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MARKET POWER AND BANKING LIQUIDITY RISK IN INDONESIA: AN EMPIRICAL STUDY WITH LCR AND NSFR

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ABSTRACT
This study examines the influence of market power on bank liquidity risk in Indonesia over the period 2019–2023, employing the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) as measures of liquidity risk. Market power is proxied through asset, deposit (third-party funds), and loan market shares of 16 conventional commercial banks, which together account for approximately 75% of total industry assets. The empirical analysis is conducted using panel data regression with a Random Effects Model (REM) specification. The findings indicate that asset and deposit market shares exert a significant positive effect on the NSFR, whereas loan market share does not exhibit a statistically significant impact. In contrast, none of the three proxies for market power demonstrate a significant effect on the LCR. These results imply that market power contributes to reducing banks' long-term liquidity risk, but has no discernible influence on short-term liquidity risk. This research offers important implications for regulators, highlighting the need to incorporate considerations of market structure when designing policies for bank liquidity management.

Keywords: Liquidity Risk, Market Power, LCR, NSFR

INTRODUCTION

Banking is a cornerstone of national economies, supporting growth and stability, but it faces liquidity risk from its intermediary role in mobilising and reallocating funds. Liquidity crises are a serious threat to financial institutions and systemic stability, as evidenced during the 2008 global financial crisis when adequate capital alone proved insufficient, with many banks still struggling due to poor liquidity management (Chen et al., 2021; Mashamba, 2018). In response, the Basel Committee on Banking Supervision (BCBS) recognised Basel I and II as inadequate to address liquidity risk (Shonhadji & Irwandi, 2023), and introduced Basel III reforms including two key standards: Liquidity Coverage Ratio (LCR) for short-term adequacy and Net Stable Funding Ratio (NSFR) for long-term stability (BCBS, 2013, 2014).

Indonesia was among the early adopters of Basel III liquidity standards (Husodo et al., 2024), formalised in POJK No. 42/POJK.03/2015 on LCR and POJK No. 50/POJK.03/2017 on NSFR. From 2019–2023, banks consistently maintained LCR ratios above the 100% threshold, reflecting adequate liquidity. However, LCR declined from 267.91% in 2020 to 220.18% in 2023 due to rising Net Cash Outflows (NCO) and slower liquid asset growth, including a contraction in 2023 (OJK, 2023). Similarly, NSFR decreased from 142.50% in 2021 to 134.04% in 2023, indicating weaker long-term funding stability. Although both ratios remain above minimum requirements, the downward trend signals the need to analyse factors influencing liquidity resilience.

The Indonesian banking sector shows high concentration, as reflected in CR4 for assets, deposits, and loans of the four largest banks (BRI, Mandiri, BNI, and BCA) from 2019–2023 (Jumono et al., 2016). This structure classifies the market as loose oligopoly or monopolistic competition, where dominant banks hold systemic roles while smaller banks coexist. Industrial organisation theory suggests that higher concentration reduces competition intensity, allowing dominant banks greater market power to influence strategies, including liquidity management. Previous studies confirm the relevance: Kim (2017) and Nguyen et al. (2017) found that greater market power increased liquidity risk via lower liquid asset holdings, while Huynh (2024) showed rising competition could raise funding liquidity risk. Abdul-Rahman et al. (2018) found that in less competitive markets, banks with higher market power managed long-term liquidity more effectively.

Unlike most prior works using aggregate competition or non-structural price-based measures, Fadli et al. (2021) employed market share as a structural proxy of individual banks' market power and found a positive effect on NSFR in Indonesia. However, their study did not address LCR, a critical Basel III component requiring banks to hold sufficient high-quality liquid assets. Moreover, specific evidence on how market power affects LCR in the Indonesian context remains limited. Therefore, this study investigates the effect of market share in assets, deposits, and loans as proxies for market power on bank liquidity risk measured by LCR and NSFR during 2019–2023. Findings are expected to fill gaps in the literature and inform regulators in designing liquidity policies that consider both market structure and the systemic dominance of major banks.

LITERATURE REVIEW

Liquidity Risk

Liquidity risk is a key challenge in banking that can undermine financial stability if not effectively managed (Chen et al., 2021). It arises when banks fail to meet obligations on time without straining their financial position, largely due to their role in maturity transformation collecting short-term funds while extending long-term loans. This mismatch makes banks vulnerable, as most funds come from deposits withdrawable at any time. Stable liquidity strengthens resilience during crises, while several bank failures stemmed not only from losses but also from liquidity mismanagement (Golubeva et al., 2020). When banks consistently fail to meet obligations, trust collapses, triggering bank runs and systemic crises. Hence, liquidity management requires disciplined cash-flow planning, monitoring of high-quality liquid assets, and sustainable short-term funding strategies. The 2008 global financial crisis, marked by the collapse of Lehman Brothers, highlighted weaknesses in liquidity oversight, risk management, and incentive structures. In response, the Basel Committee on Banking Supervision (BCBS) introduced Basel III to reinforce capital adequacy and liquidity resilience (Kiptoo & Musiega, 2020). Basel III sets two main liquidity standards: Liquidity Coverage Ratio (LCR) for short-term resilience and Net Stable Funding Ratio (NSFR) for long-term funding stability. NSFR controls long-term liquidity flows, while LCR secures short-term cash flows. Both require banks to hold high-quality liquid assets and maintain stable funding in line with sound liquidity risk management principles (Sidhu et al., 2022).

Net Stable Funding Ratio

The Net Stable Funding Ratio (NSFR) under Basel III is designed to promote stable medium- to long-term funding, thereby reducing banks' exposure to long-term liquidity risk. It aims to mitigate risks arising from maturity transformation by aligning the tenor of funding with the tenor of assets, ensuring that banks do not rely excessively on short-term funding sources. The NSFR is calculated as the ratio of Available Stable Funding (ASF) to Required Stable Funding (RSF) (Basel Committee on Banking Supervision, 2014). Available Stable Funding (ASF) refers to the total liabilities and equity considered stable over a one-year horizon to support banks' operational activities. The stability of funding within ASF is determined primarily by two factors: the maturity of the funding instrument and the type of funding provider. Each funding source is assigned a specific ASF weight based on its stability, with more stable funding contributing more heavily to the ASF calculation. By contrast, Required Stable Funding (RSF) represents the total assets and off-balance sheet exposures that require stable funding support. RSF levels are determined by the liquidity characteristics and residual maturities of on-balance sheet assets as well as the scale of off-balance sheet commitments. Assets that are less liquid or have longer maturities are assigned higher RSF weights. Banks are required to maintain an NSFR of at least 100%, meaning that their ASF must be equal to or greater than their RSF.

Liquidity Coverage Ratio (LCR):

The Liquidity Coverage Ratio (LCR) is a short-term liquidity indicator designed to assess a bank's ability to meet its financial obligations over a 30-day horizon. The LCR ensures that banks maintain an adequate stock of high-quality liquid assets (HQLA), defined as assets

that can be readily converted into cash at little or no loss of value in the market. This indicator was introduced under the Basel III framework to strengthen banks' resilience against liquidity risk, particularly during periods of financial stress or crisis (Basel Committee on Banking Supervision, 2010, 2013). High-Quality Liquid Assets (HQLA) are classified into two main categories according to their degree of liquidity: Level 1 and Level 2. Level 1 assets are the most liquid, readily convertible into cash without significant risk of loss, and include excess reserves, government securities, and municipal or agency bonds. Level 2 assets are further divided into two sub-categories: Level 2A, comprising foreign government securities, covered bonds, and securitised assets; and Level 2B, which includes corporate debt instruments and equities. Net Cash Outflows represent the estimated total cash outflows minus total cash inflows expected to occur within the subsequent 30 days under a stress scenario. The 30-day horizon is adopted on the assumption that, beyond this period, banks' management and regulators will be able to take corrective measures or wind down operations in an orderly manner. By maintaining an LCR of at least 100%, banks demonstrate their capacity to manage short-term liquidity effectively and to withstand sudden financial shocks.

Market Power

The Structure Conduct Performance (SCP) theory by Bain (1951) argues that market structure shapes firm behavior and performance. In banking, high concentration where few banks dominate strengthens market power, enabling them to influence prices, deposits, and interest rates (Lartey et al., 2023; Yudaruddin, 2015; Syverson, 2019). Market power increases as concentration rises, reducing competition, while lower concentration intensifies competition and weakens it (Bikker & Haaf, 2002; Borilli, 2021; Wang et al., 2014). Competition can be assessed structurally or non-structurally, but this study adopts the structural approach, using industry characteristics such as market share distribution to measure market power (Yuanita, 2019). Unlike aggregate measures such as the Concentration Ratio (CR) or Herfindahl-Hirschman Index (HHI), this study uses individual bank market share as a proxy, reflected in three dimensions: assets, deposits, and loans. Asset share shows banks' systemic role and financial stability influence (Lubello et al., 2019; Weygandt et al., 2011; Indraswari et al., 2023). Deposit share (DPK) signals banks' ability to attract stable funding and depositor trust (Pulungan, 2020; Sari & Fitriani, 2022; Sitanggang & Wahyuni, 2024). Loan share reflects their role in financing the real sector through productive assets (Jumono et al., 2016). Together, these indicators capture banks' structural strength and its potential impact on liquidity risk.

HYPOTHESIS

Market Share and Net Stable Funding Ratio (NSFR):

Dominance in asset market share enables banks to secure broader funding access, thereby facilitating more stable funding strategies. Cocco et al. (2009) argue that banks with greater market power are better positioned to mobilise funds from both retail and wholesale sources, which strengthens their liquidity resilience. Similarly, Abdul-Rahman et al. (2018) and Huynh (2024) suggest that market power enhances the stability of funding structures, ultimately reducing liquidity risk. Banks with substantial asset market shares also tend to hold systemic positions in the financial system. Within the Too Big to Fail (TBTF) paradigm, it is argued that large banks receive regulatory rents and preferential treatment from authorities due to the potential systemic consequences of their failure (Kane, 2000; Boyd & Gertler, 1993, in Clark et al., 2018). Such systemic importance reinforces market confidence in large banks, particularly during times of crisis, allowing them easier access to liquidity when smaller peers face funding pressures.

This wider access to funding provides banks with greater flexibility in maintaining long-term funding structures. Within the NSFR framework, this translates into an increased capacity to mobilise Available Stable Funding (ASF), which forms the core component of the NSFR calculation. Adequate ASF is essential to meet long-term funding requirements, particularly given the scale of intermediation and exposure to illiquid assets typically concentrated in

larger banks. Banks with larger asset market shares are assumed to have easier access to funding sources, thereby enabling them to maintain higher NSFR levels and reduce their exposure to long-term liquidity risk. Accordingly, the following hypothesis is proposed, H1: Asset market share has a positive effect on the Net Stable Funding Ratio (NSFR).

The dominance of banks in deposit mobilisation enhances their ability to sustain long-term funding stability, as they are better positioned to secure stable sources of funds. Li et al. (2023) show that banks with market power in deposits, measured by concentration (HHI), enjoy more stable and lower-cost funding. Similarly, Drechsler et al. (2017) and Drechsler et al. (2021) find that banks with stronger deposit market power tend to maintain funding structures more resilient to market pressures, owing to depositor loyalty and the low interest-rate sensitivity of deposits. Liquidity risk, however, depends heavily on the stability of funding sources. Diamond and Rajan (2001, in Li et al., 2023) stress that maturity transformation can operate effectively only if supported by stable funding, while reliance on short-term wholesale funds increases vulnerability due to their opportunistic and volatile nature (Vazquez & Federico, 2015; Zheng & Peabody, 2024).

This perspective aligns with the NSFR regulation, which emphasises the importance of stable funding and reducing dependence on wholesale short-term sources. Banks with larger deposit market shares are therefore assumed to have greater capacity to maintain stability in their funding base. Stable deposits receive higher ASF weights, which in turn increase the NSFR and reduce long-term liquidity risk exposure. Accordingly, the following hypothesis is proposed, H2: Deposit market share has a positive effect on the Net Stable Funding Ratio (NSFR).

The dominance of banks in loan disbursement may increase their exposure to liquidity risk. Loans are banks' principal productive assets but are generally illiquid and long-term in nature (Diamond & Rajan, 2012). This reliance heightens liquidity risk, particularly when such assets are funded by short-term sources (Choudhary & Limodio, 2022). Within the NSFR framework, long-term assets such as loans carry higher RSF weights, requiring greater levels of stable funding. Consequently, banks with large loan portfolios face greater challenges in sustaining sufficient ASF (King, 2013a). Based on this reasoning, banks with higher loan market shares are assumed to encounter greater difficulty in maintaining adequate NSFR levels unless loan growth is matched with stable funding. Excessive loan dominance without a balanced funding structure may reduce the NSFR and heighten long-term liquidity risk. Accordingly, the following hypothesis is proposed, H3: Loan market share has a negative effect on the Net Stable Funding Ratio (NSFR).

Market Share and Liquidity Coverage Ratio

Dominance in asset market share may allow banks to maintain lower liquidity buffers, as they benefit from easier access to external funding and systemic importance, which increases the likelihood of regulatory support during crises. Berger and Bouwman (2009) argue that larger banks are more reliant on external funding than smaller banks, which tend to be more conservative by holding higher levels of liquid assets. Kim et al. (2015) further demonstrate that large banks with substantial total assets often exhibit lower liquidity ratios, owing to their greater access to funding markets and the assumption of regulatory backing in times of stress. Similarly, Bonner et al. (2013) show that large banks operating in concentrated markets are less inclined to maintain substantial liquidity buffers, as they anticipate government support if confronted with liquidity pressures.

A smaller liquidity buffer may lower the LCR, as the numerator of this ratio is composed of HQLA. Thus, the fewer liquidity buffers a bank holds, the less likely it is to maintain sufficient HQLA to cover its net cash outflows over a 30-day stress period. A decline in the LCR may therefore indicate heightened short-term liquidity risk arising from banks' dominance in asset markets. Accordingly, the following hypothesis is proposed, H4: Asset market share has a negative effect on the Liquidity Coverage Ratio (LCR).

The dominance of banks in deposit mobilisation provides them with a more stable funding base, particularly when dominated by retail deposits with long-term relationships. Such stable structures reduce liquidity pressures by allowing banks greater flexibility in managing their assets and liabilities (Eisenbach et al., 2014; Yorulmazer, 2014). Stable sources that are not easily withdrawn mitigate the immediate need for liquidity, thereby strengthening banks' resilience. Within the LCR framework, stable retail deposits are categorised as core deposits and are assigned low run-off rates under stress scenarios set at 5% in Indonesia (Otoritas Jasa Keuangan, 2014). Low run-off rates imply a smaller probability of sudden large-scale withdrawals, leading to lower projected net cash outflows. This allows banks to maintain a higher LCR without excessively increasing their HQLA holdings. Based on this reasoning, banks with larger deposit market shares are assumed to be better positioned to sustain a safe LCR and reduce exposure to short-term liquidity risk. Accordingly, the following hypothesis is proposed, H5: Deposit market share has a positive effect on the Liquidity Coverage Ratio (LCR).

Banks dominating loan disbursement tend to hold smaller liquidity buffers, preferring to allocate more resources to lending for higher returns. Maintaining large liquid assets entails high opportunity costs, reducing incentives to preserve reserves. Nguyen and Nguyen (2022) argue that banks prioritise credit expansion, which yields higher returns, over liquid assets that only buffer liquidity risk. Dal (2020) similarly finds that greater lending reduces liquidity availability, as higher credit shares in asset portfolios are linked to lower liquid asset holdings. Carletti and Leonello (2018) show that banks in less competitive, concentrated credit markets often reduce liquidity buffers, facing weaker pressures to hold liquid assets and stronger incentives to lend. Kim (2017) also finds that banks in low-competition markets face higher liquidity risk, as liquid assets decline while lending expands. Thus, banks with larger loan market shares are assumed to hold fewer liquidity buffers. Since loans are excluded from HQLA in the LCR framework, unchecked loan expansion without sound liquidity management may reduce the LCR and increase short-term liquidity risk. H6: Loan market share has a negative effect on the Liquidity Coverage Ratio (LCR).

This study employs several control variables theoretically and empirically linked to bank liquidity risk: the Capital Adequacy Ratio (CAR), Return on Equity (ROE), the policy interest rate (BI Rate), and Gross Domestic Product (GDP). CAR measures banks' ability to cover risky assets, with higher levels providing stronger buffers to absorb losses and sustain depositor confidence during stress (Claessens, 2014; Zheng et al., 2019). Empirical evidence from Indonesia confirms CAR's significant effect, with Fitriana and Febrianto (2018), Monisa and Fadhlia (2018), and Jaiz et al. (2020) finding positive relationships, especially in rural and Islamic banks. ROE, as an indicator of profitability, has also been linked to liquidity risk. Widyarti et al. (2022) report a positive and significant effect of ROE in Indonesian banks, as profit pressures encourage investment in less liquid assets. Roman and Sargu (2014) argue that high profitability without liquidity buffers heightens risk, while Bani and Yaya (2016) note differing impacts between Islamic and conventional banks.

The BI Rate, set by Bank Indonesia reflects monetary policy direction and influences liquidity risk through funding costs and asset allocation. Lower policy rates promote lending and reduce liquid assets, raising liquidity pressures when funding is unstable. Dang and Nguyen (2021) find that lower rates decrease liquidity, while Giordana and Schumacher (2013) show stronger effects in banks with weak funding stability. GDP, reflecting macroeconomic performance, also shapes liquidity risk. İncekara and Çetinkaya (2019) identify a negative and significant relationship between GDP and liquidity risk in Turkish Islamic banks, and Naoaj (2023) finds consistent evidence in 28 Bangladeshi banks, indicating that stable growth reduces liquidity pressures.

METHODS

The data used in this study are secondary data obtained from banks' annual financial reports, accessible through the official websites of the respective banks, and from the

Indonesian Banking Statistics reports available on the official website of the Financial Services Authority (Otoritas Jasa Keuangan). This study employs a sample of banks that collectively control 75% of the total assets of the Indonesian banking industry. These banks were selected because, structurally, they are the dominant players in the market and thus sufficiently represent the main characteristics of the national banking sector. Based on this criterion, 16 banks were selected, as follows:

Table 1. List of Research Samples

Bank Rakyat Indonesia	Bank Panin
Bank Mandiri	Bank Danamon
Bank Central Asia	Bank SMBC Indonesia
Bank Negara Indonesia	Bank Jawa Barat
Bank Tabungan Negara	Bank Maybank Indonesia
Bank CIMB Niaga	Bank UOB Indonesia
Bank Permata	Bank Mayapada Internasional
Bank OCBC NISP	Bank Mega

Source: Processed Data (2025)

The data used in this study are panel data, which combine time series and cross-sectional data. Accordingly, the analytical method employed is panel data regression. This study involves two dependent variables, three independent variables, and four control variables; thus, the estimated model can be written as follows(Formula i, ii)

$$NSFR_{it} = \alpha_{it} + \beta_1 MS_{kit} + \beta_2 CAR_{it} + \beta_3 ROE_{it} + \beta_4 BI_{it} + \beta_5 GDP_{it} + \varepsilon_{it}$$

$$LCR_{it} = \alpha_{it} + \beta_1 MS_{kit} + \beta_2 CAR_{it} + \beta_3 ROE_{it} + \beta_4 BI_{it} + \beta_5 GDP_{it} + \varepsilon_{it}$$

analysis is conducted separately for each market share indicator (MSA, MSD, MSL). This separation aims to avoid potential multicollinearity among the main variables, which are correlated with one another, while also providing a clearer picture of the individual effects of each indicator on liquidity risk. In total, six regression models are analysed, each including one main independent variable and four control variables. The study employs the Random Effect Model (REM) estimated using Generalized Least Squares (GLS), which theoretically addresses heteroskedasticity (Wahyudi, 2020). However, diagnostic tests are still presented to ensure model assumptions are met, and Robust Standard Errors (RSE) are applied to correct for detected heteroskedasticity.

RESULTS

The results of the descriptive statistics are presented in Table 2. The bank liquidity risk variables, measured using NSFR and LCR, have average values of 130.734 percent and 220.578 percent, respectively. The minimum and maximum values for NSFR are 100.22 percent and 180.7 percent, while for LCR they are 123.11 percent and 396.3 percent. These results indicate that, on average, the banks in the sample have met the regulatory thresholds for NSFR and LCR of 100 percent.

The distribution of market share across the sample reveals considerable variation. Average values of MSA, MSD, and MSL are 4.781 percent, 4.673 percent, and 4.930 percent, respectively, yet high standard deviations indicate substantial differences between banks with large and small market shares. Maximum values far above the averages further suggest that certain banks hold stronger dominance in assets, loans, and third-party funds compared to others in the sample.

For bank-specific and macroeconomic factors, the CAR variable averages 23.122 percent (minimum 10.78 percent, maximum 38.7 percent), reflecting generally strong capitalisation among sampled banks. ROE averages 10.836 percent with a standard deviation of 5.244 percent, indicating diverse profitability levels. Meanwhile, the BI Rate averages 4.75 percent and GDP growth averages 3.802 percent, with GDP showing a standard deviation

of 2.813 and a range from -2.1 to 5.3, capturing fluctuations in economic growth during the study period.

Table2. Descriptive Statistics Results

Effect of Market Share of Assets (MSA) on the Net Stable Funding Ratio (NSFR)
The regression results depict at table 4, indicate that MSA has a positive and significant effect on NSFR, implying that banks with larger asset market shares maintain higher NSFR levels. This suggests that dominant banks face lower long-term liquidity risk, as their scale provides wider access to stable funding sources.

variables	Obs	Mean	Std. Dev.	Min	Max
NSFR	80	130.734	17.962	100.22	180.7
LCR	80	220.578	59.501	123.11	396.3
MSA	80	4.781	5.009	1.054	16.548
MSL	80	4.673	4.754	1.017	17.120
MSD	80	4.930	5.260	1.123	16.984
CAR	80	23.122	6.535	10.78	38.7
ROE	80	10.836	5.244	0.18	27.31
BI Rate	80	4.750	0.981	3.5	6.0
GDP	80	3.380	2.813	-2.1	5.3

Source: Processed Data (2025)

Table 4. Estimation Result :
Net Stable Funding Ratio (NSFR)

NSFR	Model 1	Model 2	Model 3
MSA	1.660221** (0.040)		
MSD		1.803909** (0.047)	
MSL			1.351536 (0.109)
CAR	1.035019** (0.003)	1.043053** (0.007)	1.036768** (0.003)
ROE	0. 002585 (0.993)	-0.0140086 (0.972)	0.0524544 (0.858)
BI	-2. 5989** (0.032)	-2.624308** (0.011)	-2.666501** (0.029)
GDP	-0.1631258	-0.1445481	-0.1874814

	(0.710)	(0.761)	(0.670)
Constanta	111.7339** (0.000)	111.2682** (0.000)	113.3447** (0.000)
Obs.	80	80	80
F (Prob > chi2)	0.0002	0.0130	0.0004
R-squared	0.1886	0.2107	0.1522

Source : Processed Data (2025)
Note: *** significant at 1%; ** significant at 5%; * significant at 10%

Figure1. compares the composition of Available Stable Funding (ASF) and Required Stable Funding (RSF) among the four largest Indonesian banks (Mandiri, BRI, BCA, and BNI), alongside their Asset Market Share (MSA). Large banks such as BRI, Mandiri, BCA, and BNI, which are systemic institutions in Indonesia (Wahyudi et al., 2021), hold the largest asset shares and consequently higher RSF requirements. Nevertheless, their ability to mobilise adequate ASF reflects their capacity to sustain stable funding and manage liquidity on a larger and more complex scale. Market confidence in these banks is reinforced by their reputation and "too big to fail" (TBTF) status, which stabilises depositor funding. Their dominance is also evident in the interbank money market, where they act as major players and trusted counterparties (Yusgiantoro & Raymond, 2016).

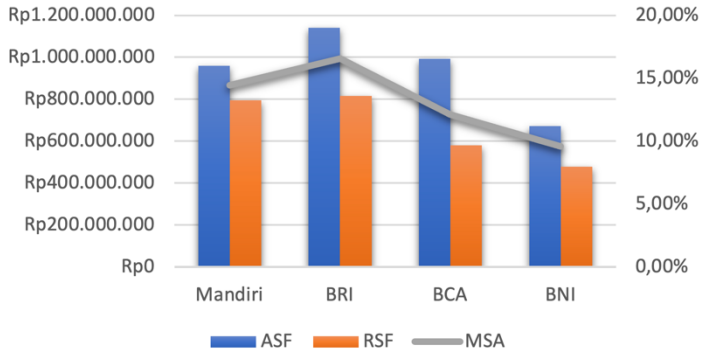

Figure 1. Composition of ASF and RSF from CR4 Banks
Source: Processed Data (2025)

These findings are consistent with Fadli et al. (2021), who report a positive relationship between MSA and NSFR, highlighting that banks with asset-based market power demonstrate stronger liquidity risk management. Thus, the results support Hypothesis H1, which posits that MSA has a positive effect on the Net Stable Funding Ratio. Market confidence in these large banks is reinforced by their reputation and the expectation that they will not be allowed to fail (too big to fail, TBTF), which makes depositor funding more stable. This confidence is also evident in the interbank money market, where these banks are recognised as dominant players and key contributors. A study by Bank Indonesia highlights their strong reputation and the high level of trust they command from other industry participants (Yusgiantoro & Raymond, 2016). These findings are consistent with Fadli et al. (2021), who report a positive relationship between MSA and NSFR, indicating that banks with asset-based market power exhibit stronger liquidity risk management.

Effect of Market Share of Deposits (MSD) on the Net Stable Funding Ratio (NSFR)
The regression results show that MSD has a positive and significant effect on NSFR, meaning that banks with larger deposit market shares maintain higher NSFR levels. This implies that banks with stronger capacity to mobilise third-party funds face lower long-term liquidity risk. MSD reflects dominance in attracting deposits, particularly retail funds from individual and small business customers, which are considered stable. Banks with larger deposit shares usually enjoy long-term customer relationships, strong reputations, and high market trust, resulting in a greater proportion of retail deposits. Within the NSFR framework, stable retail deposits carry high ASF weights, thereby directly strengthening NSFR.A stable long-term funding structure is crucial to prevent mismatches between asset and liability maturities. Liquidity risk arises when banks rely excessively on short-term funding for long-term assets, and the NSFR is designed to mitigate this by encouraging better alignment. In this context, banks with high MSD demonstrate stronger ability to mobilise stable retail deposits, which enhances their resilience to long-term liquidity risk. The ASF composition analysis further indicates that banks with higher MSD show greater shares of stable retail and SME deposits relative to less stable funds. These deposits are not only resilient due to customer loyalty but are also protected by the Deposit Insurance Corporation (LPS), reducing the likelihood of mass withdrawals during systemic stress.

These findings are consistent with Fadli et al. (2021), who report that deposit market share has a significant positive effect on NSFR, indicating that banks with market power in the deposit market demonstrate stronger liquidity risk management. Moreover, Li et al. (2023), using a non-structural approach, show that banks with market power in concentrated deposit markets are able to maintain stable funding because consumers have limited alternatives. Such banks also possess greater flexibility in setting deposit rates and face less pressure to compete aggressively in response to rising market rates.

Effect of Market Share of Loans (MSL) on the Net Stable Funding Ratio (NSFR)
The regression results indicate that MSL does not have a significant effect on NSFR, suggesting that a bank's lending dominance is not consistently associated with long-term liquidity risk. In theory, higher lending volumes could increase pressure on stable funding, since loans are generally long-term and illiquid (Choudhary & Limodio, 2022). This means that larger loan portfolios require higher RSF, which may lower NSFR if not matched by greater ASF (King, 2013b). This insignificant finding may be explained by the RSF weighting framework in Basel III, which emphasises loan characteristics rather than overall volume (Abdul-Rahman et al., 2018). Loans with shorter maturities, strong collateral, or low-risk sector exposure receive lighter RSF weights, while long-term unsecured or high-volatility loans are assigned heavier RSF burdens (Abdul-Rahman et al., 2018; Basel Committee on Banking Supervision, 2014).

Table 5. Bank Credit Segmentation

Bank	MSL	Credit Segmentation	%
BRI	17,05%	Micro	57,8%
Mandiri	12,94%	Corporation	43,7%
BTN	4,00%	Housing Loan	89,4%
Danamon	2,02%	Corporate and Commercial	41,9%
Panin	1,89%	Capital Lending	47,8%
Mega	1,05%	Corporation	53,1%

Source: Processed Data (2025)

To strengthen the argument that loan characteristics influence RSF requirements, observations were made on six banks with varying market shares. Table 5 reveal that each bank specialises in different loan segments such as micro, consumer, or corporate lending reflecting variations in tenor and liquidity that directly affect RSF weights. Consequently, even banks with large or small MSL do not necessarily exhibit the same impact on NSFR. These findings diverge from Fadli et al. (2021), who report a significant positive effect of

MSL on NSFR. The discrepancy may stem from differences in sample composition and research period, which could influence the observed relationship between loan market share and long-term liquidity risk.

Effect of Market Share on the Liquidity Coverage Ratio (LCR)

The regression results in table 6 show that MSA, MSD, and MSL have no significant effect on LCR, in contrast to their varying influence on NSFR. Theoretically, larger asset shares may reduce the need for liquidity buffers, stronger deposit shares enhance funding stability, and larger loan shares reduce liquid asset holdings (Berger & Bouwman, 2009; Kim et al., 2015; Bonner et al., 2013).

Table 6. Estimation Result : Liquidity Coverage Ratio (LCR)

	Model 1	Model 2	Model 3
MSA	3.252054 (0.252)		
MSD		3.089274 (0.277)	
MSL			0.7344571 (0.800)
CAR	4.646424** (0.000)	4.61636** (0.000)	4.569448** (0.000)
ROE	1.150804 (0.287)	1.106201 (0.314)	1.396196 (0.205)
BI	-10.9114** (0.017)	-10.81799** (0.019)	-10.93683** (0.019)
GDP	-1.541957 (0.357)	-1.688197 (0.312)	-1.838713 (0.273)
Constanta	141.8577** (0.000)	144.4659** (0.000)	154.6188** (0.000)
Obs.	80	80	80
F (Prob > chi2)	0.0000	0.0000	0.0000
R-squared	0.1497	0.1575	0.1257

Source: Processed Data (2025)

However, these potential effects do not materialise empirically, suggesting that market power does not directly determine banks' short-term liquidity risk in Indonesia. Instead, LCR management is strongly shaped by binding regulation, as stipulated in POJK No. 42/POJK.03/2015, which requires a minimum 100% LCR. Throughout the study period, all sampled banks consistently reported ratios well above this threshold, reflecting both strict compliance and conservative liquidity strategies (Husodo et al., 2024b).

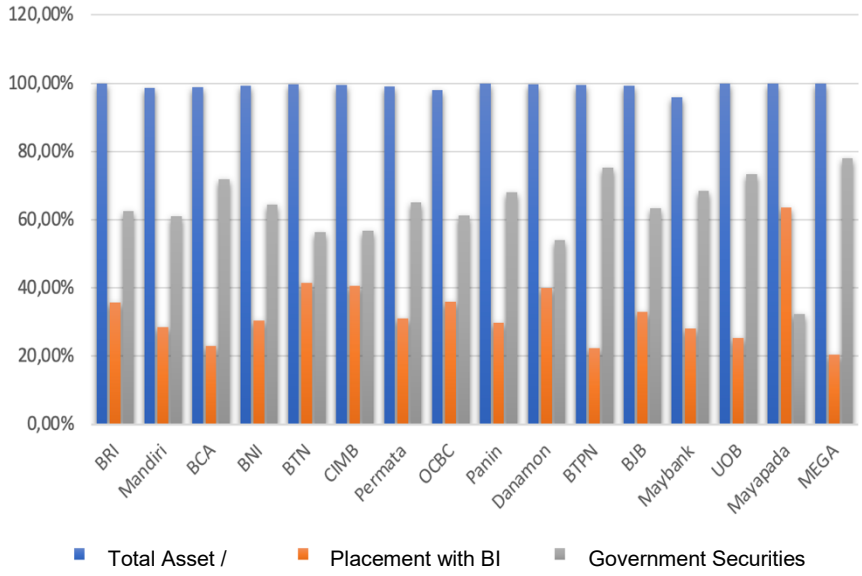

Figure 2. Bank High Quality Liquid Asset Composition
Source: Processed Data (2025)

This conservative approach is further evidenced by banks' preference for Level 1 HQLA, such as placements at Bank Indonesia and government securities, shows in figure 2, which are globally recognised as the safest assets with zero haircut in LCR calculations (Basel Committee on Banking Supervision, 2013). Such behaviour aligns with findings that banks in developing countries tend to maintain higher liquid reserves than those in advanced economies, due to weaker depositor protection and funding constraints (Nguyen et al., 2017). Similarly, Mashamba (2022) and Ariefianto et al. (2021) find that reliance on third-party funds and past crisis experiences encourage banks to hold higher liquidity buffers. Together, these results highlight that in Indonesia, short-term liquidity management is less driven by market structure and more by regulatory enforcement and a conservative banking culture.

Capital Adequacy Ratio (CAR) has a significant positive effect on both NSFR and LCR, indicating that banks with higher capital reserves gain greater confidence from markets and regulators, thereby enhancing their ability to meet long-term and short-term liquidity needs and lowering their liquidity risk (Claessenst, 2014; Zheng et al., 2019). Meanwhile, Return on Equity (ROE) does not affect NSFR and LCR. Profitability does not directly influence liquidity risk because profits are not automatically allocated to strengthen liquidity buffers (Rodriguez et al., 2023; Sari & Sedana, 2020). Furthermore, NSFR and LCR are more strongly determined by prevailing liquidity regulations rather than by bank profitability. For macroeconomic factors, the BI Rate has a significant negative effect on both NSFR and LCR. An increase in the policy rate raises funding costs, thereby pressuring long-term funding structures and reducing banks' capacity to maintain short-term liquidity buffers (Dang & Nguyen, 2021; Giordana & Schumacher, 2013). Consequently, a higher BI Rate increases both long-term and short-term liquidity risk. By contrast, GDP has no significant effect on NSFR and LCR. GDP reflects overall economic activity, and its influence on bank liquidity risk tends to be indirect, as it does not directly shape decisions on funding structure or short-term liquidity management measured through NSFR and LCR. Overall, the results of the control variables indicate that bank liquidity resilience is more influenced by internal capital strength and monetary conditions than by profitability and economic growth. Nevertheless, the central focus of this study remains on the effect of market share, as a proxy for market power, on NSFR and LCR.

CONCLUSION

This study finds that market share as a proxy for market power has a differentiated impact on bank liquidity risk in Indonesia. Asset and deposit market shares show a significant positive effect on NSFR, indicating that banks with larger structural dominance are better positioned to maintain stable long-term funding. However, loan market share does not significantly affect NSFR, suggesting that the relationship between credit expansion and liquidity stability depends heavily on credit composition and RSF weighting under Basel III. For LCR, none of the market share indicators demonstrate significant effects, reflecting that short-term liquidity management is more strongly shaped by regulatory compliance rather than market structure. The results highlight the duality between structural power and regulatory discipline. While market dominance enables banks to enhance their long-term liquidity resilience through stronger funding bases, short-term liquidity buffers remain largely driven by regulatory enforcement. This suggests that prudential frameworks, particularly binding regulations such as LCR, create a level playing field across banks regardless of their market power.

For regulators, the findings emphasise the importance of maintaining strict enforcement of LCR requirements to ensure consistent short-term liquidity resilience across banks. The uniformity in LCR ratios well above the 100% threshold demonstrates that binding regulation is effective in disciplining liquidity behaviour and mitigating risks of systemic contagion. At the same time, the positive effect of asset and deposit market share on NSFR indicates that larger banks enjoy structural advantages in sustaining stable funding. Policymakers should monitor the concentration of funding sources, ensuring that reliance on a few dominant banks does not create systemic vulnerabilities. Strengthening deposit insurance schemes and promoting diversification of funding across banks could help reduce excessive dependency on systemic institutions. For banks, the results underscore the need to balance profitability-driven credit expansion with prudent liquidity management, ensuring that growth strategies do not undermine long-term resilience.

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