Do Banks Conduct Earnings Management Prior to Seasoned Equity Offerings to Meet Capital Adequacy Regulation?

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Abstract: The episodic financial crises in Indonesia highlighted the importance of strengthening banks’ capital to maintain financial stability. To achieve such an objective, the Financial Service Authority (OJK) issued OJK Regulation Number 12/2020, which mandates banks to meet capital standards to preserve a sound financial system. However, given the short timeframe, banks need to conduct seasoned equity offerings (SEOs) to satisfy the regulation, where they could potentially perform earnings management before the SEOs to raise optimal capital. We use secondary data derived from www.idx.co.id from Q1-2019 to Q4-2021. We use the Wilcoxon signed-rank test to examine whether there are significant abnormal LLPs between pre- (2019-2020) and post-regulation (2020-2021), suggesting that bank managers conduct earnings management before SEOs through their discretion over LLP items. We also use a correlation test to investigate the association between earnings management and LLPs. Our study finds that bank managers engage in earnings management before SEOs to meet the capital adequacy regulation, given the short timeframe from the regulator. We also find a strong correlation between earnings management and LLPs. The study results suggest that bank managers engage in earnings management, regardless of whether it is income-increasing or income-decreasing, before the SEO period in response to the capital adequacy regulation through their use of discretion over LLP items.

Keywords: Earnings Management, Capital Adequacy Regulation, Loan Loss Provisions, Seasoned Equity Offerings.

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Kata Kunci: Manajemen Laba, Regulasi Kecukupan Modal, Cadangan Kerugian Penurunan Nilai, Penawaran Umum Terbatas.

1. Introduction

The global financial crisis of 2008-2009 has sparked extensive debate over the role of capital adequacy in the banking industry. The failure of banks and financial institutions, mainly due to corporate governance issues, plays a vital role in triggering such a crisis (Meirine & Karyani, 2017). Prior research has documented the impact of capital adequacy on banks’ systemic risk and banks’ performance during financial crises (Acharya et al., 2012; Archarya & Naqvi, 2012; Berger & Bouwman, 2013; Black & Hazelwood, 2013; Gauthier et al., 2012; Mehran, 2009). Therefore, regulators have recently emphasized capital adequacy regulation to prevent banks’ systemic risk from spreading throughout the financial system. Commercial banks’ capital adequacy regulation aims to reduce the risk of insolvency and promote a strong, sound, and stable financial system (Anisa & Sutrisno, 2020; Blum & Hellwig, 1995).

Stringent capital regulation ensures that banks have stronger resilience in the face of various uncertainties and can sustain significant unexpected losses (Bitar et al., 2018). Stringent capital regulation also forces banks to hold more capital to help reduce the moral hazard of excessive risk-taking by bank managers (Dam & Koetter, 2012), thereby reducing systemic risks in the financial system. Moreover, in a crisis, the lower the leverage, the lower the likelihood that banks default on their obligations. These facts
give rise to the importance of capital adequacy regulation to avoid the risk of bankruptcy and negative externalities to the financial system (Barrios & Blanco, 2003).

In the case of Indonesia, recurrent financial crises, ranging from the Asian financial crisis of 1998-1999 to the global financial crisis of 2008-2009, vividly demonstrated that banking crises were rapidly spreading across the economy and threatening financial stability, thereby heightening the need for regulators to impose stringent capital regulations. Strict capital regulations compel banks to sustain substantial unanticipated losses while still honoring withdrawals of deposits and other obligations, thereby reducing excessive risk-taking (Anginer et al., 2018). To foster financial stability, the Financial Services Authority (OJK) issued OJK Regulation (POJK) Number 12/2020 about the Consolidation of Commercial Banks, one of which mandates banks to meet the minimum capital adequacy requirements in stages before the end of 2022, starting from Rp1 trillion in 2020, Rp2 trillion in 2021, and Rp3 trillion in 2022, except for regional banks which are due at the end of 2024.

With such a regulation, the regulator also promotes banking consolidation in Indonesia to foster efficiency in the banking industry. Largely, small banks are subject to such regulation due to their insufficient capital, which has long contributed to the inefficiency of the banking industry. Banks could face several consequences if they do not comply with the regulation. First, banks will be downgraded to rural banks (BPR). Second, existing shareholders will lose their control over the banks’ ownership. Third, business permits will be repealed. Given the short timeframe of the regulation, banks need to conduct corporate actions to help them raise sufficient capital to meet the regulation, one of which is seasoned equity offerings (SEOs). Regulators generally encourage banks to raise more capital through SEOs because they believe they need more capital to help sustain a sound financial system (Li et al., 2016).

However, given the time constraint, banks could potentially manage their earnings around the SEO period to raise optimal proceeds and help meet the capital standard imposed by the regulator (Collins et al., 1995; Shivakumar, 2000). The tendency to engage in earnings management around the SEO period can be associated with the notion that if a firm is undervalued, managers are more inclined to delay the equity
issuance until they have good news to release (Korajczyk et al., 1991). On the contrary, overvalued firms have incentives to issue new shares immediately since they can raise new capital at a lower cost (Warr et al., 2012) to maximize the objectives of their long-term shareholders (Chang et al., 2006).

In other words, since managers make decisions based on their shareholders’ best interest—assuming that the interest between agent and principal is convergent—banks will conduct SEOs only if they view such actions favoring their existing shareholders. On the one hand, banks may be incentivized to undertake SEOs when they view their shares as overvalued. By selling overvalued shares, banks can raise optimal capital relative to the share dilution their existing shareholders suffer. On the other hand, banks may be incentivized to conduct SEOs when their shares are presumed to be undervalued. This may be the case when their existing shareholders or insiders per se participate in absorbing the additional shares (Jindal, 2019). By selling undervalued shares, insiders can reap the benefit of higher share ownership at a discount price, albeit to the detriment of minority shareholders.

Despite facing two conflicting incentives from SEOs, bank managers are more likely to engage in opaque transactions to overstate earnings and sell overvalued additional shares, even though such practices may be costly in the long run. Bank managers engage in earnings management around SEOs to fuel their share prices to attract prospective investors into buying the additional shares (Kothari et al., 2016). This condition can lead to some serious issues. First, earnings management might not reflect the true economic reality of the underlying risk conditions of banks (Anandarajan et al., 2007). Hence, the quality of bank capital is no longer following the regulator's objectives (D. Kim & Santomero, 1988). Second, earnings management will induce the insiders to sell their prices at higher prices while making minority shareholders worse off by reducing their wealth (W. Ben Yang et al., 2013). Third, banks tend to experience poor share prices and earnings performance post-offering (Rangan, 1998; Teoh et al., 1998a).

Earnings management in the banking industry differs from the common practice in non-banking industries given that bank managers have specific instruments for
performing earnings management, such as loan loss provisions (LLPs) (El Sood, 2012; Hong et al., 2020; Liu & Ryan, 2006; Ozili & Outa, 2017), commission and fee income (Ozili, 2017; Ozili & Outa, 2019), income smoothing (Bouvatier et al., 2014; Peterson & Arun, 2018), available-for-sale securities (Barth et al., 2012, 2017), and securitization gains (Fabrizi et al., 2021; Karaoglu, 2005). More specifically, previous studies related to earnings management practices in the banking sector focused on certain instruments used by banks to overstate or understate their profits (Barth et al., 2017; Bouvatier et al., 2014; Fabrizi et al., 2021; Ozili, 2017; Ozili & Outa, 2019).

Previous studies related to earnings management around SEOs documented that managers smooth earnings before the SEO period (Duc Ngo & Varela, 2012) and the share prices post-offerings experience poor performance (Rangan, 1998; Teoh et al., 1998a; Yoon & Miller, 2002). Earnings management attracts more institutional investors to buy the new issuance but performs worse in the long run (W. Ben Yang et al., 2013). Firms that manage their earnings opportunistically experience poor accrual quality and tend to exhibit higher abnormal returns around SEO announcements but significantly underperform after SEO (K. S. Kim et al., 2015). Additionally, studies on earnings management around SEOs also investigated the role of accrual-based earnings management and real earnings management activities around the SEO period (D. A. Cohen & Zarowin, 2010; Diri, 2018; Kothari et al., 2016) where there is a trade-off between them (Zang, 2012).

This study tests whether bank managers conduct earnings management before SEO using their discretion over LLPs in response to the capital adequacy regulation. We use LLPs as our proxy to measure earnings management conducted by bank managers, consistent with previous studies (Ahmed et al., 1999; Bouvatier et al., 2014; Greenawalt & Sinkey, 1988; Kanagaretnam, Lobo, & Yang, 2004). However, we do not seek to examine the association between LLPs, earnings management, and capital management simultaneously, like previous studies (Chen & Yuan, 2004; Leventis et al., 2011), since we take into account SEOs in our setting. Rangan (1998) and Teoh et al. (1998c) argue that managers conduct earnings management before the SEO period to overstate pre-issue earnings to achieve a higher issue price, but using broad samples that comprise all
SEO firms (not exclusively banks). Our study investigates earnings management explicitly before the SEO period among banks. We test whether bank managers use their discretion over LLPs to manage their reported earnings prior to the SEO period to raise sufficient capital in response to the capital adequacy regulation. Thus, to our knowledge, our paper is the first study that tests whether commercial banks in Indonesia perform earnings management before the SEO period in response to the capital adequacy regulation.

Our findings have important policy and decision-making implications. First, our study is essential to providing evidence that can become an early warning for the regulator to mitigate negative consequences from such misconduct and, hence, better evaluate whether the banks’ capital can meet the actual objective of the regulation. Second, market participants can become more aware of the possibility of financial manipulation during the pre-SEO period to help them make decisions more rationally by underpricing the new share issuance. As a result, the share price will not underperform post-SEO period and thus help preserve the shareholders’ wealth.

2. Theoretical Framework

2.1. Earnings Management in the Banking Industry

Earnings management occurs when managers use their judgment in reporting financial information or structuring transactions to influence the bottom line of the firm’s economic performance. The firm’s economic performance is valuable to its shareholders because it shows its prospects and how well the businesses are managed (Parfet, 2000). However, earnings management is often associated with negative consequences in the future as violations of accounting and auditing standards (J. Kim et al., 2017). Unlike fraud, earnings management centers around specific selections of accounting methods, policies, changes, and estimates corresponding to accounting standards (Mayapada et al., 2020; Ghazali et al., 2015).

There are two methods of earnings management: the use of accruals (accrual-based earnings management, or AEM) and the use of operational decisions (real earnings management, or REM) (Graham et al., 2005). Managers face trade-offs on cost-
effectiveness when choosing between AEM and REM methods, which depend on the current economic condition (Zang, 2012). AEM is generally undertaken after the end of the fiscal year by adjusting the recognition of expenses and revenues, discretionary estimates, bad loans, and impaired asset write-offs to manage net income or operating cash flow (Teoh et al., 1998b). In the meantime, REM is accomplished by: (1) adjusting the timing of operating structures, investments, or financial decisions, such as sales manipulation over price discounts and flexible credit terms, (2) reducing discretionary expenses such as R&D costs, and (3) overproducing to report a lower cost of goods sold (D. A. Cohen & Zarowin, 2010).

To put it into context, Healy and Wahlen (1999) posit that the rise of earnings management in the banking industry occurs for two reasons. First, there is a constraint in banking regulation related to capital standards. Second, managers may have a higher incentive through a bonus scheme. Earnings management in the banking industry is mainly triggered by the central bank or bank regulator, which requires specific capital standards to foster financial stability, thereby making banks’ earnings less volatile and reducing risk (Oosterbosch, 2009). Fulfilling capital standards as part of bank capital management is one of the main factors that drive bank managers to engage in earnings management (Beatty & Liao, 2014a). There are positive correlations between earnings management and bank capital management to meet capital adequacy regulations (Fonseca & González, 2008; Shawtari et al., 2015).

The banking industry has distinct disclosure requirements that differentiate its earnings management from other industries (Teoh et al., 1998c). Oosterbosch (2009) identified several approaches to measuring earnings management in the banking industry: (1) using total discretionary accruals; (2) using specific accruals through a single accrual or some set of accruals; and (3) observing the behavior of accruals around a specific statistical benchmark that affects earnings. Due to its greater flexibility than the other approaches, bank managers may favor using the accrual approach to managing earnings (Wati & Chandra, 2022). Based on such approaches, bank managers generally use several methods to manage earnings and help them achieve capital adequacy. Since the window period between the issuance of regulations and its enactment is usually
narrow, bank managers tend to conduct short-term extraordinary efforts to meet the regulations (B. Cohen, 2013).

Bank managers can conduct earnings management through various instruments. Major empirical studies on earnings management in the banking industry suggest that bank managers mainly adjust LLPs to smooth income for two reasons (Fonseca & González, 2008). First, banks have substantial discretion in determining the amounts of LLPs. Second, banks’ high leverage makes them vulnerable to asset value volatility, so LLPs become the banks’ main accrual, affecting financial stability. In addition, El Sood (2012) and Hong et al. (2020) also found that bank managers use LLPs to manage earnings despite facing the trade-off between profitability and risk. Dechow et al. (2010) found that bank managers use asset securitization to smooth earnings in a short-term window. Dong and Zhang (2018) found that banks may prefer selective sales of available-for-sale (AFS) securities to recognize unrealized gains and losses. Ertan (2022) found that syndicated loan origination is one of the essential bank operations to increase earnings and raise capital in the short term. The selection of such instruments by bank managers depends on the degree of capital banks hold and the extent to which they have exposure to economic and business risks.

2.2. Seasoned Equity Offerings (SEOs) in the Banking Industry

A seasoned equity offering (SEO) refers to a publicly traded company issuing new shares to raise additional capital. A publicly traded company can raise new equity through rights issues to its existing shareholders or public offerings (Fung et al., 2008). SEOs have two major impacts on firms (Eckbo & Masulis, 1995). First, equity issuance increases capital and thus reduces firms’ leverage. Second, the proceeds are generally used to fund capital expenditures, finance acquisitions, reduce debt, or strengthen capital.

The market response is crucial in determining whether companies can raise optimal capital through SEOs. Firms can collect optimal proceeds only if investors respond positively to their SEOs. However, previous studies documented that SEOs are generally followed by a negative market response (Jiao & Chemmanur, 2005; Walker
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& Yost, 2008), especially for small firms with high pre-SEO discretionary accruals (Denis & Sarin, 2001). Rational investors presume that managers tend to conduct share offerings when they believe their share is overvalued (Myers & Majluf, 1984). Managers make decisions on behalf of their existing shareholders, who gain if additional shares are sold at a premium and lose if additional shares are sold at a discount. This allows them to raise new capital with minimal share dilution for their existing shareholders. Consequently, investors tend to respond negatively and underprice the share issuance because they know managers can exploit their information advantages at the expense of potential investors.

However, SEOs undertaken by banks may be interpreted differently than those undertaken by non-banks, making it less likely for investors to respond negatively. Investors may perceive that banks conduct SEOs to maintain capital standards, thus giving a positive signal to the market (Li et al., 2019). That is, investors might react less negatively to bank SEOs than non-bank SEOs since such SEOs aim to raise capital to meet the regulation, which in turn helps reduce bank risk. In addition, investors may also respond less negatively to bank SEOs, given that banks face stringent regulations and intensive monitoring by both the market and regulators. In other words, given that capital regulation aims to reduce bank risk, market participants are more likely to trust bank SEOs than non-bank SEOs.

Although banks undertake SEOs in response to the capital adequacy regulation, they may signal mixed information content, especially over their earnings, around the SEO period (Li et al., 2019). On the one hand, it may indicate that banks strongly commit to complying with capital regulation to maintain bank stability. In this case, investors may not respond negatively since the SEOs give a positive signal to the market. On the other hand, it may also signal that banks raise new capital in response to financial difficulties, thus making investors respond negatively to the SEOs. Hence, the market reaction toward bank SEOs will be conditional on the regulatory setting behind such measures. If banks undertake SEOs in response to capital regulation, investors may not react negatively to the SEOs. On the contrary, if banks undertake
SEOs without being driven by recent regulations, it may signal that they face financial difficulties.

3. **Hypothesis Development**

3.1. *Earnings Management, SEOs, and Capital Adequacy Regulation*

Managers are generally interested in managing earnings before the SEO period. Managers tend to manage their earnings upward to maintain high share prices, providing an opportunity to transfer wealth from prospective shareholders to existing shareholders (Kothari et al., 2016). Among other objectives, firms commonly undertake an SEO to raise new capital to fund new growth opportunities, acquire other firms, retire existing debt, or repurchase shares. In this study, we expect commercial banks to choose an SEO to raise new capital to help them meet the capital adequacy regulation. Given the narrow window from the regulator, bank managers are unlikely to meet the regulation without SEOs. Thus, managers are incentivized to inflate their earnings to attract prospective investors and collect optimal proceeds (W. Ben Yang et al., 2013). However, managers may have an incentive to do the opposite. Managers may be interested in managing earnings downward since insiders participate in the issuance, and they are unlikely to absorb overvalued new share issuance (Jindal, 2019).

Therefore, the motives behind managers’ choices in income-increasing or income-decreasing earnings management heavily rely on the incentives underlying the SEOs. If SEO banks cannot fully rely on the existing shareholders to buy the new issuance, managers might tend to manage their earnings upward, which in turn helps keep their share prices higher to increase proceeds from the offerings. On the contrary, if SEO banks are backed by some large institutional investors or standby buyers, managers might manage earnings downward to benefit them at the expense of minority shareholders. When the minority shareholders do not exercise their rights, there will be a wealth transfer from them to the standby buyers (Holderness & Pontiff, 2016), consistent with the motive of income-decreasing management. The share offering price at the time of the SEOs also tends to be cheaper than the market price, providing incentives for the existing shareholders (Kithinji et al., 2014).
How are SEOs able to benefit existing shareholders? First, existing shareholders can buy the newly issued shares at a discount to maintain or increase their holdings and thus increase their wealth. For this reason, managers acting as agents for the interests of shareholders may be incentivized to manage reported earnings downward to provide an opportunity for existing shareholders to absorb new issuance at a discount price. Second, existing shareholders who may act as informed sellers (Gorton & Winton, 2017) might have an information advantage over prospective investors to reap gains from the share issuance (Kraft et al., 2014; Lopatta et al., 2016). While managers manage earnings upward in the hope of propping up the share price and attracting more prospective investors to buy the new issuance, insiders might have the temptation to sell their shares at a higher price.

Previous studies have documented that firms engage in earnings management prior to the SEO period and experience poor share performances after the share issuance (Loughran & Ritter, 1997; Rangan, 1998; Teoh et al., 1998c). However, in this study, we solely focus on examining earnings management prior to the SEO period concerning capital adequacy regulations rather than the share price performance after the SEO period, like in previous studies (Berger & Bouwman, 2013; Duc Ngo & Varela, 2012; T. H. Yang et al., 2016; Yoon & Miller, 2002). We expect that banks conduct income-increasing earnings management to lure prospective investors into buying the new share issuance and income-decreasing earnings management to allow existing shareholders to buy undervalued additional shares. The most important thing for managers is that they can comply with the capital adequacy regulations within the given timeframe to avoid penalties from the regulator, irrespective of their earnings management choices.

**H1:** SEO banks conduct earnings management through income-increasing or income-decreasing to meet the capital adequacy regulation.

### 3.2. Earnings Management and LLPs

Loan loss provisions (LLPs) not only reflect the banks’ financial condition and operating performance but also affect the risks related to the resilience of banks (X. Dong et al., 2012). LLPs are certain reserves set aside by bank managers to mitigate a future deterioration of credit quality (Curcio & Hasan, 2015). Earnings are substantially
associated with LLPs (El Sood, 2012) since the adequacy of LLPs will determine whether banks can cover expected credit losses over the life of the loans.

Banks’ insufficient LLPs to cover such losses will hit their earnings (L. J. Cohen et al., 2014). Therefore, bank regulators require that banks keep adequate LLPs to mitigate expected losses. Given that accounting standard allows managers to estimate sufficient LLPs, there is growing concern that bank managers can opportunistically exploit the discretion to overstate or understate them (Ozili & Outa, 2017). Over-provisioning of LLPs may understate earnings, but help reduce exposure to loan losses in the future operating cycle, while under-provisioning of LLPs may overstate current earnings but increase exposure to future loan losses (Hong et al., 2020).

LLPs are generally associated with earnings management in a way that managers are incentivized to use them to manage less volatile earnings as a fundamental predicate for stable share prices (Anandarajan et al., 2007). Several studies also prove banks use LLPs for income smoothing (Collins et al., 1995; Ma, 1988). In the post-Basel regime, LLPs do not account for Tier I capital and make a limited contribution to Tier II capital. Hence, changes in LLPs will not directly affect the capital adequacy ratio. However, excluding LLPs from calculating the capital adequacy ratio might lead to more aggressive earnings management. Rather than managing earnings to avoid violations of the capital standards, banks may conduct earnings management to increase or decrease reported earnings to maintain high share prices and thus raise optimal capital.

**H2:** Earnings management is positively associated with loan loss provisions.

4. Research Method

This study uses a quantitative method with a non-parametric test to examine earnings management practices by SEO banks in response to capital adequacy regulations for the period 2019-2021 and a Spearman’s correlation test to investigate whether earnings management is correlated with the use of LLPs by bank managers. We use the non-parametric test to determine whether there is a significant difference in earnings management (EM) value as modeled in equation (2), which suggests an abnormality in LLPs (see Kanagaretnam et al., 2010, 2015), between pre- and post-
regulation, given that the regulation was enacted in 2020. We collect secondary data using data documentation from various sources, such as the Indonesia Stock Exchange (www.idx.co.id), banks’ official websites, and the financial data platform www.idnfinancials.com. The criteria for selecting the sample are purposive sampling with the following criteria:

Table 1: Research Sample

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial banks in Indonesia (public and private) as of December 2021</td>
<td>107</td>
</tr>
<tr>
<td>Banks in KBMI IV category (&gt; IDR70 trillion)</td>
<td>(4)</td>
</tr>
<tr>
<td>Banks in KBMI III category (IDR14 trillion – IDR70 trillion)</td>
<td>(13)</td>
</tr>
<tr>
<td>Banks in KBMI II category (IDR6 trillion – IDR14 trillion)</td>
<td>(17)</td>
</tr>
<tr>
<td>Banks in KBMI I category (&lt; IDR6 trillion)</td>
<td>73</td>
</tr>
<tr>
<td>Banks in KBMI I category with sufficient capital following regulation (&gt; IDR3 trillion)</td>
<td>(44)</td>
</tr>
<tr>
<td>Banks in the KBMI I category are subject to capital adequacy regulation (&lt; IDR3 trillion)</td>
<td>29</td>
</tr>
<tr>
<td>Non-SEO Banks subject to capital adequacy regulation</td>
<td>(10)</td>
</tr>
<tr>
<td>SEO Banks subject to capital adequacy regulation (a)</td>
<td>19</td>
</tr>
<tr>
<td>Number of quarters to be paired (b)</td>
<td>16</td>
</tr>
<tr>
<td>Total samples [(a) x (b)]</td>
<td>304</td>
</tr>
</tbody>
</table>

Source: processed data

We collect the data from Q1-2019 to Q4-2021 with a year-on-year comparison. The dependent variable in this study is earnings management (EM). In contrast, the independent variables used are (i) loan loss provisions (LLPs), (ii) non-performing loans (NPL), (iii) change in NPL, and (iv) change in outstanding loans. To test the hypotheses of this study, we use the models of Kanagaretnam et al. (2004) and Wijaya and Firmansyah (2021) in estimating the discretionary items of the loan loss provisions (LLPs) and measuring earnings management conducted by banks. We expect significantly greater use of LLPs for earnings management in response to the regulation since bank managers can use their judgment to estimate the amounts of LLPs, consistent with Anandarajan et al. (2007).
LLPs reflect the estimated amount of loans that are unlikely to be repaid by borrowers and will be reported as an expense on the banks’ income statement. When banks increase their LLPs, they reduce their earnings because they anticipate future losses from their credit portfolio. On the one hand, prudent banks generally increase their LLPs as a "rainy fund" to smooth earnings and thus mitigate financial difficulties that may arise unexpectedly in tough times (Leventis et al., 2011). On the other hand, bank managers may decrease their LLPs merely for earnings management that aims to fuel their share prices in need of external financing (Kanagaretnam, Lobo, & Mathieu, 2004). However, unlike Kanagaretnam et al. (2004), who suggested that reducing the cost of financing is the motive behind the use of LLPs to manage earnings, we expect that bank managers' use of their discretion over LLPs is related to the need for raising capital from SEOs to meet the capital adequacy regulation.

Previous studies suggested that LLPs are used as a tool for capital management to meet capital adequacy ratio regulations (Collins et al., 1995; Moyer, 1990). However, unlike Anandarajan et al. (2007), who investigated the LLPs' association with capital adequacy regulations and found that increasing or decreasing LLPs for earnings management does not affect on the capital adequacy ratio post-Basel period, our study examines whether commercial banks in Indonesia use LLPs to increase or decrease reported profit pre-SEO period to raise optimal proceeds from the offerings.

LLPs consist of discretionary (normal) and non-discretionary (abnormal) items (Kanagaretnam et al., 2015). To measure non-discretionary LLPs, we used changes in non-performing loans (CHNPL), beginning balances of performing loans (NPLt-1), and changes in total loans (CHLOAN) since LLPs are positively associated with outstanding loans and NPL. An increase in total loans is likely to increase LLPs, assuming no improvement in credit quality. Meanwhile, as NPL increases, banks are likely to increase their LLPs to cover potential losses in anticipation of future economic conditions. The value of NPL at the beginning of the year is expected to be positively correlated with LLPs.
The following model is used to estimate non-discretionary LLPs:

\[ \text{LLP}_{it} = \alpha_0 + \alpha_1 \text{NPL}_{it-1} + \alpha_2 \text{CHNPL}_{it} + \alpha_3 \text{CHLOAN} + \varepsilon_{it} \]  \hspace{1cm} (1)

Where:

\[ \text{LLP}_{it} = \frac{\text{Loan Loss Provisions}}{\text{initial balance of outstanding loans}} \]

\[ \text{NPL}_{it-1} = \frac{\text{Beginning balance of non-performing loans}}{\text{initial balance of outstanding loans}} \]

\[ \text{CHNPL}_{it} = \frac{\text{Changes in the balance of non-performing loans}}{\text{initial balance of outstanding loans}} \]

\[ \text{CHLOAN}_{it} = \frac{\text{Changes in credit balances}}{\text{initial balances of outstanding loans}} \]

However, bank managers may report LLPs above the level of their non-discretionary items, allowing them to overstate or understate earnings. Thus, we expect to detect earnings management (EM) when the residual value of LLPs resulting from the excess of their non-discretionary items is significant, which we also define as abnormal LLPs. Furthermore, non-discretionary items in LLPs are expected to fluctuate in tandem with NPL, so the disparity between the two variables may result from the bank manager's use of discretionary items. In other words, we anticipate SEO banks to report abnormal LLPs prior to the SEO period, indicating they use their discretion over LLP items to manage earnings.

The following regression model is used to estimate the EM value that results from abnormal LLPs, suggesting that bank managers conduct earnings management:

\[ \text{EM}_{it} = \text{LLP}_{it} + C + \alpha_1 \text{CHNPL}_{it} - \alpha_2 \text{NPL}_{it} - \alpha_3 \text{CHLOAN}_{it} \]  \hspace{1cm} (2)

Where:

\[ \text{EM}_{it} = \text{Earnings management of company } i \text{ in year } t \]

\[ C = \text{Constanta} \]
5. Results and Discussion

Table 2. Descriptive Statistics Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>Std. Dev</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM Pre-regulation</td>
<td>0.0136</td>
<td>0.0079</td>
<td>-0.0367</td>
<td>1.1786</td>
<td>0.0250</td>
<td>152</td>
</tr>
<tr>
<td>Post-regulation</td>
<td>0.0234</td>
<td>0.0136</td>
<td>-0.0126</td>
<td>0.2649</td>
<td>0.0362</td>
<td>152</td>
</tr>
</tbody>
</table>

Source: processed data

Table 3. Normality Tests

<table>
<thead>
<tr>
<th>Variable</th>
<th>Kolmogorov-Smirnov Statistic</th>
<th>Df</th>
<th>Sig.</th>
<th>Shapiro-Wilk Statistic</th>
<th>Df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-regulation</td>
<td>0.164</td>
<td>152</td>
<td>0.000</td>
<td>0.721</td>
<td>152</td>
<td>0.000</td>
</tr>
<tr>
<td>Post-regulation</td>
<td>0.204</td>
<td>152</td>
<td>0.000</td>
<td>0.631</td>
<td>152</td>
<td>0.000</td>
</tr>
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</table>

Source: processed data

Table 4. Comparative Ranks Test Summary

<table>
<thead>
<tr>
<th>Variable</th>
<th>Negative Ranks</th>
<th>Positive Ranks</th>
<th>Ties</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q</td>
<td>Mean</td>
<td>Sum</td>
<td>Q</td>
</tr>
<tr>
<td>EM</td>
<td>50</td>
<td>71.18</td>
<td>3559</td>
<td>102</td>
</tr>
</tbody>
</table>

Source: processed data

Table 5. Test Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM (Post-regulation – Pre-regulation)</td>
<td>-4.148b</td>
<td>0.000</td>
</tr>
</tbody>
</table>

a Wilcoxon Signed Ranks Test
b Based on negative ranks

Table 6. Spearman Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>LLP</th>
<th>EM</th>
<th>NPL</th>
<th>CHNPL</th>
<th>CHLOAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLP</td>
<td>Coefficients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>1</td>
<td>0.617**</td>
<td>0.588**</td>
<td>-0.177**</td>
<td>-0.095</td>
</tr>
<tr>
<td>EM</td>
<td>Coefficients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>0.617**</td>
<td>1</td>
<td>-0.156*</td>
<td>0.007</td>
<td>-0.116</td>
</tr>
<tr>
<td>NPL</td>
<td>Coefficients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>0.588**</td>
<td>-0.156*</td>
<td>1</td>
<td>-0.200**</td>
<td>-0.206**</td>
</tr>
<tr>
<td>CHNPL</td>
<td>Coefficients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>-0.177*</td>
<td>0.007</td>
<td>-0.200**</td>
<td>1</td>
<td>0.105</td>
</tr>
<tr>
<td>CHLOAN</td>
<td>Coefficients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig (2-tailed)</td>
<td>-0.095</td>
<td>-0.116</td>
<td>-0.206**</td>
<td>0.105</td>
<td>1</td>
</tr>
</tbody>
</table>

** Significant at the 1% level
* Significant at the 5% level

Source: processed data
Bank managers are said to perform accrual earnings management when they use their discretion over LLP items to manage reported earnings. These items are the most critical accruals that banks can manage (Beatty & Liao, 2014b). We use LLPs as our proxy for two reasons. First, LLPs are the most critical accruals for banks as a buffer against expected losses (Norden & Stoian, 2013). Earnings management through LLPs can become a double-edged sword, leading to a trade-off between bank profitability and risk. Creating LLPs acts as a buffer against expected losses from banks’ lending businesses but shrinks their earnings. Second, LLPs have certain highly discretionary items, suggesting that bank managers can use their judgment to estimate the expected losses from their loan portfolio before setting aside certain reserves to absorb such losses. However, bank managers can opportunistically use their discretion to manipulate earnings or mislead investors (Kanagaretnam et al., 2003), thus creating information asymmetry (Tran et al., 2020).

We investigated 19 banks in the category of KBMI 1 subject to capital adequacy regulation that undertook SEOs during 2019-2021. When the regulation was enacted in 2020, there were 29 small banks with insufficient capital at the regulator's behest. Of those numbers, we find 19 banks that performed SEOs during 2019-2021 to raise capital and meet the regulation. We compare the EM value (abnormal LLPs) of each bank on a year-on-year comparison (YoY) for the period 2019-2021 to examine whether SEO banks conduct earnings management between pre- (2019-2020) and post-regulation (2020-2021). In other words, we compare the four quarters of 2019 with those of 2020 and those of 2020 with those of 2021 annually (YoY).

As in Table 2, descriptive statistical analysis shows that the mean of the abnormality in LLPs (EM) increases after the capital adequacy regulation from 0.0136 to 0.0234, indicating that banks in aggregate engage in earnings management practices in response to such a regulation. This indication is also affirmed by the increase in the minimum value of the EM from the lowest -0.0367 pre-regulation to -0.0126 post-regulation. However, there might be a possibility that certain banks do income-
decreasing earnings management because the maximum value of the EM decreases from the highest 1.1786 pre-regulation to 0.2649 post-regulation.

The data tested is not normally distributed. Kolmogorov-Smirnov and Shapiro-Wilk tests show a significant level of 0.000, as shown in Table 3. While both of these shows a significant level, we place more emphasis on Shapiro-Wilk given our large sample size and its powerful test for all types of distribution (Keskin, 2006; Mohd Razali & Bee Wah, 2011). Since the data is not normally distributed, we use a non-parametric test rather than a paired-sample t-test. Thus, in this study, we use the Wilcoxon signed-rank test to find the difference in EM value pre- and post-regulation.

From the non-parametric test, we find 50 observations with negative values (post < pre) and 102 observations with positive values (post > pre) (table 4). We also find a significant value of 0.000 in the Wilcoxon signed-rank test, which suggests a significant difference in EM value between pre- and post-regulation, as shown in Table 5. It indicates that bank managers are inclined to manage their earnings by using their discretion over LLPs. The increase or decrease in LLPs depends on the motivation of management to choose income-increasing or income-decreasing. Therefore, since we find a significant difference in EM value, which indicates abnormal LLPs pre- and post-regulation, H$_1$ can thus be accepted.

We use Spearman correlation to test the significance of the independent variables (LLP, NPL, CHNPL, CHLOAN) on the dependent variable (EM) since the data do not meet the Pearson or Kendall correlation assumptions. Normality tests show that the data are not normally distributed. Pearson correlation assumes that data are normally distributed, while Spearman and Kendall’s correlations are more commonly used for non-normally distributed data (Chok, 2010; Winter & Gosling, 2016). Nevertheless, Spearman provides a better compromise in robustness and efficiency than Kendall (Bishara & Hittner, 2015; Croux & Dehon, 2010). Thus, we use Spearman correlation, as shown in Table 6, to understand the association among variables related to the banks’ earning management between pre- and post-regulation.

We find a significant association only in two variables, namely LLP and NPL, concerning EM, as shown in Table 6. LLP has a strong positive correlation (0.617) with
a significance value of 0.000 toward EM, while NPL has a negative correlation (-0.156) with a significance value of 0.018. Maintaining sufficient LLPs is necessary to cover expected credit losses in anticipation of volatile earnings. Bank managers can use their judgment to estimate the adequate LLPs accounting standards allow.

On the one hand, higher LLPs indicate that bank managers are making efforts commonly associated with earnings management through income smoothing. Bank managers set aside sufficient LLPs to maintain smoother and more stable earnings associated with stable share prices. On the other hand, lower LLPs suggest that bank managers attempt to manage earnings upward to fuel their share prices in the market. Since the regulator requires that banks with insufficient capital meet the capital standards in a short timeframe, small banks need to raise more capital through SEOs, where they could potentially conduct earnings management to attract more prospective investors to buy their additional shares. The association between EM and LLPs also affirms that bank managers manage earnings through discretion over LLPs. Thus, H2 can be accepted.

Bank managers’ motives to choose income-increasing or income-decreasing strategies rely on their needs to raise proceeds from such offerings. On the one hand, bank managers may choose income-increasing to fuel their share prices to lure prospective investors into buying the newly issued shares. SEOs will play a vital role in meeting the capital adequacy regulation since the proceeds will add to the capital held by banks. Hence, to maximize the proceeds, bank managers choose income-increasing to signal the market positively. On the other hand, bank managers may choose income-decreasing to benefit existing shareholders who can buy the newly issued shares at a discount price to maintain or even increase their holdings, thus allowing them to increase their wealth at the expense of minority shareholders. For this reason, managers who act as agents for their shareholders’ interests may be incentivized to manage reported earnings downward to provide an opportunity for existing shareholders to absorb new issuance at a discount price.

Our findings correspond to previous studies that suggest that managers conduct earnings management before SEOs, either in the form of income-increasing or income-
decreasing, with diverse motives. Yu et al. (2006) and Chen & Yuan (2004) found that publicly listed companies in China choose income-increasing to meet the return-on-equity (ROE) requirement since the regulator allows firms to issue new shares only if they achieve a certain level of ROE. Lidyah (2012), Kusumawardhani and Siregar (2010), Astuti (2007), and Lasdi (2010) found that managers choose income-increasing prior to the SEOs period in order to increase investors' expectations of the firm’s performance, as suggested by the positive value of discretionary accruals in the period before the SEOs.

Rangan (1998) found that opportunism was the main motivation for managers to choose income-increasing before the SEOs. Income-increasing firms also experience weaker long-term share returns (Loughran & Ritter, 1997; Teoh et al., 1998c). However, Ching et al. (2006) found no correlation between earnings management before the SEOs period and the underperformance of share prices in the long term since investors are rational in pricing the fair value of the newly issued shares. Hence, rational market participants will adjust new shares overvalued relative to the firms' fundamentals shortly after the SEOs (Shivakumar, 1999).

However, other studies found that managers engage in earnings management prior to SEOs through income-decreasing. Sandyaswari and Yasa (2016) suggest that the choice of income-decreasing prior to SEOs is due to accounting conservatism. Jindal et al. (2019) argue that in the context of the rights issue, the incentive to choose income-decreasing is greater because managerial and controlling shareholders (insiders) themselves participate in the issuance of new shares, and there is no reason for insiders to issue overvalued equity. The issuance of new shares has the potential to transfer wealth from minority investors who do not participate in the SEOs to participating investors. Managers’ motivation to do this practice depends on the incentives they receive, either because management owns shares in the company or because there is an opportunity for controlling shareholders to take over the ownership of minority investors.
6. Conclusion, Implication, and Limitation

6.1. Conclusion

Bank capital serves as a tool to absorb significant unexpected losses and avoid future financial crises. Banks should be subject to stringent capital regulations to resist earnings volatility and honor deposit withdrawals as well as other obligations, enabling banks to be resilient in the face of economic shocks and hence helping foster financial stability. In line with these theories, OJK, the banking regulator in Indonesia, mandated commercial banks to hold higher capital in stages to reach Rp3 trillion in 2022 eventually. However, given the narrow window, banks are unlikely to meet the regulation by solely relying on businesses as usual. Banks are initially expected to merge to strengthen capital and promote efficiency. However, banks tend to choose SEOs over mergers or other forms of corporate action since SEOs allow firms to raise capital quickly and generally benefit existing shareholders.

We investigated 19 banks that performed SEOs during 2019-2021 since the regulation was enacted in 2020. We compare the four quarters of 2019 with those of 2020 and the four quarters of 2020 with those of 2021 to examine whether there is a significant difference in abnormal LLPs between pre- and post-regulation as a measure to detect earnings management among SEO banks. Our study finds that bank managers conduct earnings management before SEOs to meet the capital adequacy regulation, given the short timeframe from the regulator. We find significant abnormal LLPs, suggesting that bank managers manage earnings through discretion over LLP items between pre- and post-regulation. We use LLPs as our proxy to detect earnings management due to their discretionary and non-discretionary items. Non-discretionary items of LLPs fluctuate in tandem with NPL, suggesting that banks set aside a certain level of reserves to cover expected future losses resulting from the loan risk. However, bank managers may use their discretion over LLPs to overstate or understate their reported earnings. We also find a strong correlation between EM and LLPs, as well as between LLPs and NPL, which supports our thesis.

Bank managers have two choices regarding earnings management: income-increasing or income-decreasing. The choice depends on the motivations of managers,
which may vary considerably. Managers may find one choice favorable over another concerning the incentives they will likely receive. Bank managers may favor income-increasing to fuel their share prices and give a positive signal to the market to attract prospective investors to buy the newly issued shares. In this case, banks will benefit from the larger capital raised through such offerings, which would not have been possible if earnings management had not taken place. In contrast, bank managers may prefer income-decreasing to provide an opportunity for existing shareholders to absorb the new capital at a discount since the income-decreasing will lead to a decline in share prices. Bank managers may be interested in managing earnings downward since existing shareholders participate in the issuance, and they are unlikely to absorb overvalued new share issuance.

6.2. Implication and Limitation

We highlight the quality of bank capital and rational investment decisions as the focal points where our findings may be important. First, earnings management might not reflect the true economic reality of banks, so the quality of bank capital would no longer be following the regulator's objectives. This should be of greater attention to the regulator, i.e., OJK, lest the capital adequacy regulation fails to achieve its real objectives to ensure that banks have stronger resilience in the face of various uncertainties. Second, market participants should be more aware that bank managers may manage their earnings to sway their share prices. With that in mind, market participants can anticipate earnings management prior to the SEO period by underpricing the new share prices so that banks will not experience poor share prices in the long run.

However, we face two limitations in this study. First, we do not determine the tendency of bank managers to perform earnings management before the SEO period, whether through income-increasing or income-decreasing. We only attempt to shed light on the motives behind such choices rather than test them empirically. Second, we do not incorporate banks that perform SEOs after 2021 to get a better and more
comprehensive picture of earnings management prior to the SEO period in response to the capital adequacy regulation.

References


Warr, R. S., Elliott, W. B., Koëter-Kant, J., & Öztekin, Ö. (2012). Equity mispricing and leverage adjustment costs. *Journal of financial and quantitative analysis, 47*(3), 589–616. [https://doi.org/10.1017/S0022109012000051](https://doi.org/10.1017/S0022109012000051)


