The Impact of Productive and Consumptive Financings on Indonesian Islamic Banking Profitability: Markov Switching Dynamic Regression

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ABSTRACT

This study investigates the effect of Islamic bank financings on banks' profitability during two distinct periods, namely stable and unstable conditions. This study also examines the profitability tendencies of banks during the two periods mentioned. To answer these objectives, this study applies the Markov Switching Dynamic Regression technique to 173 monthly observations from the Islamic commercial banking industry from December 2007 to March 2022. In stable times, the results indicate that productive financing harms the profitability of Islamic banks. Productive financing entails greater credit risk and can raise principal-agent concerns, moral hazard, and adverse selection. Consequently, productive financing necessitates higher monitoring costs. In an unstable period, consumptive financing negatively affects Islamic bank profitability. The proportion of consumptive financing exceeds the proportion of productive financing. This then increases the risk of credit and default, especially during economic instability when many consumers request reconditioning and even restructuring of financings from the bank. In addition, the results indicate that the profitability of Islamic banking is anticipated to endure longer in stable regimes and to recoup more quickly from unstable or crisis regimes. The findings of this study will likely serve as references and materials for banking management decisions, particularly financing decisions during periods of economic stability and crisis. Islamic banking should prioritize consumer financing during periods of economic stability and increase the proportion of productive financing during periods of economic instability.

INTRODUCTION

Banking is a critical component of a country's financial market and macroeconomics. Banking serves as an intermediary institution by accumulating capital and allocating surplus of financial resources to economic activities that require financial resources in an efficient manner. The banking sector aids the government's monetary policy in meeting inflation and growth targets, thereby increasing economic productivity (Klein & Weill, 2018). Islamic banking is alternative financial intermediation that has comparative advantages over conventional banking in terms of performance, profit, liquidity (Salman & Nawaz, 2018), resilience to economic shocks (Zulkhibri & Sukmana, 2017; Nurfalah et al., 2018; Nurfalah & Rusydiana, 2021), and stability (ihák & Hesse, 2008), as well as having unique features not only in prohibiting usury, but also in accelerating people's welfare, socioeconomic justice, and promoting fair distribution.

According to the Financial Services Authority (OJK) report (2021), in September 2021, Sharia Banking showed positive developments with an increase in total assets of 12.22 percent to IDR 646.21 trillion, total financing of 7.45 percent to IDR 413.31 trillion, and Third Party Funds of 9.41 percent to IDR 503.83 trillion. These statistics are higher than in December 2020, with an asset level of IDR 608.90 trillion, total financings of IDR 394.63 trillion, and third Party Funds of IDR 475.79 trillion. However, this expansion was not accompanied by an increase in banking market share. After nearly three decades of operation, the market share remains stagnant in the range of 5 to 6 percent when compared to the conventional banking market share.

Bank financing is a key activity that banks engage in to generate profits; failure to manage bank financing can lead to an increase in Non-Performing Financing or even failure to pay (default). Ibrahim (2006) investigated the effects of Islamic bank financing on socioeconomic growth, while Maikabara et al., (2020) conducted a comparison of the efficiency of the two modes of financing for MSMEs, concluding that productive financing is more efficient than consumptive financing. Furthermore, Ghilal & Maghfor, (2018) investigate the effect of productive financing on banking profitability; while Ahmed (2008), Lestari & Anwar, (2020), Perwitasari et al. (2020) investigate the effect of productive financing in this case *Musyarakah* on banking profitability.

Previous studies have primarily examined the impact of bank-channeled financing on banking profitability or performance. However, previous studies have yet to focus on the correlation of these variables across two distinct periods or regimes, such as stable and crisis conditions. Furthermore, previous studies such as Mawardi et al., (2023); Nurfalah et al., (2018); and Nurfalah & Rusydiana, (2021) conducted research to analyze the stability of the profitability of Islamic banking in two distinct regimes. However, previous studies have not specifically considered productive and consumptive financing variables. Given this research gap, this study aims to examine the impact of bank-channeled financing, both productive and consumptive financing, on banking profitability in two distinct periods or conditions.

This study adds to previous research by examining the relationship between financing variables and banking profitability over two distinct time periods. This study employs the Markov Switching Dynamic Regression approach to address the research objectives stated above. This method examines the impact of the independent variable on

the dependent variable over two distinct time periods or regimes. In addition to looking at the correlation between the relationships in two different periods, this approach also allows to see the probability of a regime occurring (stable or unstable condition) and how long the regime will last.

Knowing the trends and behavior of Islamic banking profitability in two regimes (stable and crisis) is important for policymakers to make specific policies in anticipating a crisis by knowing the factors, the probability of a crisis, and the expected duration of the crisis. This model can serve as an early warning system and instrument of risk management to minimize the potential losses during a crisis. By developing this model, Islamic banking will become more agile in dealing with rapid and erratic changes.

LITERATURE REVIEW
Islamic Bank Financing

According to Law 21 of 2008 of Islamic Bank, financing is the provision of funds or equivalent claims in the form of (a) profit sharing transactions in the form of *mudharabah* and *musyarakah*; (b) leasing transactions in the form of *ijarah* or lease-purchase in the form of *ijarah muntahiyah bit tamlik*; (c) sale and purchase transactions in the form of *murabahah*, *salam*, and *istishna* receivables; (d) lending and borrowing transactions in the form of *qardh* receivables; and (e) service leasing transactions in the form of *ijarah* or multi-service transactions. The agreements between Islamic banks and other parties received the funding must serve as the foundation for these contract forms. After a predetermined amount of time, the recipients of the funding facilities return the funds in exchange for ujrah, without compensation (*qardul hasan*) or profit sharing.

Profits in Islamic banking are generated through two modes of financing, profit and loss sharing (PLS) and non-PLS. PLS is based on the concept of partnership, with both banks and customers acting as business partners. The partnership is founded on several contracts, including *Mudarabah* and *Musharakah*, which eliminate interest-based returns in favor of uncertain, risk-adjusted returns. PLS is subject to real-world economic conditions as well as the ability of business partners to generate profits. Non-PLS financing instruments, on the other hand, rely on contracts such as Murabaha, Salam, Istisna, Ijarah, and Tawarruk, which generate fixed and guaranteed returns (Farihana & Rahman, 2021).

According to Mawardi (2014), Islamic banking generates profits through two modes of financing, referred to as the primary mode and the secondary mode. The primary mode is a productive and profit-sharing financing contract of two types, namely *Mudharabah* for passive partnerships and *Musharakah* for active partnerships; these partnerships are the core business that distinguishes Islamic banks from conventional banks, whereas conventional banking relies on interest rate while putting less emphasis on the real economic conditions. Meanwhile, the secondary mode is consumptive financing contracts or financial intermediation profit margins such as trading (under *Murabaha, Salam,* and *Istishna* contracts) and leasing (under *Ijarah* contract). Islamic Banking is rapidly expanding in Indonesia thanks to these two modes of financing.

According to Khan (2010) and Miah & Suzuki (2020), Islamic bank financing relies more on the secondary mode, especially under *Murabaha* contracts, and declines the core business of Islamic economics, namely the principle of profit-sharing schemes in financing (such as *Mudharabah* or *Musyarakah*). Thus, Islamic economics scholars refer to this phenomenon as "*Murabaha Syndrome*," while some scholars argue that usury is hidden in the contract (Al-Mubarak & Osmani, 2012). According to Yusof & Fahmy (2009), the current Islamic financial industry cannot create ideal conditions for realizing socioeconomic justice unless Islamic banking makes the principle of productive financing and their instruments the "true spirit" of conducting daily business and activities, which is demonstrated in their balance sheet of financial statements. A point to remember is that, one of the Sharia bank's goals is to realize goodness and empower the community.

Aside from the Murabaha syndrome, another issue confronting the global Islamic banking industry is the industry's sustainability. The 2008 financial crisis prompted the banking industry to reconsider a sustainable business model (Yip & Bocken, 2018). The dichotomy of Islamic banking literature discussing Islamic banking sustainability is also divided into two approaches referred to as an Institutional Approach that views sustainability as fulfilling internal solvency needs (economic sustainability). The second approach is the Welfarist Approach, which believes that Islamic Banking should perform additional tasks in achieving Social Benefits (*maslahah*) and Environmental Sustainability (Aliyu et al., 2017). In this case, *qardh hasan* (Jayanto et al., 2017) and *zakat* (Nomran & Haron; 2022) are used to be proxies of measuring social benefits or performances.

Previous Literature on Financing and Profitability of Islamic Banking

From the perspective of business organizations (institutional model), Islamic banking has a profit-making goal (goal-based system) in its operational activities. Therefore, knowledge related to factors that directly influence banking profitability can be an essential reference for every decision-making, especially in financing as a core medium for Islamic banking to generate profits. Ahmed (2008), in his research on Islamic banking financing in Sudan, discovered that Profit Loss Sharing (PLS) financing (Musyarakah) has a higher profit than non-PLS financing, nonetheless, this higher profits is proportional to the risks that follow. It was also discovered that the banking staff's lack of knowledge in selecting, evaluating, and managing PLS project management could lead to 'bad financings'.

Wahyudi et al. (2020) examined 14 Islamic Commercial Banks in Indonesia from 2007 to 2018 and concluded that PLS financing could potentially lead to a bank's loss of profits, but at the same time, income from PLS financing has a more significant impact on profits than income from Non-PLS financing. Wahyudi et al. (2019) also investigated the effects of PLS and Non-PLS financing on ROA and ROE and also use the Bank Size as a moderate variable concluding that Non-PLS financing has a significant negative effect on ROA and ROE, whereas PLS financing has no effect on ROA and ROE. Further, Faradilla et al., (2017) investigated the effect of Islamic banking financing on profitability from 2011 to 2015 by simultaneously testing the effect of financing. *Murabahah* has a positive and significant effect on profitability, whereas *Musyarakah* has a negative and significant effect on profitability. Meanwhile*, Istishna, Ijarah, and Mudharabah* financings have a

limited impact on the profitability of Indonesian Islamic Commercial Banks. According to Maikabara et al. (2020), non-PLS financing contributes more to the profitability of Islamic banks than PLS financing. However, in accordance with the High-Risk High Return principle, PLS financing contributes more to bank profits from the perspective of an entrepreneur. Regarding credit risk contribution, it is also concluded that Non-PLS financing carries a higher risk due to the purpose of the financing itself (such as car ownership, home repairs, and so on). Recent literature show that there is still a debate about the impact of non-PLS (consumptive) and PLS (productive) financings on the profitability of Islamic banks.

RESEARCH METHODS

This quantitative research aims to analyze the behaviour or trend of banking profitability in two regimes, namely the stable and unstable regimes. The Markov-Switching Autoregressive models are widely used to analyze the behaviour of regime transitions for such variables. Beginning with Hamilton's (1989, 1990) research, the Markov-Switching time series models describe specific business cycle characteristics. This econometric framework is used to model the volatility of economic variables. The Markov-Switching model can detect variable changes, measure durations in each stage, and calculate correlations between parameter movements in each state. A regime-switching model aims to account for distinct behaviour in distinct regimes while calculating the transition time between different regimes.
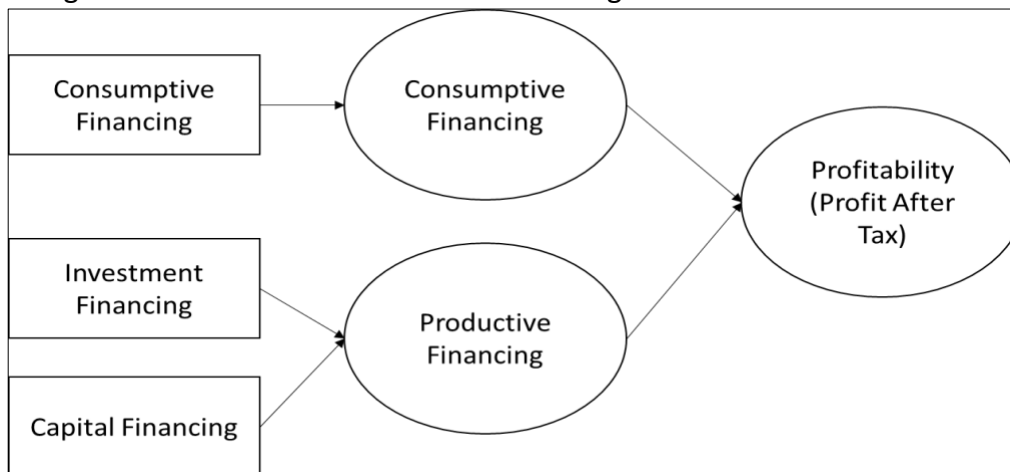

Figure 1. Research Model of Islamic Bank Profitability

Based on this research model, the hypothesis is arranged as follow where:

H1. Consumptive financing (non-PLS) has a significant influence on the profitability of Islamic banking in a stable regime

H2. Productive financing (PLS) has a significant influence on the profitability of Islamic banking in a stable regime

H3. Consumptive financing (Non-PLS) has a significant influence on the profitability of Islamic banking in a crisis or unstable regime

H4. Productive financing (PLS) has a significant influence on the profitability of Islamic banking in a crisis or unstable regime

This study uses monthly data of Islamic bank industry from December 2007 to March 2022, a balanced 173 monthly observations. The data is derived from the Financial Service Authority's (OJK) Islamic Bank Statistics. This data is industry-level data that combines the performance of all Islamic commercial banks in Indonesia; therefore, a complete sample of all Islamic commercial banks in Indonesia was used. This study examines the impact of consumer financing (PKS, X.1) and productive financing (PPS, X.2) on Islamic Banking Profitability (PROF, Y) and their transition or switch between two different regimes, tranquil (stability/state 1) and volatility (instability/state 2). This study also applies inflation (Z) as a control variable. The classification of types of financing into productive and consumptive financing modifies the Financial Service Authority's (OJK) classifications, which are Working Capital Financing, Investment Financing, and Consumptive Financing. This also modifies the terminology used in prior research, where productive financing was referred to as Risk-sharing Financing (Chowdhury et al., 2018) and Profit-Loss Sharing (PLS) Financing (Bougatef et al., 2020; Masrizal & Trianto, 2022; Sutrisno & Widarjono, 2022; Warninda et al., 2019). In contrast, Consumptive Financing was referred to as Non-PLS Financing (Bougatef et al., 2020; Masrizal & Trianto, 2022; Sutrisno & Widarjono, 2022; Warninda et al., 2019) and Non-Risk Sharing Financing (Chowdhury et al., 2018). See Table 1 for a brief explanation on the variable and figure 1 for research model. In general, this model can be written as follow:

$$Y = f (X.1, X.2, Z)$$

Equation 1

The Markov switching model of the above equation can be explained as follows:
$$Y_t = c_s + X_t\alpha + Z_t\,\beta_s + \varepsilon_{st}$$

Equation 2

Where Y is an endogenous variable, t represents time (month), and s represents the unobserved states ($s = 1, 2$), c_s is the state-dependent intercept, X_t is the matrix of state-invariant variables, Z_t is the matrix of the state-dependent variables, and ε is the error term. By applying the above model equations, this study divides the model into three parts, namely as follows:
$$\text{PROF}_t = \begin{cases} c_1 + \beta_{11}\text{PKS}_t + \beta_{12}\,\text{PPS}_t + \gamma Z' + \varepsilon_t & \text{if } s = 1 \\ c_2 + \beta_{21}\text{PKS}_t + \beta_{22}\,\text{PPS}_t + \gamma Z' + \varepsilon_t & \text{if } s = 2 \end{cases}$$

Equation 3

The model in this study was chosen based on the optimal lag to reduce the residual correlation. $\gamma Z'$ is the control variable, in this study is Inflation. However, the conditional transition probability of going from regime i in this month to regime j in the following month is given by the following equation:
$$\Pr\,(s_{t+1} = j | s_t = i) = P_{ij}$$

Equation 4

Thus, the two-state model used in this paper will lead to the following matrix probability:

$$\begin{bmatrix} P_{11} & P_{12} \\ P_{21} & P_{22} \end{bmatrix}$$

With $P_{11} + P_{12} = 1$, and $P_{21} + P_{22} = 1$

Equation 5

The following are the steps in conducting this research. The first step is to determine variable stationarity, and it is assumed that the variables employed are stationary at the first distinct level. The second step is to determine the ideal lag length. The third stage is to run the model through two different regimes. The last phase assesses the likelihood and length of the regime transition or shift.

Table 1. Definitions of variables

Variable	Definition	Data Source
PKS (X.1)	To measure consumptive financing (PKS), the following formula is used: $$PKS_t = \frac{MUR_t}{TA_t}$$ Consumptive financing is measured by the ratio of murabahah financing to total assets (monthly data). This calculation is a modification of Non PLS Financing Variable (consumptive financing) by Masrizal & Trianto (2022), Bougatef et al., (2020) and Chowdhury et al. (2018).	Islamic Bank Statistics from Financial Service Authority (OJK)
PPS (X.2)	To measure productive Financing (PPS), the following formula is used: $$PKS_t = \frac{MUS_t + MUD_t}{TA_t}$$ Productive financing is measured by the ratio of investment financing (musyarakah) and capital financing (mudharabah) to total assets (monthly data). This calculation is used by Sutrisno & Widarjono (2022) and adopted from by Masrizal & Trianto (2022), Bougatef et al., (2020), Chowdhury et al. (2018) and Warninda et al. (2019) to be the proxy of productive or PLS financing.	Islamic Bank Statistics from Financial Service Authority (OJK)
PROF (Y)	To measure profitability (PROF), the following formula is used: $$PROF_t = PBT_t - TR_t$$ Profitability is measured by the profit before tax (PBT) minus tax (monthly data).	Islamic Bank Statistics from Financial Service Authority (OJK)
Inflation	The variable of inflation was measured by Consumer Price Index approach (monthly data).	Indonesian Statistics

This research considers a variety of lag optimal in order to test the reliability of its findings. The primary model uses the optimal lag length as determined by the Akaike Information Criterion (AIC), whereas the secondary model (for robustness purposes) uses the optimal lag length as determined by the Bayesian Information Criterion (BIC).

RESULT AND ANALYSIS

The steps for estimating the Markov Switching Dynamic Regression model consist of calculating the descriptive statistics, stationarity test, optimal lags test, regime switching model, regime transition, and regime probabilities. Moreover, figure 2 - 4 shows the trend line for the stability regime (1) and instability (2). Table 2 demonstrates the descriptive statistics and is descirbed as follows.

Table 2. Descriptive Statistic

Variable	Period	Obs.	Mean	St. Dev	Min.	Max.	Skew.	Kurt.
PROF	2007m12-2022m04	173	6.711	0.996	2.639	8.404	-0.735	4.078
PKS	2007m12-2022m04	173	0.764	0.431	0.571	6.246	12.08	154.4
PPS	2007m12-2022m04	173	0.252	0.049	0.171	0.378	0.545	2.671
INF	2007m12-2022m04	173	0.047	0.025	0.013	0.121	0.979	3.546

Source: Author's Calculation, 2023

Table 3 presents the unit root test to check the stationarity of the variables using Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) tests and shows that all variables are stationary at the first difference level. Thus, the data in the observation tends to move towards the average at the first difference level.

Table 3. Unit Root Test

Variables	Augmented Dickey Fuller (ADF)				Phillips Perron (PP)			
	Intercept		Intercept & Trend		Intercept		Intercept & Trend	
	Level	First Dif.	Level	First Dif.	Level	First Dif.	Level	First Dif.
ZSCU	0.829	0.000***	0.323	0.000***	0.016**	0.000***	0.330	0.000***
MAS	0.009***	0.000***	0.000***	0.000***	0.832	0.000***	0.000***	0.000***
PROF	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
PKS	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
PPS	0.377	0.000***	0.725	0.000***	0.523	0.000***	0.823	0.000***
INF	0.029**	0.000***	0.016**	0.000***	0.221	0.000***	0.156	0.000***

Source: Author's Calculation, 2023
Note: ***; ** and *indicate significance at 1%, 5% and 10% significance level, respectively.

Table 4 shows the optimal lag length as determined by various methods. The primary model that will be developed will use the Akaike Information Criterion (AIC) approach to measure the lag length optimally.

Table 4. Optimal Lag Test

Variables	LL	FPE	AIC	HQIC	SBIC	Lags (AIC)
PROF	-189.014	0.5613*	2.2605*	2.2755*	2.2975*	1
PKS	-98.6765	0.1904*	1.1796*	1.1871*	1.1981*	0
PPS	543.978	0.0000*	-6.3784*	-6.3408	-6.2858	4
INF	645.681	0.0000*	-7.5582*	-7.5444	-7.4894	4

Sources: Author's Calculation, 2023
Note: *indicate significance at 1% level

The Markov Switching Dynamic Regression model results are shown in Table 5, which shows determining variables of Islamic bank profitability during the stability and instability conditions.

Table 5. Markov Switching Dynamic Regression

Variable	Model 1 Lag Optimum : AIC		Model 2 Lag Optimum : BIS	
	State 1 (Stable)	State 2 (Unstable)	State 1 (Stable)	State 2 (Unstable)
PKS	0.887	-0.214***	1.766	-0.203***
	(1.239)	(0.055)	(1.352)	(0.056)
PPS	-5.598***	-0.476	-4.748***	-1.514
	(1.612)	(1.398)	(1.699)	(1.345)
INF	-3.697	-4.487*	-5.226	-2.850
	(3.747)	(2.559)	(3.841)	(2.254)
Intercept	7.313***	8.219***	6.476***	8.382***
	(0.938)	(0.320)	(0.940)	(0.336)
Sigma 1	-0.291***		-0.276***	
	(0.068)		(0.067)	
Sigma 2	-1.214***		-1.187***	
	(0.126)		(0.123)	
Log Likehood	-179.308		-184.467	

Source: Author's Calculation, 2023
Note: ***; ** and *indicate significance at 1%, 5% and 10% significance level, respectively.

Table 5 contains several important results. In stable condition, Productive financing variables have a negative impact on profitability. This result goes in line with Sutrisno & Widarjono (2022) who discovered that PLS financing negatively impact the Islamic bank's profitability, implying that Indonesian Islamic commercial banks prefer Non-PLS (consumptive) financings with fixed income in disbursing their funding to generate profit. According to Warninda et al. (2019), Islamic banks around the world continue to prefer to provide debt-like or fixed-return financing compared to the productive ones. At least three possible explanations to explain the low preference of productive (PLS) financings. First, many Islamic banks believe that productive (PLS) financing has a larger credit risk than fixed-return financing. Productive financing is risky because it is heavily dependent on economic conditions and businesses' ability to generate profits, which cannot be ascertain. Second, productive (PLS) financing can result in a principal-agent issue, resulting in information asymmetry and adverse selection. This occurs when the lender (in this example, a *mudhorib* or entrepreneur) fails to disclose accurate information about the company operations, such as true expenses, projected revenue, debts and receivables, and other comparable concerns. It is possible that on certain occasions, the lender falsifies data and fabricates financial records in order to enhance the financing analysis supplied. This increases the possibility of a principal agent issue as well as credit risk. Third, to minimize the occurrence of principal agent issue, moral hazard, adverse selection and other financing risks, the monitoring fee becomes more expensive. The

decision-making process related to providing financing become more complex, as many standards and procedures of risk management must be strictly and carefully implemented. Farihana & Rahman (2021) also argue that, there are two reasons why the majority of Islamic banks prefer to provide Non PLS (consumptive) financings. First, taking into account the cost of expenditures for monitoring the operational activities, the bank prefers an investment that provides assured revenue, compared to those investment activities that strongly dependent on economic activities and the ability to generate business profits. Second, Non-PLS financing enables banks to demand collateral that may be used to recover defaulted loans, on the other hand, this demand for collateral is not always the case in PLS (productive) financings. Financing is always involved with risks, and it gets further worse when there is no guarantee that the funded amount will be recovered. Abdul-Rahman et al. (2014) argue that, unlike sales-based contracts, PLS financing is exposed with 'real' business risk, in which banks (as *shohibul maal* or capital provided) must absorb (in mudarabah) or divide the loss (in musharakah) in the case of business failure. Furthermore, Consumptive financing and inflation, on the other hand, are found to have no significant relationship in influencing the profitability of Islamic banks.

During times of uncertainty and high volatility, consumptive financing harms Islamic bank productivity. Consumptive financing accounts for a more significant proportion of total Islamic bank financings than productive ones. Farihana & Rahman (2021) present data, which shows that majority (more than 90%), of global Islamic bank funding is allocated for non-PLS (consumptive) finance, and with less than 10% allocated for productive financing. As a result, when economic conditions are unstable (period of recession/crisis), consumers find it challenging to repay the consumer financing that has been obtained. When a crisis occurs, they usually request assistance (reconditioning and even restructuring of financings). This will undoubtedly be detrimental to the Islamic bank's profitability and stability, especially during an economic recession or crisis.

Furthermore, inflation has a negative impact on the profitability of Islamic banking. Inflation weakens people's purchasing power, devalues money, and makes them more powerless, especially during a crisis. This will undoubtedly affect consumers to return their consumptive financing. Inflationary pressures will increase the likelihood of payment defaults. Another intriguing finding is that productive financing does not affect Islamic bank profitability during times of crisis. This could be because productive financing accounts for a smaller proportion of total financing than consumptive financing.

In Model 2, the robustness test was conducted through a Markov-switching dynamic regression test with a different optimum lag, namely the Bayesian Information Criterion (BIC), whereas in Model 1, the Akaike Information Criterion (AIC) was utilized. Compared to Model 1, the results are generally consistent and significant under stable and unstable conditions. In stable conditions, productive financing negatively affects the profitability of Islamic Banks. In contrast, under unstable conditions, consumptive financing demonstrates a negative effect on profitability. The results indicate that the optimal lag of variables based on different lag choices yields identical results.

Table 6. Probability Transition

Transistion	Model 1	
	State 1 (t+1)	State 2 (t+1)
P_{11} State 1 (t)	0.934910	0.065089
P_{21} State 2 (t)	0.149271	0.850728

Source: Author's Calculation, 2023

Table 6 describes the likelihood of the regimes occurring. It shows that the probability of an Islamic bank's profitability being stable is 93%, and that of an irregular period is 85%. The result indicates that the profitability of Islamic banking has a higher likelihood of being more stable than unstable. Furthermore, the transition from a stable to an unstable period (going into crisis) has a lower percentage of 6%, compared to a 15% change from an unstable to a stable period (recovering from a crisis). The transition from an unstable to a stable period is much greater than the transition from a stable to an unstable period. This also indicates that the profitability of Islamic banks has a faster recovery period.

Table 7. Expected Duration

Transistion	Model 1	
	State 1 (t+1)	State 2 (t+1)
Estimate	15.3634	6.69921
Std. Error	5.64689	2.31480

Source: Author's Calculation, 2023

Table 7 provides an overview of expectations for how long each regime or state will last, where the change in expectations or the length of the period is measured in months. According to the general theory of the business cycle, a good economic cycle should have a stable state that lasts longer than an unstable state. The model has a stable period of 15.3 months and an unstable period of 6.6 months, with the remaining months in the table regarded as average transition changes. The result also shows that, it took about 6.7 months for bank profitability to fall into a crisis state but only 5.6 months to recover. This indicates that the profitability of Islamic banks has a more extended period to be in a stable regime and a faster recovery period. These findings are consistent with the findings of Mawardi et al. (2023); Nurfalah et al. (2018); Nurfalah & Rusydiana (2021) who discovered that the Z-score variable, as a proxy for banking stability, is considerably longer in the stable regime than in the unstable regime.

Figures 2, 3, and 4 depict the trend of Islamic banking profitability in two different regimes, where state 1 represents a stable regime and state 2 represents an unstable regime. Figure 2 depicts the trend or behavior of Islamic bank profitability in the absence of a regime. Figure 2 shows that there were two extreme volatilities between 2016 and 2018.
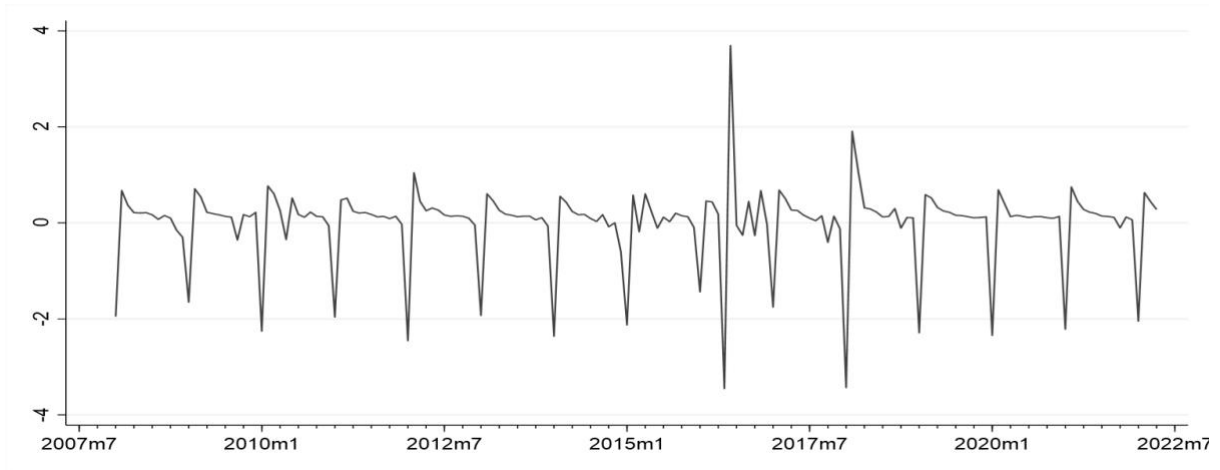
Figure 2. Profitability Trend of Islamic Bank
Source: Author's Calculation, 2023

Figure 3 depicts the trend or behavior of Islamic bank profitability in regime 1 (stability regime), whereas Figure 4 depicts the trend or behavior of Islamic bank profitability in regime 2 (state of high volatility and crisis).
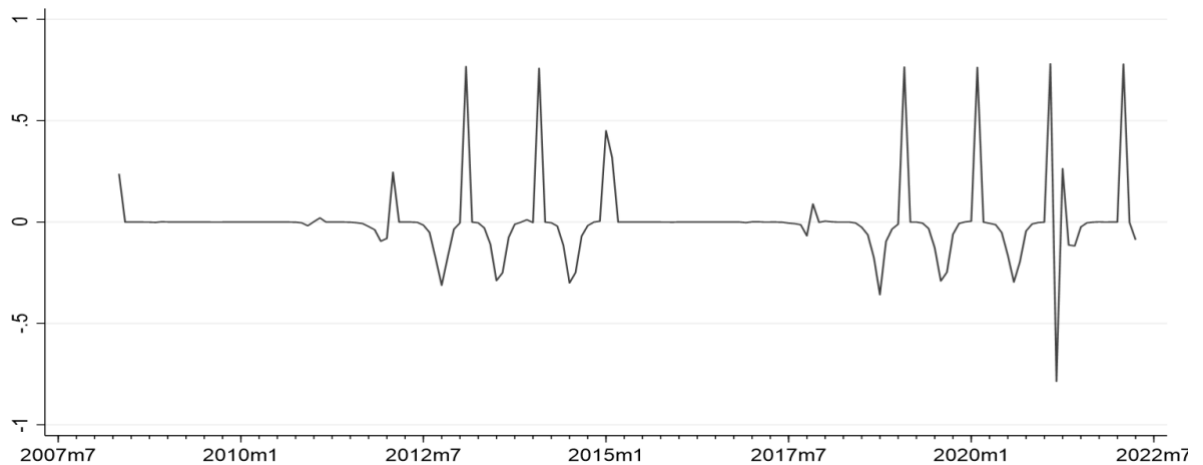

Figure 3. Profitability Trend based on State 1
Source: Author's Calculation, 2023

Based on Figure 3, which depicts the trend of banking profitability during a stable regime, there were a number of situations in which banking profitability experienced extreme volatility during two periods, namely 2012-2015 and 2018-2022. The high volatility during these two time periods can be interpreted as a slowdown in the economic sector, both on a national and global scale. There was a significant decline in 2021, possibly due to the Covid-19 pandemic crisis. Further examination reveals that Islamic banking recovers rapidly from crisis conditions. This is evidenced by the positive trend that always follows a decline.
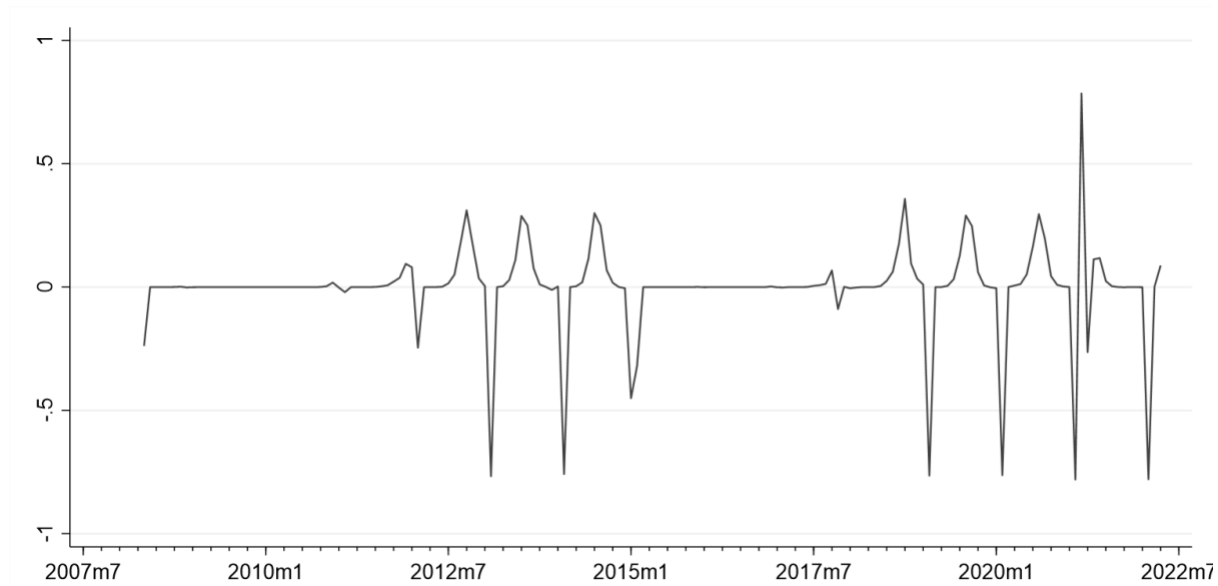
227

Figure 4. Profitability based on State 2
Source: Author's Calculation, 2023

Figure 4 depicts the profitability trend of Islamic banks during unstable or crisis periods. The profitability of Islamic banking during periods of instability follows a similar pattern to that observed during periods of stability. This is evident by the fluctuations occurred during the years 2012-2015 and 2018-2022. Further, the volatility of Islamic bank profitability has increased after 2019, with extreme fluctuations occurring in 2021 due to Covid-19's effect of slowing economic growth on both the national and global levels.

CONCLUSION

This study aims to examine the impact of consumptive and productive financings on Islamic bank profitability and to examine trends and behaviour in Islamic bank profitability as perceived from two distinct periods or regimes, namely the stable period and the unstable period. The findings show that in a stable situation, productive financing negatively impacts bank profitability, whereas consumptive financing negatively impacts during a crisis. A negative link between productive financing (PLS) and bank profitability was discovered for a variety of reasons. First, productive financing carries a greater credit risk since it is largely dependent on the economic environment and the ability to make profits. Second, productive financing has the potential to raise concerns such as principal agent issues, moral hazard, and adverse selection. Third, productive funding necessitates higher monitoring expenses. This then makes Islamic banks, not only in Indonesia but worldwide, prefer to provide consumer financing. The large proportion of consumer financing and preference for it can have a negative impact when a bank is in a crisis condition, whereby the repayment on financing can become more challenging. It is common for consumers to ask banks to provide reconditioning and even restructuring

financing in crisis conditions, as was the case recently during the COVID-19 pandemic. This, of course, lead to a decrease in profitability of Islamic banks.

Inflation is also seen to have a negative impact on the profitability of Islamic banks, as inflationary pressure reduces consumer purchasing power, devalues money, and increases the likelihood of financing default. Furthermore, the profitability of Islamic banking has a higher probability of being stable rather than volatile, whereas, in a volatile environment, Islamic bank's profitability is proven to recover faster.

The income obtained by Islamic banks is uncertain, as it is contingent on customers' ability to repay their financings, which is highly reliant on economic conditions. Moreover, the benchmark interest rate tends to increase when the economy is stable. This places pressure on Sharia banking to increase the profit-sharing ratio provided to customers (capital owners) so that they are still attractive compared to the interest payment from conventional banks. In this case, Islamic Banks can set aside a portion of their profits to be used as an instrument of risk mitigation and to minimize potential losses. This profit set aside becomes an excellent buffer to anticipate increased profit sharing with capital owners and to deal with liquidity shortages during a crisis. This is also in accordance with Basel III standards, which require banks to maintain adequate capital as risk mitigation in the event of a recession or financial crisis.

In addition, the above results have several managerial implications for banking management. Banks must be aware that productive financing can harm profitability. As a result, banks must carefully select the consumers who will receive financing. Mistakes in financing placement can result in losses, with the default on financing repayment being the most extreme possibility. Further, ownership of a large proportion of consumptive financing can be fatal during times of crisis, when consumers typically request reconditioning and even reconstruct of financing. Therefore, risk mitigation in consumer financing needs to be given more attention, especially during times of crisis.

The study's limitations are that it only uses two financing variables and one control variable in developing a model of Islamic banking profitability. Furthermore, future research may examine trends in other proxies of Islamic bank performance, such as *maslahah* and banking sustainability.

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