**Mudharabah Deposits Among Conventional Bank Interest Rates, Profit-Sharing Rates, Liquidity and Inflation Rates**

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**Abstract**

This paper aims to examine the effect of conventional bank interest rates (CBIR), profit-sharing rates (PS), the level of liquidity proxied in the finance-to-deposit ratio (FDR) and the inflation rate (IR) against mudharabah deposits (MDs). The sample comes from eight Islamic public banks registered in the Financial Services Authority (OJK) and Bank Indonesia (BI) for the period from 2013 to 2017. The research uses a data panel regression analysis using EViews 8 to test the significance of tribal-level influence on conventional bank interest, profit-sharing growth rate, liquidity level and inflation rate. The results provide evidence that conventional interest rates do not affect MDs; the profit-sharing rate has a significant positive effect on MDs; the FDR has a positive effect on MDs, and the IR does not affect MDs. The results can increase our understanding of the variables that affect the volume of MDs. The results of this research have practical implications for people who will invest, giving them a better basis for making deposit and investment decisions by looking at interest rates and profit-sharing systems that are in line with Islamic investment principles that apply no uncertainty (Garar), interest (Riba) and gambling (Maisir) investments to cover all aspects of life (way of life).

**Keywords:** conventional bank interest rates, Mudharabah deposits, profit-sharing, finance-to-deposit ratio, inflation rate

1. **Introduction**

Through legislation, the Indonesian government supports the innovation and development of the Islamic finance industry. One of these Islamic financial products is mudharabah deposits (MDs). However, there are still many Muslims in Indonesia who doubt halal-haram investing and if it is truly in accordance with Islamic rules (bareksa.com, 2019). Here, the active role of Islamic banking in introducing Islamic investment instrument products has emerged because of the high gap between the deposit and the opportunities to invest. This gap is also in line with Islamic finance users, who tend to be lower than the total population of Muslims in Indonesia (Beik, 2019; Pew Research, 2015). In addition, the Indonesian sharia financial market share is still relatively small, only reaching 5.3% of the national banking industry in 2016. This achievement is far below other countries, such as Saudi Arabia at 51.1%, Malaysia at 23.8% and the United Arab Emirates at 19.6% (Ministry of Communication and Informatics, 2017).

MDs are one of the products of raising funds in Islamic banks where there must be an agreement between two parties; the fund owner and the fund manager must determine the ratio, the procedure for sharing profits and the risks (Z. Iqbal & Mirakhor, 2011; Zainul Arifin, 2012). It is possible that this MDs product can support the innovation and development of the Islamic finance industry. The number of products offered could provide an opportunity for investors to buy more products. Looking at demand theory, if MDs product is illustrated as goods, the price of a market is profit-sharing, and conventional bank interest rates, are expected MDs to grow rapidly and Good Signal for Investor in Indonesia (Bourkhis & Nabi, 2013; Nugroho, Utami, Doktoralina, Soekapdjo, & Husnadi, 2017; Nugroho, Utami, Sukmadilaga, & Fitrijanti, 2017; Spence, 1973; Weill, 2011)

Many Islamic banks have seen a decrease in the number of assets each year, but Bank Syariah Mandiri (BSM) has actually experienced an increase in feasible assets. Some of the alleged causes of increased income and profit sharing are bank size and the composition of MDs products is large compared to third-party funds. In addition, the limited research that juxtaposes the influence between banks with two operational roles, namely conventional and Sharia,
leaves an opportunity for more research. Moreover, there are differences in the results of research that show the influence and influence of inflation factors on MDs, including liquidity factors, profit-sharing factors (Al Farizi & Riduwan, 2016; Andriyanti & Wasilah, 2010; Yulianto & Solikjah, 2016) and conventional bank interest rates (Charap & Cevik, 2011; Haron & Ahmad, 2000).

Based on this phenomenon and the limited research in Indonesia, the current study analyses how conventional bank interest rates influence the growth rate of MDs in Islamic banks in Indonesia. How does the profit-sharing rate affect the growth rate of MDs in Islamic banks in Indonesia? What is the effect of liquidity on the growth rate of MDs in Islamic banks in Indonesia? How does inflation affect the growth rate of MDs in Islamic banks in Indonesia?

2. Literature Review

2.1 Theoretical Study

In the demand theory, the inherent price in a product influences its demand, which is true of investments as well (Hildenbrand, 2014). In the current study, the goods are the amount of MD, and the price of a market is the yield and the interest rates of conventional banks. Differences in information regarding these deposit products usually can be seen through signals coming from the individual or organisational behaviour in interpreting signals, as explained by Spence (1973) in the signalling theory. Hence, when information has been received by market participants, it is prudent to first interpret and analyse the information as good or bad news (Hartono, 2016).

2.2 Mudharabah Deposits Compared With Conventional Deposits

MDs are deposits where there is a contract between two parties, namely the owner of the fund (Shahibul Maal) and the fund manager (Mudharib), organising an agreement on how to provide benefits and how to calculate profit-sharing and risks (M. Iqbal & Molyneux, 2016). Therefore, the link between banks and money in a business unit of MDs is important. The interest rates show that the general view of the community between deposits in conventional banks and Sharia is only because of technical banking concepts such as contract agreements and rewards, as well as the amount of deposit volume.

Meanwhile, several theories, such as the demand theory by Keynes (2018), modern quantity theory (Cohen & Harcourt, 2003; Laidler, 2014) transaction motive (Hosen & Nährwi, 2012) and motive for speculation (Hadiyanto & Haryanto, 2013), and the product is an MD, the price of a market is a profit share, and there is a conventional bank interest rate, then there is a relationship between the demand for price increases and the output. The intended output is as follows: if the conventional bank interest increases, then the demand for profit-sharing and interest rates on MDs will decrease. Conversely, if the profit-sharing is higher than the interest of a commercial bank, the demand for MDs increases because the customer is motivated by increased profits. So regarding the general nature of mudharabah bonds, the quality is oriented better than conventional financial assets. Therefore, taking into account the existing theories and empirics, the link between the independent variables becomes interesting.

2.3 Effect of Interest Rates on Mudharabah Deposits

The classical theory explains that saving and investment requirements determine the prevailing interest rate (Keynes, 2018). Therefore, interest rates are considered an important factor in determining people’s behaviour when it comes to saving money (Abduh, Omar, & Duasa, 2011). Thus, the Central Bank of Indonesia acting as a monetary controller, can determine the monetary policy of Bank regarding interest rates and announce to the public the percentage of money lent to the community (Woodford, 2011). However, rapid monetary growth coupled with stagflation and rising interest rates are a Keynesian challenge; here, the quantity of money theory suggests a direct relationship between changes in the amount of money in circulation and changes in the price of goods (Friedman, 2017).

Meanwhile, even from an Islamic perspective, bank interest is haram (Ahmed, 2011; Hanif, 2014), and the haram resolution of the bank interest has been explained in the Qur’an Surah al-Baqarah: 275, Surah An-Nisa: 161, Ar-Rum: 39, Al-Imran: 130 and Hadith of Muslim History: 2995. However, in reality, every change in interest rates in conventional banks affects the deposits and loans of conventional banks and Islamic banks (Ergeç & Arslan, 2013). This correlation that affects the deposits and sharia savings loans, providing them with a high rate of return and low-interest rates, is supported by the studies conducted by Kasri and Kassim, (2009). Even though interest rates affect the volume of deposits, researchers have tried to compare interest rates by referring to interest rates that exist in conventional banks. Based on this, the first hypothesis can be constructed:

\[ H_1: \text{The interest rate has a negative effect on the growth rate of MDs.} \]
2.4 Effect of Profit-Sharing Levels on Mudharabah Deposits

In the Islam religion, bank interest is *haram* and should not be collected related to the development, investment and profit-sharing (Hanif, 2014). In Hadith Ad-Daruquthni, Number: 3033 explained that The requirement to avoid usury and sin means that people who operate businesses and investment by unite and build strength (profit-sharing) by combining the persons having skills likely to improve small entrepreneurs (SMEs) and the persons having capital (Alwi, Sari, Hamat, & Doktoralina, 2019; Hanapi, Mastura, & Doktoralina, 2019; Rekarti, Bahari, Zahari, Doktoralina, & Ilias, 2019; Yai, 2019). This is the strength of the implementation of Islamic banks and one of the differences from conventional banks. The Government of the Republic of Indonesia supports sharia developments in the form of payments in rent, profit-sharing or margins or other forms of payment according to the contract. However, profit-sharing still requires the consideration of the right mechanism in compliance with the principles expressed through regulatory action and corporate charter (Samra, 2018).

Considering the mechanism is a concept of *Mudharabah* where the financing strongly requires the initial specification of the rights and responsibilities the agreement through clauses related to the performance of the borrowing company with the application of good governance principles (Dar & Presley, 2000; Samra, 2018; Setiyawati & Doktoralina, 2019). Several studies regarding the effects of profit-sharing on Islamic banks on the volume of financing have been carried out (Adebola, Yusoff, & Dahalan, 2011; Andraeny, 2011; Arif, Rianto, & Hanifah, 2017; Masood & Ashraf, 2012). Some studies have stated that the profit-sharing system has no effect on the number of MDs; however, Ergen and Arslan (2013) found that interest rates affect the products in Islamic and conventional banks. Hence, the profit-sharing system variable applied by Islamic banks is still relevant as a variable in the current study. Based on this, the second hypothesis can be built:

\[ H_2: \text{The growth rate of the profit-sharing of MDs has a positive effect on the growth rate of MDs.} \]

2.5 Effect of Liquidity on Mudharabah Deposits

Liquidity indicates the company’s ability to meet its short-term debt obligations (Alessandri & Haldane, 2011; Delen, Kuzey, & Uyar, 2013). Therefore, when measuring how liquid a company is, it is necessary to first examine its funding liquidity risk is typically stable and low (Drehmann & Nikolaou, 2013; Loutskina, 2011). Al Farizi & Riduwan, (2016); Sudarsono & Saputri, (2018) found that liquidity (finance-to-deposit ratio) has a negative effect on MDs. Based on this, the third hypothesis can be made:

\[ H_3: \text{The finance-to-deposit sharia bank ratio has a negative effect on the growth rate of MDs.} \]

2.6 Effect of Inflation Rate on Mudharabah Deposits

In theory, the inflation rate has a negative effect on third-party funds (Anbar & Alper, 2011; Rey, 2015). Here, if the inflation rate is high, then investors tend not to invest in funds. Therefore, the prices of goods and services in general increase because of the influence of inflation (Galí, J., 2015; Kuncoro, 2013). Furthermore, the high rate of inflation also causes capital owners to prefer to use their money to buy fixed assets such as land, houses and buildings (Sukirno, 2015). Therefore, inflation also affects the economic price situation, which generally focuses on the growth rate in the percentage change in the price levels in the previous fiscal period (Mankiw, Quah, & Wilson, 2014).

Ahman and Indriani (2007) classify the severity of inflation as the following: mild inflation is <10% per year, moderate inflation is between 10% and 30%, severe inflation is between 30% and 100%, and hyperinflation is >100% per year. Although Sukirno (2015) groups into the first demand-pull i.e, mild inflation is <10% per year, inflation that occurs in a rapidly developing economy and where government purchases far exceed the taxes collected. Second, inflation drives up costs, which occurs when the economy experiences rapid development and when the unemployment rate is very low. Third, inflation that occurs with imports comes from an increase in the prices of imported goods. Kuncoro (2013) states that generally the calculation of the inflation rate in Indonesia is based on two price indices: the Consumer Price Index (CPI) and the Free Trade Price Index (FTPI).

The relationship of inflation with profiting from the sale of goods also affects the demand for investment in the capital market. Hence, if inflation is high, then the real income of the community will continue to fall, making people less likely to use banks (Al Farizi & Riduwan, 2016; Ali, Hassan, & Kasim, 2012; Piliyanti & Wahyuni, 2014; Setyawati, Arifati, & Andini, 2016). In this case, a decrease in bank deposits has a negative effect on MDs. However, Novianto and Hadiwidjojo (2014) state that the inflation rate does not affect the collection of MDs. This also supports the research by Sharma and Mani (2012), which reveals that a low inflation rate has no significant effect on bank performance. Based on this, the fourth hypothesis can be constructed:

\[ H_4: \text{The inflation rate has a negative effect on the growth rate of MDs.} \]
Noting the influence of interest rates, the level of profit-sharing, liquidity and inflation toward MDs, a theoretical framework is formed, as shown in Figure 1:

![Research Model Diagram](image)

**Figure 1. Research model**

### 3. Research Methods

The analytical method uses a data panel regression with MS Excel and EViews 8 (Ouliaris, Pagan, & Restrepo, 2016; Widarjono, 2013). The equation used is as follows:

\[
MDs = \beta_0 + \beta_1 CBIR_t + \beta_2 PS_t + \beta_3 FDR_t + \beta_4 IR_t + \mu_t
\]

**Information:**
- \(MDs\): MD growth rate
- \(CBIR\): Conventional bank interest rates
- \(PS\): The profit-sharing rate for MD is one month
- \(Liquidity\): Finance-to-deposit ratio
- \(Inflation Rates\): Inflation rate (percentage)
- \(M\): Margin error
- \(T\): Time series
- \(\beta_0\): Intercept
- \(\beta_1, \beta_2, \beta_3, \beta_4\): Regression coefficient

#### 3.1 Research Design

The design of the current study is quantitative with an associative approach. The aim is to test the hypothesis regarding the relationship of the long-term equilibrium of one variable with other variables. The dependent variable \((Y)\) is the growth of Mudharabah deposit volume, and the independent variables are the conventional bank interest rate \((X_1)\), profit-sharing growth rate \((X_2)\), liquidity \((X_3)\) and inflation rate \((X_4)\). The difference with previous research, in this research, is not only constructive but also to cover up the way of life in the Islamic investment perspective, i.e., no uncertainty (Garar), interest (Riba) and gambling (Maisir).

#### 3.2 Operational Definition of Variables

The dependent variable is the nominal growth of MDs. The justification for this is because the proportion of MDs in Islamic banks is generally greater than other third-party fund collection products, such as demand deposits and savings. Measuring the growth of MDs is done by taking into account the growth of the number of MDs, which is analysed by looking at the amount of money given to banks at the time of payment (Gita Danupranata, 2013).

There are four independent variables. First is the Bank Indonesia interest rate \((TSB)\) (BI rate). The justification is that the BI interest rate can be used as a reference for the operationalisation of banks in Indonesia. Second is the profit-sharing growth rate \((PS, FDR\) and \(IR)\).
3.3 Population and Sample

The population consists of eight Islamic commercial banks. A purposive sampling technique is used with the support of secondary data from the Indonesia Stock Exchange (www.idx.co.id), the Financial Services Authority (www.ojk.go.id) and the website of each Islamic bank during the period from December 2013 to December 2017.

4. Results and Discussion

4.1 Descriptive

The growth of MDs, as shown in Table 1, Bank BCA Syariah in 2013 has a minimum value amounted to -0.857000, while the maximum value in 2013 was 1.416000 at Bank Panin Syariah. The average value of 0.154753 less than the standard deviation of 0.350266 for the period 2013–2017 reflects the conditional growth of MDs; hence, there was a large change between one company and another.

Table 1. Descriptive test

<table>
<thead>
<tr>
<th></th>
<th>MDs</th>
<th>CBIR</th>
<th>PS</th>
<th>FDR</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.154753</td>
<td>0.064975</td>
<td>0.232716</td>
<td>0.940050</td>
<td>0.044000</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.416000</td>
<td>0.088000</td>
<td>1.536000</td>
<td>1.578000</td>
<td>0.080000</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.857000</td>
<td>0.045000</td>
<td>-0.724074</td>
<td>0.720000</td>
<td>0.030000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.350266</td>
<td>0.010126</td>
<td>0.414471</td>
<td>0.175384</td>
<td>0.018784</td>
</tr>
</tbody>
</table>

Source: Data Processed (2019)

Interest rates (CBIR) have a minimum value of 0.042500 at Bank Mega Syariah in 2016, while the maximum value is 0.088000 at Bank Mega Syariah in 2014. With an average value of 0.064975, which is greater than the standard deviation of 0.010126 for the period 2013–2017, the descriptive this test reflects the interest rate experiencing a small change between one company of Bank and another. Meanwhile, the growth of profit-sharing (PS) has a minimum value of -0.724074 at Bank Panin Syariah in 2017, while the maximum value is 1.536000 at Bank Panin Syariah in 2013. The average value of 0.232716 is smaller than the standard deviation of 0.414471, reflecting the fact that profit-sharing experienced a large change between one company and another.

However, liquidity (FDR) shows the minimum value of 0.720000 at Bank BRI Syariah in 2017, while the maximum value is 1.578000 at Bank Maybank Syariah in 2014. The average value for the period 2013-2017 is 0.940050. The greater than the standard deviation i.e., 0.175384 reflects the fact that liquidity experiences a small change between one company and another. Inflation has a minimum value of 0.030000 in 2015, while the maximum value is 0.080000 in 2014. The average value of 0.044000 greater than the standard deviation of 0.018784 for the period reflects the fact that inflation experiences small changes between one year and another.

4.2 Model Test

We tested our model using the Chow test. The goal was to determine whether the common effect (CE) model or fixed effect (FE) model would be the most appropriate to use when estimating the panel data.

If H₀ is accepted and H₁ is rejected, CE is chosen. Conversely, if H₁ is accepted and H₀ is rejected, FE is used. Based on the results of the Chow test, which are shown in Table 2, the probability value is greater than α = 0.05, explaining that the CE model is better suited for estimating a panel data regression. Therefore, we used the CE model.

Table 2. Chow test

<table>
<thead>
<tr>
<th>Redundant fixed effects tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool: DEPO3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test cross-section fixed effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects test</td>
</tr>
<tr>
<td>Cross-section F</td>
</tr>
<tr>
<td>Cross-section chi-square</td>
</tr>
</tbody>
</table>

Source: Data processed (2019)
4.3 Panel Data Regression Test

A panel data regression analysis is a regression analysis with data structures that are panel data (Hill, Griffiths, & Lim, 2018). Generally, parameter estimation in a regression analysis with cross-section data is done using the least-squares method or ordinary least squares (Asteriou & Hall, 2015). Therefore, the CE test is the simplest panel data model approach because it only combines time-series data and cross-sectional data. In this model, the time and individual dimensions are not considered, so it is assumed that the behaviour of the company data is the same for various time periods. This method can use the ordinary least squares (OLS) approach or the least-squares technique to estimate the panel data. Table 3 shows the results of the common effect test.

Table 3. Common effect test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.010279</td>
<td>0.355795</td>
<td>0.028889</td>
<td>0.9771</td>
</tr>
<tr>
<td>SIB?</td>
<td>3.828930</td>
<td>4.651114</td>
<td>0.822523</td>
<td>0.4163</td>
</tr>
<tr>
<td>PBH?</td>
<td>0.547461</td>
<td>0.113208</td>
<td>4.835892</td>
<td>0.0000</td>
</tr>
<tr>
<td>LK?</td>
<td>-0.280338</td>
<td>0.247577</td>
<td>1.132329</td>
<td>0.2652</td>
</tr>
<tr>
<td>INF?</td>
<td>0.723164</td>
<td>2.644100</td>
<td>0.273501</td>
<td>0.7861</td>
</tr>
</tbody>
</table>

Source: Data Processed (2019)

Table 3 shows the F test; all the independent variables used in the current study jointly influence the growth of MDs significantly, with a confidence level of 95%. Testing for goodness of fit shows the coefficient of determination with an adjusted R-squared of 0.432, meaning that all the independent variables – interest rate, profit-sharing growth, liquidity and inflation – can explain the ups and downs of MD growth (43.2%), while the remaining 56.8% can be explained by other factors not included in this model.

Significance testing shows an F-statistic value of 8.413 with a probability value of 0.000, which is smaller than α = 0.05. This means that H₀ is rejected and Hₐ is accepted, so the interest rate, profit-sharing growth, liquidity and inflation jointly affect the growth of MDs, with a confidence level of 95%.

4.4 Partial Estimation of the Data Panel Regression Model

The results of the estimation of the growth rates of MDs for the studied period when using the common effect model, as shown in Table 3, can be displayed by the following equation:

\[
\text{MDs} = 0.010279C + 3.828930\text{CBIR} + 0.547461\text{PS} - 0.280338\text{FDR} + 0.723164\text{IR}
\]

4.5 The Effect of Conventional Bank Interest Rates on Mudharabah Deposits

The t-test shows that the interest rate variable with a β₁ regression coefficient of 3.828930 affects the growth of MDs positively but not significantly, here with a confidence level of 95%, where the probability value of the t-statistic > α = 0.05 is 0.4163, which also explains why the alternative hypothesis (Hₐ) is rejected and the null hypothesis (H₀) is accepted.

4.6 Effect of Profit-Sharing Growth Rate on Mudharabah Deposits

The t-test shows that the profit-sharing variable with a regression coefficient β₂ 0.547461 affects the growth of MDs positively and significantly, with a confidence level of 95%, where the probability value t-statistic <α=0.05 is 0.0000, which also explains that the hypothesis alternative (Hₐ) is accepted and the null hypothesis (H₀) is rejected. The interpretation for β₂ = 0.547461 is as follows: if there is an increase in the profit-sharing growth of just 1%, assuming the other variables do not change, then the growth of MDs will increase by 0.547461%.

4.7 Effect of Liquidity on Mudharabah Deposits

The t-test shows that the liquidity variable with a β₃ regression coefficient of -0.280338 affects the growth of MDs negatively but not significantly, with a confidence level of 95%. Here, the probability value of the t-statistic > α =
0.05 is 0.2652, which explains that the alternative hypothesis (Hₐ) is rejected and the null hypothesis (H₀) is accepted.

4.8 Effect of Inflation on Mudharabah Deposits

The t-test shows that the inflation variable with a regression coefficient β₄ of 0.723164 affects the growth of MDs positively but not significantly, with a confidence level of 95%. Here, the probability value of the t-statistic > α = 0.05 is 0.786, which explains that the alternative hypothesis (Hₐ) is rejected and the null hypothesis (H₀) is accepted.

5. Conclusions and Recommendations

The current study aimed to determine the effect of conventional bank interest rates, growth rate of profit-sharing, liquidity and inflation on the growth rate of MDs. Based on the analysis, conventional interest rates do not affect the growth of MDs. Second, profit-sharing growth affects the growth of MDs positively and significantly. Third, liquidity does not affect the growth of MDs. Finally, inflation does not affect the growth of MDs. At the same time, the independent variable has a significant effect against the growth rate of MDs.

Based on the limitation of the research, the future studies should focus on the amount of customer interest in saving funds, such as the size of Islamic bank companies and profit-sharing growth given by conventional banks, using these triggers for them to save their money in the bank. Especially by increasing the number of samples, use a methodology rating approach that involves sharia parameter and connecting customer behaviour variables in Islamic and Conventional Banks. For the community, the current research provides information that can provide insight and knowledge about the Product from the Islamic Bank. For the government, the results of the current study show that Islamic Banks not only maintain economic stability, but also can benefit the business activities of the community. This is also important in helping Muslims move away from conventional banks.

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