"Implications of Sharia-compliant financing trade-offs on unemployment and growth"

0 ⁰	CB EE		
FOUNDER	LLC "Consulting Publishing Company "Business Perspectives"		
PUBLISHER	LLC "Consulting Publishing Company "Business Perspectives"		
ISSN ONLINE	2222-1875		
ISSN PRINT	2222-1867		
JOURNAL	"Public and Municipal Finance"		
LICENSE	CC) EX This work is licensed under a Creative Commons Attribution 4.0 International License		
ACCEPTED ON	Thursday, 06 July 2023		
RECEIVED ON	Friday, 09 June 2023		
RELEASED ON	Tuesday, 11 July 2023		
DOI	http://dx.doi.org/10.21511/pmf.12(1).2023.09		
ARTICLE INFO	Sri Budi Cantika Yuli and Mochamad Rofik (2023). Implications of Sharia- compliant financing trade-offs on unemployment and growth. <i>Public and</i> <i>Municipal Finance</i> , <i>12</i> (1), 100-109. doi:10.21511/pmf.12(1).2023.09		
AUTHORS	Sri Budi Cantika Yuli 🝺 Mochamad Rofik		

NUMBER OF REFERENCES

NUMBER OF FIGURES



31

0



© The author(s) 2023. This publication is an open access article.





BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives" Hryhorii Skovoroda lane, 10, Sumy, 40022, Ukraine www.businessperspectives.org

Received on: 9th of June, 2023 **Accepted on:** 6th of July, 2023 **Published on:** 11th of July, 2023

© Sri Budi Cantika Yuli, Mochamad Rofik, 2023

Sri Budi Cantika Yuli, Department of Economics Development, Faculty of Economics and Business, Universitas Muhammadiyah Malang, Indonesia. (Corresponding author)

Mochamad Rofik, Department of Economics Development, Faculty of Economics and Business, Universitas Muhammadiyah Malang, Indonesia.



This is an Open Access article, distributed under the terms of the Creative Commons Attribution 4.0 International license, which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

Conflict of interest statement: Author(s) reported no conflict of interest Sri Budi Cantika Yuli (Indonesia), Mochamad Rofik (Indonesia)

IMPLICATIONS OF SHARIA-COMPLIANT FINANCING TRADE-OFFS ON UNEMPLOYMENT AND GROWTH

Abstract

As a Muslim-majority country, Indonesia possesses significant potential to harness Islamic banking as a key driver of its economy. This study aims to examine the effects of Shariacompliant financing provided by Islamic banks in Indonesia on the unemployment rate and economic growth. The analysis utilizes data on Sharia-compliant financing for non-bank third parties, open unemployment rate, and gross regional domestic product at constant prices as proxies for economic growth. Annual panel data from 33 provinces in Indonesia covering 2010 to 2021 are employed. The analysis employs a fixed-effect regression model using the generalized least squares (GLS) estimator. The findings of this study indicate that Sharia-compliant financing has a positive impact on reducing the unemployment rate and fostering economic growth. However, it is observed that the effectiveness of Shariacompliant financing in reducing unemployment diminishes as the share of such financing increases. Conversely, a higher market share of Sharia-compliant financing is associated with a more significant role in promoting economic growth. These findings highlight a trade-off between the impact of Sharia-compliant financing on growth and unemployment, suggesting that although growth driven by Sharia-compliant financing in Indonesia is present, it may need more inclusivity and more optimal job creation.

Keywords

Sharia-compliant financing, unemployment, growth, trade-off

JEL Classification O10, J01, G21

INTRODUCTION

Islamic finance presents several advantages that can foster an inclusive economy. By adopting the risk-sharing principle and steering speculative investments, Islamic banking intermediation offers an alternative approach to pursuing economic growth while ensuring stability (Abasimel, 2022; Rasheed et al., 2019). This approach promotes the development of the real sector, fosters sustainable economic growth, and contributes to job creation (Setiawan, 2019). Moreover, Islamic finance, rooted in the principle of mutual benefit, exhibits greater inclusivity, prioritizing societal welfare over mere profit. By providing financial accessibility and inclusion for individuals across all socioeconomic strata, Sharia-compliant financing offers opportunities to marginalized economic groups, thus reducing economic disparities and facilitating broader economic participation (Alam et al., 2022; Hashem, 2019).

Considering the basic principles of Islamic finance and Indonesia's status as a country with a majority Muslim population, Indonesia has a significant opportunity to optimize the potential of Sharia-compliant financing in driving economic growth and creating more job opportunities.

1. LITERATURE REVIEW

The availability of financing is widely acknowledged as a critical factor in fostering economic development. When coupled with inclusiveness, access to funding facilitates the establishment of new businesses, encourages product innovation, and supports business expansion. Berger and Udell (1998) emphasized the significance of external financing in promoting investment and business growth. The study demonstrated that businesses with greater access to external financing are more likely to achieve profitability and experience growth. Therefore, ensuring the availability of financing and facilitating access to it constitute fundamental pillars in driving business and economic development.

Further studies have also demonstrated that access to finance significantly influences company performance. Specifically, this influence primarily manifests in business continuity and the subsequent enhancement of performance through product innovation. Beck and Demirguc-Kunt (2006) revealed a positive relationship between financing and corporate growth. They established that companies with better access to financing exhibit a higher propensity for generating innovative products. Berger and Udell (1998) and Beck and Demirguc-Kunt (2006) emphasize that the availability of financing not only fuels business expansion but also cultivates a culture of innovation. Consequently, an enabling ecosystem and improved access to financing drive business growth and enhance the quality of growth through innovation. Quality growth, characterized by sustainability and a long-term orientation, is thus promoted.

Moreover, the impact of adequate access to financing on business growth extends to overall economic growth. Rajan and Zingales (1998) examined the relationship between financial development and economic growth, revealing that countries with well-developed financial systems experience higher economic growth rates. Their study further expounded that this heightened growth is attributable to the efficient intermediation provided by the financial sector. Therefore, in addition to access to finance, efficiency plays a pivotal role in driving both business and aggregate growth. Efficiency creates a more cost-effective financing ecosystem by reducing information asymmetry between businesses and financial institutions, such as banks.

Drawing upon the insights of Beck and Demirguc-Kunt (2006), Berger and Udell (1998), and Rajan and Zingales (1998), it is evident that the availability of financing and its inclusiveness are vital for stimulating economic development. Access to funding facilitates business expansion and fosters innovation, thereby enhancing the overall quality of growth. Furthermore, when coupled with efficiency, access to finance has a multiplier effect on aggregate economic growth. Thus, concerted efforts to enhance access to financing and promote efficiency in the financial sector can significantly contribute to sustainable economic development.

Banking is the primary intermediary that connects the business world with financial institutions. Banking intermediation, involving the accumulation and distribution of capital, plays a pivotal role in driving economies both in developed and developing countries. A comprehensive study conducted across 14 Asia-Pacific countries from 2003 to 2015 revealed that increased credit allocation contributed to economic growth in developed countries. In contrast, capital accumulation through bank intermediation positively influenced growth in developing countries (Fu et al., 2018). This study implicitly suggests that developing economies face a primary challenge regarding capital availability. Hence, when banks succeed in increasing capital accumulation, they concurrently enhance their capacity to effectively channel financing, ultimately fostering economic growth.

Considering the significant impact of bank financing on the economy, it is undeniable that it also influences the unemployment rate. The establishment of new businesses and the expansion of existing ones create additional job opportunities, reducing unemployment. Suyunov (2022) reveals that bank financing can enhance economic growth and reduce unemployment in Uzbekistan. Furthermore, Zakaria et al. (2015), employing panel data from South Asian countries from 1991 to 2005, found a positive impact of banking deregulation and bank financing on reducing unemployment. Suyunov (2022) and Zakaria et al. (2015) provide evidence that banking intermediation through capital accumulation and the distribution of financing positively affects job creation, thereby reducing the unemployment rate.

Similar findings regarding the role of banking intermediaries in reducing unemployment have also been observed in Indonesia. Sipahutar (2016) used the vector autoregressive (VAR) model with data from 1990 to 2014 and confirmed that credit allocated by banks contributes to business expansion in the real sector, leading to economic growth and reduced unemployment rates through increased labor demand. This study also emphasizes that bank credit is a crucial explanatory factor in the Indonesian economy. Banking plays a vital role in Indonesia's economy as banks remain the primary source of financing, particularly considering the characteristics of the Indonesian economy, which small and medium-sized enterprises and the informal sector predominantly support. As a result, finding alternative financing sources outside the banking sector can take time and effort.

While existing studies generally demonstrate a positive impact of bank financing on unemployment, it is necessary to note that Sipahutar (2016), Suyunov (2022), and Zakaria et al. (2015) primarily focused on conventional banking. Limited evidence exists regarding the relationship between Sharia-compliant financing provided by Islamic banking and unemployment. However, from a theoretical perspective, Sharia-compliant financing possesses unique characteristics by prioritizing the real sector, avoiding speculation, and promoting inclusivity through its principle of mutual benefit (Hassan et al., 2021; Nawaz et al., 2019). Therefore, based on the distinctive features of Islamic finance, Sharia-compliant financing has the potential to facilitate inclusive financing, cater to sectors that have been underserved by conventional banking, and stimulate the emergence of new businesses, consequently creating job opportunities.

Sabiu and Abduh (2021) explored the relationship between Sharia-compliant financing and unemployment. Their survey-based research adopts a quasi-experimental approach with a sample of 385 small and medium-sized enterprise (SMEs) beneficiaries and non-beneficiaries of Islamic bank financing in Kano Metropolis, Nigeria. The study reveals that SMEs receiving Sharia-compliant financing significantly positively affect job creation. Similarly, Setiawan (2019) conducts a sector-based study demonstrating the positive impact of Sharia-compliant financing on reducing unemployment. While Sabiu and Abduh (2021) and Setiawan (2019) offer practical insights, it is worth noting that Sabiu and Abdus (2021) focused solely on SMEs, and Setiawan (2019) examined the impact of Sharia-compliant financing from a sectoral perspective, which does not account for generalization.

Moreover, both Sabiu and Abduh (2021) and Setiawan (2019) do not fully consider the characteristics of the Indonesian economy, which implements a dual banking system comprising conventional and Islamic banking. Additionally, data indicate that although Indonesia has a predominantly Muslim population, the average ratio of Sharia-compliant financing over the past decade has only been around 5%, with the highest ratio reaching approximately 50% and the lowest ratio being less than 1% (see Table 1). Furthermore, the share of Sharia-compliant financing varies significantly among different regions. Given the heterogeneity of the market share for Sharia financing in Indonesia, this study also includes the share of Sharia-compliant financing as an additional explanatory variable to explore whether regions with a higher market share for Sharia financing have an advantage over regions with a lower market share for Sharia financing.

In addition to numerous studies and assertions supporting the positive impact of Shariacompliant financing on reducing unemployment, it is crucial to acknowledge its challenges, particularly in terms of efficiency. Islamic banks have been found to exhibit relatively lower efficiency in resource utilization compared to their conventional counterparts, resulting in higher costs associated with Sharia-compliant financing (Abdul-Majid et al., 2010; Alqahtani et al., 2017). Consequently, while Sharia financing has the potential to promote inclusive financing and generate new job opportunities, its contribution may not be commensurate with driving overall economic growth. Moreover, the market share of Sharia-compliant financing in Indonesia remains relatively limited. Consequently, unlike its impact on unemployment, Sharia-compliant financing may have a restricted or statistically neutral effect on growth.

Introducing the variable of the share of Shariacompliant financing into the model enables this paper to examine whether a higher proportion of Sharia financing exerts a positive impact on reducing unemployment. If Sharia financing in Indonesia truly targets sectors underserved by conventional banking, it is anticipated that a larger share of Sharia financing would correspondingly contribute to a reduction in unemployment. This principle also applies to the impact of Sharia financing on growth, whereby an increase in the proportion of Sharia financing would ideally result in an overall boost in economic growth.

To ensure the robustness of the model, this study incorporates direct local spending as a fiscal control variable. The study aims to gain a deeper understanding of how fiscal policy influences unemployment and growth by including government spending. Numerous studies have consistently demonstrated the pivotal role of government spending in stimulating the economy and generating employment opportunities (Kamis et al., 2020; Saini & De silva, 2015; Siefu et al., 2018). In addition to government spending, this study also considers the inflation rate as a control variable, drawing upon insights from Barro (2013), Mandala (2020), and Rostin et al. (2019). The inclusion of the inflation rate is motivated by the potential impact of high inflation on the effectiveness of Sharia-compliant financing in the economy. Lastly, this study includes the inequality variable as an additional control variable. This decision stems from the recognition that excessive concentration of capital due to wide inequality can impede the proper functioning of the economic system (Beck et al., 2007; Breunig & Majeed, 2020; Lee et al., 2022). By incorporating these control variables, the study enhances the comprehensiveness and reliability of the analysis.

Based on an extensive literature review, this study aims to examine the influence of Sharia-compliant financing and the share of Sharia-compliant financing on unemployment and economic growth in Indonesia. This study posits that Sharia-compliant financing has the potential to generate job opportunities, thus reducing unemployment. However, considering the inefficiency of Islamic banking and the low share of Sharia-compliant financing in Indonesia, it is hypothesized that Sharia-compliant financing does not significantly impact economic growth. Additionally, regarding the share of Shariacompliant financing, this study hypothesizes that regions with a high level of Sharia-compliant financing will experience a reduction in unemployment. Moreover, regions with a substantial share of Sharia-compliant financing tend to enhance Islamic banks' efficiency, leading to increased involvement in the economy and stimulating growth.

Specifically, this study formulates four primary hypotheses:

- *H1:* Sharia-compliant financing has a significant negative effect on the unemployment rate.
- H2: Sharia-compliant financing has a neutral effect on the economic growth rate.
- H3: The share of Sharia-compliant financing has a significant negative effect on the unemployment rate.
- *H4:* The share of Sharia-compliant financing has a significant positive effect on the rate of economic growth.

2. METHOD

This study utilizes annual data from 33 provinces in Indonesia from 2010 to 2021. The data on unemployment, regional government spending, inflation, and the Gini ratio were sourced from the Central Bureau of Statistics. Data on Shariacompliant financing were obtained from statistical reports on the Indonesian economy and banking issued by the Financial Services Authority and Bank Indonesia.

The open unemployment data represent the unemployment data in the second half semester of each year, and economic growth is represented by real gross domestic product (RGDP). The data on the distribution of Sharia-compliant financing by Islamic bank lending reflect the distribution of Sharia-compliant banking financing to non-bank

third parties. This study also investigates the relationship between the share of Sharia-compliant financing and unemployment through a dummy variable. A value of 1 represents a share of Shariacompliant financing above the average (high share), while 0 is the rest of the high proportion (low share). This average is calculated based on the distribution of Sharia-compliant financing across 33 provinces during the 2010-2021 period, in detail share of Sharia-compliant financing is obtained by dividing the total of Sharia-compliant bank financing by total bank financing that involves Sharia-compliant and conventional financing for each province and each period. Furthermore, only the direct regional government expenditure (DRGE) is used as proxies for government expenditure. Meanwhile, inflation is based on core inflation, and inequality data are obtained from the Gini ratio.

To account for the unique characteristics of each region, this study employs fixed-effect panel data regression and utilizes the generalized least squares (GLS) estimation method. GLS addresses heteroscedasticity and autocorrelation issues (Bai et al., 2021; Bamati & Raoofi, 2020). The GLS method is used to obtain optimal estimates of the regression coefficients. This method involves calculating weights assigned to each observation based on the covariance between the dependent and independent variables and the covariance between observations from different individuals at different periods. By employing appropriate weights, GLS estimates can generate more efficient and consistent estimates than other regression methods (Bai et al., 2021). Thus, the study elaborates on the following four models:

Model 1.a

$$U_{it} = \alpha + \beta_1 \log S_{it} + \beta_2 \log E_{it} + \beta_3 I_{it} + \beta_4 G_{it} + \varepsilon_{it}, \qquad (1)$$

Model 1.b

$$U_{it} = \alpha + \delta d_{it} + \beta_1 \log S_{it} + \beta_2 \log E_{it} + \beta_3 I_{it} + \beta_4 G_{it} + \varepsilon_{it}, \qquad (2)$$

Model 2.a

$$\log Y_{it} = \alpha + \beta_1 \log S_{it} + \beta_2 \log E_{it} + \beta_3 I_{it} + \beta_4 G_{it} + \varepsilon_{it},$$
(3)

Model 2.b

$$\log Y_{it} = \alpha + \delta d_{it} + \beta_1 \log S_{it} +$$

+
$$\beta_2 \log E_{it} + \beta_3 I_{it} + \beta_4 G_{it} + \varepsilon_{it},$$
(4)

where *U* represents the unemployment rate, *Y* represents economic growth, *S* represents Shariacompliant financing, and *E*, *I* and *G* represent regional government expenditure, inflation, and the Gini ratio. Meanwhile, d is a dummy variable (1 for the share of Sharia-compliant financing above the average and otherwise is 0). B is the variable coefficient, δ is the dummy variable coefficient, α is a constant, and ε is the error term. Meanwhile, *i* represents the province, and *t* represents the time.

3. RESULTS

Based on Table 1, the average unemployment rate is 5.5%, with a standard deviation of 2.151%. The data indicate significant heterogeneity in the unemployment rate, with the highest recorded rate reaching 13.740% and the lowest being around 1.4%. Similarly, there is heterogeneity in the deepening of Sharia financing, with an average ratio of 5.5% and a standard deviation of 4.7%. The highest ratio recorded is 50%, while the lowest is close to 0%. These findings demonstrate the diversity and variation in both the unemployment rate and the extent of sharia financing across different regions. Furthermore, Table 2 shows that all independent variables have correlation values below 0.8, suggesting that the variables in the model are not highly correlated; therefore, the data are free from multicollinearity (Zuhroh et al., 2021). This condition is important for the reliability and validity of the regression results, as it ensures that each variable contributes unique information to the analysis without redundant or overlapping effects.

The results of this study provide empirical support for Hypothesis 1. The regression findings from models 1.a and 1.b, as presented in Table 3, reveal that Sharia-compliant financing in Indonesia significantly reduces unemployment. Model 1.a indicates that a 1% increase in Sharia-compliant financing is associated with a 0.023% decrease in unemployment, while model 1.b shows a 0.035% decrease. The regression results from the two constructed models unequivocally demonstrate the

Table 1. Descriptive statistics

Variables	Mean	Max	Min	SD
Unemployment rate (%)	5.537	13.740	1.400	2.151
GDRP (Billion IDR)	278,744.477	1,856,301.410	14,983.910	391,855.773
Sharia-compliant financing (Billion IDR)	6,733.641	156,021.000	1.000	18,140.711
Share of Sharia-compliant financing	0.055	0.500	0.0000339	0.047
Government expenditure (Million IDR)	3,156.345	35,373.952	308.000	4,434.429
Inequality/Gini ratio	0.365	0.459	0.256	0.038
Inflation (%)	4.264	8.380	1.680	2.238
Total observation	396	396	396	396

Table 2. Multicollinearity test

Variables	Sharia-compliant Fin.	Gov. Expenditure	Inflation	Gini ratio
Sharia-compliant Fin.	1	-	-	-
Gov. Expenditure	0.490	1	-	-
Inflation	-0.201	0.681	1	-
Gini ratio	0.210	0.285	0.245	1

substantial role of Sharia-compliant financing in reducing unemployment.

The regression coefficients of models 2.a and 2.b reject the neutrality hypothesis of Sharia financing on economic growth. Model 2.a demonstrates that Sharia-compliant financing positively affects economic growth, with a 1% increase in Shariacompliant financing associated with a 0.037% increase in growth. Conversely, model 2.b suggests that a 1% increase in Sharia financing leads to a 0.017% decrease in growth. The rejection of the hypothesis in both models indicates insufficient robust evidence regarding the role of Sharia-compliant financing in driving growth. This may be attributed to the relatively low market share of Sharia-compliant financing compared to conventional financing. Consequently, the precise impact of Sharia-compliant financing on growth remains unclear.

The findings of this study further invalidate Hypothesis 3. Regions with a high share of Sharia-

Table 3. Regression result

	Dependent variable			
to do a surdent contable	Unempl	oyment	Gro	wth
Independent variable	Model		Model	
	1.a	1.b	2.a	2.b
	-0.023218*	-0.035001*	0.037850*	-0.017747*
Sharia-compliant financing	(0.000745)	(0.002472)	(0.002487)	(0.007960)
	-	0.007457*	-	0.035182*
Share of Sharia-compliant financing	-	(0.001496)	-	(0.004818)
	-0.032836*	-0.019487*	0.338212*	0.401197*
Government expenditure	(0.001474)	(0.003035)	(0.004921)	(0.009773)
	0.002460*	0.002733*	-0.000153	0.001132*
Inflation	(0.000111)	(0.000120)	(0.000370)	(0.000388)
ст. т. н.	0.402283*	0.328944*	0.396857*	0.050819
Gini ratio	(0.012078)	(0.018797)	(0.040317)	(0.060530)
C++	0.127291*	0.151251*	4.509702*	4.622750*
Constant	(0.006514)	(0.007931)	(0.021744)	(0.025540)
	Weighted	Statistics		
Root MSE	-0.023218	0.003235	0.011166	0.010417
Mean dependent var	0.079200	0.079200	6.086318	6.086318
S.D. dependent var	0.014352	0.014352	0.072937	0.072937
R-squared	0.945540	0.949074	0.976506	0.979552
F-statistic	173.1403	180.3196	414.4778	463.5012

Note: *and ** represent the significant levels at 1% and 5%.

compliant financing exhibit a detrimental effect on reducing unemployment. This is evident from the positive and statistically significant coefficient of the dummy variable representing the share of Sharia financing in model 1.b. These results indicate that regions with a substantial share of Sharia financing do not experience the desired reduction in unemployment through this type of financing. This observation suggests the presence of an inadequately inclusive market for Sharia-compliant financing despite its expanding market share.

The results from model 2.b support Hypothesis 4, indicating that regions with a higher level of Shariacompliant financing tend to derive greater benefits in terms of economic growth. A larger market share promotes efficiency, as observed in the case of Indonesia. The magnitude of the impact on growth increases alongside the expansion of the market share. However, regarding the findings of Hypothesis 2, an increase in the market share coincides with a decrease in the benefits associated with reducing unemployment.

Furthermore, the direct regional expenditure for each model demonstrates robust results, indicating that it has a significant positive impact on reducing unemployment and boosting growth. In addition, both models 1.a and 1.b show a significant positive coefficient for inflation, suggesting that higher inflation leads to an increase in the unemployment rate. However, in model 2.a, inflation has a negative impact that is not statistically significant, while in model 2.b, positive inflation significantly drives growth. Moreover, the Gini ratio in models 1.a and 1.b exhibits a significant positive coefficient, indicating a direct relationship between inequality and the unemployment rate. Conversely, in model 2.a, the Gini ratio has a significant positive impact on driving growth, but its effect is not statistically significant in model 2.b.

4. DISCUSSION

4.1. Sharia-compliant financing, unemployment, and growth

The results of both models unequivocally demonstrate the capacity of Islamic finance in Indonesia to alleviate unemployment. These findings not only corroborate the outcomes of Setiawan (2019) but also furnish robust empirical evidence that Sharia-compliant financing holds the potential to mitigate unemployment. However, model 1.b uncovers an interesting insight, indicating that the efficacy of Sharia-compliant financing in reducing unemployment is attenuated in regions characterized by a high level of Sharia-compliant financing. This is evident from the significant positive value of the dummy variable. Consequently, it is imperative to encourage the equitable distribution of Sharia-compliant financing, particularly in sectors and regions where its share is currently low. Such an approach will yield substantial benefits in terms of reducing unemployment.

From a theoretical standpoint, higher levels of Sharia-compliant financing have the potential to stimulate economic diversification. This can be attributed to businesses undertaking a wider range of projects and activities, thereby creating job opportunities in previously overlooked or underdeveloped (Nawaz et al., 2019; Ouédraogo et al., 2021). However, it is plausible that the diminished impact of Sharia-compliant financing on the unemployment rate in regions with a high share of it can be attributed to Sharia-compliant financing no longer targeting sectors that conventional banks underserve. If this assumption holds, the efforts to increase the proportion of Sharia-compliant financing may not substantially impact, particularly in reducing unemployment. This is because Sharia-compliant financing would become a substitute rather than a complement to conventional financing.

Furthermore, concerning model 2.b, it is apparent that the positive impact of Sharia-compliant financing on driving growth depends on the share of Sharia-compliant financing. The positive effect of Sharia-compliant financing is observed in regions with a significant share of such financing. In contrast, regions with a relatively small share do not experience a positive impact and may even show indications of a negative impact. Referring to Abdul-Majid et al. (2010) and Alqahtani et al. (2017), Islamic banks tend to exhibit inefficiencies. Considering the low market share of Sharia financing, inefficiency will likely decrease as the Islamic banking market grows. This explanation supports the notion that regions with a high share of Sharia-compliant financing tend to receive positive benefits, particularly in growth.

Specifically, in models 1.b and 2.b, a trade-off between the unemployment rate and growth becomes apparent. A relatively small share of Sharia-compliant financing has the potential to reduce unemployment to some extent, although it does not make significant contributions to driving overall growth. However, as the market share of Sharia-compliant financing increases, the impact on reducing unemployment becomes less prominent. In contrast, the potential benefits of Sharia-compliant financing in driving greater growth become more pronounced. Therefore, the expanding share of Sharia-compliant financing does stimulate economic growth. However, as the market share continues to grow, the growth needs to be more inclusive and generate substantial employment opportunities.

Based on these findings, it would be beneficial to prioritize the segmentation of Islamic banks toward small-scale businesses and the real sector. When conventional banks primarily focus on corporations, the nature of Islamic banks has transitioned from being a complement to conventional banking to becoming a substitute. Hence, this study advocates for Islamic banks to concentrate on market segments that have been underserved by conventional banking, as this would allow the growth of Sharia-compliant financing to complement conventional banking.

4.2. Government expenditure

This study provides compelling evidence of the positive impact of direct regional expenditure (DRE) on reducing unemployment and promoting economic growth. The positive effect of DRE in reducing unemployment can be attributed to several factors. Firstly, direct local spending often involves government investments in infrastructure projects and public services, stimulating economic activity and leading to growth and increased employment opportunities. Secondly, DRE can enhance the competitiveness and attractiveness of specific areas for businesses and investments, attracting new industries that foster growth and employment.

4.3. Inflation

This study reveals a contradictory relationship between inflation, unemployment, and economic growth. In models 1a and 1b, inflation has a significant positive impact on unemployment, indicating that higher inflation rates during the observed period lead to a loss of employment opportunities, consequently increasing unemployment. However, in model 2a, inflation significantly stimulates growth, although it is not significant in model 2b. Based on these findings, it is possible that the trade-off only occurs between inflation and growth, while there is no trade-off in the relationship between inflation and unemployment. This observation aligns with the effect of Sharia financing on growth and unemployment, indicating that the growth generated may not be inclusive enough to have a substantial impact on employment opportunities.

4.4. Inequality

This study reveals that inequality, as indicated by an increase in the Gini ratio, also negatively affects unemployment. Models 1a and 1b demonstrate a significant positive coefficient, indicating that a higher Gini ratio is associated with a higher unemployment rate. Additionally, the impact of inequality on growth is significantly positive in model 2a and insignificantly positive in model 2b. When income inequality increases, it often signifies a concentration of wealth and resources among a small population. This concentration of resources can result in limited access to productive assets, education, and employment opportunities for a large population segment. Consequently, the unemployment rate may rise as a significant portion of the population faces restricted access to employment opportunities and income-generating activities. However, the positive impact of the Gini ratio on growth suggests that inequality during the observed period is still within reasonable limits without excessively impeding growth.

CONCLUSION

This study investigates the influence of Sharia-compliant financing provided by Islamic bank lending on Indonesia's unemployment rates and economic growth. The results indicate a trade-off between the impact of Sharia-compliant financing in reducing unemployment and promoting growth. Regions with a more significant proportion of Sharia-compliant financing tend to experience higher economic growth, but the effect on reducing unemployment becomes less noticeable.

The result emphasizes the crucial role of regional government spending in decreasing the unemployment rate and fostering economic growth. Furthermore, the analysis reveals a negative correlation between inflation and unemployment, suggesting that higher inflation rates are linked to increased unemployment. However, the relationship between inflation and growth does not exhibit statistical significance. Finally, the study demonstrates that increasing inequality, as measured by the Gini ratio, tends to contribute to higher unemployment rates, although it does not significantly affect growth.

AUTHOR CONTRIBUTIONS

Conceptualization: Sri Budi Cantika Yuli, Mochamad Rofik. Data curation: Mochamad Rofik. Formal analysis: Mochamad Rofik. Funding acquisition: Sri Budi Cantika Yuli. Investigation: Sri Budi Cantika Yuli. Methodology: Mochamad Rofik. Project administration: Sri Budi Cantika Yuli. Resources: Sri Budi Cantika Yuli. Software: Mochamad Rofik. Supervision: Sri Budi Cantika Yuli. Validation: Sri Budi Cantika Yuli. Validation: Sri Budi Cantika Yuli. Visualization: Mochamad Rofik. Writing – original draft: Mochamad Rofik. Writing – review & editing: Sri Budi Cantika Yuli.

REFERENCES

- Abasimel, N. A. (2022). Islamic banking and economics: Concepts and instruments, features, advantages, differences from conventional banks, and contributions to economic growth. *Journal of the Knowledge Economy*. https://doi.org/10.1007/s13132-022-00940-z
- Abdul-Majid, M., Saal, D. S., & Battisti, G. (2010). Efficiency in Islamic and conventional banking: An international comparison. *Journal of Productivity Analysis*, 34(1), 25-43. https://doi. org/10.1007/s11123-009-0165-3
- Alam, A. W., Banna, H., & Hassan, M. K. (2022). ESG activities and bank efficiency: Are

Islamic banks better? *Journal of Islamic Monetary Economics and Finance*, 8(1), 65-88. https://doi. org/10.21098/jimf.v8i1.1428

- Alqahtani, F., Mayes, D. G., & Brown, K. (2017). Islamic bank efficiency compared to conventional banks during the global crisis in the GCC region. *Journal of International Financial Markets, Institutions and Money, 51,* 58-74. https://doi. org/10.1016/j.intfin.2017.08.010
- Bai, J., Choi, S. H., & Liao, Y. (2021). Feasible generalized least squares for panel data with crosssectional and serial correlations. *Empirical Economics*, 60(1), 309-326. https://doi.org/10.1007/ s00181-020-01977-2

- Bamati, N., & Raoofi, A. (2020). Development level and the impact of technological factor on renewable energy production. *Renewable Energy*, 151, 946-955. https://doi. org/10.1016/j.renene.2019.11.098
- Barro, R. J. (2013). Inflation and economic growth. Annals of Economics and Finance, 14(1), 85-109. Retrieved from http:// down.aefweb.net/AefArticles/aef-140106Barro.pdf
- Beck, T., & Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, 30(11), 2931-2943. https://doi.org/10.1016/j. jbankfin.2006.05.009

- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal* of Economic Growth, 12(1), 27-49. https://doi.org/10.1007/s10887-007-9010-6
- Berger, A. N., & Udell, G. F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal* of Banking and Finance, 22(6-8), 613-673. https://doi.org/10.1016/ S0378-4266(98)00038-7
- Breunig, R., & Majeed, O. (2020). Inequality, poverty and economic growth. *International Economics*, 161, 83-99. https://doi. org/10.1016/j.inteco.2019.11.005
- Fu, X. (M.), Lin, Y. (R.), & Molyneux, P. (2018). The quality and quantity of bank intermediation and economic growth: Evidence from Asia Pacific. *Applied Economics*, 50(41), 4427-4446. https://doi.org/10.1080 /00036846.2018.1450486
- Hashem, E. (2019). The role of Islamic finance in achieving SDGs: Case study-Egypt. *International Research Journal of Finance and Economics*, 176.
- Hassan, M. K., Rana, M. S., Alam, M. R., & Banna, H. (2021). Reinvigorating the contributions of Islamic social finance in attaining the SDGs: A review. *International Journal of Islamic Economics and Governance.*
- Kamis, R., Abd Majid, H. N., & Ramlee, N. I. M. (2020). Government expenditures and economic growth. Social and Management Research Journal, 17(2), 241-262. https://doi. org/10.24191/smrj.v17i2.10533
- Lee, D., Doerr, S., & Drechsel, T. (2022). *Income inequality and job creation* (CEPR Discussion Paper No. DP17342). https://doi. org/10.2139/ssrn.4149736
- Mandala, R. A. M. (2020). Inflation, government expenditure, and economic growth in Indonesia. *Jambura Equilibrium Journal*, 2(2). https://doi. org/10.37479/jej.v2i2.6961

- Nawaz, H., Abrar, M., Salman, A., & Bukhari, S. M. H. (2019). Beyond finance: Impact of Islamic finance on economic growth in Pakistan. *Economic Journal of Emerging Markets*, 11(1), 8-18. https://doi.org/10.20885/ejem. vol11.iss1.art2
- Ouédraogo, R., Sawadogo, R., & Sawadogo, H. (2021). Access to the banking sector and employment in Africa. *The Quarterly Review of Economics* and Finance, 82, 260-269. https:// doi.org/10.1016/j.qref.2021.09.009
- Rajan, R. G., & Zingales, L. (1998). Financial dependence and growth. *American Economic Review*, 88(3), 559-586. Retrieved from https:// www.jstor.org/stable/116849
- Rasheed, R., Siddiqui, S. H., & Chaudhry, I. S. (2019). Development of SMEs with provision of Islamic finance in emerging economies: A case of Pakistan. *Journal Zia-Tahqeeq*, 9(17), 35-51. Retrieved from https://ziaetahqeeq.gcuf.edu.pk/ issue/current%20Issue%20Vol%20 09/English%203.pdf
- Rostin, R., Muthalib, A. A., Adam, P., Nur, M., Saenong, Z., Suriadi, L. O., & Baso, J. N. (2019). The effect of crude oil prices on inflation, interest rates and economic growth in Indonesia. *International Journal of Energy Economics and Policy*, 9(5), 14-19. https://doi. org/10.32479/ijeep.7829
- Sabiu, T. T., & Abduh, M. (2021). Impact of Islamic banking inclusion on SME employment growth in Nigeria. *Journal of Islamic Monetary Economics and Finance*, 7(1), 77-106. https://doi. org/10.21098/jimf.v7i1.1354
- Saini, V., & De silva, D. G. (2015). Government spending and job creation at highway construction firms: Evidence from Texas. *Economics Bulletin*, 35(1), 204-213. Retrieved from http://www.accessecon.com/Pubs/EB/2015/Volume35/EB-15-V35-I1-P23.pdf
- 25. Setiawan, I. (2019). The role of Islamic banking in the development of economic sectors in Indonesia. *International Journal*

of Applied Business Research, 1(02), 88-99. https://doi.org/10.35313/ ijabr.v1i02.70

- 26. Siefu, D. D., Njocke, M., & Yah, N. C. (2018). Government spending and economic growth in Cameroon. *European Scientific Journal (ESJ)*, 14(28), 68-100. https://doi.org/10.19044/esj.2018. v14n28p68
- Sipahutar, M. A. (2016). Effects of credit on economic growth, unemployment and poverty. *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan, 17*(1), 37-49. https://doi.org/10.23917/jep. v17i1.1651
- Suyunov, A. (2022). Do foreign direct investments and bank credits affect employment in Uzbekistan? *Journal of Economics* and Development, 24(2), 98-111. https://doi.org/10.1108/jed-06-2021-0082
- Yahaya, M. H., & Ahmad, K. (2018). Financial inclusion through efficient zakat distribution for poverty alleviation in Malaysia: Using fintech & mobile banking. Proceeding of the 5th International Conference on Management and Muamalah. Bangi, Malaysia.
- Zakaria, M., Risalat, R., & Fida, B. A. (2015). Banking deregulations and unemployment in South Asia. *Journal of Economic Integration*, 30(4), 799-820. https://doi. org/10.11130/jei.2015.30.4.799
- Zuhroh, I., Rofik, M., Echchabi, A., & McMillan, D. (rev.ed.). (2021). Banking stock price movement and macroeconomic indicators: K-means clustering approach. *Cogent Business and Management*, 8(1), 1980247. https://doi.org/10.1 080/23311975.2021.1980247