has a positive impact (Semuel & Nurina, 2015). Conversely, high inflation can diminish the productivity of investment (Sujianto & Azmi, 2020), but demand for basic goods remains high, leading to an increase in GDP per capita.

Poverty and its Impact on Economic Recovery

Poverty is a global challenge faced by numerous countries in the world, including Indonesia (Dahliah & Nur, 2021). Poverty is defined as low income, which renders individuals unable to meet their basic needs (Syera, 2017). Individuals whose expenses are below the poverty line are living in poverty. The poverty line represents the minimum expenditure required for essential goods and services, including food (Feriyanto et al., 2020). Poverty stemming from failed economic development must be consistently addressed to prevent its detrimental impact on economic growth (Aderounmu et al., 2021). In poverty theory, the increasing number of poor people has an impact on decreasing economic growth (Zhu et al., 2022).

Analysis of poverty and GDP per capita has changed dramatically over time, particularly in the last decades (Škare & Družeta, 2016). Okoroafor (2013) stated that poverty in Nigeria is a paradox because the economy continues to grow, but the proportion of Nigerians living in poverty continues to increase every year. A study conducted by Athirah & Selvatranam (2015) in Malaysia also demonstrated that the number of poor people can affect the value of GRDP per capita. In line with Zhu et al. (2022), the increase in the number of poor people resulting from the negative impact of the COVID-19 pandemic in Vietnam has had an impact on economic recovery. In addition, an increase in GRDP per capita can occur in situations of unstable income for several reasons (Hasan et al., 2009). Moreover, an increase in average poverty results in a higher number of poor people and has a positive correlation with GRDP per capita (Škare & Družeta, 2016).

Unemployment Rate and its Impact on Economic Recovery

The unemployment rate is one of the problems in macroeconomics (Sujianto & Azmi, 2020) reflecting the inability of an economy to fully utilize labor resources (Anghel et al., 2017). Unemployment is an economic variable that results in an imbalance that exists in the community's economy (Al-Tamimi, 2019). Conventional economic analysis differentiates unemployment into seasonal, frictional, structural, and cyclical unemployment (Iuga et al., 2013). These various types of unemployment hinder economic recovery in all provinces because the unemployed individuals do not contribute to the economy, despite their continued need for necessities such as food, housing, and healthcare (Feriyanto et al., 2020). In addition, recovery from unemployment following a recession tends to be protracted (Rouksar-Dussoyea et al., 2017).

Okun's Law of Unemployment, formulated by economist Okun in 1962, posits an inverse relationship between GRDP per capita and the unemployment rate. A one percentage point increase (decrease) in the unemployment rate is associated with a two percent decrease (increase) in GDP per capita relative to its potential level (Rouksar-Dussoyea et al., 2017). The unemployment rate and GRDP per capita have a negative relationship because the higher the unemployment, the fewer avenues to restore the community's economy, and vice versa (Agboli, 2015; Al-Tamimi, 2019). A study conducted in

Romania by Anghel et al. (2017) also demonstrates that poverty rates have a detrimental impact on GDP per capita. This finding aligns with the study of Rouksar-Dussoyea et al. (2017) that GDP per capita has a significant negative correlation with higher unemployment rates.

Effectiveness of Regional Revenue Expenditures on Economic Recovery

The effectiveness of regional spending refers to the variations in government expenditure based on the specific needs and priorities at a given time and is included in fiscal policy. The government plays a crucial role in ensuring economic recovery through the allocation of national and regional spending (Najmuddin & Rizkiyani, 2022). Pascual et al. (2020) assert that a region's GRDP is significantly influenced by the government's performance in allocating appropriate budgets and expenditures. This is because appropriate resource allocation directly impacts the sustainable growth of GDP per capita. Government spending has a linear relationship with GRDP per capita (Alkhateeb et al., 2017). If the allocation of government spending only focuses on a single area, the GRDP per capita will tend to decrease. Thus, the government must diversify its spending allocations to increase the GRDP per capita because the effectiveness and efficiency of government expenditure are contingent upon the specific nature of the spending (Akpan et al., 2016). The greater the diversity of government spending adapted to the needs of economic recovery during a crisis, the more effectively the level of GRDP per capita within a region can be controlled (Fouladi, 2010).

Najmuddin & Rizkiyani (2022) examined economic growth in North Maluku and found that government spending based on function influenced economic recovery. Maulid et al. (2021) also found that the components of central government spending including personnel spending, material costs, capital investment, interest payments, subsidies, and social welfare spending simultaneously have a significant effect on GDP per capita. Government spending allocations must be effectively managed or on target to ensure they contribute to an increase in GRDP per capita (Dudzevičiūtė et al., 2018). Sujianto & Azmi, (2020) and Zhu et al. (2022) found that in the short and long term, the effectiveness of government spending has a significant effect on GDP per capita.

Impact of Human Development Index on Economic Recovery

The Human Development Index (HDI) refers to the quality of life of society based on several essential components (Fadillah & Setiartiti, 2021). HDI has three basic dimensional approaches, namely a long and healthy life, access to knowledge, and a decent standard of living (BPS, 2022). Consistent with Bieth (2021) and Taqi et al. (2021), HDI refers to the environment for people to enjoy a healthy, prosperous, and long life. Elistia & Syahzuni (2018) asserted that human development is closely related to economic growth, as evidenced by GRDP per capita, a key indicator of regional prosperity. A high HDI suggests a well-educated population capable of engaging in diverse productive activities. This, in turn, contributes to increased income, improved living standards, better health outcomes, and greater financial inclusion (Deb, 2015).

The study conducted by Taqi et al. (2021) in Pakistan demonstrated that HDI is positively correlated with GRDP per capita. Teker & Güner (2016) conducted a study in Saudi Arabia and demonstrated similar findings, high HDI values had an impact on high GDP per capita. Furthermore, Appiah et al. (2019), in their study focused on African nations, found that the HDI value influences economic growth. High human development value refers to human productivity in carrying out various

beneficial activities and contributing to an enhanced quality of life (Gulcemal, 2020).

METHODOLOGY

This study employed an inferential quantitative approach to analyze the determinants of economic recovery in North Sumatra, using panel data regression analysis with model specification tests, including the Chow Test and Hausman Test/Lagrange Multiplier Test. STATA 17 software was used for the analysis. The data used was secondary data from 33 districts/cities in North Sumatra, covering the period from 2020 to 2021, a period characterized by the commencement of economic recovery initiatives following the COVID-19 pandemic. The data was sourced from the North Sumatra Central Statistics Agency and Bank Indonesia.

Based on equation (1), the dependent variable used in this study is GRDP per capita at constant prices (ln_PDRB), which describes the average income of the population as a proxy for economic recovery. The GRDP per capita value is calculated by dividing the regional GRDP by the population in the districts/cities of North Sumatra Province. Furthermore, this study also uses 6 (six) main independent variables consisting of: (1) Number of poor people (poor), representing the population with average per capita expenditure below the poverty line in the districts/cities of North Sumatra Province; (2) Inflation rate (Infl), defined as the percentage change in the Consumer Price Index (CPI) in the districts/cities of North Sumatra in a specific period and year compared to the previous period and year (year on year/yoy) expressed in percent units; (3) The position of MSME credit in commercial banks and BPRs (ln_kumkm) as a proxy for MSME credit access, which describes the amount of credit taken by MSMEs in commercial banks and BPRs within the relevant district/city of North Sumatra Province; (4) Open Unemployment Rate (tpt), representing the percentage of unemployed individuals in the workforce in the districts/cities of North Sumatra province; (5) Human Development Index (ipm), reflecting the quality of life of the community as measured by 3 (three) indicators: life expectancy, knowledge and decent living standards; and (6) Effectiveness of regional government spending budgets (ef_anggaran), representing the percentage of regional government spending on district/city regional government revenues of North Sumatra Province calculated based on the following formula (see formula 1):

$$Effectivity\ Ratio = \frac{(Government\ Revenue\ Realization\ )}{(Government\ Spending\ Realization)} \quad \text{..... (1)}$$

In developing the regression equation model, this study refers to and is developed from several previous studies (Al-Afeef, 2020; Hameed, 2012; Idris, 2019; Kira, 2013; Rahmawati & Intan, 2020; Rouksar-Dussoyea et al., 2017; Weasly, 2015). In addition to the 6 (six) main independent variables, this study also incorporates 4 (four) control variables that are hypothesized to significantly impact economic recovery in North Sumatra Province. The control variables are (1) Indirect Expenditure Budget (ln_nondirex) of District/City Governments in North Sumatra, the realization of expenditure not directly related to programs and activities. The indirect expenditure referred to is personnel expenditure, grant expenditure, social assistance expenditure, unexpected expenditure, etc; (2) Direct Expenditure Budget (ln_direx) of District/City Governments in North Sumatra, namely the realization of expenditure directly related to the implementation of programs/activities. The direct expenditure referred to is personnel expenditure, goods and services expenditure, and capital expenditure; (3) Digitalization (digitalisasi), as a proxy for the level of regional affordability with internet access. To

calculate the level of digitalization of districts/cities in North Sumatra Province, this study uses the following formula in equation (3).

$$Digitalization = \frac{Number\ of\ villages\ covered\ by\ an\ internet\ signal}{the\ number\ of\ villages\ in\ the\ district\ or\ city} \quad \text{..... (2)}$$

Next, the control variable (4) is the Construction Cost Index (ind_kons), the price index that describes the level of construction cost of a district/city compared to the reference city. This construction cost index is also considered to influence economic growth as it also affects the quality of human life (Idris, 2019). Thus, the following equation (3) is a regression equation model that has been adjusted to the availability of data and the needs of this study.

$$ln\_PDRB_{it} = \beta_0 + \beta_1 poor_{it} + \beta_2 lnfl_{it} + \beta_3 kumkm_{it} + \beta_4 tpt_{it} + \beta_5 ipm_{it} + \beta_6 ef\_anggaran_{it} + \beta_7 ln\_nondirex_{it} + \beta_8 ln\_direx_{it} + \beta_9 digitalisasi_{it} + \beta_{10} ind\_kons_{it} + e_{it} \quad \text{..... (3)}$$

This study aims to analyze the impact of macroeconomic factors, specifically those influenced by fiscal and monetary policies, on economic recovery in North Sumatra. In this case, the estimation technique using random effects is preferable to fixed effects because the dummy variables in fixed effects have the consequence of reducing degrees of freedom which reduces parameter efficiency. This problem can be overcome by using disturbance variables (error terms) known as random effects. The random effects method estimates panel data where disturbance variables may be interconnected across time and individuals (Widarjono, 2009). Regression results with REM are presented in Table 1.

RESULT AND DISCUSSION

Table 1. Regression Results with Random Effect Model

Ln_pdrb	Coef.	Std. Errr.	Z	P > | t |	[95% Conf. Intervals]	
poor	.0024012	.0006118	3.93	0,000***	.0012022	.0036003
kumkm	1.57e-08	7.61e-09	2.06	0.039*	7.99e-10	3.06e-08
infl	.0001958	.0013622	0.14	0.886	-.002474	.0028655
tpt	-.0039939	.0019564	-2.04	0.041*	-.0078283	-.0001595
ipm	.0213085	.0071849	2.97	003**	.0072264	.0353906
Ef_budget	.0195139	.010396	1.88	0.061	-.0008618	.0398896
Ln_nondirecex	-.000951	.0118548	-0.88	0.936	-.024186	.0222841
Ln_direx	-.0059188	.0075116	-0.79	0.431	-.0206413	.0088037
Digitalization	-.2226227	.1197367	-1.86	0.063	-.4573023	.0120569
Ind_kons	-.001071	.0004946	-2.17	0.030*	-.0020404	-.0001017
_cons	15.97178	.6715513	23.78	0,000***	14.65556	17,288

Note: * p<0.05; **p<0.01; ***p<0.001

$$ln\_PDRB_{it} = 15{,}97 + 0{,}0024\, poor_{it} + 0{,}001958 lnfl_{it} + 1{,}57e08 kumkm_{it} - 0{,}00399 tpt_{it} + 0{,}0195 ef\_budget_{it} - 0{,}00951 ln\_nondirex_{it} - 0{,}0592 ln\_direx_{it} - 0{,}223 digitalisasi_{it} - 0{,}0011 ind\_kons_{it} + e_{it} \quad \text{..... (4)}$$

Based on the analysis presented in Table 1, the study concludes that MSME credit access, unemployment rate, and Human Development Index (HDI) have a significant and positive effect on GDP per capita. Conversely, inflation, poverty rate, and the effectiveness of the Revenue and Expenditure Budget have no significant effect on GDP per capita. The model's overall R-squared value is 0.3076, indicating that 30.76% of the variation in economic recovery in North Sumatra is explained by the model's variables. Furthermore, the data and regression results have passed the standard panel data assumption tests, including the Multicollinearity and Heteroscedasticity Tests.

Discussion

During periods of crisis, the implementation of monetary policy has different impacts and is more sensitive than during normal situations (Jannsen et al., 2019). In the context of community economic recovery, monetary policy plays a role in setting low interest rates as a credit/financing stimulus. With the support of this low-interest rate monetary policy, MSME credit growth increased to 14.32 percent (YoY) (Bank Indonesia, 2022). Interestingly, the findings of this study demonstrated that the position of MSME credit at commercial banks and BPRs has proven to have a significant and positive influence on economic recovery in North Sumatra Province. The results of this study are in line with numerous research findings across various countries and sectors, that MSME credit access affects GDP growth (Akpansung & Babalola, 2011; Al-Afeef, 2020; Mwaniki, 2016). Determining low-interest rates and providing credit to MSMEs is considered a crucial stimulus for economic growth in various socio-economic levels, particularly for middle- to lower-income communities that often lack capital and lack a *capital buffer* to run a business and are therefore very vulnerable to crises.

MSME credit access is influenced by several factors, including financial literacy, credit regulations, business size, technology, location, business age, and access to financial institutions (Alberto & Peñaloza, 2015; Goshu & Mba, 2016; Herwiyanti & Rafinda, 2021). This study focuses on two key factors: the availability of commercial banks and BPRs in North Sumatra and bank credit preferences.

In North Sumatra, not all districts have equal access to banking services, particularly in North Nias and West Nias regencies (BPS West Nias, 2022; BPS, North Nias 2022), where cooperatives dominate financial services, potentially limiting MSME access to larger loans. Additionally, bank credit distribution favors wholesalers, retailers, and vehicle repairs, while only a small portion is allocated to SMEs, with 9% going to the manufacturing sector and 8% to agriculture, forestry, and fisheries. To support economic recovery, conventional commercial banks, Islamic banks, and BPR/BPRS need to increase their financing support for small and medium-sized businesses.

Monetary policy, in addition to providing low interest rates for credit stimulus, plays a crucial role in maintaining price stability to prevent inflation from exceeding target levels. While this study indicates that inflation does not have a significant impact on GDP per capita or economic recovery, it is crucial for the government to maintain price stability, particularly for administered goods such as fuel, to preserve purchasing power.

While other studies suggest that monetary policy is more effective than fiscal policy in Indonesia (Yunanto & Medyawati, 2015), fiscal policy is vital for sustaining aggregate demand and economic performance during periods of decline (Siallagan, 2021). During recessions, fiscal stimulus is crucial to mitigate job losses, reduced business income, and falling investments (Stupak, 2019).

Several sectors directly affected by fiscal policy include poverty and unemployment rates. In this context, the findings of this study demonstrate that the number of poor people has a significant and positive effect on economic recovery in North Sumatra Province, while the open unemployment rate (tpt) has a significant negative effect on economic recovery in North Sumatra. Poverty and unemployment remain significant challenges in contemporary macroeconomics. Poverty, which has a positive effect on GRDP per capita, is associated with the theory of relative poverty (Estrada & Wenagama, 2013) where an increase in poverty can often occur with an increase in GRDP per capita due to a shift in the poverty line or the average expenditure of population in the region. In North Sumatra Province, the poverty line shifted by 4-10 percent, which varies in each region. Even in Medan, the city with the highest GRDP, the increase in the number of poor people from 2020 to 2021 almost reached 10,000 people, while the GRDP per capita increased by 2.63 percent y-o-y. Aligning with the study's findings on relative poverty, the increase in the number of people was due to a change in the poverty line which increased by 4.2 percent from IDR 553,796 to IDR 577,126. A similar phenomenon occurred in Padang Lawas Regency. Despite achieving a year-on-year increase in GRDP per capita of 2.65 percent, the region experienced an increase in the number of people living in poverty. This increase amounted to 2,850 individuals, with a 5.6 percent increase in the poverty line, from IDR 367,932 to IDR 388,404.

The COVID-19 pandemic has significantly increased unemployment and poverty levels in North Sumatra, with all districts seeing a rise in the unemployment rate, which could lead to economic instability if not addressed (Agboli, 2015; Al-Tamimi, 2019). The government's fiscal policy, particularly through budget allocation, is critical in this context. While the pandemic shifted the focus of state budgets to public health, there is a need to quickly address the risk of economic downturn by mitigating job losses, income reductions, and falling demand.

This study found that budget effectiveness does not have a significant effect on economic recovery, aligning with previous findings (Syamsudin et al., 2015). However, the effectiveness of regional spending can be improved by prioritizing needs more effectively, particularly through indirect spending such as social programs and subsidies (Maulid et al., 2021). For instance, Gunungsitoli Regency had a low revenue utilization ratio of 33% in 2020, far below the >90% benchmark for effective budget use (Dhiniharitsa, 2009). However, a notable improvement was observed in 2021, with the ratio reaching 102%, underscoring the potential for improved resource allocation to address poverty, and unemployment, and strengthen local economies.

Within the framework of Islamic economics, economic recovery is not solely viewed as a matter of economic growth that merely stimulates the accumulation of wealth. Instead, it emphasizes the attainment of social justice and the equitable redistribution of wealth to uplift all segments of society, particularly the most vulnerable. The state in Islamic economics has an obligation to ensure that the basic needs of all citizens, including the poor and marginalized, are met. This is in accordance with the basic principles of Islam which emphasize *maslahah* (general welfare) and social justice in the distribution of resources. Post-crisis economic recovery, therefore, must involve policies that are oriented towards poverty alleviation and economic empowerment of the people, by utilizing Islamic financial instruments such as *zakat*, *infaq*, *sadaqah*, and *waqf* (Zaman, 2010).

These four Islamic financial instruments have significant potential to support sustainable and equitable economic recovery (Yusoff, 2006).

Zakat as a social obligation can be used to increase the purchasing power of the poor and accelerate economic turnover at the micro level, while *infaq* and *sadaqah* can strengthen social sectors that require funds, such as education and health. *Waqf*, with its potential to provide long-term funding, can be used to build social infrastructure needed to accelerate recovery, such as hospitals, schools, and other public facilities that deliver long-term benefits. Thus, these Islamic financial instruments serve not only as mechanisms for poverty alleviation but also as catalysts for inclusive and sustainable economic growth (Khan and Mirakhor 1989).

The government plays a crucial role in ensuring that the state budget is allocated to recover the post-crisis economy in a fair and effective manner. A strategic approach involves collaborating with local zakat institutions. These institutions possess the capacity to channel social funds directly to those in greatest need, both in the form of direct assistance and economic empowerment. This collaboration allows *zakat* and *infaq* funds to be used more efficiently in social and economic programs, such as small business capital, skills training, and initiatives to enhance the quality of life of the poor. In addition, *waqf* funds can be directed to infrastructure projects that support productive economic activities and improve people's welfare in a sustainable manner.

Integrating Islamic economic goals with the country's fiscal policy will accelerate economic recovery in a more equitable and sustainable manner. The state can optimize social spending to be right on target and provide maximum benefits for poverty alleviation and equitable economic development. Economic recovery based on Islamic principles will create stronger social and economic stability, reduce inequality, and support the general welfare of the entire community. This approach will eliminate instances of budgetary inefficiencies, ensuring that public funds are optimally utilized and directed towards the community's most pressing needs.

However, based on existing data, the fiscal policy of the North Sumatra Provincial Government has contributed to economic recovery. This is evidenced in the emergence of an indirect expenditure budget for social funds in 2021 amounting to IDR 24,438,316,000, which was previously non-existent in 2021. Furthermore, the government has reduced the direct expenditure budget by 35 percent across personnel, capital, goods and services. This undoubtedly signals a positive step and demonstrates the government's commitment to aligning budget allocations with community needs.

In line with the government's initiatives, the Human Development Index (HDI) variable also demonstrates a significant and positive impact on economic recovery in North Sumatra Province. This finding underscores that enhancing the community's quality of life, encompassing health (life expectancy), education (knowledge), and welfare (decent standard of living) will support economic recovery in North Sumatra Province. HDI should be a key focus for the government, particularly in specific areas with relatively low index values, such as West Nias Regency with the lowest HDI value in North Sumatra Province.

Interestingly, in addition to the six main independent variables used in this study, the regression results reveal that the Construction Cost Index, a control variable, also has a significant and negative effect on economic recovery in North Sumatra Province with a p-value of $0.03 < 0.05$. This means that a higher construction price relative to the reference city will likely result in a decrease in GDP per capita and hinder economic recovery. Several areas with favorable construction cost indices are the government, namely South Nias Regency (116.98) and West Nias Regency (111.92)

through assistance in controlling the availability of adequate supplies of construction materials.

CONCLUSION AND RECOMMENDATION

This study develops an economic recovery strategy for North Sumatra, focusing on fiscal and monetary policies' impact on MSME credit access, inflation, poverty, unemployment, regional budget efficiency, and the Human Development Index (HDI). The findings reveal that MSME credit access has a significant positive impact on economic recovery, while inflation has no significant effect. Poverty, measured through the lens of relative poverty theory, has a positive effect on economic recovery, emphasizing the significance of poverty reduction, while high unemployment levels hinder economic progress, emphasizing the need for job creation. The effectiveness of the regional revenue budget demonstrates minimal impact on economic recovery, suggesting that efficient expenditure is more crucial than maximizing revenue collection. Lastly, HDI has a significant positive effect, signaling that investment in human capital is essential for sustainable growth.

These results underscore the need for targeted policies to improve MSME credit access, enhance social welfare programs, and invest in human development to drive long-term economic recovery. Key recommendations include improving access to MSME credit by offering low-interest rates and expanding the reach of financial institutions, particularly in underserved regions such as North and West Nias. For regional governments, enhancing the efficiency of the revenue budget (with a target of over 90% utilization) and prioritizing poverty alleviation and job creation are essential. Strengthening collaboration with zakat institutions will ensure the effective distribution of social funds. Investments in human capital, particularly in low HDI areas such as West Nias, will be crucial for long-term development. Additionally, stabilizing the construction sector by managing material supply and controlling land/building inflation will support infrastructure projects. Lastly, Islamic Banks should increase financing to MSMEs, with Islamic Rural Banks focusing on micro-financing and Islamic Commercial Banks supporting SMEs through accessible and competitive financial products.

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